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STAFF IN 1990

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INTRODUCTION

The form of this Report follows lines established in recent years. The main list of regional shocks contains only earthquakes of magnitude 3.5 or greater located within 10° of Wellington, and smaller earthquakes known to have been felt in New Zealand. Many other earthquakes have however been assigned serial numbers, so the serials of the shocks listed are often not consecutive.

Phase data are not published here, but are instead sent to the International Seismological Centre, and appear in their bulletins, which constitute the only medium now in use for routine reporting of arrival time observations made in New Zealand. The lists of origin coordinates and magnitudes include sufficient supplementary information for assessment of the quality of the data on which they are based.

There is also a list of origins of earthquakes in the Wellington area with magnitudes of 2.0 or more. This list gives less information on the quality of individual determinations, but the density of recording stations in the area, and their easy accessibility for maintenance ensure that errors are small.

Seismologists urgently requiring unpublished New Zealand data may apply to the Observatory. Historic data are also available but unless a two-way information exchange is involved it is the Observatory's practice to make a charge for recovery of this material. Definitive origins for local earthquakes are usually available within a few months of their occurrence.

During 1990, the Seismological Observatory was part of the Department of Scientific and Industrial Research (DSIR). On 1 July 1992 the DSIR ceased to exist and the Seismological Observatory is now part of the Institute of Geological & Nuclear Sciences Limited. Observatory procedures have remained unchanged.

D.E. Maunder
Editor

NEW ZEALAND SEISMICITY IN 1990

Three shallow earthquakes close to or exceeding magnitude 6.0 were the most significant events during the year. Event 90/776 (M_L 5.8) occurred near Lake Tennyson in North Canterbury on February 10. It was followed within 30 minutes by aftershocks of M_L 5.5 and 5.3. A field survey using portable digital equipment recorded over 4000 aftershocks during the following week. The main shock shattered mountain ridges in the vicinity of the epicentre, and in the surrounding forest caused healthy beech trees to snap off at a surprisingly constant 1.5 metres above the ground.

Nine days later, event 90/3443 (M_L 5.9) occurred near the settlement of Weber in southern Hawke's Bay. It was followed on May 13 by event 90/6657 (M_L 6.2). Intensity MM9 was reported from near the epicentre. Damage in Dannevirke, 20 km away and the nearest town of any size, was surprisingly light. One might have expected damage, especially to old brick buildings of which there are many in the town. Detailed reports are available from engineers who visited immediately after the earthquakes.

The February 19 shock was at a depth of 34 km and had a tensional mechanism, whereas the May shock was compressional, at 30 km. This change in mechanism at nearly the same location is understood in terms of the first earthquake occurring in the subducting plate, and increasing the stress in the overriding plate, thus triggering the compressional event three months later.

Aftershocks of these two shocks were not as prolific as for the Tennyson event in February, but there was one on August 15 (90/9539) of M_L 5.6 at a depth of 42 km. Studies of the foreshock and aftershock sequences for the Tennyson and Weber sequences have been completed, and have been submitted for publication.

After the May 13 earthquake, an experiment was conducted to assess the microzoning effects in the Wellington region, about 200 km away, using a newspaper questionnaire. From nearly 3000 responses, evidence has been found for markedly higher intensities on the areas of poorly consolidated sediments, and lower intensities in the hill suburbs. Intensities were all moderate, up to MM6, so extrapolation to higher intensities must be done with caution, but indications are that those areas that experienced enhanced intensities in that earthquake might also expect to sustain greater damage in stronger earthquakes.

During the year, in the region south of 36°S there were ten earthquakes of M_L 5.0 or greater at depths less than 40 km, and 13 at greater depths. Three of these shallow events were in the Tennyson sequence on February 10, and four were in the two Weber sequences. Two of the others (90/10676, 10898) were part of a swarm near Cape Palliser, close to Wellington, in early October. These two were both of M_L 5.3, and were felt quite strongly in the city.

It is not particularly common for earthquakes to be felt in Auckland, but event 90/13143 on December 21 (M_L 4.4), with intensity MM6 in Paeroa, was also reported felt in Auckland city.

W.D. Smith

INSTRUMENTATION IN 1990

The network of digital recording stations was officially opened in December by the Minister of Science, Hon. Denis Marshall. 17 Stations have been added to that network during 1990, bringing to 23 the number of stations which record digitally on magnetic tape. There are also 5 networks producing digital data. During the year 8 analogue recorders were removed, some having been replaced by digital stations at nearby sites. Continuous recording by WWSSN and SRO seismographs for the registration of teleseisms and the use of pen-recorders at some sites for immediate inspection of freshly recorded events continued.The change from photographic records, needing to be changed daily, to digital tapes which run for a week has meant that it has been possible to install instruments at seismically quieter sites.

Included in the new system are telemetered networks of several seismographs at spacings of only a few tens of kilometres. These networks have been established for research purposes or to monitor possible changes in seismicity resulting from human activity. Within each network, events are recorded digitally on magnetic tape at a central recording station.

Two types of event-recording system have been developed by the Observatory. The older system, SNARE (Seismic Network Automatic Recording Equipment) is a 16-channel system which relies on a combination of spectral analysis of seismometer outputs and coincidence detection to trigger recording by the whole network. EARSS (Automatic Equipment for the Recording of Seismograph Signals) was developed from SNARE as a single station system which can operate unattended for at least a week. Because it is a single station system it relies solely on a frequency-spectrum algorithm for event detection.

An improvement on SNARE is the introduction of automatic magnification adjustment ("gain-ranging") to allow faithful recording of large-amplitude wave-forms. A 16-channel version of EARSS is under development and will eventually supersede SNARE. Not included in the current re-equipment programme are instruments owned by organisations other than DSIR. In 1990, organisations cooperating in continuous or ad hoc seismic monitoring were: the Defence Scientific Establishment, the Universities of Auckland, Wellington and Otago, and the Electricity Corporation of New Zealand.

CHANGES TO THE NETWORKS IN 1990

The year began with the installation of 3 Willmore short-period seismometers at Tophouse (THZ). In February two single component stations, Puketiti (PUZ) and Waitaha Valley (WVZ), and a 3-component station Denniston North (DSZ), began recording. The instrument at DSZ was replaced by a single component seismometer in June. A 3-component station at McQueen's Valley (MQZ) and a single component station at North Gisborne (NOZ) were installed in March. April saw two 3-component stations Mahoenui (MOZ) and Quartz Range (QRZ) added to the New Zealand network, followed in May by Braida Crags (BCZ), also a 3-component station. A single component station at Bushy Park (BSZ) began operating in June and in August 3-component stations were installed at Raurimu (RUZ) and Otahua Downs (ODZ). A single component instrument at Waipu Caves (WCZ) and 3-component stations at Urewera (URZ) and Kuaotunu (KUZ), improved the recording coverage over the northern part of the North Island in October. Lake Moeraki (LMZ) with a single component seismometer, began recording in November and installations for the year concluded with the 3-component station installed on Stewart Island (SIZ). All these stations have EARSS digital gain-ranging recorders and all, except THZ, have L4-C (single component) or L4-3D (3-component) short-period seismometers.

The stations of the central volcanic region, Chateau (CNZ), Dome Shelter (DRZ), Maungaku (MGZ) and Ngauruhoe (NGZ), were telemetered to an EARSS digital recorder in April, while continuing to be recorded on visual recorders.

In May, the Willmore seismometer and photographic recorder at Milford Sound (MSZ) were replaced by an L4-3D instrument with EARSS digital recorder. The site at Cobb Dam (CDZ) proved unsuitable and was closed in April. Quartz Range (QRZ) was the new site found in the northwest of the South Island. The seismometer at Cashmere (CMZ) was moved to an earlier site, Christchurch (CHR), at the Canterbury Museum. This station has a visual pen recorder.

More of the photographic stations were closed during the year, beginning with Cobb River (COB) and Karapiro (KRP) which ceased operating in February. Gisborne (GNZ) closed in March and was replaced by the digital station at North Gisborne (NOZ). The station on Great Barrier island (GBZ) closed in May and Oamaru (OMZ) (replaced in August by Otahua Downs (ODZ)) closed in July. Borland Lodge (BRZ) stopped operating in August, Whakatane (WTZ) was closed in November, and Kaimata (KAI) ceased operation in December.

The coverage of the Wellington Network was improved by siting a seismograph on D'Urville Island (DIW) in April.

The station at Campbell Island (CBZ) was closed at the end of June, for financial reasons.

INDEX OF STATION CODES AND POSITIONS

The growth in numbers of seismograph stations in recent years has been so great that it is not always possible to find short mnemonic codes that are unique in the world. Nearly all the codes used below are recognised and used by the United States NEIS and by ISC, but some of those for stations in the telemetered networks may not be.

CODE	NAME	LATITUDE d	m	s		LONGITUDE d	m	s		ALT m
					SEISMIC RESEARCH OBSERVATORY					
SNZO	South Karori	41	18	37	S	174	42	17	E	-10
					STANDARD NETWORK					
AUC	Auckland	36	51	36	S	174	46	41	E	79
BCZ	Braida Crags	46	00	24	S	167	50	23	E	120
BRZ	Borland Lodge	45	46	45	S	167	32	19	E	190
BSZ	Bushy Park	39	47	55	S	174	55	52	E	150
CBZ	Campbell Island	52	33	03	S	169	09	33	E	30
CDZ	Cobb Dam	41	05	44	S	172	42	47	E	780
CHR	Christchurch	43	31	58	S	172	37	36	E	8
CIZ	Chatham Islands	43	57	18	S	176	33	56	W	45
CMZ	Cashmere	43	35	10	S	172	38	23	E	255
CNZ	Chateau	39	12	00	S	175	32	51	E	1116
COB	Cobb River	41	05	16	S	172	44	02	E	213
DNZ	Dunedin (U. of Otago)	45	51	59	S	170	30	54	E	15
DRZ	Dome Shelter	39	16	35	S	175	33	49	E	2600
DSZ	Denniston North	41	44	49	S	171	48	09	E	630
GBZ	Great Barrier (DSE)	36	13	04	S	175	28	52	E	70
GNZ	Gisborne	38	38	39	S	178	01	21	E	30
HBZ	Hicks Bay	37	35	57	S	178	18	05	E	0
KAI	Kaimata	42	31	33	S	171	24	31	E	82
KHZ	Kahutara	42	25	05	S	173	32	25	E	70
KRP	Karapiro	37	55	30	S	175	32	15	E	64
KUZ	Kuaotunu	36	44	50	S	175	43	12	E	40
LMZ	Lake Moeraki	43	43	06	S	169	16	14	E	10
LTZ	Lake Taylor	42	46	58	S	172	16	08	E	640
MGZ	Maungaku	39	00	07	S	175	32	20	E	806
MNG	Mangahao	40	37	07	S	175	28	55	E	396
MOZ	Mahoenui	38	30	21	S	174	48	11	E	160
MQZ	McQueen's Valley	43	42	28	S	172	39	08	E	60
MSZ	Milford Sound	44	40	14	S	167	55	01	E	38
NEZ	North Egmont	39	16	22	S	174	05	46	E	920
NGZ	Ngauruhoe	39	10	37	S	175	36	04	E	806
NOZ	North Gisborne	38	37	05	S	178	02	12	E	60

OBZ	Oban	46	54	18	S	168	06	55	E	26
ODZ	Otahua Downs	45	02	43	S	170	38	40	E	270
OMZ	Oamaru	45	04	14	S	170	54	53	E	95
PATZ	Paeroa	38	22	53	S	176	15	30	E	940
PGZ	Pongaroa	40	37	08	S	176	16	25	E	-40
PUZ	Puketiti	38	04	24	S	178	15	26	E	420
QRZ	Quartz Range	40	49	39	S	172	31	44	E	260
RAO	Raoul Island	29	15	06	S	177	55	06	W	110
RAR	Rarotonga	21	12	45	S	159	46	24	W	28
RTY	Rotoiti	41	48	27	S	172	50	35	E	635
RUZ	Raurimu	39	07	37	S	175	20	16	E	450
SBA	Scott Base	77	51	01	S	166	45	22	E	38
SIZ	Stewart Island	46	52	30	S	168	07	59	E	60
TAZ	Tarawera	38	13	59	S	176	30	28	E	1037
THZ	Top House	41	45	50	S	172	54	13	E	760
TMP	Tomahawk Gully	44	18	54	S	170	07	12	E	720
URZ	Urewera	38	15	37	S	177	06	37	E	100
UTU	Utuhina	38	10	39	S	176	11	32	E	410
WCZ	Waipu Caves	35	56	28	S	174	20	40	E	140
WEL	Wellington	41	17	10	S	174	46	06	E	122
WIZ	White Island	37	31	42	S	177	11	21	E	40
WLZ	Whitehall	37	52	12	S	175	35	46	E	190
WTZ	Whakatane	37	59	05	S	176	59	18	E	43
WVZ	Waitaha Valley	43	04	35	S	170	44	10	E	75

CLYDE NETWORK (Electricorp)

CFC	Cairnmuir Flats	45	11	03	S	169	17	32	E	576
CMCZ	Cairnmuir Mts	45	08	57	S	169	16	30	E	1039
LRCZ	Leaning Rock	45	03	55	S	169	20	46	E	1533
LSCZ	Lilico Spur	45	06	59	S	169	22	09	E	759
MHZ	Mt Horn	45	03	44	S	169	16	46	E	1127
MMCZ	Mount Michael	45	00	13	S	169	07	53	E	1163
MSCZ	Moutere Station	45	05	35	S	169	24	42	E	701
SBCZ	Sonora Basin	45	05	32	S	169	18	40	E	801
TBC	Trig B	45	08	47	S	169	19	49	E	619
TLC	Trig L	45	11	29	S	169	04	17	E	1393

HAWKES BAY NETWORK

HNH	Havelock North	39	39	55	S	176	52	52	E	10
MAHZ	Mahia	39	11	18	S	177	52	51	E	336
MOH	Mohaka	39	07	57	S	177	08	52	E	245
PAHZ	Panekirikiri	38	51	33	S	177	03	15	E	563
TAHZ	Taraponui	39	08	09	S	176	44	25	E	1297
TEHZ	Te Atua	39	59	22	S	176	48	40	E	407
TTH	Taradale Trig	39	32	29	S	176	49	34	E	120
WAHZ	Wakarara	39	41	57	S	176	21	19	E	657
WHH	Whakatau	38	53	04	S	176	29	42	E	921

TAUPO NETWORK

HATZ	Hinemaiaia	38	53	32	S	176	05	31	E	492
HITZ	Hingarae	38	42	31	S	175	45	59	E	458
HUTZ	Huka	38	38	01	S	176	05	39	E	300
KETZ	Ketetahi	39	06	02	S	175	39	06	E	1208
OH1	Ohaaki 1	38	32	41	S	176	18	27	E	295
OH2	Ohaaki 2	38	30	42	S	176	18	10	E	300
OH3	Ohaaki 3	38	31	59	S	176	19	34	E	300
OH4	Ohaaki 4	38	32	41	S	176	19	09	E	300
RATZ	Rangitukua	38	52	07	S	175	46	16	E	649
TUTZ	Tuhingamata	38	42	42	S	175	59	28	E	614

WELLINGTON NETWORK

BHW	Baring Head	41	24	33	S	174	52	17	E	10
BLW	Big Hill	41	22	07	S	175	28	29	E	340
CAW	Cannon Point	41	06	32	S	175	04	04	E	330
CCW	Cape Campbell	41	45	03	S	174	13	01	E	216
DIW	D'Urville Island	40	48	08	S	173	55	19	E	460
KIW	Kapiti Island	40	51	50	S	174	54	42	E	320
MOW	Moikau	41	25	18	S	175	15	07	E	430
MRW	Makara Radio	41	13	57	S	174	42	18	E	235
MTW	Mount Morrison	41	09	34	S	175	30	07	E	282
TCW	Tory Channel	41	12	48	S	174	16	33	E	150
WDW	Wainui Dam	41	16	07	S	174	59	37	E	130
WEL	Wellington	41	17	10	S	174	46	06	E	122

INSTRUMENTATION AND LITHOLOGY

STANDARD NETWORK AND CONTRIBUTING STATIONS

Stations are listed in alphabetical order of their abbreviations. Pendulum and galvanometer periods, To and Tg, are given in seconds. Damping when not listed, may be assumed to be critical. Magnifications listed are for the period of maximum response, except for World-Wide Standard Station instruments, where the magnifications are given at the conventional periods of 1.0 and 15 seconds. Response curves for Willmore II, Benioff, Wood-Anderson and Mark Products L4-C seismographs and an EARSS system, are shown at the end of this section. WWSS pen recorders mimic the response of galvanometers with the Tg shown.

	Instrument	Compt.	To	Tg	Damping	Magnification
AUC	AUCKLAND					
	Foundation: Volcanic beds on Tertiary sandstone and mudstone.					
	Willmore II (with Kinemetrics VR-1 pen-recorder).					
		Z	1.0			3 800 at 0.25s
BCZ	BRAIDA CRAGS (from May)					
	Foundation: Limestone.					
	Mark Products L4-3D (with EARSS digital gain-ranging recorder).					
		ZNE	1.0			
BRZ	BORLAND LODGE (until August)					
	Foundation: Quaternary gravels.					
	Willmore II	Z	1.0	0.25		29 100 at 0.25s
	Wood-Anderson	X	0.80		crit.	2 800 at 0.80s
	The Wood-Anderson is oriented with the X component northeast.					
BSZ	BUSHY PARK (from June)					
	Foundation: Quaternary marine sediments.					
	Mark Products L4-C (with EARSS digital gain-ranging recorder).					
		Z	1.0			
CBZ	CAMPBELL ISLAND (until June)					
	Foundation: Basalt.					
	Willmore II	Z	1.0	0.25		5 000 at 0.25s
CDZ	COBB DAM (until April)					
	Foundation: Schist.					
	Mark Products L4-3D (with EARSS digital gain-ranging recorder).					
		ZNE	1.0			
CHR	CHRISTCHURCH (from May)					
	Willmore II (with Kinemetrics VR-1 pen-recorder).					
		Z	1.0			
CIZ	CHATHAM ISLANDS					
	Foundation: Clay over basalt.					
	Willmore II (with Kinemetrics VR-1 pen-recorder).					
		Z	1.0			4 440 at 0.20s
CMZ	CASHMERE (until May)					
	Foundation: Rhyolite.					
	Mark Products L4-C (telemetered to Kinemetrics VR-1 pen-recorder).					
		Z	1.0			24 000 at 0.20s

	Instrument	Compt.	To	Tg	Damping	Magnification
CNZ	CHATEAU					
	Foundation: Volcanic ash and Lava.					
	Mark Products L4-C (telemetered to Kinemetrics VR-1 pen-recorder and from May to EARSS digital recorder).					
		Z	1.0			Variable
COB	COBB RIVER (until February)					
	Foundation: Schist.					
	Willmore II	Z	1.0	0.25		27 300 at 0.20s
DNZ	DUNEDIN (University of Otago)					
	Foundation: Basaltic lava flow.					
	Willmore III with Kinemetrics pen-recorder.					
		Z	1.0			Variable
		N	1.0			Variable
		E	1.0			Variable
DRZ	DOME SHELTER (Department of Conservation)					
	Foundation: Recent andesitic ash.					
	Mark Products L4-C (High and low magnifications, telemetered to Kinemetrics VR-1 pen-recorders and from May high magnification to EARSS digital recorder).					
		Z	1.0			Variable
DSZ	DENNISTON NORTH (from February)					
	Foundation: Upper Precambrian greywacke					
	Mark Products L4-3D (until June)					
		ZNE	1.0			
	Mark Products L4-C (from June)					
		Z	1.0			
	with EARSS digital gain-ranging recorder.					
GBZ	GREAT BARRIER (Defence Scientific Establishment) (until May)					
	Foundation: Tertiary volcanics.					
	Mark Products L4-C (with Kinemetrics VR-1 pen-recorder)					
		Z	1.0			
GNZ	GISBORNE (until March)					
	Foundation: Alluvium on Tertiary mudstone.					
	Willmore II	Z	1.0	0.25		27 000 at 0.25s
		N	1.0	0.25		29 500 at 0.20s
HBZ	HICKS BAY					
	Foundation: Consolidated conglomerate.					
	Mark Products L4-C in borehole (with Kinemetrics VR-1 pen-recorder and EARSS digital recorder).					
		Z	1.0			67 500 at 0.10s
KAI	KAIMATA					
	Foundation: Moraine and river gravels over Tertiary mudstone and sandstone.					
	Wood-Anderson	X	0.80		crit.	2 800 at 0.80s
	This instrument is oriented with the X component northeast.					
KHZ	KAHUTARA					
	Foundation: Jurassic greywacke					
	Mark Products L4-3D (with EARSS digital gain-ranging recorder)					
		ZNE	1.0			

	Instrument	Compt.	To	Tg	Damping	Magnification
KRP	KARAPIRO (until February)					
	Foundation: Greywacke.					
	Benioff	Z	1.0	0.20		46 700 at 0.25s
	Wood-Anderson	E	0.8		crit.	2 800 at 0.80s
KUZ	KUAOTUNU (from October)					
	Foundation: Greywacke.					
	Mark Products L4-3D (with EARSS digital gain-ranging recorder).					
		ZNE	1.0			
LMZ	LAKE MOERAKI (from November)					
	Foundation: Precambrian Greywacke.					
	Mark Products L4-C (with EARSS digital gain-ranging recorder).					
		Z	1.0			
LTZ	LAKE TAYLOR					
	Foundation: Triassic Greywacke.					
	Mark Products L4-3D (with EARSS digital gain-ranging recorder).					
		ZNE	1.0			
MGZ	MAUNGAKU (Department of Conservation)					
	Foundation: Quaternary andesite.					
	Mark Products L4-C (telemetered to Kinemetrics VR-1 pen-recorder and from May to EARSS digital recorder).					
		Z	1.0			Variable
MNG	MANGAHAO					
	Foundation: Greywacke					
	Willmore II	Z	1.0			
	Willmore I	NE	1.0			
	Replaced in October by					
	Mark Products L4-3D	ZNE	1.0			
	(all with EARSS digital gain-ranging recorder.)					
MOZ	MAHOENUI (from April)					
	Foundation: Jurassic Greywacke.					
	Mark Products L4-3D (with EARSS digital gain-ranging recorder).					
		ZNE	1.0			
MQZ	McQUEEN'S VALLEY (from March)					
	Foundation: Miocene Volcanics.					
	Mark Products L4-3D (with EARSS digital gain-ranging recorder).					
		ZNE	1.0			
MSZ	MILFORD SOUND					
	Foundation: Gneiss.					
	Willmore II	Z	1.0	0.25		49 800 at 0.25s
	Replaced in May by					
	Mark Products L4-3D (with EARSS digital gain-ranging recorder)					
		ZNE	1.0			
NEZ	NORTH EGMONT					
	Foundation: Volcanic ash.					
	Mark Products L4-C (with Kinemetrics VR-1 pen-recorder).					
		Z	1.0			25 100 at 0.10s

	Instrument	Compt.	To	Tg	Damping	Magnification
NGZ	NGAURUHOE					
	Foundation: Recent volcanic flows.					
	Mark Products L4-C (telemetered to Kinemetrics VR-1 pen-recorder and from May to EARSS digital recorder).					
		Z	1.0			Variable
NOZ	NORTH GISBORNE (from March)					
	Foundation: Upper Miocene Siltstone.					
	Mark Products L4-C (with EARSS digital gain-ranging recorder).					
		Z	1.0			
OBZ	OBAN					
	Foundation: Weathered granite.					
	Mark Products L4-C (with Kinemetrics VR-1 pen-recorder).					
		Z	1.0			12 000 at 1.0s
ODZ	OTAHUA DOWNS (from August)					
	Foundation: Greywacke.					
	Mark Products L4-3D (with EARSS digital gain-ranging recorder).					
		ZNE	1.0			
OMZ	OAMARU (until July)					
	Foundation: Recent deposits overlying Tertiary limestone.					
	Willmore II	Z	1.0	0.20		11 500 at 0.20s
PATZ	PAEROA					
	Foundation: Ignimbrite					
	Mark Products L4-C (telemetered to EARSS digital recorder)					
		Z	1.0			
PGZ	PONGAROA					
	Foundation: Tertiary Sediments					
	Mark Products L4-C (with EARSS digital gain-ranging recorder).					
		Z (borehole)	1.0			
PUZ	PUKETITI (from February)					
	Foundation: Cretaceous Greywacke.					
	Mark Products L4-3D (with EARSS digital gain-ranging recorder).					
		ZNE	1.0			
QRZ	QUARTZ RANGE (from April)					
	Foundation: Golden Bay Schist.					
	Mark Products L4-3D (with EARSS digital gain-ranging recorder).					
		ZNE	1.0			
RAO	RAOUL ISLAND					
	Foundation: Volcanic rock.					
	Willmore II (with Kinemetrics VR-1 pen-recorder).					
		Z	1.0			4 800 at 0.25s
RAR	RAROTONGA (World-Wide Standard Station)					
	Foundation: Basalt.					
	Benioff	ZNE	1.0			6 250 at 1.0s
	Signal also recorded by EARSS digital event recorder tuned to trigger on T-waves.					
	Press-Ewing	ZNE	15			375 at 15s

	Instrument	Compt.	To	Tg	Damping	Magnification
RTY	ROTOITI					
	Foundation: Glacial gravels.					
	Mark Products L4-C (with Kinemetrics VR-1 pen-recorder).					
		Z	1.0			Uncertain
RUZ	RAURIMU (from August)					
	Foundation: Limestone.					
	Mark Products L4-3D (with EARSS digital gain-ranging recorder).					
		ZNE	1.0			
SBA	SCOTT BASE (World-Wide Standard Station)					
	Foundation: Frozen basaltic debris resting on lava flows.					
	Benioff	ZNE	1.0			12 500-50 000 at 1.0s according to season
	Press-Ewing	ZNE	15			750 at 15s
SIZ	STEWART ISLAND (from December)					
	Foundation: Granite					
	Mark Products L4-C (with EARSS digital gain-ranging recorder).					
		Z	1.0			
TAZ	TARAWERA					
	Foundation: Rhyolite lava.					
	Mark Products L4-C (telemetered to Kinemetrics VR-1 pen-recorder and to EARSS digital recorder).					
		Z	1.0			Variable
THZ	TOPHOUSE					
	Foundation: Permian Greywacke.					
	Willmore II (with EARSS digital gain-ranging recorder).					
		ZNE	1.0			
TMP	TOMAHAWK GULLY					
	Foundation: Mesozoic Greywacke					
	Mark Products L4-C (telemetered to separate Kinemetrics VR-1 pen-recorders).					
		Z	1.0			750 000 at 0.20s
		N	1.0			100 000 at 0.20s
URZ	UREWERA (from October)					
	Foundation: Greywacke.					
	Mark Products L4-3D (with EARSS digital gain-ranging recorder).					
		ZNE	1.0			
UTU	UTUHINA					
	Foundation: Ignimbrite.					
	Mark Products L4-C (telemetered to Kinemetrics VR-1 pen-recorder and to EARSS digital recorder).					
		Z	1.0			Variable
WCZ	WAIPU CAVES (from October)					
	Foundation: Greywacke.					
	Mark Products L4-C (with EARSS digital gain-ranging recorder).					
		Z	1.0			

	Instrument	Compt.	To	Tg	Damping	Magnification
WEL	WELLINGTON (World-Wide Standard Station)					
	Foundation: Greywacke.					
	Benioff	Z	1.0			6 250 at 1.0s
	Press-Ewing	ZNE	15			375 at 15s
	Wood-Anderson	NE	0.80		crit.	1 400 at 0.8s
	Imamura	Z	1		5:1	2
		NE	4		5:1	2
	The Benioff vertical component operates both pen-and-ink and heated stylus recorders					
WIZ	WHITE ISLAND					
	Foundation: Recent andesite.					
	Mark Products L4-C (Telemetered to Kinemetrics VR-1 pen-recorder).					
		Z	1.0			Variable
WLZ	WHITEHALL					
	Foundation: Jurassic Greywacke.					
	Willmore II	Z	1.0			
	Willmore I	NE	1.0			
	(with EARSS digital gain-ranging recorder).					
WTZ	WHAKATANE (until November)					
	Foundation: Weathered Jurassic greywacke.					
	Willmore II	Z	1.0	0.20		24 000 at 0.20s
WVZ	WAITAHA VALLEY (from February)					
	Foundation: Granite.					
	Mark Products L4-3D (with EARSS digital gain-ranging recorder).					
		ZNE	1.0			

SEISMIC RESEARCH OBSERVATORY

This station is sponsored by the United States Geological Survey. A three-component seismometer sealed in a gas-filled capsule is located in a borehole 165 mm in diameter and about 100 m deep, at a quiet site several kilometres from the Observatory. The ground surface there is 88 m above, and the seismometer 10 m below, sea level. Both digital and analogue recordings are made from the three long-period and the vertical component short-period outputs. Paper analogue records are archived by the Observatory, but the digital tape records of detected events are held by the USGS. The recorder is at the observatory site in Kelburn, and the signals are transmitted to it by landline.

Code	Station	Component	Magnification
SNZO	South Karori	ZNE Z	5 000 at 25s 6 250 at 1.0s
The lithological foundation is Jurassic-Permian Greywacke.			

CLYDE NETWORK

A network of seismometers has been installed near Clyde to collect data on the prevailing level of microseismicity in the area of the dam now being constructed on the Clutha River. The network operated by the Electricity Corporation of New Zealand, is used to monitor any changes in local seismicity associated with the use of the lake for the generation of electricity. The system records all detected seismic events in digital form, on magnetic tape. Tapes are interpreted and retained at the Observatory where they are available for other seismological use. Clyde network stations are linked by radio telemetry to a multi-channel SNARE (Seismic Network Automatic Recording Equipment), which both detects and records seismic events, at Clyde. The seismometers are Mark Products L4-C or L4-3D instruments with a natural period of one second and the lithological foundation at all stations is Schist. Recorded waveforms can be displayed on a monitor screen at any required scale.

Code	Station	Component
CFC	Cairnmuir Flats	Z
CMCZ	Cairnmuir Mountains	ZNE
LRCZ	Leaning Rock	Z
LSCZ	Lilico Spur	Z
MMCZ	Mount Michael	Z
MHZ	Mount Horn	Z
MSCZ	Moutere Station	Z
SBCZ	Sonora Basin	Z
TBC	Trig B (formerly Clyde)	Z
TLC	Trig L	Z

HAWKES BAY NETWORK

The Hawke's Bay network has been installed to monitor seismicity in an area which has not only some potential for hydro-electric power generation, but also a history of severe earthquakes. Havelock North produces high- and low-gain records from a three-component seismometer. The network records on a SNARE System in Havelock North.

Code	Station	Component(s)	Foundation
HNH	Havelock North	ZNE (High gain) ZNE (Low gain)	Greywacke gravel " "
MAHZ	Mahia	Z	Mudstone
MOH	Mohaka	Z	Dune Sand
PAHZ	Panekirikiri	Z	Pumice Tuff
TAHZ	Taraponui	Z	Limestone
TEHZ	Te Atua	Z	Limestone
TTH	Taradale Trig	Z	Calcareous mudstone
WAHZ	Wakarara	Z	Greywacke
WHH	Whakatau	Z	Ignimbrite

TAUPO NETWORK

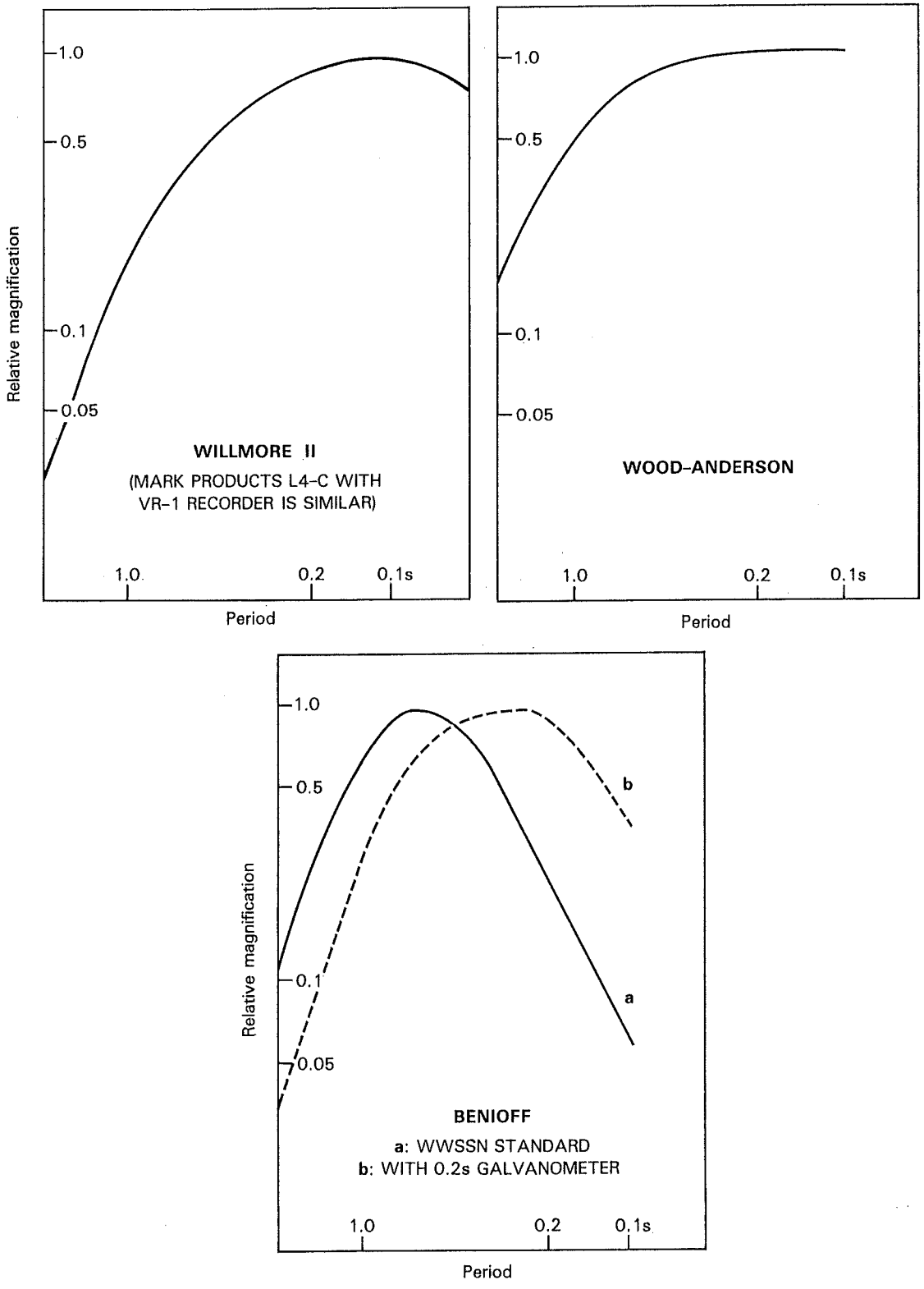
This network is intended to monitor volcanic and geothermal activity in the Taupo Volcanic Region. Although relatively quiet in historic times, (the 1886 Tarawera eruption notwithstanding), the geological record shows that the Region has been the scene of larger-scale activity at a number of times in the more distant past. The network records on a SNARE system at Wairakei. Station codes OH1 - OH4 are not internationally recognised.

Code	Station	Component	Foundation
HATZ	Hinemaiaia	Z	Ignimbrite
HITZ	Hingarae	Z	Ignimbrite
HUTZ	Huka	Z	Pumice breccia
KETZ	Ketatahi	Z	Andesite
OH1	Ohaaki 1	Z	Pumice
OH2	Ohaaki 2	Z	Pumice
OH3	Ohaaki 3	Z	Pumice
OH4	Ohaaki 4	Z	Pumice
RATZ	Rangitukua	Z	Rhyolite
TUTZ	Tuhingamata	Z	Rhyolite

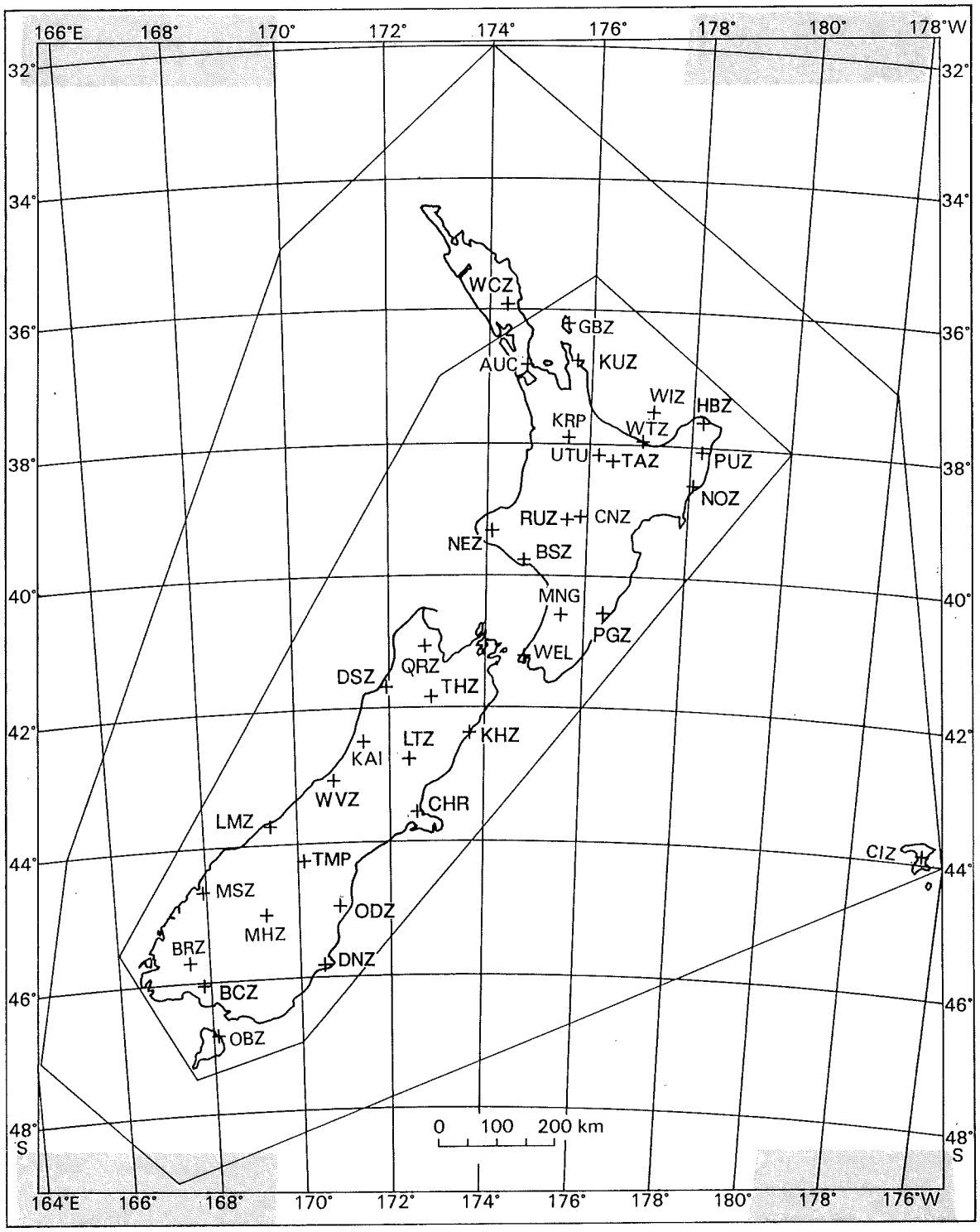
WELLINGTON NETWORK

The stations of the Wellington network are linked by radio or land-line to a common SNARE event-detecting and recording system at the Observatory at Kelburn. The seismometer at MRW is a Mark Products L4-3D. The seismometers for the rest of the network are Mark Products L4-C instruments with a period of 1.0 second. SNARE records are made on magnetic tape and may be displayed on a monitor screen at any required magnification. The lithological foundation at all stations is Jurassic-Permian Greywacke, except at CCW which is on Miocene sandstone and DIW which is granodiorite.

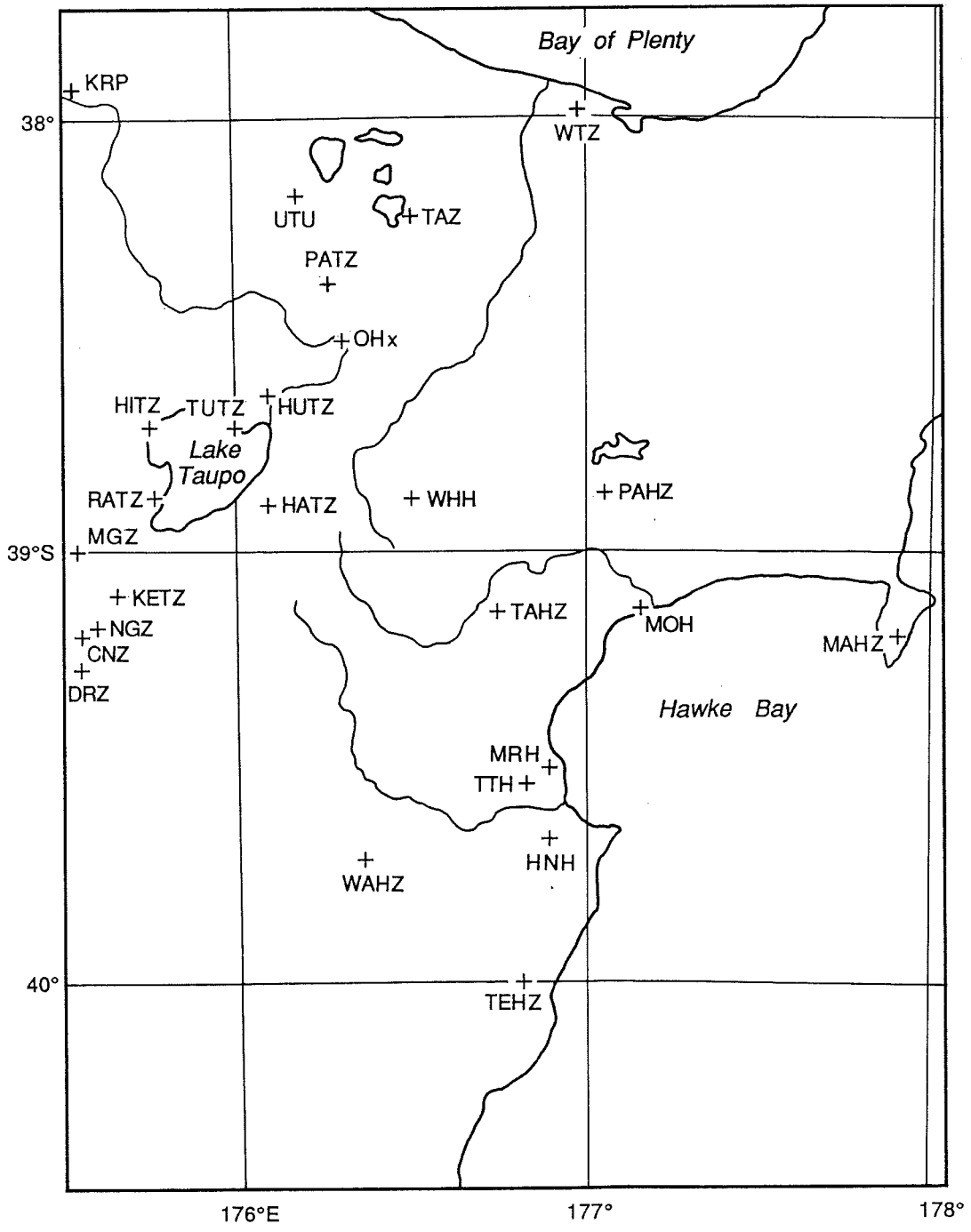
Code	Station	Component(s)
BHW	Baring Head	Z
BLW	Big Hill	Z
CAW	Cannon Point	Z
CCW	Cape Campbell	Z
DIW	D'Urville Island	Z
KIW	Kapiti Island	Z
MOW	Moikau	Z
MRW	Makara Radio	ZNE
MTW	Mount Morrison	Z
TCW	Tory Channel	Z
WDW	Wainui Dam	Z
WEL	Wellington	ZNE



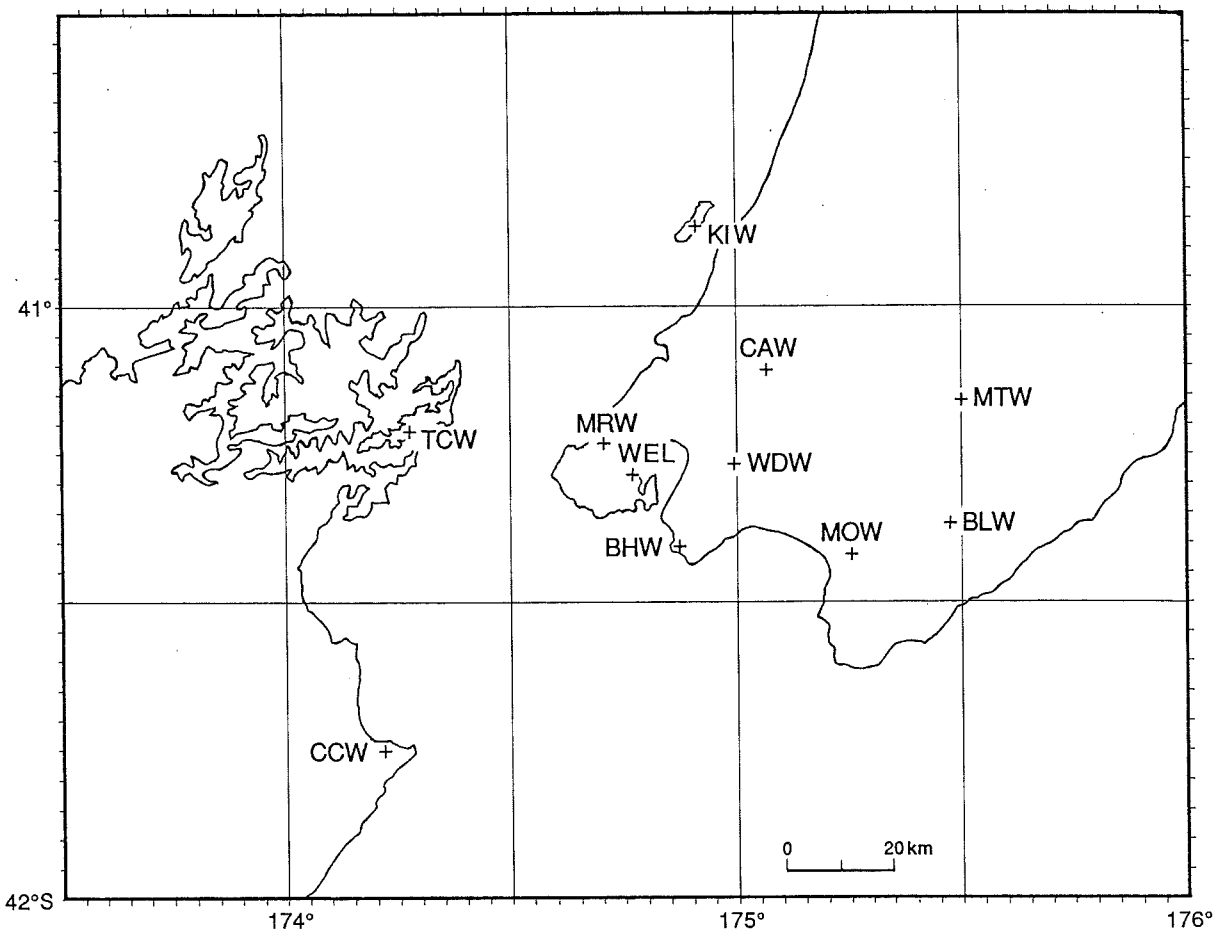
Period response curves of short period seismographs.



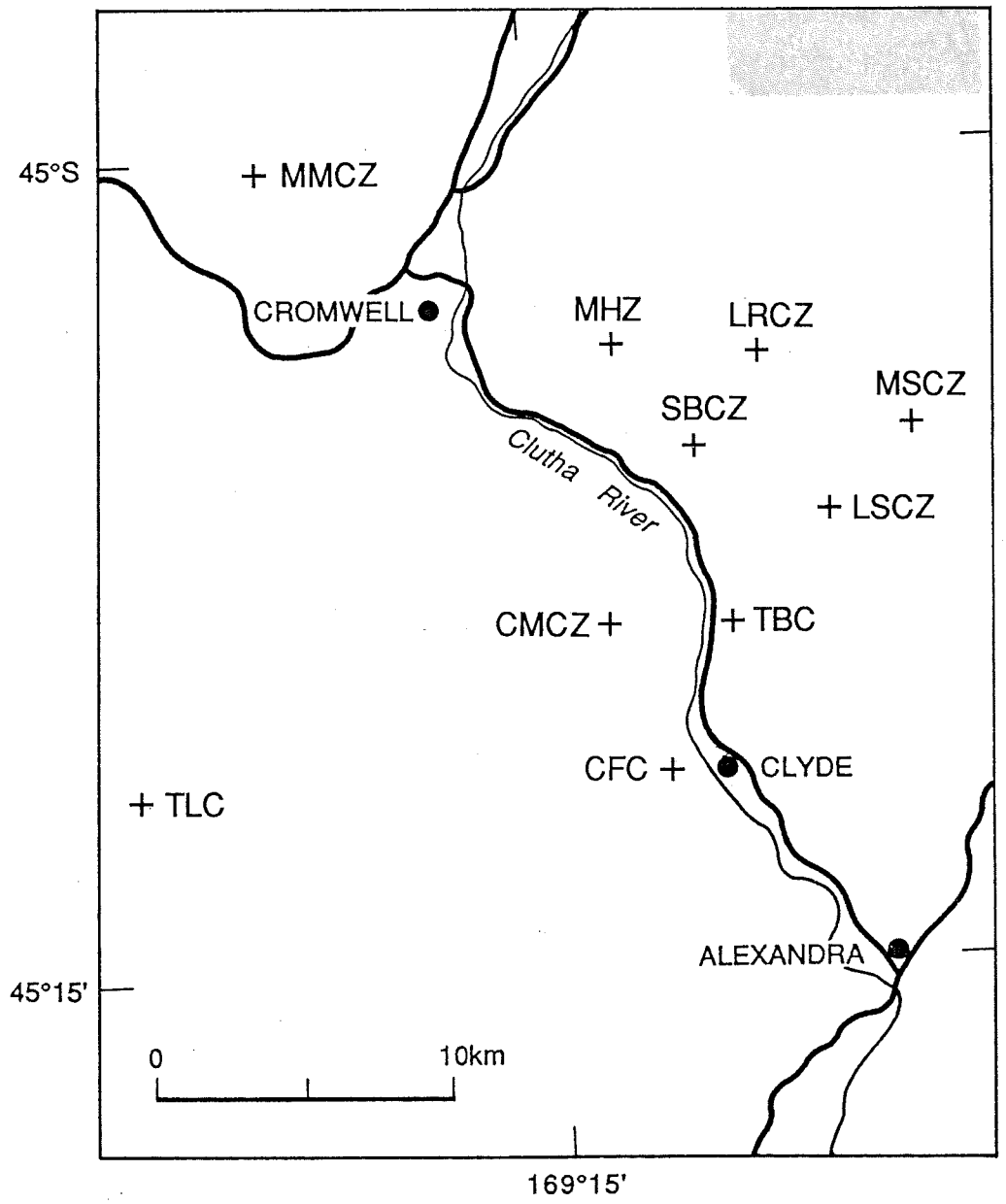
Stations of the National Seismograph Network. Some stations that are too closely spaced to show on this scale are shown instead on the map of the Taupo and Hawke's Bay Networks. The inner and outer polygons define areas where accuracy of epicentre locations is considered reliable, less reliable and inadequate.



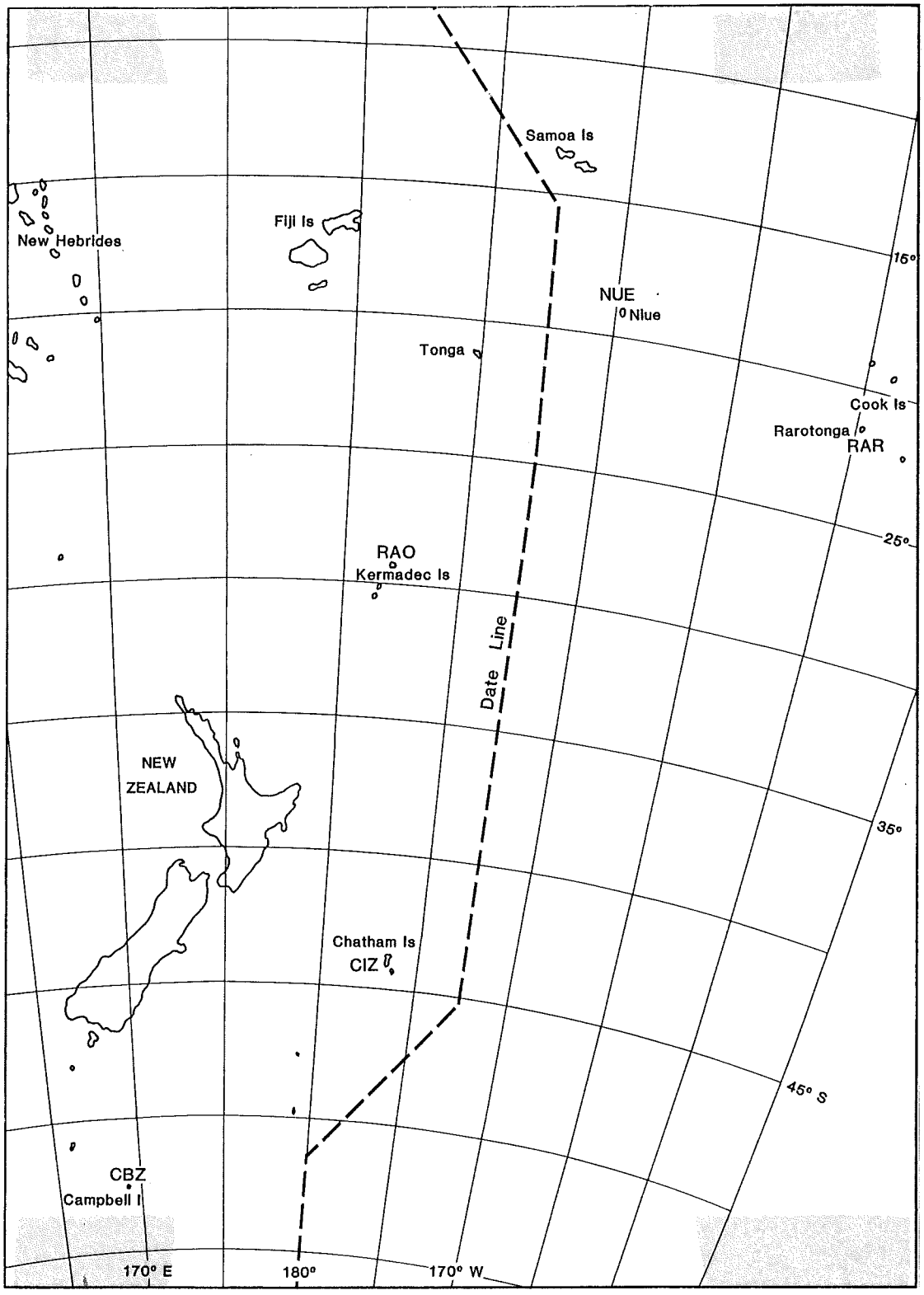
Stations of the Taupo and Hawke's Bay Networks. Other stations lying within the boundaries of the map are also shown. OH1-OH4 are clustered close to the position shown by OHx.



The Wellington Network includes stations on both sides of Cook Strait.



The Clyde Network monitors seismic activity around the Clyde Dam.



Pacific Island Stations.

TIMING ARRANGEMENTS

Unless stated otherwise, times in this Report are given in Universal Time (U.T. or, more strictly, U.T.C., which is basically atomically kept time, adjusted when necessary by one second steps ("leap seconds") to agree with the astronomically determined time known as UT1). For most seismological and civil purposes this may be regarded as the Mean Solar Time of the Greenwich meridian.

On paper seismograms made by the national network, minute marks, derived from quartz crystal clocks of high stability, appear on records as abrupt trace deflections of about two seconds duration. Radio time signals also operate the trace deflector so that the relationship between the locally generated minute marks and Universal Time can be established. In most cases the radio signals are those of the New Zealand Time Service, transmitted hourly through the stations of Radio New Zealand, but in areas where local reception is bad, a time signal broadcast from overseas may be used. It is estimated that the total error in time-signal recording resulting from signal transmission and delay in operation of the trace deflector should never exceed 30 milliseconds.

SNARE and EARSS instruments are also equipped with high stability clocks and radio receivers tuned to pick up Time Service signals. A software routine establishes a clock drift rate and applies a correcting signal calculated to bring the clock smoothly into synchronism with the time signals (which are usually received hourly). The difference between internally kept time and Time Service times is recorded and a correction applied by CUSP interactive display software to the phase onset times chosen by analysts. Corrected arrival times are expressed to a precision of one hundredth of a second, usually with an accuracy of a few hundredths, but errors of almost a tenth of a second have occasionally been detected.

Stations of the World-Wide Standard Seismograph Network have the timing arrangements usual at such stations. At other stations beyond New Zealand, time signals originating from the national Time Service or some other reliable time service are used.

It is sometimes desirable to know the local civil time at which an earthquake occurred. The times now used for civil purposes in New Zealand (except the Chatham Islands) are New Zealand Standard Time, and New Zealand Daylight Time, which are defined in the Time Act, 1974. New Zealand Standard Time is 12 hours, and New Zealand Daylight Time 13 hours, ahead of U.T. The period of Daylight Time is specified by Order in Council, as provided by the Act, and in 1990 Daylight Time was in effect until 02h NZST on March 18th, and from 02h NZST on October 7th until the end of the year.

The time observed in the Chatham Islands is 45 minutes in advance of that currently in use in New Zealand. New Zealand Standard Time is observed at Scott Base, in Fiji and on Raoul and Campbell Islands. Times kept elsewhere in the South Pacific are set by the governments of the respective countries. Those used in places which sometimes report earthquakes to the Observatory are listed below.

Western Samoa	11h 00m behind U.T.
Niue	11h 00m behind U.T.
Rarotonga	10h 00m behind U.T.
Tonga	13h 00m ahead of U.T.
Norfolk Island	11h 30m ahead of U.T.
French Polynesia	10h 00m behind U.T.

Note that Western Samoa, Niue, Rarotonga and French Polynesia are on the opposite side of the International Date Line from New Zealand.

ORIGIN INFORMATION

CONTENT

This section contains origin times, epicentres, focal depths, and magnitudes of earthquakes in the New Zealand region that the Observatory has located from instrumental data, together with indicators of the quality of the data used.

In the areas within the inner and outer polygons outlined on the map on page 22, the Observatory attempts to determine origins for all shallow earthquakes of M_L 3.7 or more, and all shocks of M_L 4.0 or more, respectively. (Origins are regarded as shallow if their depth is less than 60 km.) Origins are also calculated for smaller or more distant earthquakes reported to have been felt in New Zealand. Weak shocks felt during earthquake swarms do not automatically get this individual attention, but an origin is found for at least one shock in any sequence giving rise to felt reports.

DETERMINATION OF ORIGINS

Earthquake origins are determined using P & S phases or first-arriving crustal P & S phases. Four different velocity/depth structures are used to calculate travel-times of rays passing through and immediately beneath the crust in different parts of the country (see table below). Beneath the "Moho" defined by these models, velocities are smoothly merged with those of the Jeffreys-Bullen Tables (British Association for the Advancement of Science, 1958). The Standard velocity model is used to calculate crustal velocities beneath all regions except those defined in the following table.

MODEL	UPPER DEPTH BOUNDARY (km)	Vp (km/s)	Vs (km/s)	CORNERS OF REGION Lat.	Long.
				(in clockwise order)	
New Zealand Standard	0.0	5.5	3.3		
	12.0	6.5	3.7		
	33.0	8.1	4.6		
Wellington	0.0	4.40	2.54	41.0 S	178.0 E
	0.4	5.63	3.16	43.5 S	175.0 E
	5.0	5.77	3.49	42.0 S	173.0 E
	15.0	6.39	3.50	39.7 S	175.7 E
	25.0	6.79	3.92		
	35.0	8.07	4.80		
	45.0	8.77	4.86		
Taupo	0.0	3.00	1.70	35.6 S	180.0 E
	2.0	5.30	3.00	38.0 S	177.5 E
	5.0	6.00	3.50	39.7 S	175.7 E
	15.0	7.40	4.30	39.0 S	175.0 E
	33.0	7.78	4.39	37.0 S	176.0 E
	65.0	7.94	4.51	34.6 S	178.5 E
	96.4	8.08	4.52		
Clyde	0.0	4.4	2.6	45.5 S	172.0 E
	0.5	6.0	3.3	49.0 S	167.0 E
	12.0	6.5	3.7	44.5 S	168.0 E
	33.0	8.1	4.6	44.0 S	169.0 E

Seismograms are displayed on high-resolution graphics monitor screens under the control of CUSP (Caltech-USGS Seismic Processor) interactive software, for an analyst to select phase onset times by positioning a cursor on the trace. The analyst also selects the amplitude maximum to be used in magnitude calculations. Whenever possible, locations are based exclusively on times of first-arriving P and S phases.

Weights are initially assigned to phase arrival times by analysts according to the precision of the measurement. The weight of readings is further modified by the location program, which, after each iteration, weights the residuals used to adjust the trial origin. The procedure (see Jeffreys, H., 1939: Probability Theory, Cambridge University Press) greatly reduces the weight given to phases with residuals greater than three standard errors.

In general, all four coordinates of the earthquake origin are calculated (origin time, latitude, longitude, and focal depth). In some cases, however, the focal depth is not allowed to vary, but restricted to some chosen depth. This is most commonly done for crustal earthquakes. Unless there is a station within 25 km of a shock in the upper crust, or within 50 km of a shock in the lower crust, a nominal depth of either 12 or 33 km is usually assigned, according to the crustal phases present and the goodness of fit of the resulting solution. Less often, the depth is restricted to a smaller value, particularly when the strengths of locally reported felt intensities indicate an uncommonly shallow focus. The letter R printed after the depth in the lists which follow indicates a restriction for any of the foregoing reasons. There are also times when data not suitable for input to the location program (e.g. overseas PKP readings), indicate the depth of focus; in such cases the depth is similarly fixed and the restriction shown by following the depth by the letter G (to indicate intervention by a Geophysicist). When convergence of the location program fails for lack of enough data, both epicentre and depth are fixed at values consistent with the available information, and computation limited to finding a compatible origin time. Such doubly-restricted origins have the letters RR printed after the depth.

In routine origin determinations, sufficient of the stations nearest to the epicentre are read to ensure that there will be enough data for a satisfactory solution. When enough near observations are available, arrival times recorded at stations more distant from the epicentre are excluded from the calculations. Observatory analysts are free to completely reject data which they think to be unreliable, or to assign a low initial weight to it in the location program's procedure for minimising mean residuals. (See earlier details of how the weights are used).

In using the results in this section, it is essential to keep in mind that the positions of earthquakes with epicentres outside the network of seismograph stations can be very uncertain, even though the mean residual is small. With the aim of helping the reader to assess the reliability of the results presented here, the positional relationships between an epicentre, and the stations which recorded the data used to find it, are given after the calculated origin coordinates. Similarly, the number of magnitude estimates contributing to the mean value, and an indication of their scatter, are also shown.

The solutions presented here are in all cases based upon uniform procedures applied to laterally homogeneous models. Because well-established local models have been used to calculate the origins of shocks within the Wellington and Clyde Networks, systematic errors in these areas should be smaller than in other parts of the country.

The extensive development of CUSP software necessary to adapt it for use in New Zealand was undertaken by Dr T Webb and Dr E Smith.

MAGNITUDES

The magnitudes assigned to local earthquakes are intended to be the values of M_L as originally defined by C.F. Richter (Bull. Seism. Soc. Am. 25: 1-32, 1935), but his procedure for performing the magnitude calculation at other than the standard distance of 100 km has been modified, to take account of the observed characteristics of energy propagation in New Zealand, including the effect of focal depth. (For details, see Haines, A.J.: A local magnitude scale for New Zealand earthquakes, Bull. Seism. Soc. Am. 71: 275-94.)

ANALOGUE RECORDS

Magnitude estimates made from analogue seismograms are based on the largest amplitudes in the P and S groups, recorded by Willmore vertical and Wood-Anderson seismographs. (The distribution of these may be found in the earlier section on instrumentation.) At Wellington, where two-component Wood-Anderson instruments are installed, the sum of the amplitudes is used. An amplitude-distance relationship of the form

$$A = A_0 R^{-N} \exp(-\alpha R)$$

where A is a trace amplitude recorded at an epicentral distance R, A_0 is a calibration function, N is a geometric spreading factor and α is an inelastic attenuation coefficient, has been found appropriate for all parts of the country.

For all New Zealand crustal earthquakes N is 2 and α generally takes a value close to 0. With these values, the relationship describes head-wave propagation with no attenuation. In the Central Volcanic Region, however, (see Map, page 32), α takes values of 0.8 deg^{-1} for P waves and 1.05 deg^{-1} for S waves. Adjustments are therefore made according to the distance travelled in the volcanic region.

For deep earthquakes in the Main Seismic Region the same parameters as for crustal earthquakes apply (N = 2, α = 0), provided that (i) R now measures the slant distance from the focus to the base of the crust, and (ii) stations to the west of the volcanic region or south of the Main Seismic Region are not used, because the structure there necessitates different spreading and attenuation terms.

Magnitude corrections for the two classes of focal depth, for P and S phases recorded on Willmore and Wood-Anderson instruments.

Station		Willmore P		Willmore S		Wood-Anderson	
		≤ 33 km	> 33 km	≤ 33 km	> 33 km	≤ 33 km	> 33 km
AUC							
BRZ	Fiordland only		0.05		-0.20		0.05
	All shallow	0.15		-0.10		0.15	
CMZ		0.05		-0.15			
COB		0.15		-0.40			
GBZ							
GNZ		0.00	0.00	-0.20	-0.20		
HBZ							
KAI							0.30
KKZ		0.25	0.25	0.05	0.05		
KRP		-0.25		-0.30			
MNG		-0.35	-0.40	-0.45	-0.50		
MSZ	Fiordland only		-0.35		-0.60		
	All shallow	-0.25		-0.50			
NEZ							
OBZ		0.00		-0.40			
OMZ		0.15		-0.15			
RTY							
TMP							
WEL						0.30	0.30
WTZ		-0.10	0.05	0.05	0.00		

For deep earthquakes in Fiordland the same amplitude-distance relationship is used, with (i) N given the value 1 (body wave propagation), (ii) α increasing with focal depth, and (iii) stations in the Main Seismic Region (apart from COB) not used, because of variations of the coefficients N and α. Milford Sound (MSZ) and Borland Lodge (BRZ) should ideally be excluded for the same reason, but as they are sometimes the only stations from which any estimate of magnitude can be made, they are used when necessary, with $N = 2$ and $\alpha = 0$.

Corrections are applied to allow for differences in site effects, frequency responses and magnifications of the instruments. Their determination is empirical, and made in such a manner as to give the most consistent estimates of magnitude from the different stations, and their absolute level is adjusted to give a standard Wood-Anderson instrument at Wellington a zero correction, a procedure that can be justified on *a priori* grounds and provides a smooth connection with New Zealand magnitudes published before 1977. Station Corrections (Table on page 30) are added to the individual estimates of magnitude, which are then averaged. The trace amplitudes on which magnitude calculations are based are no longer published, but the number of measurements and the number of stations contributing to the average magnitude are listed (e.g. "5M/4stn" appearing in a data summary indicates that 5 amplitude measurements of records from 4 stations were used to compute an average). When amplitude measurements from other stations are available, the BRZ and MSZ estimates are only given half weight in the calculation of the average magnitude.

DIGITAL RECORDS

For stations more than 100 km away from the epicentre of an earthquake, magnitude is estimated using the maximum number of digital amplitude counts in the wave train, scaled to be equivalent to a maximum amplitude (in millimetres) recorded by a Willmore vertical seismometer with an analogue recorder. This amplitude is then processed in the same way as any other Willmore analogue amplitude, to produce a single-station estimate of M_L.

For stations closer than 100 km, the formula

$$M_A = \log_{10} A + 1.0 \log_{10} R + 0.0029 R + K$$

developed by Robinson (1987) is used, where A is the maximum digital count, R is the slant distance from the station to the earthquake focus (in kilometres) and K is a station correction allowing for digital sensitivity and site factors.

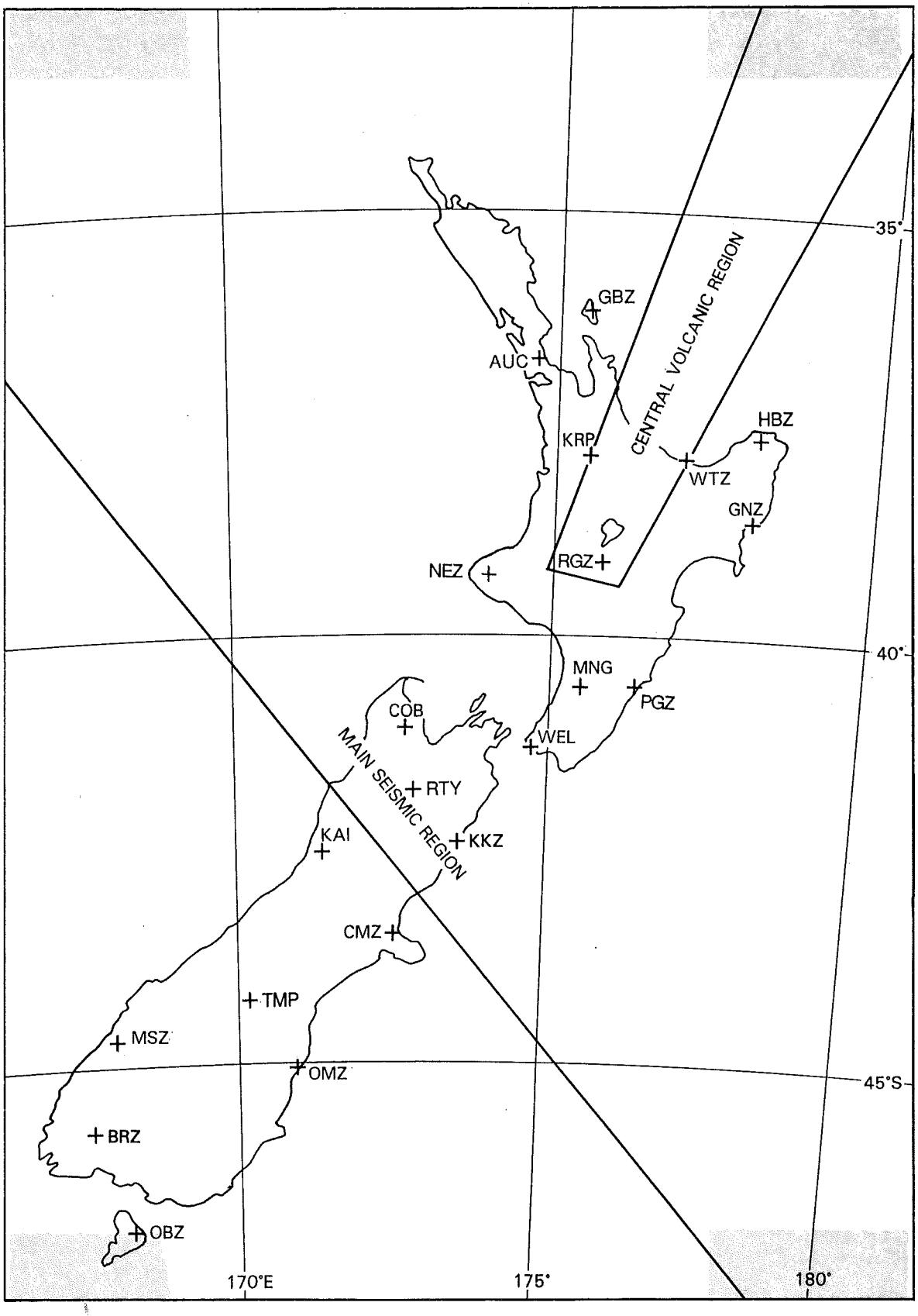
Some stations of the Taupo Network have a non-linear amplitude response, and are used to estimate magnitudes only if earthquakes are of $M_L < 5$ and have epicentres in the Central Volcanic Region. For such earthquakes, the relation

$$M_D = 3.0 \log_{10} D$$

is used, where D is the interval in seconds from the origin time of the event until the amplitude falls below a pre-set level.

The definitive local magnitude is finally calculated as a weighted average of all station estimates, with Taupo Network estimates and estimates from stations at distances less than 100 km given half weight and all other stations given full weight.

Robinson, R., 1987, "Temporal variations in coda duration of local earthquakes in the Wellington region, New Zealand."



Stations and regions used for determination of magnitudes from analogue records.

DATA FROM THE NATIONAL NETWORK

LAYOUT

The first entry for each earthquake is the reference number, used throughout the Report. The second line gives the origin coordinates and the magnitude and the third line shows, beneath each of the coordinates in line two, its standard error. Where depth has been restricted, the letter R or G in place of the standard error indicates the fact. The fourth line starts with Rsd, the standard deviation of residuals, an indication of how well the adopted origin reconciles the available data with the earth models used by the location program. Formally,

$$\text{Rsd} = \left[\sum_{i=1}^{n} \{(w_i \, r_i \, / \, 100)^2 \, / \, (n\text{-}m)\} \right]^{1/2}$$

where r_i is the ith residual, w_i its weight, n the number of readings and m the number of parameters determined (4 for unrestricted depth, 3 when depth is restricted.) When the number of readings used and the number of parameters are the same, the standard errors and Rsd are not defined. This is shown by the letters ND. The remainder of the fourth line and most of the fifth line present information indicating to the reader the degree of constraint on the adopted origin. Xph/Ystn shows that X phases from Y stations were used in the determination of the origin. (All phases given non-zero weight are counted but stations which failed to provide such a phase are not). Dmin is the distance from the epicentre to the nearest of these Y stations and Az. gap is the greatest angular gap in their distribution about the epicentre.

Corr. is the correlation coefficient of the errors in latitude and longitude. It may be used to construct an epicentral confidence region. (See Flinn, E.A., 1965, "Confidence regions and error determinations for seismic event locations". Rev. Geophys. 3: 156-185.) pM/Qstn shows that p magnitude estimates from phases recorded at Q stations contributed to the average value shown on line two. Msd is the standard deviation of the magnitude estimates.

The numbers of upward and downward first motions recorded are indicated at the end of line five.

Additional information may be appended to the above. This usually consists of a short summary of the places where a shock has been felt and the intensities there, but may include other comments. Further details of reports received by the Observatory concerning the effects of earthquakes and the intensities assessed from these observations appear in later sections of this Report.

The telemetered networks all detect earthquakes of very small magnitude in their respective regions. These are all located and the data are held in the Observatory's archives. The following list, however, contains only those events which were of magnitude 3.5 or greater, or were reported felt. Smaller events have been excluded, as have events located more than 10^{o} from Wellington.

90/6
JAN 01 0220 45.6s 37.77S 177.39E 121km M=3.5
0.3 0.03 0.02 3
Rsd 0.2s 11ph/7stn Dmin 42km Az.gap 201°
Corr. -0.449 11M/11stn Msd 0.2 2↑ 1↓

90/9
JAN 01 0310 34.9s 38.40S 176.19E 151km M=3.7
1.0 0.05 0.04 9
Rsd 0.2s 12ph/11stn Dmin 34km Az.gap 190°
Corr. -0.770 12M/12stn Msd 0.2 1↑

90/12
JAN 01 0550 30.3s 36.33S 177.44E 232km M=3.9
1.0 0.13 0.24 17
Rsd 0.2s 13ph/10stn Dmin 160km Az.gap 309°
Corr. -0.754 11M/11stn Msd 0.1

90/21
JAN 01 1231 10.8s 37.61S 176.59E 192km M=4.1
0.5 0.04 0.02 4
Rsd 0.2s 19ph/14stn Dmin 54km Az.gap 239°
Corr. -0.590 12M/12stn Msd 0.2 2↑ 1↓

90/24
JAN 01 1456 51.8s 40.11S 176.87E 12km M=3.7
0.2 0.01 0.03 R
Rsd 0.2s 25ph/23stn Dmin 76km Az.gap 188°
Corr. -0.438 17M/17stn Msd 0.2 1↓
Felt Hawkes Bay (60,63,64).

90/36
JAN 02 0136 36.9s 38.82S 175.36E 221km M=5.0
0.5 0.02 0.03 4
Rsd 0.2s 26ph/22stn Dmin 25km Az.gap 117°
Corr. -0.241 7M/7stn Msd 0.2 17↑ 2↓

90/47
JAN 02 1843 05.8s 39.15S 176.06E 77km M=3.9
0.1 0.01 0.01 2
Rsd 0.2s 34ph/24stn Dmin 29km Az.gap 102°
Corr. -0.093 14M/14stn Msd 0.2 6↑ 7↓

90/55
JAN 03 0037 32.0s 36.55S 177.26E 192km M=3.8
0.6 0.05 0.14 13
Rsd 0.1s 14ph/11stn Dmin 148km Az.gap 296°
Corr. -0.836 3M/3stn Msd 0.4

90/69
JAN 03 1546 25.7s 37.91S 176.40E 200km M=4.5
0.7 0.05 0.03 6
Rsd 0.3s 24ph/17stn Dmin 35km Az.gap 164°
Corr. -0.037 14M/14stn Msd 0.2 8↑ 5↓

90/77
JAN 03 2040 06.7s 42.57S 172.87E 31km M=3.6
0.3 0.01 0.02 2
Rsd 0.2s 26ph/13stn Dmin 55km Az.gap 117°
Corr. -0.467 14M/14stn Msd 0.2 2↑ 1↓

90/79
JAN 03 2152 38.8s 37.76S 176.41E 305km M=5.1
0.5 0.03 0.03 4
Rsd 0.2s 19ph/15stn Dmin 73km Az.gap 110°
Corr. 0.025 9M/9stn Msd 0.2 12↑ 3↓

90/82
JAN 04 0549 18.8s 38.35S 176.41E 112km M=3.8
0.3 0.03 0.02 3
Rsd 0.1s 14ph/11stn Dmin 54km Az.gap 176°
Corr. -0.898 10M/10stn Msd 0.2 1↑

90/95
JAN 04 1713 59.6s 36.24S 179.21W 281km M=4.2
0.5 0.06 0.11 6
Rsd 0.2s 9ph/4stn Dmin 269km Az.gap 343°
Corr. -0.781 3M/3stn Msd 0.2

90/97
JAN 04 1812 57.3s 38.16S 175.86E 105km M=4.2
0.8 0.07 0.07 8
Rsd 0.3s 11ph/7stn Dmin 43km Az.gap 224°
Corr. -0.586 15M/15stn Msd 0.4 1↑ 3↓

90/109
JAN 05 1244 33.9s 38.63S 175.78E 151km M=4.6
0.5 0.02 0.03 4
Rsd 0.3s 37ph/28stn Dmin 9km Az.gap 102°
Corr. 0.146 12M/12stn Msd 0.3 9↑ 6↓

90/112
JAN 05 2200 48.5s 38.62S 176.16E 167km M=3.9
0.4 0.02 0.03 4
Rsd 0.1s 15ph/10stn Dmin 79km Az.gap 214°
Corr. -0.859 12M/12stn Msd 0.2 3↑ 1↓

90/122
JAN 06 0750 53.3s 44.95S 166.47E 12km M=4.3
0.7 0.06 0.06 R
Rsd 0.2s 18ph/14stn Dmin 119km Az.gap 303°
Corr. -0.192 17M/17stn Msd 0.2 1↑

90/134
JAN 06 1916 42.4s 36.49S 179.71E 12km M=3.9
0.5 0.04 0.05 R
Rsd 0.2s 10ph/5stn Dmin 176km Az.gap 336°
Corr. -0.008 11M/11stn Msd 0.1

90/141
JAN 07 0115 01.4s 36.26S 176.81E 180km M=3.8
1.3 0.18 0.41 65
Rsd 0.2s 9ph/5stn Dmin 239km Az.gap 301°
Corr. -0.957 9M/9stn Msd 0.3

90/148
JAN 07 0736 04.2s 44.95S 166.39E 12km M=3.7
0.5 0.05 0.05 R
Rsd 0.2s 14ph/12stn Dmin 125km Az.gap 338°
Corr. -0.492 12M/12stn Msd 0.1

90/153
JAN 07 1153 15.4s 36.69S 177.13E 12km M=3.6
0.6 0.08 0.26 R
Rsd 0.1s 6ph/4stn Dmin 459km Az.gap 353°
Corr. -0.816 2M/2stn Msd 0.1

90/155
JAN 07 1321 35.6s 37.50S 176.11E 301km M=3.8
0.2 0.02 0.05 2
Rsd 0.0s 16ph/12stn Dmin 194km Az.gap 254°
Corr. -0.984 6M/6stn Msd 0.2 1↓

90/160
JAN 07 2054 54.2s 47.10S 165.99E 165km M=3.9
0.5 0.09 0.07 23
Rsd 0.1s 18ph/12stn Dmin 309km Az.gap 339°
Corr. 0.158 11M/11stn Msd 0.1

90/166
JAN 08 0307 44.9s 37.45S 178.68E 27km M=3.8
0.7 0.03 0.05 2
Rsd 0.2s 10ph/5stn Dmin 37km Az.gap 305°
Corr. 0.369 4M/4stn Msd 0.3 1↑

90/167
JAN 08 0505 34.3s 35.96S 178.37E 249km M=3.9
0.6 0.10 0.19 11
Rsd 0.1s 7ph/3stn Dmin 182km Az.gap 337°
Corr. -0.957 2M/2stn Msd 0.0

90/170
JAN 08 0912 31.3s 37.48S 176.55E 194km M=3.6
0.3 0.05 0.11 11
Rsd 0.1s 14ph/9stn Dmin 164km Az.gap 264°
Corr. -0.969 7M/7stn Msd 0.2

90/171
JAN 08 1047 31.4s 37.91S 176.36E 169km M=3.7
0.6 0.04 0.02 5
Rsd 0.2s 13ph/9stn Dmin 56km Az.gap 170°
Corr. -0.260 12M/12stn Msd 0.2

90/176
JAN 08 1542 20.2s 38.07S 175.75E 171km M=3.9
0.7 0.05 0.05 6
Rsd 0.1s 11ph/8stn Dmin 105km Az.gap 211°
Corr. -0.762 13M/13stn Msd 0.2 1↑ 1↓

90/196
JAN 09 1558 30.5s 37.71S 176.18E 210km M=3.5
0.7 0.03 0.05 6
Rsd 0.2s 12ph/7stn Dmin 77km Az.gap 261°
Corr. -0.229 10M/10stn Msd 0.2

90/199
JAN 09 2033 36.0s 38.29S 176.07E 170km M=3.6
0.3 0.05 0.07 7
Rsd 0.1s 15ph/11stn Dmin 193km Az.gap 238°
Corr. -0.945 9M/9stn Msd 0.3

90/208
JAN 10 0649 28.1s 41.35S 172.71E 186km M=3.5
0.4 0.02 0.02 4
Rsd 0.2s 22ph/15stn Dmin 28km Az.gap 148°
Corr. -0.459 9M/9stn Msd 0.2 4↑ 2↓

90/210
JAN 10 0709 00.9s 38.20S 176.24E 156km M=3.6
1.4 0.07 0.05 12
Rsd 0.4s 11ph/8stn Dmin 24km Az.gap 134°
Corr. -0.045 12M/12stn Msd 0.1 1↓

90/212
JAN 10 0938 01.6s 36.67S 177.56E 171km M=3.6
0.4 0.03 0.04 5
Rsd 0.2s 9ph/5stn Dmin 122km Az.gap 305°
Corr. 0.016 4M/4stn Msd 0.2

90/219
JAN 10 1845 34.2s 45.22S 167.35E 32km M=4.2
0.3 0.04 0.14 15
Rsd 0.1s 15ph/13stn Dmin 76km Az.gap 289°
Corr. -0.910 5M/5stn Msd 0.1 1↑ 11↓

90/222
JAN 10 2257 21.4s 39.64S 174.09E 30km M=3.8
0.3 0.01 0.04 5
Rsd 0.2s 28ph/23stn Dmin 41km Az.gap 145°
Corr. -0.813 15M/15stn Msd 0.2 1↑ 3↓

90/234
JAN 11 0748 58.6s 38.03S 176.30E 144km M=4.0
0.9 0.05 0.03 8
Rsd 0.4s 18ph/15stn Dmin 29km Az.gap 223°
Corr. -0.598 15M/15stn Msd 0.2 2↑ 3↓

90/235
JAN 11 0858 55.5s 39.91S 174.13E 121km M=3.5
0.3 0.01 0.02 4
Rsd 0.2s 20ph/16stn Dmin 71km Az.gap 135°
Corr. -0.062 10M/10stn Msd 0.2 7↑ 3↓

90/239
JAN 11 1238 06.6s 37.70S 176.37E 314km M=5.0
0.9 0.07 0.05 6
Rsd 0.3s 25ph/20stn Dmin 63km Az.gap 190°
Corr. 0.190 17M/17stn Msd 0.2 11↑ 7↓

90/242
JAN 11 1420 42.0s 37.86S 176.35E 168km M=4.0
0.5 0.03 0.02 4
Rsd 0.2s 16ph/12stn Dmin 58km Az.gap 169°
Corr. -0.215 14M/14stn Msd 0.2 2↑ 3↓

90/245
JAN 11 1629 59.3s 42.10S 174.22E 19km M=3.5
0.3 0.01 0.01 3
Rsd 0.2s 26ph/17stn Dmin 39km Az.gap 163°
Corr. -0.621 17M/17stn Msd 0.3 3↑ 6↓

90/257
JAN 12 1535 40.4s 44.83S 167.61E 77km M=3.7
0.4 0.03 0.03 3
Rsd 0.1s 16ph/13stn Dmin 30km Az.gap 289°
Corr. 0.539 6M/6stn Msd 0.3 1↑ 5↓

90/264
JAN 12 2141 19.5s 38.33S 176.17E 159km M=3.7
0.5 0.02 0.02 4
Rsd 0.2s 16ph/9stn Dmin 72km Az.gap 106°
Corr. -0.180 13M/13stn Msd 0.3 1↑

90/265
JAN 12 2239 42.0s 43.90S 170.68E 12km M=3.9
0.2 0.02 0.02 R
Rsd 0.2s 17ph/15stn Dmin 64km Az.gap 141°
Corr. -0.672 18M/18stn Msd 0.2 1↑

90/273
JAN 13 1308 52.6s 38.68S 175.41E 158km M=3.6
1.0 0.05 0.08 16
Rsd 0.4s 16ph/13stn Dmin 158km Az.gap 222°
Corr. -0.863 12M/12stn Msd 0.2

90/274
JAN 13 1350 36.1s 37.62S 176.19E 293km M=3.8
0.3 0.07 0.12 7
Rsd 0.1s 14ph/10stn Dmin 189km Az.gap 264°
Corr. -0.977 10M/10stn Msd 0.2 1↑

90/277
JAN 13 1627 47.0s 36.73S 177.07E 263km M=3.6
0.6 0.07 0.15 11
Rsd 0.1s 11ph/7stn Dmin 146km Az.gap 290°
Corr. -0.906 4M/4stn Msd 0.2

90/284
JAN 14 0227 08.8s 41.33S 172.75E 195km M=3.5
0.4 0.08 0.09 7
Rsd 0.1s 11ph/8stn Dmin 128km Az.gap 238°
Corr. -0.984 7M/7stn Msd 0.3 1↑ 1↓

90/298
JAN 14 1712 08.8s 38.62S 177.67E 18km M=4.3
0.1 0.01 0.01 2
Rsd 0.2s 18ph/15stn Dmin 31km Az.gap 113°
Corr. -0.279 18M/18stn Msd 0.3 6↑ 5↓
Felt Ormond (44) MM4 and Mahia Beach (54).

90/301
JAN 14 1754 26.5s 45.09S 167.10E 27km M=3.7
0.5 0.11 0.14 17
Rsd 0.1s 14ph/11stn Dmin 80km Az.gap 320°
Corr. -0.945 12M/12stn Msd 0.1 1↓

90/303
JAN 14 2008 48.8s 38.69S 175.31E 181km M=3.7
0.5 0.01 0.03 5
Rsd 0.1s 14ph/12stn Dmin 87km Az.gap 164°
Corr. -0.114 7M/7stn Msd 0.3

90/305
JAN 14 2306 40.0s 39.56S 174.96E 125km M=3.8
0.3 0.01 0.05 4
Rsd 0.2s 16ph/14stn Dmin 65km Az.gap 200°
Corr. -0.586 10M/10stn Msd 0.2 8↑ 2↓

90/313
JAN 15 0611 52.5s 38.70S 177.91E 58km M=3.7
0.5 0.03 0.04 5
Rsd 0.3s 12ph/8stn Dmin 12km Az.gap 188°
Corr. -0.703 6M/6stn Msd 0.3 2↑ 1↓

90/315
JAN 15 0928 01.0s 41.59S 174.08E 12km M=3.6
0.1 0.01 0.01 R
Rsd 0.2s 22ph/16stn Dmin 22km Az.gap 86°
Corr. -0.275 12M/12stn Msd 0.1 5↑ 2↓
Felt Marlborough (77,83,84).

90/321
JAN 15 1846 49.7s 38.06S 176.26E 168km M=3.6
1.0 0.10 0.04 8
Rsd 0.3s 8ph/6stn Dmin 65km Az.gap 152°
Corr. 0.229 12M/12stn Msd 0.2

90/322
JAN 15 1929 03.0s 37.05S 176.39E 205km M=3.6
1.0 0.10 0.28 33
Rsd 0.2s 7ph/5stn Dmin 180km Az.gap 273°
Corr. -0.926 11M/11stn Msd 0.2

90/331
JAN 16 0619 41.5s 36.52S 177.45E 33km M=3.5
1.4 0.09 0.10 R
Rsd 0.5s 6ph/4stn Dmin 141km Az.gap 314°
Corr. 0.201 5M/5stn Msd 0.2

90/336
JAN 16 1020 55.3s 36.00S 177.13E 279km M=3.9
0.4 0.07 0.09 8
Rsd 0.0s 16ph/12stn Dmin 251km Az.gap 309°
Corr. -0.941 2M/2stn Msd 0.1

90/346
JAN 16 1925 31.2s 38.35S 175.69E 190km M=4.0
0.5 0.07 0.12 14
Rsd 0.3s 26ph/17stn Dmin 206km Az.gap 220°
Corr. -0.973 13M/13stn Msd 0.2 4↑ 1↓

90/347
JAN 17 0556 35.4s 40.56S 173.38E 173km M=4.1
0.4 0.03 0.02 3
Rsd 0.2s 26ph/16stn Dmin 82km Az.gap 229°
Corr. -0.313 12M/10stn Msd 0.3 6↑ 6↓

90/352
JAN 17 2112 15.4s 38.74S 177.45E 42km M=3.8
0.3 0.02 0.02 9
Rsd 0.2s 21ph/17stn Dmin 51km Az.gap 127°
Corr. -0.316 13M/13stn Msd 0.2 1↓

90/358
JAN 18 1229 43.3s 38.27S 175.85E 202km M=4.2
0.7 0.03 0.04 5
Rsd 0.3s 28ph/22stn Dmin 49km Az.gap 124°
Corr. 0.148 19M/19stn Msd 0.3 1↑

90/369
JAN 19 0031 36.7s 37.38S 176.97E 297km M=3.7
0.3 0.10 0.08 13
Rsd 0.1s 11ph/8stn Dmin 382km Az.gap 348°
Corr. -0.547 7M/7stn Msd 0.1

90/371
JAN 19 0222 20.6s 40.60S 176.16E 31km M=4.1
0.1 0.01 0.02 1
Rsd 0.2s 23ph/20stn Dmin 9km Az.gap 118°
Corr. -0.625 11M/10stn Msd 0.3 4↑ 6↓
Felt Palmerston North (62).

90/374
JAN 19 0658 58.0s 47.46S 166.11E 33km M=3.8
0.4 0.03 0.04 R
Rsd 0.1s 14ph/11stn Dmin 340km Az.gap 340°
Corr. 0.015 11M/11stn Msd 0.2

90/378
JAN 19 1146 25.9s 41.34S 172.72E 182km M=4.7
0.4 0.03 0.03 3
Rsd 0.2s 29ph/17stn Dmin 27km Az.gap 139°
Corr. -0.699 8M/6stn Msd 0.2 14↑ 4↓

90/379
JAN 19 1409 10.3s 40.12S 173.69E 180km M=3.5
0.5 0.03 0.06 8
Rsd 0.2s 13ph/7stn Dmin 132km Az.gap 217°
Corr. -0.758 4M/4stn Msd 0.1 1↑ 1↓

90/405
JAN 21 1357 29.5s 39.13S 175.92E 80km M=4.8
0.3 0.01 0.02 3
Rsd 0.2s 28ph/25stn Dmin 23km Az.gap 59°
Corr. 0.088 9M/8stn Msd 0.4 1↑ 8↓

90/409
JAN 21 1759 28.0s 45.04S 167.48E 86km M=3.9
0.2 0.03 0.02 3
Rsd 0.1s 21ph/13stn Dmin 54km Az.gap 288°
Corr. 0.840 6M/6stn Msd 0.2 1↓

90/415
JAN 21 2226 37.5s 37.01S 177.03E 332km M=3.6
0.2 0.04 0.08 4
Rsd 0.0s 10ph/8stn Dmin 161km Az.gap 292°
Corr. -0.961 7M/7stn Msd 0.2

90/420
JAN 22 0257 25.2s 38.71S 175.66E 159km M=3.9
0.5 0.01 0.03 5
Rsd 0.2s 12ph/8stn Dmin 56km Az.gap 150°
Corr. -0.395 11M/11stn Msd 0.2 1↑ 1↓

90/427
JAN 22 1244 37.8s 40.28S 176.28E 57km M=3.6
0.1 0.01 0.02 2
Rsd 0.2s 34ph/23stn Dmin 37km Az.gap 126°
Corr. -0.668 17M/15stn Msd 0.2 3↑ 1↓

90/434
JAN 23 0438 45.6s 40.38S 176.95E 47km M=3.5
0.5 0.02 0.05 7
Rsd 0.3s 17ph/13stn Dmin 45km Az.gap 243°
Corr. -0.367 15M/13stn Msd 0.2 1↑ 2↓

90/465
JAN 24 1457 05.6s 39.11S 175.04E 229km M=4.0
0.3 0.01 0.03 2
Rsd 0.1s 21ph/17stn Dmin 45km Az.gap 183°
Corr. 0.048 12M/12stn Msd 0.3 1↑

90/473
JAN 25 0509 49.6s 45.19S 167.32E 77km M=3.9
0.2 0.05 0.04 7
Rsd 0.1s 20ph/13stn Dmin 75km Az.gap 292°
Corr. 0.855 12M/12stn Msd 0.1 1↑ 7↓

90/474
JAN 25 0532 44.1s 38.81S 175.25E 209km M=4.6
0.5 0.03 0.03 5
Rsd 0.3s 30ph/20stn Dmin 33km Az.gap 133°
Corr. 0.224 13M/13stn Msd 0.4 6↑ 2↓
Timing unreliable on Taupo net.

90/480
JAN 25 1519 48.2s 39.11S 175.09E 174km M=3.8
0.3 0.01 0.02 3
Rsd 0.1s 25ph/17stn Dmin 41km Az.gap 162°
Corr. 0.197 14M/14stn Msd 0.2 1↑

90/486
JAN 26 0041 20.4s 42.45S 177.45E 33km M=4.1
0.4 0.02 0.03 R
Rsd 0.2s 44ph/37stn Dmin 203km Az.gap 235°
Corr. -0.688 33M/31stn Msd 0.4

90/493
JAN 26 1311 06.7s 45.50S 167.10E 33km M=3.5
0.2 0.01 0.02 R
Rsd 0.1s 14ph/11stn Dmin 113km Az.gap 316°
Corr. 0.303 12M/12stn Msd 0.2 1↑

90/497
JAN 26 1830 45.7s 38.96S 175.05E 203km M=4.1
0.6 0.02 0.03 5
Rsd 0.3s 35ph/26stn Dmin 42km Az.gap 134°
Corr. 0.047 22M/20stn Msd 0.4 11↑ 2↓

90/499
JAN 26 2102 24.4s 37.47S 178.75E 27km M=4.5
0.2 0.01 0.02 1
Rsd 0.1s 19ph/14stn Dmin 42km Az.gap 271°
Corr. 0.161 23M/21stn Msd 0.3 1↑

90/500
JAN 26 2105 29.9s 37.50S 178.69E 29km M=3.6
0.4 0.02 0.03 1
Rsd 0.2s 12ph/7stn Dmin 36km Az.gap 312°
Corr. 0.340 12M/12stn Msd 0.1 1↑

90/504
JAN 27 0136 58.6s 35.72S 179.34E 118km M=4.9
0.8 0.06 0.06 22
Rsd 0.3s 18ph/15stn Dmin 228km Az.gap 299°
Corr. 0.598 22M/20stn Msd 0.4 1↓

90/517
JAN 27 2109 43.9s 41.30S 172.72E 191km M=4.6
0.4 0.03 0.03 3
Rsd 0.2s 31ph/17stn Dmin 23km Az.gap 140°
Corr. -0.695 11M/9stn Msd 0.2 10↑ 2↓

90/519
JAN 28 0041 06.7s 37.11S 177.59E 230km M=3.7
0.4 0.11 0.20 10
Rsd 0.1s 10ph/6stn Dmin 83km Az.gap 280°
Corr. -0.969 10M/10stn Msd 0.2

90/520
JAN 28 0209 41.7s 42.94S 171.49E 5km M=3.3
0.2 0.01 0.02 R
Rsd 0.2s 16ph/10stn Dmin 46km Az.gap 133°
Corr. 0.037 19M/19stn Msd 0.3 1↑
Felt Arthur's Pass (93) MM4.

90/530
JAN 28 1610 47.0s 38.30S 176.40E 166km M=3.6
0.7 0.05 0.08 9
Rsd 0.2s 10ph/7stn Dmin 65km Az.gap 209°
Corr. -0.898 15M/15stn Msd 0.3 1↑

90/534
JAN 28 1941 31.4s 40.47S 174.37E 5km M=3.5
0.1 0.01 0.01 R
Rsd 0.2s 31ph/22stn Dmin 63km Az.gap 107°
Corr. -0.140 14M/13stn Msd 0.2 1↓

90/536
JAN 28 2338 33.9s 41.35S 174.71E 50km M=4.2
0.1 0.01 0.01 1
Rsd 0.1s 30ph/22stn Dmin 8km Az.gap 94°
Corr. -0.469 11M/10stn Msd 0.2 5↑ 8↓
Felt Ohau (65) MM4, Wellington (68) and Picton (78).

90/539
JAN 29 1028 41.7s 41.42S 172.69E 197km M=3.7
0.5 0.04 0.05 3
Rsd 0.2s 21ph/15stn Dmin 42km Az.gap 239°
Corr. -0.816 11M/11stn Msd 0.3 3↑ 1↓

90/560
JAN 30 0949 48.2s 38.82S 178.85E 33km M=3.7
1.1 0.05 0.11 R
Rsd 0.4s 8ph/7stn Dmin 75km Az.gap 244°
Corr. -0.797 17M/17stn Msd 0.2 1↑

90/564
JAN 30 1349 34.8s 37.76S 177.52E 60km M=4.1
0.4 0.02 0.01 5
Rsd 0.2s 21ph/17stn Dmin 53km Az.gap 123°
Corr. 0.361 18M/18stn Msd 0.2 1↑

90/573
JAN 31 0915 56.6s 45.21S 167.87E 152km M=3.6
0.2 0.04 0.05 4
Rsd 0.1s 14ph/11stn Dmin 94km Az.gap 325°
Corr. -0.836 11M/11stn Msd 0.2 1↓

90/594
FEB 01 2121 17.2s 35.11S 178.57E 323km M=4.0
0.6 0.16 0.35 9
Rsd 0.1s 14ph/11stn Dmin 277km Az.gap 337°
Corr. -0.969 12M/12stn Msd 0.3

90/596
FEB 01 2225 26.7s 36.42S 176.92E 271km M=3.7
0.4 0.05 0.11 10
Rsd 0.1s 12ph/9stn Dmin 180km Az.gap 298°
Corr. -0.945 2M/2stn Msd 0.2

90/619
FEB 02 2031 20.9s 37.60S 176.60E 156km M=3.7
0.9 0.06 0.05 6
Rsd 0.3s 12ph/8stn Dmin 55km Az.gap 259°
Corr. -0.230 18M/18stn Msd 0.2

90/622
FEB 03 0116 09.6s 36.75S 176.18E 33km M=3.8
0.3 0.02 0.01 R
Rsd 0.1s 11ph/8stn Dmin 235km Az.gap 295°
Corr. -0.096 2M/2stn Msd 0.2

90/624
FEB 03 0414 27.1s 45.13S 167.73E 129km M=4.2
0.2 0.04 0.05 5
Rsd 0.1s 16ph/12stn Dmin 106km Az.gap 304°
Corr. -0.656 5M/5stn Msd 0.2 1↑ 7↓

90/647
FEB 04 1305 26.8s 34.84S 179.03W 371km M=4.1
0.8 0.71 1.13 10
Rsd 0.1s 14ph/10stn Dmin 433km Az.gap 353°
Corr. -0.996 9M/9stn Msd 0.2

90/649
FEB 04 1415 35.8s 36.42S 178.07E 167km M=3.7
0.4 0.03 0.03 4
Rsd 0.1s 9ph/5stn Dmin 133km Az.gap 322°
Corr. -0.197 9M/9stn Msd 0.2

90/652
FEB 04 1634 33.1s 37.10S 176.56E 298km M=3.6
0.2 0.01 0.02 2
Rsd 0.0s 13ph/8stn Dmin 105km Az.gap 267°
Corr. -0.672 10M/10stn Msd 0.2

90/657
FEB 04 2115 41.9s 38.53S 175.86E 155km M=3.5
3.0 0.09 0.07 23
Rsd 0.2s 13ph/11stn Dmin 59km Az.gap 229°
Corr. -0.891 17M/17stn Msd 0.2 1↑

90/661
FEB 05 0308 54.5s 40.70S 173.94E 98km M=3.8
0.3 0.02 0.01 4
Rsd 0.3s 28ph/19stn Dmin 64km Az.gap 119°
Corr. -0.246 12M/10stn Msd 0.2 1↓

90/667
FEB 05 0657 04.1s 41.19S 173.06E 220km M=3.6
0.3 0.03 0.03 2
Rsd 0.1s 26ph/15stn Dmin 64km Az.gap 183°
Corr. -0.797 11M/11stn Msd 0.1 1↓

90/676
FEB 05 1727 55.7s 36.47S 176.06E 169km M=3.8
1.0 0.11 0.25 52
Rsd 0.2s 12ph/9stn Dmin 264km Az.gap 289°
Corr. -0.957 8M/8stn Msd 0.2

90/678
FEB 05 2357 20.6s 38.12S 176.19E 172km M=3.6
0.8 0.04 0.04 7
Rsd 0.2s 10ph/8stn Dmin 72km Az.gap 228°
Corr. -0.715 15M/15stn Msd 0.2

90/686
FEB 06 0942 45.6s 40.69S 175.91E 31km M=4.7
0.1 0.01 0.01 1
Rsd 0.2s 36ph/32stn Dmin 32km Az.gap 129°
Corr. -0.594 24M/22stn Msd 0.3 7↑ 7↓
Felt Wanganui (57) to Wellington (68), max. int. MM5 at Levin (65).

90/692
FEB 06 1414 15.0s 37.08S 178.83E 38km M=3.6
0.3 0.02 0.03 9
Rsd 0.1s 9ph/6stn Dmin 74km Az.gap 324°
Corr. 0.441 9M/9stn Msd 0.2

90/710
FEB 07 0308 27.6s 37.98S 177.93E 67km M=3.6
0.3 0.01 0.02 3
Rsd 0.2s 11ph/6stn Dmin 31km Az.gap 129°
Corr. -0.279 5M/5stn Msd 0.1 1↑

90/715
FEB 07 0937 38.8s 39.17S 174.90E 218km M=3.6
0.4 0.01 0.03 3
Rsd 0.1s 15ph/13stn Dmin 56km Az.gap 243°
Corr. -0.566 12M/12stn Msd 0.2

90/725
FEB 07 1919 03.6s 46.29S 165.78E 33km M=4.5
1.1 0.08 0.10 R
Rsd 0.3s 14ph/12stn Dmin 246km Az.gap 320°
Corr. 0.093 11M/11stn Msd 0.1

90/738
FEB 08 0750 52.9s 35.09S 179.44E 281km M=4.6
0.2 0.03 0.04 4
Rsd 0.1s 12ph/9stn Dmin 297km Az.gap 343°
Corr. -0.021 15M/15stn Msd 0.2

90/739
FEB 08 0807 21.4s 36.64S 179.80E 33km M=3.7
1.1 0.07 0.14 R
Rsd 0.3s 9ph/6stn Dmin 171km Az.gap 337°
Corr. -0.467 4M/4stn Msd 0.2

90/740
FEB 08 0834 49.4s 38.22S 176.10E 204km M=3.8
0.7 0.04 0.05 7
Rsd 0.2s 15ph/12stn Dmin 82km Az.gap 226°
Corr. -0.684 15M/15stn Msd 0.2

90/745
FEB 08 1709 26.4s 36.87S 177.13E 235km M=4.1
0.8 0.06 0.07 9
Rsd 0.3s 13ph/10stn Dmin 124km Az.gap 277°
Corr. -0.508 17M/17stn Msd 0.2 1↓

90/762
FEB 09 1728 53.8s 42.25S 172.74E 5km M=4.2
0.1 0.01 0.02 R
Rsd 0.3s 22ph/17stn Dmin 50km Az.gap 105°
Corr. -0.379 24M/22stn Msd 0.2 3↑ 1↓
Felt Lake Tennyson (88) to Waiau (96), max. int. MM5.

90/773
FEB 10 0254 52.8s 38.73S 175.96E 145km M=3.9
0.6 0.02 0.03 5
Rsd 0.1s 10ph/6stn Dmin 59km Az.gap 217°
Corr. -0.875 13M/13stn Msd 0.2 2↑ 2↓

90/776
FEB 10 0327 42.0s 42.25S 172.65E 13km M=5.8
0.2 0.01 0.02 4
Rsd 0.2s 20ph/17stn Dmin 51km Az.gap 130°
Corr. -0.178 14M/12stn Msd 0.3 17↑ 2↓
Felt Wanganui (57) to Akaroa (111), max. int. MM8 in the Lake Tennyson area (88).

90/777
FEB 10 0329 55.3s 42.27S 172.63E 5km M=4.7
0.2 0.01 0.02 R
Rsd 0.3s 10ph/8stn Dmin 55km Az.gap 156°
Corr. -0.179 3M/3stn Msd 0.1
Felt Murchison (80) to Lewis Pass (87), max. int. MM4. Many stations overloaded.

90/778
FEB 10 0332 20.3s 42.25S 172.64E 15km M=3.7
0.2 0.01 0.02 3
Rsd 0.2s 16ph/12stn Dmin 52km Az.gap 155°
Corr. -0.381 4M/4stn Msd 0.2

90/779
FEB 10 0333 27.4s 42.26S 172.70E 12km M=3.7
0.2 0.02 0.03 R
Rsd 0.4s 9ph/5stn Dmin 68km Az.gap 149°
Corr. -0.396 1M/1stn Msd 0.0

90/780
FEB 10 0335 32.0s 42.29S 172.71E 5km M=3.9
0.1 0.01 0.01 R
Rsd 0.2s 12ph/8stn Dmin 54km Az.gap 140°
Corr. -0.242 10M/10stn Msd 0.1
Felt Maruia (87).

90/781
FEB 10 0336 11.3s 42.26S 172.65E 5km M=3.9
0.2 0.01 0.02 R
Rsd 0.3s 8ph/6stn Dmin 53km Az.gap 154°
Corr. -0.543 10M/10stn Msd 0.2 1↓

90/785
FEB 10 0341 00.7s 42.30S 172.64E 12km M=3.6
0.2 0.01 0.02 R
Rsd 0.2s 9ph/8stn Dmin 62km Az.gap 154°
Corr. -0.465 10M/10stn Msd 0.2

90/786
FEB 10 0342 40.6s 42.25S 172.70E 5km M=4.0
0.1 0.01 0.02 R
Rsd 0.3s 15ph/12stn Dmin 50km Az.gap 108°
Corr. -0.516 17M/15stn Msd 0.2 5↑ 1↓

90/789
FEB 10 0347 45.6s 42.26S 172.60E 5km M=4.5
0.1 0.01 0.02 R
Rsd 0.2s 15ph/13stn Dmin 55km Az.gap 143°
Corr. -0.473 21M/19stn Msd 0.2 4↑ 4↓
Felt Maruia (87) MM4.

90/792
FEB 10 0354 47.1s 42.26S 172.58E 5km M=5.5
0.2 0.01 0.02 R
Rsd 0.2s 17ph/15stn Dmin 55km Az.gap 132°
Corr. -0.049 16M/14stn Msd 0.3 20↑ 4↓
Felt Richmond (76) to Woodend (110), max. int. MM6 at Mt Princess (88).

90/793
FEB 10 0357 27.7s 42.26S 172.68E 5km M=5.3
0.1 0.01 0.02 R
Rsd 0.2s 16ph/15stn Dmin 52km Az.gap 140°
Corr. -0.475 11M/11stn Msd 0.2
Felt Blenheim (77) to Woodend (110), max. int. MM6 at Mt Princess (88).

90/794
FEB 10 0400 37.0s 42.27S 172.62E 12km M=3.8
0.2 0.01 0.02 R
Rsd 0.3s 7ph/5stn Dmin 64km Az.gap 156°
Corr. -0.436 5M/5stn Msd 0.2 1↑ 1↓

90/799
FEB 10 0412 20.1s 42.24S 172.67E 5km M=3.3
0.1 0.01 0.01 R
Rsd 0.1s 11ph/9stn Dmin 50km Az.gap 153°
Corr. -0.218 5M/5stn Msd 0.1
Felt Hanmer Springs (88) to Rangiora (102), max. intensity MM5.

90/803
FEB 10 0423 30.4s 42.25S 172.66E 5km M=3.8
0.1 0.01 0.02 R
Rsd 0.2s 20ph/15stn Dmin 51km Az.gap 141°
Corr. -0.283 17M/15stn Msd 0.2 1↑ 1↓
Felt Lewis Pass, Maruia (87).

90/804
FEB 10 0424 38.9s 42.26S 172.63E 5km M=4.0
0.1 0.01 0.02 R
Rsd 0.2s 18ph/11stn Dmin 53km Az.gap 143°
Corr. -0.400 24M/22stn Msd 0.2 1↑
Felt Lewis Pass, Maruia (87).

90/805
FEB 10 0427 21.1s 42.24S 172.69E 5km M=3.5
0.1 0.00 0.01 R
Rsd 0.1s 16ph/13stn Dmin 50km Az.gap 151°
Corr. -0.418 16M/14stn Msd 0.2 1↑

90/806
FEB 10 0431 06.3s 42.21S 172.70E 5km M=4.2
0.2 0.01 0.02 R
Rsd 0.3s 19ph/17stn Dmin 47km Az.gap 108°
Corr. -0.262 22M/20stn Msd 0.2 4↑ 1↓

90/811
FEB 10 0441 38.6s 38.11S 176.23E 138km M=3.8
0.3 0.02 0.07 5
Rsd 0.1s 15ph/12stn Dmin 68km Az.gap 234°
Corr. -0.711 11M/11stn Msd 0.2

90/831
FEB 10 0527 35.5s 42.26S 172.65E 5km M=3.5
0.1 0.01 0.02 R
Rsd 0.2s 17ph/13stn Dmin 53km Az.gap 154°
Corr. -0.523 16M/14stn Msd 0.2

90/833
FEB 10 0541 09.2s 42.25S 172.71E 5km M=3.6
0.1 0.01 0.02 R
Rsd 0.1s 15ph/13stn Dmin 51km Az.gap 138°
Corr. -0.516 18M/16stn Msd 0.2

90/836
FEB 10 0556 22.7s 42.26S 172.74E 5km M=4.6
0.1 0.01 0.02 R
Rsd 0.3s 23ph/17stn Dmin 51km Az.gap 104°
Corr. -0.475 22M/20stn Msd 0.2 8↑ 2↓
Felt Lewis Pass, Mariua (87). More than 1 event.

90/840
FEB 10 0605 08.4s 42.24S 172.73E 5km M=3.5
0.1 0.01 0.01 R
Rsd 0.1s 13ph/9stn Dmin 49km Az.gap 159°
Corr. -0.582 20M/18stn Msd 0.1 1↑ 1↓
Felt Clay Knob (95).

90/845
FEB 10 0621 17.7s 42.25S 172.64E 5km M=3.6
0.1 0.00 0.01 R
Rsd 0.1s 15ph/11stn Dmin 52km Az.gap 144°
Corr. -0.393 28M/26stn Msd 0.2 2↑ 1↓
Felt Lewis Pass (87).

90/847
FEB 10 0627 34.4s 42.24S 172.68E 5km M=3.8
0.1 0.01 0.02 R
Rsd 0.2s 16ph/12stn Dmin 50km Az.gap 152°
Corr. -0.420 19M/17stn Msd 0.2 3↑ 1↓
Needs WEL reading for convergence.

90/848
FEB 10 0629 12.5s 42.25S 172.68E 5km M=4.0
0.1 0.00 0.01 R
Rsd 0.1s 16ph/12stn Dmin 51km Az.gap 141°
Corr. -0.074 19M/17stn Msd 0.1 1↓

90/849
FEB 10 0631 18.7s 42.24S 172.67E 5km M=3.8
0.1 0.01 0.02 R
Rsd 0.2s 14ph/11stn Dmin 50km Az.gap 154°
Corr. -0.363 19M/17stn Msd 0.2 1↑ 1↓

90/854
FEB 10 0647 32.4s 42.27S 172.61E 5km M=4.9
0.1 0.01 0.02 R
Rsd 0.2s 23ph/15stn Dmin 55km Az.gap 131°
Corr. -0.369 21M/19stn Msd 0.2 7↑ 4↓
Felt Lewis Pass, Maruia (87) to Mt Highfield (96), maximum intensity MM4.

90/857
FEB 10 0706 57.2s 42.26S 172.66E 5km M=3.7
0.2 0.01 0.03 R
Rsd 0.2s 17ph/14stn Dmin 53km Az.gap 153°
Corr. -0.270 20M/18stn Msd 0.2 1↑ 1↓

90/858
FEB 10 0707 41.6s 42.26S 172.65E 5km M=3.7
0.2 0.01 0.02 R
Rsd 0.2s 17ph/12stn Dmin 53km Az.gap 155°
Corr. -0.453 19M/17stn Msd 0.2
Felt Maruia (87).

90/874
FEB 10 0823 32.7s 42.29S 172.60E 5km M=3.9
0.1 0.01 0.02 R
Rsd 0.2s 15ph/10stn Dmin 57km Az.gap 131°
Corr. -0.088 27M/25stn Msd 0.1 2↑ 2↓
Felt Maruia (87) MM3.

90/876
FEB 10 0852 22.9s 42.25S 172.69E 5km M=3.7
0.1 0.01 0.02 R
Rsd 0.2s 18ph/15stn Dmin 50km Az.gap 140°
Corr. -0.479 29M/27stn Msd 0.1 2↑ 1↓

90/881
FEB 10 0930 19.1s 42.23S 172.73E 5km M=4.2
0.2 0.01 0.02 R
Rsd 0.3s 20ph/16stn Dmin 48km Az.gap 106°
Corr. -0.395 28M/26stn Msd 0.2 4↑ 1↓

90/884
FEB 10 0953 05.7s 42.24S 172.70E 5km M=3.8
0.2 0.01 0.02 R
Rsd 0.2s 19ph/15stn Dmin 49km Az.gap 139°
Corr. 0.047 29M/27stn Msd 0.2 1↑

90/890
FEB 10 1032 26.4s 42.23S 172.69E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.1s 19ph/14stn Dmin 48km Az.gap 140°
Corr. -0.504 20M/18stn Msd 0.2 2↑ 2↓

90/898
FEB 10 1114 12.8s 42.25S 172.70E 5km M=4.9
0.2 0.02 0.03 R
Rsd 0.4s 19ph/17stn Dmin 51km Az.gap 106°
Corr. -0.410 27M/25stn Msd 0.3 9↑ 10↓
Felt Westport (79) to Christchurch (110), max. MM4.

90/900
FEB 10 1118 58.5s 42.25S 172.73E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.2s 10ph/7stn Dmin 50km Az.gap 147°
Corr. -0.373 16M/15stn Msd 0.2 1↑

90/903
FEB 10 1143 44.4s 36.98S 177.75E 115km M=3.5
0.8 0.10 0.10 18
Rsd 0.3s 9ph/6stn Dmin 129km Az.gap 300°
Corr. -0.547 7M/7stn Msd 0.3

90/904
FEB 10 1145 00.2s 42.28S 172.64E 5km M=3.5
0.2 0.01 0.03 R
Rsd 0.3s 13ph/9stn Dmin 55km Az.gap 142°
Corr. -0.559 26M/24stn Msd 0.2 1↑

90/906
FEB 10 1207 50.4s 42.29S 172.68E 5km M=3.9
0.2 0.01 0.02 R
Rsd 0.3s 21ph/16stn Dmin 55km Az.gap 105°
Corr. -0.342 30M/28stn Msd 0.2 4↑ 6↓

90/908
FEB 10 1232 36.0s 42.28S 172.64E 5km M=4.2
0.1 0.01 0.02 R
Rsd 0.2s 22ph/18stn Dmin 55km Az.gap 109°
Corr. -0.484 24M/22stn Msd 0.2 4↑ 7↓

90/910
FEB 10 1245 30.5s 42.26S 172.69E 5km M=3.4
0.1 0.01 0.02 R
Rsd 0.2s 14ph/12stn Dmin 52km Az.gap 150°
Corr. -0.428 19M/17stn Msd 0.2 1↑ 1↓
Felt Maruia (87) MM4.

90/913
FEB 10 1303 46.3s 42.27S 172.65E 5km M=3.9
0.1 0.01 0.01 R
Rsd 0.2s 18ph/14stn Dmin 54km Az.gap 140°
Corr. -0.189 28M/26stn Msd 0.2 1↑

90/915
FEB 10 1347 37.1s 42.27S 172.65E 5km M=3.9
0.1 0.01 0.02 R
Rsd 0.3s 19ph/16stn Dmin 54km Az.gap 108°
Corr. -0.498 28M/28stn Msd 0.2 3↑ 2↓

90/916
FEB 10 1358 22.2s 42.25S 172.66E 5km M=3.4
0.1 0.01 0.02 R
Rsd 0.2s 21ph/15stn Dmin 51km Az.gap 154°
Corr. -0.424 16M/16stn Msd 0.1 1↑ 2↓
Felt Maruia (87) MM4 and Lewis Pass (87).

90/920
FEB 10 1508 22.0s 42.26S 172.62E 5km M=3.8
0.1 0.01 0.02 R
Rsd 0.2s 20ph/14stn Dmin 54km Az.gap 142°
Corr. -0.393 27M/27stn Msd 0.2 2↑ 1↓

90/921
FEB 10 1530 39.5s 42.27S 172.69E 5km M=3.8
0.1 0.01 0.02 R
Rsd 0.2s 22ph/15stn Dmin 53km Az.gap 141°
Corr. -0.249 28M/26stn Msd 0.2 5↑ 6↓

90/935
FEB 10 1832 11.8s 45.15S 166.94E 5km M=4.2
0.3 0.01 0.02 R
Rsd 0.1s 14ph/11stn Dmin 94km Az.gap 308°
Corr. 0.132 13M/13stn Msd 0.2 1↓

90/942
FEB 10 2012 23.2s 42.25S 172.73E 5km M=3.6
0.1 0.01 0.02 R
Rsd 0.2s 14ph/11stn Dmin 50km Az.gap 105°
Corr. -0.422 28M/26stn Msd 0.2 1↑ 1↓

90/948
FEB 10 2244 04.6s 37.83S 176.41E 143km M=3.5
0.6 0.03 0.02 5
Rsd 0.1s 7ph/5stn Dmin 54km Az.gap 250°
Corr. -0.133 13M/13stn Msd 0.3

90/968
FEB 11 0346 55.3s 42.25S 172.65E 5km M=3.6
0.1 0.01 0.02 R
Rsd 0.2s 18ph/14stn Dmin 13km Az.gap 140°
Corr. -0.074 26M/24stn Msd 0.3 2↑ 2↓

90/976
FEB 11 0527 17.1s 36.64S 177.24E 255km M=3.6
0.3 0.08 0.11 11
Rsd 0.1s 10ph/8stn Dmin 233km Az.gap 320°
Corr. -0.961 8M/8stn Msd 0.1

90/984
FEB 11 0630 00.4s 42.27S 172.67E 5km M=3.7
0.1 0.01 0.01 R
Rsd 0.2s 15ph/13stn Dmin 8km Az.gap 142°
Corr. -0.350 32M/30stn Msd 0.2 5↑ 1↓

90/990
FEB 11 0734 44.8s 42.26S 172.65E 5km M=4.0
0.1 0.01 0.01 R
Rsd 0.1s 19ph/16stn Dmin 9km Az.gap 141°
Corr. -0.254 29M/27stn Msd 0.2 2↑ 3↓
Felt Howard Valley (81) to Hanmer Springs (88). Max MM IV Howard Valley (81).

90/1091
FEB 11 2222 52.9s 42.19S 172.70E 5km M=4.5
0.2 0.01 0.02 R
Rsd 0.3s 20ph/18stn Dmin 6km Az.gap 110°
Corr. 0.152 22M/20stn Msd 0.2 3↑ 1↓
Felt Greymouth (85), Hanmer Springs (88) and Waiau (96), MM4.

90/1155
FEB 12 0702 49.4s 37.51S 176.54E 219km M=4.0
0.6 0.03 0.05 6
Rsd 0.2s 11ph/7stn Dmin 66km Az.gap 255°
Corr. -0.598 7M/7stn Msd 0.2

90/1179
FEB 12 0831 24.2s 42.22S 172.77E 5km M=3.7
0.1 0.01 0.01 R
Rsd 0.3s 24ph/16stn Dmin 3km Az.gap 81°
Corr. 0.010 21M/19stn Msd 0.2 6↑ 4↓
Felt Hanmer Springs (88).

90/1210
FEB 12 1029 24.6s 42.25S 172.77E 5km M=2.9
0.1 0.01 0.01 R
Rsd 0.2s 18ph/12stn Dmin 1km Az.gap 64°
Corr. 0.266 15M/15stn Msd 0.2 4↑ 3↓
Felt Hanmer Springs (88).

90/1268
FEB 12 1336 24.7s 42.22S 172.78E 5km M=4.3
0.1 0.00 0.01 R
Rsd 0.2s 30ph/21stn Dmin 4km Az.gap 84°
Corr. 0.069 31M/29stn Msd 0.2 9↑ 4↓
Felt Hanmer Springs (88) and Waiau (96).

90/1332
FEB 12 2057 21.0s 42.26S 172.71E 5km M=4.0
0.1 0.00 0.01 R
Rsd 0.2s 24ph/18stn Dmin 4km Az.gap 117°
Corr. -0.013 29M/27stn Msd 0.2 3↑ 4↓
Felt Maruia (87) MM3.

90/1435
FEB 13 0242 11.7s 39.36S 175.00E 154km M=3.5
0.3 0.01 0.04 3
Rsd 0.1s 18ph/14stn Dmin 50km Az.gap 211°
Corr. -0.008 10M/10stn Msd 0.3 1↑

90/1536
FEB 13 0733 52.6s 42.25S 172.71E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.2s 19ph/17stn Dmin 4km Az.gap 51°
Corr. 0.042 23M/21stn Msd 0.2 8↑ 5↓

90/1550
FEB 13 0834 23.1s 37.61S 176.38E 216km M=3.8
0.7 0.03 0.03 6
Rsd 0.2s 15ph/12stn Dmin 68km Az.gap 201°
Corr. 0.080 17M/17stn Msd 0.2

90/1602
FEB 13 1202 14.0s 42.26S 172.69E 8km M=3.3
0.1 0.01 0.01 1
Rsd 0.2s 24ph/20stn Dmin 4km Az.gap 63°
Corr. 0.169 23M/21stn Msd 0.2 7↑ 3↓
Felt Hanmer Springs (88).

90/1718
FEB 13 1740 37.4s 39.77S 174.13E 175km M=3.9
0.3 0.01 0.03 4
Rsd 0.2s 26ph/18stn Dmin 55km Az.gap 138°
Corr. -0.340 12M/12stn Msd 0.2 2↑ 7↓

90/2029
FEB 14 0709 37.6s 38.65S 176.39E 76km M=3.9
0.2 0.01 0.01 3
Rsd 0.3s 31ph/23stn Dmin 13km Az.gap 60°
Corr. -0.018 19M/19stn Msd 0.2 4↑ 1↓

90/2047
FEB 14 0755 43.3s 42.25S 172.78E 5km M=3.9
0.1 0.01 0.01 R
Rsd 0.3s 37ph/25stn Dmin 2km Az.gap 66°
Corr. 0.141 40M/37stn Msd 0.3 9↑ 6↓

90/2312
FEB 14 1810 29.8s 42.26S 172.73E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.3s 29ph/18stn Dmin 3km Az.gap 79°
Corr. -0.207 34M/32stn Msd 0.2 9↑ 6↓

90/2407
FEB 14 2154 22.9s 42.25S 172.76E 5km M=3.7
0.1 0.01 0.01 R
Rsd 0.2s 21ph/15stn Dmin 1km Az.gap 76°
Corr. -0.228 30M/28stn Msd 0.2 3↑ 3↓

90/2588
FEB 15 0827 01.6s 45.24S 166.98E 5km M=3.9
0.3 0.01 0.03 R
Rsd 0.1s 14ph/11stn Dmin 75km Az.gap 266°
Corr. 0.459 13M/13stn Msd 0.1

90/2710
FEB 15 1619 48.6s 48.30S 166.57E 33km M=3.6
0.3 0.04 0.09 R
Rsd 0.1s 12ph/10stn Dmin 395km Az.gap 343°
Corr. -0.867 10M/10stn Msd 0.1

90/2746
FEB 15 1929 24.4s 41.98S 172.94E 79km M=3.7
0.2 0.01 0.02 2
Rsd 0.2s 22ph/17stn Dmin 20km Az.gap 93°
Corr. -0.350 14M/12stn Msd 0.2 5↑ 7↓

90/3042
FEB 16 1738 38.7s 36.09S 177.75E 208km M=3.8
0.3 0.08 0.19 15
Rsd 0.1s 14ph/9stn Dmin 225km Az.gap 322°
Corr. -0.977 12M/12stn Msd 0.2

90/3067
FEB 16 1928 10.9s 38.02S 176.34E 159km M=3.7
0.9 0.05 0.05 8
Rsd 0.3s 13ph/10stn Dmin 57km Az.gap 224°
Corr. -0.656 15M/15stn Msd 0.2 1↑

90/3130
FEB 17 0012 03.2s 42.28S 172.74E 9km M=3.5
0.1 0.01 0.01 1
Rsd 0.2s 25ph/18stn Dmin 4km Az.gap 79°
Corr. -0.212 26M/24stn Msd 0.3 3↑ 5↓

90/3194
FEB 17 0527 19.3s 36.28S 179.12W 329km M=4.0
0.6 0.14 0.10 10
Rsd 0.1s 6ph/3stn Dmin 273km Az.gap 349°
Corr. 0.116 3M/3stn Msd 0.1

90/3210
FEB 17 0638 30.7s 39.24S 175.12E 128km M=3.7
1.1 0.05 0.08 11
Rsd 0.3s 8ph/6stn Dmin 37km Az.gap 215°
Corr. 0.445 3M/3stn Msd 0.2

90/3282
FEB 17 1510 21.0s 38.28S 176.02E 160km M=4.4
0.7 0.03 0.04 6
Rsd 0.4s 23ph/18stn Dmin 52km Az.gap 111°
Corr. -0.058 14M/12stn Msd 0.3 4↑ 1↓

90/3316
FEB 17 1844 58.4s 44.27S 168.82E 5km M=4.8
0.2 0.01 0.01 R
Rsd 0.1s 16ph/13stn Dmin 85km Az.gap 165°
Corr. -0.566 10M/8stn Msd 0.2 1↑ 8↓
Felt widely from Mahitahi (104) to Luggate (123) MM4.

90/3387
FEB 18 0130 19.9s 44.29S 168.83E 5km M=3.9
0.3 0.02 0.02 R
Rsd 0.3s 17ph/11stn Dmin 83km Az.gap 213°
Corr. -0.183 5M/5stn Msd 0.0 1↑ 5↓
Felt Mt Aspiring Stn (113) MM3.

90/3402
FEB 18 0822 43.6s 38.70S 175.82E 226km M=3.5
0.3 0.04 0.03 6
Rsd 0.1s 13ph/11stn Dmin 217km Az.gap 325°
Corr. -0.746 10M/10stn Msd 0.1

90/3411
FEB 18 1454 35.5s 39.16S 176.08E 82km M=3.8
0.3 0.01 0.02 4
Rsd 0.3s 29ph/22stn Dmin 30km Az.gap 51°
Corr. 0.218 17M/17stn Msd 0.2 2↑ 7↓

90/3419
FEB 18 1815 42.6s 45.03S 167.59E 117km M=4.3
0.3 0.04 0.03 3
Rsd 0.1s 15ph/12stn Dmin 47km Az.gap 280°
Corr. 0.715 10M/10stn Msd 0.3 8↑ 1↓

90/3421
FEB 18 1851 25.0s 40.43S 176.35E 31km M=3.6
0.2 0.01 0.02 2
Rsd 0.3s 22ph/18stn Dmin 22km Az.gap 154°
Corr. -0.836 17M/15stn Msd 0.2 1↑ 3↓

90/3423
FEB 18 1928 28.1s 39.28S 174.70E 220km M=4.7
0.5 0.02 0.03 5
Rsd 0.2s 35ph/26stn Dmin 52km Az.gap 145°
Corr. -0.140 20M/18stn Msd 0.3 19↑ 4↓

90/3443
FEB 19 0534 37.8s 40.47S 176.44E 34km M=5.9
0.2 0.02 0.02 3
Rsd 0.2s 34ph/32stn Dmin 22km Az.gap 91°
Corr. -0.371 6M/4stn Msd 0.3 14↑ 15↓
Felt widely in North and South Islands from Waihi (21) to Maruia (87). Max intensity MM7 at Te Uri (63) and Aramoana (64).

90/3444
FEB 19 0537 55.2s 40.46S 176.48E 42km M=4.0
0.2 0.01 0.02 1
Rsd 0.1s 13ph/9stn Dmin 25km Az.gap 231°
Corr. -0.582 4M/4stn Msd 0.4

90/3445
FEB 19 0538 35.5s 40.36S 175.73E 33km M=4.3
0.6 0.05 0.07 R
Rsd 0.7s 7ph/5stn Dmin 54km Az.gap 185°
Corr. -0.500 1M/1stn Msd 0.0
Felt Colyton Rd (62) MM3. Poor solution, in coda of mainshock.

90/3446
FEB 19 0541 02.8s 40.44S 176.33E 36km M=3.5
0.1 0.01 0.03 4
Rsd 0.2s 15ph/14stn Dmin 20km Az.gap 154°
Corr. -0.789 7M/7stn Msd 0.4 1↑ 1↓

90/3449
FEB 19 0542 45.2s 40.43S 176.27E 34km M=3.6
0.1 0.01 0.03 3
Rsd 0.2s 14ph/11stn Dmin 21km Az.gap 135°
Corr. -0.664 10M/10stn Msd 0.3 1↑ 1↓

90/3451
FEB 19 0544 56.7s 40.56S 176.39E 43km M=3.6
1.3 0.08 0.15 12
Rsd 0.5s 7ph/4stn Dmin 12km Az.gap 204°
Corr. -0.387 5M/5stn Msd 0.1
Poor solution - in coda of previous event.

90/3452
FEB 19 0545 46.0s 40.47S 176.40E 40km M=5.0
0.1 0.01 0.03 3
Rsd 0.2s 31ph/27stn Dmin 19km Az.gap 170°
Corr. -0.848 11M/9stn Msd 0.5 5↑ 6↓
Felt Ohakune (49) to Eketahuna (66), max. int. MM4.

90/3454
FEB 19 0549 14.1s 40.43S 176.37E 39km M=3.4
0.1 0.01 0.02 2
Rsd 0.2s 16ph/14stn Dmin 23km Az.gap 165°
Corr. -0.793 11M/11stn Msd 0.3 1↑
Felt Komako (62) MM4.

90/3457
FEB 19 0554 05.0s 40.45S 176.41E 39km M=3.4
0.2 0.01 0.04 2
Rsd 0.2s 12ph/10stn Dmin 22km Az.gap 177°
Corr. -0.785 12M/12stn Msd 0.2 1↑ 1↓
Felt Norsewood (62) MM3.

90/3466
FEB 19 0609 54.6s 40.41S 176.43E 44km M=3.7
0.1 0.01 0.03 3
Rsd 0.2s 22ph/19stn Dmin 27km Az.gap 175°
Corr. -0.648 18M/16stn Msd 0.3 3↑ 2↓
Felt Pahiatua (62) MM4 and Norsewood (63).

90/3473
FEB 19 0625 50.9s 40.40S 176.45E 38km M=3.6
0.1 0.01 0.03 2
Rsd 0.2s 23ph/19stn Dmin 28km Az.gap 178°
Corr. -0.797 15M/13stn Msd 0.3 1↓

90/3476
FEB 19 0628 31.4s 40.42S 176.40E 40km M=3.9
0.1 0.01 0.03 2
Rsd 0.2s 25ph/18stn Dmin 25km Az.gap 168°
Corr. -0.836 19M/17stn Msd 0.2 4↑ 1↓

90/3478
FEB 19 0641 53.1s 40.47S 176.36E 35km M=4.2
0.1 0.01 0.02 2
Rsd 0.2s 25ph/22stn Dmin 19km Az.gap 161°
Corr. -0.809 14M/12stn Msd 0.3 1↑ 5↓
Felt Palmerston North (62) MM4 and Pongaroa area (67).

90/3488
FEB 19 0717 27.0s 40.44S 176.36E 46km M=3.8
0.1 0.01 0.02 2
Rsd 0.2s 22ph/18stn Dmin 21km Az.gap 162°
Corr. -0.754 16M/14stn Msd 0.3 1↓

90/3492
FEB 19 0723 22.6s 40.43S 176.45E 41km M=3.5
0.2 0.01 0.03 3
Rsd 0.2s 22ph/17stn Dmin 26km Az.gap 183°
Corr. -0.797 15M/13stn Msd 0.3 1↑
Felt Waimarara Farm (67) MM4.

90/3517
FEB 19 0940 10.1s 40.42S 176.52E 40km M=3.5
0.2 0.01 0.03 2
Rsd 0.2s 24ph/19stn Dmin 30km Az.gap 193°
Corr. -0.750 14M/13stn Msd 0.2 1↑ 1↓
Felt Okioa (57), Waimarara Farm (67) MM4.

90/3536
FEB 19 1236 40.3s 40.43S 176.41E 36km M=3.5
0.1 0.01 0.03 4
Rsd 0.3s 22ph/20stn Dmin 24km Az.gap 174°
Corr. -0.680 17M/15stn Msd 0.3 3↑ 1↓

90/3545
FEB 19 1337 51.9s 40.48S 176.40E 37km M=4.4
0.1 0.01 0.02 2
Rsd 0.1s 27ph/25stn Dmin 19km Az.gap 174°
Corr. -0.840 15M/13stn Msd 0.3 14↑ 5↓
Felt southern Hawkes Bay and northern Wairarapa MM4.

90/3562
FEB 19 1546 30.8s 42.25S 172.71E 10km M=3.5
0.1 0.01 0.02 1
Rsd 0.2s 16ph/13stn Dmin 4km Az.gap 107°
Corr. -0.293 22M/20stn Msd 0.3 3↑ 1↓

90/3585
FEB 19 1902 56.0s 40.40S 176.42E 42km M=3.9
0.2 0.01 0.04 3
Rsd 0.2s 11ph/9stn Dmin 28km Az.gap 169°
Corr. -0.805 13M/11stn Msd 0.3 1↑ 1↓

90/3628
FEB 19 2327 56.9s 40.41S 176.34E 33km M=3.5
0.2 0.01 0.03 1
Rsd 0.3s 25ph/21stn Dmin 1km Az.gap 129°
Corr. -0.582 17M/15stn Msd 0.2 3↑ 4↓

90/3636
FEB 20 0009 15.4s 38.44S 175.99E 154km M=4.0
0.5 0.02 0.03 4
Rsd 0.2s 19ph/13stn Dmin 51km Az.gap 117°
Corr. 0.204 16M/16stn Msd 0.3 5↑ 2↓

90/3740
FEB 20 0637 02.9s 38.36S 176.36E 168km M=3.6
0.9 0.04 0.05 7
Rsd 0.4s 14ph/11stn Dmin 82km Az.gap 223°
Corr. -0.477 15M/15stn Msd 0.4 1↑ 1↓

90/3756
FEB 20 0722 11.4s 40.38S 176.32E 57km M=3.9
0.1 0.01 0.01 1
Rsd 0.2s 32ph/25stn Dmin 4km Az.gap 97°
Corr. -0.609 20M/18stn Msd 0.2 9↑ 4↓

90/4003
FEB 21 0125 17.9s 40.44S 176.28E 30km M=3.8
0.1 0.01 0.02 1
Rsd 0.2s 25ph/19stn Dmin 18km Az.gap 117°
Corr. -0.570 18M/16stn Msd 0.2 1↑ 2↓
Felt Palmerston North (62) MM3 and in areas (63,67).

90/4008
FEB 21 0150 34.5s 40.42S 176.24E 30km M=3.5
0.1 0.01 0.02 1
Rsd 0.2s 22ph/19stn Dmin 16km Az.gap 89°
Corr. -0.479 19M/17stn Msd 0.3 3↑ 5↓
Felt Makuri School and Pukewhinau (67).

90/4061
FEB 21 0531 41.8s 40.33S 176.35E 33km M=3.5
0.1 0.01 0.02 1
Rsd 0.3s 29ph/20stn Dmin 9km Az.gap 74°
Corr. -0.178 23M/21stn Msd 0.2 3↑ 6↓

90/4225
FEB 21 1352 50.1s 40.37S 176.35E 34km M=3.6
0.1 0.01 0.01 1
Rsd 0.2s 29ph/20stn Dmin 6km Az.gap 61°
Corr. -0.020 18M/16stn Msd 0.1 8↑ 8↓

90/4544
FEB 22 1526 40.5s 37.84S 177.09E 80km M=4.0
0.5 0.03 0.02 6
Rsd 0.2s 21ph/17stn Dmin 102km Az.gap 166°
Corr. 0.006 23M/23stn Msd 0.2 1↓

90/4569
FEB 22 1643 57.5s 37.54S 177.06E 269km M=4.2
0.6 0.06 0.08 7
Rsd 0.2s 16ph/15stn Dmin 110km Az.gap 232°
Corr. -0.758 20M/20stn Msd 0.3 1↑

90/4580
FEB 22 1748 49.9s 40.41S 176.26E 29km M=3.6
0.1 0.01 0.01 1
Rsd 0.3s 24ph/20stn Dmin 3km Az.gap 72°
Corr. -0.469 18M/17stn Msd 0.3 7↑ 5↓
Felt Pukewhinau (67).

90/4640
FEB 22 2312 45.9s 40.83S 175.18E 37km M=3.8
0.1 0.01 0.01 2
Rsd 0.2s 28ph/22stn Dmin 23km Az.gap 111°
Corr. -0.711 10M/8stn Msd 0.2 6↑ 7↓
Felt Wellington (68) MM3 and Upper Hutt (69).

90/4708
FEB 24 0659 51.3s 41.40S 172.82E 121km M=3.7
0.4 0.02 0.02 3
Rsd 0.3s 27ph/18stn Dmin 35km Az.gap 101°
Corr. -0.408 10M/10stn Msd 0.2 2↑ 6↓

90/4717
FEB 24 1047 58.2s 40.35S 176.31E 63km M=4.5
0.1 0.01 0.02 3
Rsd 0.2s 29ph/28stn Dmin 30km Az.gap 139°
Corr. -0.691 13M/11stn Msd 0.3 16↑ 3↓
Felt widely in southern Hawkes Bay (60,63), Palmerston North (62) and Wanganui (57).

90/4724
FEB 24 1601 20.0s 39.47S 174.39E 197km M=3.7
0.4 0.02 0.07 5
Rsd 0.1s 14ph/11stn Dmin 105km Az.gap 200°
Corr. -0.535 10M/10stn Msd 0.2

90/4758
FEB 25 1417 05.7s 38.69S 175.45E 190km M=3.8
0.3 0.02 0.03 2
Rsd 0.1s 16ph/13stn Dmin 56km Az.gap 293°
Corr. 0.707 13M/13stn Msd 0.2 1↓

90/4760
FEB 25 1601 08.7s 44.21S 168.52E 12km M=3.7
0.2 0.01 0.02 R
Rsd 0.1s 12ph/10stn Dmin 101km Az.gap 248°
Corr. -0.578 9M/9stn Msd 0.2

90/4761
FEB 25 1612 56.3s 38.55S 176.00E 204km M=3.7
0.9 0.09 0.17 12
Rsd 0.4s 16ph/13stn Dmin 131km Az.gap 217°
Corr. -0.930 12M/12stn Msd 0.2 1↑ 2↓

90/4795
FEB 26 2225 31.6s 40.44S 176.51E 44km M=3.9
0.1 0.01 0.02 2
Rsd 0.2s 28ph/24stn Dmin 28km Az.gap 192°
Corr. -0.754 16M/16stn Msd 0.2 1↑ 6↓

90/4803
FEB 27 0545 48.4s 42.25S 172.68E 5km M=3.6
0.1 0.00 0.01 1
Rsd 0.1s 20ph/14stn Dmin 51km Az.gap 104°
Corr. 0.131 15M/14stn Msd 0.2 2↑ 2↓

90/4810
FEB 27 1004 54.5s 41.96S 174.04E 16km M=3.6
0.2 0.01 0.01 2
Rsd 0.3s 23ph/14stn Dmin 28km Az.gap 157°
Corr. -0.559 15M/13stn Msd 0.2 1↑

90/4820
FEB 27 1306 04.8s 44.29S 166.92E 12km M=4.1
0.5 0.02 0.05 R
Rsd 0.1s 5ph/3stn Dmin 90km Az.gap 288°
Corr. 0.668 3M/2stn Msd 0.3

90/4838
FEB 28 0245 21.5s 40.41S 175.96E 51km M=3.5
0.1 0.01 0.02 4
Rsd 0.2s 20ph/18stn Dmin 35km Az.gap 105°
Corr. -0.605 15M/13stn Msd 0.2 1↑ 3↓

90/4841
FEB 28 0518 32.9s 41.95S 174.02E 17km M=3.5
0.2 0.01 0.01 3
Rsd 0.4s 21ph/16stn Dmin 28km Az.gap 155°
Corr. -0.504 17M/15stn Msd 0.1 5↑ 2↓

90/4851
FEB 28 1708 35.5s 42.25S 172.66E 5km M=3.7
0.1 0.01 0.01 2
Rsd 0.2s 18ph/13stn Dmin 51km Az.gap 103°
Corr. -0.422 18M/16stn Msd 0.2 5↑ 3↓

90/4855
FEB 28 2111 19.6s 40.39S 176.39E 43km M=3.7
0.1 0.01 0.02 2
Rsd 0.1s 16ph/13stn Dmin 27km Az.gap 162°
Corr. -0.727 16M/14stn Msd 0.2 2↑ 1↓

90/4886
MAR 01 1707 13.6s 39.24S 176.09E 80km M=3.9
0.3 0.01 0.01 3
Rsd 0.2s 38ph/33stn Dmin 38km Az.gap 45°
Corr. 0.033 21M/21stn Msd 0.2 8↑ 5↓

90/4909
MAR 02 1106 26.1s 42.24S 172.69E 6km M=3.9
0.2 0.01 0.01 2
Rsd 0.2s 21ph/17stn Dmin 49km Az.gap 76°
Corr. -0.226 18M/16stn Msd 0.2 4↑ 2↓

90/4910
MAR 02 1107 13.4s 42.23S 172.69E 2km M=3.7
0.2 0.01 0.01 2
Rsd 0.2s 14ph/9stn Dmin 49km Az.gap 96°
Corr. -0.100 19M/17stn Msd 0.2 1↑

90/4929
MAR 02 2045 12.1s 38.66S 175.79E 204km M=3.5
0.2 0.03 0.04 3
Rsd 0.1s 14ph/12stn Dmin 125km Az.gap 302°
Corr. -0.695 15M/15stn Msd 0.2 1↑

90/4930
MAR 02 2116 26.0s 37.92S 176.23E 202km M=3.9
1.9 0.06 0.05 16
Rsd 0.3s 13ph/11stn Dmin 57km Az.gap 178°
Corr. 0.365 18M/18stn Msd 0.2 1↑

90/4945
MAR 03 0632 22.0s 42.23S 172.71E 5km M=3.6
0.2 0.01 0.01 2
Rsd 0.2s 20ph/16stn Dmin 48km Az.gap 75°
Corr. -0.163 18M/17stn Msd 0.2 4↑ 1↓

90/4954
MAR 03 1251 17.3s 38.55S 176.11E 175km M=3.7
0.3 0.01 0.16 4
Rsd 0.1s 14ph/12stn Dmin 87km Az.gap 336°
Corr. -0.777 7M/7stn Msd 0.3 1↑

90/4965
MAR 03 2252 26.7s 37.47S 177.52E 113km M=3.5
0.3 0.02 0.02 3
Rsd 0.1s 10ph/5stn Dmin 70km Az.gap 243°
Corr. -0.134 13M/13stn Msd 0.2 1↑ 1↓

90/4971
MAR 04 0510 51.3s 37.99S 176.08E 329km M=3.9
0.6 0.09 0.15 8
Rsd 0.2s 17ph/14stn Dmin 184km Az.gap 300°
Corr. -0.859 12M/12stn Msd 0.2

90/4992
MAR 04 1351 12.8s 37.43S 176.60E 296km M=4.7
2.2 0.07 0.06 18
Rsd 0.3s 16ph/15stn Dmin 70km Az.gap 215°
Corr. -0.234 22M/22stn Msd 0.1 4↑ 2↓

90/4996
MAR 04 1623 55.6s 38.71S 175.58E 189km M=3.5
0.2 0.01 0.03 2
Rsd 0.1s 17ph/13stn Dmin 55km Az.gap 311°
Corr. -0.133 12M/12stn Msd 0.2 1↑

90/5020
MAR 05 0836 27.7s 45.04S 167.45E 98km M=3.6
0.2 0.03 0.03 3
Rsd 0.1s 20ph/13stn Dmin 55km Az.gap 227°
Corr. 0.773 12M/12stn Msd 0.1 1↑

90/5021
MAR 05 1018 08.7s 42.91S 172.49E 5km M=3.6
0.3 0.02 0.02 R
Rsd 0.3s 16ph/10stn Dmin 23km Az.gap 113°
Corr. 0.367 26M/26stn Msd 0.2 1↑ 6↓
Felt Hawarden, Waikari (95) MM4.

90/5032
MAR 05 1733 46.8s 38.48S 176.17E 106km M=3.7
0.4 0.01 0.02 4
Rsd 0.2s 18ph/16stn Dmin 30km Az.gap 101°
Corr. -0.033 23M/23stn Msd 0.2 4↑ 1↓

90/5035
MAR 05 2133 43.4s 41.27S 172.83E 139km M=4.4
0.3 0.02 0.02 2
Rsd 0.2s 31ph/20stn Dmin 22km Az.gap 94°
Corr. -0.625 19M/19stn Msd 0.2 11↑ 4↓

90/5044
MAR 06 1248 32.1s 36.77S 177.58E 176km M=4.0
0.8 0.05 0.05 6
Rsd 0.2s 13ph/11stn Dmin 112km Az.gap 295°
Corr. -0.004 24M/24stn Msd 0.2 2↑ 1↓

90/5053
MAR 06 1615 33.0s 34.83S 178.74E 246km M=4.2
0.9 0.11 0.38 16
Rsd 0.2s 9ph/6stn Dmin 310km Az.gap 339°
Corr. -0.586 12M/12stn Msd 0.2

90/5060
MAR 06 2234 11.9s 41.19S 173.78E 81km M=3.7
0.3 0.02 0.01 4
Rsd 0.3s 27ph/18stn Dmin 42km Az.gap 91°
Corr. -0.396 13M/11stn Msd 0.1 1↓

90/5074
MAR 07 0839 32.2s 42.27S 172.72E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.2s 20ph/16stn Dmin 52km Az.gap 94°
Corr. 0.029 18M/18stn Msd 0.2 6↑ 3↓

90/5097
MAR 07 2029 30.9s 39.14S 173.70E 33km M=3.6
0.4 0.03 0.03 R
Rsd 0.3s 20ph/16stn Dmin 160km Az.gap 235°
Corr. -0.559 13M/13stn Msd 0.3

90/5120
MAR 08 1040 17.7s 37.47S 176.87E 183km M=3.9
1.2 0.07 0.08 13
Rsd 0.3s 11ph/9stn Dmin 58km Az.gap 243°
Corr. -0.543 19M/19stn Msd 0.2

90/5137
MAR 08 2059 03.6s 37.77S 175.81E 280km M=4.2
3.3 0.17 0.14 28
Rsd 0.2s 13ph/12stn Dmin 137km Az.gap 229°
Corr. -0.699 22M/22stn Msd 0.2

90/5144
MAR 09 0214 51.5s 37.81S 176.93E 146km M=4.5
0.6 0.03 0.02 5
Rsd 0.3s 20ph/16stn Dmin 20km Az.gap 171°
Corr. 0.243 21M/21stn Msd 0.3 5↑ 3↓

90/5154
MAR 09 1100 13.9s 38.96S 175.38E 214km M=3.6
0.4 0.02 0.03 4
Rsd 0.1s 18ph/14stn Dmin 32km Az.gap 241°
Corr. -0.520 10M/10stn Msd 0.2 1↑

90/5155
MAR 09 1340 50.6s 39.84S 174.38E 166km M=3.6
0.3 0.04 0.03 3
Rsd 0.1s 21ph/13stn Dmin 122km Az.gap 268°
Corr. -0.447 10M/10stn Msd 0.2 1↑

90/5163
MAR 09 1853 41.3s 39.22S 174.83E 213km M=3.7
0.7 0.02 0.04 6
Rsd 0.2s 17ph/14stn Dmin 64km Az.gap 163°
Corr. -0.330 7M/7stn Msd 0.2 1↑

90/5168
MAR 10 0016 28.5s 35.25S 178.97E 262km M=4.2
0.7 0.06 0.12 6
Rsd 0.2s 12ph/10stn Dmin 319km Az.gap 341°
Corr. -0.116 4M/4stn Msd 0.1

90/5179
MAR 10 0447 50.2s 44.65S 167.16E 12km M=3.7
1.1 0.06 0.09 R
Rsd 0.3s 6ph/4stn Dmin 60km Az.gap 275°
Corr. 0.279 3M/3stn Msd 0.3 1↑

90/5181
MAR 10 0607 26.6s 38.08S 176.36E 135km M=4.1
0.6 0.03 0.05 5
Rsd 0.3s 17ph/13stn Dmin 56km Az.gap 198°
Corr. -0.391 22M/22stn Msd 0.2 4↑ 1↓

90/5188
MAR 10 1209 28.7s 42.24S 172.73E 5km M=4.3
0.1 0.01 0.01 R
Rsd 0.3s 24ph/19stn Dmin 48km Az.gap 75°
Corr. -0.182 35M/33stn Msd 0.2 2↑ 3↓
Felt Hanmer (95).

90/5199
MAR 10 1941 35.6s 38.70S 178.17E 41km M=3.6
0.3 0.02 0.03 2
Rsd 0.1s 8ph/4stn Dmin 15km Az.gap 301°
Corr. -0.641 3M/3stn Msd 0.2 1↓

90/5211
MAR 11 0042 19.4s 39.93S 177.05E 32km M=3.6
0.2 0.01 0.02 1
Rsd 0.2s 37ph/32stn Dmin 22km Az.gap 178°
Corr. -0.559 22M/22stn Msd 0.3 2↑ 3↓

90/5218
MAR 11 0851 05.1s 39.25S 174.90E 205km M=4.0
0.5 0.02 0.04 5
Rsd 0.2s 21ph/15stn Dmin 56km Az.gap 157°
Corr. 0.199 14M/14stn Msd 0.5 1↑

90/5224
MAR 11 1305 00.1s 42.24S 172.69E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.3s 21ph/16stn Dmin 50km Az.gap 75°
Corr. -0.050 19M/19stn Msd 0.2 4↑ 1↓

90/5228
MAR 11 2046 12.2s 39.93S 173.38E 131km M=4.0
0.8 0.02 0.04 9
Rsd 0.2s 16ph/11stn Dmin 95km Az.gap 198°
Corr. -0.215 15M/13stn Msd 0.2 1↑

90/5257
MAR 12 1847 51.6s 40.71S 172.71E 2km M=3.6
0.3 0.01 0.01 2
Rsd 0.1s 20ph/15stn Dmin 43km Az.gap 200°
Corr. -0.170 17M/17stn Msd 0.2
Felt Collingwood, Golden Bay (72), max. int. MM5.

90/5261
MAR 13 0043 09.1s 40.16S 173.63E 157km M=4.6
0.3 0.01 0.01 3
Rsd 0.2s 32ph/21stn Dmin 106km Az.gap 161°
Corr. -0.105 18M/16stn Msd 0.3 10↑ 5↓

90/5265
MAR 13 0240 51.9s 38.07S 175.96E 194km M=3.8
1.2 0.11 0.18 25
Rsd 0.2s 13ph/11stn Dmin 192km Az.gap 267°
Corr. -0.930 12M/12stn Msd 0.1

90/5266
MAR 13 0423 21.5s 39.61S 174.33E 202km M=3.7
0.3 0.05 0.04 5
Rsd 0.1s 18ph/12stn Dmin 148km Az.gap 199°
Corr. -0.547 12M/12stn Msd 0.3 1↑
No visual data.

90/5273
MAR 13 1312 50.9s 37.75S 176.59E 186km M=3.9
1.0 0.07 0.05 10
Rsd 0.4s 12ph/7stn Dmin 44km Az.gap 231°
Corr. -0.498 8M/8stn Msd 0.3

90/5276
MAR 13 1917 55.5s 40.24S 173.25E 170km M=3.7
0.6 0.03 0.04 8
Rsd 0.3s 10ph/7stn Dmin 172km Az.gap 226°
Corr. -0.719 3M/3stn Msd 0.1 1↓

90/5305
MAR 15 0619 36.5s 37.77S 176.32E 200km M=3.8
1.0 0.09 0.08 5
Rsd 0.2s 12ph/10stn Dmin 64km Az.gap 233°
Corr. -0.711 22M/22stn Msd 0.3 1↑

90/5306
MAR 15 0622 16.0s 37.81S 176.26E 168km M=3.7
1.0 0.06 0.07 9
Rsd 0.3s 13ph/10stn Dmin 67km Az.gap 231°
Corr. -0.586 22M/22stn Msd 0.2

90/5322
MAR 15 1520 06.1s 36.26S 179.60E 12km M=3.8
1.9 0.11 0.19 R
Rsd 0.4s 11ph/8stn Dmin 188km Az.gap 337°
Corr. 0.114 9M/9stn Msd 0.2

90/5324
MAR 15 1546 06.1s 38.92S 175.40E 98km M=3.6
0.4 0.05 0.06 15
Rsd 0.3s 22ph/17stn Dmin 189km Az.gap 207°
Corr. -0.926 13M/13stn Msd 0.1 1↑
CNZ net noisy.

90/5331
MAR 15 2339 54.7s 44.92S 167.54E 119km M=3.7
0.2 0.02 0.02 2
Rsd 0.1s 16ph/11stn Dmin 41km Az.gap 227°
Corr. 0.652 11M/11stn Msd 0.1 5↑ 2↓

90/5332
MAR 16 0033 00.7s 38.72S 175.97E 172km M=3.6
1.1 0.03 0.03 9
Rsd 0.1s 19ph/13stn Dmin 18km Az.gap 156°
Corr. -0.486 12M/12stn Msd 0.1

90/5335
MAR 16 0345 29.9s 40.04S 174.99E 85km M=3.7
0.2 0.01 0.02 3
Rsd 0.2s 29ph/19stn Dmin 77km Az.gap 92°
Corr. -0.078 14M/12stn Msd 0.2 1↑

90/5347
MAR 16 1600 25.0s 36.94S 177.10E 218km M=4.8
0.6 0.10 0.05 7
Rsd 0.2s 11ph/8stn Dmin 116km Az.gap 266°
Corr. -0.338 23M/21stn Msd 0.2 1↑

90/5359
MAR 17 0416 23.3s 36.93S 177.43E 196km M=3.9
0.7 0.07 0.06 4
Rsd 0.1s 12ph/10stn Dmin 107km Az.gap 279°
Corr. -0.455 16M/16stn Msd 0.2

90/5361
MAR 17 0459 47.4s 37.21S 179.20E 12km M=3.6
0.3 0.02 0.02 R
Rsd 0.1s 6ph/4stn Dmin 90km Az.gap 327°
Corr. -0.060 4M/4stn Msd 0.3

90/5409
MAR 18 2259 11.4s 39.30S 175.42E 112km M=4.0
0.3 0.01 0.02 3
Rsd 0.2s 44ph/34stn Dmin 16km Az.gap 94°
Corr. -0.187 23M/23stn Msd 0.2 11↑ 3↓

90/5412
MAR 19 0344 08.6s 38.77S 175.29E 218km M=4.7
0.6 0.03 0.04 4
Rsd 0.3s 32ph/27stn Dmin 34km Az.gap 133°
Corr. -0.131 23M/21stn Msd 0.2 10↑ 5↓

90/5416
MAR 19 0552 27.8s 37.88S 176.30E 141km M=3.7
0.5 0.04 0.07 9
Rsd 0.2s 11ph/6stn Dmin 62km Az.gap 236°
Corr. -0.357 14M/14stn Msd 0.4

90/5418
MAR 19 0705 07.1s 37.63S 176.40E 213km M=3.8
0.7 0.03 0.02 6
Rsd 0.2s 15ph/12stn Dmin 65km Az.gap 197°
Corr. -0.052 19M/19stn Msd 0.2

90/5423
MAR 19 0947 04.2s 40.46S 176.39E 41km M=3.9
0.1 0.01 0.02 2
Rsd 0.3s 34ph/28stn Dmin 20km Az.gap 174°
Corr. -0.664 23M/21stn Msd 0.2 3↑ 1↓
Felt Mt Vernon (60) MM4 and Dannevirke (63).

90/5433
MAR 19 2007 01.0s 38.98S 175.95E 83km M=4.2
0.4 0.01 0.03 4
Rsd 0.3s 34ph/28stn Dmin 20km Az.gap 42°
Corr. -0.223 17M/15stn Msd 0.2 1↑

90/5443
MAR 20 0917 27.6s 41.63S 174.74E 24km M=3.7
0.1 0.01 0.01 1
Rsd 0.2s 23ph/17stn Dmin 27km Az.gap 151°
Corr. -0.387 13M/11stn Msd 0.2 4↑ 3↓
Felt Wellington (68) MM3 and Raumati South (65).

90/5447
MAR 20 1019 53.5s 38.95S 175.06E 223km M=4.0
0.2 0.01 0.04 2
Rsd 0.1s 21ph/15stn Dmin 42km Az.gap 239°
Corr. -0.038 12M/12stn Msd 0.2 1↑

90/5457
MAR 20 1554 40.7s 39.00S 175.81E 95km M=4.0
0.3 0.01 0.02 3
Rsd 0.2s 30ph/22stn Dmin 23km Az.gap 81°
Corr. -0.398 18M/16stn Msd 0.2 5↑ 3↓

90/5465
MAR 20 2217 30.2s 38.43S 176.40E 153km M=3.7
0.7 0.03 0.05 7
Rsd 0.2s 10ph/7stn Dmin 63km Az.gap 182°
Corr. -0.641 8M/8stn Msd 0.3 1↑

90/5485
MAR 21 1645 59.6s 31.56S 177.51W 233km M=7.1
1.6 0.17 0.17 84
Rsd 0.2s 11ph/9stn Dmin 772km Az.gap 346°
Corr. -0.574 8M/8stnMsd 0.7
Felt Bay of Plenty to Banks Peninsula, max. int. MM5 at Waihi (21).

90/5491
MAR 22 0000 18.0s 36.74S 177.37E 203km M=6.5
0.4 0.03 0.02 5
Rsd 0.1s 20ph/17stn Dmin 127km Az.gap 211°
Corr. 0.167 8M/7stn Msd 0.2 13↑ 17↓
Felt widely in North Island, max. MM4 at Ohau (65).

90/5498
MAR 22 1733 04.4s 40.43S 176.47E 40km M=3.5
0.2 0.01 0.02 2
Rsd 0.2s 22ph/12stn Dmin 27km Az.gap 201°
Corr. -0.574 13M/11stn Msd 0.4 1↑ 1↓

90/5499
MAR 22 1923 19.0s 42.60S 172.95E 34km M=3.6
0.2 0.01 0.02 33
Rsd 0.3s 18ph/12stn Dmin 52km Az.gap 123°
Corr. -0.426 10M/8stn Msd 0.2 1↑ 3↓

90/5500
MAR 22 2109 14.2s 38.53S 175.84E 183km M=4.3
0.6 0.04 0.04 6
Rsd 0.2s 19ph/14stn Dmin 58km Az.gap 211°
Corr. -0.099 19M/19stn Msd 0.2 1↓

90/5508
MAR 23 0406 20.8s 40.49S 175.97E 23km M=3.5
0.1 0.01 0.01 1
Rsd 0.2s 20ph/15stn Dmin 30km Az.gap 131°
Corr. -0.613 15M/13stn Msd 0.2 2↑ 3↓

90/5511
MAR 23 0717 21.3s 39.86S 176.65E 61km M=3.8
0.2 0.01 0.02 2
Rsd 0.2s 36ph/24stn Dmin 20km Az.gap 82°
Corr. -0.652 24M/22stn Msd 0.2 2↑ 2↓

90/5512
MAR 23 0746 47.4s 37.01S 176.74E 255km M=3.9
0.9 0.08 0.11 8
Rsd 0.3s 10ph/6stn Dmin 110km Az.gap 288°
Corr. -0.695 2M/2stn Msd 0.1

90/5514
MAR 23 0843 39.0s 38.97S 177.21E 47km M=3.7
0.1 0.01 0.01 3
Rsd 0.2s 25ph/22stn Dmin 19km Az.gap 83°
Corr. -0.078 23M/20stn Msd 0.2 1↓

90/5521
MAR 23 1452 47.0s 38.93S 175.48E 152km M=3.7
0.2 0.01 0.03 1
Rsd 0.1s 16ph/13stn Dmin 31km Az.gap 318°
Corr. -0.137 10M/10stn Msd 0.2 1↑

90/5529
MAR 23 2357 37.9s 38.02S 176.51E 161km M=4.6
0.6 0.03 0.02 4
Rsd 0.2s 29ph/24stn Dmin 33km Az.gap 150°
Corr. -0.023 25M/23stn Msd 0.2 10↑ 7↓

90/5553
MAR 24 1934 20.8s 37.26S 176.81E 227km M=3.7
0.7 0.05 0.06 6
Rsd 0.3s 13ph/8stn Dmin 82km Az.gap 275°
Corr. -0.387 12M/12stn Msd 0.1

90/5574
MAR 25 1632 40.1s 37.62S 178.38E 59km M=3.8
1.6 0.08 0.12 12
Rsd 0.9s 10ph/6stn Dmin 7km Az.gap 268°
Corr. 0.160 5M/5stn Msd 0.4 2↑ 1↓

90/5581
MAR 25 2023 46.9s 37.27S 176.72E 291km M=4.4
0.7 0.07 0.05 7
Rsd 0.2s 11ph/7stn Dmin 82km Az.gap 247°
Corr. -0.676 16M/15stn Msd 0.1 1↑

90/5583
MAR 25 2330 26.7s 37.60S 177.49E 72km M=4.2
0.2 0.01 0.01 3
Rsd 0.1s 19ph/15stn Dmin 62km Az.gap 140°
Corr. 0.132 24M/22stn Msd 0.2 2↑ 1↓

90/5586
MAR 26 0432 52.1s 38.86S 175.91E 137km M=3.9
0.7 0.03 0.04 6
Rsd 0.2s 17ph/12stn Dmin 36km Az.gap 184°
Corr. -0.773 14M/14stn Msd 0.3

90/5591
MAR 26 0936 00.5s 43.24S 171.68E 3km M=4.3
0.3 0.01 0.02 2
Rsd 0.1s 11ph/9stn Dmin 70km Az.gap 119°
Corr. 0.158 31M/28stn Msd 0.3 1↑
Felt central and southern South Island, max. int. MM4 at Lake Coleridge (93) and Harper River (99).

90/5610
MAR 26 2352 41.0s 38.61S 175.67E 274km M=4.2
0.6 0.04 0.07 4
Rsd 0.1s 20ph/15stn Dmin 45km Az.gap 203°
Corr. -0.828 15M/15stn Msd 0.3 2↑ 1↓

90/5617
MAR 27 0606 00.4s 38.91S 175.79E 2km M=3.4
0.3 0.01 0.02 4
Rsd 0.2s 14ph/12stn Dmin 5km Az.gap 138°
Corr. -0.648 13M/13stn Msd 0.1 1↓
Felt Motuoapa (40) MM4.

90/5618
MAR 27 0631 34.1s 38.21S 175.91E 163km M=3.6
1.5 0.06 0.06 12
Rsd 0.2s 12ph/10stn Dmin 90km Az.gap 226°
Corr. -0.072 17M/17stn Msd 0.2 1↑

90/5631
MAR 27 1624 39.2s 38.68S 175.68E 183km M=3.5
0.9 0.03 0.03 7
Rsd 0.1s 11ph/9stn Dmin 38km Az.gap 265°
Corr. -0.258 14M/14stn Msd 0.4 1↑

90/5634
MAR 27 1729 59.3s 38.04S 176.14E 187km M=4.1
0.7 0.05 0.05 5
Rsd 0.3s 15ph/12stn Dmin 75km Az.gap 215°
Corr. -0.695 23M/23stn Msd 0.2 6↑ 3↓

90/5636
MAR 27 2043 36.9s 37.74S 178.82E 21km M=3.8
1.9 0.05 0.16 6
Rsd 0.7s 10ph/7stn Dmin 49km Az.gap 286°
Corr. 0.508 6M/6stn Msd 0.4 1↓

90/5638
MAR 27 2145 24.8s 37.70S 178.91E 11km M=3.7
0.7 0.02 0.04 4
Rsd 0.2s 9ph/6stn Dmin 55km Az.gap 292°
Corr. -0.213 19M/19stn Msd 0.3 1↓

90/5639
MAR 27 2249 18.7s 37.68S 178.90E 12km M=3.9
0.3 0.01 0.02 R
Rsd 0.1s 10ph/6stn Dmin 53km Az.gap 296°
Corr. 0.408 8M/8stn Msd 0.3 1↓

90/5642
MAR 28 0053 52.9s 35.50S 179.67E 67km M=5.5
0.7 0.03 0.06 18
Rsd 0.1s 24ph/22stn Dmin 263km Az.gap 265°
Corr. 0.730 22M/20stn Msd 0.2 1↑

90/5646
MAR 28 0330 13.9s 38.17S 176.34E 146km M=6.0
0.5 0.02 0.02 4
Rsd 0.2s 32ph/30stn Dmin 13km Az.gap 90°
Corr. -0.031 9M/8stn Msd 0.4 28↑ 11↓
Felt East Coast and southern North Island, max. MM4 at Ruatuna Rd (35), Wairoa (52) and Napier (60).

90/5647
MAR 28 0349 52.4s 38.19S 176.36E 146km M=3.9
0.9 0.04 0.02 7
Rsd 0.2s 16ph/13stn Dmin 23km Az.gap 208°
Corr. -0.598 18M/18stn Msd 0.4 1↑
Felt Waihora Rd (40) MM3.

90/5648
MAR 28 0446 11.4s 37.70S 178.73E 33km M=3.6
1.6 0.06 0.15 R
Rsd 0.8s 10ph/5stn Dmin 40km Az.gap 285°
Corr. 0.373 5M/5stn Msd 0.2 1↓

90/5659
MAR 28 1506 20.9s 38.28S 176.34E 159km M=3.7
1.0 0.04 0.04 9
Rsd 0.3s 15ph/14stn Dmin 66km Az.gap 199°
Corr. -0.201 20M/20stn Msd 0.3 3↑ 1↓

90/5661
MAR 28 1525 07.3s 41.00S 175.32E 11km M=2.7
0.1 0.01 0.01 1
Rsd 0.2s 19ph/12stn Dmin 23km Az.gap 85°
Corr. -0.305 11M/11stn Msd 0.2 5↑ 2↓
Felt Tawa (68).

90/5669
MAR 29 0343 56.3s 38.13S 175.82E 15km M=4.2
0.8 0.06 0.08 13
Rsd 0.3s 17ph/13stn Dmin 214km Az.gap 235°
Corr. -0.949 13M/13stn Msd 0.3 1↑

90/5673
MAR 29 0915 20.0s 35.30S 178.47E 247km M=4.0
0.7 0.12 0.26 12
Rsd 0.2s 11ph/7stn Dmin 308km Az.gap 336°
Corr. -0.898 9M/9stn Msd 0.1

90/5674
MAR 29 1025 04.2s 42.27S 172.71E 5km M=4.3
0.2 0.01 0.01 2
Rsd 0.1s 20ph/16stn Dmin 58km Az.gap 78°
Corr. -0.114 28M/26stn Msd 0.3 8↑ 3↓
Felt Greymouth (85).

90/5676
MAR 29 1043 22.1s 42.26S 172.73E 8km M=4.2
0.2 0.01 0.01 2
Rsd 0.1s 18ph/15stn Dmin 57km Az.gap 84°
Corr. -0.212 18M/16stn Msd 0.2 2↑ 2↓
Felt Wainuiomata (68) MM3.

90/5677
MAR 29 1043 57.9s 42.30S 172.78E 5km M=3.8
0.3 0.02 0.04 R
Rsd 0.4s 10ph/6stn Dmin 60km Az.gap 92°
Corr. -0.314 8M/7stn Msd 0.2

90/5678
MAR 29 1044 34.6s 42.28S 172.74E 5km M=3.6
0.2 0.01 0.02 R
Rsd 0.3s 9ph/6stn Dmin 59km Az.gap 93°
Corr. -0.137 6M/6stn Msd 0.2

90/5683
MAR 29 1113 28.8s 42.26S 172.69E 12km M=3.7
0.1 0.01 0.01 R
Rsd 0.2s 12ph/9stn Dmin 58km Az.gap 96°
Corr. 0.018 22M/20stn Msd 0.2 2↑ 1↓

90/5688
MAR 29 1321 22.2s 44.94S 167.96E 5km M=4.3
0.6 0.03 0.05 R
Rsd 0.2s 15ph/12stn Dmin 30km Az.gap 236°
Corr. 0.953 6M/6stn Msd 0.3 1↓
Felt Te Anau (130) MM5.

90/5690
MAR 29 1502 38.1s 37.31S 176.54E 188km M=3.9
0.6 0.03 0.05 7
Rsd 0.2s 12ph/10stn Dmin 85km Az.gap 258°
Corr. -0.426 22M/22stn Msd 0.2

90/5699
MAR 29 2032 22.7s 41.83S 172.76E 77km M=4.2
0.2 0.01 0.01 3
Rsd 0.2s 26ph/17stn Dmin 14km Az.gap 81°
Corr. -0.426 13M/13stn Msd 0.2 1↑ 3↓

90/5711
MAR 30 0607 33.9s 40.39S 176.41E 42km M=4.0
0.1 0.01 0.01 2
Rsd 0.1s 34ph/30stn Dmin 27km Az.gap 166°
Corr. -0.719 21M/19stn Msd 0.2 2↑ 2↓

90/5719
MAR 30 1525 20.4s 40.41S 176.81E 31km M=3.8
0.3 0.01 0.03 3
Rsd 0.2s 22ph/18stn Dmin 47km Az.gap 198°
Corr. -0.414 25M/22stn Msd 0.2 1↑

90/5723
MAR 30 1830 13.1s 37.29S 176.82E 153km M=3.5
0.8 0.06 0.06 7
Rsd 0.2s 9ph/6stn Dmin 79km Az.gap 259°
Corr. 0.053 6M/6stn Msd 0.3

90/5747
MAR 31 1143 18.7s 35.53S 179.06E 268km M=4.0
0.8 0.07 0.15 6
Rsd 0.3s 9ph/5stn Dmin 239km Az.gap 340°
Corr. -0.648 4M/4stn Msd 0.3

90/5753
MAR 31 1606 31.7s 37.28S 178.75E 20km M=3.7
0.7 0.03 0.06 3
Rsd 0.3s 9ph/6stn Dmin 53km Az.gap 320°
Corr. 0.107 14M/14stn Msd 0.1 1↓

90/5756
MAR 31 1745 34.8s 37.86S 176.57E 164km M=4.1
0.5 0.03 0.02 4
Rsd 0.3s 19ph/16stn Dmin 39km Az.gap 169°
Corr. -0.139 24M/22stn Msd 0.3 5↑ 3↓

90/5773
APR 01 0842 48.8s 33.79S 177.97E 33km M=5.0
0.8 0.05 0.11 R
Rsd 0.2s 8ph/4stn Dmin 474km Az.gap 341°
Corr. 0.135 4M/4stn Msd 0.3

90/5774
APR 01 0859 24.1s 36.71S 176.29E 33km M=3.9
1.0 0.07 0.05 R
Rsd 0.5s 8ph/4stn Dmin 204km Az.gap 290°
Corr. -0.475 4M/4stn Msd 0.2 1↑

90/5780
APR 01 1203 49.9s 39.23S 174.80E 182km M=3.9
0.3 0.02 0.03 3
Rsd 0.2s 23ph/15stn Dmin 65km Az.gap 208°
Corr. -0.363 11M/11stn Msd 0.2 3↑ 1↓

90/5781
APR 01 1447 01.3s 39.00S 176.11E 91km M=3.6
0.3 0.01 0.01 3
Rsd 0.2s 35ph/24stn Dmin 35km Az.gap 81°
Corr. 0.031 23M/23stn Msd 0.2 3↑ 2↓

90/5793
APR 02 0941 29.2s 37.08S 176.95E 166km M=3.7
0.3 0.03 0.03 3
Rsd 0.1s 9ph/5stn Dmin 100km Az.gap 270°
Corr. 0.065 9M/9stn Msd 0.3 1↓

90/5799
APR 02 1256 11.1s 38.18S 175.62E 185km M=3.6
0.9 0.16 0.25 34
Rsd 0.4s 20ph/13stn Dmin 216km Az.gap 226°
Corr. -0.984 12M/12stn Msd 0.1

90/5800
APR 02 1330 12.9s 38.12S 176.25E 5km M=2.1
0.1 0.01 0.01 R
Rsd 0.1s 7ph/4stn Dmin 8km Az.gap 181°
Corr. 0.535 1M/1stn Msd N.D. 1↑
Felt Rotorua (33) MM4.

90/5824
APR 03 1420 27.5s 45.17S 167.61E 112km M=3.7
0.1 0.01 0.01 1
Rsd 0.0s 17ph/12stn Dmin 61km Az.gap 274°
Corr. 0.867 11M/11stn Msd 0.1 1↓

90/5833
APR 03 2221 16.3s 36.49S 177.50E 227km M=3.9
0.8 0.20 0.37 27
Rsd 0.2s 11ph/7stn Dmin 188km Az.gap 306°
Corr. -0.973 10M/10stn Msd 0.2

90/5834
APR 03 2344 07.4s 38.26S 177.72E 79km M=3.5
1.0 0.03 0.04 9
Rsd 0.2s 15ph/13stn Dmin 48km Az.gap 156°
Corr. 0.602 17M/17stn Msd 0.3 1↑

90/5838
APR 04 0430 36.3s 42.23S 172.71E 10km M=3.9
0.2 0.01 0.01 2
Rsd 0.2s 22ph/16stn Dmin 49km Az.gap 75°
Corr. -0.355 30M/30stn Msd 0.2 3↑ 2↓

90/5858
APR 05 0247 53.7s 39.01S 175.55E 87km M=3.6
0.4 0.02 0.04 2
Rsd 0.1s 18ph/13stn Dmin 21km Az.gap 211°
Corr. -0.758 12M/12stn Msd 0.2 1↑

90/5876
APR 05 1127 31.0s 40.21S 174.84E 41km M=3.6
0.1 0.01 0.01 8
Rsd 0.2s 23ph/15stn Dmin 71km Az.gap 87°
Corr. 0.138 12M/12stn Msd 0.2 1↑

90/5912
APR 06 1012 22.3s 35.96S 178.97E 208km M=4.1
0.6 0.07 0.06 9
Rsd 0.2s 12ph/10stn Dmin 243km Az.gap 334°
Corr. 0.285 15M/15stn Msd 0.2 1↓

90/5915
APR 06 1400 35.2s 35.78S 177.86E 221km M=4.3
0.7 0.11 0.09 11
Rsd 0.2s 10ph/5stn Dmin 257km Az.gap 326°
Corr. -0.047 15M/15stn Msd 0.2

90/5922
APR 06 2036 00.4s 40.41S 176.42E 41km M=3.6
0.1 0.01 0.01 1
Rsd 0.1s 23ph/19stn Dmin 26km Az.gap 172°
Corr. -0.742 13M/13stn Msd 0.2 1↑ 6↓

90/5923
APR 06 2204 49.9s 38.11S 176.34E 166km M=3.7
0.5 0.02 0.02 4
Rsd 0.1s 12ph/11stn Dmin 21km Az.gap 177°
Corr. -0.287 17M/17stn Msd 0.3 1↑

90/5927
APR 06 2344 17.5s 44.54S 168.10E 13km M=4.2
0.2 0.02 0.01 4
Rsd 0.1s 16ph/13stn Dmin 21km Az.gap 181°
Corr. 0.523 19M/19stn Msd 0.3 1↓
Felt Earnslaw Stn (121) MM5.

90/5932
APR 07 0204 55.0s 36.12S 176.05E 225km M=3.8
2.9 0.53 1.16 172
Rsd 0.3s 12ph/7stn Dmin 292km Az.gap 302°
Corr. -0.980 8M/8stn Msd 0.2

90/5942
APR 07 1236 20.7s 37.75S 176.24E 199km M=3.8
0.6 0.04 0.04 4
Rsd 0.2s 13ph/9stn Dmin 58km Az.gap 202°
Corr. 0.085 20M/20stn Msd 0.3

90/5945
APR 07 1544 08.6s 38.67S 175.93E 228km M=3.5
0.2 0.04 0.03 4
Rsd 0.1s 13ph/11stn Dmin 218km Az.gap 319°
Corr. -0.570 9M/9stn Msd 0.2

90/5946
APR 07 1759 20.2s 38.35S 175.37E 243km M=3.7
0.4 0.05 0.06 8
Rsd 0.2s 23ph/16stn Dmin 235km Az.gap 226°
Corr. -0.816 13M/13stn Msd 0.2

90/5954
APR 08 0703 13.9s 41.26S 172.83E 153km M=3.5
0.4 0.02 0.02 3
Rsd 0.3s 30ph/16stn Dmin 21km Az.gap 101°
Corr. -0.328 9M/9stn Msd 0.1

90/5969
APR 08 2056 08.8s 40.12S 176.17E 67km M=4.9
0.1 0.01 0.02 3
Rsd 0.2s 44ph/33stn Dmin 50km Az.gap 53°
Corr. -0.668 8M/8stn Msd 0.3 7↑ 2↓
Felt widely throughout southern North Island.

90/5970
APR 08 2136 01.2s 40.64S 175.88E 33km M=3.9
0.1 0.01 0.01 1
Rsd 0.1s 21ph/16stn Dmin 34km Az.gap 118°
Corr. -0.242 14M/14stn Msd 0.3 3↑ 4↓
Felt Palmerston North (62) MM3.

90/5971
APR 08 2138 27.7s 40.64S 175.88E 33km M=3.6
0.1 0.01 0.01 1
Rsd 0.1s 18ph/14stn Dmin 33km Az.gap 115°
Corr. -0.268 14M/14stn Msd 0.3 1↑ 2↓

90/5986
APR 09 1159 12.3s 38.28S 176.05E 185km M=3.7
0.8 0.06 0.09 14
Rsd 0.1s 20ph/13stn Dmin 177km Az.gap 258°
Corr. -0.895 13M/13stn Msd 0.3 1↑

90/5988
APR 09 1352 19.4s 36.15S 175.96E 33km M=3.9
0.5 0.04 0.04 R
Rsd 0.2s 14ph/8stn Dmin 296km Az.gap 303°
Corr. -0.173 7M/7stn Msd 0.5

90/6002
APR 10 0612 41.6s 37.82S 177.63E 70km M=3.5
0.3 0.02 0.01 3
Rsd 0.2s 11ph/6stn Dmin 60km Az.gap 176°
Corr. -0.361 3M/3stn Msd 0.2 1↓

90/6008
APR 10 1015 46.0s 36.97S 176.65E 33km M=3.9
0.4 0.03 0.02 R
Rsd 0.1s 16ph/11stn Dmin 117km Az.gap 277°
Corr. -0.208 11M/11stn Msd 0.2 1↑

90/6009
APR 10 1138 01.2s 36.02S 177.42E 199km M=3.6
1.3 0.40 0.89 90
Rsd 0.3s 10ph/7stn Dmin 240km Az.gap 321°
Corr. -0.984 5M/5stn Msd 0.1

90/6015
APR 10 1746 53.0s 40.72S 175.87E 32km M=4.6
0.0 0.00 0.01 0
Rsd 0.1s 25ph/22stn Dmin 35km Az.gap 83°
Corr. -0.645 18M/18stn Msd 0.2 1↓
Felt central North Island, max MM4 in (62,65,68).

90/6021
APR 10 2144 18.7s 45.17S 165.89E 33km M=4.7
0.7 0.04 0.07 R
Rsd 0.2s 10ph/7stn Dmin 169km Az.gap 304°
Corr. 0.535 16M/16stn Msd 0.3
Felt West Arm Manapouri (138) MM3, also in (130,149).

90/6031
APR 11 1230 57.9s 41.26S 172.66E 197km M=4.1
0.3 0.03 0.02 2
Rsd 0.2s 31ph/18stn Dmin 19km Az.gap 141°
Corr. -0.408 13M/13stn Msd 0.3 6↑ 9↓

90/6033
APR 11 1336 37.0s 36.86S 174.78E 33km M=2.0
0.0 R R R
Rsd 0.0s 1ph/1stn Dmin 0km Az.gap 360°
Corr. 0.000 1M/1stn Msd 0.0
Felt Ponga Rd (20) MM5 and Ardmore (19).

90/6041
APR 11 1702 47.2s 35.07S 177.94E 257km M=3.9
0.5 0.10 0.31 18
Rsd 0.1s 13ph/9stn Dmin 283km Az.gap 326°
Corr. -0.934 13M/13stn Msd 0.1

90/6048
APR 11 2239 44.8s 37.03S 177.53E 173km M=3.8
0.6 0.04 0.03 5
Rsd 0.2s 13ph/10stn Dmin 94km Az.gap 277°
Corr. 0.117 19M/19stn Msd 0.2 1↑

90/6053
APR 12 0200 08.0s 39.14S 174.87E 221km M=3.6
0.3 0.01 0.05 3
Rsd 0.1s 16ph/12stn Dmin 59km Az.gap 233°
Corr. -0.508 10M/10stn Msd 0.2 1↓

90/6057
APR 12 0720 21.4s 37.35S 177.44E 144km M=3.8
0.3 0.02 0.01 3
Rsd 0.1s 11ph/8stn Dmin 81km Az.gap 165°
Corr. -0.163 14M/14stn Msd 0.3 1↑

90/6063
APR 12 1132 04.3s 35.90S 178.34E 195km M=4.2
0.3 0.04 0.02 4
Rsd 0.1s 14ph/10stn Dmin 189km Az.gap 313°
Corr. -0.083 20M/20stn Msd 0.1

90/6085
APR 13 0108 33.1s 37.46S 176.37E 197km M=3.7
0.6 0.04 0.07 10
Rsd 0.1s 17ph/13stn Dmin 195km Az.gap 289°
Corr. -0.789 13M/13stn Msd 0.3

90/6089
APR 13 0416 39.3s 38.83S 178.55E 27km M=4.3
0.3 0.01 0.03 1
Rsd 0.1s 25ph/22stn Dmin 51km Az.gap 229°
Corr. -0.590 33M/33stn Msd 0.2 1↑

90/6094
APR 13 0659 24.9s 40.94S 172.96E 219km M=3.8
0.4 0.03 0.03 3
Rsd 0.2s 27ph/15stn Dmin 27km Az.gap 179°
Corr. -0.477 11M/11stn Msd 0.2

90/6097
APR 13 1132 54.6s 38.80S 178.52E 27km M=3.7
0.6 0.02 0.05 2
Rsd 0.2s 13ph/11stn Dmin 47km Az.gap 231°
Corr. -0.688 24M/24stn Msd 0.2 1↑

90/6101
APR 13 1510 57.5s 39.18S 177.52E 31km M=3.7
0.2 0.01 0.02 2
Rsd 0.2s 27ph/22stn Dmin 33km Az.gap 177°
Corr. -0.439 23M/23stn Msd 0.2

90/6104
APR 13 1805 56.3s 38.69S 175.71E 140km M=3.9
0.4 0.01 0.02 3
Rsd 0.2s 27ph/20stn Dmin 5km Az.gap 108°
Corr. 0.135 20M/20stn Msd 0.2 1↓

90/6109
APR 14 0029 24.6s 38.17S 175.58E 282km M=4.7
0.4 0.03 0.04 3
Rsd 0.2s 27ph/21stn Dmin 36km Az.gap 132°
Corr. -0.045 23M/23stn Msd 0.2 1↓

90/6112
APR 14 0241 49.3s 39.73S 173.52E 12km M=3.5
0.2 0.01 0.02 R
Rsd 0.1s 22ph/14stn Dmin 167km Az.gap 216°
Corr. -0.641 14M/14stn Msd 0.2

90/6120
APR 14 1329 55.4s 36.82S 176.97E 280km M=3.6
1.0 0.10 0.08 9
Rsd 0.3s 10ph/7stn Dmin 130km Az.gap 282°
Corr. -0.104 15M/15stn Msd 0.1

90/6131
APR 14 2151 30.4s 48.56S 166.64E 33km M=3.7
0.3 0.03 0.06 R
Rsd 0.1s 14ph/10stn Dmin 418km Az.gap 344°
Corr. -0.574 10M/10stn Msd 0.1

90/6140
APR 15 0958 41.9s 38.46S 175.99E 141km M=4.9
0.4 0.01 0.02 3
Rsd 0.2s 38ph/31stn Dmin 25km Az.gap 88°
Corr. -0.183 18M/18stn Msd 0.3 5↑ 1↓

90/6144
APR 15 1137 40.1s 38.85S 178.61E 25km M=4.3
0.3 0.01 0.02 1
Rsd 0.1s 24ph/20stn Dmin 56km Az.gap 234°
Corr. -0.578 27M/27stn Msd 0.2 3↑ 2↓

90/6156
APR 16 0213 48.9s 38.71S 178.02E 47km M=3.8
0.3 0.02 0.03 4
Rsd 0.2s 18ph/15stn Dmin 11km Az.gap 199°
Corr. -0.684 21M/21stn Msd 0.2 2↑ 2↓

90/6160
APR 16 0650 22.0s 45.05S 166.82E 12km M=3.9
0.4 0.02 0.03 R
Rsd 0.1s 11ph/10stn Dmin 96km Az.gap 278°
Corr. 0.264 10M/10stn Msd 0.1

90/6166
APR 16 2313 18.2s 37.12S 177.45E 148km M=3.9
0.7 0.04 0.03 6
Rsd 0.2s 7ph/4stn Dmin 92km Az.gap 241°
Corr. 0.531 3M/3stn Msd 0.1 1↓
Two events. Doubtful solution.

90/6169
APR 17 0846 52.0s 38.16S 177.99E 58km M=3.7
0.4 0.02 0.03 5
Rsd 0.2s 7ph/4stn Dmin 26km Az.gap 107°
Corr. -0.301 4M/4stn Msd 0.1 2↑ 1↓

90/6170
APR 17 1011 04.6s 38.38S 176.36E 106km M=3.7
0.4 0.02 0.02 4
Rsd 0.3s 26ph/21stn Dmin 18km Az.gap 100°
Corr. -0.034 21M/21stn Msd 0.2 2↑ 3↓

90/6176
APR 17 1957 42.5s 40.47S 174.60E 83km M=3.6
0.2 0.02 0.01 3
Rsd 0.2s 23ph/13stn Dmin 51km Az.gap 211°
Corr. -0.359 13M/11stn Msd 0.2 4↑ 1↓

90/6180
APR 18 0330 07.6s 39.59S 174.24E 186km M=3.9
0.5 0.02 0.05 6
Rsd 0.2s 21ph/15stn Dmin 121km Az.gap 197°
Corr. -0.602 13M/13stn Msd 0.2

90/6182
APR 18 0835 46.9s 40.48S 173.47E 169km M=3.7
0.3 0.03 0.01 3
Rsd 0.2s 27ph/16stn Dmin 94km Az.gap 188°
Corr. -0.420 12M/12stn Msd 0.2

90/6190
APR 18 1742 53.3s 41.28S 174.85E 28km M=3.1
0.1 0.01 0.01 1
Rsd 0.2s 20ph/14stn Dmin 7km Az.gap 104°
Corr. -0.171 11M/9stn Msd 0.2 3↑ 7↓
Felt Eastbourne (68) MM4 and Tawa (68).

90/6193
APR 18 2040 49.0s 39.31S 175.04E 229km M=3.5
0.2 0.04 0.06 4
Rsd 0.0s 13ph/9stn Dmin 150km Az.gap 329°
Corr. -0.848 9M/9stn Msd 0.1 1↑

90/6197
APR 19 0118 12.9s 37.73S 177.06E 121km M=3.6
0.6 0.05 0.04 5
Rsd 0.3s 7ph/4stn Dmin 29km Az.gap 250°
Corr. -0.054 4M/4stn Msd 0.1

90/6202
APR 19 0609 01.4s 39.66S 174.67E 256km M=3.5
0.3 0.08 0.09 6
Rsd 0.1s 11ph/7stn Dmin 127km Az.gap 281°
Corr. -0.832 7M/7stn Msd 0.2

90/6209
APR 19 1150 40.9s 37.33S 179.77W 77km M=4.0
1.3 0.10 0.20 29
Rsd 0.5s 9ph/5stn Dmin 173km Az.gap 328°
Corr. -0.598 5M/5stn Msd 0.2

90/6210
APR 19 1324 55.0s 38.59S 175.98E 189km M=3.8
0.4 0.01 0.02 3
Rsd 0.1s 19ph/14stn Dmin 73km Az.gap 236°
Corr. -0.727 11M/11stn Msd 0.2

90/6215
APR 20 0316 57.2s 40.32S 174.29E 63km M=3.8
0.2 0.01 0.02 6
Rsd 0.2s 25ph/17stn Dmin 80km Az.gap 115°
Corr. -0.482 11M/11stn Msd 0.1 1↑

90/6216
APR 20 0353 36.3s 36.45S 177.72E 273km M=3.7
0.6 0.15 0.24 17
Rsd 0.1s 10ph/6stn Dmin 186km Az.gap 319°
Corr. -0.984 6M/6stn Msd 0.2

90/6226
APR 20 2156 34.6s 35.40S 178.86E 316km M=3.9
1.9 0.79 1.59 63
Rsd 0.5s 10ph/7stn Dmin 365km Az.gap 341°
Corr. -0.980 3M/3stn Msd 0.3

90/6242
APR 21 1313 33.7s 40.36S 176.60E 44km M=3.9
0.2 0.01 0.04 3
Rsd 0.2s 23ph/20stn Dmin 39km Az.gap 207°
Corr. -0.703 18M/16stn Msd 0.2 1↓
Felt Mount Vernon (60) MM4.

90/6246
APR 21 1710 13.2s 44.98S 167.57E 119km M=3.7
0.3 0.03 0.03 3
Rsd 0.1s 15ph/10stn Dmin 44km Az.gap 218°
Corr. 0.660 8M/8stn Msd 0.1 1↑

90/6247
APR 21 1835 23.8s 37.00S 177.63E 137km M=3.7
0.5 0.04 0.03 6
Rsd 0.3s 9ph/5stn Dmin 89km Az.gap 256°
Corr. 0.187 5M/5stn Msd 0.2

90/6262
APR 22 0913 10.3s 36.81S 177.93E 89km M=3.6
1.0 0.08 0.09 11
Rsd 0.3s 9ph/6stn Dmin 94km Az.gap 302°
Corr. 0.028 7M/7stn Msd 0.2

90/6263
APR 22 0945 59.6s 37.47S 177.77E 85km M=3.5
0.8 0.04 0.04 8
Rsd 0.3s 9ph/7stn Dmin 49km Az.gap 210°
Corr. 0.328 5M/5stn Msd 0.3

90/6268
APR 22 1735 14.1s 37.27S 179.48E 33km M=3.5
2.1 0.16 0.20 R
Rsd 0.8s 7ph/4stn Dmin 110km Az.gap 332°
Corr. -0.295 4M/4stn Msd 0.3

90/6269
APR 22 1740 52.9s 37.35S 179.25E 12km M=4.2
0.5 0.03 0.04 R
Rsd 0.2s 12ph/9stn Dmin 88km Az.gap 285°
Corr. -0.138 18M/18stn Msd 0.2 1↓

90/6275
APR 22 2226 45.1s 47.40S 164.85E 33km M=4.4
0.4 0.03 0.04 R
Rsd 0.1s 9ph/7stn Dmin 274km Az.gap 328°
Corr. 0.083 10M/10stn Msd 0.2

90/6277
APR 22 2336 27.2s 47.45S 164.80E 33km M=4.6
0.6 0.05 0.05 R
Rsd 0.2s 15ph/11stn Dmin 392km Az.gap 329°
Corr. 0.092 21M/21stn Msd 0.4

90/6280
APR 23 0411 50.9s 47.63S 165.39E 33km M=4.4
0.6 0.07 0.09 R
Rsd 0.1s 12ph/11stn Dmin 263km Az.gap 343°
Corr. -0.559 11M/11stn Msd 0.1

90/6283
APR 23 0635 12.8s 37.38S 179.18E 13km M=4.0
0.5 0.01 0.02 3
Rsd 0.1s 16ph/13stn Dmin 82km Az.gap 279°
Corr. 0.527 24M/24stn Msd 0.2

90/6284
APR 23 1241 04.3s 44.93S 167.26E 12km M=3.6
0.6 0.02 0.05 R
Rsd 0.2s 12ph/9stn Dmin 60km Az.gap 254°
Corr. -0.167 9M/9stn Msd 0.1

90/6286
APR 23 1338 05.4s 37.36S 179.21E 12km M=3.7
0.6 0.04 0.05 R
Rsd 0.3s 7ph/4stn Dmin 84km Az.gap 325°
Corr. -0.093 6M/6stn Msd 0.2

90/6288
APR 23 1714 50.1s 37.87S 177.50E 49km M=4.0
0.2 0.01 0.01 6
Rsd 0.1s 17ph/14stn Dmin 46km Az.gap 156°
Corr. 0.309 18M/18stn Msd 0.2
Felt Opotiki, Ruatuna Rd (35) MM4.

90/6289
APR 23 1721 29.3s 47.20S 165.23E 107km M=3.8
0.8 0.24 0.18 86
Rsd 0.2s 11ph/9stn Dmin 238km Az.gap 341°
Corr. -0.126 9M/9stn Msd 0.2

90/6292
APR 24 0004 46.2s 47.20S 165.02E 33km M=3.7
0.5 0.10 0.09 R
Rsd 0.1s 11ph/9stn Dmin 360km Az.gap 343°
Corr. -0.859 8M/8stn Msd 0.1

90/6293
APR 24 0005 37.4s 40.58S 173.32E 156km M=4.4
0.3 0.02 0.02 3
Rsd 0.2s 35ph/21stn Dmin 77km Az.gap 161°
Corr. -0.344 13M/12stn Msd 0.2 7↑ 3↓

90/6299
APR 24 0345 25.4s 47.34S 164.83E 33km M=4.6
0.4 0.03 0.04 R
Rsd 0.1s 14ph/11stn Dmin 271km Az.gap 329°
Corr. -0.113 16M/16stn Msd 0.2

90/6304
APR 24 0738 57.9s 38.27S 177.80E 90km M=3.6
0.9 0.04 0.05 9
Rsd 0.3s 14ph/11stn Dmin 44km Az.gap 127°
Corr. 0.428 7M/7stn Msd 0.2 1↑

90/6305
APR 24 0757 34.6s 36.65S 177.75E 152km M=4.2
0.4 0.03 0.02 4
Rsd 0.1s 10ph/8stn Dmin 116km Az.gap 280°
Corr. 0.535 15M/15stn Msd 0.1

90/6306
APR 24 1130 06.1s 47.44S 165.10E 33km M=3.8
0.5 0.07 0.07 R
Rsd 0.2s 12ph/10stn Dmin 263km Az.gap 342°
Corr. -0.660 10M/10stn Msd 0.1 1↓

90/6308
APR 24 1200 06.5s 37.43S 177.15E 254km M=3.6
0.2 0.06 0.09 6
Rsd 0.0s 15ph/10stn Dmin 153km Az.gap 300°
Corr. -0.988 8M/8stn Msd 0.1

90/6309
APR 24 1356 56.1s 38.80S 175.96E 200km M=3.6
0.2 0.03 0.02 3
Rsd 0.1s 14ph/12stn Dmin 204km Az.gap 325°
Corr. -0.471 9M/9stn Msd 0.3 1↑

90/6310
APR 24 1629 20.2s 38.89S 174.90E 233km M=3.6
0.4 0.05 0.03 6
Rsd 0.2s 18ph/12stn Dmin 199km Az.gap 228°
Corr. -0.385 11M/11stn Msd 0.2 1↑

90/6314
APR 24 2112 11.7s 37.20S 179.28E 33km M=3.7
1.9 0.09 0.18 R
Rsd 0.5s 7ph/5stn Dmin 98km Az.gap 328°
Corr. 0.068 11M/11stn Msd 0.2 1↓
Poor solution.

90/6327
APR 25 0844 17.7s 36.39S 176.21E 83km M=3.5
0.3 0.05 0.11 56
Rsd 0.1s 12ph/6stn Dmin 261km Az.gap 303°
Corr. -0.938 8M/8stn Msd 0.1

90/6328
APR 25 0921 44.8s 38.30S 175.66E 133km M=3.6
0.5 0.07 0.10 15
Rsd 0.2s 18ph/14stn Dmin 229km Az.gap 242°
Corr. -0.953 12M/12stn Msd 0.2

90/6332
APR 25 1458 57.9s 42.28S 172.69E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.2s 24ph/18stn Dmin 54km Az.gap 78°
Corr. -0.116 17M/16stn Msd 0.2 2↑ 1↓

90/6334
APR 25 1606 54.4s 38.01S 176.36E 179km M=3.9
0.9 0.03 0.03 8
Rsd 0.2s 20ph/17stn Dmin 24km Az.gap 151°
Corr. -0.420 18M/18stn Msd 0.2 1↑

90/6349
APR 26 1015 39.9s 36.08S 178.30E 176km M=4.8
0.9 0.05 0.05 8
Rsd 0.3s 22ph/20stn Dmin 222km Az.gap 275°
Corr. 0.719 23M/22stn Msd 0.2 2↑ 5↓

90/6353
APR 26 1448 52.1s 35.40S 179.18E 238km M=4.5
0.8 0.14 0.12 19
Rsd 0.2s 17ph/15stn Dmin 308km Az.gap 326°
Corr. 0.770 20M/20stn Msd 0.2 1↑

90/6379
APR 27 1533 28.7s 37.47S 176.60E 193km M=3.8
1.0 0.05 0.05 8
Rsd 0.3s 11ph/9stn Dmin 66km Az.gap 243°
Corr. -0.256 19M/19stn Msd 0.2

90/6386
APR 28 0151 22.9s 38.51S 175.75E 176km M=4.2
0.5 0.02 0.03 4
Rsd 0.2s 27ph/20stn Dmin 22km Az.gap 123°
Corr. 0.383 21M/21stn Msd 0.2 1↑

90/6389
APR 28 0421 39.8s 40.44S 176.43E 36km M=3.8
0.1 0.01 0.02 2
Rsd 0.2s 20ph/16stn Dmin 24km Az.gap 181°
Corr. -0.746 17M/15stn Msd 0.2 1↓

90/6393
APR 28 1503 17.2s 44.74S 167.77E 69km M=3.6
0.5 0.02 0.03 4
Rsd 0.1s 16ph/12stn Dmin 15km Az.gap 285°
Corr. 0.234 7M/7stn Msd 0.2 1↑ 4↓

90/6400
APR 28 1759 41.3s 36.10S 178.60E 270km M=3.9
0.4 0.24 1.16 12
Rsd 0.1s 5ph/3stn Dmin 168km Az.gap 358°
Corr. -0.980 3M/3stn Msd 0.1

90/6402
APR 28 1941 32.1s 37.76S 176.71E 156km M=3.8
1.2 0.06 0.04 12
Rsd 0.3s 10ph/8stn Dmin 35km Az.gap 200°
Corr. -0.004 17M/17stn Msd 0.3

90/6404
APR 29 0038 57.8s 37.85S 175.99E 290km M=4.1
0.3 0.05 0.07 5
Rsd 0.1s 15ph/11stn Dmin 198km Az.gap 255°
Corr. -0.941 9M/9stn Msd 0.2

90/6405
APR 29 0046 47.6s 39.21S 175.52E 93km M=4.1
0.2 0.01 0.01 3
Rsd 0.2s 36ph/30stn Dmin 16km Az.gap 87°
Corr. -0.100 23M/23stn Msd 0.2 5↑ 1↓

90/6407
APR 29 0457 05.6s 38.72S 176.07E 210km M=3.6
0.1 0.02 0.02 2
Rsd 0.0s 12ph/10stn Dmin 212km Az.gap 327°
Corr. -0.648 10M/10stn Msd 0.3
Two events here and S's possibly confused.

90/6410
APR 29 0624 22.4s 40.33S 176.30E 24km M=3.5
0.2 0.02 0.03 2
Rsd 0.3s 18ph/15stn Dmin 32km Az.gap 134°
Corr. -0.750 18M/17stn Msd 0.2 1↓

90/6411
APR 29 0655 34.2s 39.30S 174.85E 133km M=4.1
0.3 0.01 0.02 3
Rsd 0.2s 33ph/24stn Dmin 73km Az.gap 128°
Corr. -0.142 17M/16stn Msd 0.2 4↑ 2↓

90/6415
APR 29 1054 33.2s 40.18S 173.63E 197km M=3.7
0.3 0.04 0.02 3
Rsd 0.2s 25ph/14stn Dmin 73km Az.gap 236°
Corr. -0.065 11M/11stn Msd 0.2 1↑

90/6418
APR 29 1558 46.6s 38.27S 176.07E 129km M=3.8
0.7 0.04 0.07 11
Rsd 0.3s 16ph/11stn Dmin 86km Az.gap 216°
Corr. -0.867 15M/15stn Msd 0.3 1↑

90/6421
APR 29 2015 33.4s 38.03S 175.92E 178km M=3.9
0.5 0.07 0.13 14
Rsd 0.2s 17ph/12stn Dmin 215km Az.gap 229°
Corr. -0.961 10M/10stn Msd 0.2

90/6430
APR 30 1217 23.7s 36.95S 177.01E 236km M=4.5
0.9 0.08 0.03 9
Rsd 0.2s 12ph/10stn Dmin 115km Az.gap 252°
Corr. -0.023 20M/20stn Msd 0.3 1↑

90/6431
APR 30 1225 06.2s 40.99S 174.81E 58km M=2.2
0.1 0.01 0.00 1
Rsd 0.1s 15ph/10stn Dmin 26km Az.gap 182°
Corr. 0.482 6M/6stn Msd 0.1 1↑
Felt Lower Hutt (68).

90/6436
APR 30 2326 50.5s 40.42S 176.43E 42km M=3.6
0.3 0.02 0.02 1
Rsd 0.1s 17ph/12stn Dmin 26km Az.gap 209°
Corr. 0.438 12M/12stn Msd 0.2 1↑ 7↓

90/6437
MAY 01 0023 46.4s 41.06S 174.04E 64km M=4.0
0.2 0.01 0.01 3
Rsd 0.2s 24ph/19stn Dmin 26km Az.gap 86°
Corr. -0.058 7M/7stn Msd 0.2 1↑

90/6459
MAY 02 1108 05.7s 37.50S 175.98E 213km M=3.6
1.0 0.15 0.22 29
Rsd 0.1s 12ph/9stn Dmin 219km Az.gap 285°
Corr. -0.961 10M/10stn Msd 0.2 1↑

90/6463
MAY 02 1154 17.7s 37.32S 179.28E 12km M=3.7
0.4 0.02 0.03 R
Rsd 0.2s 6ph/4stn Dmin 92km Az.gap 327°
Corr. -0.034 4M/4stn Msd 0.3

90/6466
MAY 02 1346 29.0s 39.99S 173.79E 146km M=4.3
0.2 0.01 0.01 3
Rsd 0.1s 40ph/28stn Dmin 91km Az.gap 160°
Corr. -0.295 17M/17stn Msd 0.3 1↑

90/6467
MAY 02 1351 09.1s 43.60S 170.06E 80km M=3.6
0.2 0.02 0.03 5
Rsd 0.1s 16ph/12stn Dmin 80km Az.gap 160°
Corr. -0.938 15M/15stn Msd 0.2

90/6482
MAY 03 1434 36.2s 40.10S 174.04E 97km M=3.8
0.2 0.01 0.01 4
Rsd 0.2s 33ph/22stn Dmin 79km Az.gap 126°
Corr. -0.141 14M/14stn Msd 0.3 5↑ 1↓

90/6487
MAY 03 2154 58.2s 37.38S 176.90E 230km M=4.0
0.9 0.09 0.16 14
Rsd 0.3s 13ph/10stn Dmin 126km Az.gap 238°
Corr. -0.824 11M/11stn Msd 0.2

90/6497
MAY 04 0605 21.1s 37.55S 176.33E 321km M=3.5
0.8 0.11 0.16 12
Rsd 0.2s 10ph/7stn Dmin 179km Az.gap 261°
Corr. -0.906 4M/4stn Msd 0.2

90/6498
MAY 04 0850 33.6s 38.73S 175.74E 198km M=3.7
0.3 0.06 0.03 7
Rsd 0.2s 15ph/13stn Dmin 210km Az.gap 299°
Corr. 0.071 10M/10stn Msd 0.3 1↑ 1↓

90/6501
MAY 04 1157 22.1s 38.91S 178.37E 28km M=3.6
0.5 0.02 0.04 2
Rsd 0.2s 11ph/8stn Dmin 43km Az.gap 225°
Corr. -0.625 5M/5stn Msd 0.2 1↑

90/6504
MAY 05 0232 14.3s 36.68S 177.71E 224km M=4.0
0.9 0.07 0.06 9
Rsd 0.2s 10ph/7stn Dmin 115km Az.gap 298°
Corr. -0.216 14M/14stn Msd 0.2 1↑

90/6508
MAY 05 1134 35.9s 40.49S 176.92E 44km M=3.7
0.2 0.01 0.03 5
Rsd 0.2s 22ph/18stn Dmin 56km Az.gap 206°
Corr. -0.410 19M/19stn Msd 0.3 1↑ 5↓

90/6515
MAY 06 0340 35.5s 37.44S 177.88E 79km M=3.9
0.5 0.03 0.02 4
Rsd 0.2s 19ph/15stn Dmin 41km Az.gap 220°
Corr. 0.393 21M/21stn Msd 0.2 1↑

90/6518
MAY 06 0805 22.4s 37.26S 178.02E 68km M=4.8
0.3 0.02 0.03 3
Rsd 0.1s 19ph/17stn Dmin 45km Az.gap 211°
Corr. 0.328 22M/22stn Msd 0.2 3↑ 1↓
Felt Ruatuna Rd (35) MM3.

90/6521
MAY 06 1146 40.7s 40.13S 176.71E 62km M=3.8
0.2 0.01 0.02 2
Rsd 0.2s 35ph/32stn Dmin 18km Az.gap 179°
Corr. -0.555 20M/20stn Msd 0.2 1↑

90/6531
MAY 06 1913 23.5s 35.32S 179.27E 285km M=4.0
1.2 0.10 0.22 13
Rsd 0.3s 10ph/6stn Dmin 267km Az.gap 342°
Corr. 0.188 8M/8stn Msd 0.3

90/6560
MAY 08 0548 39.2s 38.98S 175.75E 5km M=3.5
0.2 0.01 0.02 R
Rsd 0.4s 27ph/24stn Dmin 13km Az.gap 87°
Corr. -0.188 22M/22stn Msd 0.1 1↑
Felt Motuoapa (40) MM3.

90/6562
MAY 08 0650 42.3s 44.51S 167.84E 12km M=3.5
0.2 0.01 0.02 R
Rsd 0.1s 15ph/11stn Dmin 19km Az.gap 284°
Corr. -0.574 11M/11stn Msd 0.1

90/6569
MAY 08 1922 01.3s 38.31S 176.00E 182km M=3.7
0.7 0.04 0.06 11
Rsd 0.2s 15ph/13stn Dmin 217km Az.gap 217°
Corr. -0.879 8M/8stn Msd 0.2 1↑

90/6597
MAY 10 0528 02.4s 38.70S 175.60E 175km M=4.0
0.3 0.02 0.04 3
Rsd 0.1s 16ph/14stn Dmin 55km Az.gap 298°
Corr. -0.143 9M/9stn Msd 0.2 1↑

90/6601
MAY 10 0926 36.5s 39.63S 173.40E 21km M=3.6
0.3 0.01 0.02 3
Rsd 0.2s 20ph/15stn Dmin 72km Az.gap 196°
Corr. -0.684 14M/14stn Msd 0.3

90/6603
MAY 10 1350 22.0s 36.29S 178.47E 94km M=4.4
0.5 0.05 0.03 9
Rsd 0.1s 14ph/11stn Dmin 147km Az.gap 310°
Corr. 0.539 20M/20stn Msd 0.2 1↑ 1↓
Unstable depth.

90/6612
MAY 11 0054 23.2s 44.80S 167.67E 76km M=3.7
0.3 0.03 0.03 3
Rsd 0.1s 21ph/12stn Dmin 25km Az.gap 285°
Corr. 0.582 9M/9stn Msd 0.2 1↓

90/6617
MAY 11 0437 20.2s 41.11S 172.62E 5km M=3.6
0.1 0.00 0.01 R
Rsd 0.1s 12ph/8stn Dmin 33km Az.gap 158°
Corr. 0.209 19M/18stn Msd 0.2

90/6626
MAY 11 1533 03.0s 41.73S 172.87E 84km M=4.1
0.2 0.01 0.02 2
Rsd 0.3s 23ph/18stn Dmin 4km Az.gap 111°
Corr. -0.233 11M/11stn Msd 0.3 7↑ 7↓

90/6634
MAY 12 0332 29.4s 40.40S 176.38E 30km M=4.4
0.2 0.01 0.03 2
Rsd 0.3s 27ph/24stn Dmin 26km Az.gap 157°
Corr. -0.688 16M/16stn Msd 0.1 2↑ 1↓
Felt Table Flat (58), Palmerston North (62) MM4.

90/6642
MAY 12 1215 37.3s 41.48S 173.87E 57km M=4.4
0.1 0.01 0.01 3
Rsd 0.2s 30ph/19stn Dmin 42km Az.gap 62°
Corr. -0.332 6M/6stn Msd 0.1 6↑ 11↓
Felt Blenheim (77) MM4, Wellington (68) MM3.

90/6651
MAY 12 2039 26.7s 38.55S 175.68E 195km M=3.6
0.3 0.05 0.07 7
Rsd 0.1s 16ph/14stn Dmin 205km Az.gap 240°
Corr. -0.930 8M/8stn Msd 0.3

90/6656
MAY 13 0115 51.1s 38.43S 175.89E 189km M=3.9
0.6 0.03 0.05 5
Rsd 0.2s 20ph/12stn Dmin 68km Az.gap 124°
Corr. 0.586 20M/20stn Msd 0.2 4↑ 3↓

90/6657
MAY 13 0423 10.2s 40.43S 176.47E 30km M=6.2
0.1 0.01 0.01 1
Rsd 0.1s 39ph/37stn Dmin 27km Az.gap 90°
Corr. -0.773 12M/12stn Msd 0.2 10↑ 6↓
Felt widely from Hamilton (24) to Takamatua Bay (111), maximum intensity MM9 at Tarewa (63).

90/6658
MAY 13 0425 43.8s 40.31S 176.33E 26km M=5.1
0.2 0.03 0.05 4
Rsd 0.4s 10ph/8stn Dmin 35km Az.gap 139°
Corr. -0.633 1M/1stn Msd 0.0

90/6659
MAY 13 0426 42.0s 40.35S 176.29E 23km M=4.5
0.1 0.01 0.03 2
Rsd 0.2s 9ph/8stn Dmin 30km Az.gap 135°
Corr. -0.680 1M/1stn Msd 0.0
Felt Moawhango (58).

90/6660
MAY 13 0427 49.0s 40.33S 176.27E 19km M=4.0
0.1 0.01 0.01 2
Rsd 0.1s 8ph/6stn Dmin 32km Az.gap 167°
Corr. -0.523 1M/1stn Msd 0.0
Felt Moawhango (58).

90/6661
MAY 13 0428 19.1s 40.41S 176.58E 31km M=3.9
0.3 0.03 0.05 2
Rsd 0.2s 9ph/7stn Dmin 34km Az.gap 206°
Corr. -0.879 2M/2stn Msd 0.0

90/6662
MAY 13 0428 43.0s 40.42S 176.43E 24km M=3.9
0.3 0.03 0.05 3
Rsd 0.4s 13ph/12stn Dmin 26km Az.gap 177°
Corr. -0.727 4M/4stn Msd 0.2

90/6663
MAY 13 0428 51.8s 40.37S 176.36E 17km M=4.3
0.3 0.02 0.03 3
Rsd 0.3s 12ph/11stn Dmin 29km Az.gap 170°
Corr. -0.730 6M/6stn Msd 0.2
Felt Moawhango (58).

90/6664
MAY 13 0429 04.8s 40.32S 176.33E 20km M=4.7
0.5 0.02 0.02 5
Rsd 0.2s 10ph/9stn Dmin 34km Az.gap 213°
Corr. 0.201 4M/4stn Msd 0.0

90/6665
MAY 13 0430 35.8s 40.52S 176.35E 12km M=3.8
0.1 0.01 0.01 1
Rsd 0.1s 7ph/6stn Dmin 13km Az.gap 175°
Corr. -0.793 4M/4stn Msd 0.1

90/6666
MAY 13 0431 38.9s 40.42S 176.30E 16km M=3.6
0.2 0.01 0.02 4
Rsd 0.3s 16ph/12stn Dmin 22km Az.gap 142°
Corr. -0.531 6M/6stn Msd 0.2

90/6667
MAY 13 0432 13.1s 40.45S 176.36E 15km M=3.8
0.2 0.01 0.02 3
Rsd 0.3s 14ph/13stn Dmin 20km Az.gap 165°
Corr. -0.664 8M/8stn Msd 0.1

90/6668
MAY 13 0433 58.5s 40.33S 176.36E 18km M=3.6
0.2 0.01 0.02 3
Rsd 0.3s 19ph/17stn Dmin 33km Az.gap 148°
Corr. -0.688 11M/11stn Msd 0.1

90/6669
MAY 13 0434 37.7s 40.38S 176.25E 23km M=3.8
0.1 0.01 0.02 2
Rsd 0.2s 10ph/8stn Dmin 26km Az.gap 160°
Corr. -0.539 6M/6stn Msd 0.2 1↓

90/6670
MAY 13 0434 52.6s 40.44S 176.50E 31km M=4.6
0.2 0.01 0.03 2
Rsd 0.2s 21ph/21stn Dmin 27km Az.gap 179°
Corr. -0.785 19M/17stn Msd 0.2

90/6671
MAY 13 0436 19.9s 40.29S 176.36E 24km M=3.7
0.2 0.03 0.07 5
Rsd 0.4s 10ph/9stn Dmin 37km Az.gap 142°
Corr. -0.824 5M/5stn Msd 0.1

90/6674
MAY 13 0439 52.1s 40.41S 176.53E 30km M=3.7
0.3 0.03 0.06 4
Rsd 0.4s 14ph/13stn Dmin 32km Az.gap 196°
Corr. -0.820 12M/12stn Msd 0.2

90/6675
MAY 13 0440 21.9s 40.34S 176.43E 27km M=4.4
0.3 0.02 0.07 5
Rsd 0.4s 15ph/14stn Dmin 34km Az.gap 163°
Corr. -0.781 7M/7stn Msd 0.3
Felt Foxton Beach (61) and Palmerston North (62).

90/6678
MAY 13 0443 57.4s 40.34S 176.62E 25km M=3.9
0.3 0.03 0.02 R
Rsd 0.1s 9ph/8stn Dmin 132km Az.gap 332°
Corr. 0.035 9M/9stn Msd 0.1

90/6679
MAY 13 0444 57.1s 40.42S 176.47E 25km M=3.6
0.7 0.04 0.07 R
Rsd 0.2s 10ph/8stn Dmin 116km Az.gap 329°
Corr. 0.193 8M/8stn Msd 0.2

90/6680
MAY 13 0447 24.6s 40.30S 176.45E 25km M=3.6
0.7 0.05 0.05 R
Rsd 0.2s 10ph/8stn Dmin 125km Az.gap 331°
Corr. 0.379 8M/8stn Msd 0.1

90/6681
MAY 13 0448 13.5s 40.40S 176.56E 38km M=3.7
0.2 0.03 0.05 15
Rsd 0.2s 15ph/14stn Dmin 51km Az.gap 195°
Corr. -0.393 13M/13stn Msd 0.1

90/6687
MAY 13 0453 47.8s 40.43S 176.48E 30km M=3.6
0.1 R R R
Rsd 0.2s 10ph/9stn Dmin 116km Az.gap 250°
Corr. 0.000 9M/9stn Msd 0.3

90/6688
MAY 13 0454 25.2s 40.43S 176.48E 30km M=4.1
0.0 R R R
Rsd 0.2s 16ph/15stn Dmin 116km Az.gap 218°
Corr. 0.000 10M/10stn Msd 0.1

90/6689
MAY 13 0455 45.5s 40.43S 176.45E 30km M=3.7
0.2 0.02 0.03 R
Rsd 0.2s 15ph/14stn Dmin 93km Az.gap 194°
Corr. -0.824 12M/12stn Msd 0.1
S's unreliable.

90/6690
MAY 13 0458 59.7s 40.37S 176.39E 19km M=4.2
0.2 0.01 0.02 3
Rsd 0.2s 33ph/31stn Dmin 55km Az.gap 170°
Corr. -0.711 21M/19stn Msd 0.2
Felt Palmerston North (62) MM3.

90/6694
MAY 13 0502 06.5s 40.36S 176.40E 30km M=4.0
0.1 0.01 0.02 R
Rsd 0.2s 22ph/20stn Dmin 31km Az.gap 161°
Corr. -0.723 17M/15stn Msd 0.2 1↑ 2↓

90/6695
MAY 13 0502 48.9s 40.42S 176.37E 30km M=3.5
0.4 0.04 0.06 R
Rsd 0.7s 14ph/11stn Dmin 24km Az.gap 163°
Corr. -0.648 10M/10stn Msd 0.2

90/6696
MAY 13 0503 41.9s 40.49S 176.59E 30km M=3.9
0.5 0.02 0.07 R
Rsd 0.2s 13ph/10stn Dmin 30km Az.gap 245°
Corr. -0.598 12M/10stn Msd 0.1

90/6698
MAY 13 0505 46.6s 40.35S 176.49E 30km M=3.8
0.1 0.01 0.02 R
Rsd 0.1s 17ph/15stn Dmin 49km Az.gap 182°
Corr. -0.781 19M/16stn Msd 0.3 1↓

90/6699
MAY 13 0507 04.7s 40.34S 176.49E 30km M=3.6
0.4 0.01 0.05 R
Rsd 0.1s 8ph/8stn Dmin 123km Az.gap 255°
Corr. -0.738 9M/9stn Msd 0.3

90/6703
MAY 13 0509 57.4s 40.42S 176.45E 27km M=3.5
0.2 0.02 0.04 2
Rsd 0.3s 22ph/18stn Dmin 27km Az.gap 183°
Corr. -0.816 13M/13stn Msd 0.2 2↑ 1↓

90/6704
MAY 13 0510 51.9s 40.41S 176.31E 29km M=3.7
0.2 0.02 0.04 3
Rsd 0.3s 21ph/17stn Dmin 23km Az.gap 147°
Corr. -0.746 16M/15stn Msd 0.2 1↑

90/6709
MAY 13 0522 38.5s 40.41S 176.34E 24km M=3.8
0.2 0.01 0.02 2
Rsd 0.2s 29ph/26stn Dmin 24km Az.gap 153°
Corr. -0.699 20M/18stn Msd 0.2

90/6712
MAY 13 0525 16.3s 40.41S 176.36E 27km M=4.1
0.2 0.01 0.02 2
Rsd 0.2s 30ph/28stn Dmin 25km Az.gap 157°
Corr. -0.730 17M/15stn Msd 0.2

90/6713
MAY 13 0526 20.2s 40.34S 176.31E 19km M=3.8
0.2 0.02 0.03 3
Rsd 0.4s 20ph/18stn Dmin 32km Az.gap 138°
Corr. -0.641 18M/18stn Msd 0.1

90/6721
MAY 13 0534 39.4s 40.37S 176.36E 21km M=3.6
0.2 0.01 0.03 3
Rsd 0.3s 24ph/20stn Dmin 29km Az.gap 153°
Corr. -0.590 16M/26stn Msd 0.2

90/6724
MAY 13 0538 46.7s 40.42S 176.23E 30km M=3.5
0.1 0.01 0.01 R
Rsd 0.2s 6ph/3stn Dmin 22km Az.gap 155°
Corr. -0.539 2M/2stn Msd 1.1

90/6726
MAY 13 0541 34.1s 40.39S 176.42E 27km M=4.7
0.2 0.01 0.02 2
Rsd 0.2s 33ph/30stn Dmin 28km Az.gap 164°
Corr. -0.742 18M/17stn Msd 0.2 1↑
Felt Palmerston North (62), Tangimoana Rd (65) MM4.

90/6727
MAY 13 0544 45.8s 40.42S 176.26E 24km M=3.5
0.2 0.01 0.03 3
Rsd 0.3s 22ph/21stn Dmin 22km Az.gap 131°
Corr. -0.703 13M/13stn Msd 0.1

90/6733
MAY 13 0550 38.3s 40.43S 176.47E 31km M=3.6
0.2 0.01 0.03 2
Rsd 0.2s 22ph/21stn Dmin 27km Az.gap 186°
Corr. -0.758 21M/21stn Msd 0.2 4↑ 1↓

90/6734
MAY 13 0552 04.3s 40.44S 176.45E 31km M=3.6
0.1 0.01 0.02 1
Rsd 0.2s 23ph/22stn Dmin 25km Az.gap 185°
Corr. -0.813 17M/17stn Msd 0.2

90/6739
MAY 13 0559 13.0s 40.39S 176.30E 21km M=4.2
0.2 0.01 0.02 2
Rsd 0.2s 25ph/22stn Dmin 25km Az.gap 141°
Corr. -0.500 16M/14stn Msd 0.2

90/6748
MAY 13 0608 30.0s 40.52S 176.32E 18km M=3.7
0.2 0.01 0.02 3
Rsd 0.3s 24ph/22stn Dmin 12km Az.gap 165°
Corr. -0.785 25M/23stn Msd 0.2 2↑ 2↓
Possibly 2 events.

90/6750
MAY 13 0612 33.8s 38.53S 175.93E 180km M=3.7
0.3 0.02 0.03 2
Rsd 0.1s 18ph/16stn Dmin 81km Az.gap 289°
Corr. 0.012 8M/8stn Msd 0.4

90/6770
MAY 13 0629 18.6s 40.42S 176.32E 23km M=3.7
0.2 0.02 0.02 2
Rsd 0.2s 14ph/11stn Dmin 22km Az.gap 150°
Corr. -0.668 13M/13stn Msd 0.2

90/6771
MAY 13 0630 30.8s 40.36S 176.46E 32km M=3.8
0.1 0.01 0.02 2
Rsd 0.2s 21ph/20stn Dmin 33km Az.gap 173°
Corr. -0.773 14M/14stn Msd 0.1 1↑

90/6773
MAY 13 0637 40.8s 40.37S 176.41E 35km M=4.0
0.1 0.01 0.02 2
Rsd 0.2s 30ph/26stn Dmin 30km Az.gap 164°
Corr. -0.523 17M/15stn Msd 0.2 1↑

90/6783
MAY 13 0655 45.5s 40.40S 176.52E 31km M=3.5
0.2 0.01 0.03 2
Rsd 0.2s 20ph/19stn Dmin 32km Az.gap 185°
Corr. -0.770 16M/16stn Msd 0.2

90/6787
MAY 13 0659 33.8s 40.39S 176.40E 24km M=4.0
0.2 0.01 0.02 2
Rsd 0.2s 24ph/21stn Dmin 28km Az.gap 163°
Corr. -0.691 15M/13stn Msd 0.2

90/6795
MAY 13 0711 36.5s 40.42S 176.45E 30km M=4.5
0.2 0.01 0.02 2
Rsd 0.3s 29ph/26stn Dmin 27km Az.gap 173°
Corr. -0.746 20M/18stn Msd 0.2 9↑ 4↓
Felt Tangimoana Rd (65) MM4.

90/6797
MAY 13 0716 33.6s 40.47S 176.31E 31km M=3.6
0.2 0.01 0.03 2
Rsd 0.3s 24ph/20stn Dmin 16km Az.gap 150°
Corr. -0.750 25M/22stn Msd 0.2 1↓

90/6809
MAY 13 0736 36.5s 40.48S 176.28E 21km M=3.7
0.2 0.01 0.02 2
Rsd 0.2s 25ph/22stn Dmin 16km Az.gap 142°
Corr. -0.543 23M/21stn Msd 0.2

90/6819
MAY 13 0801 51.2s 40.33S 176.42E 25km M=3.8
0.1 0.01 0.03 2
Rsd 0.2s 24ph/21stn Dmin 35km Az.gap 159°
Corr. -0.906 24M/22stn Msd 0.2 2↑ 3↓

90/6853
MAY 13 0915 01.8s 40.41S 176.49E 32km M=3.6
0.2 0.01 0.03 1
Rsd 0.2s 23ph/22stn Dmin 30km Az.gap 184°
Corr. -0.789 20M/19stn Msd 0.2

90/6854
MAY 13 0916 28.5s 40.40S 176.52E 30km M=4.1
0.1 0.01 0.02 1
Rsd 0.2s 25ph/23stn Dmin 32km Az.gap 178°
Corr. -0.793 22M/20stn Msd 0.2

90/6861
MAY 13 0937 05.2s 40.36S 176.37E 15km M=3.6
0.2 0.01 0.02 3
Rsd 0.2s 21ph/20stn Dmin 55km Az.gap 171°
Corr. -0.641 19M/19stn Msd 0.2 1↑

90/6873
MAY 13 1009 27.9s 40.37S 176.45E 34km M=3.8
0.2 0.01 0.03 2
Rsd 0.2s 22ph/20stn Dmin 31km Az.gap 173°
Corr. -0.613 16M/16stn Msd 0.1

90/6874
MAY 13 1010 56.6s 40.45S 176.49E 29km M=4.8
0.2 0.01 0.02 1
Rsd 0.2s 33ph/31stn Dmin 26km Az.gap 179°
Corr. -0.773 19M/17stn Msd 0.2 1↑ 1↓
Felt from Patoka (52) to Palmerston North (62), max intensity MM4 in areas (61,62).

90/6894
MAY 13 1113 50.4s 40.42S 176.38E 28km M=3.5
0.2 0.02 0.04 3
Rsd 0.3s 20ph/17stn Dmin 24km Az.gap 164°
Corr. -0.730 15M/15stn Msd 0.2

90/6898
MAY 13 1125 54.8s 40.41S 176.40E 26km M=3.7
0.2 0.01 0.02 2
Rsd 0.2s 23ph/20stn Dmin 26km Az.gap 168°
Corr. -0.664 20M/20stn Msd 0.1 4↑ 4↓

90/6907
MAY 13 1206 19.3s 40.46S 176.29E 21km M=3.6
0.2 0.01 0.02 2
Rsd 0.2s 24ph/22stn Dmin 17km Az.gap 145°
Corr. -0.750 18M/18stn Msd 0.1 2↑ 2↓

90/6923
MAY 13 1300 32.9s 40.42S 176.37E 34km M=4.6
0.1 0.01 0.02 1
Rsd 0.1s 27ph/26stn Dmin 24km Az.gap 157°
Corr. -0.734 15M/13stn Msd 0.2 5↑ 4↓
Felt Moawhango (58).

90/6925
MAY 13 1304 44.1s 40.44S 176.39E 34km M=3.6
0.2 0.01 0.03 2
Rsd 0.2s 17ph/16stn Dmin 22km Az.gap 169°
Corr. -0.664 15M/15stn Msd 0.2

90/6937
MAY 13 1339 47.8s 36.28S 176.42E 33km M=4.5
1.5 0.10 0.07 R
Rsd 0.5s 6ph/3stn Dmin 258km Az.gap 312°
Corr. -0.488 3M/3stn Msd 0.1

90/6940
MAY 13 1351 08.6s 40.36S 176.35E 23km M=3.8
0.2 0.01 0.03 3
Rsd 0.3s 24ph/21stn Dmin 29km Az.gap 151°
Corr. -0.848 22M/20stn Msd 0.2

90/6951
MAY 13 1522 19.6s 40.42S 176.34E 23km M=3.5
0.2 0.01 0.03 3
Rsd 0.3s 21ph/18stn Dmin 23km Az.gap 155°
Corr. -0.707 16M/16stn Msd 0.2 1↓

90/6952
MAY 13 1531 25.5s 40.44S 176.38E 18km M=3.7
0.2 0.01 0.02 2
Rsd 0.2s 22ph/21stn Dmin 21km Az.gap 169°
Corr. -0.715 19M/17stn Msd 0.1 1↑
Felt Table Flat (58).

90/6955
MAY 13 1547 49.2s 40.32S 176.41E 29km M=4.2
0.2 0.01 0.02 2
Rsd 0.2s 29ph/26stn Dmin 35km Az.gap 157°
Corr. -0.707 22M/20stn Msd 0.3 1↑

90/6959
MAY 13 1600 05.9s 40.35S 176.44E 28km M=3.8
0.1 0.01 0.02 2
Rsd 0.1s 22ph/21stn Dmin 33km Az.gap 168°
Corr. -0.723 22M/22stn Msd 0.1 2↑ 1↓

90/6985
MAY 13 1747 25.6s 40.45S 176.21E 26km M=3.6
0.1 0.01 0.02 2
Rsd 0.1s 18ph/17stn Dmin 20km Az.gap 125°
Corr. -0.449 17M/15stn Msd 0.2 1↓

90/6989
MAY 13 1832 26.0s 40.40S 176.35E 28km M=4.1
0.3 0.02 0.02 2
Rsd 0.2s 18ph/15stn Dmin 25km Az.gap 157°
Corr. 0.035 18M/16stn Msd 0.2 7↑ 3↓

90/7001
MAY 13 1935 14.4s 40.43S 176.43E 34km M=4.1
0.3 0.01 0.04 1
Rsd 0.1s 16ph/15stn Dmin 24km Az.gap 177°
Corr. -0.264 12M/10stn Msd 0.2 1↑

90/7008
MAY 13 2010 10.2s 40.36S 176.56E 26km M=4.0
0.4 0.02 0.03 1
Rsd 0.1s 15ph/12stn Dmin 38km Az.gap 332°
Corr. -0.023 17M/15stn Msd 0.2 4↑ 4↓

90/7011
MAY 13 2112 18.6s 40.37S 176.41E 21km M=3.5
0.7 0.02 0.11 2
Rsd 0.3s 17ph/14stn Dmin 14km Az.gap 201°
Corr. -0.508 14M/13stn Msd 0.1 1↑ 1↓

90/7016
MAY 13 2158 02.4s 40.35S 176.41E 18km M=4.0
0.7 0.02 0.10 2
Rsd 0.3s 19ph/16stn Dmin 12km Az.gap 168°
Corr. -0.115 19M/17stn Msd 0.1 7↑ 1↓
Felt Palmerston North (62) MM3.

90/7068
MAY 14 0157 16.0s 40.42S 176.17E 16km M=3.9
0.1 0.01 0.02 2
Rsd 0.3s 27ph/21stn Dmin 10km Az.gap 77°
Corr. -0.387 20M/18stn Msd 0.1 5↑ 2↓

90/7097
MAY 14 0304 32.6s 40.26S 176.24E 21km M=3.8
0.2 0.02 0.02 1
Rsd 0.2s 25ph/17stn Dmin 6km Az.gap 203°
Corr. -0.504 20M/18stn Msd 0.1 5↑ 3↓

90/7180
MAY 14 0919 13.4s 39.20S 173.74E 15km M=3.5
0.2 0.01 0.01 2
Rsd 0.1s 19ph/14stn Dmin 32km Az.gap 199°
Corr. -0.523 13M/13stn Msd 0.3

90/7218
MAY 14 1237 51.8s 40.34S 176.33E 13km M=4.3
0.1 0.01 0.02 1
Rsd 0.3s 31ph/29stn Dmin 9km Az.gap 71°
Corr. -0.504 24M/22stn Msd 0.2 7↑ 4↓

90/7245
MAY 14 1411 39.3s 40.28S 176.31E 22km M=3.6
0.1 0.01 0.02 1
Rsd 0.3s 31ph/25stn Dmin 5km Az.gap 69°
Corr. -0.633 15M/13stn Msd 0.2 1↑ 2↓

90/7254
MAY 14 1456 11.7s 40.37S 176.24E 18km M=3.5
0.2 0.01 0.02 1
Rsd 0.2s 9ph/4stn Dmin 6km Az.gap 154°
Corr. 0.354 1M/1stn Msd 0.0
Poor solution: 2 events confused. Mag. not 3.5.

90/7363
MAY 15 0125 12.2s 37.73S 175.68E 33km M=4.1
1.1 0.08 0.06 R
Rsd 0.3s 15ph/13stn Dmin 228km Az.gap 261°
Corr. -0.902 10M/10stn Msd 0.4

90/7389
MAY 15 0421 50.1s 40.34S 176.29E 18km M=4.1
0.1 0.01 0.01 1
Rsd 0.3s 31ph/28stn Dmin 8km Az.gap 52°
Corr. -0.138 20M/18stn Msd 0.2 12↑ 10↓
Felt Palmerston North (62) MM3.

90/7481
MAY 15 1030 19.4s 36.82S 177.88E 123km M=4.0
0.3 0.03 0.02 3
Rsd 0.1s 13ph/9stn Dmin 94km Az.gap 292°
Corr. 0.100 16M/16stn Msd 0.2 1↑

90/7498
MAY 15 1200 10.9s 39.04S 175.46E 133km M=3.6
0.3 0.01 0.01 3
Rsd 0.2s 29ph/22stn Dmin 20km Az.gap 90°
Corr. 0.138 20M/20stn Msd 0.4 4↑ 1↓

90/7504
MAY 15 1239 15.1s 40.33S 176.38E 21km M=4.0
0.1 0.01 0.02 1
Rsd 0.3s 28ph/24stn Dmin 9km Az.gap 69°
Corr. -0.602 24M/22stn Msd 0.3 7↑ 9↓

90/7556
MAY 15 1941 15.0s 37.17S 177.12E 222km M=4.1
0.6 0.04 0.03 5
Rsd 0.2s 14ph/12stn Dmin 91km Az.gap 236°
Corr. 0.052 18M/18stn Msd 0.2 1↑

90/7605
MAY 16 0605 54.1s 37.31S 177.21E 159km M=3.6
0.5 0.04 0.05 4
Rsd 0.2s 11ph/8stn Dmin 78km Az.gap 254°
Corr. -0.314 16M/16stn Msd 0.4

90/7663
MAY 16 1237 48.4s 40.28S 176.36E 21km M=3.1
0.1 0.01 0.01 1
Rsd 0.3s 27ph/22stn Dmin 12km Az.gap 45°
Corr. -0.004 16M/16stn Msd 0.2 6↑ 7↓
Felt Palmerston North (62).

90/7668
MAY 16 1301 52.1s 37.03S 177.64E 137km M=4.5
0.5 0.04 0.02 5
Rsd 0.2s 19ph/16stn Dmin 86km Az.gap 255°
Corr. 0.125 25M/23stn Msd 0.2 1↑ 1↓

90/7680
MAY 16 1426 41.5s 40.34S 176.30E 20km M=3.9
0.1 0.01 0.01 1
Rsd 0.2s 31ph/24stn Dmin 7km Az.gap 79°
Corr. -0.009 30M/28stn Msd 0.2 9↑ 8↓

90/7748
MAY 17 0057 38.7s 40.24S 176.31E 22km M=4.5
0.1 0.01 0.01 1
Rsd 0.2s 39ph/31stn Dmin 4km Az.gap 49°
Corr. -0.254 38M/36stn Msd 0.2 10↑ 9↓
Felt Hastings (60) to Lower Hutt (68).

90/7752
MAY 17 0128 13.5s 40.28S 176.30E 22km M=2.7
0.1 0.01 0.01 1
Rsd 0.3s 32ph/23stn Dmin 6km Az.gap 53°
Corr. 0.131 16M/16stn Msd 0.2 5↑ 4↓
Felt Tinui (67).

90/7791
MAY 17 0501 23.9s 40.22S 176.33E 22km M=3.5
0.1 0.01 0.01 1
Rsd 0.2s 43ph/29stn Dmin 4km Az.gap 59°
Corr. -0.087 30M/28stn Msd 0.2 9↑ 7↓
Felt Dannevirke (63) MM4.

90/7795
MAY 17 0550 21.2s 38.08S 176.79E 132km M=4.3
0.6 0.02 0.02 5
Rsd 0.2s 38ph/31stn Dmin 21km Az.gap 136°
Corr. -0.173 28M/25stn Msd 0.3 7↑ 1↓
Felt Ruatuna Rd (35) MM4.

90/7832
MAY 17 0954 43.0s 40.27S 176.28E 21km M=3.8
0.1 0.01 0.01 1
Rsd 0.3s 31ph/25stn Dmin 7km Az.gap 59°
Corr. -0.181 35M/32stn Msd 0.2 8↑ 10↓

90/7907
MAY 18 0043 12.0s 40.38S 176.31E 20km M=3.5
0.2 0.01 0.03 R
Rsd 0.4s 23ph/21stn Dmin 26km Az.gap 141°
Corr. -0.441 23M/20stn Msd 0.1 2↑ 5↓

90/7917
MAY 18 0706 45.6s 40.70S 175.51E 58km M=3.9
0.1 0.01 0.01 4
Rsd 0.1s 26ph/24stn Dmin 51km Az.gap 98°
Corr. -0.809 15M/13stn Msd 0.2 2↑ 5↓

90/7925
MAY 18 1059 42.3s 40.93S 172.67E 5km M=4.0
0.2 0.02 0.02 R
Rsd 0.2s 23ph/18stn Dmin 16km Az.gap 100°
Corr. 0.773 15M/13stn Msd 0.2 1↑ 2↓
Felt Takaka (72) MM4.

90/7953
MAY 19 1843 12.6s 40.43S 176.45E 32km M=3.7
0.1 0.01 0.02 1
Rsd 0.2s 15ph/14stn Dmin 26km Az.gap 197°
Corr. -0.758 21M/18stn Msd 0.2 5↑ 4↓

90/7956
MAY 19 2257 31.7s 40.47S 176.34E 33km M=4.5
0.1 0.01 0.02 1
Rsd 0.2s 26ph/24stn Dmin 18km Az.gap 160°
Corr. -0.617 11M/9stn Msd 0.1 6↑ 4↓
Felt Palmerston North (62) MM4.

90/7960
MAY 20 0303 08.1s 40.17S 174.87E 12km M=3.6
0.8 0.01 0.02 6
Rsd 0.3s 25ph/19stn Dmin 77km Az.gap 122°
Corr. -0.416 12M/12stn Msd 0.2 3↑ 3↓

90/7963
MAY 20 0953 46.6s 33.01S 179.52W 417km M=6.8
0.7 0.09 0.11 12
Rsd 0.1s 10ph/9stn Dmin 547km Az.gap 341°
Corr. -0.357 5M/5stnMsd 0.3
Felt Opotiki (35) MM4 to Wellington (68).

90/7970
MAY 20 1456 48.8s 36.89S 177.37E 5km M=3.6
2.6 0.17 0.09 R
Rsd 0.6s 7ph/4stn Dmin 114km Az.gap 299°
Corr. -0.443 4M/4stn Msd 0.2

90/7984
MAY 21 0404 29.3s 40.50S 176.41E 26km M=3.5
0.2 0.01 0.03 2
Rsd 0.2s 21ph/19stn Dmin 17km Az.gap 188°
Corr. -0.852 19M/17stn Msd 0.2 3↑ 7↓

90/8000
MAY 21 1300 10.1s 40.38S 176.53E 37km M=3.7
0.1 0.01 0.02 1
Rsd 0.1s 19ph/18stn Dmin 34km Az.gap 198°
Corr. -0.887 15M/13stn Msd 0.1 2↑ 1↓

90/8004
MAY 21 1608 50.5s 40.92S 178.42E 33km M=3.5
0.7 0.04 0.07 R
Rsd 0.4s 26ph/19stn Dmin 184km Az.gap 259°
Corr. -0.832 18M/18stn Msd 0.2

90/8018
MAY 22 0214 38.1s 37.09S 177.20E 148km M=3.6
0.9 0.09 0.09 10
Rsd 0.3s 11ph/8stn Dmin 101km Az.gap 272°
Corr. -0.034 11M/11stn Msd 0.3

90/8040
MAY 23 1144 40.9s 38.54S 175.84E 190km M=3.7
0.4 0.04 0.06 5
Rsd 0.1s 13ph/11stn Dmin 136km Az.gap 299°
Corr. -0.824 9M/9stn Msd 0.2 1↑

90/8052
MAY 24 0920 18.3s 36.90S 177.40E 174km M=3.6
1.0 0.12 0.18 18
Rsd 0.3s 8ph/6stn Dmin 126km Az.gap 301°
Corr. -0.703 8M/8stn Msd 0.1

90/8055
MAY 24 1307 24.2s 41.83S 172.82E 78km M=4.8
0.2 0.01 0.02 2
Rsd 0.3s 23ph/19stn Dmin 10km Az.gap 118°
Corr. -0.365 10M/8stn Msd 0.2 4↑ 9↓

90/8059
MAY 24 1816 39.5s 38.29S 176.25E 120km M=3.9
0.7 0.03 0.02 7
Rsd 0.3s 13ph/10stn Dmin 73km Az.gap 163°
Corr. -0.177 17M/17stn Msd 0.2 1↑

90/8060
MAY 24 1938 22.4s 40.27S 176.72E 64km M=4.0
0.2 0.01 0.02 2
Rsd 0.2s 32ph/24stn Dmin 54km Az.gap 188°
Corr. -0.750 19M/17stn Msd 0.1 3↑ 1↓

90/8064
MAY 25 0528 34.9s 40.28S 174.94E 77km M=4.3
0.4 0.01 0.01 6
Rsd 0.2s 28ph/20stn Dmin 65km Az.gap 74°
Corr. -0.196 9M/7stn Msd 0.2 11↑ 2↓

90/8067
MAY 25 1321 38.2s 39.95S 173.92E 243km M=3.9
0.5 0.05 0.03 5
Rsd 0.1s 20ph/14stn Dmin 95km Az.gap 192°
Corr. 0.471 14M/12stn Msd 0.4 2↑ 1↓

90/8070
MAY 25 1615 47.4s 38.29S 175.85E 196km M=3.6
1.2 0.05 0.06 16
Rsd 0.1s 13ph/13stn Dmin 104km Az.gap 234°
Corr. -0.793 12M/12stn Msd 0.3

90/8076
MAY 25 2120 05.6s 36.29S 177.11E 198km M=3.7
2.1 0.32 0.49 62
Rsd 0.4s 13ph/12stn Dmin 222km Az.gap 305°
Corr. -0.867 8M/8stn Msd 0.2

90/8077
MAY 25 2159 56.0s 38.73S 178.60E 22km M=3.8
0.5 0.02 0.04 3
Rsd 0.1s 11ph/10stn Dmin 50km Az.gap 233°
Corr. -0.711 17M/17stn Msd 0.3 1↑

90/8081
MAY 26 0122 53.5s 37.79S 177.57E 51km M=4.2
0.2 0.01 0.01 4
Rsd 0.1s 18ph/17stn Dmin 56km Az.gap 165°
Corr. 0.164 17M/17stn Msd 0.3 2↑ 3↓

90/8092
MAY 26 0949 08.4s 40.34S 176.56E 39km M=3.7
0.1 0.01 0.02 5
Rsd 0.2s 18ph/17stn Dmin 39km Az.gap 199°
Corr. -0.613 16M/14stn Msd 0.2 1↑ 2↓

90/8098
MAY 26 1846 47.4s 38.93S 175.44E 124km M=3.5
0.3 0.02 0.01 2
Rsd 0.1s 20ph/14stn Dmin 32km Az.gap 228°
Corr. -0.375 12M/12stn Msd 0.2 2↑ 2↓

90/8102
MAY 27 0820 46.9s 37.54S 176.42E 189km M=3.6
0.7 0.04 0.09 12
Rsd 0.2s 18ph/13stn Dmin 70km Az.gap 249°
Corr. -0.539 8M/8stn Msd 0.1

90/8107
MAY 27 1508 32.0s 35.73S 178.03E 270km M=4.1
0.7 0.07 0.25 11
Rsd 0.2s 16ph/12stn Dmin 209km Az.gap 326°
Corr. -0.672 12M/12stn Msd 0.1

90/8119
MAY 28 0559 18.9s 42.82S 173.08E 33km M=3.9
0.1 0.01 0.01 R
Rsd 0.2s 31ph/19stn Dmin 58km Az.gap 147°
Corr. -0.248 26M/24stn Msd 0.3 3↑ 4↓

90/8124
MAY 28 0934 36.5s 37.98S 176.65E 158km M=3.5
1.6 0.13 0.12 14
Rsd 0.6s 8ph/5stn Dmin 30km Az.gap 219°
Corr. -0.574 11M/11stn Msd 0.2

90/8136
MAY 28 2152 21.5s 40.27S 176.33E 32km M=3.6
0.2 0.01 0.02 2
Rsd 0.2s 14ph/13stn Dmin 39km Az.gap 159°
Corr. -0.715 20M/18stn Msd 0.2 1↑

90/8137
MAY 28 2153 48.9s 40.29S 176.34E 32km M=3.8
0.2 0.01 0.04 2
Rsd 0.2s 21ph/20stn Dmin 37km Az.gap 149°
Corr. -0.707 24M/22stn Msd 0.2 3↑ 2↓
Felt Dannevirke (63).

90/8140
MAY 29 0004 48.6s 37.66S 176.27E 199km M=3.5
0.7 0.05 0.03 6
Rsd 0.2s 12ph/9stn Dmin 64km Az.gap 200°
Corr. 0.262 12M/12stn Msd 0.3 1↑

90/8143
MAY 29 0223 54.9s 40.36S 176.45E 33km M=3.6
0.1 0.01 0.02 1
Rsd 0.1s 16ph/15stn Dmin 33km Az.gap 181°
Corr. -0.672 15M/13stn Msd 0.1 3↑ 2↓

90/8148
MAY 29 0850 16.4s 38.26S 175.55E 179km M=3.6
0.9 0.03 0.08 12
Rsd 0.2s 17ph/14stn Dmin 130km Az.gap 231°
Corr. -0.594 12M/12stn Msd 0.2 2↑ 1↓

90/8199
MAY 31 2109 44.8s 39.30S 174.86E 144km M=3.6
0.2 0.01 0.02 2
Rsd 0.1s 19ph/14stn Dmin 61km Az.gap 192°
Corr. -0.217 12M/12stn Msd 0.2 1↑

90/8229
JUN 01 2143 54.3s 37.91S 176.04E 197km M=3.5
1.6 0.10 0.13 19
Rsd 0.3s 14ph/12stn Dmin 115km Az.gap 239°
Corr. -0.844 16M/16stn Msd 0.2

90/8233
JUN 02 0728 31.5s 38.46S 175.87E 174km M=4.5
0.7 0.03 0.03 5
Rsd 0.2s 32ph/26stn Dmin 28km Az.gap 64°
Corr. 0.200 20M/18stn Msd 0.3 11↑ 3↓

90/8234
JUN 02 0803 15.6s 41.23S 172.71E 200km M=3.6
0.4 0.02 0.03 3
Rsd 0.2s 23ph/16stn Dmin 48km Az.gap 123°
Corr. -0.354 12M/12stn Msd 0.4 4↑ 5↓

90/8242
JUN 02 1700 17.3s 35.02S 178.64E 209km M=4.0
0.3 0.06 0.11 9
Rsd 0.1s 12ph/8stn Dmin 288km Az.gap 338°
Corr. -0.836 8M/8stn Msd 0.2

90/8245
JUN 02 2244 20.2s 40.50S 176.40E 29km M=3.8
0.1 0.01 0.02 1
Rsd 0.1s 19ph/17stn Dmin 17km Az.gap 195°
Corr. -0.711 21M/21stn Msd 0.2 6↑ 3↓
Felt Palmerston North (62) MM3 & Dannevirke (63).

90/8268
JUN 04 0202 35.2s 36.28S 177.35E 295km M=4.0
0.6 0.06 0.07 4
Rsd 0.2s 15ph/13stn Dmin 169km Az.gap 292°
Corr. -0.555 18M/17stn Msd 0.1

90/8271
JUN 04 0504 11.4s 40.42S 176.40E 32km M=3.6
0.1 0.01 0.02 1
Rsd 0.2s 24ph/22stn Dmin 25km Az.gap 180°
Corr. -0.703 23M/21stn Msd 0.1 1↓

90/8272
JUN 04 0548 03.8s 45.26S 167.40E 114km M=3.5
0.2 0.01 0.02 2
Rsd 0.1s 19ph/13stn Dmin 77km Az.gap 234°
Corr. -0.395 13M/13stn Msd 0.3 1↓

90/8278
JUN 04 1006 16.4s 37.39S 176.33E 260km M=4.2
0.7 0.05 0.05 7
Rsd 0.1s 13ph/11stn Dmin 88km Az.gap 238°
Corr. -0.605 19M/18stn Msd 0.2

90/8279
JUN 04 1244 20.1s 40.85S 174.87E 35km M=3.9
0.1 0.01 0.01 1
Rsd 0.1s 21ph/17stn Dmin 4km Az.gap 65°
Corr. -0.154 7M/5stn Msd 0.2 4↑ 1↓
Felt Wellington (68) MM4 and Kapiti Coast (65).

90/8280
JUN 04 1247 45.3s 38.63S 175.75E 160km M=4.1
0.7 0.03 0.03 6
Rsd 0.3s 21ph/15stn Dmin 62km Az.gap 72°
Corr. 0.102 22M/19stn Msd 0.2

90/8283
JUN 04 1428 54.9s 40.26S 173.48E 159km M=3.5
0.6 0.05 0.02 5
Rsd 0.2s 20ph/13stn Dmin 71km Az.gap 185°
Corr. 0.008 12M/12stn Msd 0.2 1↑ 1↓

90/8287
JUN 04 2254 13.4s 39.28S 174.91E 136km M=3.7
0.3 0.01 0.03 3
Rsd 0.1s 20ph/16stn Dmin 56km Az.gap 191°
Corr. -0.245 12M/12stn Msd 0.3 1↑

90/8292
JUN 05 0226 25.1s 38.42S 176.09E 135km M=4.0
0.5 0.02 0.02 5
Rsd 0.2s 24ph/18stn Dmin 29km Az.gap 113°
Corr. -0.324 21M/21stn Msd 0.3

90/8296
JUN 05 0740 27.8s 38.74S 175.39E 181km M=3.6
0.5 0.08 0.14 12
Rsd 0.2s 15ph/11stn Dmin 125km Az.gap 216°
Corr. -0.832 14M/14stn Msd 0.3

90/8301
JUN 05 1433 02.0s 40.38S 176.25E 21km M=3.2
0.2 0.01 0.02 2
Rsd 0.3s 16ph/13stn Dmin 27km Az.gap 147°
Corr. -0.570 14M/12stn Msd 0.2 2↑ 3↓
Felt Motea (63) MM4.

90/8303
JUN 05 1651 04.0s 37.01S 177.01E 251km M=3.7
0.6 0.05 0.06 5
Rsd 0.3s 14ph/11stn Dmin 109km Az.gap 268°
Corr. -0.406 14M/14stn Msd 0.2 1↑

90/8304
JUN 05 1704 34.3s 36.57S 177.61E 186km M=3.7
0.4 0.03 0.03 4
Rsd 0.1s 9ph/5stn Dmin 130km Az.gap 304°
Corr. 0.064 5M/5stn Msd 0.3

90/8306
JUN 05 1727 06.8s 37.74S 177.09E 134km M=4.3
0.3 0.02 0.01 3
Rsd 0.2s 27ph/22stn Dmin 29km Az.gap 179°
Corr. -0.289 21M/19stn Msd 0.2 3↑ 1↓

90/8311
JUN 05 2319 24.3s 36.94S 176.61E 280km M=3.9
1.0 0.13 0.22 18
Rsd 0.3s 12ph/9stn Dmin 120km Az.gap 274°
Corr. -0.953 6M/6stn Msd 0.3

90/8312
JUN 05 2325 15.5s 40.39S 176.49E 24km M=3.4
0.3 0.02 0.03 2
Rsd 0.2s 17ph/14stn Dmin 31km Az.gap 198°
Corr. -0.652 17M/15stn Msd 0.2 1↑ 1↓
Felt Motea (63) MM4.

90/8313
JUN 05 2329 36.7s 38.99S 174.98E 229km M=4.1
0.6 0.03 0.04 6
Rsd 0.2s 24ph/20stn Dmin 54km Az.gap 119°
Corr. 0.133 22M/19stn Msd 0.2

90/8314
JUN 06 0051 08.1s 36.75S 177.48E 109km M=3.7
0.3 0.02 0.01 3
Rsd 0.1s 7ph/4stn Dmin 119km Az.gap 305°
Corr. 0.039 5M/4stn Msd 0.2

90/8320
JUN 06 0727 01.7s 36.10S 177.80E 249km M=4.4
0.2 0.02 0.03 2
Rsd 0.1s 11ph/8stn Dmin 172km Az.gap 316°
Corr. -0.342 17M/15stn Msd 0.3 1↑

90/8321
JUN 06 0738 44.7s 40.05S 174.62E 97km M=3.6
0.4 0.03 0.02 4
Rsd 0.2s 21ph/11stn Dmin 97km Az.gap 248°
Corr. 0.037 12M/10stn Msd 0.1 4↑ 3↓

90/8323
JUN 06 0946 20.5s 38.22S 175.88E 276km M=4.0
0.5 0.04 0.06 4
Rsd 0.2s 19ph/12stn Dmin 101km Az.gap 209°
Corr. -0.844 11M/10stn Msd 0.2

90/8324
JUN 06 1155 39.3s 38.07S 175.46E 159km M=3.5
0.6 0.04 0.07 7
Rsd 0.2s 15ph/11stn Dmin 128km Az.gap 243°
Corr. -0.582 8M/8stn Msd 0.1 1↓

90/8331
JUN 06 2107 13.0s 40.39S 176.29E 29km M=3.5
0.2 0.01 0.03 2
Rsd 0.2s 19ph/16stn Dmin 26km Az.gap 158°
Corr. -0.621 17M/15stn Msd 0.2 1↑
Felt Motea (63) MM4 and Dannevirke (63).

90/8332
JUN 06 2146 21.1s 40.44S 176.34E 25km M=3.7
0.1 0.01 0.02 2
Rsd 0.2s 21ph/18stn Dmin 21km Az.gap 166°
Corr. -0.746 19M/19stn Msd 0.1 1↑ 2↓
Felt Motea (63) MM4.

90/8339
JUN 07 0756 31.1s 45.11S 167.38E 0km M=4.0
0.2 0.01 0.04 3
Rsd 0.2s 17ph/8stn Dmin 65km Az.gap 241°
Corr. -0.758 9M/9stn Msd 0.4
Felt Manapouri (139) MM4, Lake Howden Hut (121) MM3.

90/8341
JUN 07 1200 23.8s 37.80S 176.27E 200km M=3.6
0.9 0.06 0.10 9
Rsd 0.5s 9ph/5stn Dmin 67km Az.gap 256°
Corr. -0.664 3M/3stn Msd 0.2

90/8342
JUN 07 2115 02.3s 40.37S 176.39E 29km M=3.7
0.2 0.01 0.03 2
Rsd 0.2s 19ph/16stn Dmin 30km Az.gap 172°
Corr. -0.664 21M/19stn Msd 0.2 1↑
Felt Motea (63) MM3 and Dannevirke (63).

90/8351
JUN 08 0718 05.9s 42.38S 173.74E 30km M=4.0
0.1 0.01 0.01 1
Rsd 0.2s 31ph/20stn Dmin 17km Az.gap 158°
Corr. -0.543 29M/27stn Msd 0.3 7↑ 2↓

90/8354
JUN 08 1029 03.4s 37.89S 175.80E 192km M=3.6
0.9 0.11 0.21 27
Rsd 0.3s 13ph/9stn Dmin 212km Az.gap 242°
Corr. -0.969 7M/6stn Msd 0.2 1↑

90/8361
JUN 08 1831 05.8s 38.04S 177.35E 156km M=3.5
0.4 0.12 0.32 8
Rsd 0.1s 11ph/8stn Dmin 33km Az.gap 284°
Corr. -0.992 7M/7stn Msd 0.3

90/8364
JUN 08 1955 46.2s 40.09S 173.55E 162km M=3.5
0.4 0.03 0.02 4
Rsd 0.2s 23ph/13stn Dmin 85km Az.gap 165°
Corr. 0.052 11M/11stn Msd 0.3 1↑

90/8365
JUN 08 2037 26.5s 38.80S 175.25E 217km M=4.5
0.6 0.03 0.04 5
Rsd 0.3s 20ph/15stn Dmin 51km Az.gap 69°
Corr. 0.189 19M/17stn Msd 0.3 1↑

90/8374
JUN 09 0816 28.4s 40.39S 176.43E 28km M=3.7
0.2 0.01 0.03 2
Rsd 0.3s 21ph/18stn Dmin 29km Az.gap 182°
Corr. -0.797 16M/16stn Msd 0.1 3↑ 2↓

90/8377
JUN 09 0907 29.2s 42.12S 172.85E 60km M=3.9
0.1 0.01 0.01 2
Rsd 0.2s 29ph/18stn Dmin 35km Az.gap 100°
Corr. -0.578 12M/10stn Msd 0.2 1↑ 4↓

90/8388
JUN 09 1818 06.4s 40.39S 176.49E 33km M=3.8
0.2 0.01 0.03 1
Rsd 0.1s 18ph/15stn Dmin 32km Az.gap 198°
Corr. -0.566 21M/19stn Msd 0.3 1↓
Felt Motea (63) MM4 and Dannevirke (63).

90/8391
JUN 09 2042 38.3s 39.43S 174.36E 131km M=3.6
0.5 0.01 0.04 6
Rsd 0.2s 21ph/14stn Dmin 106km Az.gap 156°
Corr. 0.117 11M/9stn Msd 0.3

90/8398
JUN 10 0840 09.1s 41.29S 172.77E 153km M=3.7
0.3 0.02 0.03 3
Rsd 0.2s 27ph/17stn Dmin 54km Az.gap 118°
Corr. -0.320 8M/8stn Msd 0.2 8↑ 2↓

90/8399
JUN 10 1227 21.8s 38.34S 175.96E 192km M=4.5
0.7 0.03 0.03 6
Rsd 0.3s 25ph/18stn Dmin 38km Az.gap 99°
Corr. -0.221 18M/15stn Msd 0.2 10↑ 7↓

90/8406
JUN 11 0414 24.1s 38.58S 175.68E 162km M=5.1
0.5 0.02 0.02 4
Rsd 0.2s 35ph/26stn Dmin 33km Az.gap 61°
Corr. 0.088 7M/7stn Msd 0.5 1↑ 2↓
Felt Motea (63) MM4 and Lower Hutt (68).

90/8411
JUN 11 0938 36.7s 36.92S 177.59E 175km M=3.6
0.5 0.06 0.07 R
Rsd 0.3s 10ph/5stn Dmin 99km Az.gap 296°
Corr. 0.172 5M/5stn Msd 0.1 1↑

90/8413
JUN 11 1022 39.9s 44.93S 169.17E 5km M=3.9
0.1 0.01 0.01 1
Rsd 0.1s 22ph/15stn Dmin 9km Az.gap 106°
Corr. -0.075 5M/5stn Msd 0.6 4↑ 9↓
Felt Cromwell district (133) and Wanaka (123), max. intensity MM5 at Cromwell.

90/8414
JUN 11 1039 20.8s 44.95S 169.16E 6km M=4.0
0.1 0.01 0.01 1
Rsd 0.1s 21ph/15stn Dmin 7km Az.gap 105°
Corr. -0.082 4M/4stn Msd 0.6 4↑ 8↓
Felt Wanaka (123) and Cromwell district (133) MM4.

90/8416
JUN 11 1337 23.0s 40.07S 179.37E 33km M=4.3
0.7 0.03 0.06 R
Rsd 0.4s 31ph/21stn Dmin 198km Az.gap 162°
Corr. -0.455 25M/25stn Msd 0.2 2↑ 1↓

90/8427
JUN 12 0538 26.3s 39.74S 174.14E 197km M=3.9
0.3 0.02 0.03 4
Rsd 0.2s 21ph/14stn Dmin 119km Az.gap 196°
Corr. -0.383 13M/11stn Msd 0.2 7↑ 1↓

90/8429
JUN 12 1218 37.7s 40.71S 176.76E 31km M=4.0
0.2 0.01 0.02 1
Rsd 0.1s 16ph/12stn Dmin 42km Az.gap 233°
Corr. -0.305 18M/16stn Msd 0.4

90/8430
JUN 12 1221 09.0s 40.73S 176.81E 28km M=3.6
0.5 0.02 0.04 3
Rsd 0.2s 14ph/12stn Dmin 47km Az.gap 234°
Corr. -0.727 14M/12stn Msd 0.2 1↓

90/8435
JUN 12 1603 45.6s 37.35S 176.74E 215km M=3.7
0.8 0.06 0.07 7
Rsd 0.3s 11ph/8stn Dmin 74km Az.gap 250°
Corr. -0.383 9M/9stn Msd 0.2

90/8438
JUN 12 1953 26.8s 38.03S 175.46E 259km M=3.9
0.4 0.03 0.04 5
Rsd 0.1s 13ph/10stn Dmin 134km Az.gap 231°
Corr. -0.840 7M/7stn Msd 0.2

90/8460
JUN 13 1953 31.0s 37.63S 177.15E 141km M=3.6
0.7 0.07 0.03 6
Rsd 0.4s 11ph/6stn Dmin 42km Az.gap 189°
Corr. -0.081 4M/4stn Msd 0.1

90/8463
JUN 14 0039 40.9s 41.96S 173.38E 18km M=3.5
0.1 0.01 0.02 3
Rsd 0.3s 21ph/17stn Dmin 45km Az.gap 93°
Corr. 0.488 21M/19stn Msd 0.3 3↑ 2↓

90/8464
JUN 14 0320 36.6s 38.13S 176.21E 163km M=3.9
0.7 0.05 0.05 8
Rsd 0.3s 15ph/11stn Dmin 87km Az.gap 220°
Corr. -0.621 17M/17stn Msd 0.3 3↑ 1↓

90/8467
JUN 14 0435 26.5s 40.45S 176.40E 33km M=3.5
0.1 0.01 0.02 R
Rsd 0.2s 21ph/19stn Dmin 22km Az.gap 189°
Corr. -0.711 20M/18stn Msd 0.3 1↑
Felt Motea (63) MM4 and Dannevirke (63).

90/8469
JUN 14 0500 50.9s 37.54S 177.55E 82km M=4.4
0.3 0.02 0.01 3
Rsd 0.1s 24ph/21stn Dmin 67km Az.gap 199°
Corr. 0.283 18M/16stn Msd 0.2 1↑
Felt Ruatuna Rd (35) MM3.

90/8470
JUN 14 0608 26.8s 42.28S 172.69E 0km M=3.6
0.3 0.01 0.02 3
Rsd 0.3s 20ph/15stn Dmin 54km Az.gap 100°
Corr. -0.477 18M/16stn Msd 0.4 2↑ 1↓

90/8475
JUN 14 1440 02.7s 38.54S 175.92E 137km M=4.9
0.3 0.02 0.02 3
Rsd 0.2s 32ph/22stn Dmin 19km Az.gap 67°
Corr. 0.210 11M/9stn Msd 0.4 6↑ 5↓
Felt Patoka (60) MM4.

90/8483
JUN 14 2129 29.1s 42.21S 179.70E 12km M=3.8
0.6 0.05 0.07 R
Rsd 0.6s 27ph/22stn Dmin 361km Az.gap 144°
Corr. 0.201 13M/13stn Msd 0.1
Depth uncertain.

90/8486
JUN 15 0006 12.4s 40.37S 176.32E 27km M=3.5
0.2 0.01 0.02 2
Rsd 0.2s 23ph/20stn Dmin 27km Az.gap 151°
Corr. -0.629 19M/17stn Msd 0.2 1↑ 1↓
Felt Motea (63) MM4.

90/8500
JUN 15 1501 00.2s 40.78S 174.69E 44km M=3.7
0.1 0.01 0.01 2
Rsd 0.1s 21ph/16stn Dmin 49km Az.gap 94°
Corr. 0.473 9M/7stn Msd 0.2 3↑ 1↓

90/8508
JUN 15 2358 46.6s 39.25S 173.81E 12km M=4.0
0.2 0.01 0.01 R
Rsd 0.1s 19ph/15stn Dmin 25km Az.gap 194°
Corr. -0.412 19M/17stn Msd 0.3 1↓

90/8510
JUN 16 0339 47.7s 35.00S 179.75W 294km M=4.6
0.6 0.14 0.10 24
Rsd 0.2s 11ph/7stn Dmin 385km Az.gap 336°
Corr. 0.170 13M/13stn Msd 0.2

90/8521
JUN 16 1528 59.5s 40.48S 176.43E 33km M=3.4
0.2 0.02 0.05 R
Rsd 0.2s 17ph/15stn Dmin 20km Az.gap 201°
Corr. -0.949 15M/15stn Msd 0.2 1↑ 4↓
Felt Motea (63) MM4.

90/8524
JUN 16 1616 02.8s 40.24S 174.20E 101km M=3.6
0.2 0.01 0.01 3
Rsd 0.2s 26ph/17stn Dmin 67km Az.gap 110°
Corr. 0.119 11M/11stn Msd 0.3 1↑ 4↓

90/8529
JUN 16 1940 06.4s 43.19S 171.57E 5km M=4.3
0.1 0.01 0.01 R
Rsd 0.1s 13ph/7stn Dmin 69km Az.gap 95°
Corr. 0.119 27M/27stn Msd 0.3 1↑
Felt Greymouth (85), Harper River (99) MM4 and Lake Coleridge (93).

90/8530
JUN 16 1942 54.7s 43.19S 171.58E 5km M=3.5
0.1 0.01 0.01 R
Rsd 0.2s 13ph/7stn Dmin 70km Az.gap 156°
Corr. 0.113 11M/11stn Msd 0.4
Felt from Harper River (99) to Christchurch (110).

90/8542
JUN 16 2217 50.9s 37.02S 176.09E 213km M=3.9
1.2 0.18 0.24 32
Rsd 0.2s 14ph/10stn Dmin 224km Az.gap 275°
Corr. -0.863 14M/14stn Msd 0.2

90/8548
JUN 17 1023 32.4s 40.38S 176.48E 31km M=3.8
0.1 0.01 0.02 1
Rsd 0.1s 23ph/22stn Dmin 31km Az.gap 178°
Corr. -0.766 22M/22stn Msd 0.2 2↑ 1↓
Felt Dannevirke (63).

90/8552
JUN 17 1631 28.8s 40.41S 176.52E 33km M=3.6
0.1 0.01 0.02 1
Rsd 0.1s 25ph/22stn Dmin 31km Az.gap 185°
Corr. -0.773 22M/22stn Msd 0.2 3↑ 1↓

90/8555
JUN 18 0028 14.8s 37.17S 177.52E 129km M=3.6
0.5 0.04 0.07 8
Rsd 0.2s 14ph/12stn Dmin 84km Az.gap 268°
Corr. -0.527 12M/12stn Msd 0.2

90/8557
JUN 18 0112 58.6s 36.05S 176.74E 116km M=3.7
0.4 0.05 0.17 35
Rsd 0.1s 11ph/9stn Dmin 221km Az.gap 301°
Corr. -0.621 9M/9stn Msd 0.1

90/8559
JUN 18 1201 34.8s 37.80S 176.19E 204km M=3.9
0.7 0.03 0.04 6
Rsd 0.3s 18ph/13stn Dmin 53km Az.gap 183°
Corr. 0.026 16M/16stn Msd 0.1 1↓

90/8564
JUN 18 1608 18.0s 36.53S 176.97E 33km M=4.2
0.6 0.04 0.04 R
Rsd 0.2s 11ph/8stn Dmin 168km Az.gap 292°
Corr. 0.139 6M/6stn Msd 0.2

90/8571
JUN 18 2358 15.2s 38.14S 176.25E 217km M=3.8
0.5 0.06 0.08 6
Rsd 0.1s 13ph/11stn Dmin 119km Az.gap 235°
Corr. -0.941 10M/10stn Msd 0.2

90/8574
JUN 19 0224 12.2s 43.19S 171.58E 5km M=4.3
0.1 0.01 0.01 R
Rsd 0.1s 16ph/9stn Dmin 70km Az.gap 95°
Corr. -0.318 29M/29stn Msd 0.2 3↑ 2↓
Felt Arthur's Pass (93) MM4, Christchurch (110).

90/8575
JUN 19 0400 06.9s 37.93S 177.57E 71km M=3.9
0.4 0.02 0.02 5
Rsd 0.2s 16ph/13stn Dmin 52km Az.gap 149°
Corr. 0.426 17M/17stn Msd 0.3 2↑ 3↓

90/8595
JUN 19 1844 17.9s 36.93S 177.12E 223km M=4.1
0.7 0.08 0.06 5
Rsd 0.3s 14ph/10stn Dmin 117km Az.gap 290°
Corr. -0.334 15M/15stn Msd 0.2 1↓

90/8599
JUN 19 2322 23.2s 36.97S 176.89E 221km M=3.7
0.3 0.06 0.04 3
Rsd 0.1s 7ph/4stn Dmin 113km Az.gap 286°
Corr. 0.406 8M/8stn Msd 0.3

90/8601
JUN 20 0514 25.4s 39.67S 173.97E 156km M=3.8
0.3 0.01 0.02 3
Rsd 0.2s 28ph/18stn Dmin 84km Az.gap 166°
Corr. -0.410 10M/10stn Msd 0.3 3↑ 1↓

90/8604
JUN 20 0934 04.2s 39.27S 175.11E 152km M=3.6
0.5 0.02 0.03 4
Rsd 0.2s 21ph/17stn Dmin 39km Az.gap 194°
Corr. -0.523 14M/14stn Msd 0.3 1↑

90/8637
JUN 23 1019 27.1s 45.16S 166.78E 5km M=4.0
0.4 0.01 0.03 R
Rsd 0.2s 18ph/12stn Dmin 105km Az.gap 280°
Corr. -0.410 12M/12stn Msd 0.1 1↑

90/8648
JUN 24 0431 58.1s 36.19S 179.02E 284km M=4.2
0.9 0.14 0.15 13
Rsd 0.3s 14ph/10stn Dmin 219km Az.gap 336°
Corr. 0.210 13M/13stn Msd 0.3

90/8650
JUN 24 0523 55.3s 36.14S 178.86E 33km M=4.2
0.7 0.04 0.04 R
Rsd 0.2s 12ph/9stn Dmin 170km Az.gap 319°
Corr. 0.173 19M/19stn Msd 0.2 1↓

90/8651
JUN 24 0744 14.4s 37.28S 177.31E 250km M=4.4
0.6 0.09 0.06 5
Rsd 0.2s 11ph/8stn Dmin 83km Az.gap 259°
Corr. 0.123 13M/13stn Msd 0.1 1↓

90/8652
JUN 24 0758 58.4s 40.58S 174.31E 68km M=3.6
0.3 0.01 0.02 5
Rsd 0.3s 23ph/18stn Dmin 41km Az.gap 94°
Corr. 0.068 8M/8stn Msd 0.1 1↑

90/8661
JUN 24 1634 52.6s 37.65S 175.63E 85km M=3.6
0.6 0.04 0.04 9
Rsd 0.2s 12ph/9stn Dmin 125km Az.gap 253°
Corr. -0.412 10M/10stn Msd 0.2

90/8664
JUN 24 2313 56.6s 36.38S 176.73E 213km M=4.0
0.5 0.06 0.12 14
Rsd 0.1s 8ph/6stn Dmin 195km Az.gap 294°
Corr. -0.957 9M/9stn Msd 0.1

90/8666
JUN 25 0038 36.6s 38.08S 175.84E 201km M=3.7
0.4 0.09 0.12 14
Rsd 0.2s 15ph/10stn Dmin 183km Az.gap 267°
Corr. -0.965 11M/11stn Msd 0.1

90/8669
JUN 25 0203 16.5s 37.36S 176.52E 248km M=3.9
0.3 0.08 0.15 11
Rsd 0.1s 17ph/13stn Dmin 172km Az.gap 257°
Corr. -0.977 9M/9stn Msd 0.1

90/8679
JUN 26 0022 48.3s 37.39S 177.54E 149km M=3.8
0.6 0.05 0.03 4
Rsd 0.2s 11ph/8stn Dmin 71km Az.gap 242°
Corr. -0.020 6M/6stn Msd 0.2

90/8680
JUN 26 0104 33.8s 35.74S 178.85W 33km M=4.2
0.4 0.05 0.05 R
Rsd 0.1s 9ph/4stn Dmin 328km Az.gap 345°
Corr. -0.680 4M/4stn Msd 0.1

90/8683
JUN 26 0235 02.9s 38.39S 178.65E 243km M=3.6
0.2 0.04 0.06 2
Rsd 0.0s 7ph/4stn Dmin 59km Az.gap 334°
Corr. -0.965 7M/7stn Msd 0.2

90/8692
JUN 26 1500 37.1s 37.78S 177.17E 140km M=3.6
0.3 0.03 0.03 4
Rsd 0.1s 12ph/7stn Dmin 101km Az.gap 218°
Corr. -0.805 4M/4stn Msd 0.2

90/8694
JUN 26 1637 11.7s 40.37S 173.45E 153km M=3.9
0.3 0.02 0.01 2
Rsd 0.2s 33ph/21stn Dmin 63km Az.gap 154°
Corr. -0.191 10M/10stn Msd 0.3 5↑ 2↓

90/8697
JUN 26 1840 15.4s 44.31S 168.80E 39km M=4.0
0.3 0.01 0.01 15
Rsd 0.1s 19ph/11stn Dmin 81km Az.gap 169°
Corr. -0.171 5M/5stn Msd 0.4 1↓

90/8698
JUN 26 2048 40.5s 38.45S 176.18E 177km M=3.9
0.6 0.04 0.05 6
Rsd 0.3s 22ph/15stn Dmin 133km Az.gap 222°
Corr. -0.703 10M/10stn Msd 0.4

90/8702
JUN 27 0304 15.8s 37.46S 176.23E 203km M=4.0
0.2 0.03 0.05 6
Rsd 0.1s 15ph/13stn Dmin 184km Az.gap 247°
Corr. -0.930 9M/9stn Msd 0.2

90/8703
JUN 27 0635 03.7s 36.51S 176.91E 158km M=3.9
1.4 0.28 0.65 85
Rsd 0.4s 14ph/9stn Dmin 254km Az.gap 309°
Corr. -0.934 6M/6stn Msd 0.2

90/8711
JUN 27 2122 50.7s 39.08S 176.08E 79km M=4.0
0.2 0.01 0.01 2
Rsd 0.2s 36ph/26stn Dmin 35km Az.gap 100°
Corr. -0.352 15M/15stn Msd 0.2 1↑

90/8714
JUN 28 0122 15.2s 42.22S 172.74E 5km M=3.9
0.1 0.01 0.01 R
Rsd 0.2s 25ph/18stn Dmin 47km Az.gap 74°
Corr. -0.338 24M/24stn Msd 0.3 2↑ 1↓

90/8715
JUN 28 0247 56.7s 41.44S 174.81E 31km M=4.5
0.1 0.01 0.01 1
Rsd 0.1s 30ph/23stn Dmin 6km Az.gap 127°
Corr. -0.414 23M/23stn Msd 0.3 6↑ 6↓
Felt Kapiti (65) to Blenheim (77) MM4.

90/8722
JUN 28 1356 01.4s 38.31S 176.11E 181km M=3.7
0.4 0.03 0.03 4
Rsd 0.2s 20ph/13stn Dmin 110km Az.gap 201°
Corr. -0.844 12M/12stn Msd 0.2 1↑

90/8726
JUN 29 0112 36.2s 40.43S 176.31E 27km M=2.8
0.2 0.01 0.02 3
Rsd 0.3s 15ph/10stn Dmin 22km Az.gap 165°
Corr. -0.539 9M/9stn Msd 0.1 1↓
Felt Motea (63) MM3.

90/8737
JUN 29 1932 28.2s 34.98S 179.30E 215km M=5.1
0.2 0.03 0.01 4
Rsd 0.1s 14ph/9stn Dmin 304km Az.gap 330°
Corr. 0.153 6M/6stn Msd 0.1

90/8743
JUN 30 0820 34.2s 40.50S 176.29E 20km M=3.1
0.2 0.01 0.02 2
Rsd 0.2s 12ph/7stn Dmin 13km Az.gap 163°
Corr. -0.566 3M/3stn Msd 0.2 1↑ 1↓
Felt Motea (63) MM3.

90/8745
JUN 30 1315 47.8s 38.32S 176.30E 173km M=3.8
0.3 0.02 0.02 3
Rsd 0.1s 12ph/7stn Dmin 71km Az.gap 204°
Corr. -0.785 5M/5stn Msd 0.3 1↑

90/8746
JUN 30 1916 31.2s 45.13S 167.45E 117km M=3.7
0.1 0.01 0.01 1
Rsd 0.1s 13ph/7stn Dmin 63km Az.gap 233°
Corr. -0.293 8M/8stn Msd 0.1 1↑

90/8748
JUL 01 0031 24.2s 38.92S 175.47E 118km M=3.8
0.8 0.03 0.04 7
Rsd 0.3s 13ph/9stn Dmin 25km Az.gap 115°
Corr. 0.305 3M/3stn Msd 0.2 2↑ 2↓
No WLN digital records, MRW visual reading.

90/8751
JUL 01 0454 41.8s 40.44S 176.28E 22km M=3.4
0.3 0.03 0.04 5
Rsd 0.3s 11ph/7stn Dmin 19km Az.gap 157°
Corr. -0.852 3M/3stn Msd 0.2
Felt Motea (63) MM3.

90/8759
JUL 01 2203 25.6s 35.17S 179.64W 114km M=4.7
1.6 0.16 0.16 47
Rsd 0.3s 7ph/6stn Dmin 327km Az.gap 337°
Corr. -0.301 4M/4stn Msd 0.2

90/8760
JUL 01 2237 03.7s 34.55S 177.42E 33km M=4.9
1.3 0.09 0.10 R
Rsd 0.3s 7ph/5stn Dmin 347km Az.gap 322°
Corr. -0.015 2M/2stn Msd 0.2

90/8762
JUL 01 2329 42.8s 38.19S 176.37E 159km M=4.0
0.3 0.01 0.01 2
Rsd 0.1s 13ph/7stn Dmin 58km Az.gap 131°
Corr. -0.122 6M/6stn Msd 0.2

90/8763
JUL 02 0102 58.2s 38.62S 176.04E 157km M=4.0
0.4 0.02 0.02 4
Rsd 0.2s 15ph/9stn Dmin 77km Az.gap 105°
Corr. -0.543 6M/5stn Msd 0.1 1↑ 1↓

90/8767
JUL 02 0543 38.3s 45.18S 167.47E 120km M=3.6
0.2 0.01 0.01 1
Rsd 0.1s 20ph/13stn Dmin 67km Az.gap 229°
Corr. -0.206 13M/13stn Msd 0.3 1↑

90/8775
JUL 02 1219 54.7s 40.36S 176.27E 28km M=3.5
0.1 0.00 0.01 1
Rsd 0.1s 22ph/17stn Dmin 29km Az.gap 151°
Corr. -0.020 20M/18stn Msd 0.2 1↑ 2↓
Felt Motea (63) MM4.

90/8777
JUL 02 1606 44.8s 40.41S 176.39E 31km M=3.4
0.2 0.01 0.03 2
Rsd 0.2s 18ph/14stn Dmin 25km Az.gap 182°
Corr. -0.385 19M/17stn Msd 0.2 1↑ 1↓

90/8778
JUL 02 1616 09.2s 40.28S 176.31E 23km M=2.2
0.4 0.03 0.02 2
Rsd 0.1s 8ph/5stn Dmin 38km Az.gap 304°
Corr. 0.250 5M/5stn Msd 0.1
Felt Motea (63) MM4.

90/8788
JUL 03 0906 32.0s 40.41S 176.29E 24km M=2.8
0.2 0.01 0.02 2
Rsd 0.1s 14ph/11stn Dmin 23km Az.gap 210°
Corr. 0.106 10M/10stn Msd 0.2 1↑ 1↓
Felt Motea (63) MM3.

90/8793
JUL 04 0003 09.3s 36.59S 178.50E 12km M=3.7
0.4 0.02 0.02 R
Rsd 0.1s 10ph/6stn Dmin 113km Az.gap 307°
Corr. 0.270 4M/4stn Msd 0.3

90/8812
JUL 05 1526 33.1s 38.31S 176.32E 150km M=3.7
0.1 0.01 0.02 R
Rsd 0.1s 17ph/12stn Dmin 119km Az.gap 212°
Corr. -0.828 11M/11stn Msd 0.4 1↑

90/8815
JUL 05 1933 19.7s 45.27S 166.93E 5km M=3.6
0.7 0.01 0.07 R
Rsd 0.2s 11ph/7stn Dmin 103km Az.gap 268°
Corr. -0.334 10M/10stn Msd 0.1

90/8827
JUL 06 1002 42.5s 41.25S 173.05E 116km M=4.0
0.2 0.01 0.01 2
Rsd 0.2s 29ph/18stn Dmin 58km Az.gap 75°
Corr. -0.293 14M/12stn Msd 0.2 5↑ 9↓

90/8831
JUL 06 1630 32.1s 45.09S 167.33E 58km M=3.8
0.3 0.01 0.03 4
Rsd 0.1s 15ph/9stn Dmin 66km Az.gap 246°
Corr. -0.586 9M/9stn Msd 0.3 1↑ 1↓

90/8832
JUL 06 1646 45.8s 39.97S 172.88E 12km M=3.5
0.2 0.01 0.02 R
Rsd 0.1s 25ph/16stn Dmin 100km Az.gap 202°
Corr. -0.891 21M/19stn Msd 0.2

90/8842
JUL 07 0509 60.0s 37.45S 176.14E 274km M=3.9
0.2 0.07 0.04 9
Rsd 0.1s 15ph/12stn Dmin 357km Az.gap 328°
Corr. -0.112 7M/7stn Msd 0.2

90/8848
JUL 07 0811 43.0s 40.35S 176.40E 34km M=4.3
0.1 0.01 0.02 2
Rsd 0.2s 28ph/23stn Dmin 32km Az.gap 159°
Corr. -0.326 14M/12stn Msd 0.2
Felt Motea (63) MM4 and Dannevirke (63).

90/8850
JUL 07 0836 45.5s 36.40S 179.86E 141km M=4.2
0.2 0.03 0.03 5
Rsd 0.1s 11ph/5stn Dmin 192km Az.gap 342°
Corr. -0.531 4M/4stn Msd 0.1

90/8854
JUL 07 1419 13.0s 41.38S 174.56E 41km M=4.4
0.1 0.01 0.01 1
Rsd 0.2s 33ph/21stn Dmin 20km Az.gap 116°
Corr. -0.482 8M/6stn Msd 0.2 1↓
Felt Wellington (68) and Marlborough (77,78) MM4.

90/8855
JUL 07 1454 08.1s 34.64S 178.10E 33km M=4.8
1.0 0.06 0.11 R
Rsd 0.3s 8ph/4stn Dmin 329km Az.gap 336°
Corr. -0.299 3M/3stn Msd 0.3

90/8858
JUL 07 2008 15.6s 42.43S 172.92E 5km M=4.1
0.1 0.00 0.01 R
Rsd 0.2s 22ph/17stn Dmin 51km Az.gap 101°
Corr. -0.166 16M/14stn Msd 0.4 1↑ 1↓

90/8859
JUL 07 2137 19.1s 42.42S 172.91E 5km M=3.7
0.1 0.00 0.01 R
Rsd 0.1s 19ph/15stn Dmin 52km Az.gap 142°
Corr. -0.291 14M/14stn Msd 0.4 1↑

90/8861
JUL 07 2336 13.3s 44.51S 168.35E 5km M=3.5
0.3 0.03 0.01 R
Rsd 0.1s 11ph/7stn Dmin 39km Az.gap 247°
Corr. 0.275 5M/5stn Msd 0.0
Felt Glenorchy (121) MM4.

90/8869
JUL 09 0102 07.1s 40.45S 176.28E 27km M=3.0
0.1 0.01 0.01 1
Rsd 0.1s 12ph/10stn Dmin 19km Az.gap 157°
Corr. -0.613 6M/6stn Msd 0.2
Felt Motea (63) MM3.

90/8872
JUL 09 1441 35.9s 38.01S 176.46E 129km M=3.5
0.2 0.02 0.02 2
Rsd 0.1s 12ph/8stn Dmin 46km Az.gap 224°
Corr. -0.871 7M/7stn Msd 0.3

90/8873
JUL 09 1545 38.0s 39.10S 175.11E 233km M=3.8
0.3 0.02 0.03 2
Rsd 0.1s 20ph/17stn Dmin 79km Az.gap 224°
Corr. -0.209 12M/12stn Msd 0.3

90/8874
JUL 09 1627 07.7s 44.30S 167.67E 5km M=4.1
0.2 0.01 0.02 R
Rsd 0.1s 13ph/8stn Dmin 46km Az.gap 232°
Corr. -0.096 6M/6stn Msd 0.2

90/8882
JUL 10 0604 53.9s 44.09S 168.77E 12km M=3.9
0.2 0.02 0.01 R
Rsd 0.2s 11ph/7stn Dmin 94km Az.gap 176°
Corr. -0.404 6M/6stn Msd 0.1
Felt Mt Aspiring Stn (113) MM4.

90/8883
JUL 10 0633 45.7s 43.90S 168.86E 4km M=5.2
0.2 0.01 0.01 2
Rsd 0.1s 17ph/12stn Dmin 111km Az.gap 181°
Corr. -0.404 29M/27stn Msd 0.4 1↓
Felt Paringa (103) to Queenstown (132), max. int. MM5 at Mahitahi (104).

90/8884
JUL 10 0734 02.9s 44.10S 168.85E 12km M=3.6
0.3 0.02 0.01 R
Rsd 0.2s 12ph/7stn Dmin 98km Az.gap 172°
Corr. -0.247 11M/11stn Msd 0.2

90/8887
JUL 10 0906 41.4s 41.83S 173.12E 57km M=3.6
0.1 0.01 0.01 1
Rsd 0.2s 24ph/17stn Dmin 20km Az.gap 137°
Corr. -0.391 12M/12stn Msd 0.2 1↑ 1↓

90/8888
JUL 10 0949 10.1s 38.61S 176.16E 230km M=3.5
0.3 0.09 0.06 8
Rsd 0.1s 11ph/9stn Dmin 223km Az.gap 329°
Corr. -0.777 3M/3stn Msd 0.1

90/8895
JUL 10 1715 57.2s 36.62S 177.46E 221km M=3.9
0.3 0.03 0.04 3
Rsd 0.1s 8ph/4stn Dmin 132km Az.gap 305°
Corr. -0.500 4M/3stn Msd 0.3

90/8896
JUL 10 1940 11.1s 38.75S 176.05E 124km M=3.7
0.3 0.02 0.02 3
Rsd 0.1s 14ph/11stn Dmin 41km Az.gap 134°
Corr. 0.281 10M/10stn Msd 0.2 1↑
Felt Omori (40).

90/8899
JUL 11 0212 03.5s 38.91S 175.83E 5km M=2.8
0.1 0.01 0.01 R
Rsd 0.2s 11ph/7stn Dmin 41km Az.gap 98°
Corr. 0.077 5M/5stn Msd 0.1
Felt Motuoapa (40).

90/8900
JUL 11 0217 05.2s 38.91S 175.80E 5km M=3.2
0.1 0.01 0.01 R
Rsd 0.2s 14ph/10stn Dmin 39km Az.gap 62°
Corr. 0.095 9M/9stn Msd 0.2
Felt Motuoapa (40) MM4.

90/8901
JUL 11 0226 30.7s 38.90S 175.80E 6km M=3.6
0.4 0.01 0.01 4
Rsd 0.3s 22ph/16stn Dmin 36km Az.gap 55°
Corr. 0.217 16M/16stn Msd 0.2 1↑
Felt Motuoapa (40) MM3.

90/8902
JUL 11 0227 21.7s 38.92S 175.79E 6km M=3.6
0.1 0.01 0.01 1
Rsd 0.1s 15ph/11stn Dmin 33km Az.gap 95°
Corr. 0.171 14M/14stn Msd 0.1
Felt Omori (41) MM4.

90/8904
JUL 11 0237 05.4s 38.92S 175.76E 4km M=3.6
0.2 0.01 0.01 2
Rsd 0.2s 24ph/18stn Dmin 6km Az.gap 54°
Corr. 0.316 22M/21stn Msd 0.2
Felt Motuoapa (40) MM3.

90/8911
JUL 11 1611 40.5s 37.23S 176.73E 449km M=5.3
0.3 0.04 0.03 2
Rsd 0.1s 28ph/21stn Dmin 53km Az.gap 233°
Corr. -0.082 22M/20stn Msd 0.2 1↑

90/8936
JUL 13 0528 52.9s 38.85S 175.91E 88km M=4.0
0.4 0.01 0.02 4
Rsd 0.2s 35ph/26stn Dmin 16km Az.gap 59°
Corr. -0.077 24M/21stn Msd 0.2 1↑ 1↓

90/8938
JUL 13 0604 38.0s 37.46S 176.57E 175km M=3.7
0.5 0.03 0.03 3
Rsd 0.2s 11ph/7stn Dmin 69km Az.gap 251°
Corr. -0.438 20M/19stn Msd 0.2

90/8943
JUL 13 1246 42.8s 39.01S 175.20E 153km M=4.0
0.3 0.01 0.02 3
Rsd 0.2s 32ph/23stn Dmin 37km Az.gap 75°
Corr. -0.034 19M/18stn Msd 0.2 1↑

90/8948
JUL 13 1747 22.1s 39.16S 174.78E 222km M=4.7
0.2 0.01 0.02 2
Rsd 0.1s 32ph/22stn Dmin 60km Az.gap 104°
Corr. -0.125 18M/16stn Msd 0.2 7↑ 6↓

90/8950
JUL 13 1821 55.2s 37.27S 176.52E 210km M=4.2
0.5 0.05 0.04 4
Rsd 0.2s 15ph/9stn Dmin 90km Az.gap 244°
Corr. -0.605 19M/18stn Msd 0.2 1↑

90/8951
JUL 13 2001 41.4s 35.42S 177.81E 202km M=4.1
0.2 0.02 0.03 3
Rsd 0.1s 10ph/6stn Dmin 246km Az.gap 328°
Corr. -0.404 12M/11stn Msd 0.2

90/8955
JUL 14 0231 48.4s 41.10S 173.34E 99km M=4.0
0.2 0.01 0.01 3
Rsd 0.2s 27ph/18stn Dmin 59km Az.gap 90°
Corr. -0.314 15M/15stn Msd 0.2 7↑ 2↓

90/8975
JUL 15 0126 43.5s 40.80S 176.31E 23km M=3.6
0.2 0.01 0.01 2
Rsd 0.1s 12ph/10stn Dmin 21km Az.gap 241°
Corr. -0.139 9M/7stn Msd 0.2 3↑ 3↓

90/8976
JUL 15 0358 55.7s 38.73S 175.33E 280km M=3.7
0.2 0.01 0.03 2
Rsd 0.0s 14ph/10stn Dmin 56km Az.gap 295°
Corr. -0.424 10M/10stn Msd 0.2

90/8990
JUL 16 0130 31.7s 43.99S 168.93E 12km M=3.5
0.4 0.03 0.01 R
Rsd 0.2s 15ph/10stn Dmin 102km Az.gap 174°
Corr. -0.322 19M/18stn Msd 0.2

90/8994
JUL 16 0815 36.4s 37.21S 177.44E 132km M=3.6
0.3 0.02 0.01 2
Rsd 0.1s 11ph/8stn Dmin 88km Az.gap 235°
Corr. 0.420 9M/9stn Msd 0.2

90/8997
JUL 16 1124 17.3s 43.16S 170.92E 5km M=3.6
0.1 0.01 0.02 R
Rsd 0.2s 13ph/10stn Dmin 81km Az.gap 175°
Corr. -0.605 12M/12stn Msd 0.3 1↑ 1↓

90/9000
JUL 16 1430 35.3s 39.69S 175.14E 91km M=4.3
0.2 0.01 0.01 2
Rsd 0.2s 38ph/31stn Dmin 22km Az.gap 58°
Corr. -0.231 18M/16stn Msd 0.2 5↑ 4↓
Felt Wanganui (57).

90/9001
JUL 16 1458 28.4s 42.71S 171.75E 8km M=3.5
0.5 0.02 0.02 4
Rsd 0.3s 13ph/8stn Dmin 35km Az.gap 160°
Corr. 0.336 8M/8stn Msd 0.2 1↓

90/9014
JUL 17 0115 48.5s 39.68S 173.96E 190km M=3.7
0.6 0.02 0.05 6
Rsd 0.3s 21ph/15stn Dmin 84km Az.gap 166°
Corr. -0.247 12M/12stn Msd 0.2 1↑

90/9019
JUL 17 0748 24.9s 37.27S 179.51W 33km M=3.6
0.6 0.04 0.06 R
Rsd 0.2s 7ph/5stn Dmin 197km Az.gap 324°
Corr. -0.375 4M/4stn Msd 0.2

90/9022
JUL 17 1046 02.1s 35.62S 178.65E 268km M=3.8
1.1 0.07 0.14 11
Rsd 0.2s 11ph/8stn Dmin 222km Az.gap 338°
Corr. -0.434 6M/6stn Msd 0.2

90/9024
JUL 17 1222 01.0s 38.63S 175.31E 231km M=4.2
0.6 0.04 0.03 4
Rsd 0.2s 19ph/15stn Dmin 46km Az.gap 138°
Corr. 0.004 22M/20stn Msd 0.4 6↑ 1↓

90/9026
JUL 17 1753 02.0s 36.68S 177.62E 12km M=4.7
1.1 0.09 0.04 R
Rsd 0.3s 15ph/14stn Dmin 119km Az.gap 276°
Corr. 0.691 34M/32stn Msd 0.3

90/9028
JUL 17 1857 10.6s 39.69S 175.40E 74km M=3.7
0.2 0.01 0.02 3
Rsd 0.2s 34ph/24stn Dmin 42km Az.gap 53°
Corr. -0.256 22M/20stn Msd 0.2 2↑ 2↓

90/9031
JUL 17 2230 27.8s 36.95S 177.53E 5km M=4.1
1.1 0.08 0.04 R
Rsd 0.5s 15ph/13stn Dmin 70km Az.gap 257°
Corr. 0.093 23M/22stn Msd 0.3 1↑

90/9035
JUL 17 2320 25.0s 39.01S 175.71E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.2s 23ph/16stn Dmin 15km Az.gap 72°
Corr. 0.264 18M/18stn Msd 0.2 3↑ 1↓

90/9037
JUL 18 0050 28.0s 36.94S 177.54E 5km M=4.0
0.6 0.05 0.03 R
Rsd 0.2s 13ph/11stn Dmin 72km Az.gap 258°
Corr. 0.422 18M/18stn Msd 0.3 1↑

90/9038
JUL 18 0111 47.3s 43.93S 169.37E 12km M=3.7
0.3 0.02 0.02 R
Rsd 0.1s 14ph/11stn Dmin 74km Az.gap 164°
Corr. 0.184 15M/14stn Msd 0.2 1↑

90/9046

JUL 18 0815 25.4s 36.00S 178.34E 211km M=4.3
0.3 0.03 0.03 4
Rsd 0.1s 10ph/7stn Dmin 177km Az.gap 312°
Corr. -0.037 20M/20stn Msd 0.2
Confused by a Weber event.

90/9059

JUL 18 1941 39.0s 40.12S 176.86E 47km M=3.5
0.2 0.01 0.02 3
Rsd 0.1s 25ph/19stn Dmin 50km Az.gap 218°
Corr. -0.699 15M/15stn Msd 0.2

90/9063

JUL 19 0119 23.9s 38.29S 176.21E 5km M=1.8
0.5 0.04 0.02 R
Rsd 0.2s 5ph/3stn Dmin 13km Az.gap 235°
Corr. 0.443 1M/1stn Msd N.D.
Felt Rotorua (33) MM4.

90/9070

JUL 19 0839 25.0s 39.39S 174.83E 221km M=3.6
0.2 0.02 0.03 2
Rsd 0.1s 15ph/10stn Dmin 46km Az.gap 288°
Corr. 0.052 12M/12stn Msd 0.2

90/9087

JUL 19 1711 51.2s 38.54S 175.95E 178km M=3.8
0.6 0.02 0.05 5
Rsd 0.2s 21ph/16stn Dmin 81km Az.gap 261°
Corr. 0.590 12M/12stn Msd 0.2 1↑

90/9089

JUL 19 1756 21.8s 38.63S 175.91E 158km M=3.8
0.5 0.02 0.02 4
Rsd 0.2s 25ph/18stn Dmin 71km Az.gap 144°
Corr. -0.438 15M/15stn Msd 0.2 2↑ 2↓

90/9096

JUL 20 0038 31.3s 41.42S 174.45E 61km M=4.4
0.1 0.01 0.01 2
Rsd 0.2s 31ph/20stn Dmin 27km Az.gap 118°
Corr. -0.369 12M/11stn Msd 0.2 6↑ 8↓
Felt Wellington area (68) to Picton (78), max. int. MM4 at Kelburn (68).

90/9106

JUL 20 0841 05.8s 37.99S 176.56E 145km M=3.8
1.1 0.04 0.04 10
Rsd 0.4s 15ph/13stn Dmin 28km Az.gap 157°
Corr. -0.539 19M/19stn Msd 0.2

90/9107

JUL 20 0845 57.1s 36.97S 177.73E 125km M=4.0
0.3 0.02 0.01 3
Rsd 0.1s 14ph/11stn Dmin 86km Az.gap 264°
Corr. 0.451 18M/18stn Msd 0.1 1↑

90/9113

JUL 20 2012 41.9s 38.23S 176.17E 5km M=1.6
0.3 0.02 0.01 R
Rsd 0.1s 4ph/3stn Dmin 6km Az.gap 216°
Corr. 0.299 1M/1stn Msd N.D.
Felt Rotorua (33) MM3.

90/9122

JUL 21 0426 58.3s 40.44S 176.80E 41km M=3.5
0.2 0.01 0.03 4
Rsd 0.2s 26ph/19stn Dmin 49km Az.gap 217°
Corr. -0.691 14M/14stn Msd 0.2 2↑ 1↓

90/9123

JUL 21 0906 17.0s 39.20S 174.89E 212km M=4.2
0.5 0.02 0.03 5
Rsd 0.2s 28ph/21stn Dmin 57km Az.gap 150°
Corr. -0.220 20M/20stn Msd 0.3 1↑

90/9124

JUL 21 0956 27.4s 36.54S 178.33E 33km M=3.7
1.4 0.09 0.07 R
Rsd 0.3s 11ph/9stn Dmin 118km Az.gap 303°
Corr. 0.377 13M/13stn Msd 0.2

90/9140

JUL 22 1429 28.9s 37.87S 176.63E 150km M=3.7
0.4 0.03 0.01 4
Rsd 0.2s 15ph/12stn Dmin 34km Az.gap 170°
Corr. -0.098 18M/18stn Msd 0.2 1↓

90/9144

JUL 22 1900 58.4s 35.96S 179.42E 248km M=3.9
0.4 0.08 0.06 8
Rsd 0.1s 10ph/7stn Dmin 208km Az.gap 339°
Corr. 0.238 9M/9stn Msd 0.2

90/9148

JUL 22 2211 42.4s 40.24S 176.05E 44km M=3.6
0.1 0.01 0.02 2
Rsd 0.2s 24ph/22stn Dmin 46km Az.gap 132°
Corr. -0.332 18M/16stn Msd 0.2 1↑ 3↓

90/9150

JUL 23 0025 56.7s 40.62S 173.39E 144km M=4.1
0.3 0.01 0.02 3
Rsd 0.2s 33ph/22stn Dmin 49km Az.gap 130°
Corr. -0.087 19M/18stn Msd 0.2 6↑ 6↓

90/9153

JUL 23 0427 52.7s 46.16S 166.85E 113km M=3.9
0.2 0.01 0.04 2
Rsd 0.1s 16ph/10stn Dmin 78km Az.gap 309°
Corr. -0.155 17M/17stn Msd 0.3 1↑

90/9161
JUL 23 0912 32.3s 34.76S 179.43E 250km M=4.3
0.4 0.05 0.07 6
Rsd 0.1s 10ph/6stn Dmin 331km Az.gap 343°
Corr. -0.332 14M/14stn Msd 0.2

90/9163
JUL 23 1130 44.7s 40.91S 174.58E 41km M=3.6
0.1 0.01 0.01 1
Rsd 0.2s 27ph/19stn Dmin 28km Az.gap 82°
Corr. 0.074 7M/6stn Msd 0.2 7↑ 4↓
Felt Paraparaumu (65) and Lower Hutt (68).

90/9174
JUL 23 1955 31.9s 36.97S 177.57E 189km M=3.7
0.4 0.02 0.14 7
Rsd 0.1s 7ph/4stn Dmin 95km Az.gap 281°
Corr. -0.451 13M/13stn Msd 0.2

90/9185
JUL 24 1205 58.1s 38.94S 175.19E 223km M=3.9
0.3 0.02 0.03 3
Rsd 0.1s 22ph/17stn Dmin 42km Az.gap 174°
Corr. -0.068 13M/13stn Msd 0.2 1↑

90/9195
JUL 25 0133 17.6s 37.61S 178.17E 58km M=3.6
0.4 0.02 0.03 4
Rsd 0.2s 11ph/8stn Dmin 12km Az.gap 196°
Corr. 0.314 13M/13stn Msd 0.3 1↑

90/9201
JUL 25 0707 01.5s 36.77S 177.06E 271km M=4.3
0.4 0.05 0.02 4
Rsd 0.1s 15ph/12stn Dmin 135km Az.gap 264°
Corr. -0.287 21M/21stn Msd 0.2 1↑

90/9211
JUL 25 1522 04.4s 40.37S 176.40E 28km M=3.4
0.3 0.01 0.04 3
Rsd 0.3s 24ph/20stn Dmin 29km Az.gap 173°
Corr. -0.574 23M/21stn Msd 0.2 2↑ 1↓
Felt Dannevirke (63).

90/9215
JUL 26 0133 31.5s 37.04S 177.50E 12km M=4.1
0.5 0.04 0.02 R
Rsd 0.2s 10ph/9stn Dmin 61km Az.gap 251°
Corr. 0.426 18M/18stn Msd 0.3 1↑

90/9218
JUL 26 0507 17.1s 37.26S 176.79E 198km M=4.1
0.7 0.08 0.03 7
Rsd 0.2s 12ph/9stn Dmin 83km Az.gap 229°
Corr. 0.291 21M/21stn Msd 0.2

90/9219
JUL 26 0641 47.4s 39.07S 175.12E 209km M=3.5
0.3 0.01 0.03 2
Rsd 0.1s 15ph/11stn Dmin 39km Az.gap 228°
Corr. -0.226 9M/9stn Msd 0.3

90/9227
JUL 26 2033 43.2s 39.02S 174.99E 226km M=3.5
0.4 0.02 0.04 4
Rsd 0.1s 12ph/9stn Dmin 52km Az.gap 264°
Corr. -0.385 7M/7stn Msd 0.2 1↑

90/9229
JUL 26 2155 04.7s 36.80S 176.96E 215km M=5.1
0.6 0.08 0.04 8
Rsd 0.2s 13ph/11stn Dmin 83km Az.gap 220°
Corr. 0.042 18M/18stn Msd 0.2 5↑ 4↓

90/9235
JUL 27 0445 15.3s 40.77S 175.56E 57km M=3.6
0.1 0.01 0.01 2
Rsd 0.2s 29ph/22stn Dmin 18km Az.gap 111°
Corr. -0.459 15M/13stn Msd 0.2 4↑ 5↓

90/9236
JUL 27 0743 13.4s 35.97S 178.52E 265km M=4.0
1.0 0.09 0.17 7
Rsd 0.2s 10ph/8stn Dmin 181km Az.gap 335°
Corr. -0.293 6M/6stn Msd 0.2

90/9240
JUL 27 1156 13.4s 37.79S 176.23E 204km M=4.5
0.8 0.04 0.03 6
Rsd 0.3s 24ph/20stn Dmin 44km Az.gap 184°
Corr. -0.004 22M/20stn Msd 0.2 3↑ 2↓

90/9249
JUL 27 2140 20.7s 44.56S 167.70E 8km M=3.9
0.5 0.02 0.03 1
Rsd 0.1s 14ph/12stn Dmin 21km Az.gap 220°
Corr. -0.291 18M/18stn Msd 0.2 1↓

90/9259
JUL 28 0930 44.8s 45.44S 167.32E 104km M=3.6
0.5 0.02 0.05 4
Rsd 0.2s 17ph/11stn Dmin 41km Az.gap 233°
Corr. -0.108 14M/13stn Msd 0.2 1↑

90/9270
JUL 29 0044 45.7s 42.10S 171.84E 5km M=3.6
0.1 0.01 0.02 R
Rsd 0.2s 10ph/7stn Dmin 59km Az.gap 163°
Corr. -0.447 6M/6stn Msd 0.2 1↓
Felt Reefton (86).

90/9271
JUL 29 0509 45.5s 38.59S 175.91E 179km M=3.8
0.5 0.13 0.12 19
Rsd 0.2s 13ph/11stn Dmin 227km Az.gap 333°
Corr. -0.867 11M/11stn Msd 0.3 1↑

90/9273
JUL 29 0821 37.4s 41.87S 171.85E 5km M=3.7
0.2 0.01 0.02 R
Rsd 0.3s 13ph/7stn Dmin 82km Az.gap 163°
Corr. -0.320 17M/16stn Msd 0.3 2↑ 1↓
Felt Westport (79) MM4.

90/9274
JUL 29 0949 27.4s 46.39S 165.73E 33km M=3.8
1.6 0.12 0.14 R
Rsd 0.4s 12ph/10stn Dmin 169km Az.gap 327°
Corr. 0.379 12M/11stn Msd 0.1

90/9283
JUL 30 0010 15.2s 39.22S 173.81E 18km M=3.6
0.4 0.02 0.03 2
Rsd 0.1s 17ph/13stn Dmin 25km Az.gap 196°
Corr. -0.652 19M/17stn Msd 0.2

90/9335
AUG 01 1852 54.1s 40.49S 176.30E 39km M=4.7
0.1 0.01 0.01 2
Rsd 0.2s 37ph/32stn Dmin 15km Az.gap 152°
Corr. -0.703 8M/7stn Msd 0.2 2↑ 7↓
Felt widely from Moawhango (58) to Eastbourne (68), maximum intensity MM4.

90/9342
AUG 01 2028 16.0s 40.49S 176.31E 39km M=3.5
0.1 0.01 0.02 3
Rsd 0.2s 20ph/17stn Dmin 15km Az.gap 170°
Corr. -0.574 15M/15stn Msd 0.2 2↑ 4↓
Felt Dannevirke (63).

90/9353
AUG 02 0437 58.6s 38.97S 175.33E 118km M=3.5
0.3 0.01 0.02 3
Rsd 0.1s 22ph/18stn Dmin 18km Az.gap 141°
Corr. 0.293 17M/17stn Msd 0.2 1↑ 2↓

90/9381
AUG 04 0507 00.0s 40.22S 173.59E 155km M=3.5
0.5 0.03 0.02 5
Rsd 0.3s 23ph/17stn Dmin 70km Az.gap 183°
Corr. -0.159 12M/12stn Msd 0.2 1↑

90/9388
AUG 04 2059 04.3s 40.31S 173.57E 185km M=4.3
0.5 0.03 0.02 4
Rsd 0.2s 27ph/18stn Dmin 62km Az.gap 187°
Corr. -0.159 10M/9stn Msd 0.2 2↑ 9↓

90/9393
AUG 05 0217 26.2s 39.51S 175.66E 11km M=3.4
0.3 0.01 0.01 3
Rsd 0.2s 25ph/21stn Dmin 27km Az.gap 84°
Corr. -0.072 17M/17stn Msd 0.3 1↑ 1↓
Felt Moawhango (58) MM3.

90/9397
AUG 05 1725 54.6s 37.92S 176.46E 150km M=4.0
0.6 0.04 0.03 7
Rsd 0.2s 12ph/10stn Dmin 47km Az.gap 213°
Corr. -0.762 18M/18stn Msd 0.3 1↑

90/9411
AUG 06 2112 10.7s 37.42S 178.26E 61km M=4.0
1.4 0.07 0.10 9
Rsd 0.5s 9ph/6stn Dmin 20km Az.gap 272°
Corr. 0.594 4M/4stn Msd 0.3 1↑ 1↓

90/9418
AUG 07 2044 50.6s 39.56S 174.46E 208km M=4.1
0.5 0.02 0.04 5
Rsd 0.2s 21ph/18stn Dmin 45km Az.gap 110°
Corr. -0.005 16M/16stn Msd 0.3 1↑

90/9421
AUG 08 0015 42.2s 39.80S 174.29E 207km M=3.7
0.2 0.01 0.02 2
Rsd 0.1s 21ph/14stn Dmin 55km Az.gap 190°
Corr. -0.050 13M/13stn Msd 0.2

90/9423
AUG 08 0159 30.1s 36.57S 177.24E 191km M=3.9
2.0 0.20 0.25 29
Rsd 0.4s 10ph/9stn Dmin 189km Az.gap 310°
Corr. -0.699 14M/14stn Msd 0.2 1↓

90/9427
AUG 08 0341 00.8s 38.96S 175.97E 114km M=3.6
0.4 0.02 0.03 4
Rsd 0.3s 20ph/17stn Dmin 69km Az.gap 147°
Corr. -0.301 18M/18stn Msd 0.2 1↑

90/9432
AUG 08 0845 08.8s 38.90S 178.38E 31km M=3.6
0.8 0.03 0.06 3
Rsd 0.2s 9ph/6stn Dmin 43km Az.gap 223°
Corr. -0.684 5M/5stn Msd 0.2 1↑

90/9434
AUG 08 1113 43.5s 38.62S 176.53E 238km M=3.6
0.9 0.09 0.13 6
Rsd 0.3s 15ph/12stn Dmin 60km Az.gap 212°
Corr. -0.895 11M/11stn Msd 0.2

90/9437
AUG 08 1300 24.1s 40.47S 176.31E 39km M=3.6
0.1 0.01 0.02 2
Rsd 0.2s 25ph/22stn Dmin 16km Az.gap 164°
Corr. -0.621 15M/13stn Msd 0.2 1↓

90/9438
AUG 08 1302 18.3s 37.97S 178.26E 5km M=3.9
0.4 0.02 0.06 R
Rsd 0.7s 10ph/7stn Dmin 12km Az.gap 177°
Corr. -0.192 4M/4stn Msd 0.2 1↑ 1↓

90/9441
AUG 08 1449 34.2s 38.27S 177.57E 12km M=3.5
0.1 0.01 0.01 R
Rsd 0.3s 19ph/18stn Dmin 56km Az.gap 100°
Corr. -0.385 10M/10stn Msd 0.2 1↑ 3↓
Felt Ruatuna Rd (35) MM4.

90/9445
AUG 08 2119 27.4s 39.62S 174.14E 188km M=3.6
0.6 0.02 0.04 6
Rsd 0.3s 21ph/16stn Dmin 71km Az.gap 160°
Corr. -0.264 12M/12stn Msd 0.2

90/9453
AUG 09 1452 58.6s 40.39S 173.99E 84km M=3.6
0.4 0.01 0.01 5
Rsd 0.2s 29ph/19stn Dmin 46km Az.gap 116°
Corr. 0.021 12M/12stn Msd 0.2 1↑ 3↓

90/9458
AUG 09 1817 11.4s 40.37S 175.94E 41km M=3.6
0.1 0.01 0.02 3
Rsd 0.3s 25ph/21stn Dmin 39km Az.gap 91°
Corr. -0.441 19M/17stn Msd 0.2 1↓

90/9471
AUG 10 1529 59.8s 37.45S 176.61E 236km M=4.6
0.7 0.06 0.03 5
Rsd 0.3s 19ph/16stn Dmin 68km Az.gap 215°
Corr. 0.099 21M/19stn Msd 0.2 5↑ 3↓

90/9472
AUG 10 1616 46.9s 47.16S 165.94E 12km M=4.3
0.9 0.06 0.10 R
Rsd 0.2s 14ph/11stn Dmin 194km Az.gap 321°
Corr. -0.383 12M/12stn Msd 0.1

90/9474
AUG 10 1828 25.8s 38.63S 176.03E 0km M=3.8
0.1 0.01 0.00 0
Rsd 0.0s 9ph/7stn Dmin 6km Az.gap 171°
Corr. -0.091 1M/1stn Msd N.D. 1↑

90/9480
AUG 11 0211 11.2s 37.68S 176.27E 239km M=4.2
1.1 0.08 0.11 11
Rsd 0.3s 15ph/14stn Dmin 135km Az.gap 237°
Corr. -0.867 19M/19stn Msd 0.2 1↑
WAH arrivals recorded on TEH.

90/9486
AUG 11 2252 52.4s 37.39S 177.23E 161km M=4.3
0.3 0.03 0.01 3
Rsd 0.1s 12ph/9stn Dmin 97km Az.gap 215°
Corr. 0.153 19M/19stn Msd 0.3 1↑

90/9501
AUG 13 1105 03.4s 38.81S 175.34E 256km M=3.7
0.6 0.03 0.04 5
Rsd 0.2s 18ph/14stn Dmin 47km Az.gap 207°
Corr. -0.424 7M/7stn Msd 0.1

90/9502
AUG 13 1246 58.0s 37.76S 176.39E 287km M=4.6
0.8 0.05 0.04 6
Rsd 0.2s 17ph/15stn Dmin 49km Az.gap 205°
Corr. 0.094 16M/16stn Msd 0.2 7↑ 4↓

90/9510
AUG 13 2306 31.6s 37.27S 177.43E 144km M=3.9
0.5 0.05 0.02 5
Rsd 0.2s 14ph/11stn Dmin 86km Az.gap 229°
Corr. 0.365 17M/17stn Msd 0.1

90/9515
AUG 14 1040 11.7s 38.69S 176.12E 0km
0.9 0.03 0.05 R
Rsd 0.4s 5ph/2stn Dmin 6km Az.gap 339°
Corr. 0.092 0M/0stn Msd 0.0
Felt Oruanui Rd (41) MM4. Interpretation doubtful.

90/9520
AUG 14 1729 28.5s 38.50S 175.78E 159km M=3.9
0.7 0.05 0.03 5
Rsd 0.2s 13ph/10stn Dmin 60km Az.gap 200°
Corr. -0.582 17M/17stn Msd 0.2 3↑ 5↓

90/9523
AUG 14 2058 33.4s 38.70S 175.76E 129km M=5.5
0.3 0.01 0.01 3
Rsd 0.2s 36ph/31stn Dmin 1km Az.gap 67°
Corr. 0.067 9M/7stn Msd 0.1 17↑ 6↓
Felt Kakahi (39), Patoka (60) MM4 and Napier (60) to Welllington (68).

90/9538
AUG 15 1230 24.5s 37.82S 176.29E 190km M=4.9
0.5 0.03 0.02 4
Rsd 0.2s 25ph/20stn Dmin 41km Az.gap 179°
Corr. 0.033 19M/17stn Msd 0.2

90/9539
AUG 15 1554 43.4s 40.42S 176.52E 42km M=5.6
0.1 0.01 0.01 2
Rsd 0.1s 43ph/36stn Dmin 30km Az.gap 93°
Corr. -0.605 8M/6stn Msd 0.4 15↑ 11↓
Felt widely from Kakahi (39) to Wellington (68), maximum intensity MM4.

90/9540
AUG 15 1556 53.7s 40.49S 176.47E 41km M=3.6
0.5 0.03 0.05 5
Rsd 0.3s 9ph/7stn Dmin 22km Az.gap 256°
Corr. -0.256 4M/4stn Msd 0.2 1↓

90/9542
AUG 15 1606 04.5s 40.44S 176.51E 38km M=4.0
0.1 0.01 0.02 5
Rsd 0.2s 27ph/22stn Dmin 28km Az.gap 205°
Corr. -0.504 16M/14stn Msd 0.4 1↓

90/9554
AUG 15 1649 25.1s 40.44S 176.53E 43km M=3.6
0.1 0.01 0.01 2
Rsd 0.2s 27ph/21stn Dmin 29km Az.gap 190°
Corr. -0.598 18M/16stn Msd 0.2 3↑ 6↓

90/9561
AUG 15 1746 06.7s 40.44S 176.51E 41km M=3.7
0.1 0.01 0.02 3
Rsd 0.1s 22ph/18stn Dmin 28km Az.gap 205°
Corr. -0.582 8M/6stn Msd 0.2 1↓
WLN readings are auto-picks.

90/9606
AUG 16 1514 52.2s 40.42S 176.49E 38km M=3.5
0.1 0.01 0.02 2
Rsd 0.2s 27ph/23stn Dmin 28km Az.gap 197°
Corr. -0.652 17M/15stn Msd 0.2

90/9608
AUG 16 1520 37.7s 40.43S 176.52E 39km M=3.9
0.1 0.01 0.02 2
Rsd 0.2s 31ph/27stn Dmin 29km Az.gap 187°
Corr. -0.625 18M/16stn Msd 0.2 1↑ 3↓

90/9616
AUG 17 0451 09.4s 35.53S 178.14E 245km M=4.2
1.4 0.35 0.76 47
Rsd 0.3s 13ph/12stn Dmin 282km Az.gap 328°
Corr. -0.906 10M/10stn Msd 0.2

90/9625
AUG 17 1338 11.7s 43.14S 171.67E 5km M=3.5
0.3 0.01 0.02 R
Rsd 0.2s 15ph/8stn Dmin 63km Az.gap 119°
Corr. 0.264 15M/15stn Msd 0.2 2↑ 1↓
Felt Arthur's Pass (93) MM4.

90/9632
AUG 17 1957 18.4s 39.13S 175.10E 185km M=3.8
0.3 0.02 0.03 3
Rsd 0.1s 20ph/16stn Dmin 43km Az.gap 199°
Corr. -0.235 13M/13stn Msd 0.2 1↑

90/9636
AUG 17 2334 47.3s 40.42S 176.46E 43km M=3.9
0.1 0.01 0.02 1
Rsd 0.1s 35ph/31stn Dmin 27km Az.gap 181°
Corr. -0.586 19M/17stn Msd 0.2 2↑ 5↓

90/9637
AUG 18 0219 38.5s 41.11S 174.59E 57km M=3.8
0.1 0.01 0.01 1
Rsd 0.1s 28ph/19stn Dmin 17km Az.gap 63°
Corr. 0.207 7M/6stn Msd 0.1 7↑ 3↓
Felt Johnsonville, Lower Hutt, Porirua (68).

90/9643
AUG 18 0931 10.3s 38.66S 177.93E 47km M=3.5
0.3 0.02 0.03 4
Rsd 0.2s 18ph/15stn Dmin 10km Az.gap 151°
Corr. -0.781 14M/14stn Msd 0.3 1↑ 1↓

90/9646
AUG 18 2109 44.9s 37.55S 177.40E 160km M=3.5
1.1 0.07 0.08 9
Rsd 0.4s 9ph/6stn Dmin 79km Az.gap 227°
Corr. -0.131 3M/3stn Msd 0.1

90/9647
AUG 18 2208 21.9s 38.00S 176.27E 190km M=3.6
1.1 0.08 0.12 14
Rsd 0.3s 9ph/5stn Dmin 33km Az.gap 244°
Corr. -0.871 3M/3stn Msd 0.1

90/9657
AUG 19 0735 35.6s 41.37S 173.15E 110km M=4.4
0.3 0.02 0.02 3
Rsd 0.2s 29ph/17stn Dmin 48km Az.gap 91°
Corr. -0.512 13M/11stn Msd 0.2 2↑ 3↓

90/9664
AUG 19 1628 46.7s 38.77S 175.91E 118km M=3.8
0.4 0.02 0.02 4
Rsd 0.2s 16ph/11stn Dmin 53km Az.gap 114°
Corr. -0.320 13M/13stn Msd 0.2 1↑

90/9667
AUG 19 2041 08.2s 38.42S 175.74E 185km M=4.1
0.5 0.03 0.04 4
Rsd 0.1s 15ph/12stn Dmin 67km Az.gap 204°
Corr. -0.316 16M/16stn Msd 0.1 3↑ 1↓

90/9668
AUG 19 2129 37.2s 38.50S 175.71E 188km M=3.7
0.3 0.02 0.04 3
Rsd 0.1s 13ph/12stn Dmin 58km Az.gap 327°
Corr. -0.167 8M/8stn Msd 0.3

90/9669
AUG 19 2229 08.5s 38.16S 179.13E 12km M=3.9
0.3 0.02 0.02 R
Rsd 0.2s 11ph/9stn Dmin 77km Az.gap 269°
Corr. 0.058 20M/20stn Msd 0.2 1↑

90/9678
AUG 20 1735 21.6s 41.91S 172.10E 91km M=3.5
0.3 0.01 0.03 3
Rsd 0.2s 17ph/10stn Dmin 69km Az.gap 157°
Corr. -0.268 12M/10stn Msd 0.2

90/9681
AUG 20 2112 43.6s 36.77S 179.76E 138km M=3.8
0.4 0.05 0.08 5
Rsd 0.1s 7ph/4stn Dmin 159km Az.gap 342°
Corr. -0.848 4M/4stn Msd 0.3

90/9695
AUG 21 1016 43.0s 40.31S 173.43E 170km M=3.8
0.3 0.02 0.01 2
Rsd 0.2s 34ph/21stn Dmin 69km Az.gap 179°
Corr. -0.178 12M/12stn Msd 0.2 7↑ 3↓

90/9705
AUG 21 1923 26.4s 38.60S 175.52E 185km M=4.0
0.3 0.02 0.02 3
Rsd 0.1s 21ph/14stn Dmin 64km Az.gap 146°
Corr. 0.309 17M/17stn Msd 0.3 1↑ 1↓

90/9706
AUG 21 2145 16.1s 37.15S 176.94E 242km M=3.7
0.9 0.11 0.11 12
Rsd 0.3s 10ph/5stn Dmin 130km Az.gap 266°
Corr. -0.707 4M/4stn Msd 0.2 1↓

90/9715
AUG 22 0700 25.2s 41.23S 174.50E 59km M=4.5
0.1 0.01 0.01 1
Rsd 0.1s 32ph/23stn Dmin 17km Az.gap 79°
Corr. -0.172 13M/12stn Msd 0.2 1↓
Felt Wellington (68) to Blenheim (77), maximum intensity MM4 at Stokes Valley (68).

90/9728
AUG 22 1707 09.2s 43.17S 172.16E 12km M=4.2
0.1 0.00 0.02 R
Rsd 0.1s 13ph/8stn Dmin 44km Az.gap 82°
Corr. 0.486 29M/27stn Msd 0.2 3↑ 2↓
Felt Nelson (76) to Christchurch (110), maximum intensity MM4 at Lake Coleridge (100).

90/9729
AUG 22 1709 42.4s 43.18S 172.17E 12km M=3.0
0.9 0.02 0.12 R
Rsd 0.5s 8ph/4stn Dmin 45km Az.gap 225°
Corr. 0.664 3M/3stn Msd 0.3 1↑ 1↓

90/9732
AUG 22 2053 35.7s 38.47S 176.19E 7km M=3.0
0.1 0.00 0.01 2
Rsd 0.2s 18ph/14stn Dmin 11km Az.gap 71°
Corr. -0.488 3M/3stn Msd 0.2 7↑ 4↓
Felt Orakeikorako, Reporoa, Waikite Valley (33).

90/9736
AUG 22 2214 07.3s 42.01S 173.34E 15km M=4.9
0.2 0.01 0.02 3
Rsd 0.2s 27ph/21stn Dmin 46km Az.gap 92°
Corr. -0.052 31M/29stn Msd 0.2 9↑ 7↓
Felt Wellington (68) to Christchurch (110), maximum intensity MM3 at Blenheim (77).

90/9738
AUG 22 2219 13.4s 42.00S 173.32E 15km M=3.5
0.2 0.01 0.02 4
Rsd 0.3s 12ph/7stn Dmin 43km Az.gap 88°
Corr. 0.236 3M/3stn Msd 1.5

90/9744
AUG 23 0927 52.3s 38.45S 175.79E 156km M=3.5
0.5 0.03 0.03 5
Rsd 0.1s 12ph/7stn Dmin 82km Az.gap 229°
Corr. -0.115 9M/9stn Msd 0.2

90/9746
AUG 23 1028 36.1s 44.24S 168.76E 12km M=3.2
0.2 0.02 0.01 R
Rsd 0.1s 13ph/10stn Dmin 82km Az.gap 221°
Corr. 0.106 11M/11stn Msd 0.1
Felt Mt Aspiring Station (113).

90/9758
AUG 24 0228 22.7s 39.80S 176.92E 44km M=4.3
0.1 0.01 0.01 2
Rsd 0.2s 44ph/35stn Dmin 16km Az.gap 160°
Corr. -0.381 20M/18stn Msd 0.1 5↑ 3↓
Felt Haumoana (60) MM4, Hastings and Napier (60).

90/9770
AUG 24 1401 12.2s 38.17S 176.55E 181km M=3.6
1.2 0.06 0.06 11
Rsd 0.3s 19ph/16stn Dmin 139km Az.gap 204°
Corr. -0.633 8M/8stn Msd 0.3

90/9774
AUG 25 0351 03.7s 37.41S 179.42W 250km M=3.8
2.0 0.25 0.41 R
Rsd 0.6s 8ph/4stn Dmin 218km Az.gap 335°
Corr. -0.813 3M/3stn Msd 0.2

90/9782
AUG 25 1304 02.2s 41.76S 174.02E 33km M=4.4
0.1 0.02 0.01 R
Rsd 0.3s 26ph/20stn Dmin 17km Az.gap 120°
Corr. -0.445 22M/22stn Msd 0.3 8↑ 6↓
Felt Wellington (68) to Marlborough (77,78,84), maximum intensity MM4.

90/9793
AUG 25 2011 43.6s 41.36S 173.18E 107km M=3.7
0.3 0.01 0.01 3
Rsd 0.2s 27ph/16stn Dmin 51km Az.gap 111°
Corr. -0.203 14M/12stn Msd 0.2 9↑ 4↓

90/9800
AUG 26 0126 38.5s 40.41S 176.54E 42km M=3.9
0.2 0.01 0.02 2
Rsd 0.2s 29ph/24stn Dmin 32km Az.gap 206°
Corr. -0.652 16M/14stn Msd 0.2 3↑ 7↓

90/9811
AUG 26 1225 32.7s 39.03S 176.14E 80km M=3.7
0.3 0.01 0.01 3
Rsd 0.3s 35ph/26stn Dmin 15km Az.gap 91°
Corr. -0.193 20M/18stn Msd 0.2 1↑ 1↓

90/9813
AUG 26 1242 23.0s 37.08S 176.86E 246km M=3.6
0.8 0.06 0.06 7
Rsd 0.2s 8ph/6stn Dmin 101km Az.gap 286°
Corr. -0.232 8M/8stn Msd 0.1

90/9825
AUG 27 0312 00.0s 37.46S 176.23E 178km M=3.9
0.9 0.07 0.06 13
Rsd 0.2s 13ph/11stn Dmin 159km Az.gap 252°
Corr. -0.832 19M/19stn Msd 0.2

90/9828
AUG 27 0924 38.8s 38.14S 176.20E 154km M=3.6
1.7 0.06 0.06 14
Rsd 0.3s 10ph/9stn Dmin 28km Az.gap 231°
Corr. -0.527 15M/15stn Msd 0.1

90/9830
AUG 27 1022 25.5s 41.35S 173.04E 97km M=4.3
0.4 0.01 0.02 3
Rsd 0.3s 27ph/17stn Dmin 48km Az.gap 96°
Corr. -0.022 11M/9stn Msd 0.1 1↑ 4↓
Felt Blenheim (77).

90/9840
AUG 27 2055 47.5s 40.54S 175.93E 54km M=4.4
0.1 0.01 0.02 3
Rsd 0.2s 36ph/30stn Dmin 31km Az.gap 94°
Corr. -0.652 10M/10stn Msd 0.3 2↑ 4↓
Felt Palmerston North (62).

90/9873
AUG 29 0938 25.1s 38.23S 176.26E 169km M=3.9
0.9 0.03 0.03 8
Rsd 0.3s 18ph/14stn Dmin 9km Az.gap 111°
Corr. -0.305 19M/19stn Msd 0.2

90/9883
AUG 29 1524 01.1s 39.54S 174.36E 204km M=4.1
0.4 0.01 0.04 4
Rsd 0.3s 37ph/26stn Dmin 37km Az.gap 95°
Corr. -0.180 21M/19stn Msd 0.3 10↑ 3↓

90/9888
AUG 29 2023 34.4s 45.15S 167.37E 64km M=3.6
0.2 0.01 0.01 2
Rsd 0.1s 23ph/15stn Dmin 68km Az.gap 235°
Corr. -0.453 18M/18stn Msd 0.2 1↓

90/9900
AUG 30 1119 37.7s 38.11S 176.13E 163km M=3.6
0.8 0.05 0.10 16
Rsd 0.3s 19ph/16stn Dmin 176km Az.gap 222°
Corr. -0.852 13M/13stn Msd 0.4 2↑ 1↓

90/9906
AUG 30 2203 35.7s 37.78S 177.32E 329km M=3.6
0.4 0.06 0.08 4
Rsd 0.1s 13ph/11stn Dmin 112km Az.gap 286°
Corr. -0.961 9M/9stn Msd 0.2

90/9918
AUG 31 1520 36.7s 38.23S 175.73E 192km M=3.7
1.3 0.05 0.06 11
Rsd 0.4s 25ph/19stn Dmin 99km Az.gap 211°
Corr. -0.754 20M/20stn Msd 0.3

90/9922
AUG 31 1934 59.7s 37.90S 178.36E 16km M=4.5
1.0 0.04 0.08 4
Rsd 0.3s 18ph/16stn Dmin 21km Az.gap 209°
Corr. 0.867 31M/29stn Msd 0.2 1↑

90/9923
AUG 31 1938 15.8s 37.85S 178.47E 8km M=3.9
0.7 0.02 0.07 4
Rsd 0.3s 10ph/8stn Dmin 31km Az.gap 233°
Corr. -0.271 8M/8stn Msd 0.6 1↑

90/9925
AUG 31 2021 43.4s 37.86S 178.46E 5km M=3.6
0.3 0.01 0.03 R
Rsd 0.2s 9ph/6stn Dmin 30km Az.gap 230°
Corr. -0.402 3M/3stn Msd 0.2 1↑

90/9926
AUG 31 2027 11.7s 37.86S 178.44E 5km M=3.5
0.3 0.01 0.03 R
Rsd 0.2s 10ph/6stn Dmin 29km Az.gap 226°
Corr. -0.207 6M/6stn Msd 0.2

90/9931
AUG 31 2221 58.1s 38.02S 176.33E 164km M=4.5
0.5 0.02 0.02 4
Rsd 0.2s 31ph/26stn Dmin 21km Az.gap 152°
Corr. 0.019 23M/22stn Msd 0.3 9↑ 5↓

90/9932
AUG 31 2354 20.7s 38.27S 175.71E 182km M=3.8
1.2 0.05 0.04 10
Rsd 0.2s 14ph/11stn Dmin 96km Az.gap 210°
Corr. -0.377 21M/21stn Msd 0.2 1↑

90/9934
SEP 01 0103 23.3s 38.31S 175.70E 188km M=3.8
1.1 0.05 0.04 10
Rsd 0.2s 17ph/13stn Dmin 94km Az.gap 209°
Corr. -0.422 19M/19stn Msd 0.2 4↑ 2↓

90/9975
SEP 02 1835 45.1s 43.38S 171.35E 12km M=3.5
0.1 0.01 0.01 R
Rsd 0.1s 17ph/12stn Dmin 60km Az.gap 88°
Corr. -0.107 29M/29stn Msd 0.2 1↑ 1↓
Felt Harper River (99) MM4.

90/9985
SEP 03 0251 26.6s 36.79S 177.62E 188km M=4.2
0.3 0.02 0.02 3
Rsd 0.1s 11ph/9stn Dmin 109km Az.gap 270°
Corr. 0.141 23M/23stn Msd 0.2

90/10000
SEP 04 0342 36.3s 37.64S 176.39E 223km M=4.6
0.5 0.03 0.03 4
Rsd 0.2s 28ph/20stn Dmin 63km Az.gap 200°
Corr. -0.047 23M/23stn Msd 0.1 1↑

90/10003
SEP 04 0806 24.0s 38.12S 176.10E 161km M=3.9
1.3 0.04 0.04 12
Rsd 0.3s 11ph/9stn Dmin 52km Az.gap 132°
Corr. -0.500 20M/20stn Msd 0.3 1↑

90/10004
SEP 04 0931 51.0s 38.68S 177.11E 40km M=3.5
0.1 0.01 0.01 3
Rsd 0.2s 26ph/23stn Dmin 20km Az.gap 49°
Corr. -0.099 18M/18stn Msd 0.2 1↓

90/10021
SEP 05 1044 35.9s 38.18S 176.19E 5km
0.0 ND ND R
Rsd 0.0s 3ph/2stn Dmin 0km Az.gap 257°
Corr. 0.000 0M/0stn Msd 0.0
Felt Rotorua (33). Little data.

90/10036
SEP 05 2236 45.7s 38.40S 176.19E 138km M=4.4
0.7 0.02 0.02 6
Rsd 0.2s 27ph/23stn Dmin 25km Az.gap 56°
Corr. -0.275 23M/23stn Msd 0.3 8↑ 7↓

90/10058
SEP 07 0641 05.2s 41.77S 174.36E 23km M=3.6
0.1 0.01 0.01 1
Rsd 0.2s 31ph/19stn Dmin 12km Az.gap 147°
Corr. -0.551 20M/19stn Msd 0.3 1↑ 3↓

90/10061
SEP 07 0954 12.9s 47.47S 165.91E 12km M=4.2
0.5 0.02 0.05 R
Rsd 0.1s 20ph/14stn Dmin 179km Az.gap 317°
Corr. 0.006 16M/16stn Msd 0.2

90/10072
SEP 07 2331 08.2s 40.95S 173.34E 130km M=3.7
0.3 0.01 0.01 2
Rsd 0.3s 32ph/19stn Dmin 52km Az.gap 120°
Corr. -0.243 13M/13stn Msd 0.3 1↑

90/10095
SEP 09 0354 06.1s 40.14S 176.85E 49km M=3.6
0.2 0.01 0.02 3
Rsd 0.2s 40ph/33stn Dmin 53km Az.gap 188°
Corr. -0.656 20M/20stn Msd 0.3 1↑

90/10099
SEP 09 0532 57.0s 43.03S 171.76E 5km M=4.3
0.1 0.00 0.01 R
Rsd 0.1s 18ph/11stn Dmin 50km Az.gap 70°
Corr. 0.239 36M/35stn Msd 0.2 1↑ 1↓
Small events in coda.

90/10100
SEP 09 0543 44.8s 38.28S 176.40E 7km
0.9 0.02 0.03 17
Rsd 0.3s 5ph/3stn Dmin 11km Az.gap 165°
Corr. -0.190 0M/0stn Msd 0.0
Felt Waimumgu Valley (33) MM4.

90/10108
SEP 09 1005 10.1s 38.21S 177.89E 51km M=3.7
0.4 0.02 0.04 6
Rsd 0.3s 7ph/4stn Dmin 35km Az.gap 120°
Corr. -0.484 3M/3stn Msd 0.2

90/10109
SEP 09 1029 01.9s 38.75S 175.61E 127km M=4.1
0.3 0.01 0.02 3
Rsd 0.2s 26ph/19stn Dmin 29km Az.gap 68°
Corr. -0.006 21M/20stn Msd 0.2 1↑ 2↓

90/10116
SEP 09 2155 33.0s 37.26S 177.32E 134km M=3.6
0.4 0.03 0.05 5
Rsd 0.1s 8ph/5stn Dmin 85km Az.gap 264°
Corr. -0.289 9M/9stn Msd 0.1 1↑

90/10119
SEP 10 0003 24.2s 40.66S 179.62E 33km M=3.6
0.7 0.04 0.06 R
Rsd 0.3s 13ph/11stn Dmin 350km Az.gap 256°
Corr. -0.711 9M/9stn Msd 0.2

90/10124
SEP 10 0516 18.5s 38.62S 176.29E 115km M=3.9
0.3 0.01 0.01 3
Rsd 0.2s 24ph/17stn Dmin 27km Az.gap 80°
Corr. 0.033 18M/18stn Msd 0.2 4↑ 7↓

90/10134
SEP 10 1949 54.3s 37.47S 177.29E 138km M=4.0
0.3 0.01 0.01 3
Rsd 0.1s 11ph/8stn Dmin 63km Az.gap 207°
Corr. 0.266 15M/15stn Msd 0.1

90/10144
SEP 11 0628 00.9s 41.34S 172.59E 190km M=4.8
0.3 0.01 0.02 2
Rsd 0.2s 41ph/23stn Dmin 54km Az.gap 120°
Corr. -0.350 14M/14stn Msd 0.2 7↑ 4↓

90/10164
SEP 11 2018 08.6s 36.03S 179.37E 33km M=4.1
0.8 0.06 0.05 R
Rsd 0.3s 10ph/7stn Dmin 198km Az.gap 324°
Corr. 0.084 21M/21stn Msd 0.3

90/10171
SEP 12 0235 33.0s 36.64S 178.12E 167km M=5.4
0.4 0.03 0.02 3
Rsd 0.2s 30ph/26stn Dmin 108km Az.gap 293°
Corr. 0.309 15M/15stn Msd 0.2 3↑ 1↓
Felt Ruatuna Rd (35) MM3.

90/10172
SEP 12 0400 38.1s 41.20S 172.91E 151km M=4.2
0.3 0.02 0.02 3
Rsd 0.2s 31ph/21stn Dmin 52km Az.gap 86°
Corr. -0.371 14M/14stn Msd 0.2 11↑ 3↓

90/10187
SEP 12 1325 44.8s 35.39S 178.72E 246km M=4.4
0.5 0.08 0.04 12
Rsd 0.1s 15ph/12stn Dmin 248km Az.gap 323°
Corr. -0.034 20M/20stn Msd 0.2

90/10195
SEP 12 2245 44.4s 39.15S 174.90E 228km M=4.0
0.5 0.02 0.05 4
Rsd 0.2s 34ph/25stn Dmin 38km Az.gap 156°
Corr. -0.338 21M/21stn Msd 0.2

90/10205
SEP 13 0846 46.5s 38.22S 175.81E 187km M=4.7
0.5 0.02 0.03 4
Rsd 0.2s 33ph/27stn Dmin 34km Az.gap 99°
Corr. -0.019 23M/21stn Msd 0.2 1↑

90/10219
SEP 13 2236 53.1s 37.64S 176.22E 200km M=3.9
0.7 0.05 0.04 8
Rsd 0.2s 17ph/13stn Dmin 77km Az.gap 228°
Corr. -0.695 19M/19stn Msd 0.2 1↓

90/10229
SEP 14 1252 11.3s 39.55S 174.26E 195km M=4.1
0.3 0.01 0.03 3
Rsd 0.2s 39ph/28stn Dmin 64km Az.gap 156°
Corr. -0.391 22M/21stn Msd 0.3 4↑ 1↓

90/10238
SEP 15 0614 25.3s 38.36S 175.34E 159km M=3.6
1.9 0.09 0.14 15
Rsd 0.5s 15ph/12stn Dmin 93km Az.gap 290°
Corr. -0.531 16M/16stn Msd 0.2 1↑

90/10249
SEP 16 0131 37.2s 37.76S 176.37E 319km M=4.0
0.3 0.03 0.04 3
Rsd 0.1s 24ph/16stn Dmin 170km Az.gap 222°
Corr. -0.816 17M/17stn Msd 0.3 1↑ 1↓

90/10255
SEP 16 0553 10.8s 45.27S 167.22E 25km M=3.8
0.2 0.01 0.03 2
Rsd 0.1s 20ph/14stn Dmin 86km Az.gap 241°
Corr. -0.680 16M/16stn Msd 0.2 1↓

90/10264
SEP 16 1317 34.4s 38.09S 176.07E 237km M=3.5
1.2 0.10 0.15 10
Rsd 0.3s 17ph/14stn Dmin 95km Az.gap 224°
Corr. -0.875 13M/13stn Msd 0.2 1↑

90/10274
SEP 16 2252 13.0s 46.79S 165.77E 12km M=4.6
0.5 0.02 0.05 R
Rsd 0.1s 21ph/16stn Dmin 180km Az.gap 301°
Corr. 0.531 22M/22stn Msd 0.4 1↓

90/10275
SEP 16 2321 39.1s 38.13S 176.41E 166km M=4.7
0.4 0.02 0.02 3
Rsd 0.2s 31ph/24stn Dmin 14km Az.gap 140°
Corr. -0.324 22M/21stn Msd 0.2 4↑ 2↓

90/10276
SEP 17 0218 22.7s 37.82S 176.89E 187km M=3.5
1.0 0.07 0.15 14
Rsd 0.3s 10ph/8stn Dmin 124km Az.gap 229°
Corr. -0.781 7M/6stn Msd 0.2

90/10279
SEP 17 0547 03.3s 35.90S 178.84E 238km M=4.3
0.7 0.10 0.16 10
Rsd 0.2s 9ph/5stn Dmin 195km Az.gap 335°
Corr. -0.820 14M/13stn Msd 0.2

90/10283
SEP 17 0955 14.7s 38.38S 176.17E 6km M=2.3
0.1 0.00 0.01 4
Rsd 0.1s 11ph/10stn Dmin 8km Az.gap 70°
Corr. 0.340 4M/4stn Msd 0.2 2↑ 3↓
Felt Ngakuru, Parson Rd (33) MM4.

90/10284
SEP 17 1033 36.7s 38.38S 176.18E 5km M=2.7
0.1 0.01 0.01 R
Rsd 0.2s 12ph/9stn Dmin 19km Az.gap 82°
Corr. 0.363 5M/5stn Msd 0.3 2↑ 3↓
Felt Ngakuru (33) MM4.

90/10288
SEP 17 1212 09.3s 38.49S 175.71E 167km M=3.8
0.3 0.03 0.02 2
Rsd 0.1s 19ph/13stn Dmin 77km Az.gap 201°
Corr. -0.324 21M/20stn Msd 0.3 5↑ 1↓

90/10290
SEP 17 1418 13.9s 38.37S 176.21E 2km M=3.1
0.1 0.01 0.01 R
Rsd 0.3s 19ph/18stn Dmin 18km Az.gap 67°
Corr. 0.198 14M/14stn Msd 0.2 1↑ 2↓
Felt Ngakuru, Parson Rd (33) MM4.

90/10300
SEP 18 0404 59.9s 41.32S 173.80E 66km M=3.6
0.2 0.01 0.01 3
Rsd 0.3s 26ph/18stn Dmin 42km Az.gap 73°
Corr. -0.311 10M/10stn Msd 0.2 4↑ 6↓

90/10301
SEP 18 0534 04.2s 37.40S 178.10E 76km M=3.8
0.2 0.01 0.01 2
Rsd 0.1s 12ph/7stn Dmin 29km Az.gap 245°
Corr. 0.054 15M/15stn Msd 0.3 2↑ 1↓

90/10303
SEP 18 0634 57.6s 41.27S 172.65E 213km M=4.4
0.2 0.01 0.01 2
Rsd 0.1s 31ph/20stn Dmin 50km Az.gap 115°
Corr. -0.159 14M/14stn Msd 0.2 11↑ 3↓

90/10325
SEP 19 0036 42.3s 49.55S 164.88E 33km M=3.7
0.1 0.01 0.02 R
Rsd 0.0s 8ph/6stn Dmin 380km Az.gap 347°
Corr. -0.773 11M/11stn Msd 0.2

90/10333
SEP 19 0915 36.9s 35.19S 179.25E 218km M=4.5
0.2 0.04 0.02 6
Rsd 0.1s 12ph/7stn Dmin 280km Az.gap 328°
Corr. 0.073 20M/19stn Msd 0.2 1↑

90/10338
SEP 19 1504 40.9s 43.83S 169.01E 12km M=3.5
0.2 0.01 0.02 R
Rsd 0.2s 16ph/13stn Dmin 104km Az.gap 201°
Corr. -0.543 19M/19stn Msd 0.2

90/10349
SEP 19 2347 17.6s 39.64S 174.30E 200km M=4.0
0.3 0.01 0.02 3
Rsd 0.2s 35ph/25stn Dmin 44km Az.gap 109°
Corr. -0.461 22M/20stn Msd 0.2

90/10379
SEP 21 0625 50.7s 39.59S 174.41E 211km M=4.3
0.2 0.01 0.02 2
Rsd 0.2s 44ph/33stn Dmin 44km Az.gap 93°
Corr. -0.338 24M/22stn Msd 0.3 1↑

90/10386
SEP 21 1239 38.3s 38.76S 175.60E 133km M=3.5
0.4 0.02 0.03 4
Rsd 0.2s 25ph/17stn Dmin 27km Az.gap 171°
Corr. -0.227 21M/21stn Msd 0.3 1↑

90/10387
SEP 21 1302 23.8s 46.65S 165.87E 33km M=3.9
0.2 0.03 0.02 R
Rsd 0.1s 20ph/14stn Dmin 168km Az.gap 328°
Corr. -0.152 14M/14stn Msd 0.2

90/10412
SEP 22 1331 29.0s 37.19S 176.85E 197km M=3.9
1.0 0.06 0.07 11
Rsd 0.3s 14ph/12stn Dmin 137km Az.gap 259°
Corr. -0.609 17M/17stn Msd 0.3 1↓

90/10420
SEP 22 2253 58.2s 36.96S 176.97E 227km M=4.3
0.2 0.03 0.02 3
Rsd 0.1s 12ph/9stn Dmin 114km Az.gap 269°
Corr. -0.060 19M/19stn Msd 0.3

90/10421
SEP 23 0101 52.9s 40.45S 176.51E 26km M=4.2
0.1 0.01 0.01 1
Rsd 0.1s 37ph/33stn Dmin 27km Az.gap 180°
Corr. -0.730 29M/27stn Msd 0.4 5↑ 4↓
Felt Tipapakuku Rd (63) MM4.

90/10422
SEP 23 0106 52.6s 40.45S 176.42E 18km M=3.6
0.1 0.01 0.01 1
Rsd 0.2s 31ph/24stn Dmin 61km Az.gap 185°
Corr. -0.727 22M/22stn Msd 0.2 4↑ 2↓
Felt Tipapakuku Rd (63) MM4, Palmerston North (62).

90/10438
SEP 23 2312 36.2s 38.76S 175.69E 179km M=3.6
0.3 0.02 0.04 2
Rsd 0.1s 19ph/16stn Dmin 47km Az.gap 310°
Corr. 0.270 9M/9stn Msd 0.2

90/10440
SEP 24 0305 28.1s 38.06S 176.67E 4km M=3.1
1.1 0.03 0.03 10
Rsd 0.5s 12ph/11stn Dmin 24km Az.gap 149°
Corr. 0.007 5M/5stn Msd 0.3
Felt Kawerau (34) MM4.

90/10446
SEP 24 0757 03.5s 39.54S 174.32E 205km M=3.7
0.6 0.02 0.05 6
Rsd 0.2s 20ph/17stn Dmin 60km Az.gap 193°
Corr. -0.371 13M/13stn Msd 0.3 4↑ 1↓

90/10459
SEP 25 0042 04.2s 37.97S 174.36E 5km M=3.7
0.1 0.00 0.01 R
Rsd 0.1s 23ph/16stn Dmin 72km Az.gap 170°
Corr. -0.291 22M/22stn Msd 0.2 3↑ 1↓

90/10460
SEP 25 0058 24.2s 40.03S 176.92E 37km M=3.6
0.1 0.01 0.01 3
Rsd 0.2s 40ph/31stn Dmin 10km Az.gap 177°
Corr. -0.361 21M/21stn Msd 0.2

90/10471
SEP 25 0845 37.3s 41.76S 172.96E 102km M=3.7
0.2 0.01 0.01 3
Rsd 0.2s 29ph/20stn Dmin 5km Az.gap 70°
Corr. -0.289 13M/13stn Msd 0.2 4↑ 6↓

90/10472
SEP 25 0850 21.9s 40.39S 174.52E 99km M=3.9
0.2 0.01 0.01 3
Rsd 0.2s 40ph/25stn Dmin 62km Az.gap 91°
Corr. -0.067 16M/14stn Msd 0.2 7↑ 3↓

90/10476
SEP 25 1135 15.6s 38.36S 175.74E 200km M=3.5
0.9 0.07 0.09 10
Rsd 0.4s 26ph/19stn Dmin 92km Az.gap 206°
Corr. -0.805 16M/16stn Msd 0.2

90/10490
SEP 25 2238 31.9s 38.36S 176.13E 166km M=3.6
0.7 0.04 0.02 5
Rsd 0.1s 16ph/12stn Dmin 102km Az.gap 222°
Corr. -0.605 10M/10stn Msd 0.1

90/10497
SEP 26 0341 33.0s 39.51S 174.53E 132km M=4.2
0.3 0.01 0.02 3
Rsd 0.2s 35ph/27stn Dmin 46km Az.gap 76°
Corr. -0.424 23M/21stn Msd 0.2

90/10498
SEP 26 0512 54.9s 36.26S 177.03E 102km M=3.9
0.2 0.02 0.02 3
Rsd 0.1s 11ph/8stn Dmin 187km Az.gap 300°
Corr. -0.598 12M/11stn Msd 0.4

90/10499
SEP 26 0544 20.0s 45.27S 167.63E 89km M=3.6
0.4 0.03 0.05 4
Rsd 0.2s 21ph/14stn Dmin 83km Az.gap 253°
Corr. -0.875 12M/12stn Msd 0.1

90/10502
SEP 26 0649 16.1s 35.74S 177.26E 225km M=4.0
0.5 0.02 0.05 7
Rsd 0.1s 9ph/5stn Dmin 227km Az.gap 321°
Corr. -0.566 5M/5stn Msd 0.3

90/10504
SEP 26 0739 29.5s 40.33S 174.46E 68km M=3.7
0.2 0.01 0.01 3
Rsd 0.1s 33ph/25stn Dmin 69km Az.gap 94°
Corr. -0.021 16M/16stn Msd 0.2

90/10506
SEP 26 0846 07.8s 35.51S 176.98E 33km M=4.2
0.6 0.05 0.05 R
Rsd 0.2s 6ph/4stn Dmin 261km Az.gap 320°
Corr. 0.494 4M/4stn Msd 0.2

90/10514
SEP 26 1652 04.3s 37.46S 177.31E 114km M=3.5
0.2 0.01 0.01 2
Rsd 0.1s 13ph/9stn Dmin 64km Az.gap 207°
Corr. 0.050 10M/10stn Msd 0.2

90/10519
SEP 26 2247 50.0s 38.16S 177.04E 73km M=3.6
0.4 0.02 0.02 3
Rsd 0.2s 17ph/14stn Dmin 20km Az.gap 88°
Corr. -0.171 18M/18stn Msd 0.2

90/10523
SEP 27 1007 44.1s 37.79S 179.39E 13km M=3.6
0.2 0.01 0.01 1
Rsd 0.1s 13ph/10stn Dmin 99km Az.gap 297°
Corr. 0.026 15M/15stn Msd 0.3 1↑

90/10524
SEP 27 1056 57.3s 34.35S 178.72E 230km M=4.1
0.3 0.04 0.10 8
Rsd 0.1s 11ph/7stn Dmin 363km Az.gap 340°
Corr. -0.813 7M/7stn Msd 0.3

90/10536
SEP 27 1914 47.5s 38.52S 175.77E 167km M=3.6
0.6 0.05 0.03 5
Rsd 0.2s 20ph/15stn Dmin 74km Az.gap 213°
Corr. -0.193 19M/19stn Msd 0.3 1↑

90/10540
SEP 27 2328 59.6s 40.44S 176.46E 42km M=3.7
0.1 0.01 0.02 2
Rsd 0.2s 31ph/26stn Dmin 25km Az.gap 188°
Corr. -0.570 19M/17stn Msd 0.2 1↓

90/10541
SEP 28 0049 46.0s 38.31S 177.95E 58km M=4.2
0.2 0.01 0.02 3
Rsd 0.2s 25ph/21stn Dmin 35km Az.gap 123°
Corr. 0.215 21M/21stn Msd 0.3
Felt Ruatuna Rd (35) MM3.

90/10542
SEP 28 0223 14.5s 38.50S 175.79E 198km M=3.6
0.5 0.03 0.04 5
Rsd 0.1s 12ph/11stn Dmin 142km Az.gap 317°
Corr. -0.479 9M/9stn Msd 0.3

90/10543
SEP 28 0321 53.1s 39.68S 174.41E 107km M=3.6
0.3 0.01 0.02 3
Rsd 0.2s 30ph/21stn Dmin 47km Az.gap 98°
Corr. -0.496 14M/14stn Msd 0.2 1↓

90/10557
SEP 28 2207 28.5s 40.19S 174.97E 12km M=4.1
0.1 0.00 0.01 2
Rsd 0.2s 36ph/30stn Dmin 44km Az.gap 73°
Corr. -0.158 26M/24stn Msd 0.2 3↑ 4↓
Felt Wanganui (57) MM4.

90/10563
SEP 29 0219 25.3s 37.62S 176.13E 274km M=4.0
1.4 0.10 0.11 14
Rsd 0.5s 14ph/13stn Dmin 144km Az.gap 230°
Corr. -0.668 12M/12stn Msd 0.3

90/10569
SEP 29 1625 51.9s 41.24S 172.60E 215km M=4.1
0.3 0.02 0.02 3
Rsd 0.2s 24ph/18stn Dmin 46km Az.gap 122°
Corr. -0.158 12M/12stn Msd 0.3 4↑ 1↓

90/10580
SEP 30 1021 22.9s 40.80S 175.49E 28km M=3.5
0.1 0.01 0.01 2
Rsd 0.2s 22ph/16stn Dmin 40km Az.gap 106°
Corr. -0.711 14M/12stn Msd 0.2 1↓

90/10603
OCT 01 1556 06.4s 41.70S 174.08E 40km M=3.5
0.1 0.01 0.01 3
Rsd 0.3s 29ph/20stn Dmin 13km Az.gap 91°
Corr. -0.520 12M/11stn Msd 0.2 4↑ 4↓

90/10604
OCT 01 1600 31.9s 38.28S 176.32E 2km M=1.9
1.9 0.15 0.05 R
Rsd 0.5s 5ph/3stn Dmin 16km Az.gap 245°
Corr. 0.852 1M/1stn Msd 0.0
Felt Rotorua (33).

90/10617
OCT 02 0819 13.2s 37.97S 176.52E 99km M=3.5
0.8 0.05 0.03 11
Rsd 0.4s 10ph/8stn Dmin 41km Az.gap 159°
Corr. -0.602 11M/11stn Msd 0.2 1↑

90/10640
OCT 03 1420 33.0s 38.52S 175.63E 175km M=3.7
0.5 0.03 0.02 4
Rsd 0.2s 22ph/15stn Dmin 54km Az.gap 156°
Corr. 0.516 16M/16stn Msd 0.2

90/10649
OCT 04 0131 50.2s 38.63S 175.69E 162km M=3.9
0.3 0.01 0.01 3
Rsd 0.1s 18ph/12stn Dmin 61km Az.gap 155°
Corr. 0.182 18M/18stn Msd 0.3

90/10650
OCT 04 0243 51.9s 39.77S 176.91E 32km M=3.6
0.2 0.01 0.02 1
Rsd 0.3s 32ph/27stn Dmin 12km Az.gap 172°
Corr. -0.377 24M/24stn Msd 0.3 5↑ 4↓

90/10676
OCT 04 2348 26.7s 41.68S 175.51E 22km M=5.3
0.4 0.02 0.02 2
Rsd 0.2s 23ph/19stn Dmin 35km Az.gap 188°
Corr. -0.543 31M/31stn Msd 0.4 16↑ 7↓
Felt lower North Island and Nelson (76), maximum intensity MM6 at Arohanui (70).

90/10681
OCT 05 0004 35.1s 41.65S 175.51E 25km M=4.0
0.3 0.02 0.02 2
Rsd 0.2s 21ph/19stn Dmin 31km Az.gap 192°
Corr. -0.578 21M/21stn Msd 0.3 5↑ 2↓
Felt Otaraia (69) MM4.

90/10692
OCT 05 0105 06.6s 41.67S 175.49E 25km M=3.5
0.3 0.02 0.01 1
Rsd 0.2s 22ph/15stn Dmin 33km Az.gap 212°
Corr. -0.563 14M/14stn Msd 0.2 9↑ 2↓

90/10703
OCT 05 0133 35.4s 41.65S 175.50E 23km M=4.2
0.4 0.02 0.02 2
Rsd 0.2s 21ph/19stn Dmin 31km Az.gap 191°
Corr. -0.637 28M/28stn Msd 0.4 13↑ 5↓
Felt Wellington area (68), max. intensity MM 3.

90/10704
OCT 05 0135 14.2s 41.60S 175.47E 20km M=3.7
0.5 0.03 0.02 2
Rsd 0.2s 15ph/11stn Dmin 26km Az.gap 290°
Corr. -0.750 3M/3stn Msd 0.7 1↑

90/10714
OCT 05 0159 35.2s 41.65S 175.52E 24km M=3.5
0.3 0.02 0.02 1
Rsd 0.3s 24ph/16stn Dmin 32km Az.gap 213°
Corr. -0.516 15M/14stn Msd 0.2 7↑ 4↓

90/10856
OCT 05 1711 34.0s 41.67S 175.50E 22km M=3.7
0.3 0.02 0.02 1
Rsd 0.2s 26ph/17stn Dmin 19km Az.gap 196°
Corr. -0.609 17M/16stn Msd 0.2 4↑ 5↓

90/10865
OCT 05 1814 51.7s 41.66S 175.52E 21km M=4.0
0.4 0.02 0.02 1
Rsd 0.3s 26ph/20stn Dmin 18km Az.gap 194°
Corr. -0.688 21M/20stn Msd 0.2 10↑ 5↓
Felt Khandallah (68) MM3 and Tawa (68).

90/10880
OCT 05 2140 52.0s 40.70S 174.62E 58km M=4.1
0.2 0.01 0.02 4
Rsd 0.2s 30ph/23stn Dmin 31km Az.gap 99°
Corr. -0.355 10M/10stn Msd 0.2 3↑ 3↓

90/10898
OCT 06 0241 13.3s 41.68S 175.50E 22km M=5.3
0.3 0.02 0.02 2
Rsd 0.2s 25ph/20stn Dmin 21km Az.gap 188°
Corr. -0.305 29M/28stn Msd 0.4 16↑ 6↓
Felt lower North Island, Blenheim (77) and Picton (78), maximum intensity MM4.

90/10936
OCT 06 0427 22.5s 41.70S 175.52E 22km M=3.8
0.3 0.02 0.02 1
Rsd 0.2s 20ph/16stn Dmin 21km Az.gap 215°
Corr. -0.660 13M/12stn Msd 0.4 5↑ 2↓

90/10942
OCT 06 0544 28.1s 40.67S 173.35E 153km M=3.9
0.4 0.02 0.02 4
Rsd 0.2s 35ph/23stn Dmin 51km Az.gap 127°
Corr. -0.203 15M/14stn Msd 0.2 6↑ 3↓

90/10943
OCT 06 0549 49.9s 41.67S 175.53E 24km M=3.9
0.2 0.01 0.02 1
Rsd 0.2s 22ph/16stn Dmin 19km Az.gap 196°
Corr. -0.375 11M/10stn Msd 0.2 1↓

90/10944
OCT 06 0551 09.1s 41.67S 175.50E 22km M=3.5
0.3 0.02 0.02 1
Rsd 0.3s 26ph/16stn Dmin 18km Az.gap 196°
Corr. -0.605 13M/12stn Msd 0.2 2↑ 3↓

90/10981
OCT 06 2101 55.2s 38.25S 176.08E 214km M=3.9
0.6 0.13 0.09 17
Rsd 0.1s 15ph/13stn Dmin 268km Az.gap 335°
Corr. 0.194 6M/6stn Msd 0.3

90/10982
OCT 06 2201 57.7s 38.21S 177.65E 75km M=4.8
0.4 0.01 0.02 5
Rsd 0.2s 30ph/29stn Dmin 55km Az.gap 70°
Corr. 0.398 15M/15stn Msd 0.2 8↑ 5↓
Felt Whakatane (27).

90/10994
OCT 07 0915 05.8s 37.80S 176.39E 152km M=3.6
1.5 0.06 0.05 12
Rsd 0.2s 11ph/10stn Dmin 57km Az.gap 231°
Corr. -0.002 13M/13stn Msd 0.3 1↑

90/10999
OCT 07 1202 10.2s 37.69S 179.85E 12km M=4.1
0.9 0.04 0.07 R
Rsd 0.2s 10ph/9stn Dmin 137km Az.gap 307°
Corr. 0.377 22M/22stn Msd 0.2

90/11038
OCT 08 1615 24.7s 43.77S 168.86E 33km M=4.3
0.7 0.04 0.06 R
Rsd 0.2s 17ph/13stn Dmin 118km Az.gap 204°
Corr. -0.676 23M/23stn Msd 0.3 1↑ 10↓

90/11039
OCT 08 1622 17.3s 35.32S 177.00E 33km M=4.2
1.2 0.08 0.09 R
Rsd 0.4s 8ph/4stn Dmin 279km Az.gap 324°
Corr. 0.175 3M/3stn Msd 0.2

90/11045
OCT 08 2122 37.7s 37.90S 176.13E 237km M=3.8
1.5 0.05 0.05 13
Rsd 0.2s 16ph/15stn Dmin 114km Az.gap 231°
Corr. -0.781 17M/17stn Msd 0.1

90/11065
OCT 09 0003 58.4s 37.03S 177.41E 195km M=3.6
0.3 0.07 0.14 9
Rsd 0.1s 10ph/6stn Dmin 138km Az.gap 301°
Corr. -0.949 8M/8stn Msd 0.2

90/11087
OCT 09 0728 08.0s 34.91S 179.24E 306km M=4.1
0.6 0.06 0.09 4
Rsd 0.1s 12ph/7stn Dmin 362km Az.gap 341°
Corr. -0.508 11M/11stn Msd 0.2

90/11096
OCT 09 1137 59.6s 37.69S 179.91W 33km M=4.2
0.5 0.03 0.04 R
Rsd 0.2s 15ph/11stn Dmin 158km Az.gap 308°
Corr. 0.041 31M/30stn Msd 0.2

90/11116
OCT 10 0737 43.0s 41.67S 175.47E 24km M=3.9
0.3 0.02 0.02 1
Rsd 0.2s 23ph/17stn Dmin 33km Az.gap 193°
Corr. -0.613 23M/22stn Msd 0.3 9↑ 2↓
Felt Kelburn (68).

90/11124
OCT 10 1020 19.0s 35.83S 178.53E 109km M=3.7
0.4 0.04 0.04 8
Rsd 0.1s 8ph/4stn Dmin 197km Az.gap 341°
Corr. -0.490 4M/4stn Msd 0.2

90/11136
OCT 10 2057 02.3s 38.03S 179.54W 33km M=3.7
0.7 0.07 0.07 R
Rsd 0.2s 10ph/7stn Dmin 193km Az.gap 306°
Corr. -0.010 10M/10stn Msd 0.2

90/11139
OCT 10 2317 28.1s 40.45S 176.58E 41km M=3.8
0.2 0.01 0.03 3
Rsd 0.2s 29ph/25stn Dmin 32km Az.gap 200°
Corr. -0.582 19M/19stn Msd 0.2 1↑ 5↓

90/11150
OCT 11 1117 15.7s 38.34S 176.56E 153km M=3.6
0.9 0.06 0.13 7
Rsd 0.3s 10ph/6stn Dmin 49km Az.gap 218°
Corr. -0.656 10M/10stn Msd 0.3

90/11164
OCT 11 1605 35.6s 36.88S 177.64E 164km M=4.3
0.5 0.04 0.03 5
Rsd 0.2s 18ph/14stn Dmin 99km Az.gap 230°
Corr. 0.408 20M/20stn Msd 0.2 1↓

90/11166
OCT 11 1713 18.7s 35.20S 178.69E 272km M=4.2
0.7 0.07 0.11 8
Rsd 0.2s 11ph/7stn Dmin 269km Az.gap 311°
Corr. -0.001 13M/13stn Msd 0.2

90/11168
OCT 11 1834 02.6s 40.22S 173.50E 177km M=3.7
0.4 0.02 0.02 3
Rsd 0.2s 27ph/19stn Dmin 74km Az.gap 183°
Corr. -0.127 10M/10stn Msd 0.3 1↑ 1↓

90/11179
OCT 12 0254 31.1s 38.03S 175.97E 283km M=3.8
0.6 0.05 0.06 4
Rsd 0.2s 16ph/12stn Dmin 103km Az.gap 242°
Corr. -0.625 13M/13stn Msd 0.3

90/11197
OCT 12 1315 45.8s 46.56S 166.05E 33km M=3.5
0.5 0.03 0.06 R
Rsd 0.2s 16ph/12stn Dmin 151km Az.gap 311°
Corr. -0.237 12M/12stn Msd 0.1 1↑

90/11206
OCT 12 1754 31.4s 36.46S 177.79E 142km M=3.6
0.4 0.04 0.04 6
Rsd 0.1s 10ph/7stn Dmin 134km Az.gap 260°
Corr. 0.281 9M/9stn Msd 0.1

90/11208
OCT 12 1954 33.7s 39.27S 174.86E 240km M=3.6
0.2 0.02 0.04 3
Rsd 0.0s 13ph/9stn Dmin 59km Az.gap 293°
Corr. -0.297 10M/10stn Msd 0.2

90/11216
OCT 13 0117 15.5s 40.36S 173.49E 193km M=4.2
0.3 0.02 0.02 2
Rsd 0.2s 32ph/23stn Dmin 62km Az.gap 147°
Corr. -0.103 22M/21stn Msd 0.2 6↑ 3↓

90/11217
OCT 13 0338 57.7s 37.04S 176.24E 287km M=3.7
0.8 0.11 0.15 8
Rsd 0.2s 9ph/7stn Dmin 156km Az.gap 271°
Corr. -0.887 6M/6stn Msd 0.3

90/11227
OCT 13 0853 36.9s 37.26S 176.32E 184km M=3.5
0.4 0.07 0.04 5
Rsd 0.2s 9ph/5stn Dmin 131km Az.gap 261°
Corr. -0.200 10M/10stn Msd 0.2

90/11233
OCT 13 1513 00.7s 37.21S 177.51E 128km M=4.2
0.4 0.02 0.02 4
Rsd 0.2s 23ph/18stn Dmin 82km Az.gap 195°
Corr. 0.181 22M/22stn Msd 0.2 2↑ 3↓

90/11252
OCT 14 0857 29.7s 46.57S 166.25E 5km M=3.6
0.4 0.04 0.02 R
Rsd 0.1s 15ph/13stn Dmin 138km Az.gap 306°
Corr. 0.221 13M/13stn Msd 0.2 1↓
Unstable solution.

90/11253
OCT 14 0909 17.3s 46.51S 166.26E 5km M=3.5
0.2 0.03 0.01 R
Rsd 0.1s 13ph/11stn Dmin 134km Az.gap 306°
Corr. 0.012 13M/13stn Msd 0.2 1↓
Unstable solution.

90/11263
OCT 14 1619 44.9s 38.52S 176.46E 100km M=3.6
0.3 0.02 0.01 3
Rsd 0.2s 26ph/17stn Dmin 41km Az.gap 148°
Corr. -0.395 20M/20stn Msd 0.3 3↑ 4↓

90/11265
OCT 14 1702 40.6s 35.21S 178.19E 311km M=4.4
0.1 0.01 0.02 1
Rsd 0.0s 13ph/9stn Dmin 352km Az.gap 332°
Corr. -0.338 10M/10stn Msd 0.4

90/11269
OCT 14 1727 02.8s 40.32S 176.45E 60km M=3.7
0.2 0.01 0.02 3
Rsd 0.2s 30ph/24stn Dmin 36km Az.gap 164°
Corr. -0.555 18M/17stn Msd 0.2 6↑ 3↓

90/11272
OCT 14 1938 58.9s 41.66S 175.43E 23km M=3.7
0.2 0.01 0.01 1
Rsd 0.2s 21ph/13stn Dmin 30km Az.gap 234°
Corr. -0.516 11M/10stn Msd 0.1 1↑ 4↓

90/11338
OCT 15 0313 24.9s 41.64S 175.43E 24km M=3.9
0.2 0.01 0.01 2
Rsd 0.2s 17ph/15stn Dmin 29km Az.gap 192°
Corr. -0.191 13M/12stn Msd 0.3 4↑ 6↓
Felt Wellington city (68).

90/11364
OCT 15 0827 22.4s 41.63S 175.43E 24km M=3.5
0.3 0.02 0.01 2
Rsd 0.2s 19ph/16stn Dmin 28km Az.gap 191°
Corr. -0.543 13M/12stn Msd 0.2 4↑ 4↓

90/11384
OCT 15 1737 53.5s 38.71S 176.13E 1km M=2.8
0.3 0.01 0.01 1
Rsd 0.3s 19ph/17stn Dmin 9km Az.gap 52°
Corr. 0.131 11M/11stn Msd 0.3
Felt Taupo (41) MM5.

90/11386
OCT 15 1815 51.4s 42.24S 172.72E 5km M=4.7
0.1 0.01 0.01 R
Rsd 0.2s 25ph/18stn Dmin 55km Az.gap 75°
Corr. -0.042 33M/32stn Msd 0.2 2↑ 3↓
Felt Maruia (87) and Mahitahi (104) MM4.

90/11417
OCT 16 1256 25.6s 36.71S 176.95E 234km M=3.7
1.2 0.12 0.16 13
Rsd 0.4s 8ph/5stn Dmin 155km Az.gap 294°
Corr. -0.742 4M/4stn Msd 0.2

90/11426
OCT 17 0008 16.9s 38.49S 175.48E 239km M=3.9
1.3 0.06 0.07 11
Rsd 0.5s 16ph/13stn Dmin 60km Az.gap 161°
Corr. -0.492 13M/13stn Msd 0.2

90/11427
OCT 17 0011 52.2s 41.34S 172.79E 131km M=3.7
0.4 0.02 0.02 4
Rsd 0.3s 22ph/15stn Dmin 48km Az.gap 98°
Corr. -0.299 11M/11stn Msd 0.3 1↑

90/11434
OCT 17 0324 02.4s 38.86S 175.46E 225km M=3.7
0.4 0.02 0.04 3
Rsd 0.1s 19ph/15stn Dmin 37km Az.gap 203°
Corr. -0.408 10M/10stn Msd 0.1 1↑

90/11437
OCT 17 1041 13.1s 38.15S 176.35E 153km M=3.7
0.5 0.06 0.05 4
Rsd 0.2s 12ph/8stn Dmin 67km Az.gap 216°
Corr. -0.816 10M/10stn Msd 0.4 1↑

90/11441
OCT 17 1224 08.4s 45.12S 167.45E 60km M=3.6
0.2 0.02 0.03 7
Rsd 0.1s 21ph/13stn Dmin 104km Az.gap 237°
Corr. -0.918 15M/15stn Msd 0.2 1↓

90/11459
OCT 18 0706 35.8s 40.76S 174.98E 15km M=3.2
0.1 0.01 0.01 2
Rsd 0.2s 25ph/20stn Dmin 13km Az.gap 91°
Corr. -0.396 13M/13stn Msd 0.2 9↑ 1↓
Felt Pukerua Bay (68) MM3.

90/11461
OCT 18 0740 50.8s 41.03S 172.88E 195km M=3.8
0.3 0.02 0.02 3
Rsd 0.2s 27ph/17stn Dmin 37km Az.gap 128°
Corr. -0.180 11M/11stn Msd 0.2 10↑ 3↓

90/11465
OCT 18 1045 17.6s 40.35S 176.47E 35km M=3.9
0.2 0.01 0.02 2
Rsd 0.2s 31ph/28stn Dmin 34km Az.gap 173°
Corr. -0.156 16M/16stn Msd 0.2 6↑ 4↓
Felt Dannevirke (63) MM4.

90/11472
OCT 18 1526 39.4s 38.09S 176.54E 150km M=4.6
0.2 0.01 0.01 2
Rsd 0.2s 37ph/27stn Dmin 16km Az.gap 97°
Corr. 0.003 21M/21stn Msd 0.3 18↑ 12↓

90/11491
OCT 19 0328 09.8s 38.23S 176.23E 154km M=5.5
0.3 0.01 0.01 2
Rsd 0.2s 48ph/34stn Dmin 7km Az.gap 63°
Corr. -0.093 8M/8stn Msd 0.3 7↑ 10↓
Felt Mount Victoria (68).

90/11499
OCT 19 0927 24.7s 38.37S 176.22E 158km M=4.3
0.3 0.01 0.01 2
Rsd 0.2s 34ph/23stn Dmin 21km Az.gap 76°
Corr. -0.146 20M/20stn Msd 0.4 11↑ 7↓

90/11500
OCT 19 0936 07.8s 38.58S 178.49E 51km M=4.5
0.3 0.01 0.02 2
Rsd 0.1s 29ph/23stn Dmin 40km Az.gap 228°
Corr. -0.691 19M/19stn Msd 0.1 10↑ 8↓

90/11520
OCT 20 0237 52.4s 38.75S 175.33E 225km M=4.1
0.5 0.03 0.03 4
Rsd 0.2s 20ph/12stn Dmin 42km Az.gap 76°
Corr. -0.130 16M/16stn Msd 0.3 14↑ 7↓

90/11529
OCT 20 0858 46.5s 42.21S 172.74E 3km M=4.9
0.2 0.01 0.01 2
Rsd 0.1s 20ph/18stn Dmin 52km Az.gap 73°
Corr. -0.084 29M/29stn Msd 0.3 9↑ 3↓
Felt Upper Wairau (81) and Hanmer Springs (88) MM4.

90/11530
OCT 20 0859 56.3s 42.29S 172.75E 5km M=4.2
0.2 0.01 0.02 R
Rsd 0.3s 14ph/9stn Dmin 59km Az.gap 80°
Corr. 0.111 9M/9stn Msd 0.4
In coda of large event - magnitude doubtful.

90/11541
OCT 20 1119 55.4s 38.80S 175.37E 233km M=3.8
0.9 0.05 0.07 7
Rsd 0.3s 15ph/10stn Dmin 36km Az.gap 203°
Corr. -0.264 15M/15stn Msd 0.3 4↑ 2↓
No records from WLZ or MOZ.

90/11567
OCT 21 0155 31.4s 35.79S 178.07E 196km M=3.6
0.2 0.03 0.03 5
Rsd 0.1s 8ph/4stn Dmin 202km Az.gap 337°
Corr. -0.254 4M/4stn Msd 0.1

90/11616
OCT 22 2029 26.2s 36.58S 176.79E 286km M=3.5
1.8 0.17 0.27 17
Rsd 0.5s 6ph/4stn Dmin 176km Az.gap 296°
Corr. -0.875 4M/4stn Msd 0.1

90/11617
OCT 22 2103 42.0s 40.39S 173.41E 183km M=4.6
0.3 0.01 0.02 3
Rsd 0.2s 38ph/28stn Dmin 63km Az.gap 148°
Corr. -0.100 14M/14stn Msd 0.3 18↑ 10↓

90/11626
OCT 23 1026 46.1s 38.67S 175.23E 233km M=4.2
0.7 0.05 0.05 5
Rsd 0.4s 22ph/17stn Dmin 42km Az.gap 75°
Corr. -0.205 19M/19stn Msd 0.3 9↑ 4↓

90/11635
OCT 23 1319 31.4s 38.87S 175.46E 249km M=3.8
0.5 0.03 0.07 4
Rsd 0.2s 15ph/10stn Dmin 31km Az.gap 197°
Corr. -0.361 13M/13stn Msd 0.3 4↑ 2↓

90/11638
OCT 23 1411 56.9s 38.81S 176.68E 57km M=4.3
0.2 0.01 0.01 2
Rsd 0.2s 34ph/28stn Dmin 18km Az.gap 51°
Corr. 0.221 16M/16stn Msd 0.2 6↑ 3↓

90/11648
OCT 23 2036 26.8s 39.22S 175.23E 221km M=3.8
0.4 0.02 0.06 3
Rsd 0.2s 24ph/17stn Dmin 14km Az.gap 173°
Corr. -0.633 13M/13stn Msd 0.2 5↑ 2↓

90/11652
OCT 23 2314 15.0s 40.07S 176.97E 36km M=4.0
0.1 0.01 0.02 3
Rsd 0.2s 39ph/30stn Dmin 16km Az.gap 182°
Corr. -0.621 19M/19stn Msd 0.2 9↑ 8↓

90/11666
OCT 24 0946 41.6s 37.17S 177.14E 15km M=4.1
0.5 0.06 0.04 12
Rsd 0.3s 18ph/12stn Dmin 40km Az.gap 177°
Corr. 0.945 17M/17stn Msd 0.3 3↑ 5↓

90/11679
OCT 24 1611 01.1s 35.88S 177.99E 219km M=3.9
0.4 0.03 0.03 4
Rsd 0.1s 12ph/10stn Dmin 193km Az.gap 288°
Corr. 0.801 18M/18stn Msd 0.2

90/11687
OCT 24 2028 13.1s 38.15S 176.63E 95km M=3.6
0.4 0.02 0.03 4
Rsd 0.3s 20ph/15stn Dmin 14km Az.gap 88°
Corr. 0.182 20M/20stn Msd 0.2 1↑ 3↓

90/11710
OCT 25 0344 08.8s 41.62S 174.34E 6km M=3.2
0.3 0.01 0.01 3
Rsd 0.2s 19ph/18stn Dmin 17km Az.gap 136°
Corr. -0.414 17M/17stn Msd 0.2 5↑ 1↓
Felt Mt Victoria (68) MM3.

90/11729
OCT 25 2229 33.8s 38.92S 175.48E 119km M=3.6
0.3 0.01 0.02 3
Rsd 0.2s 30ph/22stn Dmin 25km Az.gap 57°
Corr. -0.021 17M/17stn Msd 0.2 3↑ 1↓

90/11740
OCT 26 0719 13.8s 45.37S 166.69E 12km M=3.6
0.2 0.01 0.02 R
Rsd 0.1s 11ph/9stn Dmin 114km Az.gap 279°
Corr. 0.617 10M/10stn Msd 0.2

90/11754
OCT 26 1435 04.0s 35.78S 178.83E 239km M=3.6
0.3 0.05 0.07 4
Rsd 0.1s 11ph/6stn Dmin 259km Az.gap 339°
Corr. -0.789 7M/7stn Msd 0.2

90/11772
OCT 27 1940 51.9s 37.36S 177.71E 95km M=4.6
0.4 0.02 0.02 3
Rsd 0.1s 24ph/20stn Dmin 50km Az.gap 187°
Corr. 0.625 18M/18stn Msd 0.3 5↑ 4↓

90/11778
OCT 28 0129 41.0s 37.90S 176.53E 142km M=4.4
0.2 0.01 0.01 2
Rsd 0.2s 34ph/26stn Dmin 37km Az.gap 108°
Corr. 0.019 16M/16stn Msd 0.1 5↑ 6↓

90/11782
OCT 28 0215 03.6s 35.62S 178.30E 210km M=3.7
1.6 0.13 0.26 23
Rsd 0.4s 8ph/5stn Dmin 220km Az.gap 337°
Corr. -0.691 2M/2stn Msd 0.1

90/11789
OCT 28 0705 58.2s 48.15S 165.28E 33km M=3.9
0.4 0.10 0.17 R
Rsd 0.1s 13ph/9stn Dmin 308km Az.gap 356°
Corr. -0.930 9M/9stn Msd 0.2 3↑ 2↓

90/11790
OCT 28 0734 40.7s 40.08S 173.67E 211km M=4.1
0.5 0.02 0.03 4
Rsd 0.2s 32ph/23stn Dmin 83km Az.gap 161°
Corr. -0.194 14M/14stn Msd 0.2 4↑ 2↓

90/11792
OCT 28 0810 30.4s 36.68S 177.56E 162km M=4.0
0.8 0.04 0.04 7
Rsd 0.2s 15ph/13stn Dmin 122km Az.gap 241°
Corr. 0.754 17M/17stn Msd 0.1 1↓

90/11802
OCT 28 1749 51.8s 41.00S 175.19E 30km M=3.3
0.1 0.00 0.01 1
Rsd 0.1s 19ph/14stn Dmin 16km Az.gap 87°
Corr. -0.377 11M/11stn Msd 0.2 7↑ 3↓
Felt Khandallah (68) MM3.

90/11803
OCT 28 1807 20.2s 41.42S 174.56E 22km M=3.2
0.1 0.01 0.01 1
Rsd 0.2s 20ph/15stn Dmin 23km Az.gap 126°
Corr. 0.146 12M/12stn Msd 0.2 2↑ 5↓
Felt Wellington area (68,69) MM3.

90/11814
OCT 29 0112 21.2s 43.01S 171.46E 2km M=3.0
0.1 0.01 0.01 2
Rsd 0.1s 12ph/6stn Dmin 54km Az.gap 134°
Corr. -0.379 5M/5stn Msd 0.1 1↑ 1↓
Felt Arthur's Pass (93) MM4.

90/11851
OCT 30 0819 44.5s 39.29S 173.64E 16km M=3.9
0.4 0.02 0.03 3
Rsd 0.2s 24ph/20stn Dmin 39km Az.gap 161°
Corr. -0.805 24M/24stn Msd 0.3 1↓
Felt Taranaki (38,46,47), max. int. MM4 at Uruti (38).

90/11854
OCT 30 1029 07.8s 39.99S 173.67E 194km M=3.9
0.8 0.03 0.04 7
Rsd 0.3s 21ph/18stn Dmin 93km Az.gap 191°
Corr. -0.271 12M/12stn Msd 0.3 2↑ 1↓

90/11856
OCT 30 1100 20.6s 36.36S 177.82E 33km M=4.5
0.6 0.04 0.04 R
Rsd 0.3s 16ph/15stn Dmin 142km Az.gap 246°
Corr. 0.719 28M/28stn Msd 0.3 4↑ 2↓

90/11858
OCT 30 1112 30.8s 38.28S 175.93E 176km M=3.8
0.5 0.02 0.03 4
Rsd 0.2s 13ph/11stn Dmin 99km Az.gap 141°
Corr. -0.395 15M/15stn Msd 0.3 2↑ 3↓

90/11868
OCT 30 2344 17.4s 39.31S 174.82E 213km M=3.6
0.9 0.03 0.03 7
Rsd 0.1s 14ph/12stn Dmin 56km Az.gap 272°
Corr. -0.287 8M/8stn Msd 0.2

90/11876
OCT 31 0750 53.8s 40.36S 176.46E 34km M=3.5
0.2 0.01 0.04 2
Rsd 0.2s 24ph/22stn Dmin 33km Az.gap 195°
Corr. -0.065 9M/9stn Msd 0.3 1↑

90/11879
OCT 31 0918 11.7s 35.43S 177.89E 147km M=4.0
0.6 0.06 0.06 12
Rsd 0.2s 8ph/5stn Dmin 243km Az.gap 299°
Corr. 0.535 6M/6stn Msd 0.5

90/11881
OCT 31 1119 08.1s 38.18S 176.45E 112km M=3.7
0.4 0.02 0.02 4
Rsd 0.3s 14ph/11stn Dmin 59km Az.gap 91°
Corr. -0.332 12M/12stn Msd 0.2 1↑ 1↓

90/11911
NOV 01 1842 37.3s 39.73S 174.23E 202km M=4.1
0.4 0.01 0.03 4
Rsd 0.2s 30ph/24stn Dmin 52km Az.gap 119°
Corr. -0.162 19M/19stn Msd 0.2 1↑ 6↓

90/11933
NOV 02 1226 56.1s 38.27S 176.15E 159km M=4.9
0.3 0.01 0.01 3
Rsd 0.2s 44ph/31stn Dmin 11km Az.gap 55°
Corr. 0.136 14M/13stn Msd 0.3 13↑ 9↓

90/11934
NOV 02 1306 32.7s 37.83S 176.85E 144km M=4.2
0.3 0.02 0.01 3
Rsd 0.2s 24ph/18stn Dmin 53km Az.gap 119°
Corr. 0.082 19M/19stn Msd 0.2 2↑ 3↓

90/11940
NOV 02 1929 10.0s 37.84S 176.36E 199km M=3.7
0.6 0.05 0.03 5
Rsd 0.3s 12ph/7stn Dmin 58km Az.gap 175°
Corr. -0.185 7M/7stn Msd 0.2 3↑ 1↓

90/11965
NOV 03 1343 41.4s 34.05S 178.91E 333km M=4.2
0.6 0.13 0.27 15
Rsd 0.1s 11ph/9stn Dmin 450km Az.gap 341°
Corr. -0.852 8M/8stn Msd 0.2

90/11969
NOV 03 1737 11.2s 35.89S 179.43E 133km M=4.7
0.7 0.05 0.06 11
Rsd 0.2s 22ph/20stn Dmin 215km Az.gap 292°
Corr. 0.840 22M/22stn Msd 0.2 1↑ 1↓

90/11970
NOV 03 1853 19.4s 36.02S 177.62E 287km M=4.7
0.6 0.05 0.05 6
Rsd 0.3s 23ph/18stn Dmin 185km Az.gap 250°
Corr. 0.512 23M/23stn Msd 0.2 1↓

90/11973
NOV 04 0138 11.8s 36.95S 177.35E 145km M=3.5
0.4 0.03 0.03 5
Rsd 0.2s 10ph/6stn Dmin 111km Az.gap 213°
Corr. 0.582 12M/12stn Msd 0.2

90/11982
NOV 04 1306 37.5s 37.71S 176.65E 166km M=3.7
0.3 0.02 0.02 2
Rsd 0.1s 12ph/10stn Dmin 73km Az.gap 187°
Corr. 0.171 17M/17stn Msd 0.2 2↑ 3↓

90/11996
NOV 04 2041 03.0s 37.84S 176.50E 162km M=4.0
0.3 0.02 0.02 3
Rsd 0.2s 21ph/16stn Dmin 71km Az.gap 111°
Corr. 0.078 22M/22stn Msd 0.3 4↑ 3↓

90/11998
NOV 04 2117 53.0s 48.14S 165.43E 33km M=4.0
0.6 0.15 0.33 R
Rsd 0.1s 13ph/11stn Dmin 300km Az.gap 355°
Corr. -0.988 11M/11stn Msd 0.1

90/12003
NOV 05 0101 06.0s 39.00S 175.38E 195km M=3.7
0.6 0.02 0.04 5
Rsd 0.2s 18ph/13stn Dmin 15km Az.gap 208°
Corr. -0.574 18M/18stn Msd 0.2

90/12017
NOV 06 0543 32.6s 45.05S 167.47E 25km M=4.2
0.4 0.02 0.11 11
Rsd 0.2s 15ph/12stn Dmin 110km Az.gap 238°
Corr. -0.785 6M/6stn Msd 0.3 2↓

90/12018
NOV 06 0616 39.2s 38.84S 175.76E 154km M=3.6
0.4 0.02 0.03 3
Rsd 0.2s 22ph/15stn Dmin 40km Az.gap 189°
Corr. -0.703 11M/11stn Msd 0.1 2↑ 1↓

90/12024
NOV 06 0926 59.1s 37.71S 176.89E 5km M=3.7
0.2 0.02 0.01 R
Rsd 0.2s 16ph/14stn Dmin 32km Az.gap 98°
Corr. -0.301 13M/13stn Msd 0.3 1↑ 1↓
High WTZ residual.

90/12026
NOV 06 1259 55.3s 45.34S 166.61E 12km M=3.5
0.1 0.01 0.01 R
Rsd 0.0s 13ph/11stn Dmin 121km Az.gap 280°
Corr. 0.684 13M/13stn Msd 0.3

90/12027
NOV 06 1450 30.5s 37.62S 177.22E 132km M=5.3
0.4 0.02 0.01 4
Rsd 0.2s 36ph/31stn Dmin 11km Az.gap 104°
Corr. 0.396 15M/14stn Msd 0.3 10↑ 7↓
Felt Urewera district (27,34,45), max. int. MM4.

90/12034
NOV 06 2135 53.5s 35.53S 179.41E 119km M=4.4
0.9 0.07 0.08 20
Rsd 0.2s 13ph/11stn Dmin 250km Az.gap 312°
Corr. 0.762 21M/21stn Msd 0.3 1↓

90/12039
NOV 07 0822 01.9s 38.58S 175.90E 146km M=4.6
0.5 0.02 0.02 4
Rsd 0.3s 45ph/36stn Dmin 18km Az.gap 67°
Corr. -0.041 21M/21stn Msd 0.3 16↑ 8↓

90/12066
NOV 08 0750 08.8s 37.87S 176.02E 176km M=3.7
0.5 0.04 0.04 5
Rsd 0.2s 15ph/13stn Dmin 86km Az.gap 239°
Corr. -0.471 21M/21stn Msd 0.2 1↑

90/12068
NOV 08 1229 49.0s 40.99S 175.30E 23km M=4.0
0.1 0.01 0.01 2
Rsd 0.3s 31ph/27stn Dmin 24km Az.gap 75°
Corr. -0.400 32M/31stn Msd 0.3 7↑ 6↓
Felt Wellington area (65,68,69), max. int. MM4.

90/12078
NOV 08 1748 25.6s 41.11S 173.65E 80km M=3.5
0.3 0.01 0.01 3
Rsd 0.2s 31ph/18stn Dmin 41km Az.gap 91°
Corr. -0.209 15M/14stn Msd 0.3 2↑ 2↓

90/12079
NOV 08 1832 00.2s 36.98S 177.35E 178km M=4.0
0.2 0.01 0.01 2
Rsd 0.1s 13ph/9stn Dmin 109km Az.gap 209°
Corr. 0.629 23M/23stn Msd 0.3 1↑

90/12096
NOV 09 1700 52.0s 39.13S 175.10E 168km M=3.8
0.5 0.02 0.03 4
Rsd 0.2s 28ph/20stn Dmin 20km Az.gap 160°
Corr. -0.208 19M/19stn Msd 0.4 1↑

90/12113
NOV 10 0518 23.4s 44.42S 167.98E 5km M=3.7
0.4 0.01 0.04 R
Rsd 0.2s 18ph/14stn Dmin 112km Az.gap 221°
Corr. -0.520 12M/12stn Msd 0.2 1↓

90/12114
NOV 10 0524 42.1s 44.43S 168.00E 5km M=3.6
0.4 0.01 0.04 R
Rsd 0.2s 18ph/14stn Dmin 110km Az.gap 220°
Corr. -0.594 14M/14stn Msd 0.2 1↓

90/12116
NOV 10 0713 23.5s 35.16S 179.09E 210km M=4.7
0.6 0.06 0.06 10
Rsd 0.2s 22ph/18stn Dmin 279km Az.gap 296°
Corr. 0.664 23M/23stn Msd 0.2 1↑

90/12130
NOV 10 2137 31.3s 39.47S 174.48E 245km M=3.8
0.4 0.02 0.05 4
Rsd 0.2s 21ph/16stn Dmin 53km Az.gap 192°
Corr. -0.326 15M/15stn Msd 0.2 1↑

90/12143
NOV 11 1355 29.2s 41.28S 172.58E 208km M=3.8
0.3 0.01 0.02 2
Rsd 0.2s 30ph/19stn Dmin 51km Az.gap 124°
Corr. -0.105 12M/12stn Msd 0.3 1↑ 2↓

90/12149
NOV 11 2045 43.8s 37.96S 176.17E 197km M=3.5
1.7 0.07 0.07 14
Rsd 0.3s 16ph/14stn Dmin 52km Az.gap 158°
Corr. -0.508 8M/8stn Msd 0.2

90/12150
NOV 11 2246 29.7s 38.10S 176.20E 12km
0.0 R R R
Rsd 0.0s 2ph/1stn Dmin 9km Az.gap 360°
Corr. 0.000 0M/0stn Msd 0.0
Felt Rotorua (33), MM3.

90/12167
NOV 12 1936 26.9s 38.86S 175.85E 130km M=3.5
0.7 0.03 0.05 7
Rsd 0.3s 12ph/9stn Dmin 53km Az.gap 183°
Corr. -0.691 7M/7stn Msd 0.4

90/12172
NOV 12 2307 28.3s 45.66S 166.86E 86km M=3.6
0.2 0.07 0.08 11
Rsd 0.0s 14ph/11stn Dmin 85km Az.gap 298°
Corr. -0.961 12M/12stn Msd 0.1 1↓

90/12175
NOV 13 0532 33.7s 36.93S 176.95E 242km M=4.4
0.5 0.13 0.05 8
Rsd 0.3s 10ph/6stn Dmin 148km Az.gap 269°
Corr. 0.494 15M/15stn Msd 0.2

90/12182
NOV 13 1256 30.7s 40.99S 173.46E 113km M=4.8
0.3 0.01 0.01 3
Rsd 0.2s 38ph/24stn Dmin 44km Az.gap 85°
Corr. -0.307 8M/7stn Msd 0.2 10↑ 7↓
Felt Wakefield (76). No P arrival on THZ.

90/12203
NOV 14 0807 26.6s 35.43S 179.26E 275km M=3.9
0.6 0.03 0.04 5
Rsd 0.1s 5ph/4stn Dmin 307km Az.gap 342°
Corr. -0.516 3M/3stn Msd 0.1

90/12207
NOV 14 1054 22.6s 35.93S 178.72E 238km M=3.7
0.6 0.05 0.07 8
Rsd 0.2s 11ph/7stn Dmin 241km Az.gap 336°
Corr. -0.461 9M/9stn Msd 0.2

90/12232
NOV 15 1220 05.7s 38.62S 175.78E 147km M=3.9
0.7 0.02 0.03 6
Rsd 0.3s 25ph/18stn Dmin 64km Az.gap 75°
Corr. -0.069 22M/22stn Msd 0.2 3↑ 1↓

90/12242
NOV 15 2101 26.7s 37.65S 176.31E 186km M=3.7
0.3 0.02 0.03 3
Rsd 0.1s 9ph/6stn Dmin 98km Az.gap 154°
Corr. 0.512 12M/12stn Msd 0.2

90/12254
NOV 16 0626 19.8s 39.30S 176.23E 88km M=3.5
0.2 0.01 0.01 3
Rsd 0.3s 48ph/37stn Dmin 46km Az.gap 42°
Corr. -0.088 24M/24stn Msd 0.2 2↑ 13↓

90/12273
NOV 16 1922 09.1s 41.13S 173.46E 1km M=3.1
0.3 0.01 0.01 3
Rsd 0.3s 25ph/17stn Dmin 53km Az.gap 113°
Corr. -0.231 18M/18stn Msd 0.3 1↑ 3↓
Felt The Glen (76) MM4.

90/12275
NOV 16 2313 21.0s 38.67S 175.73E 136km M=3.7
0.8 0.02 0.02 8
Rsd 0.3s 22ph/18stn Dmin 40km Az.gap 78°
Corr. -0.118 22M/22stn Msd 0.4 1↑ 1↓

90/12277
NOV 16 2331 34.9s 44.99S 167.40E 116km M=3.7
0.3 0.03 0.04 6
Rsd 0.1s 18ph/13stn Dmin 118km Az.gap 243°
Corr. -0.871 13M/13stn Msd 0.2 1↑

90/12301
NOV 17 2130 57.3s 36.57S 177.66E 224km M=4.0
0.8 0.07 0.07 9
Rsd 0.3s 10ph/6stn Dmin 127km Az.gap 251°
Corr. 0.307 15M/15stn Msd 0.2

90/12302
NOV 17 2217 28.6s 37.38S 176.69E 197km M=3.6
0.6 0.08 0.05 5
Rsd 0.3s 11ph/6stn Dmin 72km Az.gap 275°
Corr. 0.113 12M/12stn Msd 0.3

90/12325
NOV 18 1748 08.3s 40.76S 175.08E 44km M=4.0
0.1 0.01 0.01 2
Rsd 0.2s 32ph/26stn Dmin 18km Az.gap 66°
Corr. -0.336 14M/13stn Msd 0.2 3↑ 5↓
Felt Otaki to Paekakariki (65) MM4.

90/12338
NOV 19 0032 05.5s 37.98S 176.02E 177km M=3.7
0.5 0.04 0.07 4
Rsd 0.2s 13ph/10stn Dmin 100km Az.gap 229°
Corr. -0.910 14M/14stn Msd 0.2 1↑ 1↓

90/12347
NOV 19 0717 03.0s 40.29S 174.20E 96km M=4.1
0.2 0.01 0.01 4
Rsd 0.2s 38ph/29stn Dmin 61km Az.gap 108°
Corr. -0.168 22M/21stn Msd 0.3 10↑ 4↓

90/12349
NOV 19 1042 58.4s 35.06S 179.45E 295km M=4.2
0.2 0.03 0.05 3
Rsd 0.1s 10ph/5stn Dmin 300km Az.gap 347°
Corr. -0.746 5M/5stn Msd 0.3

90/12352
NOV 19 1407 30.5s 40.74S 174.84E 45km M=3.5
0.1 0.01 0.01 4
Rsd 0.2s 27ph/22stn Dmin 15km Az.gap 72°
Corr. -0.202 10M/9stn Msd 0.2 5↑ 3↓
Felt Taita (68).

90/12354
NOV 19 1433 01.4s 37.76S 179.88E 77km M=3.7
1.0 0.05 0.09 15
Rsd 0.4s 10ph/6stn Dmin 140km Az.gap 303°
Corr. 0.096 4M/4stn Msd 0.2

90/12370
NOV 20 1201 16.6s 40.25S 175.04E 82km M=3.6
0.1 0.01 0.01 2
Rsd 0.2s 27ph/20stn Dmin 51km Az.gap 90°
Corr. -0.112 13M/12stn Msd 0.2 1↓

90/12373
NOV 20 1631 21.5s 35.97S 178.24E 177km M=3.5
0.8 0.15 0.11 23
Rsd 0.2s 7ph/5stn Dmin 181km Az.gap 311°
Corr. 0.398 2M/2stn Msd 0.1

90/12376
NOV 20 1913 04.5s 36.17S 178.37E 201km M=3.8
2.6 0.16 0.20 22
Rsd 0.6s 7ph/5stn Dmin 158km Az.gap 331°
Corr. -0.578 5M/5stn Msd 0.2

90/12386
NOV 21 0919 25.4s 39.05S 175.06E 214km M=3.7
0.3 0.01 0.03 3
Rsd 0.1s 17ph/13stn Dmin 46km Az.gap 261°
Corr. -0.295 7M/7stn Msd 0.2 1↑ 1↓

90/12389
NOV 21 1142 44.4s 45.20S 166.77E 75km M=3.5
0.1 0.04 0.05 12
Rsd 0.0s 15ph/11stn Dmin 123km Az.gap 270°
Corr. -0.969 12M/12stn Msd 0.1 1↑

90/12396
NOV 21 2056 38.0s 38.87S 175.62E 214km M=3.8
0.4 0.02 0.03 3
Rsd 0.1s 24ph/16stn Dmin 34km Az.gap 209°
Corr. -0.813 8M/8stn Msd 0.2 1↑

90/12403
NOV 22 0548 20.5s 40.24S 176.53E 55km M=4.1
0.2 0.01 0.02 3
Rsd 0.3s 47ph/38stn Dmin 37km Az.gap 166°
Corr. -0.582 21M/20stn Msd 0.2 8↑ 7↓
Felt Moawhango (58) MM3.

90/12410
NOV 22 1011 44.7s 40.43S 174.46E 88km M=3.6
0.3 0.01 0.01 3
Rsd 0.3s 31ph/19stn Dmin 62km Az.gap 134°
Corr. -0.174 13M/13stn Msd 0.2 4↑ 4↓

90/12414
NOV 22 1333 02.5s 38.15S 175.90E 156km M=3.6
0.3 0.08 0.06 4
Rsd 0.1s 10ph/6stn Dmin 107km Az.gap 231°
Corr. -0.969 15M/15stn Msd 0.2 1↑

90/12419
NOV 22 1935 41.0s 37.66S 176.97E 150km M=3.5
0.5 0.04 0.04 4
Rsd 0.2s 10ph/5stn Dmin 68km Az.gap 237°
Corr. -0.373 9M/9stn Msd 0.2

90/12421
NOV 22 2248 28.7s 37.23S 177.55E 95km M=4.4
0.3 0.02 0.01 3
Rsd 0.1s 27ph/21stn Dmin 46km Az.gap 194°
Corr. 0.108 22M/22stn Msd 0.1 1↑ 1↓

90/12428
NOV 23 0115 57.5s 40.52S 173.36E 142km M=3.5
0.3 0.02 0.01 3
Rsd 0.2s 30ph/19stn Dmin 57km Az.gap 165°
Corr. -0.198 12M/12stn Msd 0.2 1↑ 4↓

90/12430
NOV 23 0143 56.4s 38.70S 175.69E 170km M=3.6
0.3 0.02 0.05 4
Rsd 0.1s 14ph/12stn Dmin 53km Az.gap 314°
Corr. -0.136 10M/10stn Msd 0.3 1↑

90/12436
NOV 23 0557 40.1s 37.51S 177.38E 125km M=3.8
0.2 0.02 0.01 2
Rsd 0.1s 16ph/10stn Dmin 82km Az.gap 202°
Corr. -0.215 16M/16stn Msd 0.2 1↑

90/12446
NOV 23 1536 13.5s 42.16S 173.56E 62km M=3.7
0.1 0.01 0.01 2
Rsd 0.2s 32ph/19stn Dmin 29km Az.gap 121°
Corr. -0.338 12M/12stn Msd 0.3 1↑ 3↓

90/12457
NOV 23 2306 24.2s 35.55S 179.52E 258km M=3.7
0.7 0.06 0.11 8
Rsd 0.2s 7ph/4stn Dmin 253km Az.gap 346°
Corr. -0.719 2M/2stn Msd 0.2

90/12470
NOV 24 1413 05.6s 40.43S 176.55E 41km M=4.8
0.1 0.01 0.01 2
Rsd 0.1s 39ph/35stn Dmin 32km Az.gap 187°
Corr. -0.547 13M/12stn Msd 0.8 8↑ 2↓
Felt Mt Vernon (60) MM4, Dannevirke (63).

90/12473
NOV 24 1914 31.2s 38.31S 176.00E 266km M=3.8
0.3 0.03 0.05 3
Rsd 0.1s 16ph/12stn Dmin 97km Az.gap 221°
Corr. -0.875 3M/3stn Msd 0.2
Second event in S-coda.

90/12476
NOV 25 0046 13.2s 40.67S 174.60E 60km M=3.7
0.2 0.01 0.01 3
Rsd 0.2s 26ph/19stn Dmin 34km Az.gap 112°
Corr. -0.151 9M/8stn Msd 0.2 5↑ 3↓

90/12486
NOV 25 0557 13.5s 41.55S 174.51E 15km M=3.5
0.1 0.00 0.01 1
Rsd 0.1s 25ph/17stn Dmin 33km Az.gap 143°
Corr. -0.516 17M/16stn Msd 0.3 3↑ 5↓
Felt Wellington (68).

90/12488
NOV 25 0731 57.5s 38.92S 175.81E 102km M=3.6
0.3 0.01 0.02 3
Rsd 0.2s 26ph/19stn Dmin 6km Az.gap 57°
Corr. -0.365 19M/19stn Msd 0.3 1↑ 1↓

90/12492
NOV 25 0953 35.4s 34.99S 179.03E 282km M=4.4
0.4 0.07 0.06 11
Rsd 0.1s 10ph/6stn Dmin 297km Az.gap 328°
Corr. -0.291 14M/14stn Msd 0.2

90/12502
NOV 25 1938 49.1s 36.54S 177.47E 178km M=3.8
0.4 0.07 0.04 8
Rsd 0.1s 9ph/5stn Dmin 184km Az.gap 311°
Corr. -0.187 10M/10stn Msd 0.2

90/12507
NOV 26 0533 32.9s 38.10S 176.20E 12km
0.1 R R R
Rsd 0.3s 4ph/2stn Dmin 9km Az.gap 294°
Corr. 0.000 0M/0stn Msd 0.0 1↓
Felt Rotorua (33) MM4.

90/12508
NOV 26 0544 03.2s 35.85S 179.01E 120km M=3.7
0.1 0.02 0.02 5
Rsd 0.0s 5ph/3stn Dmin 204km Az.gap 343°
Corr. -0.746 3M/3stn Msd 0.2

90/12510
NOV 26 0700 29.5s 41.21S 172.40E 298km M=3.7
0.3 0.06 0.09 5
Rsd 0.1s 15ph/11stn Dmin 136km Az.gap 221°
Corr. -0.941 11M/11stn Msd 0.2

90/12512
NOV 26 0751 00.3s 45.65S 167.29E 97km M=4.0
0.1 0.03 0.03 3
Rsd 0.0s 16ph/12stn Dmin 58km Az.gap 284°
Corr. -0.965 9M/9stn Msd 0.1 2↓

90/12514
NOV 26 0842 18.5s 44.53S 168.79E 12km M=2.5
1.1 0.05 0.07 R
Rsd 0.2s 14ph/12stn Dmin 59km Az.gap 275°
Corr. -0.914 8M/8stn Msd 0.1 1↓
Felt Mt Aspiring (113) MM3.

90/12526
NOV 26 2333 19.3s 38.82S 175.60E 114km M=3.8
0.4 0.02 0.03 4
Rsd 0.3s 27ph/20stn Dmin 16km Az.gap 67°
Corr. 0.344 22M/22stn Msd 0.2 1↑ 2↓

90/12529
NOV 27 0115 37.1s 41.31S 172.78E 136km M=4.1
0.3 0.01 0.02 2
Rsd 0.2s 28ph/18stn Dmin 52km Az.gap 99°
Corr. -0.112 16M/15stn Msd 0.2 4↑ 3↓

90/12530
NOV 27 0318 13.2s 45.22S 167.61E 130km M=3.7
0.2 0.02 0.03 3
Rsd 0.0s 16ph/13stn Dmin 89km Az.gap 247°
Corr. -0.922 12M/12stn Msd 0.2 1↑

90/12535
NOV 27 0916 29.7s 40.61S 174.66E 75km M=3.9
0.2 0.01 0.02 4
Rsd 0.2s 33ph/26stn Dmin 36km Az.gap 80°
Corr. -0.303 19M/18stn Msd 0.2 3↑ 2↓

90/12536
NOV 27 1148 56.5s 44.04S 168.68E 11km M=3.5
0.4 0.01 0.02 5
Rsd 0.1s 16ph/13stn Dmin 59km Az.gap 236°
Corr. -0.824 3M/3stn Msd 0.3 1↑

90/12538
NOV 27 1454 55.4s 39.88S 173.88E 129km M=3.7
0.4 0.02 0.02 4
Rsd 0.2s 23ph/16stn Dmin 90km Az.gap 190°
Corr. -0.270 12M/12stn Msd 0.2 1↑

90/12539
NOV 27 1529 06.0s 40.43S 174.48E 13km M=3.6
0.2 0.01 0.01 3
Rsd 0.2s 29ph/24stn Dmin 61km Az.gap 91°
Corr. -0.241 26M/25stn Msd 0.3 2↑ 1↓

90/12543
NOV 27 1954 05.1s 36.84S 177.48E 148km M=4.4
0.5 0.03 0.03 6
Rsd 0.1s 12ph/10stn Dmin 112km Az.gap 226°
Corr. 0.574 23M/23stn Msd 0.2

90/12547
NOV 27 2306 55.0s 38.57S 175.81E 123km M=3.8
0.8 0.02 0.02 8
Rsd 0.3s 24ph/20stn Dmin 55km Az.gap 72°
Corr. -0.309 23M/23stn Msd 0.3

90/12552
NOV 28 0345 15.1s 43.42S 177.70E 12km M=3.7
0.3 0.02 0.03 R
Rsd 0.1s 14ph/12stn Dmin 292km Az.gap 255°
Corr. 0.123 13M/13stn Msd 0.2
Unusual location, not recorded on CIZ.

90/12559
NOV 28 1249 38.6s 35.70S 178.40E 213km M=3.9
0.3 0.03 0.03 6
Rsd 0.1s 10ph/6stn Dmin 211km Az.gap 299°
Corr. 0.801 12M/12stn Msd 0.1

90/12564
NOV 28 1523 59.8s 36.97S 176.93E 241km M=4.5
0.7 0.06 0.05 6
Rsd 0.2s 13ph/10stn Dmin 111km Az.gap 184°
Corr. 0.463 22M/22stn Msd 0.3

90/12571
NOV 28 2350 37.5s 37.45S 176.56E 218km M=4.3
0.4 0.04 0.03 4
Rsd 0.2s 20ph/15stn Dmin 87km Az.gap 141°
Corr. 0.313 23M/23stn Msd 0.2 1↑

90/12579
NOV 29 0403 17.2s 39.00S 175.41E 173km M=3.5
0.3 0.01 0.04 2
Rsd 0.1s 17ph/13stn Dmin 26km Az.gap 198°
Corr. 0.092 12M/12stn Msd 0.2 1↑

90/12590
NOV 29 1454 30.6s 39.80S 174.55E 104km M=4.5
0.2 0.01 0.02 3
Rsd 0.2s 47ph/35stn Dmin 33km Az.gap 133°
Corr. -0.531 18M/17stn Msd 0.2 4↑ 11↓
Felt New Plymouth (47).

90/12602
NOV 29 2305 00.9s 40.69S 174.70E 58km M=4.6
0.2 0.01 0.02 3
Rsd 0.2s 29ph/25stn Dmin 26km Az.gap 77°
Corr. -0.051 16M/15stn Msd 0.2 6↑ 6↓
Felt Wanganui (57) to Wellington (68), max. int. MM3.

90/12605
NOV 29 2321 08.3s 40.70S 174.66E 62km M=3.8
0.2 0.01 0.01 3
Rsd 0.2s 27ph/23stn Dmin 28km Az.gap 78°
Corr. -0.178 14M/13stn Msd 0.3 5↑ 2↓

90/12625
NOV 30 1436 22.9s 37.40S 176.69E 182km M=4.2
0.3 0.02 0.02 3
Rsd 0.2s 18ph/15stn Dmin 102km Az.gap 149°
Corr. 0.430 23M/23stn Msd 0.2 1↓

90/12635
NOV 30 1738 37.1s 40.73S 174.95E 16km M=4.2
0.1 0.01 0.01 2
Rsd 0.2s 29ph/25stn Dmin 15km Az.gap 91°
Corr. -0.379 37M/37stn Msd 0.3 8↑ 1↓
Felt Wanganui (57) to Wellington (68), max. int. MM4.

90/12640
NOV 30 1912 55.2s 43.32S 171.44E 12km M=2.5
0.1 0.01 0.01 R
Rsd 0.2s 7ph/5stn Dmin 63km Az.gap 138°
Corr. -0.089 4M/4stn Msd 0.2
Felt Harper River (99) MM3.

90/12648
DEC 01 0236 43.7s 40.58S 174.34E 87km M=3.7
0.2 0.01 0.01 3
Rsd 0.2s 33ph/23stn Dmin 43km Az.gap 111°
Corr. -0.314 16M/15stn Msd 0.2 9↑ 2↓

90/12652
DEC 01 0605 11.1s 39.11S 175.51E 238km M=3.5
0.4 0.03 0.06 3
Rsd 0.1s 16ph/12stn Dmin 11km Az.gap 184°
Corr. -0.754 9M/9stn Msd 0.2 1↑

90/12660
DEC 01 1559 48.4s 38.06S 177.84E 47km M=3.5
0.3 0.02 0.02 4
Rsd 0.3s 10ph/6stn Dmin 36km Az.gap 91°
Corr. -0.324 4M/4stn Msd 0.2 1↑

90/12661
DEC 01 1657 56.3s 37.45S 177.24E 130km M=3.5
0.5 0.03 0.02 5
Rsd 0.3s 10ph/6stn Dmin 91km Az.gap 161°
Corr. 0.235 5M/5stn Msd 0.2 1↑

90/12663
DEC 01 1735 55.2s 37.12S 177.24E 147km M=3.8
0.3 0.02 0.02 4
Rsd 0.2s 14ph/10stn Dmin 108km Az.gap 193°
Corr. 0.479 20M/20stn Msd 0.2

90/12664
DEC 01 1753 28.5s 41.75S 171.50E 7km M=3.0
0.4 0.01 0.02 3
Rsd 0.2s 15ph/8stn Dmin 26km Az.gap 197°
Corr. -0.385 10M/10stn Msd 0.2 1↓
Felt Westport (79) MM4.

90/12669
DEC 01 1930 17.6s 37.76S 176.39E 280km M=4.5
0.9 0.05 0.05 7
Rsd 0.2s 20ph/18stn Dmin 71km Az.gap 184°
Corr. -0.043 21M/21stn Msd 0.3 1↑

90/12690
DEC 02 1351 59.2s 35.71S 178.14E 216km M=4.0
0.1 0.01 0.01 1
Rsd 0.0s 12ph/7stn Dmin 210km Az.gap 294°
Corr. 0.559 14M/14stn Msd 0.2

90/12710
DEC 03 0808 00.0s 36.81S 177.41E 228km M=3.5
0.6 0.10 0.07 7
Rsd 0.2s 10ph/5stn Dmin 118km Az.gap 290°
Corr. -0.367 11M/11stn Msd 0.2
MNG phases are automatic picks, no records.

90/12712
DEC 03 0856 03.4s 38.34S 176.02E 175km M=3.6
0.5 0.02 0.03 4
Rsd 0.2s 14ph/9stn Dmin 64km Az.gap 118°
Corr. -0.385 13M/13stn Msd 0.1 1↓
MNG phases are automatic picks, no records.

90/12734
DEC 03 2310 36.2s 45.96S 170.35E 5km M=3.2
0.4 0.03 0.01 R
Rsd 0.2s 15ph/11stn Dmin 16km Az.gap 257°
Corr. -0.190 11M/11stn Msd 0.2
Felt Taieri Mouth (153) MM3.

90/12750
DEC 04 2050 49.1s 38.89S 175.52E 117km M=3.7
0.3 0.01 0.01 3
Rsd 0.2s 24ph/16stn Dmin 31km Az.gap 75°
Corr. -0.354 16M/16stn Msd 0.2 1↑ 1↓
MNG phases are automatic picks, no records.

90/12758
DEC 05 0408 48.5s 41.12S 174.79E 34km M=2.7
0.0 0.00 0.00 0
Rsd 0.1s 17ph/11stn Dmin 14km Az.gap 84°
Corr. -0.038 11M/10stn Msd 0.2 2↑ 3↓
Felt Kelburn (68) MM3. MNG phases are automatic picks, no records.

90/12761
DEC 05 0558 43.1s 41.27S 172.54E 224km M=3.9
0.2 0.01 0.02 2
Rsd 0.2s 33ph/18stn Dmin 49km Az.gap 130°
Corr. -0.247 12M/11stn Msd 0.2 1↑
MNG phases are automatic picks, no records.

90/12768
DEC 05 1618 49.3s 38.90S 175.39E 208km M=3.6
1.1 0.06 0.10 10
Rsd 0.4s 13ph/11stn Dmin 108km Az.gap 215°
Corr. -0.820 5M/5stn Msd 0.2
MNG phases are automatic picks, no records.

90/12778
DEC 06 0104 13.1s 35.93S 178.35E 159km M=3.9
0.2 0.01 0.01 3
Rsd 0.1s 10ph/6stn Dmin 185km Az.gap 293°
Corr. 0.660 6M/6stn Msd 0.2

90/12779
DEC 06 0215 16.4s 38.37S 176.25E 143km M=3.9
0.3 0.01 0.02 3
Rsd 0.2s 28ph/22stn Dmin 57km Az.gap 80°
Corr. -0.044 20M/20stn Msd 0.3 4↑ 1↓
MNG phases are automatic picks, no records.

90/12780
DEC 06 0350 35.0s 38.12S 176.19E 170km M=3.6
0.1 0.01 0.01 1
Rsd 0.1s 12ph/8stn Dmin 82km Az.gap 139°
Corr. 0.067 13M/13stn Msd 0.2 1↑
MNG phases are automatic picks, no records.

90/12789
DEC 06 1721 10.3s 42.65S 173.69E 5km M=3.4
0.2 0.01 0.02 R
Rsd 0.2s 26ph/19stn Dmin 28km Az.gap 168°
Corr. -0.365 22M/21stn Msd 0.2 2↑ 1↓
Felt Orari (118).

90/12811
DEC 07 0621 16.8s 37.75S 176.45E 181km M=3.6
0.4 0.06 0.03 4
Rsd 0.2s 10ph/6stn Dmin 76km Az.gap 185°
Corr. 0.357 13M/13stn Msd 0.2 1↑
MNG phases are automatic picks, no records.

90/12813
DEC 07 0812 12.9s 44.43S 169.61E 12km M=4.2
0.1 0.01 0.01 4
Rsd 0.2s 21ph/15stn Dmin 43km Az.gap 123°
Corr. -0.140 10M/10stn Msd 0.2 6↑ 3↓
CYN SNARE overloaded.

90/12815
DEC 07 0827 03.1s 39.10S 174.61E 196km M=3.8
0.8 0.05 0.11 8
Rsd 0.3s 16ph/13stn Dmin 49km Az.gap 170°
Corr. -0.389 14M/14stn Msd 0.2 1↑
MNG phases are automatic picks, no records.

90/12834
DEC 08 0541 51.4s 37.53S 177.20E 126km M=3.6
0.5 0.03 0.02 6
Rsd 0.3s 11ph/8stn Dmin 81km Az.gap 152°
Corr. -0.069 10M/10stn Msd 0.2 1↑
MNG phases are automatic picks, no records.

90/12837
DEC 08 1100 16.4s 37.98S 176.46E 160km M=4.6
0.4 0.02 0.02 3
Rsd 0.2s 32ph/25stn Dmin 62km Az.gap 102°
Corr. -0.012 22M/22stn Msd 0.2 5↑ 2↓
MNG phases are automatic picks, no records.

90/12846
DEC 08 2330 35.9s 35.78S 178.35E 189km M=4.2
0.3 0.03 0.03 5
Rsd 0.1s 10ph/6stn Dmin 202km Az.gap 296°
Corr. 0.402 5M/5stn Msd 0.2

90/12874
DEC 10 0548 53.4s 38.18S 176.19E 5km
0.4 R R R
Rsd 0.7s 3ph/2stn Dmin 0km Az.gap 292°
Corr. 0.000 0M/0stn Msd 0.0 1↓
Felt Rotorua (33) MM3.

90/12875
DEC 10 0704 13.4s 36.79S 178.13E 202km M=3.7
0.6 0.11 0.11 5
Rsd 0.1s 8ph/4stn Dmin 92km Az.gap 311°
Corr. -0.840 7M/7stn Msd 0.2

90/12901
DEC 10 2253 22.0s 39.12S 174.65E 21km M=3.8
0.1 0.00 0.01 1
Rsd 0.1s 24ph/19stn Dmin 59km Az.gap 132°
Corr. -0.045 27M/27stn Msd 0.3 3↑ 3↓

90/12902
DEC 11 0032 27.0s 41.85S 177.53E 33km M=3.7
0.7 0.03 0.06 R
Rsd 0.1s 15ph/13stn Dmin 172km Az.gap 226°
Corr. -0.773 34M/33stn Msd 0.2

90/12903
DEC 11 0459 12.1s 37.64S 176.68E 320km M=3.8
0.3 0.02 0.03 3
Rsd 0.1s 12ph/9stn Dmin 146km Az.gap 245°
Corr. -0.875 8M/8stn Msd 0.2

90/12917
DEC 11 1430 53.4s 40.50S 173.32E 178km M=3.8
0.2 0.01 0.01 2
Rsd 0.2s 30ph/20stn Dmin 61km Az.gap 145°
Corr. -0.229 12M/12stn Msd 0.2 2↑ 2↓

90/12921
DEC 11 2346 12.1s 39.48S 174.47E 119km M=3.6
0.3 0.01 0.03 3
Rsd 0.2s 27ph/17stn Dmin 53km Az.gap 148°
Corr. -0.053 12M/12stn Msd 0.2

90/12922
DEC 12 0020 44.9s 36.89S 177.13E 262km M=4.9
0.3 0.02 0.02 2
Rsd 0.0s 17ph/15stn Dmin 127km Az.gap 195°
Corr. 0.438 24M/23stn Msd 0.2 1↑ 1↓

90/12926
DEC 12 0652 36.6s 37.62S 177.24E 160km M=3.6
0.7 0.04 0.04 7
Rsd 0.3s 7ph/4stn Dmin 93km Az.gap 190°
Corr. -0.031 3M/3stn Msd 0.3 1↑

90/12946
DEC 13 0234 37.6s 39.84S 174.33E 192km M=3.6
0.3 0.03 0.04 4
Rsd 0.2s 16ph/12stn Dmin 52km Az.gap 197°
Corr. -0.299 12M/12stn Msd 0.2 1↑

90/12948
DEC 13 0439 34.5s 38.60S 175.77E 149km M=4.3
0.5 0.02 0.02 4
Rsd 0.3s 34ph/25stn Dmin 12km Az.gap 72°
Corr. -0.097 25M/24stn Msd 0.3 5↑ 4↓

90/12954
DEC 13 0939 08.8s 37.43S 176.62E 182km M=3.6
0.4 0.03 0.03 3
Rsd 0.1s 11ph/7stn Dmin 101km Az.gap 145°
Corr. 0.586 9M/9stn Msd 0.2

90/12958
DEC 13 1120 03.9s 45.11S 170.38E 5km M=3.5
0.1 0.01 0.01 R
Rsd 0.2s 16ph/12stn Dmin 22km Az.gap 102°
Corr. -0.305 8M/8stn Msd 0.1 1↑ 6↓

90/12969
DEC 13 1753 12.2s 37.29S 177.76E 29km M=3.7
0.1 0.01 0.01 2
Rsd 0.1s 13ph/9stn Dmin 59km Az.gap 191°
Corr. 0.625 23M/23stn Msd 0.2 1↓

90/12974
DEC 13 2248 02.3s 38.07S 176.39E 152km M=4.4
0.4 0.02 0.01 3
Rsd 0.3s 33ph/25stn Dmin 21km Az.gap 146°
Corr. -0.248 23M/23stn Msd 0.3 6↑ 2↓

90/12981
DEC 14 0912 14.2s 39.93S 174.35E 7km M=3.6
0.6 0.01 0.02 4
Rsd 0.3s 26ph/21stn Dmin 52km Az.gap 137°
Corr. -0.281 25M/25stn Msd 0.3 1↑ 1↓

90/12989
DEC 14 1514 13.5s 40.35S 173.41E 167km M=3.6
0.3 0.02 0.01 3
Rsd 0.2s 31ph/22stn Dmin 66km Az.gap 151°
Corr. -0.171 15M/15stn Msd 0.2 1↑

90/12994
DEC 14 2300 21.6s 38.09S 176.10E 186km M=3.7
0.4 0.03 0.03 4
Rsd 0.2s 13ph/8stn Dmin 51km Az.gap 137°
Corr. -0.003 20M/20stn Msd 0.2 1↓

90/13018
DEC 16 0919 10.9s 35.34S 179.56E 165km M=4.1
0.4 0.06 0.05 13
Rsd 0.1s 10ph/6stn Dmin 275km Az.gap 330°
Corr. -0.110 5M/5stn Msd 0.2

90/13020
DEC 16 0928 55.6s 36.85S 177.81E 120km M=3.6
0.3 0.02 0.02 4
Rsd 0.1s 12ph/9stn Dmin 94km Az.gap 240°
Corr. 0.543 10M/10stn Msd 0.2

90/13023
DEC 16 1449 02.0s 38.50S 174.37E 18km M=3.7
0.2 0.01 0.01 2
Rsd 0.1s 21ph/13stn Dmin 37km Az.gap 148°
Corr. -0.449 19M/19stn Msd 0.2 1↑

90/13025
DEC 16 1608 32.2s 41.59S 173.64E 59km M=3.6
0.1 0.01 0.01 3
Rsd 0.2s 30ph/20stn Dmin 52km Az.gap 74°
Corr. -0.297 13M/12stn Msd 0.3 1↑

90/13026
DEC 16 1608 47.6s 37.53S 176.54E 181km M=4.1
0.4 0.02 0.02 3
Rsd 0.2s 21ph/17stn Dmin 79km Az.gap 134°
Corr. 0.275 21M/21stn Msd 0.2 1↑

90/13045
DEC 17 0840 04.9s 40.06S 174.90E 32km M=3.2
0.2 0.01 0.02 3
Rsd 0.3s 31ph/26stn Dmin 29km Az.gap 75°
Corr. -0.264 23M/23stn Msd 0.3 1↑
Felt Wanganui (57) MM3.

90/13051
DEC 17 1511 31.6s 35.35S 179.40E 254km M=3.6
0.4 0.06 0.08 8
Rsd 0.1s 11ph/6stn Dmin 269km Az.gap 346°
Corr. -0.418 5M/5stn Msd 0.2

90/13079
DEC 18 0513 35.2s 35.99S 177.60E 190km M=3.6
0.4 0.07 0.17 13
Rsd 0.1s 12ph/7stn Dmin 189km Az.gap 315°
Corr. -0.930 9M/9stn Msd 0.2

90/13093
DEC 18 1323 06.3s 37.47S 176.59E 183km M=3.7
0.5 0.02 0.03 4
Rsd 0.1s 13ph/10stn Dmin 98km Az.gap 140°
Corr. 0.609 17M/17stn Msd 0.2 4↑ 4↓
URZ phases are automatic picks, no records.

90/13094
DEC 18 1522 14.9s 40.15S 174.90E 12km M=3.3
0.4 0.01 0.01 4
Rsd 0.2s 32ph/27stn Dmin 39km Az.gap 108°
Corr. -0.316 27M/26stn Msd 0.2 5↑ 1↓
Felt Wanganui (57). RUZ phases are automatic picks, no records.

90/13098
DEC 18 1815 12.2s 35.93S 179.21E 128km M=3.7
0.8 0.05 0.07 11
Rsd 0.1s 9ph/7stn Dmin 202km Az.gap 306°
Corr. 0.652 3M/3stn Msd 0.3 1↓
URZ P is an automatic pick, no records.

90/13109
DEC 19 0720 34.2s 38.57S 175.79E 156km M=3.7
0.7 0.03 0.03 6
Rsd 0.2s 17ph/12stn Dmin 34km Az.gap 222°
Corr. -0.496 11M/11stn Msd 0.1 1↑
RUZ, URZ phases are automatic picks, no records.

90/13112
DEC 19 1100 05.5s 40.44S 176.52E 40km M=3.9
0.1 0.01 0.02 3
Rsd 0.2s 34ph/29stn Dmin 29km Az.gap 190°
Corr. -0.605 21M/20stn Msd 0.2 1↑
RUZ, URZ phases are automatic picks, no records.

90/13138
DEC 20 1558 57.9s 40.95S 174.65E 66km M=3.7
0.2 0.01 0.01 2
Rsd 0.2s 35ph/25stn Dmin 24km Az.gap 61°
Corr. -0.420 15M/14stn Msd 0.2 8↑ 3↓
Felt Wellington (68) MM4. RUZ P is an automatic pick, no records.

90/13139
DEC 20 1834 24.5s 40.96S 173.71E 94km M=4.1
0.2 0.01 0.01 2
Rsd 0.2s 32ph/22stn Dmin 26km Az.gap 92°
Corr. -0.326 15M/14stn Msd 0.3 5↑ 7↓
RUZ P is an automatic pick, no records.

90/13143
DEC 20 2042 29.8s 37.55S 175.52E 5km M=4.4
0.1 0.01 0.02 R
Rsd 0.2s 25ph/18stn Dmin 37km Az.gap 115°
Corr. -0.101 30M/30stn Msd 0.3 1↓
Felt Auckland (16) to Taupo (41), max MM6 Paeroa (21).

90/13169
DEC 21 1638 22.1s 37.65S 177.20E 123km M=3.6
0.3 0.01 0.01 3
Rsd 0.2s 17ph/14stn Dmin 68km Az.gap 140°
Corr. 0.332 20M/20stn Msd 0.2 1↑ 1↓
URZ P is an automatic pick, no records.

90/13175
DEC 21 2045 55.2s 36.65S 177.35E 219km M=4.4
0.9 0.04 0.04 7
Rsd 0.3s 20ph/18stn Dmin 135km Az.gap 237°
Corr. 0.479 21M/21stn Msd 0.2 1↓
URZ P is an automatic pick, no records.

90/13189
DEC 22 1124 11.5s 35.75S 179.19E 127km M=4.1
0.5 0.05 0.05 12
Rsd 0.2s 11ph/8stn Dmin 220km Az.gap 308°
Corr. 0.734 17M/17stn Msd 0.2 1↓

90/13228
DEC 23 1649 11.0s 38.33S 176.05E 150km M=3.6
1.3 0.04 0.04 12
Rsd 0.3s 15ph/13stn Dmin 65km Az.gap 107°
Corr. -0.301 21M/21stn Msd 0.2 1↑

90/13246
DEC 24 0604 11.4s 37.59S 177.48E 118km M=4.1
0.2 0.01 0.01 2
Rsd 0.1s 23ph/19stn Dmin 73km Az.gap 151°
Corr. 0.420 24M/23stn Msd 0.2 1↑ 1↓
URZ P is an automatic pick, no records.

90/13284
DEC 25 1300 24.7s 39.33S 174.99E 137km M=3.5
0.3 0.01 0.02 3
Rsd 0.2s 28ph/22stn Dmin 37km Az.gap 139°
Corr. -0.252 20M/20stn Msd 0.3 6↑ 1↓

90/13292
DEC 25 1855 48.6s 35.02S 179.27E 308km M=4.0
1.1 0.13 0.11 14
Rsd 0.3s 9ph/7stn Dmin 351km Az.gap 330°
Corr. 0.203 14M/14stn Msd 0.2

90/13298
DEC 25 2255 33.0s 38.56S 175.97E 5km M=2.4
0.1 0.00 0.00 R
Rsd 0.1s 18ph/13stn Dmin 14km Az.gap 64°
Corr. -0.082 5M/5stn Msd 0.3
Felt Waihora Rd (40) MM4.

90/13307
DEC 26 1120 28.7s 39.05S 175.27E 140km M=4.9
0.3 0.01 0.01 3
Rsd 0.2s 39ph/31stn Dmin 11km Az.gap 70°
Corr. 0.188 17M/17stn Msd 0.3 23↑ 14↓

90/13315
DEC 26 1843 31.8s 37.30S 177.43E 132km M=3.6
0.5 0.04 0.04 5
Rsd 0.2s 7ph/4stn Dmin 84km Az.gap 279°
Corr. -0.531 4M/4stn Msd 0.3 1↑

90/13325
DEC 27 0139 32.1s 38.01S 175.38E 33km M=3.6
0.4 0.02 0.03 R
Rsd 0.2s 14ph/10stn Dmin 154km Az.gap 266°
Corr. -0.777 8M/8stn Msd 0.5 1↑

90/13326
DEC 27 0200 08.3s 38.29S 176.73E 172km M=3.5
0.8 0.05 0.09 5
Rsd 0.3s 9ph/5stn Dmin 34km Az.gap 219°
Corr. -0.486 7M/7stn Msd 0.4

90/13329
DEC 27 0810 14.6s 36.51S 176.97E 265km M=3.7
0.2 0.05 0.03 4
Rsd 0.1s 8ph/4stn Dmin 169km Az.gap 293°
Corr. -0.113 8M/8stn Msd 0.2

90/13345
DEC 28 0005 00.7s 38.01S 176.49E 3km M=3.0
0.2 0.01 0.01 R
Rsd 0.3s 15ph/10stn Dmin 24km Az.gap 119°
Corr. 0.416 8M/8stn Msd 0.3 1↑
Felt Hinehopu (33) MM4.

90/13346
DEC 28 0009 57.3s 38.01S 176.49E 3km
0.2 R R R
Rsd 0.3s 2ph/2stn Dmin 25km Az.gap 302°
Corr. 0.000 0M/0stn Msd 0.0
Felt Hinehopu (33). Aftershock of event at 00h 05m.

90/13374

DEC 29 0949 32.5s 44.36S 169.13E 5km M=4.0
0.2 0.01 0.03 R
Rsd 0.3s 16ph/12stn Dmin 72km Az.gap 161°
Corr. -0.367 11M/11stn Msd 0.3 2↑ 4↓
Felt Mt Aspiring (113) to Wanaka (123) MM4.

90/13378

DEC 29 1049 51.2s 41.31S 174.11E 49km M=3.5
0.1 0.01 0.01 2
Rsd 0.2s 25ph/18stn Dmin 17km Az.gap 70°
Corr. -0.309 11M/10stn Msd 0.2 2↑ 1↓
Felt Northwest Bay (77) MM3.

90/13383

DEC 29 1516 03.9s 44.37S 169.12E 12km M=2.8
0.2 0.01 0.03 R
Rsd 0.3s 14ph/10stn Dmin 70km Az.gap 189°
Corr. -0.097 9M/9stn Msd 0.1 1↓
Felt Minaret Stn (114) MM4.

90/13398

DEC 30 0346 27.4s 40.53S 173.19E 238km M=4.0
0.2 0.02 0.02 2
Rsd 0.2s 32ph/19stn Dmin 65km Az.gap 170°
Corr. -0.168 14M/14stn Msd 0.2 1↑
DSZ P is an automatic pick, no records.

90/13417

DEC 31 0158 09.9s 40.62S 174.56E 34km M=2.5
0.1 0.01 0.01 4
Rsd 0.2s 15ph/10stn Dmin 40km Az.gap 200°
Corr. -0.236 6M/6stn Msd 0.1
Felt Kelburn (68) MM3.

90/13420

DEC 31 0522 28.4s 38.72S 175.99E 154km M=3.5
0.3 0.03 0.03 2
Rsd 0.1s 14ph/6stn Dmin 72km Az.gap 188°
Corr. -0.820 10M/10stn Msd 0.1

90/13421

DEC 31 0826 35.8s 35.15S 179.13E 179km M=4.8
0.7 0.06 0.06 10
Rsd 0.2s 16ph/12stn Dmin 281km Az.gap 296°
Corr. 0.715 25M/24stn Msd 0.2

90/13425

DEC 31 1104 33.0s 44.37S 169.18E 12km M=3.6
0.1 0.01 0.02 R
Rsd 0.2s 15ph/10stn Dmin 71km Az.gap 156°
Corr. -0.072 7M/7stn Msd 0.2 1↑ 6↓
CYN SNARE overloaded.

LISTS OF ORIGINS AND MAGNITUDE DETERMINATIONS

HIGHER MAGNITUDE EARTHQUAKES

A chronological list of 1990 New Zealand earthquakes of $M_L \geq 5.0$ follows. A reference number at the beginning of each entry identifies the origin with the instrumental data summary, and also with the listing of non-instrumental data (if there is any) that appears in a later section.

The letter "R" following a depth indicates that the depth was restricted to some likely value because the data did not provide sufficient constraint for the depth to be determined by calculation. Choice of the depth of restriction is usually made on the basis of the crustal phases observed or the predominant depth of shallow earthquakes in the epicentral area. (For sub-crustal earthquakes, depth restriction is seldom necessary.)

The letter "G" after a depth shows that the depth was restricted on the basis of information that could not be used by the location program, such as macroseismic information, overseas PKP observations etc.

The letter "F" following a magnitude indicates that at least one report of the earthquake being felt has been received by the Observatory.

In the following table, Rsd is as defined on page 33 and NP phases from NS recording stations have been used to determine the origins.

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
036	JAN 02	0136 36.9	38.82S	175.36E	221	5.0	0.2	26	22
079	JAN 03	2152 38.8	37.76S	176.41E	305	5.1	0.2	19	15
239	JAN 11	1238 6.6	37.70S	176.37E	314	5.0	0.3	25	20
776	FEB 10	0327 42.0	42.25S	172.65E	13	5.8F	0.2	20	17
792	FEB 10	0354 47.1	42.26S	172.58E	5R	5.5F	0.2	17	15
793	FEB 10	0357 27.7	42.26S	172.68E	5R	5.3F	0.2	16	15
3443	FEB 19	0534 37.8	40.47S	176.44E	34	5.9F	0.2	34	32
3452	FEB 19	0545 46.0	40.47S	176.40E	40	5.0F	0.2	31	27
5485	MAR 21	1645 59.6	31.56S	177.51W	233	7.1F	0.2	11	9
5491	MAR 22	0000 18.0	36.74S	177.37E	203	6.5F	0.1	20	17
5642	MAR 28	0053 52.9	35.50S	179.67E	67	5.5	0.1	24	22
5646	MAR 28	0330 13.9	38.17S	176.34E	146	6.0F	0.2	32	30
5773	APR 01	0842 48.8	33.79S	177.97E	33R	5.0	0.2	8	4
6657	MAY 13	0423 10.2	40.43S	176.47E	30	6.2F	0.1	39	37
6658	MAY 13	0425 43.8	40.31S	176.33E	26	5.1	0.4	10	8
7963	MAY 20	0953 46.6	33.01S	179.52W	417	6.8F	0.1	10	9
8406	JUN 11	0414 24.1	38.58S	175.68E	162	5.1F	0.2	35	26
8737	JUN 29	1932 28.2	34.98S	179.30E	215	5.1	0.1	14	9
8883	JUL 10	0633 45.7	43.90S	168.86E	4	5.2F	0.1	17	12
8911	JUL 11	1611 40.5	37.23S	176.73E	449	5.3	0.1	28	21
9229	JUL 26	2155 4.7	36.80S	176.96E	215	5.1	0.2	13	11
9523	AUG 14	2058 33.4	38.70S	175.76E	129	5.5F	0.2	36	31
9539	AUG 15	1554 43.4	40.42S	176.52E	42	5.6F	0.1	43	36
10171	SEP 12	0235 33.0	36.64S	178.12E	167	5.4F	0.2	30	26
10676	OCT 04	2348 26.7	41.68S	175.51E	22	5.3F	0.2	23	19
10898	OCT 06	0241 13.3	41.68S	175.50E	22	5.3F	0.2	25	20
11491	OCT 19	0328 9.8	38.23S	176.23E	154	5.5F	0.2	48	34
12027	NOV 06	1450 30.5	37.62S	177.22E	132	5.3F	0.2	36	31

WELLINGTON AREA SEISMICITY

Because of its close station spacing and the relative ease with which stations can be reached when repairs or adjustments are necessary, the Wellington Network can be relied on to furnish enough data for determination of earthquake origins in its neighbourhood from smaller events than those needed to achieve the same accuracy in other parts of the country. The following list includes all earthquakes of magnitude (M_L) 2.0 or more in the area surrounding Wellington, and includes the earthquakes of magnitude 3.5 or more within the area , which were listed on earlier pages.

The location of earthquakes in the neighbourhood of Wellington is no longer performed separately from the location of regional earthquakes as was done in the past. The old practice sometimes resulted in earthquakes having two listed origins, one arrived at from use of National Network data and a regional velocity model, and the other from Wellington Network data and a local model. In current practice the local model is merged into the regional model. A map of these epicentres and a cross-section showing their distribution in depth appears in the final section of this Report.

In the following table, Rsd is as defined on page 33 and NP phases from NS recording stations have been used to determine the origins.

The regional velocity model and its boundaries are listed in the table on page 28.

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
002	JAN 01	0124 19.9	41.78S	174.08E	12	2.0	0.1	8	6
005	JAN 01	0212 52.1	41.75S	174.21E	11	2.3	0.3	14	11
010	JAN 01	0350 3.0	40.66S	174.84E	12R	2.6	0.2	15	10
011	JAN 01	0549 33.9	40.55S	174.75E	24	2.4	0.2	12	9
013	JAN 01	0553 6.2	41.72S	174.51E	29	3.3	0.2	17	13
016	JAN 01	0923 36.8	40.68S	174.38E	66	2.0	0.1	7	5
020	JAN 01	1123 40.0	41.28S	174.34E	33	2.0	0.1	10	8
029	JAN 01	2003 28.8	41.56S	174.76E	28	3.1	0.1	19	12
037	JAN 02	0242 59.0	40.77S	174.26E	71	3.1	0.1	18	10
038	JAN 02	0337 4.1	40.75S	174.27E	68	2.8	0.2	15	9
052	JAN 02	2225 16.1	41.16S	173.94E	74	2.6	0.1	10	7
053	JAN 03	0002 54.4	41.30S	173.88E	60	2.3	0.1	9	7
054	JAN 03	0023 3.8	41.20S	173.90E	65	2.5	0.1	9	6
057	JAN 03	0352 13.7	41.19S	174.78E	28	2.1	0.1	17	11
059	JAN 03	0655 35.2	41.13S	174.64E	33	2.1	0.0	14	10
060	JAN 03	0813 12.2	41.57S	174.72E	28	2.0	0.2	16	11
063	JAN 03	1053 37.8	41.26S	173.82E	88	2.3	0.0	10	7
073	JAN 03	1916 50.8	40.88S	173.84E	115	2.6	0.1	9	8
080	JAN 03	2257 53.3	40.74S	174.94E	33	2.3	0.1	9	7
085	JAN 04	0910 54.8	41.63S	173.79E	67	2.3	0.2	9	6
088	JAN 04	1203 31.1	40.90S	175.59E	28	2.1	0.2	11	9
091	JAN 04	1616 58.3	40.57S	173.80E	114	3.3	0.2	15	12
092	JAN 04	1621 38.6	40.50S	174.47E	86	2.8	0.1	15	10
094	JAN 04	1657 32.3	40.67S	175.88E	31	2.7	0.2	12	10
105	JAN 04	2252 53.3	41.67S	174.53E	34	2.7	0.1	15	11

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
106	JAN 05	0054 35.3	40.84S	174.72E	14	2.3	0.2	16	9
107	JAN 05	0243 41.1	41.73S	174.40E	35	2.1	0.2	9	6
108	JAN 05	1151 59.9	40.80S	175.69E	27	2.1	0.1	17	12
116	JAN 06	0145 56.0	41.40S	173.50E	102	2.8	0.2	18	13
123	JAN 06	0823 25.9	41.16S	174.64E	37	3.2	0.2	20	14
126	JAN 06	1104 24.1	40.99S	174.29E	66	2.3	0.1	9	5
131	JAN 06	1716 10.6	41.17S	174.42E	48	2.3	0.1	11	7
142	JAN 07	0134 38.9	40.71S	175.10E	32	2.2	0.1	10	8
146	JAN 07	0458 35.2	41.58S	173.63E	66	3.2	0.3	19	16
149	JAN 07	0751 34.0	40.51S	173.73E	147	2.4	0.1	7	6
151	JAN 07	1104 31.9	40.57S	175.94E	28	2.4	0.3	11	8
154	JAN 07	1159 2.8	41.61S	174.24E	19	2.3	0.2	15	10
158	JAN 07	1719 27.2	40.62S	174.18E	84	2.6	0.1	16	9
162	JAN 08	0046 11.6	40.76S	174.55E	73	2.1	0.1	10	6
168	JAN 08	0633 40.0	41.41S	174.26E	35	3.2	0.2	24	15
173	JAN 08	1252 39.2	41.11S	175.09E	31	2.9	0.2	18	11
174	JAN 08	1426 29.9	41.67S	174.45E	35	2.1	0.1	13	8
190	JAN 09	0855 53.0	41.38S	174.44E	15	2.4	0.2	11	8
198	JAN 09	1718 20.1	41.63S	173.90E	10	2.0	0.1	9	7
204	JAN 10	0159 44.1	41.29S	175.29E	29	2.3	0.1	14	10
206	JAN 10	0337 53.5	41.73S	173.80E	26	2.1	0.1	6	3
215	JAN 10	1535 25.2	41.08S	174.76E	33	2.2	0.1	15	9
217	JAN 10	1809 7.2	40.57S	174.18E	78	2.3	0.1	10	6
220	JAN 10	2002 25.9	41.24S	173.68E	55	2.2	0.2	8	5
227	JAN 11	0323 12.2	41.45S	174.52E	21	2.3	0.1	15	11
237	JAN 11	1034 40.3	40.53S	174.84E	33	2.0	0.1	8	6
241	JAN 11	1352 58.9	40.55S	175.71E	30	2.1	0.1	10	8
247	JAN 11	1737 26.4	41.02S	174.42E	63	2.1	0.0	8	6
249	JAN 11	1918 18.7	41.25S	173.95E	58	2.2	0.0	7	5
252	JAN 12	0352 53.4	41.70S	174.28E	30	2.5	0.1	13	9
253	JAN 12	0518 50.8	40.92S	175.72E	22	2.2	0.2	10	8
255	JAN 12	1042 15.4	40.89S	174.74E	42	2.7	0.1	17	11
276	JAN 13	1515 6.3	40.82S	175.19E	31	2.0	0.2	10	8
283	JAN 13	2205 42.5	41.14S	174.54E	36	2.8	0.1	14	10
286	JAN 14	0842 14.7	41.37S	174.35E	34	2.6	0.1	13	9
287	JAN 14	0853 22.4	41.03S	175.54E	19	2.0	0.1	8	5
290	JAN 14	1206 27.9	41.35S	174.37E	33	2.1	0.1	7	5
296	JAN 14	1625 50.5	40.74S	174.81E	24	2.0	0.2	11	7
308	JAN 15	0059 1.5	41.76S	174.32E	27	2.2	0.1	8	6
312	JAN 15	0146 27.0	40.82S	174.01E	104	2.8	0.1	9	7
315	JAN 15	0928 1.0	41.59S	174.08E	12R	3.6F	0.2	22	16
319	JAN 15	1455 12.5	41.69S	174.49E	28	2.3	0.1	13	9
320	JAN 15	1712 15.2	41.69S	174.49E	28	2.0	0.2	9	8
326	JAN 15	2258 37.1	41.56S	174.47E	16	2.0	0.2	14	10
337	JAN 16	1151 13.1	40.86S	174.07E	99	2.3	0.1	15	10

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
341	JAN 16	1440 3.6	40.86S	174.71E	13	2.1	0.2	16	10
343	JAN 16	1720 30.6	40.84S	174.73E	15	2.1	0.2	15	8
344	JAN 16	1805 0.4	41.80S	174.52E	30	2.1	0.1	15	9
349	JAN 17	1546 50.4	40.97S	175.62E	32	3.2	0.1	18	12
350	JAN 17	1834 7.6	40.91S	174.57E	43	2.0	0.1	11	9
356	JAN 18	0725 37.8	40.85S	173.65E	95	2.8	0.2	14	8
357	JAN 18	0850 19.0	41.76S	174.50E	34	2.4	0.2	14	9
359	JAN 18	1311 46.7	40.93S	175.20E	22	2.0	0.2	9	6
367	JAN 18	2209 45.6	40.88S	175.45E	30	2.0	0.1	10	7
370	JAN 19	0218 27.2	40.60S	174.69E	67	3.2	0.2	17	12
375	JAN 19	0816 16.1	40.51S	174.79E	44	2.1	0.2	12	6
383	JAN 20	0245 46.8	40.67S	174.75E	35	2.6	0.1	11	9
385	JAN 20	0535 3.9	40.79S	174.71E	35	2.0	0.1	11	7
387	JAN 20	0915 0.3	40.91S	174.09E	70	3.1	0.1	18	13
391	JAN 20	1428 50.8	40.59S	174.51E	76	2.0	0.1	9	6
395	JAN 20	1634 35.1	41.22S	174.62E	34	3.1	0.2	17	12
400	JAN 21	0049 54.3	40.71S	175.40E	30	2.9	0.1	15	10
416	JAN 21	2255 44.8	40.63S	173.77E	94	3.3	0.2	22	13
418	JAN 22	0127 43.2	41.40S	175.47E	18	2.2	0.1	15	10
421	JAN 22	0322 21.7	40.53S	175.73E	35	2.3	0.2	9	6
424	JAN 22	0737 53.8	41.14S	174.81E	26	2.0	0.1	13	10
428	JAN 22	1412 53.9	41.32S	174.30E	38	2.8	0.1	18	13
438	JAN 23	1055 9.8	41.89S	174.19E	20	2.1	0.3	10	9
443	JAN 23	1445 9.5	41.22S	174.63E	34	2.3	0.2	17	11
448	JAN 23	1813 12.8	41.27S	173.65E	87	2.4	0.1	14	10
453	JAN 23	2145 20.7	40.67S	174.31E	86	2.3	0.1	11	9
457	JAN 24	0359 54.1	40.63S	175.53E	32	2.0	0.1	7	4
464	JAN 24	1447 5.2	40.69S	174.10E	73	2.0	0.1	7	4
468	JAN 24	1738 47.5	40.80S	174.31E	51	2.9	0.2	16	10
475	JAN 25	0655 8.0	41.22S	173.79E	73	3.2	0.3	24	15
483	JAN 25	2356 43.3	40.94S	175.15E	36	2.1	0.1	14	9
489	JAN 26	0441 54.5	41.15S	173.55E	98	3.4	0.2	27	16
496	JAN 26	1828 37.9	40.54S	173.80E	103	2.8	0.2	18	12
503	JAN 26	2343 55.8	40.56S	175.08E	33	2.4	0.2	18	11
506	JAN 27	0352 36.0	40.91S	174.28E	72	2.2	0.1	7	5
508	JAN 27	0848 43.7	40.55S	173.83E	93	3.0	0.2	24	13
524	JAN 28	1302 33.4	40.80S	174.85E	59	2.3	0.1	14	10
531	JAN 28	1840 31.5	41.29S	175.30E	29	2.0	0.1	15	10
533	JAN 28	1921 38.9	40.51S	174.38E	0	2.9	0.3	17	10
536	JAN 28	2338 33.9	41.35S	174.71E	50	4.2F	0.1	30	22
540	JAN 29	1103 9.2	41.61S	174.65E	33	2.5	0.1	15	11
541	JAN 29	1125 52.0	41.00S	174.25E	44	2.0	0.1	8	6
545	JAN 29	1516 57.4	41.30S	175.28E	27	2.2	0.1	15	10
549	JAN 29	1800 49.5	41.38S	175.01E	25	2.0	0.0	12	9
551	JAN 29	1831 9.7	41.26S	174.98E	24	2.2	0.1	16	10

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
553	JAN 29	2157 55.3	40.69S	174.84E	13	2.2	0.2	11	9
556	JAN 30	0435 60.0	41.40S	173.52E	108	3.0	0.1	17	12
558	JAN 30	0800 17.7	41.26S	174.60E	33	2.2	0.0	11	8
561	JAN 30	1031 15.7	41.19S	174.80E	34	2.7	0.1	14	10
565	JAN 30	1429 33.9	40.63S	174.01E	97	2.7	0.1	16	12
567	JAN 30	2028 37.7	41.41S	175.06E	27	2.2	0.1	13	9
568	JAN 30	2105 10.0	40.88S	175.05E	55	2.6	0.1	14	10
570	JAN 30	2333 28.3	40.88S	173.65E	87	3.1	0.2	23	13
586	FEB 01	0708 3.8	40.54S	174.59E	80	2.4	0.1	8	6
588	FEB 01	0743 30.4	40.86S	175.09E	34	2.2	0.1	16	11
593	FEB 01	1600 46.8	41.38S	174.22E	33	2.0	0.1	13	8
595	FEB 01	2158 9.1	41.84S	174.08E	21	3.0	0.3	20	15
600	FEB 02	0503 32.3	41.27S	174.84E	27	2.3	0.2	15	10
601	FEB 02	0546 22.4	40.66S	174.36E	81	2.1	0.1	9	6
602	FEB 02	0549 24.9	41.76S	174.51E	34	2.1	0.2	13	9
610	FEB 02	0951 56.1	40.88S	175.18E	35	2.3	0.2	13	9
614	FEB 02	1337 26.8	40.98S	174.48E	34	2.6	0.1	15	11
617	FEB 02	1750 44.1	40.74S	175.89E	21	2.2	0.2	14	10
621	FEB 02	2205 19.1	41.08S	175.51E	30	2.9	0.1	19	12
626	FEB 03	0459 55.8	41.73S	174.39E	2	2.1	0.2	12	10
629	FEB 03	1240 44.8	41.10S	173.95E	59	2.4	0.2	15	9
631	FEB 03	1501 38.0	41.51S	174.13E	12R	2.2	0.2	17	13
632	FEB 03	1505 14.6	41.52S	174.02E	15	2.1	0.2	17	13
643	FEB 04	0634 26.4	41.11S	174.78E	31	2.5	0.1	17	10
655	FEB 04	1740 45.2	40.50S	174.51E	81	2.0	0.1	9	6
659	FEB 05	0049 12.3	40.52S	175.94E	21	2.2	0.3	12	8
661	FEB 05	0308 54.5	40.70S	173.94E	98	3.8	0.3	28	19
663	FEB 05	0545 8.4	41.24S	175.17E	24	2.7	0.2	18	11
668	FEB 05	0733 6.6	40.74S	174.48E	75	2.2	0.0	10	7
670	FEB 05	1115 35.0	40.76S	174.20E	74	2.0	0.2	9	6
677	FEB 05	1950 34.6	41.35S	175.80E	19	2.4	0.1	16	11
686	FEB 06	0942 45.6	40.69S	175.91E	31	4.7F	0.2	36	32
687	FEB 06	0947 23.7	40.60S	175.88E	35	2.8	0.2	12	9
690	FEB 06	1155 19.7	40.58S	175.86E	35	2.1	0.2	8	5
694	FEB 06	1516 21.0	41.65S	174.36E	9	3.1	0.2	19	15
695	FEB 06	1547 20.5	40.65S	175.87E	32	2.3	0.2	12	8
696	FEB 06	1619 23.6	40.81S	175.19E	36	2.0	0.2	8	6
697	FEB 06	1622 18.2	41.67S	174.38E	2	2.1	0.2	11	9
698	FEB 06	1632 29.4	40.54S	174.43E	29	2.0	0.2	12	7
700	FEB 06	1958 29.3	40.53S	174.69E	32	2.1	0.2	8	6
701	FEB 06	2018 12.1	41.04S	174.77E	57	2.2	0.1	11	8
709	FEB 07	0218 7.1	40.73S	175.87E	25	2.2	0.2	9	7
711	FEB 07	0502 19.1	41.68S	174.36E	7	3.5	0.3	18	16
713	FEB 07	0928 42.4	40.65S	175.88E	33R	2.3	0.2	8	6
717	FEB 07	1608 55.4	40.66S	175.02E	31	2.3	0.1	11	9

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
718	FEB 07	1706 55.9	41.24S	173.61E	83	2.4	0.1	10	7
734	FEB 08	0329 10.7	40.66S	175.98E	44	2.3	0.1	6	4
741	FEB 08	1200 40.9	40.68S	173.99E	98	2.1	0.1	8	5
746	FEB 08	1804 21.5	40.69S	174.36E	45	2.0	0.1	8	5
747	FEB 08	1911 14.2	41.67S	174.26E	12	2.4	0.3	13	11
752	FEB 09	0427 23.6	40.52S	175.17E	34	2.6	0.2	13	11
754	FEB 09	0807 11.8	41.51S	174.42E	56	2.3	0.1	12	8
756	FEB 09	0940 6.9	40.77S	174.87E	7	2.1	0.1	15	10
757	FEB 09	1139 20.5	41.71S	173.98E	39	2.1	0.3	9	7
758	FEB 09	1321 9.9	40.97S	174.48E	55	3.0	0.2	16	11
761	FEB 09	1618 47.1	40.67S	175.86E	32	2.2	0.2	11	8
771	FEB 10	0133 34.8	41.21S	173.74E	102	2.7	0.1	13	10
867	FEB 10	0745 2.9	40.52S	175.81E	29	2.4	0.2	10	7
946	FEB 10	2205 27.6	41.38S	175.69E	31	2.2	0.1	11	8
956	FEB 11	0056 25.7	41.23S	173.59E	109	2.6	0.1	11	7
1002	FEB 11	0908 56.1	41.37S	174.38E	16	2.0	0.1	11	9
1089	FEB 11	2113 44.0	41.23S	174.70E	32	2.0	0.2	14	8
1108	FEB 12	0142 39.5	40.66S	175.86E	32	2.3	0.2	12	8
1123	FEB 12	0505 48.9	40.54S	173.83E	130	2.6	0.0	12	8
1126	FEB 12	0528 43.4	41.58S	174.31E	28	2.1	0.1	12	9
1319	FEB 12	1718 12.7	40.66S	175.88E	32	3.4	0.1	18	14
1490	FEB 13	0508 33.6	41.62S	173.94E	12R	2.4	0.3	13	11
1573	FEB 13	0956 9.7	40.61S	173.87E	120	2.7	0.1	11	9
1690	FEB 13	1649 21.5	40.96S	175.14E	30	2.3	0.2	16	11
1864	FEB 13	2338 46.1	40.55S	175.84E	29	2.1	0.3	13	8
1869	FEB 13	2348 0.4	41.29S	174.60E	37	2.1	0.1	12	9
2091	FEB 14	0933 15.9	40.90S	175.81E	30	2.3	0.2	15	11
2181	FEB 14	1308 55.4	40.53S	174.69E	25	2.1	0.3	13	9
2272	FEB 14	1636 55.3	41.00S	173.99E	50	2.2	0.1	8	5
2300	FEB 14	1738 51.1	41.57S	173.59E	67	3.2	0.2	33	21
2415	FEB 14	2211 25.9	40.63S	175.88E	33	2.6	0.2	11	8
2466	FEB 15	0053 7.2	40.93S	175.50E	25	3.0	0.1	13	11
2739	FEB 15	1859 50.7	40.80S	174.72E	62	2.2	0.0	11	9
2807	FEB 16	0321 22.6	41.59S	173.92E	17	2.0	0.3	13	9
2813	FEB 16	0410 26.9	41.30S	175.28E	28	2.7	0.1	14	10
2849	FEB 16	0609 12.1	41.29S	175.00E	24	2.8	0.1	15	11
2861	FEB 16	0651 20.1	40.94S	174.52E	49	2.1	0.1	9	7
2866	FEB 16	0704 0.6	40.56S	174.03E	102	3.1	0.2	13	11
3144	FEB 17	0106 26.8	40.60S	174.42E	81	2.1	0.1	8	6
3181	FEB 17	0435 2.7	41.77S	174.52E	39	2.2	0.1	8	6
3192	FEB 17	0516 57.0	40.77S	175.23E	39	2.8	0.1	9	4
3393	FEB 18	0331 40.1	40.50S	175.84E	54	2.2	0.1	10	8
3396	FEB 18	0426 29.5	40.53S	173.89E	125	2.4	0.0	11	8
3406	FEB 18	1043 28.6	41.04S	174.84E	50	2.3	0.1	14	10
3422	FEB 18	1925 43.0	40.67S	174.84E	13	2.3	0.2	11	9

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
3431	FEB 18	2211 13.1	40.99S	174.84E	33	2.0	0.0	11	9
3433	FEB 19	0025 41.6	41.08S	174.55E	37	2.2	0.1	13	8
3513	FEB 19	0901 44.0	40.51S	174.25E	26	2.2	0.1	8	5
3644	FEB 20	0040 16.8	40.89S	175.30E	27	3.2	0.1	19	15
3690	FEB 20	0324 25.6	41.20S	175.44E	22	2.2	0.1	13	9
3941	FEB 20	2118 26.2	41.13S	175.78E	31	2.0	0.1	11	8
3981	FEB 21	0015 41.6	40.55S	175.06E	35	3.3	0.3	16	13
4059	FEB 21	0528 20.3	41.04S	174.53E	39	2.1	0.0	7	6
4142	FEB 21	0920 48.9	40.91S	175.83E	30	3.1	0.2	25	19
4195	FEB 21	1159 10.1	40.93S	174.46E	67	2.3	0.0	10	9
4203	FEB 21	1241 34.3	41.30S	175.27E	24	2.0	0.1	12	9
4234	FEB 21	1435 10.8	40.97S	175.61E	31	2.8	0.2	27	16
4271	FEB 21	1640 8.1	40.66S	175.88E	31	3.1	0.2	32	24
4291	FEB 21	1817 38.5	41.10S	175.10E	34	2.3	0.1	18	10
4321	FEB 21	2016 49.2	40.60S	174.18E	60	2.3	0.1	11	7
4349	FEB 21	2258 3.2	40.59S	175.87E	35	2.2	0.1	5	3
4380	FEB 22	0221 49.6	41.78S	174.58E	31	2.4	0.1	15	13
4480	FEB 22	1104 9.2	40.89S	175.30E	29	2.9	0.2	16	14
4533	FEB 22	1431 39.7	40.88S	175.29E	29	2.7	0.2	19	12
4640	FEB 22	2312 45.9	40.83S	175.18E	37	3.8F	0.2	28	22
4656	FEB 23	0245 25.8	40.65S	175.87E	33	2.2	0.1	11	8
4665	FEB 23	0722 45.1	40.79S	174.40E	65	3.5	0.2	27	19
4677	FEB 23	1331 47.2	41.72S	174.46E	30	2.2	0.1	14	9
4690	FEB 23	2052 56.0	41.15S	174.19E	45	2.1	0.1	8	6
4693	FEB 23	2137 13.0	40.57S	175.87E	35	2.3	0.3	6	5
4696	FEB 23	2258 10.5	40.81S	175.25E	36	2.2	0.1	8	7
4706	FEB 24	0643 43.9	41.16S	173.53E	98	2.5	0.1	11	6
4715	FEB 24	1007 20.5	41.02S	174.68E	58	2.1	0.0	11	8
4756	FEB 25	1252 5.7	41.34S	174.21E	37	2.3	0.2	12	9
4763	FEB 25	1646 49.6	40.89S	175.17E	27	2.0	0.1	9	8
4764	FEB 25	1653 8.0	40.68S	175.95E	43	3.0	0.1	10	9
4777	FEB 26	0642 17.6	41.02S	175.15E	25	2.1	0.2	8	7
4785	FEB 26	1421 40.1	41.90S	174.11E	12R	2.1	0.2	9	7
4800	FEB 27	0317 42.7	41.08S	174.22E	59	3.0	0.1	17	12
4807	FEB 27	0938 5.0	41.95S	174.02E	19	2.1	0.2	10	8
4808	FEB 27	0948 46.6	41.94S	173.99E	18	2.1	0.2	11	7
4809	FEB 27	0950 3.8	41.93S	174.00E	16	2.4	0.2	15	10
4810	FEB 27	1004 54.5	41.96S	174.04E	16	3.6	0.3	23	14
4811	FEB 27	1010 9.4	41.93S	173.98E	14	2.3	0.1	11	8
4813	FEB 27	1014 35.4	41.94S	173.99E	18	2.2	0.2	11	9
4814	FEB 27	1022 23.1	41.93S	173.98E	12R	2.6	0.3	17	12
4815	FEB 27	1035 17.1	41.96S	174.03E	15	3.2	0.3	21	15
4823	FEB 27	1508 6.7	40.56S	174.37E	68	3.3	0.1	19	12
4827	FEB 27	1947 15.7	41.68S	174.15E	20	2.1	0.2	10	8
4828	FEB 27	1955 23.2	42.00S	174.05E	14	2.3	0.2	9	7

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4841	FEB 28	0518 32.9	41.95S	174.02E	17	3.5	0.4	21	16
4842	FEB 28	0540 37.0	41.94S	174.00E	16	2.7	0.4	18	13
4850	FEB 28	1646 9.7	41.03S	175.28E	23	2.5	0.1	13	9
4863	MAR 01	0223 22.9	41.73S	174.47E	30	2.1	0.1	12	8
4875	MAR 01	0942 56.0	41.58S	173.62E	69	2.5	0.2	11	7
4882	MAR 01	1312 45.7	40.72S	176.00E	44	3.1	0.1	16	14
4884	MAR 01	1430 49.6	40.96S	174.89E	35	2.0	0.1	12	9
4889	MAR 01	2113 26.7	41.89S	175.15E	23	2.0	0.1	9	6
4890	MAR 02	0031 35.2	41.45S	174.04E	41	2.5	0.1	16	11
4897	MAR 02	0430 41.7	40.66S	175.88E	31	2.4	0.2	12	9
4900	MAR 02	0544 52.8	40.62S	175.87E	33R	2.3	0.2	10	7
4919	MAR 02	1806 11.7	41.98S	173.87E	7	2.3	0.2	10	8
4938	MAR 03	0318 30.3	41.75S	174.23E	9	2.2	0.3	12	11
4967	MAR 04	0032 7.6	41.21S	173.79E	93	2.1	0.0	6	5
4981	MAR 04	0956 59.8	41.76S	174.70E	36	2.3	0.1	10	6
4997	MAR 04	1730 17.5	40.68S	174.14E	85	2.6	0.1	12	8
5000	MAR 04	1830 46.2	41.93S	174.16E	12R	2.4	0.4	14	12
5014	MAR 05	0414 47.7	40.65S	175.89E	32	2.7	0.2	16	12
5022	MAR 05	1024 37.4	41.93S	174.53E	30	2.6	0.2	20	12
5036	MAR 05	2348 33.0	41.67S	174.34E	12R	2.1	0.2	15	11
5042	MAR 06	1017 52.9	40.97S	174.87E	57	2.4	0.1	13	9
5056	MAR 06	1958 5.4	41.01S	174.83E	54	2.5	0.0	15	11
5060	MAR 06	2234 11.9	41.19S	173.78E	81	3.7	0.3	27	18
5062	MAR 07	0017 31.2	41.17S	173.79E	70	2.5	0.2	18	10
5063	MAR 07	0119 15.9	40.91S	174.96E	33	2.0	0.1	10	7
5064	MAR 07	0125 25.3	42.00S	174.05E	12R	2.4	0.3	17	12
5069	MAR 07	0458 44.3	41.52S	173.96E	12R	2.2	0.3	13	9
5079	MAR 07	0935 12.3	41.98S	174.01E	12R	2.3	0.3	11	9
5093	MAR 07	1707 15.0	41.77S	174.52E	38	2.1	0.1	13	10
5095	MAR 07	1937 27.0	40.67S	174.00E	33R	2.0	0.1	8	6
5104	MAR 08	0248 4.9	41.66S	174.49E	54	2.0	0.1	9	7
5106	MAR 08	0313 35.1	41.57S	174.31E	27	2.2	0.2	16	13
5121	MAR 08	1148 20.5	41.47S	174.55E	20	2.1	0.2	18	11
5123	MAR 08	1250 30.0	40.67S	175.87E	32	2.2	0.1	8	6
5128	MAR 08	1431 41.5	41.90S	175.90E	31	2.2	0.1	14	9
5130	MAR 08	1454 6.5	40.66S	173.75E	131	2.1	0.1	10	8
5131	MAR 08	1455 55.7	40.67S	175.88E	30	2.0	0.2	11	8
5138	MAR 08	2102 31.8	41.79S	174.30E	31	2.0	0.2	12	9
5139	MAR 08	2107 1.4	40.96S	174.44E	41	2.2	0.2	10	7
5147	MAR 09	0335 41.9	40.52S	174.28E	28	2.2	0.1	10	6
5149	MAR 09	0459 50.4	41.02S	174.48E	10	2.1	0.2	13	9
5161	MAR 09	1724 48.3	41.34S	174.63E	31	2.3	0.1	14	10
5169	MAR 10	0051 16.3	40.54S	174.67E	29	2.1	0.1	11	8
5174	MAR 10	0344 8.5	41.28S	175.22E	29	2.8	0.1	16	10
5176	MAR 10	0412 50.0	41.29S	175.22E	29	2.5	0.1	16	11

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5180	MAR 10	0558 55.4	41.72S	174.47E	31	2.3	0.1	11	8
5205	MAR 10	2127 22.5	40.56S	175.81E	31	2.0	0.1	11	7
5217	MAR 11	0756 2.8	41.78S	174.53E	33	2.4	0.1	16	10
5238	MAR 12	0835 55.6	40.82S	174.05E	118	2.2	0.1	7	4
5247	MAR 12	1314 4.2	41.99S	174.00E	15	2.4	0.1	8	3
5260	MAR 13	0022 26.1	40.86S	173.88E	77	2.7	0.2	17	9
5262	MAR 13	0154 24.4	41.07S	174.05E	51	2.3	0.2	10	7
5267	MAR 13	0713 20.6	40.95S	175.67E	24	2.1	0.1	18	11
5271	MAR 13	0945 35.1	40.89S	175.59E	45	3.1	0.1	7	3
5284	MAR 14	1235 18.1	41.41S	174.99E	27	2.8	0.2	16	11
5288	MAR 14	1611 55.2	41.14S	173.73E	70	2.8	0.3	19	13
5292	MAR 14	1656 57.9	41.40S	175.00E	24	2.0	0.1	15	10
5297	MAR 15	0226 27.5	41.29S	173.86E	86	2.2	0.0	8	5
5298	MAR 15	0229 0.1	41.41S	174.99E	27	2.4	0.1	17	10
5309	MAR 15	0804 37.9	41.40S	174.99E	26	2.0	0.1	15	11
5325	MAR 15	1546 55.3	41.13S	175.34E	23	2.0	0.1	12	7
5330	MAR 15	2223 42.2	41.30S	175.77E	22	2.1	0.1	14	9
5338	MAR 16	0922 11.5	41.31S	174.59E	34	2.1	0.1	14	9
5344	MAR 16	1522 21.0	41.72S	174.49E	29	2.1	0.1	15	10
5349	MAR 16	1631 58.0	41.71S	174.49E	27	2.0	0.1	15	10
5355	MAR 16	2319 13.5	41.20S	174.00E	58	2.4	0.1	10	7
5362	MAR 17	0604 22.4	40.58S	175.86E	39	2.6	0.2	8	5
5365	MAR 17	0846 27.8	41.26S	173.76E	52	2.4	0.2	11	8
5370	MAR 17	1213 4.5	40.51S	175.96E	27	2.1	0.2	10	7
5372	MAR 17	1530 8.5	40.90S	174.72E	61	2.0	0.0	12	10
5379	MAR 17	2042 1.6	40.68S	175.88E	31	2.2	0.2	12	10
5381	MAR 17	2233 40.4	41.47S	175.66E	30	2.3	0.1	12	10
5395	MAR 18	1007 10.7	41.56S	174.22E	2	2.1	0.3	16	11
5397	MAR 18	1054 24.8	41.08S	174.68E	32	2.9	0.2	20	15
5402	MAR 18	1600 31.6	41.17S	175.82E	26	2.2	0.2	14	10
5407	MAR 18	1907 46.2	40.52S	173.70E	197	2.6	0.1	10	6
5414	MAR 19	0544 3.8	40.64S	175.93E	26	2.2	0.2	12	9
5424	MAR 19	1227 37.3	40.89S	175.74E	31	2.0	0.1	15	10
5427	MAR 19	1530 11.0	40.52S	175.80E	31	2.1	0.1	10	7
5429	MAR 19	1750 53.7	41.92S	174.54E	29	2.5	0.2	20	12
5431	MAR 19	1915 57.0	40.87S	175.82E	29	2.1	0.2	12	9
5434	MAR 20	0000 20.3	41.28S	175.41E	16	2.5	0.1	18	11
5437	MAR 20	0329 0.0	41.28S	175.42E	17	2.9	0.1	19	11
5438	MAR 20	0329 52.7	41.29S	175.43E	20	2.2	0.1	15	8
5443	MAR 20	0917 27.6	41.63S	174.74E	24	3.7F	0.2	23	17
5449	MAR 20	1225 25.7	41.66S	174.14E	23	2.1	0.2	11	9
5454	MAR 20	1502 45.2	41.69S	174.20E	9	2.1	0.3	11	9
5459	MAR 20	1710 36.8	41.66S	174.58E	33	2.1	0.2	13	10
5479	MAR 21	1159 16.0	41.08S	173.57E	90	2.7	0.1	20	14
5482	MAR 21	1258 53.6	41.04S	175.26E	23	2.0	0.2	16	10

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5484	MAR 21	1526 50.3	40.67S	175.94E	25	2.1	0.2	11	8
5502	MAR 23	0127 32.7	40.62S	174.47E	29	3.1	0.4	18	12
5504	MAR 23	0159 2.6	41.64S	173.95E	12R	2.4	0.3	12	9
5505	MAR 23	0221 12.1	41.69S	174.10E	32	2.1	0.2	10	7
5530	MAR 24	0023 25.1	41.82S	174.43E	27	2.0	0.1	8	6
5534	MAR 24	1027 15.8	40.87S	175.94E	30	2.3	0.2	16	10
5540	MAR 24	1346 35.3	40.54S	174.39E	83	2.1	0.2	7	4
5541	MAR 24	1405 6.5	41.28S	175.21E	24	2.5	0.1	19	11
5542	MAR 24	1430 28.5	41.28S	175.21E	23	2.0	0.0	16	10
5550	MAR 24	1649 38.4	41.20S	174.27E	66	2.4	0.1	18	11
5556	MAR 24	2157 2.2	40.93S	174.49E	61	2.3	0.1	8	6
5561	MAR 25	0129 52.5	41.13S	174.59E	40	2.0	0.1	13	10
5563	MAR 25	0251 42.0	40.58S	175.96E	56	2.5	0.1	10	7
5569	MAR 25	1343 50.7	40.86S	175.15E	32	2.4	0.2	10	8
5570	MAR 25	1432 31.3	41.64S	174.63E	33	2.2	0.1	12	8
5577	MAR 25	1846 0.7	40.62S	174.12E	116	2.5	0.0	12	7
5599	MAR 26	1741 12.2	40.50S	175.84E	30	2.1	0.2	9	7
5621	MAR 27	0752 7.3	41.28S	175.00E	27	2.7	0.1	20	11
5635	MAR 27	1959 11.7	41.48S	174.16E	22	2.0	0.2	9	7
5654	MAR 28	1142 44.1	40.56S	173.69E	100	3.0	0.2	27	15
5657	MAR 28	1256 21.7	41.16S	173.98E	56	2.1	0.1	9	6
5658	MAR 28	1303 21.6	41.53S	174.79E	31	2.7	0.2	20	13
5661	MAR 28	1525 7.3	41.00S	175.32E	11	2.7F	0.2	19	12
5662	MAR 28	1844 39.8	41.31S	174.59E	31	2.4	0.1	18	12
5663	MAR 28	1857 18.2	40.65S	174.51E	47	2.1	0.1	12	6
5705	MAR 30	0134 35.3	40.97S	174.95E	45	2.7	0.1	17	11
5715	MAR 30	1218 46.0	41.33S	175.52E	44	3.4	0.1	19	13
5721	MAR 30	1656 41.2	41.58S	173.77E	54	2.3	0.1	7	6
5731	MAR 30	2223 1.5	41.61S	174.32E	25	2.7	0.2	21	15
5746	MAR 31	0934 20.4	41.05S	174.60E	32	2.3	0.2	19	10
5749	MAR 31	1335 12.9	41.66S	174.29E	5R	2.2	0.2	13	11
5757	MAR 31	1826 1.4	40.79S	174.58E	34	2.0	0.1	12	7
5760	MAR 31	1933 4.7	40.74S	175.33E	29	2.0	0.1	10	7
5769	APR 01	0545 34.1	41.55S	174.21E	9	2.2	0.3	15	11
5777	APR 01	1129 22.7	41.19S	174.75E	34	2.1	0.1	19	10
5789	APR 02	0011 35.9	40.58S	174.94E	30	2.0	0.1	10	6
5795	APR 02	0957 27.4	40.69S	174.11E	73	2.6	0.1	7	5
5805	APR 02	1926 31.9	41.09S	175.19E	25	2.3	0.1	19	11
5810	APR 02	2215 12.2	40.62S	174.32E	86	2.3	0.1	10	7
5813	APR 03	0313 52.2	41.30S	175.28E	29	2.0	0.1	12	9
5818	APR 03	0912 48.3	41.50S	174.01E	33R	2.8	0.2	23	15
5825	APR 03	1459 50.2	40.89S	175.79E	30	2.1	0.2	16	11
5829	APR 03	1851 8.8	41.42S	174.98E	27	2.0	0.1	14	10
5835	APR 04	0123 21.7	41.16S	175.17E	11	2.3	0.2	18	11
5837	APR 04	0328 28.1	40.68S	174.31E	88	2.5	0.1	9	7

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5841	APR 04	0629 55.4	41.46S	174.27E	59	2.6	0.1	12	9
5843	APR 04	0844 12.8	40.77S	174.17E	75	2.5	0.1	8	7
5856	APR 04	2138 55.6	41.07S	174.69E	31	2.1	0.1	14	10
5877	APR 05	1207 37.8	41.51S	173.99E	86	2.3	0.2	8	5
5890	APR 05	1943 57.9	41.62S	173.69E	74	2.4	0.1	14	9
5892	APR 05	2038 15.0	40.62S	173.83E	141	2.7	0.2	15	10
5903	APR 06	0403 11.6	41.78S	174.57E	31	2.8	0.1	22	14
5907	APR 06	0649 3.2	40.74S	174.02E	87	2.2	0.1	9	6
5910	APR 06	0813 24.0	40.92S	175.80E	31	2.3	0.2	13	9
5917	APR 06	1518 45.5	40.58S	175.86E	35	2.2	0.2	10	8
5919	APR 06	1831 51.7	40.88S	175.04E	37	2.4	0.2	14	9
5920	APR 06	2007 56.7	40.91S	175.93E	31	2.4	0.2	14	10
5943	APR 07	1341 30.8	41.19S	174.97E	52	2.1	0.1	10	7
5948	APR 07	1929 45.5	40.77S	175.47E	30	2.1	0.1	14	9
5956	APR 08	0723 17.5	40.77S	175.26E	30	2.6	0.2	19	12
5957	APR 08	0738 34.0	41.98S	173.60E	60	2.0	0.1	7	5
5968	APR 08	2043 51.5	41.20S	174.63E	30	2.7	0.1	18	12
5970	APR 08	2136 1.2	40.64S	175.88E	33	3.9F	0.1	21	16
5971	APR 08	2138 27.7	40.64S	175.88E	33	3.6	0.1	18	14
5979	APR 09	0557 18.9	40.91S	175.76E	30	2.3	0.1	12	8
5980	APR 09	0723 27.5	41.80S	174.51E	34	2.6	0.1	14	10
5981	APR 09	0828 26.1	40.90S	175.81E	30	2.0	0.2	13	10
5984	APR 09	1103 47.3	41.55S	174.21E	9	2.5	0.3	17	13
5990	APR 09	1457 49.0	40.52S	174.40E	82	2.6	0.1	17	10
5992	APR 09	1538 9.5	40.89S	175.72E	30	2.2	0.1	14	9
5998	APR 10	0346 11.2	41.71S	173.79E	53	3.1	0.2	22	16
6005	APR 10	0803 9.6	40.67S	174.80E	11	2.0	0.2	14	9
6015	APR 10	1746 53.0	40.72S	175.87E	32	4.6F	0.1	25	22
6016	APR 10	1753 18.0	41.79S	174.51E	33	2.3	0.1	16	10
6023	APR 10	2249 38.8	41.59S	173.62E	64	2.7	0.2	15	11
6024	APR 11	0102 49.6	41.93S	174.17E	12R	2.4	0.3	13	11
6026	APR 11	0713 27.8	40.85S	175.11E	34	2.9	0.1	17	12
6035	APR 11	1534 28.8	41.60S	174.43E	16	3.1	0.2	26	17
6036	APR 11	1551 56.6	41.00S	175.37E	30	2.4	0.2	20	10
6082	APR 12	2204 46.5	41.55S	173.70E	52	2.4	0.2	17	11
6083	APR 12	2254 12.9	41.67S	174.57E	33	2.0	0.2	15	10
6090	APR 13	0417 9.4	40.88S	175.75E	30	2.3	0.1	15	10
6099	APR 13	1430 58.3	40.54S	174.57E	52	2.5	0.1	10	7
6106	APR 13	1858 17.1	40.93S	175.35E	14	2.1	0.2	15	9
6113	APR 14	0508 16.0	41.78S	174.35E	29	2.0	0.2	15	11
6115	APR 14	0729 4.5	41.58S	173.90E	15	2.2	0.3	20	15
6117	APR 14	0943 57.2	41.17S	174.61E	58	2.0	0.1	14	9
6122	APR 14	1447 28.0	41.23S	175.50E	22	2.4	0.1	21	12
6123	APR 14	1554 9.0	41.75S	173.76E	20	2.0	0.1	12	9
6126	APR 14	1801 7.3	40.53S	173.91E	134	2.6	0.1	13	6

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
6138	APR 15	0717 27.0	40.96S	175.98E	30	2.1	0.2	10	7
6141	APR 15	1007 23.9	41.74S	174.31E	14	2.7	0.3	20	15
6150	APR 15	1908 17.9	41.73S	174.31E	11	2.2	0.2	10	7
6157	APR 16	0429 52.1	41.04S	175.38E	28	2.3	0.1	15	10
6161	APR 16	0725 46.8	41.02S	174.60E	54	2.3	0.1	12	7
6162	APR 16	0906 39.6	40.89S	173.60E	97	2.9	0.2	21	13
6163	APR 16	1350 26.2	41.65S	173.93E	44	3.2	0.2	21	16
6167	APR 17	0709 31.3	40.63S	175.53E	32	2.6	0.2	13	9
6177	APR 18	0121 24.1	41.78S	174.52E	33	2.7	0.1	16	12
6179	APR 18	0209 29.9	41.24S	173.74E	69	2.3	0.0	6	3
6190	APR 18	1742 53.3	41.28S	174.85E	28	3.1F	0.2	20	14
6199	APR 19	0207 42.0	41.05S	173.50E	83	2.8	0.2	18	10
6206	APR 19	1028 59.7	41.46S	173.96E	91	2.6	0.1	7	4
6207	APR 19	1045 22.5	40.82S	173.57E	166	2.8	0.1	8	5
6212	APR 19	1902 3.0	41.36S	173.76E	84	2.5	0.0	5	4
6218	APR 20	0535 21.2	41.25S	175.24E	23	2.3	0.1	16	11
6219	APR 20	1016 43.0	41.62S	174.76E	30	2.2	0.1	12	8
6222	APR 20	1538 48.9	41.41S	174.25E	25	2.0	0.1	10	7
6223	APR 20	1703 25.8	41.19S	174.66E	33	2.0	0.0	13	8
6227	APR 21	0019 36.1	40.86S	175.77E	25	2.2	0.2	14	10
6229	APR 21	0207 49.1	40.66S	173.76E	115	2.8	0.2	16	11
6231	APR 21	0419 55.5	41.18S	175.12E	20	2.8	0.2	17	11
6232	APR 21	0437 53.3	40.98S	174.55E	37	3.0	0.1	17	13
6233	APR 21	0439 59.1	40.98S	174.56E	34	2.1	0.2	14	9
6234	APR 21	0605 2.3	40.52S	175.94E	31	2.2	0.2	9	6
6249	APR 21	1950 11.1	40.68S	174.73E	34	2.0	0.1	9	6
6259	APR 22	0603 47.2	41.60S	174.08E	7	2.2	0.3	11	10
6261	APR 22	0745 9.6	41.62S	173.86E	45	3.2	0.3	22	16
6273	APR 22	2214 14.8	41.61S	174.30E	13	2.5	0.2	18	14
6281	APR 23	0500 4.8	42.00S	174.38E	29	2.2	0.2	11	7
6287	APR 23	1512 36.4	41.39S	174.83E	20	2.2	0.3	17	11
6300	APR 24	0652 30.4	41.66S	174.26E	2R	2.3	0.3	15	11
6307	APR 24	1145 46.7	40.97S	175.60E	29	2.1	0.1	15	9
6312	APR 24	1717 3.4	40.57S	175.63E	30	2.0	0.1	10	8
6331	APR 25	1118 29.8	40.60S	174.21E	68	2.2	0.2	8	5
6335	APR 25	1815 30.1	40.66S	173.54E	110	2.9	0.2	25	14
6344	APR 26	0450 37.2	41.52S	174.25E	18	2.0	0.2	12	9
6346	APR 26	0831 13.8	40.58S	174.77E	25	2.1	0.2	12	7
6358	APR 26	1716 14.6	41.36S	174.25E	25	2.0	0.1	12	9
6359	APR 26	2025 1.8	41.49S	174.16E	9	2.0	0.3	16	12
6361	APR 26	2118 13.8	41.11S	174.63E	38	2.0	0.0	8	5
6362	APR 26	2136 48.0	41.25S	174.60E	28	2.6	0.1	19	12
6365	APR 26	2352 36.5	41.07S	175.25E	30	2.7	0.2	20	12
6367	APR 27	0845 12.9	41.22S	174.49E	61	2.0	0.0	13	8
6372	APR 27	1058 25.9	41.68S	174.26E	5R	2.1	0.3	13	11

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6380	APR 27	1800 22.8	40.78S	174.22E	54	2.5	0.1	15	9
6383	APR 27	2337 46.2	40.85S	174.68E	50	2.3	0.0	10	8
6385	APR 28	0124 58.2	40.87S	175.77E	30	2.6	0.2	14	10
6388	APR 28	0256 24.6	40.59S	174.43E	71	2.4	0.1	10	6
6396	APR 28	1553 9.4	40.58S	175.86E	35	2.5	0.1	10	7
6401	APR 28	1932 43.0	40.64S	173.87E	82	3.0	0.1	21	15
6409	APR 29	0501 58.9	41.14S	174.47E	65	2.5	0.1	15	9
6416	APR 29	1448 57.5	41.78S	174.35E	29	2.3	0.2	17	13
6425	APR 30	0943 50.3	41.47S	173.56E	89	3.3	0.3	27	18
6431	APR 30	1225 6.2	40.99S	174.81E	58	2.2F	0.1	15	10
6437	MAY 01	0023 46.4	41.06S	174.04E	64	4.0	0.2	24	19
6441	MAY 01	0716 15.1	40.50S	175.68E	30	2.5	0.1	9	6
6442	MAY 01	0810 57.0	41.06S	175.31E	14	2.1	0.2	17	11
6445	MAY 01	0911 49.8	40.58S	175.95E	35	2.9	0.1	10	8
6446	MAY 01	1130 41.6	41.82S	174.25E	52	3.4	0.2	28	19
6461	MAY 02	1147 15.9	41.30S	174.31E	34	2.2	0.1	10	7
6465	MAY 02	1310 44.6	41.13S	174.12E	50	2.7	0.2	19	11
6471	MAY 02	1747 21.8	40.99S	175.34E	26	2.0	0.1	7	5
6473	MAY 02	2153 18.6	40.98S	174.84E	57	2.1	0.1	7	5
6489	MAY 04	0003 25.2	41.95S	174.79E	36	2.3	0.2	10	8
6494	MAY 04	0301 26.2	41.47S	173.69E	49	2.7	0.2	12	8
6499	MAY 04	1018 27.0	41.47S	173.72E	63	3.0	0.2	29	17
6500	MAY 04	1031 14.0	41.45S	173.70E	67	3.3	0.2	28	16
6506	MAY 05	0715 39.4	40.72S	175.88E	27	2.5	0.2	14	11
6510	MAY 05	2327 34.7	41.70S	174.42E	30	2.0	0.1	8	5
6513	MAY 06	0102 37.0	41.82S	174.43E	39	2.2	0.1	14	9
6526	MAY 06	1508 48.2	40.95S	175.13E	35	2.6	0.2	15	10
6536	MAY 07	0851 44.2	41.81S	174.50E	33	2.1	0.2	11	9
6548	MAY 07	1704 9.4	40.90S	175.81E	32	2.1	0.1	15	10
6553	MAY 07	2046 38.4	41.29S	175.29E	28	2.0	0.1	13	9
6556	MAY 08	0037 17.8	40.83S	175.68E	26	2.2	0.1	13	9
6561	MAY 08	0618 50.7	41.65S	174.64E	30	2.3	0.2	13	11
6566	MAY 08	1314 55.7	41.97S	174.01E	18	2.7	0.2	19	12
6568	MAY 08	1643 4.9	40.76S	174.25E	60	2.5	0.2	10	7
6572	MAY 08	2253 39.3	41.64S	174.31E	5R	2.4	0.2	20	15
6583	MAY 09	1606 57.4	40.69S	174.42E	29	2.1	0.2	11	7
6588	MAY 09	2045 16.3	40.91S	175.51E	23	2.0	0.1	11	8
6593	MAY 09	2218 1.5	41.01S	174.33E	65	2.1	0.1	9	6
6594	MAY 10	0059 5.0	40.74S	174.34E	61	2.6	0.2	10	7
6599	MAY 10	0803 18.4	40.93S	175.16E	30	2.2	0.2	15	10
6610	MAY 10	2247 56.1	41.22S	173.90E	55	2.2	0.1	10	7
6611	MAY 10	2340 2.2	40.62S	174.03E	67	2.3	0.2	9	7
6621	MAY 11	0802 19.3	40.69S	174.25E	5R	2.7	0.2	11	9
6622	MAY 11	0811 12.6	40.84S	174.73E	16	2.2	0.2	15	9
6625	MAY 11	1503 52.3	41.51S	174.48E	20	2.2	0.1	17	13

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
6628	MAY 11	1801 51.6	40.52S	175.90E	29	2.0	0.2	7	5
6642	MAY 12	1215 37.3	41.48S	173.87E	57	4.4F	0.2	30	19
6643	MAY 12	1219 37.8	41.49S	173.84E	41	2.0	0.0	6	3
6649	MAY 12	1959 3.7	40.66S	174.55E	59	2.6	0.2	16	10
6650	MAY 12	2012 25.3	41.47S	173.86E	45	2.5	0.2	15	11
6950	MAY 13	1520 51.1	41.01S	174.75E	32	2.9	0.1	19	13
6968	MAY 13	1646 54.4	40.86S	175.49E	23	2.4	0.1	19	13
6987	MAY 13	1820 3.6	40.86S	175.50E	24	2.2	0.1	13	11
6992	MAY 13	1903 1.1	40.85S	175.51E	28	2.2	0.2	16	10
7148	MAY 14	0625 3.7	40.86S	175.50E	30	2.9	0.2	16	13
7171	MAY 14	0825 51.0	41.36S	175.28E	11	2.1	0.1	13	9
7251	MAY 14	1443 54.4	40.56S	174.14E	60	2.4	0.2	10	7
7405	MAY 15	0529 15.7	41.29S	174.83E	26	2.2	0.1	15	10
7535	MAY 15	1728 48.6	41.28S	175.27E	22	2.4	0.1	11	9
7607	MAY 16	0614 42.3	40.86S	175.49E	27	2.3	0.1	13	11
7676	MAY 16	1354 57.5	41.21S	175.09E	25	2.1	0.1	16	11
7739	MAY 16	2348 1.8	40.57S	174.97E	36	3.1	0.3	28	25
7772	MAY 17	0323 32.7	40.97S	173.74E	73	3.1	0.2	18	13
7773	MAY 17	0330 40.0	40.61S	174.54E	76	2.3	0.2	13	9
7775	MAY 17	0339 13.8	40.52S	174.19E	102	2.7	0.1	12	8
7790	MAY 17	0500 3.9	40.78S	174.01E	81	3.0	0.3	18	11
7803	MAY 17	0638 57.6	41.70S	174.30E	11	2.1	0.3	13	12
7905	MAY 17	2218 52.1	40.96S	175.47E	30R	2.1	0.2	5	4
7916	MAY 18	0654 17.0	41.64S	174.59E	35	2.0	0.1	12	8
7917	MAY 18	0706 45.6	40.70S	175.51E	58	3.9	0.1	26	24
7924	MAY 18	0939 57.5	41.25S	173.64E	47	2.5	0.2	11	8
7926	MAY 18	1101 44.2	41.74S	174.81E	18	2.3	0.2	11	8
7927	MAY 18	1159 9.6	40.84S	174.72E	38	2.5	0.1	15	10
7928	MAY 18	1257 27.1	40.91S	175.69E	23	2.8	0.2	19	13
7930	MAY 18	1536 8.0	41.89S	174.20E	33	3.3	0.2	24	17
7944	MAY 19	1216 55.5	41.47S	175.06E	28	2.9	0.2	16	13
7950	MAY 19	1701 46.7	41.19S	174.92E	29	2.5	0.1	13	9
7966	MAY 20	1142 34.7	41.28S	175.56E	23	2.1	0.1	11	8
7967	MAY 20	1200 38.8	40.66S	174.25E	50	2.4	0.2	10	7
7973	MAY 20	1633 8.8	40.55S	174.53E	48	2.1	0.1	7	5
7974	MAY 20	1733 6.8	40.73S	175.39E	30	2.2	0.1	7	5
7982	MAY 21	0329 30.0	41.11S	173.90E	60	2.4	0.2	12	7
7988	MAY 21	0620 33.4	41.25S	174.67E	29	2.2	0.1	14	10
7990	MAY 21	0818 3.7	41.23S	174.68E	32	3.0	0.2	17	13
8011	MAY 21	2330 51.3	41.45S	174.34E	19	2.0	0.1	13	8
8025	MAY 22	1101 56.0	41.30S	175.15E	37	2.0	0.0	11	8
8027	MAY 22	1327 54.7	41.62S	174.66E	50	2.3	0.1	12	9
8030	MAY 22	1817 34.4	41.63S	174.45E	10	3.1	0.2	20	15
8032	MAY 22	1914 40.6	41.62S	174.43E	15	2.3	0.2	10	8
8033	MAY 22	2200 43.6	41.15S	174.60E	35	2.2	0.0	12	7

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8035	MAY 23	0323 45.5	41.66S	174.34E	5R	2.5	0.2	16	11
8039	MAY 23	1118 41.7	41.72S	174.53E	32	2.7	0.2	17	12
8045	MAY 23	2127 43.0	41.75S	174.10E	37	2.6	0.3	18	12
8051	MAY 24	0419 32.7	41.75S	174.24E	12R	2.3	0.2	12	10
8072	MAY 25	1646 47.5	41.43S	174.20E	59	3.1	0.1	20	16
8088	MAY 26	0607 5.8	41.75S	175.07E	31	2.1	0.1	10	7
8096	MAY 26	1427 1.7	41.63S	174.45E	10	2.5	0.2	17	13
8099	MAY 26	2205 41.2	41.21S	175.21E	16	2.1	0.1	14	10
8100	MAY 26	2239 12.8	41.80S	174.55E	30	3.1	0.2	15	11
8103	MAY 27	1055 3.4	41.84S	174.31E	56	2.9	0.2	17	12
8108	MAY 27	1537 40.1	41.05S	174.54E	63	2.1	0.1	10	7
8113	MAY 28	0032 33.9	41.32S	174.10E	44	3.3	0.2	24	15
8117	MAY 28	0205 59.9	41.83S	174.07E	12R	2.3	0.2	14	10
8122	MAY 28	0849 19.7	41.77S	174.52E	30	2.2	0.1	13	9
8127	MAY 28	1055 14.8	41.29S	173.90E	78	2.2	0.1	11	6
8133	MAY 28	1628 10.7	41.08S	175.39E	28	2.4	0.1	13	10
8139	MAY 28	2339 23.6	41.75S	174.50E	29	2.2	0.2	9	7
8145	MAY 29	0510 28.2	40.53S	174.58E	73	2.2	0.1	7	5
8150	MAY 29	1030 52.9	41.78S	174.74E	34	2.5	0.0	13	9
8161	MAY 29	2256 24.8	41.65S	173.98E	14	2.6	0.3	17	14
8162	MAY 30	0100 34.4	41.78S	174.56E	36	2.2	0.1	12	8
8163	MAY 30	0101 39.3	41.18S	174.36E	39	2.3	0.1	10	7
8164	MAY 30	0126 32.5	40.58S	174.64E	26	2.5	0.2	14	10
8167	MAY 30	0308 11.0	41.27S	175.14E	13	2.6	0.1	17	12
8168	MAY 30	0309 16.7	41.27S	175.14E	15	2.0	0.1	10	8
8176	MAY 30	0952 32.1	40.80S	175.01E	36	2.1	0.1	11	8
8189	MAY 31	1034 46.6	41.06S	175.86E	30	2.0	0.1	13	8
8191	MAY 31	1342 5.0	41.28S	173.83E	63	3.0	0.3	24	15
8192	MAY 31	1424 26.1	41.15S	174.64E	32	2.2	0.2	16	11
8198	MAY 31	2050 17.1	40.83S	175.70E	24	2.2	0.2	15	10
8208	JUN 01	0713 38.9	41.34S	174.89E	28	2.0	0.1	17	11
8211	JUN 01	0813 55.2	41.21S	175.21E	20	2.0	0.1	13	9
8213	JUN 01	0856 10.9	41.35S	174.52E	55	2.0	0.1	10	7
8215	JUN 01	1230 27.2	41.01S	174.55E	35	2.1	0.2	16	10
8224	JUN 01	1622 20.3	40.56S	174.29E	80	2.3	0.1	11	7
8227	JUN 01	2047 59.8	40.69S	174.42E	74	2.5	0.1	10	8
8232	JUN 02	0718 12.1	41.16S	173.73E	72	2.9	0.2	25	14
8247	JUN 03	0056 48.6	40.79S	175.34E	26	2.4	0.2	13	10
8249	JUN 03	0232 2.8	41.00S	173.84E	68	2.2	0.2	7	5
8258	JUN 03	1153 58.9	40.66S	174.56E	43	2.4	0.2	19	11
8265	JUN 03	2151 2.6	41.61S	174.67E	29	2.6	0.2	22	13
8273	JUN 04	0809 51.9	41.58S	175.03E	36	2.1	0.2	13	9
8279	JUN 04	1244 20.1	40.85S	174.87E	35	3.9F	0.1	21	17
8281	JUN 04	1259 27.1	40.85S	174.87E	34	2.2	0.0	11	8
8294	JUN 05	0643 56.8	40.83S	174.78E	45	2.8	0.1	17	11

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8300	JUN 05	1348 9.8	40.92S	175.44E	22	2.5	0.2	16	11
8318	JUN 06	0325 4.8	40.92S	175.47E	26	2.1	0.1	9	7
8325	JUN 06	1220 54.8	41.93S	174.32E	20	2.0	0.1	7	5
8326	JUN 06	1358 8.1	40.54S	175.62E	27	2.1	0.1	9	7
8336	JUN 07	0532 22.9	41.29S	175.06E	42	2.7	0.1	15	10
8343	JUN 07	2225 42.0	40.99S	174.93E	47	2.3	0.1	10	6
8347	JUN 08	0327 13.0	41.19S	175.47E	25	2.4	0.1	17	10
8348	JUN 08	0428 27.1	41.15S	175.07E	23	2.2	0.1	13	8
8349	JUN 08	0521 51.0	41.15S	175.07E	22	2.1	0.1	14	8
8353	JUN 08	0830 34.0	40.69S	174.66E	40	2.4	0.1	12	7
8367	JUN 08	2243 26.8	40.56S	173.99E	88	2.5	0.2	15	8
8372	JUN 09	0544 3.6	41.71S	173.95E	21	2.4	0.2	19	10
8380	JUN 09	1311 1.3	40.78S	175.23E	28	2.2	0.1	15	9
8384	JUN 09	1510 32.2	40.99S	175.42E	31	2.1	0.1	6	4
8389	JUN 09	1820 25.9	40.93S	175.17E	29	2.1	0.1	12	8
8392	JUN 09	2209 10.1	40.84S	174.48E	69	2.6	0.1	10	7
8402	JUN 10	1949 59.6	41.36S	174.70E	22	2.2	0.1	13	8
8407	JUN 11	0556 48.4	41.05S	174.15E	54	2.5	0.1	10	7
8410	JUN 11	0923 27.5	41.18S	174.59E	33	2.0	0.1	9	6
8412	JUN 11	1004 5.7	41.98S	173.93E	12R	2.5	0.2	16	11
8417	JUN 11	1436 42.6	41.30S	174.93E	30	2.0	0.1	11	7
8425	JUN 12	0047 56.7	40.54S	174.54E	68	2.2	0.2	8	6
8444	JUN 13	0159 36.6	40.83S	174.74E	7	2.0	0.1	15	10
8445	JUN 13	0549 58.7	40.88S	175.81E	27	2.6	0.2	15	9
8447	JUN 13	1045 5.4	40.66S	174.25E	57	2.0	0.2	7	5
8451	JUN 13	1251 39.2	40.78S	174.52E	48	2.6	0.1	14	8
8452	JUN 13	1258 32.7	40.93S	174.73E	36	2.2	0.1	14	10
8456	JUN 13	1455 16.7	41.68S	174.21E	12R	2.0	0.3	9	7
8459	JUN 13	1845 57.5	41.12S	174.05E	54	2.4	0.1	13	8
8466	JUN 14	0401 37.7	41.34S	175.06E	25	2.1	0.1	13	9
8478	JUN 14	1821 44.3	40.54S	175.00E	12R	2.7	0.3	14	10
8487	JUN 15	0135 42.7	41.21S	174.55E	36	2.0	0.1	10	8
8490	JUN 15	0243 29.2	41.09S	174.71E	32	2.2	0.2	15	11
8493	JUN 15	0855 28.4	41.98S	173.91E	16	2.7	0.3	16	14
8495	JUN 15	1130 19.4	40.64S	175.80E	5	2.0	0.1	9	7
8500	JUN 15	1501 0.2	40.78S	174.69E	44	3.7	0.1	21	16
8515	JUN 16	1214 3.3	41.65S	175.22E	12R	2.8	0.2	18	11
8516	JUN 16	1219 59.1	40.89S	175.50E	28	3.4	0.1	23	18
8518	JUN 16	1421 41.4	41.00S	175.61E	26	2.1	0.1	14	9
8519	JUN 16	1436 54.2	40.88S	175.50E	27	3.3	0.1	24	15
8551	JUN 17	1452 28.7	40.84S	174.80E	5R	2.7	0.1	18	13
8554	JUN 17	2136 1.8	40.87S	175.46E	23	2.2	0.1	11	7
8556	JUN 18	0110 26.8	41.07S	175.34E	12	2.0	0.1	10	8
8562	JUN 18	1559 22.9	40.65S	175.97E	52	2.9	0.2	16	10
8563	JUN 18	1605 2.5	40.72S	176.00E	50	2.5	0.1	10	7

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8565	JUN 18	2040 41.3	41.76S	174.31E	34	2.2	0.2	9	5
8569	JUN 18	2314 47.6	40.61S	175.87E	33R	2.5	0.1	9	8
8570	JUN 18	2331 30.7	41.28S	175.19E	24	2.6	0.1	16	10
8577	JUN 19	0900 29.4	40.80S	174.59E	50	2.0	0.1	9	7
8581	JUN 19	1016 4.2	41.29S	174.31E	61	2.4	0.1	13	8
8586	JUN 19	1211 49.1	41.03S	174.51E	60	2.0	0.0	10	7
8588	JUN 19	1306 38.4	41.07S	174.03E	58	2.8	0.2	21	14
8589	JUN 19	1309 56.3	40.64S	174.66E	75	2.5	0.1	10	7
8590	JUN 19	1351 28.1	40.88S	175.47E	24	2.2	0.1	12	9
8594	JUN 19	1712 29.0	41.27S	175.24E	26	2.1	0.1	14	9
8596	JUN 19	2024 38.5	41.64S	173.50E	66	2.7	0.2	19	12
8603	JUN 20	0904 5.1	41.87S	175.20E	32	2.0	0.1	9	7
8607	JUN 20	1509 35.4	41.23S	175.29E	25	2.3	0.2	17	9
8613	JUN 20	2115 4.8	41.03S	174.58E	63	2.1	0.1	9	6
8618	JUN 21	0116 47.8	40.93S	175.76E	32	2.6	0.2	13	9
8619	JUN 21	0610 17.2	41.77S	174.17E	14	2.1	0.3	12	10
8624	JUN 21	1507 18.4	41.19S	175.83E	24	2.6	0.1	13	9
8626	JUN 21	2059 20.4	41.39S	175.03E	25	2.2	0.0	14	10
8634	JUN 23	0550 59.3	41.49S	173.74E	78	2.7	0.1	14	9
8638	JUN 23	1232 21.2	41.63S	174.30E	32	2.0	0.2	10	8
8640	JUN 23	1703 22.6	40.88S	175.47E	25	2.4	0.1	16	9
8641	JUN 23	1815 29.4	41.51S	174.95E	39	2.3	0.1	16	10
8646	JUN 24	0245 50.7	41.02S	175.32E	11	2.9	0.2	15	12
8647	JUN 24	0401 59.6	40.59S	174.50E	62	2.2	0.2	7	5
8652	JUN 24	0758 58.4	40.58S	174.31E	68	3.6	0.3	23	18
8658	JUN 24	1424 22.8	41.41S	174.28E	36	3.0	0.2	19	13
8668	JUN 25	0159 2.5	40.94S	175.46E	22	2.4	0.2	16	11
8684	JUN 26	0244 53.7	41.99S	173.91E	5R	2.6	0.3	17	14
8685	JUN 26	0436 53.4	41.11S	174.69E	32	2.1	0.2	17	10
8687	JUN 26	0522 5.9	41.32S	175.91E	31	2.2	0.1	9	7
8689	JUN 26	1044 27.0	40.84S	174.76E	9	2.0	0.1	11	6
8695	JUN 26	1758 15.6	41.42S	174.62E	30	2.0	0.1	13	10
8696	JUN 26	1820 48.3	41.43S	174.97E	26	2.0	0.1	14	9
8699	JUN 26	2130 34.8	40.55S	174.52E	33R	2.0	0.2	8	5
8704	JUN 27	0858 42.3	41.27S	174.56E	56	2.3	0.1	10	5
8705	JUN 27	1119 29.2	41.45S	174.55E	24	2.0	0.2	13	9
8706	JUN 27	1137 10.5	40.54S	174.71E	5R	2.1	0.1	14	9
8709	JUN 27	1531 49.2	41.21S	174.10E	50	2.2	0.1	8	5
8712	JUN 27	2210 21.3	41.58S	174.33E	26	2.4	0.2	18	12
8713	JUN 27	2331 44.5	40.99S	174.02E	61	2.4	0.1	14	8
8715	JUN 28	0247 56.7	41.44S	174.81E	31	4.5F	0.1	30	23
8717	JUN 28	0606 43.1	40.70S	175.55E	30	2.0	0.1	7	5
8728	JUN 29	0505 44.2	41.01S	174.65E	37	2.0	0.1	11	8
8731	JUN 29	0709 38.4	40.55S	175.61E	33	2.2	0.1	7	5
8733	JUN 29	0837 27.4	40.97S	175.98E	34	2.4	0.1	10	7

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8738	JUN 29	2153 46.9	40.89S	174.71E	68	2.9	0.2	12	6
8740	JUN 30	0046 21.2	40.61S	175.72E	28	3.5	0.1	12	7
8753	JUL 01	1100 39.1	40.78S	174.43E	33R	3.0	0.5	8	4
8796	JUL 04	0850 35.9	40.69S	173.66E	80	2.6	0.2	14	8
8797	JUL 04	0852 30.4	40.68S	174.50E	65	2.9	0.2	20	13
8801	JUL 04	1505 43.7	41.58S	173.61E	66	2.6	0.2	14	11
8802	JUL 04	2120 18.8	41.73S	174.31E	10	2.2	0.2	10	8
8803	JUL 04	2328 31.5	41.39S	174.65E	21	2.7	0.2	19	13
8805	JUL 05	0633 29.2	40.50S	174.68E	5	2.2	0.1	12	9
8806	JUL 05	0751 56.8	40.63S	173.88E	90	2.5	0.2	14	10
8809	JUL 05	1306 30.2	41.25S	174.55E	21	2.6	0.1	18	14
8810	JUL 05	1435 20.1	41.49S	174.46E	22	2.0	0.1	13	9
8818	JUL 05	2317 41.3	41.99S	173.91E	5	2.3	0.2	12	8
8822	JUL 06	0625 31.0	41.48S	174.50E	32	2.2	0.1	15	11
8836	JUL 07	0206 48.3	41.08S	174.17E	49	3.0	0.2	15	11
8838	JUL 07	0351 11.3	41.08S	174.11E	50	2.2	0.1	9	6
8845	JUL 07	0606 57.1	41.62S	173.90E	36	2.3	0.1	14	8
8854	JUL 07	1419 13.0	41.38S	174.56E	41	4.4F	0.2	33	21
8857	JUL 07	1955 4.7	40.50S	175.80E	32	2.7	0.1	13	10
8866	JUL 08	1355 7.5	40.96S	175.15E	28	2.0	0.1	7	5
8867	JUL 08	1656 23.7	41.17S	174.44E	43	2.6	0.1	14	8
8876	JUL 09	2114 14.1	41.01S	175.52E	10	2.7	0.2	16	11
8877	JUL 09	2114 59.7	40.89S	175.73E	26	2.3	0.1	12	9
8878	JUL 09	2232 33.1	41.74S	174.43E	13	2.0	0.1	9	7
8879	JUL 10	0221 51.9	41.24S	175.18E	23	2.7	0.1	16	11
8892	JUL 10	1428 39.7	41.41S	174.15E	38	2.4	0.1	13	11
8893	JUL 10	1455 40.7	40.69S	175.54E	28	2.2	0.2	9	5
8894	JUL 10	1651 37.7	41.62S	174.67E	30	3.3	0.2	29	19
8898	JUL 11	0008 35.5	40.81S	173.88E	76	2.3	0.1	8	5
8903	JUL 11	0229 45.5	41.69S	174.19E	14	2.3	0.2	14	10
8908	JUL 11	1126 47.5	41.47S	173.71E	61	2.6	0.2	18	13
8915	JUL 11	2040 50.2	41.07S	174.17E	52	2.5	0.2	13	9
8918	JUL 11	2250 1.9	41.73S	175.11E	31	2.0	0.1	10	8
8920	JUL 11	2337 54.7	41.32S	174.46E	18	2.8	0.2	19	14
8924	JUL 12	0514 19.1	41.26S	175.20E	24	2.1	0.1	17	12
8928	JUL 12	1545 48.5	41.83S	175.12E	30	3.0	0.1	18	14
8929	JUL 12	2040 50.0	41.62S	174.49E	56	2.7	0.1	22	14
8930	JUL 12	2246 5.4	40.89S	174.29E	41	2.2	0.1	8	6
8931	JUL 13	0105 57.4	40.98S	175.55E	12	2.6	0.1	13	11
8933	JUL 13	0248 29.6	41.25S	173.70E	65	2.5	0.1	10	7
8939	JUL 13	0737 57.2	41.78S	174.25E	12R	2.0	0.4	9	8
8946	JUL 13	1738 11.8	40.87S	175.83E	32	2.0	0.2	8	6
8956	JUL 14	0643 8.5	41.00S	174.43E	61	2.2	0.1	10	8
8965	JUL 14	1820 15.2	41.76S	174.51E	31	2.4	0.2	16	11
8972	JUL 15	0043 3.2	40.53S	175.42E	35	2.2	0.0	6	4

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8974	JUL 15	0117 29.4	41.58S	174.69E	31	2.0	0.2	12	10
8981	JUL 15	1347 4.3	41.18S	174.79E	33	2.9	0.2	17	13
8984	JUL 15	1607 47.8	40.61S	175.88E	34	2.5	0.2	10	8
8996	JUL 16	1113 40.6	41.05S	174.62E	54	2.1	0.1	10	7
8998	JUL 16	1152 1.6	41.11S	173.98E	55	2.2	0.1	9	5
8999	JUL 16	1328 58.8	40.71S	174.53E	46	2.5	0.2	13	9
9004	JUL 16	1627 49.3	40.56S	174.56E	46	3.2	0.2	26	18
9007	JUL 16	1939 31.3	40.82S	174.73E	45	3.3	0.2	24	17
9012	JUL 16	2242 5.0	40.91S	175.77E	31	2.0	0.2	13	8
9030	JUL 17	2109 49.9	41.12S	174.97E	33	2.0	0.1	11	7
9036	JUL 18	0008 18.8	41.04S	174.59E	54	2.2	0.1	8	5
9041	JUL 18	0456 59.7	40.68S	174.32E	52	2.4	0.2	6	5
9042	JUL 18	0527 50.2	40.95S	175.75E	34	2.3	0.1	8	6
9043	JUL 18	0539 36.0	41.71S	174.40E	30	2.1	0.2	7	5
9048	JUL 18	0832 1.1	41.79S	174.07E	12R	2.4	0.3	13	9
9051	JUL 18	1040 6.6	40.52S	174.64E	29	2.0	0.0	7	6
9054	JUL 18	1707 56.4	40.94S	174.77E	46	2.1	0.1	14	9
9055	JUL 18	1812 10.3	41.34S	175.43E	14	2.9	0.1	19	12
9062	JUL 19	0017 18.7	40.73S	173.91E	80	2.5	0.2	10	5
9066	JUL 19	0549 51.0	41.13S	175.15E	20	2.4	0.2	18	12
9068	JUL 19	0600 10.8	41.40S	174.68E	22	2.8	0.1	20	14
9071	JUL 19	0856 37.5	41.35S	174.18E	66	2.3	0.1	16	10
9073	JUL 19	0955 29.3	41.60S	174.42E	18	2.8	0.2	24	15
9086	JUL 19	1702 39.9	40.81S	173.59E	100	3.1	0.3	29	16
9096	JUL 20	0038 31.3	41.42S	174.45E	61	4.4F	0.2	31	20
9097	JUL 20	0200 46.0	41.23S	173.71E	80	2.2	0.1	8	5
9098	JUL 20	0239 19.4	40.54S	174.86E	33	2.5	0.1	14	10
9128	JUL 21	1650 20.0	41.40S	174.68E	22	2.7	0.1	18	12
9130	JUL 21	1904 36.4	41.76S	174.50E	32	2.1	0.2	14	10
9131	JUL 21	1937 30.5	41.61S	174.63E	32	2.3	0.1	15	10
9134	JUL 22	0753 23.4	40.98S	174.88E	31	2.6	0.1	18	11
9135	JUL 22	0820 31.3	41.08S	174.89E	47	3.1	0.2	20	14
9138	JUL 22	1309 9.8	41.23S	174.58E	55	2.0	0.2	11	7
9149	JUL 23	0002 13.6	41.72S	175.10E	38	2.6	0.2	16	12
9152	JUL 23	0112 51.0	41.13S	173.66E	89	2.9	0.2	26	14
9157	JUL 23	0752 31.6	41.15S	173.84E	59	2.3	0.1	9	5
9160	JUL 23	0912 15.8	40.87S	175.49E	25	2.2	0.1	14	9
9163	JUL 23	1130 44.7	40.91S	174.58E	41	3.6F	0.2	27	19
9180	JUL 24	0522 53.2	40.79S	175.50E	25	2.4	0.2	17	12
9181	JUL 24	0603 24.6	40.53S	175.95E	50	2.8	0.1	18	16
9194	JUL 25	0128 50.9	40.90S	175.53E	46	2.0	0.1	11	8
9198	JUL 25	0257 46.6	41.44S	174.74E	30	2.4	0.1	18	12
9202	JUL 25	0747 43.9	41.87S	174.06E	44	2.2	0.2	9	6
9203	JUL 25	0750 9.1	40.75S	174.10E	76	3.2	0.2	24	16
9209	JUL 25	1258 6.0	41.64S	174.59E	32	2.1	0.1	14	9

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9214	JUL 25	2104 17.2	41.25S	175.15E	27	2.1	0.1	16	10
9225	JUL 26	1550 55.9	41.27S	175.18E	12	2.8	0.1	19	14
9230	JUL 26	2302 0.6	41.27S	175.18E	10	2.0	0.1	12	9
9233	JUL 27	0034 35.6	41.44S	174.22E	33	2.5	0.1	14	10
9234	JUL 27	0256 1.3	41.45S	174.22E	33	2.7	0.1	19	13
9235	JUL 27	0445 15.3	40.77S	175.56E	57	3.6	0.2	29	22
9238	JUL 27	0930 42.8	40.55S	173.56E	135	3.4	0.3	24	16
9239	JUL 27	0954 30.8	40.54S	174.69E	5R	2.1	0.2	10	6
9252	JUL 28	0115 58.7	40.92S	174.62E	56	2.3	0.1	11	8
9254	JUL 28	0329 39.4	40.64S	174.36E	75	2.4	0.2	11	7
9261	JUL 28	1208 32.8	41.79S	173.68E	45	2.5	0.3	22	13
9264	JUL 28	1514 48.3	40.92S	175.50E	18	2.1	0.1	13	8
9266	JUL 28	1808 40.8	41.41S	174.67E	22	2.6	0.1	16	12
9268	JUL 28	2206 2.7	40.63S	173.98E	71	2.2	0.1	7	5
9269	JUL 28	2225 0.3	41.31S	174.64E	36	2.8	0.1	15	11
9275	JUL 29	1429 21.4	40.87S	175.49E	27	2.5	0.1	15	10
9279	JUL 29	1651 36.5	41.85S	174.05E	20	2.7	0.2	20	13
9280	JUL 29	1837 26.4	40.75S	174.56E	30	2.2	0.2	13	7
9284	JUL 30	0733 22.0	41.85S	174.77E	33	2.2	0.1	12	8
9287	JUL 30	1116 16.8	40.55S	175.89E	35	2.3	0.2	11	7
9288	JUL 30	1326 33.3	41.23S	174.46E	33	2.4	0.2	17	12
9290	JUL 30	1547 39.4	40.93S	174.78E	52	2.6	0.1	18	10
9293	JUL 30	2059 48.3	41.26S	173.88E	45	2.5	0.2	16	11
9296	JUL 30	2241 3.6	41.98S	174.01E	22	2.4	0.2	18	11
9297	JUL 30	2349 51.6	40.73S	174.41E	48	2.3	0.4	10	8
9298	JUL 30	2349 57.2	41.24S	174.60E	34	2.4	0.1	21	12
9300	JUL 31	0219 4.6	40.71S	175.68E	27	2.4	0.2	13	8
9301	JUL 31	0236 29.2	41.99S	174.03E	22	2.2	0.2	15	12
9304	JUL 31	0449 30.6	41.01S	173.97E	56	2.0	0.1	8	5
9305	JUL 31	0513 31.9	40.84S	174.53E	62	2.5	0.1	12	9
9309	JUL 31	1338 1.5	40.60S	173.78E	102	2.4	0.2	13	8
9310	JUL 31	1456 11.4	40.60S	174.43E	76	2.4	0.1	19	12
9315	JUL 31	1946 12.1	41.05S	174.09E	53	3.2	0.2	26	17
9317	JUL 31	2003 8.1	41.00S	175.91E	29	2.3	0.2	19	12
9322	AUG 01	0104 11.9	40.76S	173.98E	67	2.1	0.2	9	5
9323	AUG 01	0523 29.4	41.05S	174.58E	60	2.0	0.1	10	7
9331	AUG 01	1526 27.4	40.62S	174.48E	73	2.1	0.1	14	9
9338	AUG 01	1939 56.1	40.64S	174.79E	27	2.3	0.2	15	10
9344	AUG 01	2110 42.9	40.68S	174.87E	13	2.3	0.2	15	9
9351	AUG 02	0125 23.5	41.07S	174.00E	51	2.0	0.1	10	7
9354	AUG 02	0450 1.0	40.63S	175.60E	25	2.4	0.2	15	11
9362	AUG 02	1441 1.1	41.16S	173.75E	65	2.4	0.1	10	7
9364	AUG 02	1915 40.5	41.15S	173.62E	59	2.1	0.1	10	6
9365	AUG 02	2002 58.5	40.81S	175.23E	32	2.7	0.2	19	13
9368	AUG 03	0158 34.4	41.40S	174.51E	55	2.2	0.1	13	11

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9369	AUG 03	0632 53.5	40.98S	175.57E	27	2.0	0.1	12	8
9370	AUG 03	0954 37.3	41.58S	173.91E	16	2.2	0.3	18	12
9371	AUG 03	1103 22.4	40.54S	175.92E	35	2.4	0.1	11	8
9372	AUG 03	1103 49.1	41.34S	173.97E	69	2.4	0.1	17	10
9377	AUG 03	2134 30.5	40.53S	174.44E	51	2.4	0.1	13	7
9378	AUG 03	2333 34.7	40.88S	175.97E	33	2.3	0.2	11	9
9382	AUG 04	0725 43.2	40.87S	173.85E	77	3.3	0.2	23	16
9384	AUG 04	0841 38.4	41.39S	174.91E	18	2.5	0.2	18	12
9390	AUG 04	2219 4.6	40.98S	174.05E	60	2.7	0.1	14	8
9398	AUG 05	2108 25.1	40.95S	176.00E	32	2.7	0.2	14	9
9402	AUG 06	0558 49.1	41.66S	174.13E	26	2.2	0.2	11	8
9408	AUG 06	1506 14.3	41.35S	175.12E	29	2.2	0.1	14	10
9413	AUG 07	0254 40.4	41.20S	174.59E	35	2.4	0.1	17	12
9415	AUG 07	1230 38.5	41.27S	174.77E	29	2.0	0.1	12	8
9416	AUG 07	1542 6.4	40.62S	175.47E	30	2.1	0.2	12	9
9420	AUG 07	2108 47.0	41.80S	174.49E	32	2.5	0.3	15	11
9425	AUG 08	0207 56.7	40.83S	175.52E	30	2.0	0.1	6	6
9430	AUG 08	0712 41.0	40.64S	174.88E	12	2.4	0.3	9	6
9433	AUG 08	1108 1.9	41.03S	174.49E	54	2.2	0.0	6	4
9436	AUG 08	1227 14.8	41.40S	174.09E	37	2.1	0.1	12	8
9439	AUG 08	1320 14.3	40.75S	174.53E	61	2.6	0.1	15	9
9447	AUG 09	0608 13.8	41.64S	174.59E	30	2.0	0.2	11	9
9449	AUG 09	0919 8.2	41.24S	174.88E	51	2.6	0.1	18	10
9452	AUG 09	1347 35.5	41.37S	173.99E	47	2.8	0.2	22	16
9457	AUG 09	1751 57.2	41.12S	175.34E	26	2.1	0.2	17	11
9461	AUG 09	2125 25.3	41.74S	174.51E	22	2.0	0.1	12	7
9469	AUG 10	1310 38.2	40.59S	175.65E	31	2.2	0.2	11	9
9477	AUG 10	2236 26.3	41.85S	174.48E	23	2.9	0.2	18	16
9485	AUG 11	1915 13.1	41.05S	175.52E	26	2.3	0.1	13	8
9490	AUG 12	0814 55.2	41.22S	175.30E	26	2.5	0.1	15	9
9491	AUG 12	0904 19.1	40.78S	175.03E	34	2.4	0.2	9	8
9494	AUG 13	0025 7.9	41.68S	174.27E	12R	2.5	0.2	13	9
9503	AUG 13	1447 7.2	41.56S	174.20E	5R	2.5	0.3	15	14
9504	AUG 13	1634 4.2	41.19S	173.94E	63	2.4	0.1	13	8
9509	AUG 13	2257 33.3	40.79S	175.71E	28	2.0	0.1	7	6
9530	AUG 15	0137 55.5	41.24S	174.51E	34	2.0	0.1	10	8
9531	AUG 15	0156 13.1	40.93S	174.42E	43	2.0	0.1	10	7
9568	AUG 15	2048 9.3	41.36S	173.97E	45	2.4	0.2	15	11
9579	AUG 16	0014 15.3	40.97S	174.82E	56	2.0	0.1	10	7
9582	AUG 16	0055 15.3	40.52S	175.69E	31	2.0	0.1	8	6
9584	AUG 16	0108 28.4	40.64S	173.98E	70	2.4	0.1	10	6
9603	AUG 16	0926 53.4	41.39S	174.95E	26	2.2	0.1	16	10
9604	AUG 16	1014 21.4	40.54S	173.88E	102	3.3	0.3	28	16
9615	AUG 17	0114 43.3	40.63S	173.83E	91	3.0	0.3	20	14
9637	AUG 18	0219 38.5	41.11S	174.59E	57	3.8F	0.1	28	19

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9638	AUG 18	0248 38.0	41.15S	174.59E	56	2.0	0.0	8	5
9645	AUG 18	1659 26.8	40.81S	175.28E	24	2.3	0.1	12	7
9648	AUG 19	0034 9.3	41.57S	174.45E	11	2.6	0.2	20	15
9659	AUG 19	0852 59.0	41.58S	174.45E	13	2.1	0.2	12	9
9663	AUG 19	1533 23.2	40.78S	174.50E	25	2.6	0.1	15	12
9670	AUG 20	0042 6.7	41.02S	174.79E	52	2.3	0.0	8	6
9672	AUG 20	0536 25.0	41.02S	174.20E	51	2.4	0.1	17	12
9676	AUG 20	1126 10.1	40.90S	175.79E	32	2.1	0.2	10	7
9680	AUG 20	1945 26.4	41.25S	175.17E	24	2.0	0.1	14	10
9693	AUG 21	0947 1.3	41.58S	174.22E	5R	2.0	0.3	12	10
9702	AUG 21	1739 4.2	40.50S	175.73E	32	2.0	0.1	9	7
9714	AUG 22	0619 28.1	41.35S	173.60E	81	2.2	0.2	7	6
9715	AUG 22	0700 25.2	41.23S	174.50E	59	4.5F	0.1	32	23
9716	AUG 22	0927 31.9	40.57S	175.74E	31	2.4	0.1	16	13
9719	AUG 22	1144 22.6	41.44S	173.81E	58	2.2	0.1	9	6
9721	AUG 22	1321 28.2	40.59S	175.79E	26	2.1	0.2	16	10
9742	AUG 23	0630 50.3	41.64S	173.99E	10	2.4	0.2	15	10
9747	AUG 23	1155 28.5	41.00S	173.58E	91	3.1	0.2	21	12
9750	AUG 23	1438 36.9	41.36S	173.83E	51	2.3	0.0	7	4
9760	AUG 24	0252 35.8	40.90S	175.25E	29	2.0	0.2	9	6
9766	AUG 24	0942 4.0	40.66S	175.79E	24	2.8	0.2	23	15
9772	AUG 24	2323 24.6	40.83S	175.20E	28	3.3	0.3	23	17
9776	AUG 25	0718 46.3	40.65S	175.52E	29	2.5	0.2	19	14
9778	AUG 25	0822 15.9	40.68S	174.53E	53	2.3	0.2	13	9
9779	AUG 25	0854 52.9	41.07S	175.50E	8	2.3	0.1	18	12
9781	AUG 25	1221 12.6	41.26S	174.35E	64	2.5	0.1	16	11
9782	AUG 25	1304 2.2	41.76S	174.02E	33R	4.4F	0.3	26	20
9783	AUG 25	1306 7.2	41.76S	174.04E	37	3.5	0.2	23	17
9784	AUG 25	1319 11.1	41.75S	174.03E	35	2.7	0.3	18	14
9785	AUG 25	1334 22.2	41.76S	173.89E	40	2.1	0.2	11	7
9786	AUG 25	1450 44.9	41.31S	173.82E	70	2.1	0.0	7	4
9787	AUG 25	1452 17.5	41.75S	173.91E	39	2.4	0.2	13	9
9794	AUG 25	2050 12.3	41.44S	173.93E	44	2.1	0.0	10	7
9798	AUG 26	0029 25.8	41.74S	174.02E	36	3.3	0.3	20	16
9801	AUG 26	0134 3.4	41.72S	174.00E	30	2.2	0.2	12	8
9802	AUG 26	0301 20.5	41.75S	174.01E	19	2.2	0.2	11	7
9805	AUG 26	0506 29.6	41.76S	173.95E	25	2.0	0.1	7	5
9807	AUG 26	0957 57.6	41.73S	174.02E	35	2.4	0.3	16	12
9808	AUG 26	1034 44.6	41.74S	175.02E	31	2.0	0.0	8	6
9809	AUG 26	1041 25.9	41.59S	174.66E	32	2.5	0.1	14	9
9810	AUG 26	1122 48.8	40.67S	174.35E	37	2.0	0.2	8	6
9817	AUG 26	1411 24.1	40.65S	174.44E	45	2.0	0.2	8	5
9818	AUG 26	1443 38.4	40.96S	174.81E	59	2.1	0.1	17	10
9819	AUG 26	1537 1.6	41.75S	173.64E	63	2.4	0.2	16	10
9822	AUG 26	1942 34.8	41.39S	175.05E	27	2.0	0.1	12	10

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9824	AUG 27	0246 39.2	41.39S	175.10E	17	2.0	0.2	9	7
9826	AUG 27	0540 9.4	40.77S	174.62E	40	2.2	0.2	9	6
9827	AUG 27	0839 12.6	41.79S	174.00E	19	2.2	0.1	8	6
9835	AUG 27	1620 1.5	40.52S	174.63E	24	2.5	0.2	18	12
9836	AUG 27	1630 48.3	41.73S	174.12E	53	2.2	0.1	12	9
9838	AUG 27	2004 41.4	40.56S	174.54E	22	2.0	0.2	9	6
9840	AUG 27	2055 47.5	40.54S	175.93E	54	4.4F	0.2	36	30
9847	AUG 28	0716 13.0	40.80S	174.71E	35	2.9	0.2	16	11
9854	AUG 28	1525 24.9	40.56S	174.15E	111	2.1	0.1	7	5
9860	AUG 28	2139 34.0	40.93S	175.67E	28	2.1	0.1	13	9
9864	AUG 29	0114 29.8	41.35S	174.98E	26	2.1	0.1	15	11
9865	AUG 29	0149 6.3	41.05S	173.79E	70	2.5	0.2	12	7
9867	AUG 29	0524 46.8	40.53S	174.40E	57	2.1	0.1	6	4
9871	AUG 29	0848 57.6	40.88S	175.02E	35	2.0	0.2	14	10
9872	AUG 29	0911 21.9	41.03S	174.86E	49	2.1	0.0	9	7
9879	AUG 29	1339 30.6	40.52S	174.05E	70	2.1	0.1	7	5
9886	AUG 29	1740 2.4	41.43S	174.02E	13	2.3	0.2	21	12
9890	AUG 30	0249 55.7	41.36S	174.67E	51	2.0	0.1	10	7
9895	AUG 30	0725 50.0	41.07S	175.07E	27	2.2	0.2	18	12
9898	AUG 30	0939 27.7	41.83S	173.63E	52	2.0	0.1	11	5
9902	AUG 30	1735 17.7	40.97S	174.65E	58	2.3	0.1	13	9
9905	AUG 30	2125 41.2	40.89S	174.87E	52	2.0	0.0	6	4
9907	AUG 30	2308 46.2	41.62S	173.64E	61	2.6	0.3	20	12
9908	AUG 30	2347 10.7	40.89S	173.72E	72	2.2	0.2	7	5
9913	AUG 31	1103 34.1	40.87S	174.80E	45	2.4	0.1	15	10
9919	AUG 31	1627 58.1	41.78S	174.36E	30	2.4	0.2	21	13
9933	SEP 01	0020 37.7	40.72S	174.49E	25	2.1	0.2	15	9
9935	SEP 01	0150 42.0	40.50S	174.69E	24	2.7	0.2	23	17
9938	SEP 01	0603 40.4	41.28S	175.25E	30	2.3	0.1	16	10
9944	SEP 01	0904 59.8	40.89S	175.72E	28	2.2	0.2	16	11
9947	SEP 01	1132 21.4	40.87S	175.06E	35	3.0	0.1	18	14
9957	SEP 01	2310 48.1	41.63S	174.62E	26	2.1	0.2	13	11
9960	SEP 02	0313 6.1	41.74S	174.03E	33	2.4	0.3	20	13
9971	SEP 02	1628 24.5	40.60S	175.43E	33	2.0	0.2	7	5
9972	SEP 02	1711 4.2	40.54S	175.97E	52	2.3	0.1	11	9
9976	SEP 02	1846 45.9	40.56S	175.89E	29	2.1	0.2	10	8
9978	SEP 02	2259 41.8	41.70S	173.97E	33	2.1	0.2	8	6
9979	SEP 02	2333 54.1	40.97S	174.67E	63	2.3	0.0	8	6
9980	SEP 02	2342 52.1	40.60S	174.09E	67	2.4	0.5	11	9
9993	SEP 03	1303 40.6	41.25S	174.47E	35	3.0	0.1	18	14
9998	SEP 04	0151 59.3	40.51S	174.31E	88	3.0	0.2	15	10
10009	SEP 04	1755 1.1	41.18S	173.53E	123	2.4	0.1	14	11
10013	SEP 04	2359 20.3	41.74S	174.02E	34	2.5	0.3	18	12
10016	SEP 05	0053 21.2	41.48S	174.18E	33	2.2	0.2	16	12
10018	SEP 05	0506 16.8	41.34S	173.94E	52	2.3	0.1	11	8

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10024	SEP 05	1333 32.2	41.37S	173.78E	64	2.5	0.2	15	12
10025	SEP 05	1348 36.2	40.81S	174.77E	16	2.4	0.2	18	12
10026	SEP 05	1353 1.1	40.81S	174.77E	16	2.4	0.2	18	12
10027	SEP 05	1548 8.5	40.78S	174.40E	74	2.3	0.1	9	6
10038	SEP 05	2357 41.7	41.06S	173.52E	132	2.9	0.1	15	11
10039	SEP 06	0126 28.5	40.70S	174.38E	49	2.8	0.2	13	9
10042	SEP 06	0413 12.5	41.40S	175.00E	27	2.2	0.1	18	11
10048	SEP 06	1044 32.8	41.76S	174.04E	34	3.0	0.3	22	16
10057	SEP 07	0637 32.9	40.61S	174.10E	86	2.3	0.2	16	8
10058	SEP 07	0641 5.2	41.77S	174.36E	23	3.6	0.2	31	19
10059	SEP 07	0648 34.7	41.77S	174.35E	24	2.5	0.2	19	13
10060	SEP 07	0649 33.4	41.78S	174.37E	22	2.0	0.3	13	10
10064	SEP 07	1634 23.1	40.76S	174.19E	56	2.3	0.2	10	7
10067	SEP 07	1828 24.2	40.59S	174.11E	95	2.5	0.2	18	12
10081	SEP 08	1050 7.5	40.92S	175.78E	32	2.1	0.1	11	8
10085	SEP 08	1513 38.7	40.97S	174.56E	62	2.2	0.1	11	8
10087	SEP 08	1647 15.4	40.57S	174.15E	56	2.3	0.2	8	6
10091	SEP 08	2310 23.8	40.87S	174.54E	55	2.5	0.2	13	8
10097	SEP 09	0418 13.0	40.83S	174.84E	35	2.1	0.1	6	5
10112	SEP 09	1433 30.5	41.79S	174.38E	27	2.7	0.3	19	15
10130	SEP 10	1624 43.4	41.17S	174.69E	29	2.4	0.1	17	12
10132	SEP 10	1940 42.0	41.17S	174.45E	5	2.4	0.1	18	12
10138	SEP 11	0031 22.5	41.37S	175.78E	25	2.5	0.1	16	11
10140	SEP 11	0318 23.8	40.54S	174.48E	67	2.3	0.2	13	6
10141	SEP 11	0409 44.7	40.50S	174.13E	71	2.2	0.1	7	4
10142	SEP 11	0453 12.0	40.71S	173.78E	90	2.0	0.1	6	4
10150	SEP 11	0911 5.3	41.82S	174.38E	29	2.3	0.2	14	11
10153	SEP 11	1108 5.3	41.12S	173.66E	71	2.3	0.2	9	6
10165	SEP 11	2148 32.0	41.37S	175.78E	23	2.0	0.1	14	9
10175	SEP 12	0533 54.1	41.77S	173.83E	10	2.0	0.2	9	8
10176	SEP 12	0535 21.8	41.58S	173.90E	16	3.1	0.3	26	18
10194	SEP 12	2107 13.7	40.58S	174.27E	45	2.2	0.2	10	7
10208	SEP 13	1324 53.3	41.71S	174.36E	5R	2.0	0.2	9	7
10209	SEP 13	1547 57.0	41.51S	174.54E	48	2.2	0.1	13	9
10215	SEP 13	2001 49.1	41.24S	174.00E	59	2.3	0.1	8	6
10223	SEP 14	0105 26.2	41.59S	174.42E	14	2.0	0.2	14	10
10225	SEP 14	0640 6.0	40.50S	174.24E	85	2.5	0.2	16	10
10239	SEP 15	0627 31.7	41.78S	174.49E	34	2.4	0.1	15	11
10242	SEP 15	1719 7.0	41.64S	174.06E	39	2.2	0.2	16	12
10244	SEP 15	1920 8.7	41.35S	174.41E	57	2.5	0.1	17	11
10245	SEP 15	1938 4.1	40.97S	174.31E	53	3.1	0.2	29	20
10246	SEP 15	1940 33.2	41.84S	173.88E	33R	2.8	0.2	25	17
10252	SEP 16	0314 39.4	40.88S	174.69E	53	2.5	0.1	14	9
10261	SEP 16	1033 32.4	40.90S	175.48E	21	2.4	0.2	20	14
10262	SEP 16	1247 4.9	40.89S	175.49E	25	2.1	0.1	16	10

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10268	SEP 16	2003 50.3	41.04S	175.92E	33	2.1	0.1	12	8
10269	SEP 16	2024 15.3	41.84S	173.93E	15	2.3	0.1	12	8
10271	SEP 16	2129 17.1	40.87S	175.74E	18	2.6	0.3	12	9
10272	SEP 16	2156 39.1	40.67S	174.03E	74	3.0	0.3	19	11
10278	SEP 17	0356 30.9	41.92S	173.86E	23	2.2	0.2	12	8
10281	SEP 17	0642 7.3	41.13S	175.07E	26	2.0	0.1	10	8
10282	SEP 17	0831 20.7	41.63S	173.87E	7	2.2	0.2	8	7
10285	SEP 17	1034 20.2	40.99S	175.41E	29	2.9	0.2	19	13
10287	SEP 17	1200 25.2	41.84S	173.92E	18	2.3	0.2	13	10
10296	SEP 17	1520 45.8	41.75S	174.54E	26	2.2	0.2	10	7
10297	SEP 17	1654 25.2	40.51S	175.06E	5R	2.0	0.2	9	7
10300	SEP 18	0404 59.9	41.32S	173.80E	66	3.6	0.3	26	18
10304	SEP 18	0719 51.5	41.00S	174.99E	43	2.4	0.1	17	11
10305	SEP 18	0926 29.6	41.66S	174.62E	31	3.2	0.1	23	15
10307	SEP 18	1015 5.8	40.61S	175.05E	35	2.2	0.1	13	10
10308	SEP 18	1214 11.7	41.75S	174.39E	52	2.1	0.1	12	9
10311	SEP 18	1448 52.2	41.57S	174.20E	6	2.4	0.3	20	15
10312	SEP 18	1455 4.2	41.57S	174.22E	9	2.2	0.2	18	13
10317	SEP 18	1943 56.6	40.81S	173.57E	87	3.0	0.2	24	17
10320	SEP 18	2124 26.6	41.36S	174.72E	22	2.5	0.2	18	13
10321	SEP 18	2210 43.7	40.66S	174.56E	0	2.1	0.2	12	9
10323	SEP 18	2244 18.7	41.32S	174.58E	33	2.3	0.1	14	10
10324	SEP 18	2250 32.8	40.53S	174.35E	51	2.4	0.2	11	8
10327	SEP 19	0333 47.3	41.31S	174.63E	27	2.0	0.1	14	9
10328	SEP 19	0406 7.5	40.87S	174.54E	63	2.2	0.0	10	7
10330	SEP 19	0826 46.0	41.07S	174.14E	54	2.1	0.1	11	7
10332	SEP 19	0910 15.1	40.85S	175.73E	23	2.0	0.2	12	9
10334	SEP 19	1041 46.1	40.73S	174.50E	72	2.4	0.1	16	11
10345	SEP 19	2029 54.3	41.29S	174.35E	63	2.3	0.1	11	9
10348	SEP 19	2258 41.7	40.95S	175.36E	25	2.9	0.2	19	13
10366	SEP 20	1854 14.6	40.94S	174.24E	55	2.0	0.2	7	5
10374	SEP 20	2310 55.5	40.50S	174.69E	27	2.0	0.3	7	6
10375	SEP 21	0055 56.0	41.23S	175.20E	25	2.3	0.1	13	9
10378	SEP 21	0517 50.8	41.12S	175.84E	28	2.2	0.1	13	9
10392	SEP 21	1713 53.7	40.87S	175.19E	35	2.2	0.1	13	9
10396	SEP 22	0306 15.5	40.97S	174.49E	36	2.1	0.2	12	9
10413	SEP 22	1435 33.8	41.13S	173.62E	72	2.6	0.2	14	8
10424	SEP 23	0158 58.9	40.74S	174.41E	47	2.1	0.1	7	4
10425	SEP 23	0320 28.4	40.82S	175.14E	22	3.2	0.2	25	18
10427	SEP 23	0801 37.2	41.70S	174.39E	30	2.5	0.2	22	16
10429	SEP 23	0948 11.4	41.59S	174.67E	34	2.0	0.1	11	8
10439	SEP 24	0141 32.2	41.68S	173.81E	42	2.7	0.2	16	11
10442	SEP 24	0419 50.3	41.16S	174.81E	29	2.6	0.1	18	12
10447	SEP 24	0802 1.3	41.60S	174.44E	17	2.2	0.2	11	10
10464	SEP 25	0132 48.3	41.57S	174.43E	36	3.3	0.2	26	17

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
10465	SEP 25	0340 9.4	40.52S	175.03E	31	2.0	0.2	10	7
10473	SEP 25	0947 16.7	40.84S	174.60E	45	2.8	0.1	20	14
10481	SEP 25	1601 47.4	41.27S	174.71E	33	2.5	0.1	17	11
10488	SEP 25	2049 32.7	41.46S	173.65E	86	2.1	0.0	9	6
10509	SEP 26	1050 8.0	40.87S	175.72E	30	2.2	0.1	15	10
10513	SEP 26	1600 58.7	40.58S	174.32E	30	2.0	0.0	9	5
10515	SEP 26	1740 3.7	41.12S	173.57E	71	2.3	0.1	12	6
10522	SEP 27	0907 58.2	41.12S	174.65E	57	2.5	0.1	15	9
10526	SEP 27	1258 48.6	41.33S	175.13E	27	2.2	0.1	15	11
10529	SEP 27	1437 33.3	41.16S	174.51E	46	2.0	0.1	10	8
10535	SEP 27	1645 33.5	40.95S	174.52E	58	2.1	0.1	10	6
10551	SEP 28	1637 40.0	41.14S	175.17E	25	2.5	0.1	15	10
10552	SEP 28	1859 30.0	41.10S	174.52E	35	2.0	0.0	6	4
10553	SEP 28	1903 29.4	40.82S	175.05E	33	2.2	0.1	7	6
10556	SEP 28	2149 54.3	40.56S	174.31E	5R	2.6	0.2	8	7
10562	SEP 29	0133 33.3	41.51S	174.48E	16	2.6	0.3	13	11
10570	SEP 29	1647 24.4	41.29S	175.70E	17	2.5	0.0	13	8
10573	SEP 29	2328 27.0	40.53S	174.24E	97	3.3	0.2	17	16
10574	SEP 30	0016 49.7	40.83S	175.75E	32	2.0	0.2	5	5
10576	SEP 30	0349 6.3	41.02S	174.02E	62	2.7	0.1	12	7
10580	SEP 30	1021 22.9	40.80S	175.49E	28	3.5	0.2	22	16
10581	SEP 30	1150 45.2	41.30S	175.70E	17	2.0	0.1	10	7
10582	SEP 30	1153 43.1	41.28S	175.69E	14	2.1	0.1	14	9
10586	SEP 30	1712 16.7	40.75S	174.49E	3	2.5	0.1	11	8
10593	OCT 01	0317 41.1	40.96S	175.49E	21	3.3	0.2	20	15
10595	OCT 01	0824 3.9	41.36S	175.11E	28	2.0	0.1	15	10
10603	OCT 01	1556 6.4	41.70S	174.08E	40	3.5	0.3	29	20
10606	OCT 01	2157 59.6	41.30S	175.70E	16	2.0	0.1	12	9
10610	OCT 02	0158 54.5	41.22S	173.86E	80	2.2	0.0	8	5
10611	OCT 02	0353 20.2	41.24S	173.76E	96	2.8	0.3	26	16
10618	OCT 02	0847 33.9	41.11S	173.92E	61	2.4	0.2	15	9
10645	OCT 03	1604 52.9	41.27S	175.04E	26	2.2	0.1	14	10
10646	OCT 03	1841 10.8	41.04S	173.97E	64	2.8	0.2	19	14
10648	OCT 04	0001 43.0	41.28S	175.03E	11	2.3	0.2	13	9
10651	OCT 04	0341 52.0	40.79S	175.48E	26	2.2	0.1	13	8
10653	OCT 04	0621 32.7	40.65S	175.22E	31	3.0	0.3	21	16
10658	OCT 04	1134 52.1	40.79S	173.67E	102	2.3	0.3	11	7
10659	OCT 04	1151 11.0	41.01S	174.68E	34	2.3	0.1	15	11
10662	OCT 04	1331 21.4	40.67S	175.20E	28	2.4	0.1	14	11
10664	OCT 04	1437 27.5	40.95S	175.50E	24	2.2	0.1	12	9
10665	OCT 04	1442 16.0	40.85S	174.97E	46	2.3	0.1	13	9
10675	OCT 04	2344 47.4	41.64S	175.47E	24	2.3	0.2	13	10
10676	OCT 04	2348 26.7	41.68S	175.51E	22	5.3F	0.2	23	19
10677	OCT 04	2352 8.4	41.64S	175.45E	24	2.4	0.3	12	11
10678	OCT 04	2356 31.1	41.62S	175.47E	25	2.1	0.2	8	7

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10680	OCT 05	0000 15.8	41.58S	175.45E	23	2.1	0.2	12	9
10681	OCT 05	0004 35.1	41.65S	175.51E	25	4.0F	0.2	21	19
10682	OCT 05	0018 43.4	41.59S	175.46E	24	2.6	0.2	15	11
10684	OCT 05	0022 9.8	41.57S	175.49E	22	2.0	0.1	12	7
10686	OCT 05	0024 43.1	41.59S	175.47E	23	2.5	0.3	17	12
10687	OCT 05	0026 53.5	41.63S	175.50E	24	2.3	0.2	15	10
10689	OCT 05	0046 55.1	41.65S	175.50E	23	2.0	0.2	11	8
10690	OCT 05	0054 14.6	41.61S	175.45E	24	2.7	0.3	14	10
10691	OCT 05	0102 29.5	41.63S	175.52E	24	3.1	0.2	18	12
10692	OCT 05	0105 6.6	41.67S	175.49E	25	3.5	0.2	22	15
10693	OCT 05	0108 4.6	41.60S	175.48E	24	2.4	0.2	14	10
10695	OCT 05	0113 32.3	41.61S	175.48E	25	2.2	0.2	15	10
10696	OCT 05	0123 53.6	41.62S	175.48E	22	2.4	0.2	14	10
10697	OCT 05	0128 6.5	41.62S	175.45E	25	2.6	0.2	15	12
10699	OCT 05	0128 59.8	41.62S	175.49E	23	2.0	0.2	11	8
10702	OCT 05	0132 14.5	41.64S	175.47E	22	2.2	0.2	12	9
10703	OCT 05	0133 35.4	41.65S	175.50E	23	4.2F	0.2	21	19
10704	OCT 05	0135 14.2	41.60S	175.47E	20	3.7	0.2	15	11
10705	OCT 05	0135 55.8	41.61S	175.44E	23	2.8	0.3	14	10
10706	OCT 05	0137 52.3	41.66S	175.51E	24	3.5	0.2	19	15
10707	OCT 05	0140 53.4	41.61S	175.47E	24	2.5	0.2	13	10
10708	OCT 05	0141 40.9	41.62S	175.48E	22	2.5	0.2	12	8
10711	OCT 05	0152 13.5	41.59S	175.45E	19	2.3	0.3	11	9
10712	OCT 05	0152 35.4	41.60S	175.47E	23	2.5	0.2	12	9
10713	OCT 05	0156 20.3	41.60S	175.48E	24	2.1	0.2	16	11
10714	OCT 05	0159 35.2	41.65S	175.52E	24	3.5	0.3	24	16
10715	OCT 05	0200 14.6	41.61S	175.46E	24	3.0	0.2	14	9
10717	OCT 05	0222 29.4	41.63S	175.48E	23	2.0	0.2	13	9
10718	OCT 05	0225 22.4	41.63S	175.52E	24	2.8	0.2	18	12
10720	OCT 05	0238 27.1	41.62S	175.47E	18	2.0	0.1	10	7
10722	OCT 05	0312 43.8	41.62S	175.48E	24	2.6	0.2	14	11
10723	OCT 05	0313 8.9	41.63S	175.46E	22	2.5	0.2	14	10
10727	OCT 05	0338 50.5	41.61S	175.47E	24	2.8	0.3	15	11
10728	OCT 05	0340 29.5	41.58S	175.49E	24	2.1	0.3	12	9
10729	OCT 05	0347 14.0	41.65S	175.46E	16	2.0	0.1	10	7
10730	OCT 05	0347 46.3	41.65S	175.52E	27	3.2	0.2	20	14
10731	OCT 05	0352 43.3	41.61S	175.49E	22	2.2	0.2	11	9
10732	OCT 05	0404 52.2	41.58S	175.45E	25	2.2	0.3	13	10
10735	OCT 05	0418 34.1	41.61S	175.46E	23	2.3	0.3	13	10
10736	OCT 05	0440 1.5	41.61S	175.45E	24	2.7	0.3	16	11
10738	OCT 05	0455 5.5	41.62S	175.47E	22	2.3	0.2	13	9
10739	OCT 05	0458 59.9	41.61S	175.46E	25	2.3	0.3	13	9
10740	OCT 05	0505 25.8	41.63S	175.47E	24	2.4	0.2	12	9
10741	OCT 05	0511 44.5	41.63S	175.46E	23	2.0	0.2	12	9
10742	OCT 05	0512 9.0	41.62S	175.40E	18	2.2	0.2	12	8

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10743	OCT 05	0518 4.9	41.62S	175.41E	17	2.1	0.2	14	10
10745	OCT 05	0521 32.2	41.62S	175.46E	16	2.0	0.2	11	7
10746	OCT 05	0525 28.5	41.60S	175.48E	24	2.3	0.2	16	10
10748	OCT 05	0537 50.4	41.63S	175.40E	15	2.1	0.2	11	8
10754	OCT 05	0609 25.3	41.58S	175.47E	24	3.0	0.3	16	11
10756	OCT 05	0617 9.3	41.58S	175.45E	25	2.7	0.3	16	11
10758	OCT 05	0622 39.4	41.63S	175.41E	17	2.2	0.2	13	9
10760	OCT 05	0632 43.8	41.63S	175.46E	22	2.2	0.2	10	7
10764	OCT 05	0644 23.8	41.61S	175.47E	24	2.2	0.3	12	10
10766	OCT 05	0648 0.2	41.63S	175.49E	22	2.1	0.3	12	10
10768	OCT 05	0653 7.7	41.60S	175.45E	24	2.3	0.2	12	11
10769	OCT 05	0653 36.1	41.56S	175.45E	23	2.3	0.3	13	11
10770	OCT 05	0703 55.7	41.61S	175.47E	21	2.1	0.3	14	10
10775	OCT 05	0742 6.2	41.64S	175.47E	24	3.0	0.3	16	12
10776	OCT 05	0743 4.3	41.58S	175.45E	25	2.7	0.2	15	11
10777	OCT 05	0744 26.5	41.61S	175.46E	24	2.2	0.3	12	10
10778	OCT 05	0752 44.9	41.66S	175.49E	21	2.1	0.2	10	8
10779	OCT 05	0755 2.1	41.65S	175.47E	23	2.0	0.4	7	6
10780	OCT 05	0755 12.6	41.60S	175.47E	24	2.7	0.3	11	9
10781	OCT 05	0755 37.2	41.61S	175.48E	23	3.0	0.2	12	9
10782	OCT 05	0756 5.3	41.63S	175.44E	14	2.1	0.1	8	6
10786	OCT 05	0814 33.8	41.59S	175.45E	24	2.2	0.3	12	9
10787	OCT 05	0816 49.9	41.63S	175.47E	23	2.4	0.2	14	11
10788	OCT 05	0834 49.2	41.63S	175.46E	16	2.0	0.1	12	9
10789	OCT 05	0836 30.0	41.60S	175.47E	25	2.9	0.3	15	11
10790	OCT 05	0840 28.3	41.63S	175.48E	23	2.1	0.2	14	10
10793	OCT 05	0851 33.2	41.59S	175.47E	24	2.2	0.3	15	11
10794	OCT 05	0852 8.6	41.63S	175.50E	21	2.0	0.3	7	6
10796	OCT 05	0900 2.8	41.59S	175.45E	24	2.1	0.2	14	11
10797	OCT 05	0912 46.0	41.65S	175.43E	22	2.9	0.2	19	12
10798	OCT 05	0915 21.1	41.60S	175.47E	24	2.3	0.3	14	10
10799	OCT 05	0917 31.4	41.65S	175.47E	21	2.0	0.2	13	10
10800	OCT 05	0920 21.7	41.66S	175.47E	17	2.1	0.2	12	10
10802	OCT 05	0927 35.2	41.62S	175.46E	23	2.3	0.2	15	11
10803	OCT 05	0930 35.7	41.60S	175.46E	24	2.5	0.3	15	11
10804	OCT 05	0935 38.5	41.59S	175.45E	24	2.2	0.2	15	11
10805	OCT 05	0936 17.5	41.64S	175.46E	21	2.0	0.2	10	8
10807	OCT 05	0955 55.8	41.69S	175.42E	12	2.2	0.1	14	10
10813	OCT 05	1015 1.5	41.66S	175.51E	24	3.0	0.2	19	13
10814	OCT 05	1021 19.1	41.65S	175.52E	23	2.5	0.3	13	12
10815	OCT 05	1021 21.0	41.66S	175.48E	24	3.3	0.1	17	14
10817	OCT 05	1038 58.0	41.65S	175.45E	19	2.3	0.2	10	7
10818	OCT 05	1042 42.1	41.60S	175.45E	24	2.1	0.2	14	11
10819	OCT 05	1047 51.0	41.65S	175.45E	22	2.1	0.3	13	10
10820	OCT 05	1051 59.8	41.62S	175.44E	23	2.5	0.3	15	11

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10825	OCT 05	1152 17.4	41.65S	175.47E	22	2.4	0.3	13	11
10830	OCT 05	1308 35.8	41.71S	175.48E	21	2.0	0.3	9	8
10831	OCT 05	1308 52.5	41.64S	175.43E	16	2.0	0.2	10	7
10832	OCT 05	1316 36.8	41.67S	175.47E	21	2.2	0.2	17	12
10833	OCT 05	1318 4.7	41.65S	175.43E	17	2.0	0.2	10	9
10834	OCT 05	1319 55.2	41.60S	175.41E	19	2.1	0.2	16	12
10835	OCT 05	1324 42.1	41.66S	175.46E	20	2.1	0.2	19	12
10838	OCT 05	1406 22.8	41.65S	175.44E	21	2.7	0.3	20	13
10839	OCT 05	1418 46.3	41.67S	175.47E	21	2.8	0.3	19	13
10848	OCT 05	1535 54.9	41.64S	175.48E	17	2.1	0.1	13	9
10850	OCT 05	1555 19.4	41.67S	175.47E	21	3.1	0.2	24	15
10851	OCT 05	1601 25.2	41.65S	175.49E	20	2.7	0.2	16	11
10852	OCT 05	1604 29.8	41.66S	175.49E	21	2.7	0.2	16	12
10853	OCT 05	1610 42.4	41.68S	175.50E	20	2.5	0.3	17	13
10855	OCT 05	1709 39.3	41.66S	175.44E	20	2.3	0.3	17	13
10856	OCT 05	1711 34.0	41.67S	175.50E	22	3.7	0.2	26	17
10857	OCT 05	1713 24.6	41.70S	175.50E	18	2.8	0.2	13	11
10858	OCT 05	1718 56.4	41.66S	175.52E	22	3.1	0.3	20	14
10859	OCT 05	1731 10.5	41.69S	175.46E	21	3.1	0.2	23	15
10861	OCT 05	1744 30.1	41.65S	175.40E	18	2.4	0.2	16	12
10862	OCT 05	1745 16.4	41.62S	175.40E	14	2.0	0.1	12	7
10863	OCT 05	1745 29.4	41.68S	175.43E	16	2.5	0.2	16	11
10865	OCT 05	1814 51.7	41.66S	175.52E	21	4.0F	0.3	26	20
10866	OCT 05	1817 5.2	41.63S	175.48E	15	2.2	0.2	12	9
10867	OCT 05	1822 4.4	41.65S	175.47E	22	2.6	0.3	16	12
10869	OCT 05	1900 19.1	41.65S	175.49E	21	2.5	0.3	16	11
10870	OCT 05	1909 12.2	41.67S	175.48E	19	2.3	0.2	16	12
10872	OCT 05	1936 29.3	41.63S	175.41E	12	2.3	0.1	10	8
10873	OCT 05	1939 51.9	41.67S	175.48E	20	2.4	0.2	18	12
10874	OCT 05	1940 2.0	41.66S	175.48E	19	2.8	0.1	13	8
10875	OCT 05	1941 21.0	41.66S	175.50E	20	2.2	0.3	11	9
10876	OCT 05	1957 30.6	41.64S	175.43E	16	2.3	0.2	14	10
10878	OCT 05	2103 18.6	41.11S	174.69E	66	3.1	0.2	23	15
10879	OCT 05	2134 2.0	41.67S	175.50E	21	2.2	0.2	14	10
10880	OCT 05	2140 52.0	40.70S	174.62E	58	4.1	0.2	30	23
10881	OCT 05	2157 33.3	41.68S	175.53E	22	3.4	0.3	27	18
10882	OCT 05	2158 29.9	41.66S	175.49E	21	2.8	0.2	18	12
10883	OCT 05	2202 52.5	41.68S	175.50E	20	2.0	0.3	10	8
10884	OCT 05	2211 31.7	41.67S	175.51E	20	2.0	0.2	12	10
10887	OCT 05	2347 38.4	41.62S	175.41E	13	2.0	0.1	13	10
10888	OCT 05	2347 53.8	41.64S	175.41E	15	2.3	0.2	14	10
10889	OCT 05	2352 52.6	41.65S	175.49E	22	2.9	0.3	17	12
10890	OCT 06	0005 46.5	41.65S	175.41E	16	2.0	0.1	12	8
10892	OCT 06	0059 52.9	41.67S	175.46E	21	2.4	0.3	12	10
10893	OCT 06	0107 55.3	41.67S	175.42E	20	2.9	0.2	16	13

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
10896	OCT 06	0154 29.2	41.67S	175.39E	2	2.0	0.1	9	6
10898	OCT 06	0241 13.3	41.68S	175.50E	22	5.3F	0.2	25	20
10900	OCT 06	0247 14.6	41.69S	175.50E	17	2.0	0.2	5	4
10901	OCT 06	0252 1.5	41.67S	175.46E	19	2.2	0.2	12	9
10902	OCT 06	0252 26.5	41.69S	175.50E	22	2.3	0.2	8	7
10903	OCT 06	0254 40.3	41.66S	175.48E	14	2.1	0.2	9	6
10904	OCT 06	0256 7.2	41.65S	175.53E	22	2.4	0.2	13	10
10905	OCT 06	0256 40.2	41.68S	175.47E	19	2.0	0.2	9	5
10906	OCT 06	0257 6.0	41.67S	175.50E	21	2.6	0.2	14	11
10907	OCT 06	0257 17.6	41.66S	175.49E	21	2.5	0.3	12	10
10909	OCT 06	0258 49.4	41.67S	175.45E	23	2.2	0.2	14	11
10910	OCT 06	0259 56.5	41.71S	175.50E	20	3.1	0.2	16	14
10911	OCT 06	0301 16.1	41.68S	175.50E	27	2.8	0.2	15	11
10912	OCT 06	0302 31.6	41.65S	175.47E	27	2.0	0.1	10	7
10913	OCT 06	0303 21.4	41.64S	175.47E	25	2.0	0.1	7	5
10914	OCT 06	0304 45.0	41.69S	175.50E	19	2.3	0.2	11	8
10915	OCT 06	0309 55.1	41.69S	175.47E	20	2.5	0.2	15	11
10916	OCT 06	0310 44.9	41.67S	175.51E	25	2.4	0.1	7	6
10917	OCT 06	0315 11.3	41.63S	175.46E	27	2.1	0.1	7	6
10919	OCT 06	0316 17.3	41.71S	175.53E	21	3.1	0.2	20	15
10920	OCT 06	0317 10.0	41.66S	175.43E	14	2.1	0.1	8	5
10921	OCT 06	0320 18.2	41.63S	175.49E	24	2.2	0.2	7	6
10922	OCT 06	0320 59.6	41.63S	175.49E	24R	2.9	0.6	5	3
10923	OCT 06	0325 44.0	41.66S	175.47E	20	2.4	0.2	13	9
10924	OCT 06	0327 15.7	41.73S	175.50E	19	2.1	0.2	8	7
10925	OCT 06	0327 18.9	41.69S	175.49E	17	2.5	0.1	8	6
10926	OCT 06	0331 10.6	41.68S	175.50E	20	2.8	0.2	19	13
10927	OCT 06	0333 16.4	41.69S	175.50E	20	2.7	0.2	17	13
10928	OCT 06	0338 39.9	41.66S	175.46E	23	2.2	0.2	10	8
10930	OCT 06	0343 40.2	41.73S	175.52E	15	2.1	0.2	12	8
10931	OCT 06	0345 59.6	41.61S	175.48E	24	2.7	0.2	12	9
10932	OCT 06	0350 30.6	41.68S	175.47E	21	2.3	0.2	12	8
10933	OCT 06	0411 59.3	41.66S	175.44E	22	2.5	0.2	14	10
10934	OCT 06	0412 28.1	41.64S	175.53E	27	2.2	0.0	6	5
10935	OCT 06	0423 14.1	41.61S	175.49E	24	2.1	0.1	8	7
10936	OCT 06	0427 22.5	41.70S	175.52E	22	3.8	0.2	20	16
10937	OCT 06	0434 17.6	41.64S	175.51E	21	2.2	0.2	15	10
10938	OCT 06	0439 48.8	41.66S	175.52E	22	2.8	0.2	16	11
10939	OCT 06	0441 34.9	41.63S	175.45E	24	2.4	0.2	16	12
10940	OCT 06	0445 49.3	41.63S	175.49E	22	2.2	0.1	9	6
10941	OCT 06	0526 31.1	41.67S	175.49E	21	2.9	0.2	15	12
10943	OCT 06	0549 49.9	41.67S	175.53E	24	3.9	0.2	22	16
10944	OCT 06	0551 9.1	41.67S	175.50E	22	3.5	0.3	26	16
10945	OCT 06	0553 42.4	41.64S	175.48E	17	2.5	0.2	14	11
10946	OCT 06	0554 8.2	41.64S	175.45E	19	2.1	0.2	7	6

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
10947	OCT 06	0554 44.9	41.67S	175.50E	20	2.8	0.2	16	12
10948	OCT 06	0557 9.2	41.67S	175.50E	19	2.2	0.2	14	10
10949	OCT 06	0618 49.4	41.70S	175.48E	15	2.1	0.2	12	9
10950	OCT 06	0706 19.4	41.68S	175.50E	21	3.0	0.3	21	12
10951	OCT 06	0708 46.8	41.67S	175.50E	21	2.6	0.3	13	10
10952	OCT 06	0734 35.5	41.83S	173.65E	31	2.5	0.1	9	6
10953	OCT 06	0736 38.1	41.71S	175.49E	19	2.2	0.2	12	8
10954	OCT 06	0745 36.5	41.73S	175.50E	21	2.7	0.2	16	12
10955	OCT 06	0750 56.1	41.68S	175.45E	22	2.9	0.2	18	13
10956	OCT 06	0752 45.4	41.72S	175.54E	20	2.0	0.3	9	6
10957	OCT 06	0752 54.9	41.65S	175.49E	19	2.1	0.2	9	6
10958	OCT 06	0755 14.7	41.70S	175.50E	19	2.1	0.3	7	6
10959	OCT 06	0820 33.6	41.64S	175.50E	22	2.4	0.2	13	11
10961	OCT 06	0858 56.8	41.67S	175.53E	23	3.1	0.3	15	12
10963	OCT 06	0912 13.2	41.66S	175.45E	23	2.8	0.2	17	13
10964	OCT 06	0923 47.0	41.65S	175.40E	11	2.0	0.2	7	6
10965	OCT 06	0959 15.2	41.66S	175.50E	21	2.9	0.3	17	12
10967	OCT 06	1112 6.5	41.66S	175.51E	20	2.6	0.2	10	9
10968	OCT 06	1140 10.2	41.64S	175.40E	15	2.4	0.2	18	12
10969	OCT 06	1442 21.1	41.73S	175.51E	21	3.4	0.2	22	17
10970	OCT 06	1618 14.9	41.66S	175.49E	19	2.6	0.2	18	12
10972	OCT 06	1700 33.8	41.67S	175.48E	15	2.1	0.1	11	9
10973	OCT 06	1717 15.4	41.69S	175.49E	20	2.9	0.2	18	13
10974	OCT 06	1720 41.9	41.49S	174.28E	22	2.1	0.0	7	5
10975	OCT 06	1800 9.0	41.62S	175.47E	23	2.3	0.2	11	10
10978	OCT 06	1947 10.5	41.41S	173.75E	85	2.3	0.1	12	9
10980	OCT 06	2058 2.3	40.64S	174.57E	38	2.8	0.1	16	11
10983	OCT 06	2206 41.5	41.65S	175.46E	24	2.7	0.3	14	12
10984	OCT 07	0015 15.3	41.68S	175.52E	20	2.0	0.3	11	10
10985	OCT 07	0217 13.0	41.67S	175.50E	21	2.8	0.3	14	12
10986	OCT 07	0339 18.9	41.08S	175.51E	28	3.1	0.2	19	13
10988	OCT 07	0655 17.4	41.55S	173.99E	33	2.3	0.1	10	7
10993	OCT 07	0901 54.1	41.65S	175.49E	16	2.2	0.1	16	11
10996	OCT 07	1034 35.8	41.19S	174.78E	52	3.0	0.1	19	15
10997	OCT 07	1045 13.3	41.72S	175.48E	20	2.0	0.2	10	8
11000	OCT 07	1256 27.9	40.57S	174.08E	112	2.9	0.1	12	9
11004	OCT 07	1521 56.3	40.50S	176.00E	28	2.5	0.2	10	9
11006	OCT 07	1554 4.1	40.72S	175.35E	29	2.9	0.2	16	14
11007	OCT 07	1618 9.2	41.63S	175.45E	24	2.2	0.3	13	10
11008	OCT 07	1624 41.9	41.99S	173.97E	23	2.3	0.2	14	11
11010	OCT 07	1712 1.0	41.71S	174.21E	10	2.1	0.3	14	11
11012	OCT 07	1810 50.0	41.67S	175.43E	13	2.1	0.1	11	9
11013	OCT 07	1901 25.3	40.76S	174.94E	34	2.2	0.1	10	8
11014	OCT 07	1920 59.2	41.69S	175.52E	22	3.4	0.3	24	18
11015	OCT 07	1924 54.0	41.69S	175.49E	20	2.1	0.3	15	11

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
11017	OCT 07	1936 23.1	41.61S	175.45E	19	2.0	0.3	6	5
11019	OCT 07	2326 9.6	41.62S	175.53E	19	2.1	0.2	14	10
11024	OCT 08	0136 52.1	41.67S	175.48E	21	2.3	0.3	15	10
11026	OCT 08	0343 26.9	41.63S	175.39E	15	2.0	0.1	14	10
11029	OCT 08	0729 37.8	41.62S	175.43E	22	2.6	0.2	19	12
11035	OCT 08	1521 36.0	41.66S	175.42E	18	2.1	0.2	11	8
11037	OCT 08	1539 23.7	41.65S	175.44E	22	2.2	0.2	15	12
11049	OCT 08	2201 4.1	41.57S	173.74E	54	2.9	0.2	23	15
11055	OCT 08	2236 50.4	41.62S	175.42E	20	2.1	0.2	17	10
11058	OCT 08	2314 14.5	41.63S	175.41E	18	2.2	0.2	15	11
11059	OCT 08	2319 57.3	41.64S	175.41E	16	2.2	0.1	15	11
11061	OCT 08	2331 45.8	41.62S	175.38E	21	2.3	0.2	15	11
11069	OCT 09	0109 31.8	41.65S	175.39E	15	2.2	0.1	13	9
11070	OCT 09	0116 8.7	41.64S	175.40E	18	2.4	0.2	11	8
11071	OCT 09	0121 24.5	41.63S	175.40E	15	2.0	0.2	10	7
11072	OCT 09	0147 51.4	41.64S	175.42E	18	2.2	0.2	11	8
11073	OCT 09	0213 29.7	41.85S	174.76E	31	2.4	0.2	10	7
11074	OCT 09	0238 19.7	41.66S	175.40E	14	2.2	0.2	9	6
11075	OCT 09	0247 26.3	41.66S	175.39E	14	2.1	0.2	10	7
11076	OCT 09	0248 20.6	41.66S	175.38E	15	2.4	0.2	11	8
11077	OCT 09	0248 49.2	41.67S	175.39E	14	2.3	0.2	12	8
11084	OCT 09	0517 24.1	41.68S	175.38E	1	2.0	0.1	10	6
11085	OCT 09	0558 20.3	41.61S	175.40E	18	2.1	0.2	13	9
11088	OCT 09	0750 55.4	41.65S	175.39E	19	2.4	0.2	14	10
11091	OCT 09	0918 40.4	40.90S	174.34E	54	2.5	0.1	12	9
11092	OCT 09	1040 48.0	41.64S	175.41E	23	3.1	0.3	19	12
11097	OCT 09	1401 46.1	41.62S	175.38E	18	2.4	0.2	15	11
11101	OCT 09	1529 40.2	41.67S	175.39E	11	2.0	0.2	11	7
11104	OCT 09	1825 21.6	41.62S	175.38E	22	2.2	0.2	13	10
11107	OCT 09	1902 34.4	41.86S	174.04E	8	2.1	0.1	7	6
11110	OCT 09	2107 11.3	41.08S	175.41E	28	2.0	0.1	11	8
11111	OCT 10	0105 8.5	41.71S	174.04E	60	3.4	0.2	28	17
11116	OCT 10	0737 43.0	41.67S	175.47E	24	3.9F	0.2	23	17
11117	OCT 10	0740 3.4	41.62S	175.40E	15	2.0	0.2	8	7
11121	OCT 10	0908 29.2	41.93S	174.02E	12	2.7	0.4	18	15
11122	OCT 10	0945 29.5	41.71S	174.55E	33	2.6	0.1	10	8
11129	OCT 10	1411 36.7	41.63S	175.38E	16	2.0	0.1	13	9
11130	OCT 10	1432 51.2	41.61S	175.39E	18	2.0	0.2	15	11
11131	OCT 10	1447 44.6	41.60S	175.39E	19	2.3	0.2	17	12
11132	OCT 10	1452 4.1	41.63S	175.39E	19	2.2	0.2	16	11
11133	OCT 10	1452 46.6	41.60S	175.39E	19	2.2	0.2	15	10
11144	OCT 11	0400 43.5	40.52S	174.73E	29	2.7	0.2	15	11
11145	OCT 11	0439 14.6	41.67S	175.41E	23	2.6	0.2	19	12
11149	OCT 11	1104 17.9	40.72S	175.52E	28	2.2	0.2	11	9
11152	OCT 11	1128 39.5	40.52S	174.13E	52	2.8	0.2	14	9

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
11153	OCT 11	1137 7.2	41.67S	175.35E	10	2.3	0.2	13	9
11154	OCT 11	1155 4.1	41.61S	175.47E	24	2.3	0.2	14	10
11159	OCT 11	1331 35.6	41.77S	174.51E	35	2.3	0.1	15	11
11163	OCT 11	1556 5.4	41.11S	174.58E	59	2.1	0.0	12	9
11165	OCT 11	1620 57.2	41.65S	175.45E	23	2.0	0.2	13	10
11169	OCT 11	1836 29.6	41.64S	175.40E	14	2.2	0.2	13	9
11170	OCT 11	1840 7.0	40.88S	175.81E	30	2.1	0.2	11	8
11171	OCT 11	1906 2.7	41.33S	173.62E	91	2.5	0.1	10	5
11173	OCT 11	2258 8.8	40.96S	175.48E	25	2.0	0.1	15	10
11174	OCT 11	2329 7.7	41.06S	174.74E	33	2.0	0.0	12	9
11177	OCT 12	0152 55.0	41.29S	175.30E	29	2.3	0.1	12	9
11178	OCT 12	0209 40.4	41.39S	174.93E	14	2.2	0.1	15	10
11184	OCT 12	0447 37.5	41.67S	175.42E	20	2.2	0.2	13	9
11195	OCT 12	1243 23.1	41.06S	174.81E	50	2.1	0.1	11	9
11210	OCT 12	2209 54.8	40.62S	174.20E	78	2.3	0.1	9	6
11214	OCT 12	2332 15.8	41.64S	175.42E	16	2.0	0.2	12	8
11222	OCT 13	0503 46.0	41.42S	174.26E	34	2.3	0.1	11	8
11232	OCT 13	1355 46.1	41.00S	174.72E	66	3.1	0.2	29	20
11235	OCT 13	1733 24.5	40.96S	173.85E	57	2.4	0.2	12	9
11236	OCT 13	1853 28.5	41.62S	175.38E	19	2.6	0.3	14	11
11241	OCT 14	0203 49.0	40.86S	174.05E	61	2.4	0.2	14	8
11243	OCT 14	0458 58.1	41.66S	175.43E	23	3.4	0.2	23	15
11247	OCT 14	0654 9.4	41.55S	175.33E	21	2.3	0.2	18	11
11249	OCT 14	0742 48.9	41.66S	175.44E	23	2.9	0.2	20	12
11250	OCT 14	0830 55.4	41.64S	175.42E	23	3.2	0.2	21	14
11251	OCT 14	0833 27.2	41.63S	175.40E	17	2.4	0.2	13	11
11255	OCT 14	1057 1.2	41.63S	175.40E	24	3.0	0.3	16	12
11256	OCT 14	1117 2.5	40.55S	173.99E	84	2.9	0.3	17	10
11258	OCT 14	1326 3.4	41.69S	174.52E	28	2.1	0.2	15	11
11259	OCT 14	1359 7.9	41.60S	175.41E	18	2.4	0.2	20	11
11262	OCT 14	1616 6.2	41.63S	175.41E	19	2.4	0.2	19	11
11266	OCT 14	1703 34.8	41.63S	175.41E	23	2.6	0.3	18	12
11267	OCT 14	1713 0.6	41.65S	175.41E	19	2.0	0.2	13	8
11268	OCT 14	1726 44.4	41.70S	173.95E	32	2.2	0.3	10	6
11270	OCT 14	1805 27.2	41.71S	173.85E	38	2.4	0.3	13	10
11271	OCT 14	1938 23.3	41.65S	175.42E	23	3.3	0.2	20	13
11272	OCT 14	1938 58.9	41.66S	175.43E	23	3.7	0.2	21	13
11274	OCT 14	1941 58.2	41.62S	175.42E	22	2.5	0.2	13	10
11276	OCT 14	1943 46.4	41.65S	175.42E	18	2.2	0.2	13	10
11277	OCT 14	1944 24.9	41.65S	175.42E	17	2.5	0.2	14	11
11278	OCT 14	1945 25.3	41.64S	175.42E	22	2.9	0.2	15	12
11279	OCT 14	1946 12.3	41.67S	175.39E	7	2.6	0.1	8	5
11281	OCT 14	1952 37.5	41.66S	175.42E	17	2.4	0.3	12	9
11282	OCT 14	2003 9.2	41.64S	175.42E	23	2.9	0.2	18	12
11283	OCT 14	2003 44.4	41.68S	175.40E	12R	2.0	0.1	11	8

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11284	OCT 14	2013 12.8	41.64S	175.40E	24	3.1	0.2	20	12
11286	OCT 14	2017 34.9	41.65S	175.42E	21	2.8	0.2	15	11
11288	OCT 14	2037 52.7	41.64S	175.42E	23	3.1	0.2	21	14
11289	OCT 14	2041 23.2	41.65S	175.42E	23	3.1	0.2	20	12
11290	OCT 14	2049 29.9	41.64S	175.41E	23	2.5	0.2	15	11
11291	OCT 14	2110 20.7	41.65S	175.43E	23	3.3	0.2	20	14
11292	OCT 14	2110 50.4	41.66S	175.42E	22	3.2	0.2	17	12
11295	OCT 14	2117 2.5	41.65S	175.41E	20	2.6	0.2	11	8
11296	OCT 14	2117 24.8	41.65S	175.45E	17	2.3	0.2	12	9
11297	OCT 14	2118 18.1	41.60S	175.40E	24	3.2	0.3	19	13
11298	OCT 14	2119 38.2	41.63S	175.41E	23	2.6	0.2	19	12
11301	OCT 14	2136 3.6	41.66S	175.42E	15	2.1	0.2	14	10
11303	OCT 14	2152 26.2	41.61S	175.38E	17	2.1	0.2	12	9
11304	OCT 14	2203 1.3	41.65S	175.44E	24	3.5	0.2	23	16
11305	OCT 14	2214 26.6	41.65S	175.43E	20	2.4	0.2	14	10
11306	OCT 14	2230 14.6	41.65S	175.43E	21	3.1	0.2	20	13
11307	OCT 14	2241 55.3	41.64S	175.40E	22	3.1	0.3	19	12
11309	OCT 14	2251 47.1	41.63S	175.40E	24	2.7	0.2	19	12
11310	OCT 14	2254 49.9	41.59S	175.39E	18	2.2	0.2	11	10
11311	OCT 14	2302 4.9	41.57S	175.38E	19	2.2	0.2	13	10
11312	OCT 14	2314 41.3	41.63S	175.42E	23	2.6	0.2	19	12
11313	OCT 14	2315 8.8	41.64S	175.44E	24	3.5	0.1	19	13
11314	OCT 14	2316 51.8	41.65S	175.41E	17	2.5	0.3	13	9
11315	OCT 14	2322 49.8	41.64S	175.43E	23	3.5	0.2	25	16
11316	OCT 14	2324 11.2	41.70S	175.49E	26	3.3	0.2	23	16
11319	OCT 14	2348 24.6	41.64S	175.41E	16	2.0	0.2	13	9
11323	OCT 15	0016 54.7	41.63S	175.42E	16	2.1	0.2	15	11
11324	OCT 15	0019 13.3	41.65S	175.42E	21	2.9	0.2	15	11
11325	OCT 15	0024 48.4	41.69S	175.41E	9	2.0	0.2	10	6
11327	OCT 15	0050 47.1	41.60S	175.37E	12	2.0	0.1	8	7
11329	OCT 15	0106 56.0	41.62S	175.42E	18	2.4	0.2	12	9
11330	OCT 15	0107 14.6	41.73S	175.44E	10	2.3	0.3	9	6
11331	OCT 15	0124 54.5	41.64S	175.43E	16	2.4	0.2	12	9
11337	OCT 15	0311 47.3	41.66S	175.41E	12	2.3	0.1	13	10
11338	OCT 15	0313 24.9	41.64S	175.43E	24	3.9F	0.2	17	15
11339	OCT 15	0319 48.7	41.64S	175.40E	17	2.2	0.2	15	11
11341	OCT 15	0331 32.4	41.66S	175.41E	13	2.2	0.1	14	9
11345	OCT 15	0434 25.8	40.98S	174.61E	46	2.2	0.1	11	8
11346	OCT 15	0450 9.6	41.59S	175.47E	25	2.9	0.3	15	11
11347	OCT 15	0452 23.0	41.61S	175.46E	26	2.6	0.2	14	11
11348	OCT 15	0510 58.1	41.63S	175.47E	24	2.6	0.2	15	11
11349	OCT 15	0511 39.3	41.61S	175.46E	24	2.7	0.2	12	11
11350	OCT 15	0516 58.3	41.64S	175.42E	23	2.5	0.2	15	11
11351	OCT 15	0541 31.4	41.64S	175.42E	18	2.6	0.2	14	11
11352	OCT 15	0544 14.3	41.63S	175.47E	23	2.2	0.2	14	10

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
11356	OCT 15	0714 2.5	41.65S	175.42E	15	2.3	0.1	13	10
11359	OCT 15	0739 43.8	41.65S	175.42E	15	2.4	0.1	11	10
11360	OCT 15	0741 23.0	41.66S	175.41E	14	2.1	0.2	11	9
11364	OCT 15	0827 22.4	41.63S	175.43E	24	3.5	0.2	19	16
11366	OCT 15	0842 56.4	41.69S	175.41E	7	2.0	0.1	10	7
11369	OCT 15	0931 26.8	41.62S	175.40E	18	2.3	0.2	15	11
11375	OCT 15	1143 16.3	41.61S	175.40E	18	2.1	0.2	16	11
11376	OCT 15	1146 4.9	41.62S	175.40E	17	2.5	0.2	15	11
11377	OCT 15	1152 40.9	41.65S	175.42E	23	2.6	0.2	14	12
11379	OCT 15	1236 18.1	40.88S	175.95E	31	2.1	0.2	14	9
11381	OCT 15	1533 16.6	41.64S	175.37E	17	2.0	0.2	15	11
11383	OCT 15	1726 14.0	41.69S	174.29E	8	2.8	0.2	21	18
11385	OCT 15	1747 52.8	40.51S	174.23E	79	3.0	0.2	27	17
11388	OCT 15	1851 57.9	41.23S	174.83E	49	2.0	0.1	9	9
11389	OCT 15	1852 9.1	41.05S	173.62E	79	2.6	0.1	10	6
11392	OCT 15	2022 4.7	41.64S	175.40E	16	2.3	0.2	16	11
11393	OCT 15	2049 41.0	41.67S	175.39E	10	2.1	0.2	11	7
11399	OCT 16	0135 21.6	41.51S	174.02E	13	2.6	0.2	19	15
11403	OCT 16	0355 54.5	40.93S	175.80E	33	2.4	0.2	10	8
11404	OCT 16	0410 17.8	41.62S	175.40E	13	2.3	0.2	10	7
11406	OCT 16	0607 28.1	40.72S	175.35E	33	2.1	0.1	8	6
11412	OCT 16	0856 21.5	41.28S	174.89E	22	2.0	0.2	9	7
11414	OCT 16	1013 6.9	41.61S	175.39E	19	2.3	0.2	12	9
11415	OCT 16	1043 54.9	40.96S	175.53E	29	2.0	0.2	8	7
11419	OCT 16	1440 19.0	41.67S	175.40E	18	2.1	0.2	12	9
11421	OCT 16	1611 15.0	41.14S	175.41E	23	2.0	0.1	10	7
11423	OCT 16	2155 4.4	40.78S	174.94E	41	3.1	0.2	20	15
11425	OCT 16	2300 56.1	40.88S	175.12E	29	2.0	0.2	7	6
11443	OCT 17	1417 35.7	41.92S	174.03E	17	2.2	0.2	15	10
11445	OCT 17	1748 28.7	41.68S	175.32E	7	2.0	0.1	12	8
11449	OCT 17	2156 54.3	41.55S	174.28E	9	2.8	0.3	23	17
11451	OCT 17	2201 29.4	41.73S	174.35E	29	2.0	0.1	8	6
11454	OCT 18	0129 57.0	41.62S	175.41E	23	2.3	0.3	13	10
11456	OCT 18	0331 29.0	40.60S	175.67E	27	2.1	0.2	12	10
11458	OCT 18	0534 22.3	41.74S	174.50E	32	2.1	0.1	15	10
11459	OCT 18	0706 35.8	40.76S	174.98E	15	3.2F	0.2	25	20
11462	OCT 18	0813 45.9	41.63S	175.39E	16	2.0	0.2	12	9
11474	OCT 18	1706 32.4	41.49S	173.63E	71	2.7	0.2	25	19
11478	OCT 18	2035 2.5	41.64S	175.42E	21	2.4	0.2	17	11
11480	OCT 18	2126 53.7	41.15S	174.20E	46	2.0	0.2	9	6
11492	OCT 19	0338 26.9	41.70S	174.20E	17	2.0	0.2	9	7
11498	OCT 19	0834 52.5	41.64S	175.34E	16	2.4	0.2	13	9
11514	OCT 19	2256 33.5	41.65S	175.41E	21	2.6	0.2	18	13
11515	OCT 19	2257 8.1	41.68S	175.43E	16	2.7	0.2	14	11
11517	OCT 19	2330 53.0	41.97S	174.05E	21	2.5	0.3	21	17

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
11521	OCT 20	0259 6.9	41.14S	173.81E	70	2.8	0.2	19	13
11527	OCT 20	0830 36.7	41.75S	174.54E	31	2.0	0.2	12	9
11537	OCT 20	0928 25.5	41.11S	174.17E	44	2.3	0.2	14	11
11540	OCT 20	1113 14.1	41.64S	175.36E	12	2.5	0.2	16	11
11544	OCT 20	1240 50.3	41.69S	174.29E	7	2.0	0.2	13	11
11548	OCT 20	1621 4.6	41.93S	174.04E	18	2.4	0.3	16	12
11551	OCT 20	1751 19.6	41.64S	175.41E	21	2.1	0.2	15	11
11552	OCT 20	1845 16.3	41.56S	174.45E	14	2.0	0.2	16	11
11557	OCT 20	2310 16.0	41.64S	175.40E	23	3.5	0.2	25	18
11561	OCT 20	2327 25.7	41.58S	175.39E	18	2.2	0.2	16	11
11562	OCT 20	2336 5.7	41.62S	175.39E	15	2.1	0.2	11	9
11568	OCT 21	0220 18.4	41.62S	175.39E	17	2.3	0.2	12	9
11571	OCT 21	0540 50.1	41.36S	175.13E	28	2.1	0.1	13	9
11578	OCT 21	0856 17.3	41.63S	175.40E	19	3.0	0.2	15	10
11580	OCT 21	1338 42.5	40.56S	174.54E	55	2.6	0.2	17	11
11581	OCT 21	1352 55.1	40.58S	174.41E	49	2.1	0.1	8	6
11590	OCT 22	0112 7.6	40.59S	174.55E	32	2.0	0.1	10	6
11593	OCT 22	0358 47.8	41.05S	174.46E	5	2.2	0.1	14	10
11604	OCT 22	1206 36.4	41.61S	175.42E	24	2.2	0.2	15	11
11608	OCT 22	1451 11.7	41.11S	175.25E	16	2.0	0.1	13	10
11610	OCT 22	1525 23.2	41.00S	174.23E	48	2.3	0.1	11	8
11619	OCT 23	0147 49.3	41.64S	175.46E	23	2.1	0.2	13	9
11621	OCT 23	0326 19.8	40.93S	175.10E	30	2.5	0.1	15	11
11637	OCT 23	1356 52.3	41.63S	175.43E	18	2.3	0.2	13	10
11643	OCT 23	1755 45.2	41.59S	175.36E	19	2.1	0.3	11	9
11662	OCT 24	0721 37.7	41.63S	175.41E	17	2.3	0.2	15	11
11670	OCT 24	1225 25.2	41.60S	175.38E	14	2.0	0.1	15	11
11677	OCT 24	1515 49.8	41.62S	175.40E	17	2.2	0.2	15	11
11680	OCT 24	1723 23.4	40.54S	174.26E	85	2.6	0.3	22	15
11683	OCT 24	1803 24.0	41.65S	175.41E	21	2.5	0.2	22	12
11685	OCT 24	1846 21.9	41.58S	175.39E	18	2.0	0.2	17	11
11689	OCT 24	2223 52.2	41.65S	175.42E	22	3.3	0.1	23	15
11691	OCT 24	2234 6.5	41.65S	175.42E	22	3.0	0.2	18	13
11694	OCT 24	2334 25.6	41.63S	175.41E	17	2.2	0.2	15	11
11696	OCT 24	2359 52.4	41.65S	175.40E	16	2.1	0.2	14	10
11697	OCT 25	0009 16.6	41.63S	175.39E	16	2.2	0.2	15	10
11702	OCT 25	0111 1.5	41.66S	175.41E	19	2.8	0.2	17	11
11703	OCT 25	0127 10.7	41.29S	174.52E	34	2.6	0.2	16	13
11710	OCT 25	0344 8.8	41.62S	174.34E	6	3.2F	0.2	19	18
11714	OCT 25	0733 51.5	41.16S	173.92E	50	2.2	0.2	15	10
11723	OCT 25	1632 27.0	41.58S	174.32E	29	2.1	0.1	15	11
11730	OCT 25	2341 9.1	41.62S	175.08E	25	2.7	0.1	16	13
11735	OCT 26	0316 14.7	41.62S	175.34E	19	2.0	0.2	14	10
11742	OCT 26	0727 39.4	41.46S	174.23E	32	3.2	0.3	23	18
11749	OCT 26	1137 14.7	41.35S	174.27E	16	2.0	0.2	12	10

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
11752	OCT 26	1359 23.6	40.60S	175.41E	31	2.2	0.1	8	6
11758	OCT 26	1851 58.3	41.65S	175.43E	23	2.9	0.3	15	12
11760	OCT 26	2046 13.4	41.29S	175.32E	28	2.2	0.1	12	9
11761	OCT 26	2223 11.9	41.60S	175.33E	20	2.5	0.3	12	11
11767	OCT 27	0818 21.7	41.66S	175.36E	22	3.2	0.3	18	12
11768	OCT 27	0829 23.8	41.59S	175.33E	19	2.3	0.2	15	11
11770	OCT 27	1136 22.6	41.62S	175.33E	17	2.8	0.2	15	10
11773	OCT 27	1942 32.1	40.91S	175.01E	51	3.1	0.2	16	11
11776	OCT 27	2303 45.0	40.91S	175.00E	51	2.9	0.1	17	12
11796	OCT 28	1238 35.3	41.62S	175.41E	19	2.5	0.2	17	11
11798	OCT 28	1504 58.1	41.65S	175.40E	15	2.2	0.1	13	9
11800	OCT 28	1612 45.1	41.63S	175.39E	17	2.1	0.2	15	10
11802	OCT 28	1749 51.8	41.00S	175.19E	30	3.3F	0.1	19	14
11803	OCT 28	1807 20.2	41.42S	174.56E	22	3.2F	0.2	20	15
11811	OCT 28	2240 38.5	41.59S	175.40E	19	2.0	0.2	14	9
11821	OCT 29	1133 3.0	41.63S	175.44E	22	2.0	0.2	13	9
11832	OCT 29	1721 43.9	40.55S	174.37E	76	2.1	0.1	9	7
11833	OCT 29	1732 31.7	40.95S	175.10E	33	2.7	0.2	17	13
11836	OCT 29	1858 30.6	41.61S	175.36E	17	2.4	0.1	16	11
11839	OCT 29	1955 51.2	41.07S	174.77E	51	2.6	0.1	15	12
11840	OCT 29	2101 11.7	41.66S	175.38E	14	2.1	0.1	13	9
11847	OCT 30	0458 53.0	41.68S	175.39E	15	2.4	0.2	13	10
11848	OCT 30	0528 31.7	40.71S	175.89E	55	2.5	0.2	7	5
11852	OCT 30	0936 52.4	41.61S	175.35E	11	2.2	0.1	11	9
11861	OCT 30	1249 13.5	40.52S	174.62E	71	3.2	0.4	12	9
11862	OCT 30	1514 18.3	41.01S	175.58E	28	2.0	0.1	12	9
11864	OCT 30	1727 40.2	41.17S	174.92E	30	2.0	0.2	14	10
11874	OCT 31	0641 45.8	41.32S	175.00E	27	2.0	0.1	14	9
11884	OCT 31	1145 34.6	40.59S	174.53E	43	2.8	0.2	19	14
11889	OCT 31	1708 40.8	40.94S	175.97E	19	2.0	0.2	11	8
11899	NOV 01	0226 46.9	41.53S	173.61E	38	2.5	0.1	13	8
11902	NOV 01	0546 17.6	40.67S	175.35E	28	2.4	0.2	15	11
11905	NOV 01	0933 48.9	41.92S	174.60E	28	2.1	0.1	11	7
11931	NOV 02	1129 34.4	41.44S	174.99E	24	2.2	0.1	12	8
11932	NOV 02	1222 57.7	41.12S	174.21E	73	2.3	0.1	9	6
11966	NOV 03	1503 23.1	41.76S	174.50E	34	2.2	0.1	14	10
11967	NOV 03	1713 29.3	40.50S	174.29E	90	2.8	0.2	20	14
11980	NOV 04	1238 46.9	41.11S	174.77E	52	2.2	0.0	10	9
11988	NOV 04	1652 53.0	40.97S	174.76E	47	2.2	0.0	9	8
11995	NOV 04	2020 44.5	41.49S	174.07E	17	2.1	0.2	11	9
11997	NOV 04	2047 14.4	40.56S	174.73E	27	2.0	0.1	11	8
12016	NOV 06	0514 39.7	41.02S	174.40E	62	2.6	0.1	15	11
12022	NOV 06	0750 7.1	40.91S	175.19E	22	2.0	0.2	11	8
12029	NOV 06	1604 27.9	40.99S	174.45E	52	2.0	0.1	9	7
12030	NOV 06	1626 19.6	41.31S	175.13E	37	2.2	0.1	14	10

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
12032	NOV 06	1922 50.4	41.66S	175.47E	22	2.2	0.2	12	8
12036	NOV 07	0558 31.0	41.32S	174.39E	61	2.3	0.1	10	7
12042	NOV 07	1045 28.4	41.40S	174.99E	29	2.7	0.2	18	14
12050	NOV 07	1444 50.9	40.97S	175.98E	32	2.7	0.2	15	10
12051	NOV 07	1518 39.7	40.97S	175.27E	21	2.0	0.2	15	10
12054	NOV 07	1626 50.2	40.70S	173.81E	86	3.0	0.2	31	18
12057	NOV 07	2339 1.2	41.12S	175.89E	29	2.1	0.1	10	7
12058	NOV 08	0031 12.9	41.63S	175.42E	24	3.1	0.2	23	14
12060	NOV 08	0036 6.0	41.65S	175.41E	12	2.1	0.2	13	9
12063	NOV 08	0625 44.7	40.55S	173.96E	88	3.1	0.3	29	20
12065	NOV 08	0716 9.8	41.31S	175.00E	27	2.2	0.2	16	12
12068	NOV 08	1229 49.0	40.99S	175.30E	23	4.0F	0.3	31	27
12073	NOV 08	1318 13.9	40.97S	175.28E	21	2.2	0.2	14	10
12076	NOV 08	1537 6.2	40.98S	175.26E	19	3.2	0.2	23	17
12078	NOV 08	1748 25.6	41.11S	173.65E	80	3.5	0.2	31	18
12084	NOV 09	0246 5.9	40.74S	174.45E	44	2.0	0.2	10	7
12086	NOV 09	0739 27.9	41.51S	174.54E	29	2.2	0.1	10	9
12088	NOV 09	0906 50.9	40.98S	175.30E	26	2.7	0.3	15	12
12093	NOV 09	1525 39.7	41.72S	173.90E	48	2.2	0.3	15	10
12097	NOV 09	1739 22.8	41.62S	175.38E	19	2.0	0.1	15	11
12098	NOV 09	1747 42.3	41.11S	174.99E	30	2.1	0.1	17	11
12107	NOV 10	0030 15.7	40.97S	175.59E	29	2.1	0.1	10	7
12120	NOV 10	1322 24.9	41.63S	174.29E	13	2.0	0.2	16	12
12121	NOV 10	1357 16.3	41.43S	173.69E	67	3.3	0.2	25	18
12122	NOV 10	1501 19.4	41.15S	174.64E	32	2.3	0.2	16	12
12128	NOV 10	2049 24.2	41.25S	174.66E	32	2.1	0.1	19	12
12138	NOV 11	0720 54.4	41.74S	174.29E	30	2.0	0.0	8	5
12141	NOV 11	1131 0.2	40.79S	175.72E	27	2.2	0.2	10	6
12146	NOV 11	2019 22.0	40.90S	174.47E	42	2.0	0.1	9	7
12157	NOV 12	0647 30.4	40.78S	174.51E	63	2.1	0.2	6	5
12160	NOV 12	0856 47.0	40.92S	175.47E	21	2.4	0.2	14	11
12170	NOV 12	2229 56.3	40.92S	175.47E	22	2.0	0.1	8	6
12171	NOV 12	2306 21.5	41.77S	174.99E	31	2.3	0.2	9	8
12181	NOV 13	1025 1.6	41.00S	175.60E	26	2.3	0.1	15	9
12185	NOV 13	1434 57.5	40.81S	174.03E	62	2.8	0.2	15	9
12186	NOV 13	1514 15.8	41.18S	173.96E	51	2.7	0.2	16	11
12187	NOV 13	1625 51.0	40.68S	174.55E	59	3.3	0.2	27	21
12188	NOV 13	1631 12.9	40.59S	174.48E	60	2.4	0.2	12	8
12190	NOV 13	2133 49.0	41.65S	175.34E	3	2.1	0.2	10	7
12191	NOV 13	2134 37.5	41.66S	175.36E	13	2.0	0.1	9	6
12192	NOV 13	2136 40.4	41.46S	174.86E	41	2.8	0.1	17	11
12196	NOV 14	0034 59.3	40.56S	174.44E	83	3.2	0.2	22	16
12200	NOV 14	0547 16.0	40.56S	173.73E	93	3.3	0.2	26	19
12205	NOV 14	0932 32.7	40.82S	174.36E	77	3.0	0.2	22	18
12209	NOV 14	1218 44.0	40.52S	175.94E	32	2.0	0.2	10	7

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
12257	NOV 16	0846 44.6	40.98S	175.37E	11	2.1	0.2	14	10
12265	NOV 16	1352 17.1	41.85S	174.57E	24	2.2	0.2	17	12
12267	NOV 16	1507 20.6	41.10S	174.18E	50	3.0	0.2	18	16
12272	NOV 16	1915 13.7	40.53S	175.01E	5R	2.0	0.2	9	6
12274	NOV 16	1924 2.9	41.67S	175.37E	10	2.2	0.0	5	4
12276	NOV 16	2314 27.3	41.57S	175.40E	16	2.5	0.2	16	9
12278	NOV 16	2359 46.7	41.59S	175.38E	19	2.1	0.2	17	11
12284	NOV 17	0755 39.3	40.60S	174.05E	95	2.9	0.3	19	12
12285	NOV 17	0843 16.6	40.79S	174.71E	36	2.0	0.1	16	10
12287	NOV 17	1111 33.3	41.62S	175.38E	17	2.0	0.2	13	9
12296	NOV 17	1939 11.1	40.97S	175.28E	22	2.4	0.2	16	12
12298	NOV 17	2046 9.8	41.75S	174.49E	28	2.0	0.2	14	11
12310	NOV 18	0414 50.8	40.94S	175.07E	33R	2.9	0.2	18	12
12325	NOV 18	1748 8.3	40.76S	175.08E	44	4.0F	0.2	32	26
12328	NOV 18	1838 25.8	41.63S	175.47E	22	2.2	0.2	13	10
12330	NOV 18	1919 40.8	41.21S	175.22E	21	2.2	0.2	16	10
12339	NOV 19	0059 3.2	40.89S	175.82E	33	2.2	0.1	10	8
12346	NOV 19	0530 6.6	40.95S	175.61E	29	2.0	0.1	13	10
12352	NOV 19	1407 30.5	40.74S	174.84E	45	3.5F	0.2	27	22
12356	NOV 19	1549 33.3	40.96S	175.32E	24	2.0	0.2	15	9
12357	NOV 19	1603 56.4	41.27S	174.83E	28	2.2	0.1	15	10
12358	NOV 19	1705 12.4	41.31S	173.67E	88	2.4	0.1	11	10
12360	NOV 19	2123 1.0	41.61S	175.36E	18	2.7	0.2	15	9
12362	NOV 20	0145 20.7	41.26S	175.46E	11	2.0	0.2	13	9
12364	NOV 20	0210 18.1	40.98S	175.27E	28	2.1	0.1	12	8
12369	NOV 20	0914 44.2	41.21S	175.39E	23	2.1	0.1	15	10
12371	NOV 20	1226 51.9	41.13S	175.44E	28	2.3	0.1	15	10
12377	NOV 20	1939 51.2	41.06S	174.16E	53	2.4	0.2	9	7
12378	NOV 20	2231 35.0	40.97S	175.29E	29	3.0	0.1	15	11
12380	NOV 21	0051 35.8	40.96S	175.49E	27	2.1	0.1	12	8
12382	NOV 21	0500 21.1	41.08S	174.58E	34	2.1	0.2	11	8
12390	NOV 21	1150 13.0	41.41S	174.69E	53	2.4	0.1	14	10
12398	NOV 22	0039 10.1	40.56S	174.02E	70	3.2	0.2	19	11
12413	NOV 22	1316 20.3	40.82S	175.29E	28	2.0	0.1	10	8
12420	NOV 22	2017 30.1	40.62S	173.99E	72	2.3	0.3	9	7
12422	NOV 22	2316 58.6	41.16S	173.74E	78	2.4	0.2	9	6
12433	NOV 23	0307 51.8	41.29S	175.29E	28	2.5	0.1	21	11
12434	NOV 23	0442 4.0	41.24S	174.65E	33	2.6	0.2	20	12
12437	NOV 23	0744 58.1	41.03S	174.50E	62	2.1	0.0	12	9
12440	NOV 23	1244 24.2	41.65S	174.63E	35	2.3	0.2	14	11
12445	NOV 23	1451 16.1	41.67S	174.25E	7	2.1	0.3	15	11
12447	NOV 23	1719 57.6	41.30S	174.27E	36	2.0	0.1	12	9
12449	NOV 23	1834 41.8	40.68S	174.60E	48	3.3	0.2	25	20
12454	NOV 23	2214 55.2	41.15S	174.65E	32	2.2	0.2	17	12
12459	NOV 24	0136 47.2	41.73S	174.42E	12R	2.1	0.3	11	10

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
12474	NOV 24	1916 0.6	41.30S	175.28E	29	2.0	0.1	8	6
12476	NOV 25	0046 13.2	40.67S	174.60E	60	3.7	0.2	26	19
12484	NOV 25	0356 33.8	41.35S	174.67E	55	2.0	0.1	9	6
12485	NOV 25	0525 24.0	41.23S	174.65E	32	2.3	0.2	19	12
12486	NOV 25	0557 13.5	41.55S	174.51E	15	3.5F	0.1	25	17
12489	NOV 25	0818 11.3	40.54S	174.55E	5R	2.9	0.3	16	12
12494	NOV 25	1239 43.4	41.42S	173.73E	41	2.3	0.2	6	5
12497	NOV 25	1759 33.9	40.80S	173.77E	92	2.5	0.2	10	5
12499	NOV 25	1839 53.4	41.24S	174.65E	33	3.0	0.1	21	13
12506	NOV 26	0406 57.7	40.54S	175.79E	29	2.4	0.2	12	9
12509	NOV 26	0620 25.8	41.73S	174.40E	16	2.5	0.3	14	12
12513	NOV 26	0812 43.5	40.90S	174.72E	34	2.1	0.1	10	6
12517	NOV 26	1234 17.7	41.56S	174.43E	15	2.8	0.2	19	15
12522	NOV 26	2041 15.3	41.74S	174.58E	28	2.1	0.2	11	9
12531	NOV 27	0423 36.6	40.97S	175.28E	26	2.2	0.1	13	9
12535	NOV 27	0916 29.7	40.61S	174.66E	75	3.9	0.2	33	26
12542	NOV 27	1905 18.4	41.73S	174.47E	31	2.1	0.2	12	9
12551	NOV 28	0313 17.3	40.93S	174.47E	44	2.3	0.1	9	7
12554	NOV 28	0801 54.5	41.48S	174.21E	42	2.0	0.1	11	9
12567	NOV 28	1956 42.7	41.65S	174.89E	27	2.1	0.1	13	11
12569	NOV 28	2110 38.1	41.79S	174.34E	29	2.1	0.2	15	12
12570	NOV 28	2127 19.8	40.82S	175.22E	28	2.0	0.1	15	11
12583	NOV 29	0738 50.7	40.86S	174.67E	61	3.2	0.2	20	15
12588	NOV 29	1249 46.7	41.03S	174.79E	58	2.3	0.1	14	11
12589	NOV 29	1321 13.9	41.57S	173.71E	88	2.3	0.1	9	7
12593	NOV 29	1802 38.8	41.06S	174.60E	33	2.8	0.2	17	13
12594	NOV 29	1835 23.2	41.33S	174.44E	17	2.1	0.2	12	9
12601	NOV 29	2248 18.4	40.84S	174.54E	25	2.2	0.2	14	8
12602	NOV 29	2305 0.9	40.69S	174.70E	58	4.6F	0.2	29	25
12603	NOV 29	2312 37.3	40.67S	174.59E	46	3.2	0.3	24	18
12604	NOV 29	2317 40.0	40.66S	174.59E	39	2.0	0.1	12	7
12605	NOV 29	2321 8.3	40.70S	174.66E	62	3.8	0.2	27	23
12606	NOV 29	2327 47.8	40.63S	174.61E	44	2.2	0.1	8	6
12612	NOV 30	0234 26.5	40.67S	174.62E	53	3.2	0.2	16	12
12632	NOV 30	1659 30.8	40.74S	174.43E	60	3.1	0.2	25	19
12635	NOV 30	1738 37.1	40.73S	174.95E	16	4.2F	0.2	29	25
12636	NOV 30	1807 30.2	40.64S	174.57E	34	2.3	0.1	14	9
12637	NOV 30	1900 7.9	41.59S	174.32E	27	2.5	0.2	18	14
12638	NOV 30	1902 20.5	41.59S	174.30E	28	2.1	0.2	14	11
12647	DEC 01	0014 2.1	41.58S	174.33E	25	2.2	0.2	12	9
12648	DEC 01	0236 43.7	40.58S	174.34E	87	3.7	0.2	33	23
12651	DEC 01	0453 34.8	41.64S	175.05E	26	2.4	0.1	13	11
12665	DEC 01	1831 13.9	40.87S	175.97E	32	2.4	0.2	17	12
12674	DEC 02	0043 58.9	41.75S	174.52E	30	3.3	0.2	24	19
12675	DEC 02	0047 36.6	40.63S	174.56E	38	2.5	0.1	15	11

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
12679	DEC 02	0251 58.5	40.89S	175.49E	28	2.0	0.1	15	10
12687	DEC 02	1226 33.0	40.93S	174.92E	63	3.2	0.2	26	20
12688	DEC 02	1228 9.8	41.74S	173.89E	13	2.7	0.2	14	10
12695	DEC 02	1642 52.0	40.59S	174.17E	12R	2.5	0.3	8	6
12704	DEC 03	0100 3.5	40.61S	174.58E	42	2.0	0.1	6	4
12708	DEC 03	0636 3.6	41.63S	175.48E	17	2.0	0.1	12	9
12709	DEC 03	0700 37.5	41.62S	175.47E	11	2.2	0.2	10	7
12711	DEC 03	0843 13.7	40.88S	174.78E	61	2.1	0.1	8	6
12713	DEC 03	0937 31.4	41.62S	175.48E	23	2.5	0.2	12	9
12714	DEC 03	0945 54.0	41.64S	175.49E	22	2.2	0.2	10	9
12715	DEC 03	0953 5.6	41.64S	175.49E	22	2.4	0.2	12	9
12718	DEC 03	0956 40.3	41.64S	175.50E	24	2.6	0.2	14	11
12719	DEC 03	1005 29.5	41.03S	174.57E	63	2.1	0.1	10	8
12721	DEC 03	1156 12.2	41.64S	175.47E	15	2.0	0.1	9	7
12722	DEC 03	1202 45.4	40.62S	175.31E	29	2.4	0.1	14	13
12723	DEC 03	1247 39.1	41.65S	175.49E	23	2.0	0.2	10	9
12727	DEC 03	1625 34.3	41.74S	174.52E	30	2.0	0.1	10	8
12730	DEC 03	1852 2.9	40.62S	175.29E	29	2.0	0.1	7	6
12748	DEC 04	1531 15.6	41.67S	174.31E	8	2.4	0.2	16	11
12758	DEC 05	0408 48.5	41.12S	174.79E	34	2.7F	0.1	17	11
12765	DEC 05	1136 6.5	41.83S	174.44E	29	2.2	0.2	16	12
12766	DEC 05	1527 48.4	40.63S	174.57E	39	2.3	0.1	12	9
12769	DEC 05	1633 44.3	41.74S	174.54E	33	2.2	0.2	9	7
12774	DEC 05	2239 53.4	40.62S	173.81E	84	2.7	0.3	22	13
12777	DEC 06	0017 21.2	41.80S	174.53E	26	2.2	0.2	13	9
12790	DEC 06	1821 7.7	40.76S	174.30E	62	3.1	0.2	16	13
12806	DEC 07	0405 29.6	41.77S	174.49E	31	2.1	0.1	12	8
12812	DEC 07	0708 40.8	41.57S	173.90E	20	2.2	0.2	16	13
12816	DEC 07	0859 53.8	41.67S	175.39E	8	2.0	0.2	12	9
12818	DEC 07	1201 40.4	41.62S	175.38E	11	2.1	0.3	12	8
12826	DEC 07	1629 30.0	40.67S	174.42E	88	2.5	0.2	19	16
12833	DEC 08	0230 8.7	40.54S	175.28E	43	3.2	0.4	18	17
12835	DEC 08	0725 46.9	41.89S	174.16E	12R	2.9	0.5	18	17
12839	DEC 08	1307 44.0	41.19S	173.91E	69	2.8	0.1	15	11
12845	DEC 08	2015 45.6	41.09S	175.18E	24	2.0	0.1	10	7
12847	DEC 09	0258 46.7	41.62S	174.67E	31	2.9	0.2	19	14
12852	DEC 09	0742 13.4	40.64S	175.39E	39	3.2	0.2	18	16
12855	DEC 09	1226 35.2	41.93S	173.97E	21	2.2	0.2	14	11
12872	DEC 10	0537 35.5	41.58S	175.38E	22	2.4	0.2	16	10
12873	DEC 10	0545 9.5	41.60S	175.37E	23	2.4	0.2	17	11
12877	DEC 10	0757 42.1	41.94S	173.99E	18	2.5	0.2	19	12
12880	DEC 10	1017 5.6	41.71S	173.87E	72	2.3	0.2	10	6
12881	DEC 10	1024 33.9	41.79S	174.13E	12R	2.3	0.3	14	11
12887	DEC 10	1334 11.3	41.35S	174.49E	55	2.2	0.1	11	9
12893	DEC 10	1812 13.4	41.35S	174.65E	22	2.5	0.2	18	11

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
12897	DEC 10	2051 6.8	41.94S	174.11E	12R	2.2	0.3	10	9
12924	DEC 12	0413 12.8	41.69S	174.21E	8	2.4	0.3	14	11
12927	DEC 12	0702 26.8	41.62S	175.37E	25	3.4	0.2	21	12
12928	DEC 12	0750 29.1	41.64S	175.35E	11	2.1	0.1	10	8
12930	DEC 12	0947 13.3	40.58S	174.94E	5R	2.3	0.2	9	6
12931	DEC 12	1005 35.4	41.61S	175.37E	19	2.4	0.1	14	11
12933	DEC 12	1800 25.3	41.67S	175.35E	8	2.7	0.2	12	8
12934	DEC 12	1812 41.0	41.64S	175.38E	14	2.4	0.2	14	9
12936	DEC 12	1906 20.7	41.68S	175.36E	3	2.0	0.1	10	7
12937	DEC 12	1914 42.3	41.61S	175.38E	11	2.1	0.2	10	7
12938	DEC 12	1919 55.2	41.77S	174.55E	33	2.6	0.1	17	11
12940	DEC 12	1955 41.0	41.50S	174.25E	5R	2.6	0.2	19	13
12942	DEC 12	2119 8.4	41.08S	175.40E	24	2.0	0.1	12	8
12944	DEC 12	2307 9.2	41.62S	175.36E	18	2.6	0.2	15	10
12947	DEC 13	0426 18.5	41.68S	175.37E	5	2.4	0.2	12	7
12952	DEC 13	0819 37.2	40.68S	173.70E	131	2.8	0.3	7	5
12960	DEC 13	1242 7.8	41.27S	174.84E	27	2.7	0.1	17	11
12961	DEC 13	1244 5.0	41.27S	174.84E	29	3.1	0.2	20	16
12962	DEC 13	1244 33.3	41.27S	174.83E	28	2.3	0.1	9	5
12964	DEC 13	1258 30.4	41.27S	174.84E	27	2.6	0.1	14	10
12968	DEC 13	1745 4.3	41.67S	175.39E	16	2.9	0.2	18	12
12971	DEC 13	1941 51.0	41.64S	175.37E	13	2.5	0.2	14	10
12977	DEC 14	0229 13.0	41.04S	175.93E	32	2.2	0.2	14	11
12978	DEC 14	0252 36.3	41.64S	174.28E	6	2.7	0.3	16	14
12983	DEC 14	1014 10.4	41.29S	175.30E	28	2.1	0.1	13	8
12985	DEC 14	1248 51.2	41.65S	175.38E	13	2.6	0.2	13	8
12986	DEC 14	1407 38.4	41.64S	175.37E	10	2.1	0.1	12	7
13000	DEC 15	0630 25.6	40.88S	175.48E	22	2.9	0.2	21	16
13004	DEC 15	1116 9.5	40.79S	174.03E	58	2.7	0.1	10	7
13009	DEC 15	1348 21.2	40.78S	175.74E	28	2.2	0.2	13	8
13024	DEC 16	1454 48.8	41.14S	175.16E	33	3.0	0.2	25	14
13025	DEC 16	1608 32.2	41.59S	173.64E	59	3.6	0.2	30	20
13028	DEC 16	1657 16.9	41.53S	175.41E	20	2.4	0.3	14	10
13043	DEC 17	0552 4.7	41.16S	175.96E	23	2.1	0.2	12	9
13066	DEC 18	0059 15.9	41.53S	174.51E	18	2.0	0.1	14	10
13068	DEC 18	0131 28.7	40.79S	175.13E	31	3.0	0.2	20	13
13084	DEC 18	0652 44.1	41.20S	173.95E	69	2.6	0.2	15	9
13086	DEC 18	0716 25.1	40.62S	175.53E	32	2.0	0.1	9	7
13088	DEC 18	0815 58.8	41.05S	174.01E	62	2.0	0.2	9	6
13089	DEC 18	0841 23.3	41.82S	174.15E	10	2.0	0.2	14	11
13090	DEC 18	0910 1.5	41.70S	174.63E	27	2.0	0.2	14	12
13117	DEC 19	2227 14.1	41.82S	174.49E	21	2.0	0.2	10	8
13122	DEC 19	2348 1.0	41.51S	174.67E	28	2.0	0.1	9	7
13125	DEC 20	0420 33.7	40.86S	175.43E	26	2.1	0.1	11	9
13126	DEC 20	0651 44.8	41.44S	173.97E	42	2.5	0.2	13	10

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13131	DEC 20	1140 20.6	41.23S	174.65E	33	2.0	0.1	15	11
13135	DEC 20	1340 48.0	40.88S	173.69E	87	2.7	0.2	15	9
13136	DEC 20	1345 47.4	40.64S	174.75E	32	2.0	0.1	11	8
13137	DEC 20	1521 37.0	41.30S	174.40E	34	2.5	0.2	15	12
13138	DEC 20	1558 57.9	40.95S	174.65E	66	3.7F	0.2	35	25
13139	DEC 20	1834 24.5	40.96S	173.71E	94	4.1	0.2	32	22
13151	DEC 21	0500 9.5	41.37S	175.09E	26	2.1	0.1	17	12
13153	DEC 21	0514 5.0	40.50S	174.37E	50	2.1	0.1	9	5
13158	DEC 21	0939 23.8	41.14S	174.25E	42	2.5	0.2	20	14
13162	DEC 21	1151 3.6	40.84S	174.66E	51	2.3	0.1	17	10
13171	DEC 21	1642 59.5	41.28S	175.74E	18	2.0	0.1	11	9
13190	DEC 22	1144 2.8	41.70S	174.64E	29	2.1	0.2	15	10
13195	DEC 22	1617 7.4	41.41S	173.65E	68	2.4	0.2	14	10
13196	DEC 22	1645 3.5	40.73S	175.80E	22	2.1	0.2	7	5
13210	DEC 23	0251 11.0	41.15S	174.00E	50	2.6	0.2	15	10
13224	DEC 23	1409 56.1	40.72S	175.75E	24	2.0	0.2	11	6
13232	DEC 23	2008 16.3	41.02S	174.59E	42	3.4	0.2	24	19
13233	DEC 23	2021 2.4	40.99S	174.56E	34	2.3	0.3	12	8
13235	DEC 23	2237 34.0	41.07S	173.98E	63	2.1	0.1	7	5
13242	DEC 24	0251 40.8	41.69S	174.20E	9	2.1	0.3	9	8
13244	DEC 24	0400 5.0	41.07S	174.84E	55	3.2	0.2	25	19
13247	DEC 24	0705 27.1	40.79S	175.83E	27	2.0	0.2	10	6
13248	DEC 24	0719 13.9	40.88S	175.47E	26	2.5	0.1	16	12
13251	DEC 24	0758 12.8	41.40S	173.77E	50	2.1	0.1	7	4
13264	DEC 24	1706 37.1	41.09S	173.81E	66	2.6	0.2	17	11
13266	DEC 24	1913 43.3	41.74S	174.52E	32	3.0	0.2	18	14
13268	DEC 24	2252 5.3	41.44S	173.94E	42	2.9	0.3	21	16
13274	DEC 25	0303 23.9	41.49S	174.44E	57	2.3	0.1	11	9
13289	DEC 25	1730 31.5	40.58S	173.79E	89	2.6	0.3	21	11
13290	DEC 25	1740 13.5	41.05S	175.98E	33	2.0	0.2	11	8
13304	DEC 26	0527 49.7	41.65S	174.26E	5	2.2	0.3	17	14
13316	DEC 26	1856 46.8	41.31S	174.12E	45	2.0	0.1	8	6
13318	DEC 26	2203 14.4	40.68S	174.51E	81	2.9	0.2	23	13
13319	DEC 26	2235 9.4	40.97S	174.49E	59	2.3	0.1	15	9
13321	DEC 26	2306 24.4	40.69S	174.45E	72	2.4	0.2	11	8
13322	DEC 26	2332 30.0	41.63S	173.82E	39	2.2	0.2	8	5
13336	DEC 27	1218 9.0	41.04S	174.83E	53	2.4	0.1	13	10
13343	DEC 27	1935 51.5	41.04S	174.68E	34	2.1	0.1	16	11
13349	DEC 28	0439 40.2	41.42S	173.86E	48	2.3	0.1	11	8
13360	DEC 28	1516 20.8	40.82S	174.71E	43	2.1	0.2	15	9
13361	DEC 28	1520 30.7	40.85S	175.43E	27	2.1	0.2	14	9
13362	DEC 28	1842 45.7	40.86S	175.12E	34	2.0	0.1	13	9
13363	DEC 28	1852 13.6	40.62S	174.54E	31	2.0	0.1	11	6
13373	DEC 29	0626 35.8	41.17S	174.55E	32	2.2	0.1	17	12
13378	DEC 29	1049 51.2	41.31S	174.11E	49	3.5F	0.2	25	18

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
13382	DEC 29	1427 26.7	40.91S	176.00E	28	2.5	0.2	15	10
13393	DEC 30	0009 31.9	41.01S	175.65E	40	2.4	0.1	10	7
13396	DEC 30	0233 16.2	40.95S	175.46E	26	2.2	0.2	7	5
13397	DEC 30	0241 13.6	41.29S	174.79E	46	2.1	0.1	8	6
13401	DEC 30	1011 14.6	41.65S	174.31E	0	2.2	0.3	15	12
13405	DEC 30	1251 58.3	41.45S	173.64E	48	2.5	0.2	6	5
13412	DEC 30	2025 57.1	40.65S	174.52E	48	2.0	0.2	9	6
13417	DEC 31	0158 9.9	40.62S	174.56E	34	2.5F	0.2	15	10
13427	DEC 31	1207 43.2	41.58S	174.78E	29	2.1	0.1	11	9
13434	DEC 31	2301 25.8	40.97S	175.28E	26	2.0	0.2	14	8

TUAMOTU ARCHIPELAGO NUCLEAR EXPLOSIONS

Nuclear explosions at the French nuclear test sites in the Tuamotu Archipelago are often recorded at Rarotonga (RAR). The P-wave is usually not recorded but the T-waves have a rather distinctive signature with a very emergent onset, followed after a few seconds by a more prominent burst of energy which reaches its maximum and decays before the arrival of a smaller "echo" trailing the main energy by some 110 seconds. Although other teleseismic readings from the New Zealand instrumental networks are published by the International Seismological Centre, these T-wave observations are not.

Because the emergent first arrival cannot always be seen clearly when the explosions are relatively small, the instant of arrival is not recorded here. Instead, an inferred origin time is listed, based on the estimated travel time from the test site to Rarotonga, and indications that it is common practice to detonate tests exactly on the minute.

A means of estimating the magnitudes of these explosions has been devised, based on a comparison of maximum amplitudes of T-waves recorded at Rarotonga with magnitude estimates from the United States National Earthquake Information Service. (W.D. Smith, 1987: Underground nuclear explosions recorded at Rarotonga: estimation of m_b from T-phase amplitude. Geophys. J. R. astr. Soc. 90: 35-42). These magnitudes are given, together with the N.E.I.S. and I.S.C. estimates where these are available. The maximum recorded trace amplitude at Rarotonga (in millimetres) is also listed. An 'F ' after the time of a test indicates that it is believed to have been sited at Fangataufa, while all others are thought to have been on Mururoa.

DATE	TIME h m	AMPLITUDE millimetres	m_b (T-wave)	m_b (N.E.I.S.)	m_b (I.S.C.)
Jun 2	17 30	9.0	5.42	5.3	5.3
Jun 7	17 30	1.5	4.65	–	-
Jun 26	18 00 F	24.6	5.86	5.5	5.5
Jul 4	18 00	6.0	5.25	5.1	4.9
Nov 14	18 12 F	28.0	5.92	5.5	-
Nov 21	16 59	10.5	5.49	5.4	-

NON-INSTRUMENTAL DATA

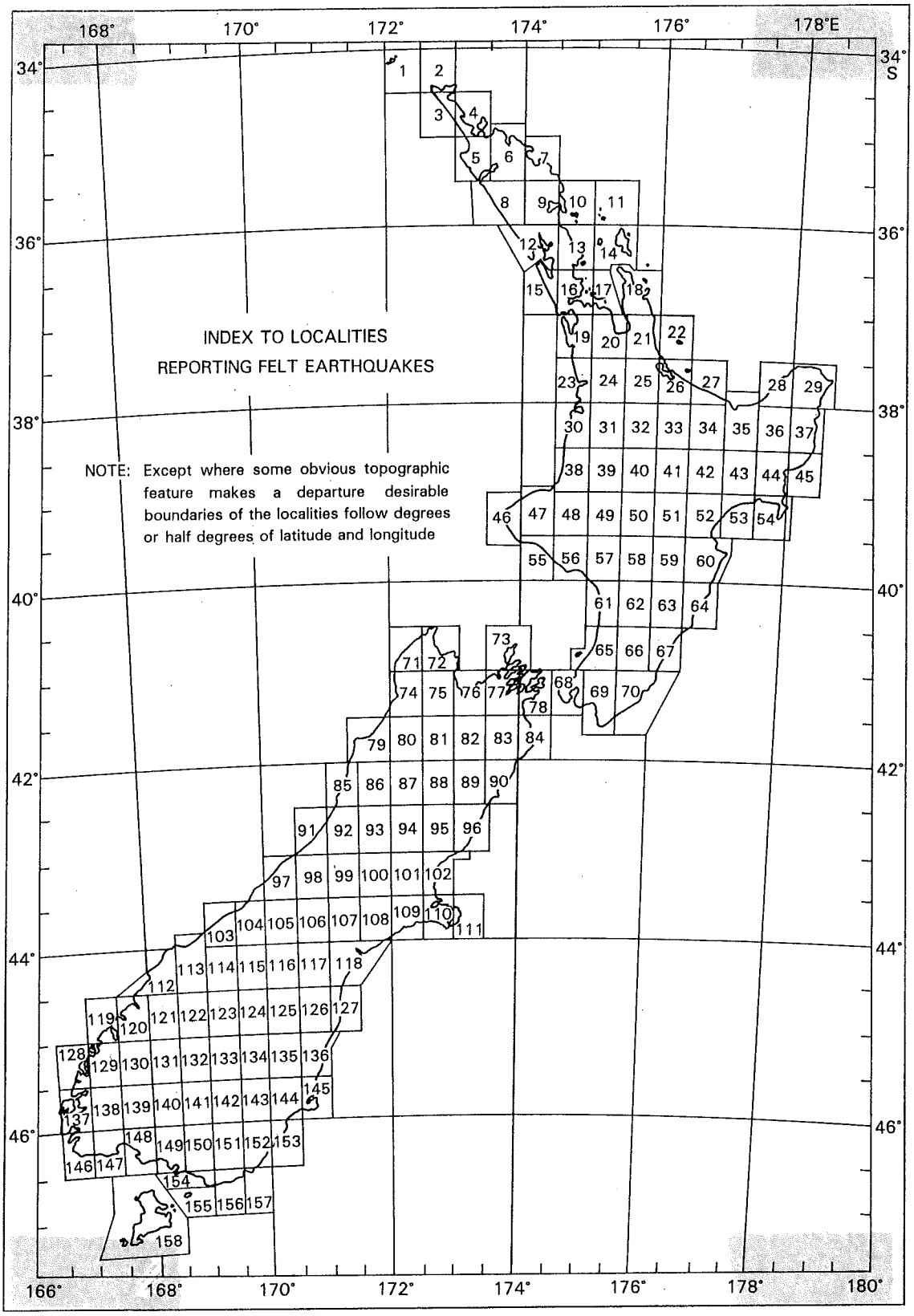
THE FELT REPORTING SYSTEM

The Observatory has recruited a network of about 600 voluntary observers spread throughout the country, who use a standard form to describe the effects of any earthquake they feel. The Observatory also collects casual reports from newspapers, meteorological observers, postmasters and members of the local public. For large earthquakes, or ones with features of special interest, questionnaires are issued and assessed.

Several difficulties arise in assessing the distribution of felt intensity. The population of the country is very unevenly spread, and the observers' personal circumstances may prevent them from feeling a shock that has been noticed by others. These problems also affect lists of earthquakes felt in particular localities. It may reasonably be assumed that a strong earthquake reported from one township was felt in another nearby, even though the Observatory has received no report. However, an index of this kind must summarise data and not deductions, so the following scheme is used.

The land area of New Zealand has been divided into 'localities', mostly bounded by half-degree lines of latitude and longitude, but varied as necessary to avoid splitting obvious geographic or structural units (see map overleaf). Each locality has a number and a name, usually that of the principal population centre within it. The names are listed overleaf. In most localities there are at least two well-separated reporters, but there are still some sparsely populated parts of the country without observers, notably in Southland. Felt information is summarised in information lines following the instrumental data in the main list of earthquakes. Modified Mercalli intensities quoted there have been assessed by the Observatory from replies to standard questionnaires. Assessments based on less formal descriptions of intensity are included in the following list, in which the localities which have reported shocks during the year are presented in alphabetical order, each followed by the reference numbers of the shocks felt and their respective maximum reported intensities within that locality. By comparing the reports from neighbouring localities, it is possible to form a truer estimate of the incidence of the felt effects than would be possible from a simple list of places reporting each shock.

A further list records reports received from places in the south-west Pacific.



Standard Reporting Localities

STANDARD REPORTING LOCALITIES

1	Three Kings	41	Taupo	81	Glenhope	121	Glenorchy
2	Te Reinga	42	Te Whaiti	82	Wairau	122	Arrowtown
3	Ninety Mile Beach	43	Tuai	83	Awatere	123	Wanaka
4	Doubtless Bay	44	Whakapunaki	84	Cape Campbell	124	St Bathans
5	Kaitaia	45	Gisborne	85	Greymouth	125	Kurow
6	Kaikohe	46	Cape Egmont	86	Reefton	126	Duntroon
7	Bay of Islands	47	New Plymouth	87	Maruia	127	Waimate
8	Dargaville	48	Whangamomona	88	Hanmer	128	Secretary Is.
9	Whangarei	49	Ohakune	89	Clarence	129	Doubtful Sound
10	Bream Head	50	Chateau	90	Kaikoura	130	Te Anau
11	Moko Hinau	51	Kaweka	91	Hokitika	131	Livingstone Mts
12	Kaipara	52	Napier	92	Kumara	132	Kingston
13	Warkworth	53	Wairoa	93	Arthur's Pass	133	Alexandra
14	Barrier Islands	54	Mahia	94	Lake Sumner	134	Poolburn
15	Helensville	55	Hawera	95	Culverden	135	Ranfurly
16	Auckland	56	Waverley	96	Cheviot	136	Oamaru
17	Waiheke	57	Wanganui	97	Franz Josef	137	Resolution Island
18	Coromandel	58	Taihape	98	Hari Hari	138	Pillans Pass
19	Pukekohe	59	Ruahine	99	Whitcombe Pass	139	Monowai
20	Mercer	60	Hastings	100	Lake Coleridge	140	Mossburn
21	Thames	61	Bulls	101	Oxford	141	Waikaia
22	Mayor Is.	62	Palmerston North	102	Rangiora	142	Roxburgh
23	Raglan	63	Dannevirke	103	Haast	143	Lawrence
24	Hamilton	64	Porangahau	104	Bruce Bay	144	Outram
25	Matamata	65	Otaki	105	Mount Cook	145	Dunedin
26	Tauranga	66	Masterton	106	Tekapo	146	Puysegur Point
27	Whakatane	67	Castlepoint	107	Mount Somers	147	Poteretere
28	Te Kaha	68	Wellington	108	Ashburton	148	Tuatapere
29	East Cape	69	Featherston	109	Rakaia	149	Invercargill
30	Kawhia	70	Martinborough	110	Christchurch	150	Gore
31	Te Kuiti	71	Mount Stevens	111	Akaroa	151	Clinton
32	Tokoroa	72	Takaka	112	Big Bay	152	Balclutha
33	Rotorua	73	D'Urville Island	113	Jackson's Bay	153	Waihola
34	Murupara	74	Karamea	114	Makarora	154	Bluff
35	Opotiki	75	Motueka	115	Lake Ohau	155	Ruapuke
36	Motu	76	Nelson	116	Pukaki	156	Tahakopa
37	Tolaga Bay	77	Blenheim	117	Fairlie	157	Owaka
38	Mokau	78	Picton	118	Timaru	158	Stewart Is.
39	Taumarunui	79	Westport	119	George Sound	159	Chatham Islands
40	Tokaanu	80	Murchison	120	Milford		

EARTHQUAKES FELT IN STANDARD LOCALITIES

Localities within which earthquakes were felt are listed in alphabetical order, each preceded by its number on the reference map. The figure following the name of the locality is the number of the epicentre followed by the maximum intensity (in brackets) reported within the district covered by the locality name. An asterisk (*) indicates that the particular intensity was not evaluated from the standard questionnaire. The location of the earthquake, the instrumental magnitude and the actual places at which it was reported felt may be found from the table Summary of Origins and Magnitudes.

111	Akaroa	776 (3), 6657 (3).
133	Alexandra	8413 (5), 8414 (4).
122	Arrowtown	3316 (4).
93	Arthur's Pass	520 (4), 5591 (4*), 8574 (4), 9625 (4), 11814 (4).
16	Auckland	13143 (4).
83	Awatere	315 (4*).
77	Blenheim	315 (4*), 776 (4), 793 (4), 3443 (5*), 27 (5*), 5646 (4*), 6642 (4), 8715 (4), 8854 (4), 9715 (3), 9736 (3), 9782 (4), 9830 (4*), 10898 (3), 11529 (3), 13378 (3).
104	Bruce Bay	3316 (4), 8883 (5), 11386 (4).
61	Bulls	686 (4), 3443 (5), 3452 (4), 6657 (6), 6675 (4*), 6726 (4*), 6874 (4), 9539 (4), 10676 (4), 10898 (3).
84	Cape Campbell	315 (4*), 776 (3), 9782 (4).
46	Cape Egmont	3443 (4), 11851 (4*).
67	Castlepoint	686 (4), 3443 (6), 3452 (4*), 3478 (4*), 3492 (4), 3517 (4), 3545 (4), 4003 (4*), 4008 (4*), 4580 (4*), 4717 (4*), 6657 (7), 7752 (3*).
96	Cheviot	762 (4*), 776 (6), 854 (4), 898 (4), 1091 (4), 1268 (4*).
110	Christchurch	776 (4), 792 (3), 793 (4*), 799 (4*), 898 (3*), 5485 (4*), 5591 (3), 6657 (3), 8530 (4*), 8574 (4*), 9728 (4*), 9736 (4*).
89	Clarence	776 (4).
95	Culverden	776 (4), 792 (4*), 799 (4*), 840 (3*), 898 (3*), 5021 (4), 5188 (4*).
63	Dannevirke	24 (4), 686 (4*), 3443 (7), 3457 (3), 3466 (3), 4717 (4*), 5423 (4*), 5491 (4*), 5969 (4*), 6015 (4*), 6657 (9), 7748 (4*), 7791 (4), 8137 (4*), 8245 (4*), 8301 (4), 8312 (4), 8331 (4), 8332 (4), 8342 (3), 8388 (4), 8406 (4), 8467 (4), 8486 (4), 8521 (4), 8548 (4*), 8726 (3), 8743 (3), 8751 (3), 8775 (4), 8778 (4), 8788 (3), 8848 (4), 8869 (3), 9211 (4*), 9335 (4), 9342 (4*), 9539 (4), 10421 (4), 10422 (4), 10676 (4*), 11465 (4), 12470 (4*).

29	East Cape	27	(5*),	5491	(3).																		
69	Featherston	3443	(5),	4640	(4*),	6657	(4),	16	(3*),	10676	(5),	10681	(4),	10898	(4),	11803	(4*),	12068	(4),	12635	(4).		
45	Gisborne	3443	(4),	27	(5*),	5491	(4*),	5646	(4*),	6657	(4),	16	(3*),	12027	(4).								
81	Glenhope	762	(3),	776	(5),	792	(4),	793	(4),	898	(4*),	990	(4),	11529	(4).								
121	Glenorchy	3316	(4),	5927	(5),	8339	(3),	8861	(4),	8883	(4).												
85	Greymouth	776	(6),	793	(4),	898	(4*),	1091	(4),	5591	(4*),	5674	(4*),	8529	(4).								
103	Haast	3316	(4*),	8883	(4).																		
24	Hamilton	6657	(1),	13143	(3).																		
88	Hanmer	762	(5),	776	(8),	792	(6),	793	(6),	799	(5),	898	(4*),	990	(3*),	1091	(4),	1179	(4*),	1210	(4*),	1268	(4*),	1602	(3*),
		11529	(4).																				
60	Hastings	24	(4),	3443	(6),	27	(5*),	3452	(4),	3545	(4),	5423	(4),	5485	(4),	5969	(4*),	6242	(4),	6657	(7),	16	(3*),	7748	(4*),
		9539	(4),	9758	(4),	12470	(4).																
91	Hokitika	776	(3),	792	(4),	854	(4),	898	(4).														
149	Invercargill	6021	(4*).																				
113	Jackson's Bay	3316	(4),	3387	(3),	8882	(4),	8883	(4),	9746	(3),	12514	(3),	13374	(4).								
90	Kaikoura	776	(4*),	792	(3*).																		
132	Kingston	8883	(4*).																				
100	Lake Coleridge	5591	(4),	8529	(3),	8530	(4*),	9728	(4).														
115	Lake Ohau	3316	(4),	8883	(3).																		
94	Lake Sumner	776	(6),	898	(4).																		
54	Mahia	298	(4*),	3443	(4),	6657	(5).																
114	Makarora	3316	(4),	13374	(4),	13383	(4).																
70	Martinborough	3443	(4),	6657	(4),	10676	(6).																
87	Maruia	776	(6),	777	(4*),	780	(4*),	789	(4),	792	(4),	793	(4*),	799	(4*),	803	(4*),	804	(3*),	836	(4*),	845	(3*),	854	(4*),
		858	(3*),	874	(3),	898	(4),	910	(4),	916	(4),	990	(3),	1332	(3),	3443	(3),	11386	(4).				

66	Masterton	686 (4), 3443 (4), 3452 (4), 4717 (4*), 6657 (6), 9335 (4*), 9539 (4*), 10676 (4*).
25	Matamata	13143 (4).
20	Mercer	6033 (5).
120	Milford	8883 (4*).
38	Mokau	3443 (4), 6657 (4), 11851 (4).
139	Monowai	8339 (4).
36	Motu	3443 (4), 27 (5*), 16 (3*).
71	Mount Stevens	3443 (4), 6657 (4).
80	Murchison	776 (4), 777 (4).
34	Murupara	27 (5*), 16 (3*), 10440 (4), 12027 (4).
52	Napier	3443 (4), 4717 (4), 5491 (3), 5646 (4), 5969 (4), 6657 (4), 16 (3*), 6874 (3), 8475 (4), 9523 (4), 9539 (4), 9758 (4*).
76	Nelson	776 (4), 792 (3), 793 (3), 6657 (4), 9728 (4*), 9736 (4*), 10676 (4), 11529 (3), 12182 (4*), 12273 (4).
47	New Plymouth	3443 (3), 3445 (4*), 6657 (3*), 10676 (3), 10898 (3), 11851 (4*), 12590 (4*).
49	Ohakune	3443 (4), 3452 (3*), 5969 (3), 6657 (4), 9539 (4), 10676 (3), 10898 (3).
35	Opotiki	5485 (4), 5491 (4*), 5646 (4), 6288 (4), 6518 (3), 7795 (4), 7963 (4), 8469 (3), 9441 (4), 10171 (3), 10541 (3).
65	Otaki	536 (4), 686 (5), 776 (3), 3443 (4), 3452 (4*), 4717 (4*), 5443 (4*), 5485 (4), 5491 (4), 6015 (4), 6657 (5), 6726 (4), 6795 (4), 7963 (4*), 8279 (4*), 8715 (4), 9163 (4*), 9539 (4), 10676 (4), 10898 (4*), 12068 (4), 12325 (4), 12602 (4*), 12635 (4).
144	Outram	5591 (4*).
62	Palmerston North	371 (4*), 686 (5), 3443 (6), 3445 (3), 3452 (4), 3454 (4), 3466 (4), 3478 (4), 3545 (4), 4003 (3), 4717 (4), 5485 (3), 5491 (4*), 5646 (3), 5969 (4), 5970 (3), 6015 (4), 6634 (4), 6657 (7), 6675 (4*), 6690 (3), 6726 (4), 6874 (4), 7016 (3), 7389 (3), 7663 (4*), 7748 (4), 7956 (4), 8245 (3), 9335 (4), 9523 (4*), 9539 (4), 9840 (4*), 10422 (3), 10676 (4), 10898 (4), 12602 (4*), 12635 (4*).
78	Picton	536 (4*), 3443 (4*), 27 (5*), 6657 (4), 8854 (4), 9096 (4*), 9782 (4), 10898 (3).
138	Pillans Pass	6021 (3).

64	Porangahau	24	(4*),	3443	(7),	4717	(4*),	6657	(8),	9539	(4).						
116	Pukaki	8883	(4*).														
19	Pukekohe	6033	(4).														
102	Rangiora	776	(4),	792	(4),	793	(4),	799	(4*).								
86	Reefton	9270	(4*).														
33	Rotorua	3443	(4),	27	(5*),	3445	(4*),	5800	(4),	6657	(4),	16	(3*),				
		9063	(4),	9113	(3),	9732	(4*),	10021	(4*),	10100	(4),	10283	(4),				
		10284	(4),	10290	(4),	10604	(4),	12150	(3),	12507	(4),	12874	(3),				
		13345	(4),	13346	(3*).												
142	Roxburgh	3316	(5*).														
59	Ruahine	3443	(5),	3545	(4),	4717	(4*),	6657	(6),	16	(3*).						
58	Taihape	686	(4),	3443	(5),	5969	(4),	6634	(4),	6657	(6),	6659	(4*),				
		6660	(4*),	6663	(4*),	6726	(4*),	6874	(4*),	6923	(4*),	6952	(4*),				
		9335	(4),	9393	(3),	12403	(3).										
72	Takaka	5257	(4),	7925	(4).												
39	Taumarunui	3443	(4),	6657	(4),	9523	(4),	9539	(4).								
41	Taupo	3443	(4),	6657	(4),	16	(3*),	8896	(4*),	8902	(4),	9515	(4),				
		11384	(5),	12027	(4*),	13143	(4*).										
26	Tauranga	13143	(4*).														
130	Te Anau	5688	(5),	6021	(4*),	8883	(4*).										
31	Te Kuiti	6657	(4).														
21	Thames	3443	(4),	5485	(5),	13143	(6).										
118	Timaru	12789	(4*).														
40	Tokaanu	3443	(4),	5617	(4),	5647	(3),	6560	(3),	6657	(5),	16	(3*),				
		8899	(4*),	8900	(4),	8901	(3),	8904	(3),	13298	(4).						
32	Tokoroa	3443	(3),	13143	(4*).												
43	Tuai	6657	(4).														
153	Waihola	12734	(3).														
53	Wairoa	3443	(4),	5491	(4*),	6657	(4),	7963	(4*).								
123	Wanaka	3316	(4),	8413	(4),	8414	(4),	8883	(4),	13374	(4).						
57	Wanganui	686	(4),	776	(3),	3443	(5),	3517	(4),	4717	(3),	6657	(5),				
		9000	(4*),	9539	(4),	10557	(4),	10676	(4*),	10898	(4),	12602	(4*),				
		12635	(4),	13045	(3),	13094	(4*).										
56	Waverley	6657	(5).														

68	Wellington	536 (3),	686 (3),	776 (4),	792 (2),	3443 (4),	4640 (3),
		5443 (3),	5485 (4),	5491 (4*),	5646 (3),	5661 (4*),	5676 (3),
		5969 (4*),	6015 (4),	6190 (4),	6431 (4*),	6642 (3),	6657 (4),
		16 (3*),	7748 (4*),	7963 (4*),	8279 (4),	8406 (4*),	8715 (4),
		8854 (4),	9096 (4),	9163 (4*),	9335 (4*),	9523 (4*),	9539 (4),
		9637 (4*),	9715 (4),	9736 (4*),	9782 (4),	10676 (5),	10703 (3),
		10865 (3),	10898 (4),	11116 (4*),	11338 (4*),	11459 (3),	11491 (4*),
		11529 (4*),	11710 (3),	11802 (3),	11803 (3),	12068 (4),	12352 (4*),
		12486 (4*),	12602 (3),	12635 (4),	12758 (3),	13138 (4),	13417 (3).
79	Westport	762 (3),	776 (4),	792 (4),	793 (4),	898 (4),	9273 (4),
		12664 (4).					
44	Whakapunaki	298 (4),	3443 (4),	5485 (3),	5491 (3),	6657 (4),	7963 (3).
27	Whakatane	3443 (4),	5485 (4*),	6657 (3),	10982 (4*),	12027 (4*).	
48	Whangamomona	6657 (4),	10676 (3).				
99	Whitcombe Pass	776 (4),	5591 (4),	8529 (4),	8530 (4*),	9975 (4),	12640 (3).

REPORTS FROM OUTSIDE NEW ZEALAND

The Observatory sometimes receives reports of earthquakes felt on islands of the south-west Pacific and other places beyond the limits of its systematic reporting network. Where Modified Mercalli scale intensities in the list below are shown in quotes, they have been estimated by the reporters, not the Observatory.

DATE	TIME	INTENSITY	PLACE
Jan 13	19h 4m	'light'	Raoul Island.
Jan 14	09h 31m	'light'	Raoul Island.
Jan 14	21h 04m	'light'	Raoul Island.
Jan 18	05h 42m	'light'	Raoul Island.
Jan 18	12h 45m	'light'	Raoul Island.
Feb 11	21h 59m	'light'	Raoul Island.
Feb 24	08h 16m	'light'	Raoul Island.
Apr 03	05h 56m	'light'	Raoul Island.
Sep 30	14h 44m	MM4	Raoul Island.
Oct 19	13h 21m	'felt'	Raoul Island.
Nov 08	10h 16m	'light'	Raoul Island.
Nov 16	14h 44m	'felt'	Raoul Island.
Nov 25	04h 20m	MM4	Raoul Island.
Nov 29	20h 59m	MM4	Raoul Island.
Dec 01	22h 01m	MM5	Raoul Island.
Dec 14	21h 58m	'felt'	Raoul Island.
Dec 26	20h 47m	'felt'	Raoul Island.

PUBLICATIONS BY STAFF MEMBERS

The following papers by members of the Seismological Observatory staff were published in 1990.

S-322 Eiby, G.A.: Changes to Porirua Harbour in about 1855: historical tradition and geological evidence. J. Roy. Soc. N.Z. 20: 233-248.

There is a widely-believed tradition that tectonic uplift accompanying the Western Wairarapa earthquake of 1855 reduced the navigability of the Pauatahanui Arm of Porirua harbour and created new land at its head. This tradition arose some time before 1902, and was apparently confirmed by Adkin's (1921) report of elevated wave-cut rock platforms. I have reviewed the evidence for this idea, and found none. All young platforms lying east of the Ohariu Fault are now covered by high water spring tides. The elevation of the platforms to the west can be explained by movements of the fault, and shoreline changes at the head of the inlet by silting. The reminiscences of McKillop (1849) and the Admiralty chart of Stokes (1858, but surveyed in 1850) established that before the earthquake sea-going vessels could use only the outer part of the harbour, and that the Pauatahanui Island was accessible only to small boats. I have compiled an appendix to clarify the numerous confusions of spelling and location in the historical material.

S-323 Eiby, G.A.: The Lake Coleridge earthquakes of 1946. Bull. N.Z. Soc. Earthq. Eng. 23: 150-158.

The magnitude (M_L) 6.2 earthquake of 1946 June 26d 12h 34m 39s.7 U.T., with an epicentre at 43°.18S 171°.68E, near Lake Coleridge, is the largest known event in the Central Seismic Region of New Zealand. It was felt over the greater part of the South Island, and caused minor structural damage to homesteads in the Upper Rakaia basin, and at the Lake Coleridge hydro-electric power station. There were also numerous landslides and changes to watercourses. It was preceded by two foreshocks and followed by numerous aftershocks, the largest of which had a magnitude of 5.8. These persisted until the end of 1949.

S-324 Smith, W.D.: How well is the Insurance Industry served by Existing Research and Technology? Bull. N.Z. Nat. Soc. Earthq. Eng. 23: 134-136.

The question which forms my theme is well posed. When a damaging earthquake occurs, it is left to society to meet the cost, in both human and economic terms. A scientific understanding of the physical process responsible for the devastation is clearly desirable. But does continued study of the earthquake phenomenon help society, and in particular does it help the Insurance Industry?

S-325 Smith, W.D.: Predicting Earthquakes in New Zealand. Search 21: 223-226.

In both Australia and New Zealand much research has focussed on estimating 'hazard' or the likelihood that a strong earthquake will occur at a particular place. 'Earthquake risk' has been defined to be

hazard x vulnerability.

The effects of an earthquake vary greatly from place to place. Buildings sited on strong rock are generally shaken less strongly than those on weaker soil. This phenomenon is known as microzoning and has been the subject of much research in New Zealand.

S-326 Smith, W.D.: Earthquake hazard in New Zealand. Some implications of the Edgecumbe Earthquake, March 1987. Bull. N.Z. Nat. Soc. Earthq. Eng. 23: 211-219.

The intensities experienced near the epicentre of the Edgecumbe earthquake, 1987 March 2, were higher than expected for an earthquake of magnitude 6.3. If this earthquake can be regarded as typical for that part of New Zealand, previous estimates of earthquake hazard must be increased. This has been done by modifying the intensity formula used in an earlier study, and recomputing the hazard figures. Mean return periods of seismic shaking in the Bay of Plenty, Waikato and Northland are reduced in consequence.

S-327 Robinson, R.: The Bay of Plenty earthquakes of July 1989: comparisons with foreshock activity of the 1987 Edgecumbe earthquake. N.Z. J. Geol. Geophys. 33: 573-578.

Observations of the July 1989 Bay of Plenty earthquake sequence, using both portable and permanent seismograph stations, allow location of the aftershocks and comparison of the sequence with the foreshocks of the 1987 Edgecumbe earthquake. The two mainshocks (M_L 4.6 and 4.7) and the

aftershocks fall within a 6 x 2 km zone, elongated in the northeast-southwest direction, centered 20 km northwest of Whakatane. This is within the zone of foreshocks of the 1987 shock. Calculated depths ranged from 4.7 to 10.5 km. The time history of the sequence, which began abruptly, is typical of a mainshock-aftershock sequence, and the b-value (1.37 ± 0.11) is similar to the regional value. In contrast, the 1987 foreshocks had a low b-value (0.86 ± 0.15) and an irregular time history. Coda durations, for a given amplitude magnitude, were longer for the 1987 foreshocks than for the 1989 aftershocks. This can be explained by the back-scattering theory of coda formation if the scattering coefficient of the crust at the time of the foreshocks was higher than in 1989. However, an explanation in terms of event depths is possible if, as suggested by felt reports, the 1987 foreshocks were very shallow.

S-330 Gledhill, K.R.: A shear-wave polarisation study in the Wellington region. N.Z. Geophys. Res. Lett. 17: 1319-1322.

A month of digital data from two three component seismograph stations near Wellington, New Zealand, was analysed as part of a feasibility study for a major project to investigate shear wave splitting. Although the total number of earthquakes studied was small (14), some suggestive results were obtained. Almost all events recorded within the shear wave window showed a phase reversal of the horizontal components after one or two shear wave cycles, suggesting that there are actually two shear-wave arrivals. The measured polarization of the first shear wave arrivals was N (31 ±11) E. This polarization alignment cannot be explained by focal mechanisms, and it is unlikely to be due to topography because of the station-to-station correlation. The present evidence suggests the most likely cause is crustal anisotropy due to the geological structure at shallow depth, rather than stress aligned micro-cracks.

S-332 Dowrick, D.J.; Smith, E.G.C.: Surface wave magnitudes of some New Zealand earthquakes 1901-1988. Bull. N.Z. Nat. Soc. Earthq. Eng. 23: 198-210.

This paper gives a list of magnitudes on the surface wave scale for a selection of larger New Zealand earthquakes that occurred in the period 1901-1988. Most of the events considered were of shallow origin $h < 45$ km, and the magnitudes ranged from about 5 to 7.8. The Analysis of Variance method of statistical analysis was used to correct the large set of station observations so as to provide consistent mean magnitudes for each event. The resulting station terms and standard errors are given. Comparisons made between the results of this study and the relatively few previous M_S determinations show little change except for one or two important events. In particular the magnitude of the 1968 Inangahua earthquake was found to be 7.4 (±0.07), which is somewhat greater than previous estimates.

----- Adams, D.A.: An attempt to perform joint hypocentre/velocity inversions of Pukaki microearthquake network data. 32p. Geophys. Div., DSIR. GEOP-TR-102.

This report describes attempts to model the P and S seismic wave velocity structure of the Lake Pukaki region by inversion of arrival times of both P and S phases observed at stations in the Pukaki micro-earthquake network. A program which inverts arrival times was used to estimate both hypocentres and velocity parameters. This program is a modification of one written by Thurber (et al.) and described by Thurber (1983) which has been used in the USA to invert P-phase data only. The original program has been successful in studies involving small, very dense networks in the USA. The application of the modified program to the Pukaki data has been less successful. This report describes the velocity models generated. It discusses the reasons for the lack of success and suggests improvements to the method of inversion. The report also serves as a guide to using the modified inversion program.

----- Anderson, H.J.: The 1989 Macquarie Ridge earthquake and its contribution to the regional seismic moment budget. Geophys. Res. Lett. 17(7): 1013-1016.

The Macquarie Ridge earthquake (1989 May 23; M_W 8.2) occurred in a region of complex tectonics that marks the southern continuation of the plate boundary (Pac-Aus) that runs through New Zealand. The first motion focal mechanism (from WWSSN and regional station polarities) indicates dominantly strike-slip movement (strike 025°, dip 80°, rake 180°), probably dextral on the northeast striking nodal plane. The plate boundary south of New Zealand appears to be segmented and marked by linear bathymetric highs with distinctive trends. The distribution of shallow seismicity follows these bathymetric trends. The moment tensors for the largest earthquakes ($M_S > 6.0$) occurring on five distinctive segments of the plate boundary, for the period 1964-1989, have been summed and compared with the deformation predicted by the plate motions. Recurrence times of the largest earthquakes in each segment, determined by assuming that all deformation occurs seismically along the Macquarie Ridge Complex (MRC), generally show shorter

recurrence times than those determined from the historic record. These results suggest that during the last 70 years there has been more seismic moment release along the MRC than predicted by the plate motions. The preferred explanation is that this century is a seismically overactive period which is part of a natural episodicity of quiescence and overactivity. Alternative explanations include complex plate interactions resulting from proximity of the plate boundary to the instantaneous pole of rotation and/or the existence of a southeast Australian microplate.

----- Anderson, H.J.; Smith, E.G.C.; Robinson, R.: Normal faulting in a back-arc basin: seismological characteristics of the March 2, 1987, Edgecumbe, New Zealand, earthquake. J. Geophys. Res. B.95 (B4): 4709-4723.

The Edgecumbe earthquake (March 2, 1987, 0142 UT, 37.92°S, 176.76°E) occurred beneath a coastal river plain at the southeastern margin of the Central Volcanic Region (CVR) of the North Island of New Zealand, a back arc basin that is widening at a geodetically determined rate of about 12 mm/yr. Its situation enabled a wide range of geological and geophysical measurements to be made of the preseismic, coseismic and postseismic processes. The estimated hypocenter and fault plane solution are consistent with the observed surface faulting. Various estimates of the seismic moment of the mainshock range from 4.3×10^{18} Nm (from long-period *P* wave modelling of the first 5 s) to 10×10^{18} Nm (from dislocation modelling of geodetic data). The variation in the values can be reasonably explained in terms of the methods used to determine them. Focal mechanisms of both mainshock and aftershocks were similar to focal mechanisms previously determined for events in the CVR and its offshore extension. Normal faulting mechanisms make up 75% of the events with the remainder strike slip (dextral assuming a northeast striking fault). The distribution of mechanisms is consistent with the regional strain field as previously determined from geodetic observations. The mainshock has been modelled as a complex event with a second subevent about 3 s after the first, with both episodes of moment release initiating at a depth of about 8 km. The Edgecumbe earthquake was preceded by a large number of foreshocks, some near the mainshock, but most in a tight cluster 35 km away to the northwest (i.e., off-strike). After the first half hour following the mainshock, swarms of aftershocks began occurring up to 50 km from the mainshock rupture, mostly along the strike of the faulting. Main rupture aftershocks were mostly located in the footwall of the main fault. A notable gap in the aftershock distribution is coincident with a geothermal field along strike of the main rupture. Swarms are common in the CVR and the whole foreshock-mainshock-aftershock sequence has been interpreted as the contemporaneous occurrence of a number of swarms and a "standard" foreshock-mainshock-aftershock sequence associated with the mainshock rupture. The *b* values change from a low value prior to the mainshock to a very low value immediately afterwards, increasing to almost the long-term, preearthquake value during the next few days. The temporal pattern of postseismic changes in *b* value was mirrored by the postseismic creep on one of the fault segments, which closely followed a Jeffreys-Lomnitz law, suggesting that both phenomena were responses to a viscoelastic relaxation of the regional stress. Comparisons with similarly sized normal faulting events elsewhere show that the most unusual feature of the Edgecumbe earthquake was the high level of foreshock activity in two separate clusters 35 km apart. This foreshock activity and the widespread nature of the aftershocks are attributed to a level of stress throughout the CVR that is permanently close to the critical level for shear failure. A mechanism that is unknown, but undoubtedly related to volcanic or plutonic processes and probably involving fluids, enables stress changes within the CVR to be rapidly transmitted over tens of kilometres.

----- Anderson, H.J.; Zhang, Jiajun: Long-period seismic radiation from the May 23, 1989 Macquarie Ridge earthquake: evidence for coseismic slip in the mantle? Eos, Trans. AGU 71: 1480.

An abstract in a collection of abstracts from the Fall meeting of the AGU.

----- Anderson, H.J.; Zhang, Jiajun: The long-period component of the 1989 Macquarie Ridge earthquake: evidence for seismic slip in the mantle? Eos, trans, AGU 71: 1145.

An abstract in a collection of abstracts from the Northwest Regional meeting of the AGU.

----- Darby, D.J.; Smith, E.G.C.: Power-law stress relaxation after the 1987 Edgecumbe, New Zealand earthquake. Geophys. J. Int. 103(2):561-564.

Post-mainshock creep data from two fault segments that moved in the main Edgecumbe earthquake, and changing b-values from aftershocks, were successfully modelled with a Jeffreys-Lomnitz-type power law

$$U(t) = U_o\{1 + q[(1 + at)^{\alpha} - 1]/\alpha\}$$

with $\alpha = -0.22 \pm 0.04$ similar to laboratory values for saturated brittle rock. The fit of this model by the changing b-value suggests that this quasi-plastic rheology applies to the seismogenic crust in the aftershock zone as well as to the fault.

----- Eiby, G.A.: Geophysics Division - the antecedents. N.Z. Geophys. Soc. Newsletter 26: 20-26.

An abridged version of the talk given at the valedictory symposium of the Geophys. Div., DSIR, 1990 June 28.

----- Haines, A.J.: Waveform modelling of deep reflections from complex strata at Tariki, New Zealand, using an F-K domain propagator method. Phys. Earth Planet. Inter., 59: 153-169.

The probable reasons for the poor quality of seismic data in a complex situation are resolved by performing tests using a recently developed method for modelling acoustic wave propagation in laterally heterogeneous media. Features of the example include ragged topography, steeply dipping strata and a surface layer of swamp of variable thickness. The method used is a variant of the classical propagator method which is modified to avoid the usual inherent numerical instability. Synthetic seismic sections, each composed of 64 shot gathers, are generated. In these sections waves not reflected from the region of the deep strata of interest have been removed. The advantage of this is that only low wavenumbers need be considered. In addition, changes can be made to part of the medium without having to repeat all the calculations. The results obtained without the swamp layer reproduce almost the exact form of the subsurface structure, whereas allowing for the swamp results in a poorly defined image characteristic of observed seismic sections.

----- Houston, H.; Anderson, H.J.; Zhang, Jiajun: The 20 October 1986 Kermadec earthquake: evidence for seismic slip in the mantle? Eos, trans. AGU 71: 1468.

An abstract in a collection of abstracts from the Fall meeting of the AGU.

----- Kennett, B.L.N.; Koketsu, K.; Haines, A.J.: Propagation invariants, reflection and transmission in anisotropic laterally heterogeneous media. Geophys. J. Int. 103(1): 95-100.

For quasi-stratified media in which the principal variation in seismic properties is with depth, propagation invariants can be constructed from certain combinations of the displacement and traction elements of two seismic wavefields. These invariants are independent of depth and vanish for identical wavefields, and are constructed for anisotropic, laterally varying media in the spatial and wavenumber domains.

These propagation invariants can be exploited to substantially simplify the construction of reflection and transmission processes in laterally varying media, illustrated by application to the incidence of SH-waves on an irregular interface below a free surface. The results are in excellent agreement with those from other schemes but take about 20 per cent less computation time. Even greater improvements in calculation speed are possible in more complex models.

----- Latter, J.H.,; Kuna, E.A.; Alloway, B.V.: Shallow seismicity of the southern Taupo Volcanic Zone and Mt Egmont area during 1989. N.Z. Volc. Record 18: 46-47.

A discussion of seismic activity in the Taupo volcanic region and the Taranaki area during 1989.

----- Reyners, M.E.: Understanding the seismicity of active margins: progress during the Hatherton years. In: Templeton, F.R.; Hatherton, T.; The Hatherton years. Geophys. Div., DSIR. GEOP-RR-224; pp. 32-39.

A summary of progress in the understanding of the seismicity of active margins during the last 30 years, with particular reference to the contributions from Dr Trevor Hatherton.

----- Smith, W.D.: Earthquake Data Archives at the Seismological Observatory. 30pp. DSIR Geol. Geophys. GEO-TR-101.

A guide to the files and programmes relating to earthquake data held by the Seismological Observatory.

----- Smith, W.D.: New Zealand earthquakes in 1989. Bull. NZ Natl. Soc. Earthq. Eng., 23(2): 79-101.

A review of significant earthquakes of the year.

OBSERVATORY SERVICES

PUBLICATIONS

The Seismological Observatory issues the following series of publications:

1. E-bulletins. These consist of the 'New Zealand Seismological Reports' containing summaries of the data used for each origin determination, lists of origins, felt intensity data, and brief accounts of the principal earthquakes of the year. They also provide details of the instruments used to record earthquakes and descriptions of Observatory practices.

2. S-bulletins. These are mostly reprints of papers by members of the Observatory staff, but occasionally they have included other material not published elsewhere, such as the Eiby-Muir near-earthquake tables. Their automatic circulation is not now as widespread as it was in the past, but they are usually available from the Observatory on request.

Copies of this material may be purchased from the Observatory. In suitable cases the Observatory may be able to enter into agreements for a free exchange of publications on a continuing basis.

EARTHQUAKE CATALOGUE

The Observatory has a master file of some tens of thousands of earthquake origins and associated information stored on magnetic tape. From this, lists of earthquakes within particular geographical areas of New Zealand, or in categories defined in other ways, can be made available to researchers. Full details have been published elsewhere (W.D. Smith, 1976: 'A Computer File of New Zealand Earthquakes'; Bull. N.Z. Natl. Soc. Earthq. Eng., Vol. 9, No. 2, pp.136-7, or N.Z. J. Geol. Geophys., Vol. 19, No. 3, pp.393-4). Criteria that may be specified are dates, magnitudes, focal depths, intensities and regions bounded in a number of different ways. It is also possible to search for earthquakes likely to have produced intensities above a specified minimum at a particular place and to list reports of above a given minimum intensity that have originated in a chosen reporting locality. Because of the dangers inherent in the use of incompletely assessed data, it is recommended that users should discuss their search criteria with the Observatory.

Waveforms of earthquakes recorded by digital seismographs are also archived and accessible for further processing by CUSP or other compatible software.

EPICENTRE AND ISOSEISMAL MAPS 1990

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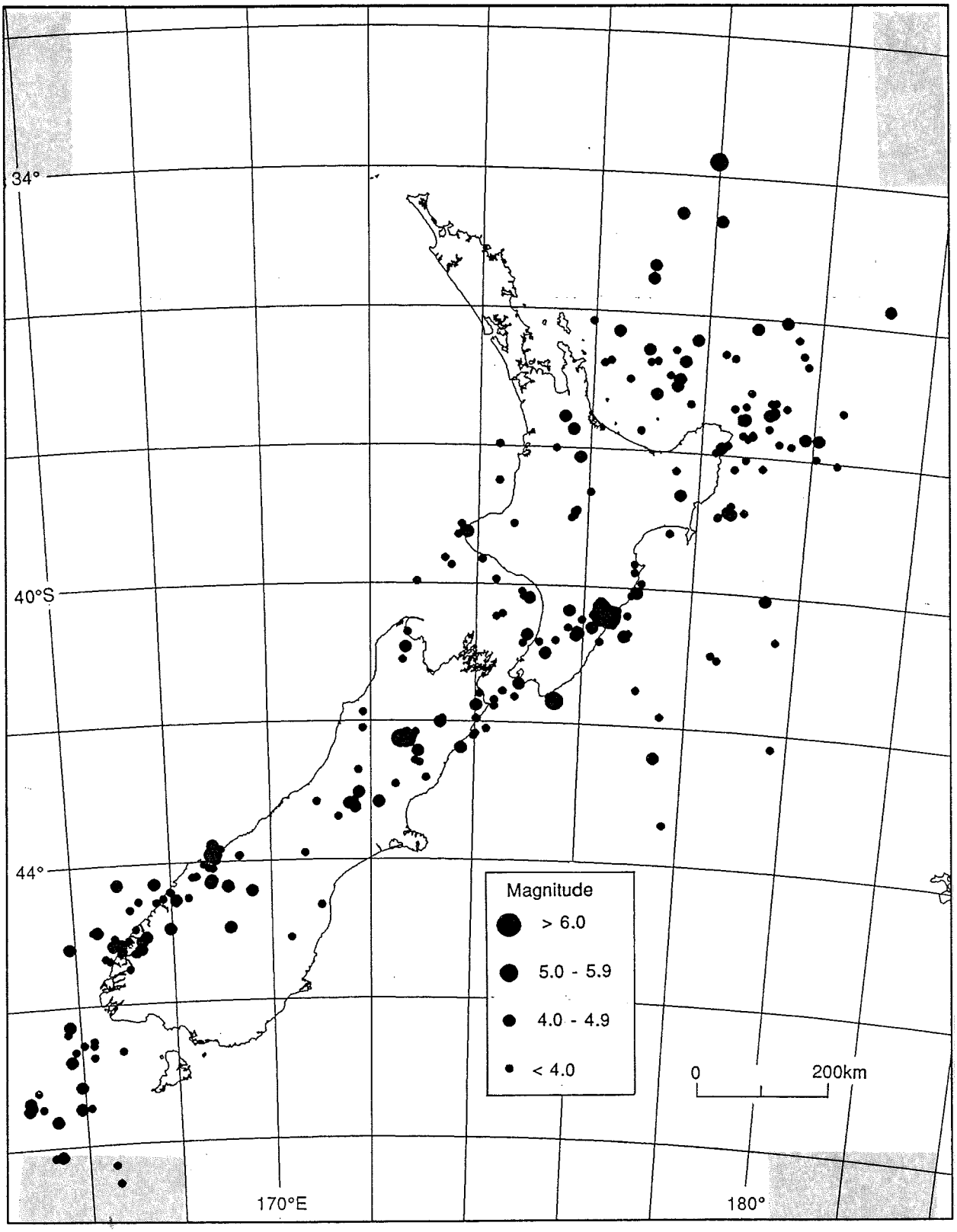
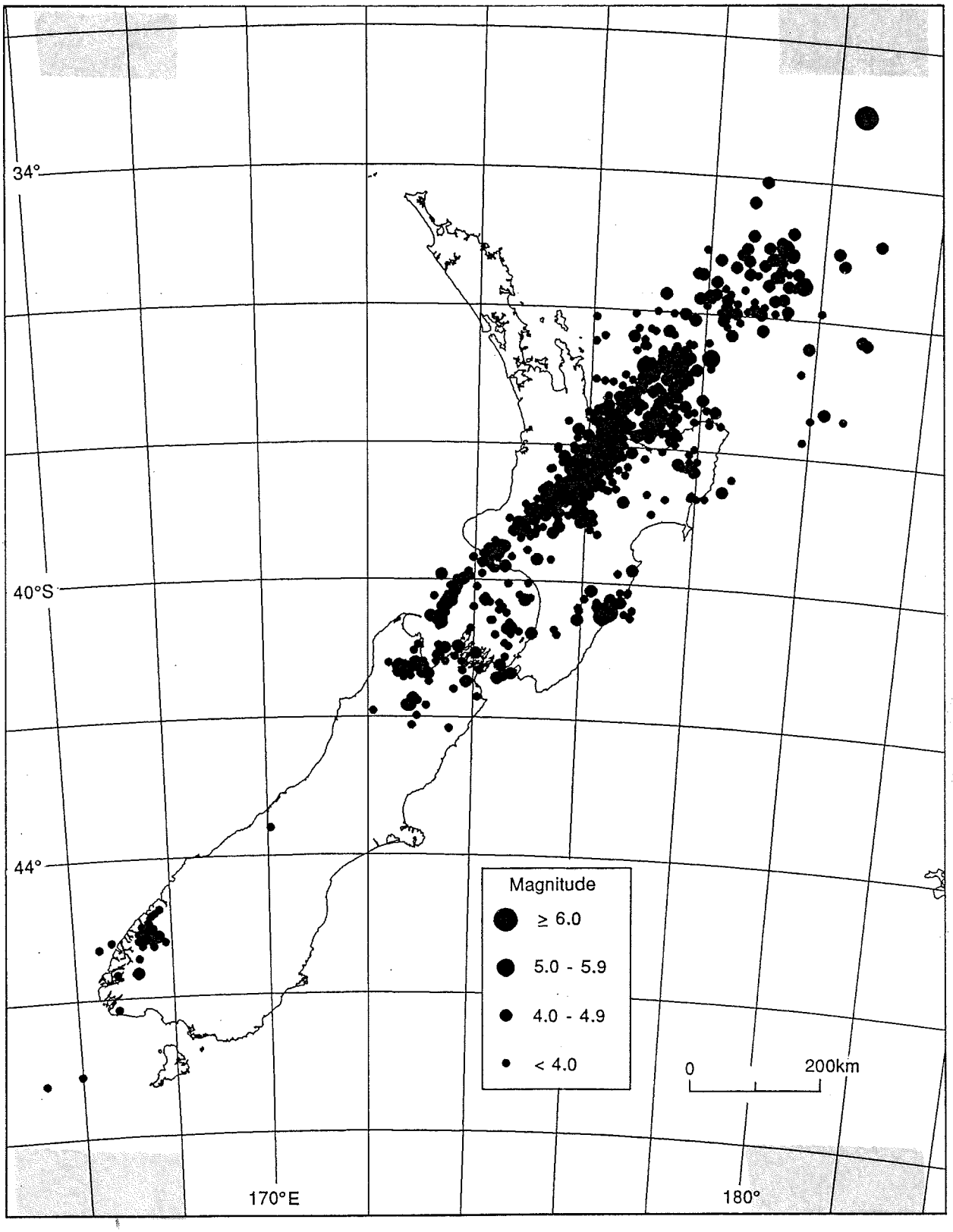
REGIONAL SHALLOW EARTHQUAKES



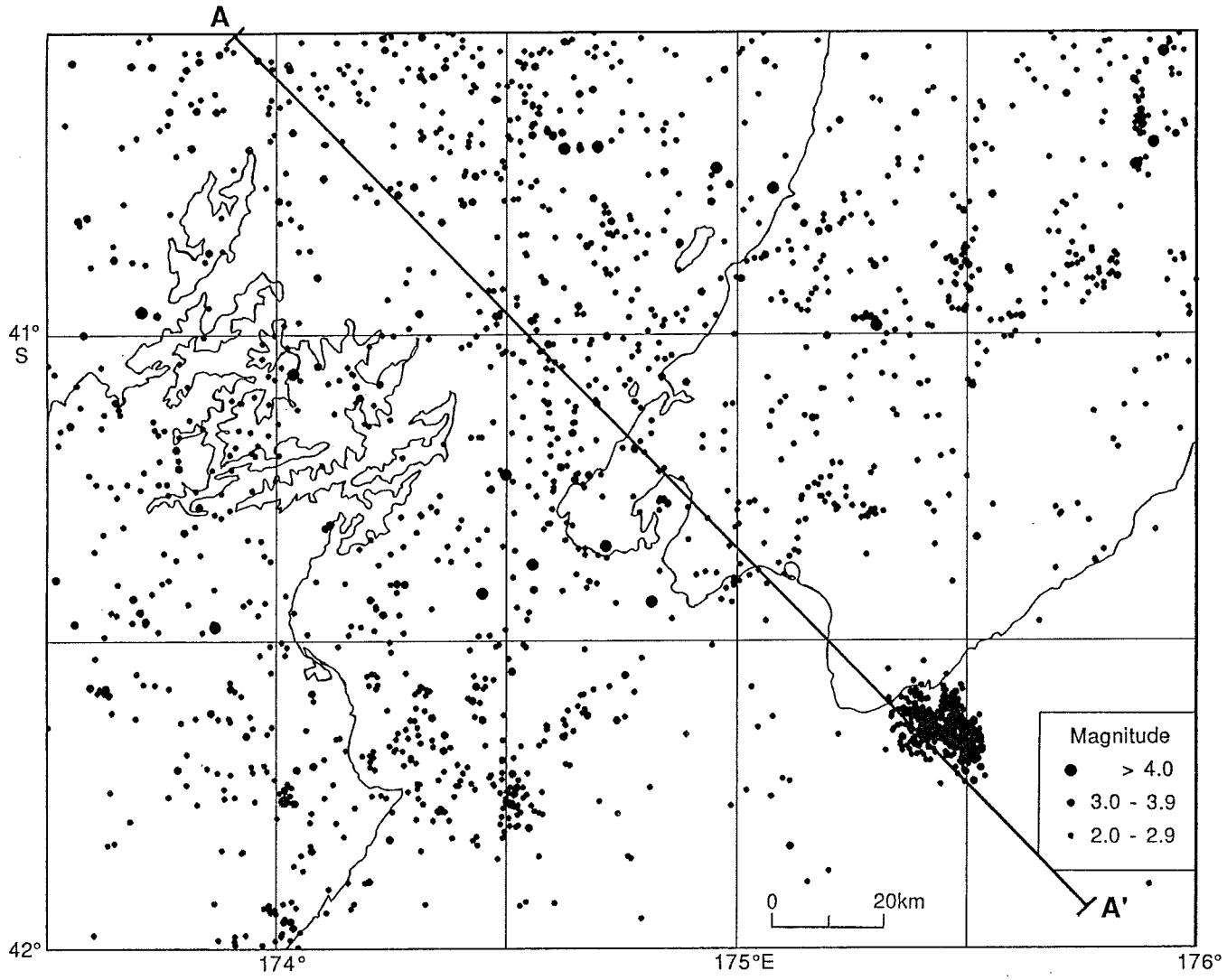
Epicentres of all earthquakes of $M_L \geq 3.5$ with focal depths less than 40 km. When several shocks have the same epicentre, the largest is shown.

REGIONAL DEEP EARTHQUAKES



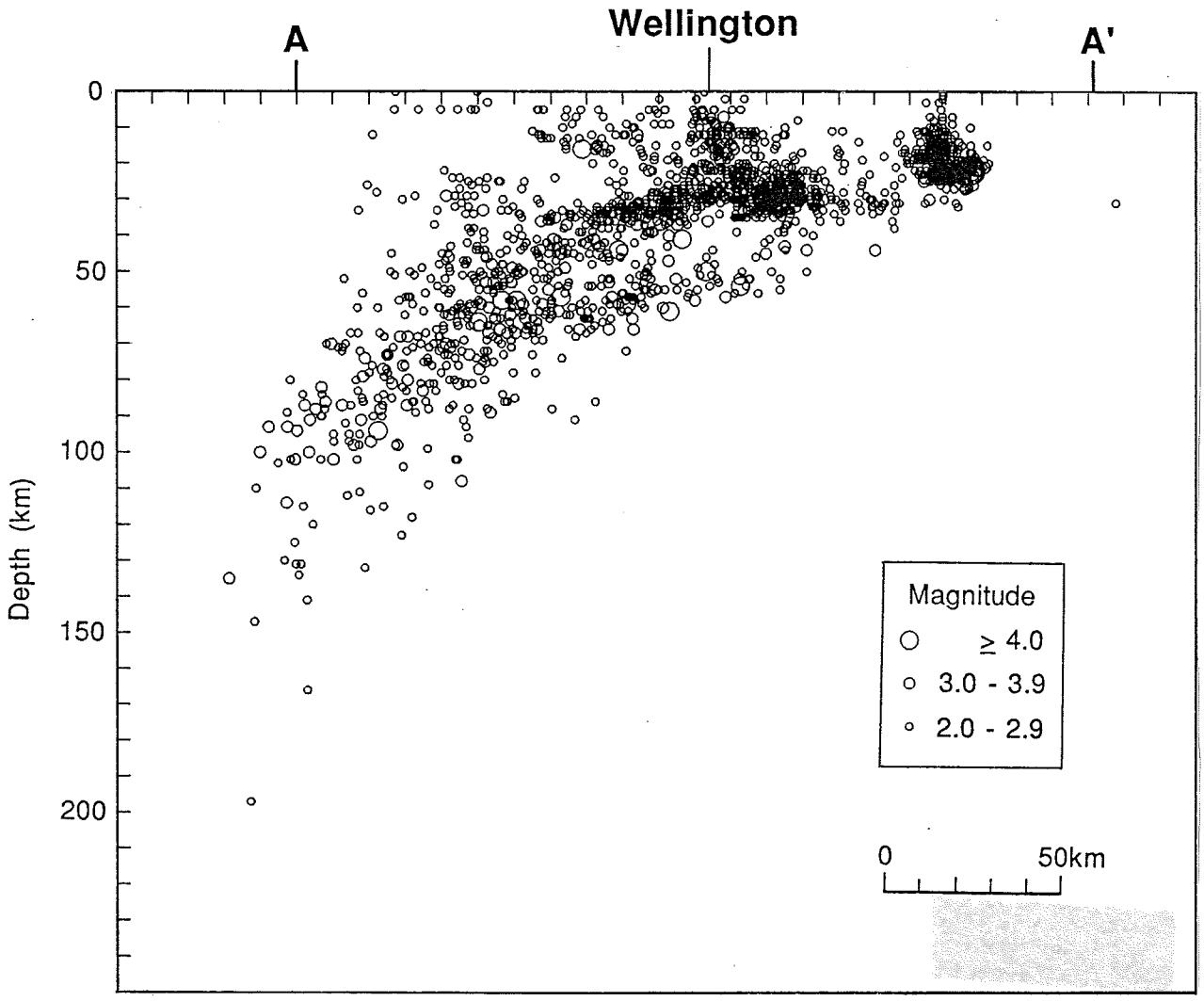
Epicentres of all earthquakes of $M_L \geq 3.5$ with focal depths of 40 km or more. When several shocks have the same epicentre, the largest is shown.

WELLINGTON AREA EPICENTRES



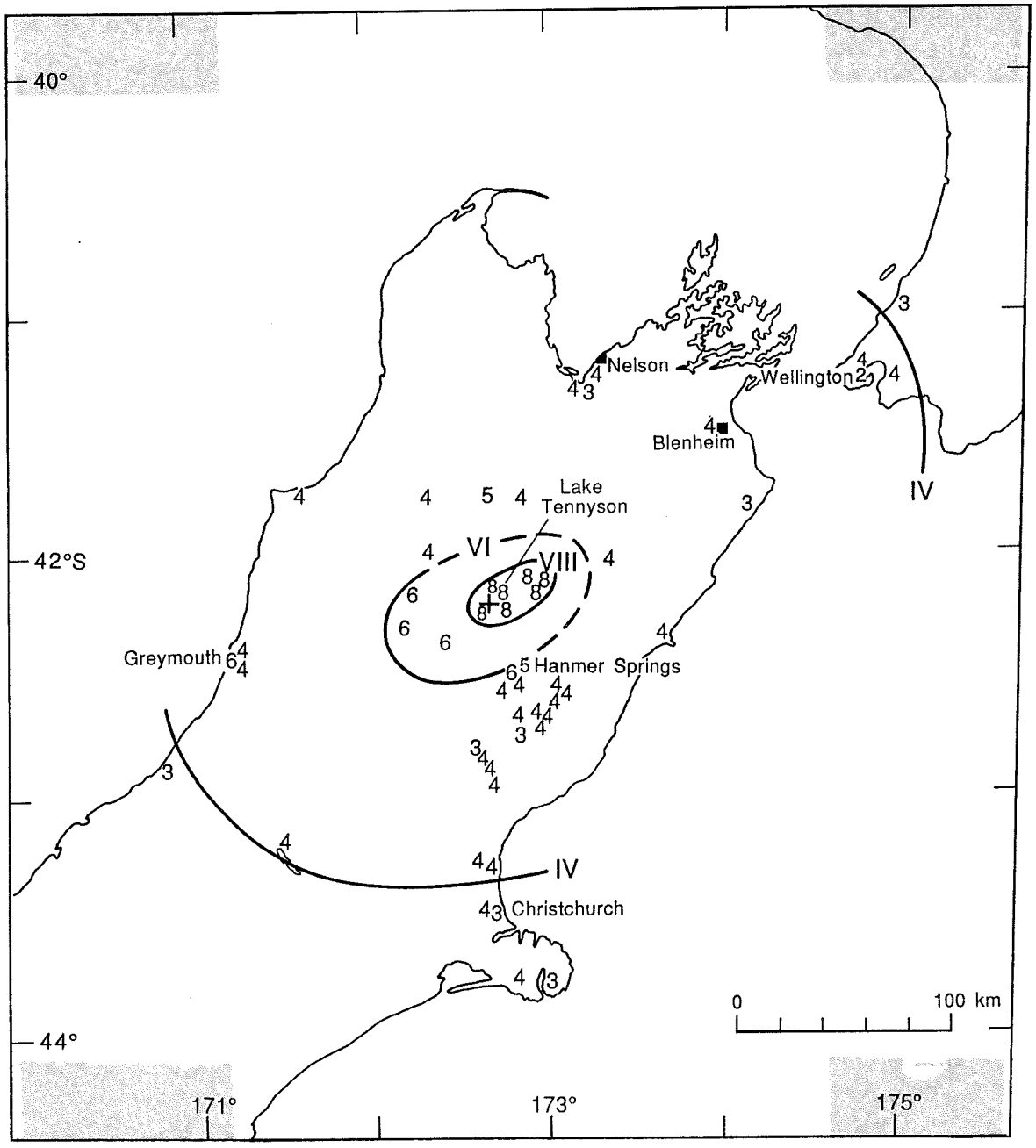
Epicentres of all earthquakes of $M_L \geq 2.0$ in the Wellington area. The distribution of these earthquakes in depth is shown on the next page, where the hypocentres have been projected onto a vertical plane passing through the line A-A'.

WELLINGTON HYPOCENTRE DEPTHS



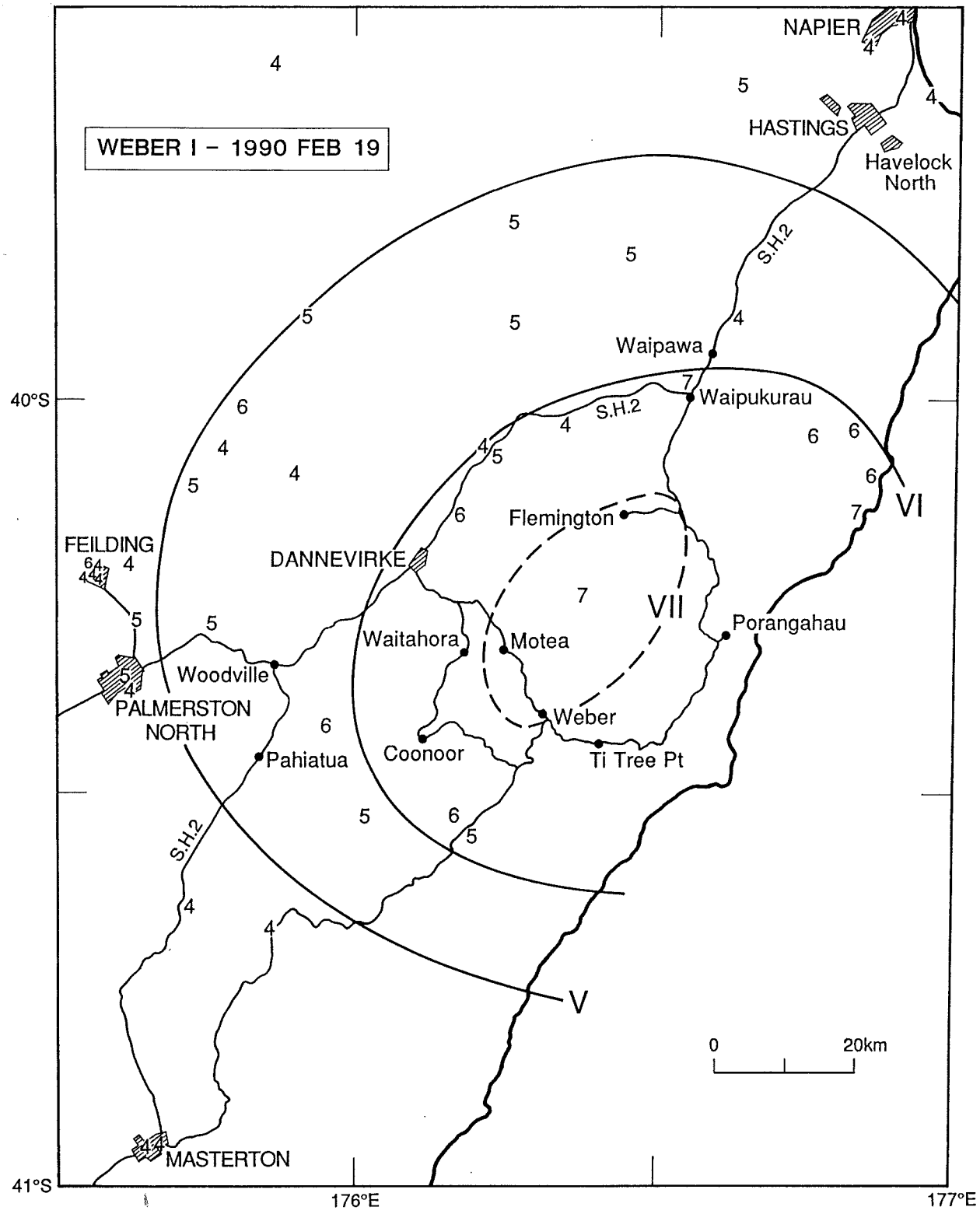
In this diagram, the hypocentres of all shocks mapped on the previous page have been projected onto a vertical plane passing through the line A-A', which is roughly normal to the Pacific/Australian plate boundary.

ISOSEISMALS OF LAKE TENNYSON EARTHQUAKE



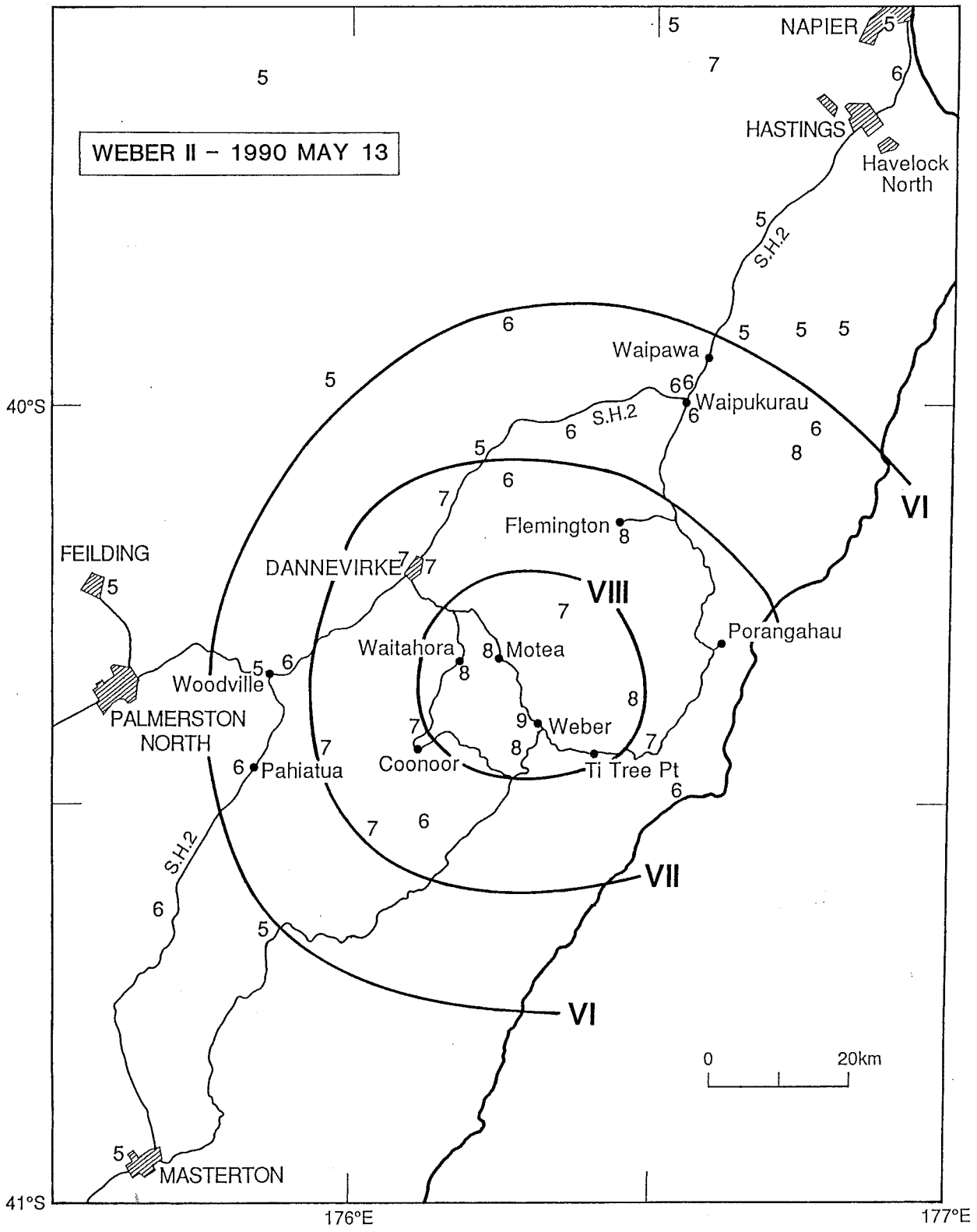
Modified Mercalli intensity distribution for the 1990 Lake Tennyson earthquake (90/776).

ISOSEISMALS OF WEBER I EARTHQUAKE



Modified Mercalli intensity distribution for the 1990 Weber I earthquake (90/3443).

ISOSEISMALS OF WEBER II EARTHQUAKE



Modified Mercalli intensity distribution for the 1990 Weber II earthquake (90/6657).