ISC BULLETIN: NO LONGER TWO YEARS BEHIND

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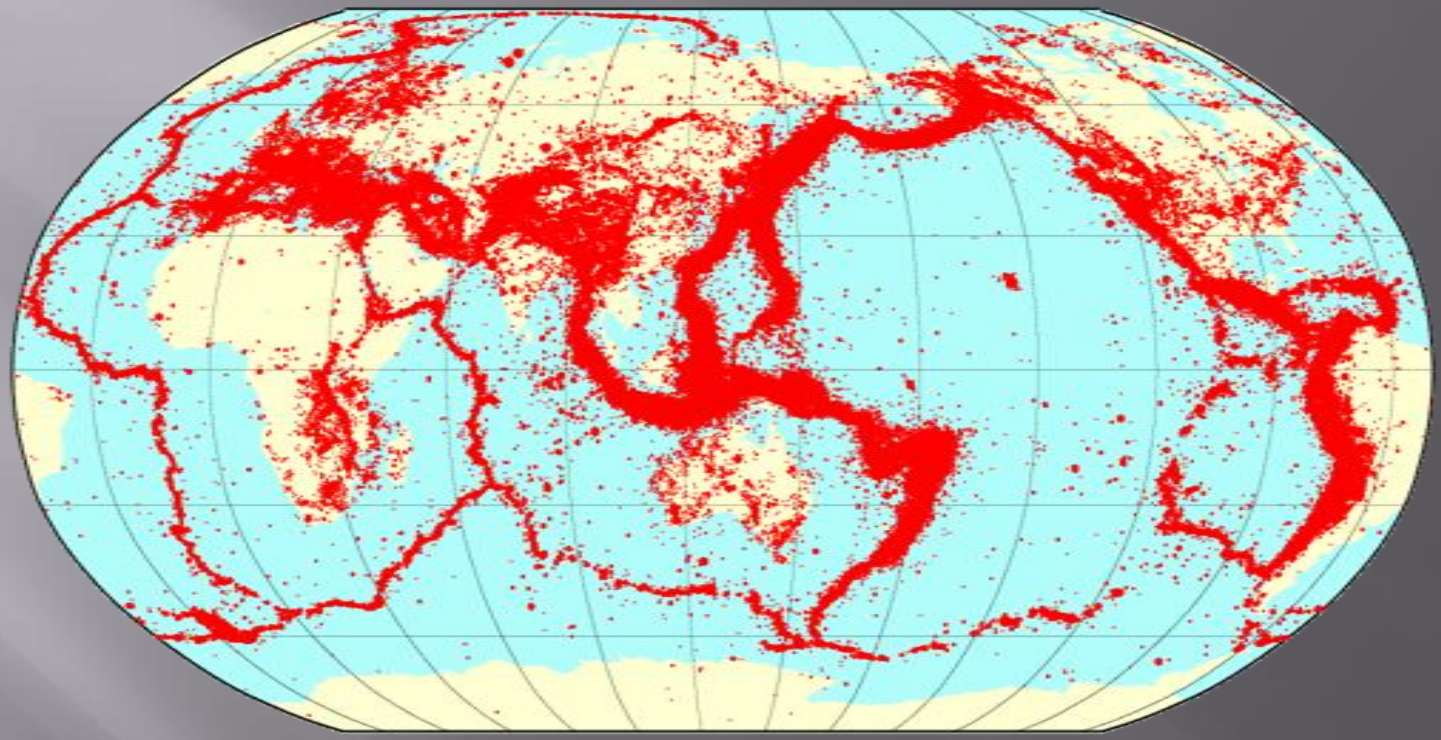
Oriol Gaspa & James Harris
International Seismological Centre (ISC)
United Kingdom
www.isc.ac.uk

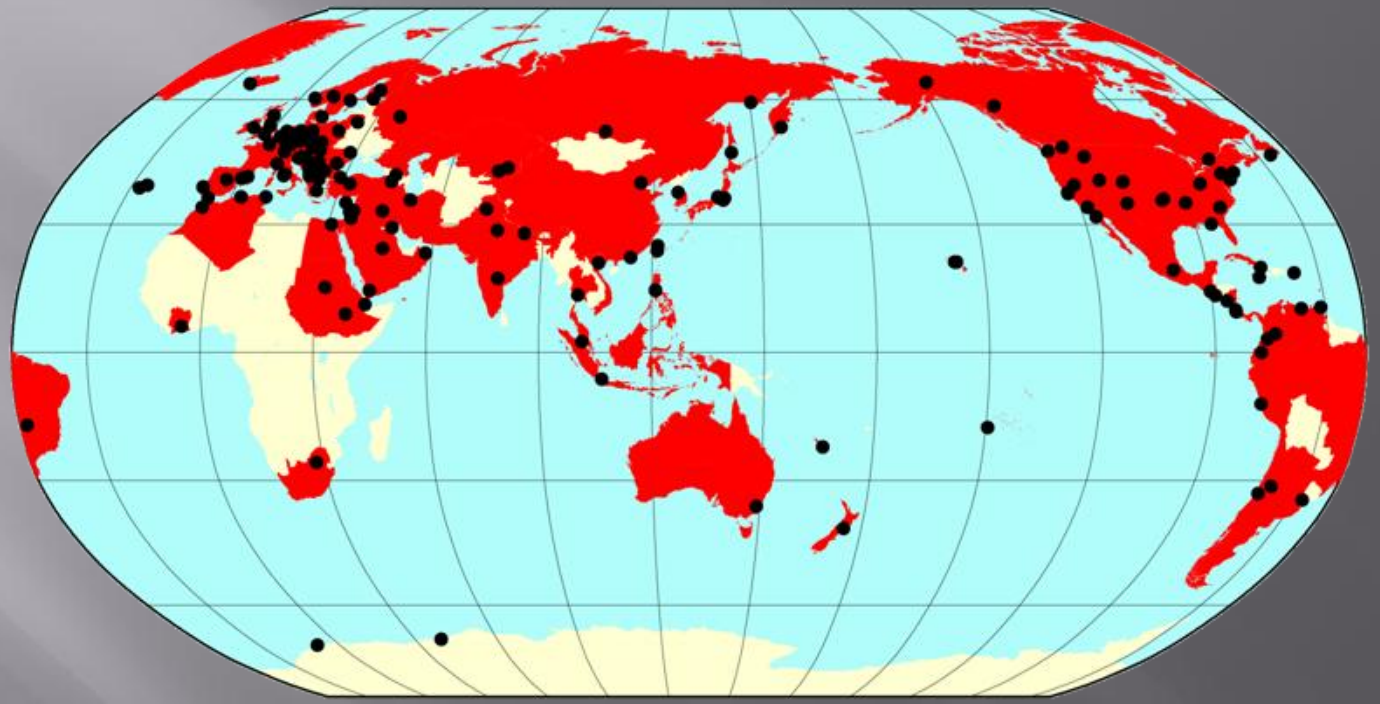
The ISC mission



Seismic events in the ISC Bulletin: 1964-2008

The ISC is an international non-governmental non-profit organisation, charged with production of the Bulletin - the definitive comprehensive summary of the world seismicity - recently **250’000** events per year**.**

The ISC data collection



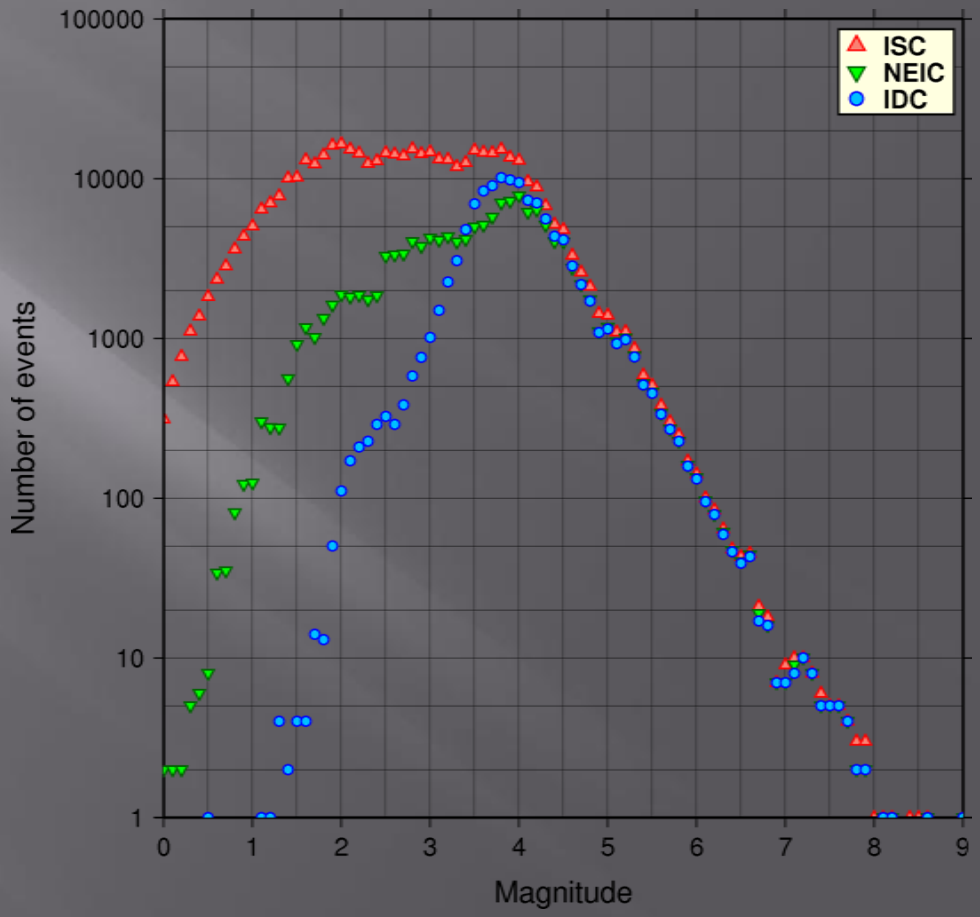
The ISC publishes its Seismological Bulletin based on parametric data on natural & induced seismic events and explosions collected in variety of different formats from ~**120 observatories and data centres** around the world.

The issue

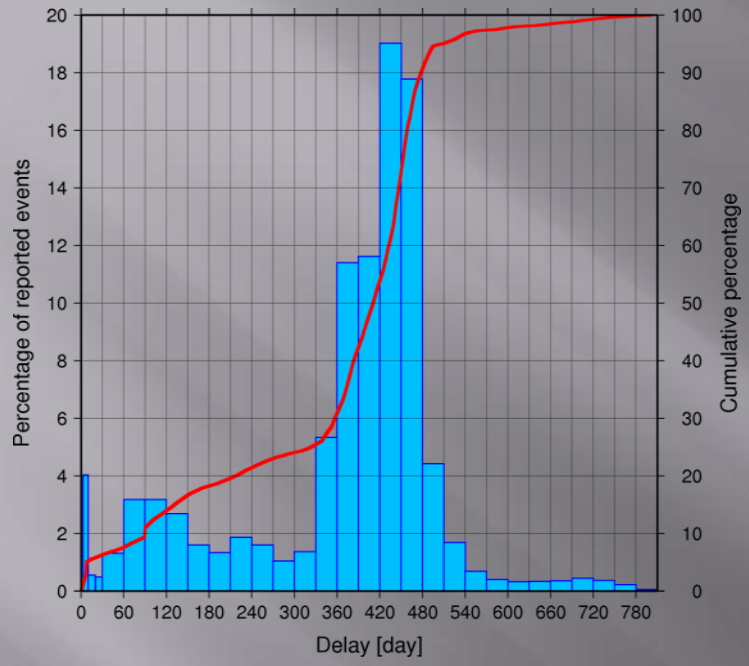
For many years the strategy of the ISC was to
wait for 2 years
in order to collect the final bulletin data to produce
the most complete & accurate account of the world seismicity.

The problem is:

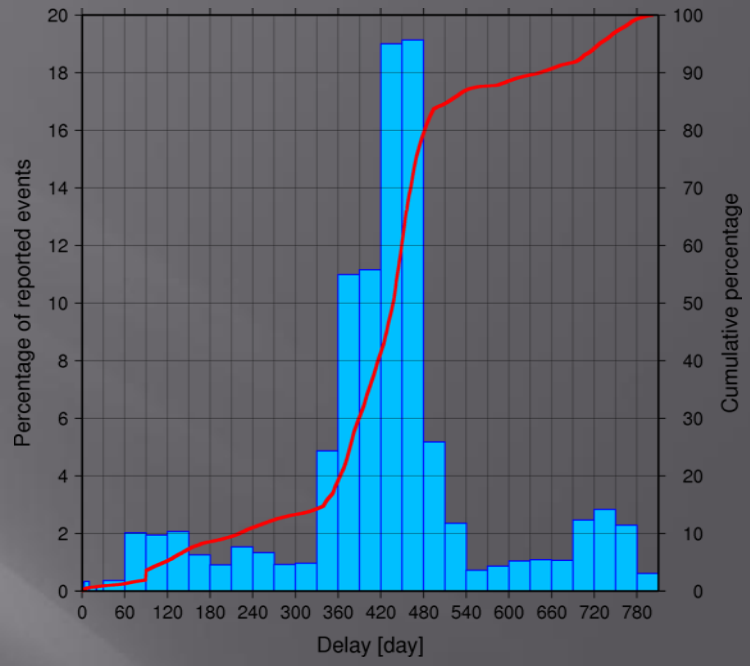
the ISC data users had to complement the ISC data with data from other sources to cover the most recent 2 years.



Timeliness of network bulletin data collection



July 2005-
Aug 2006



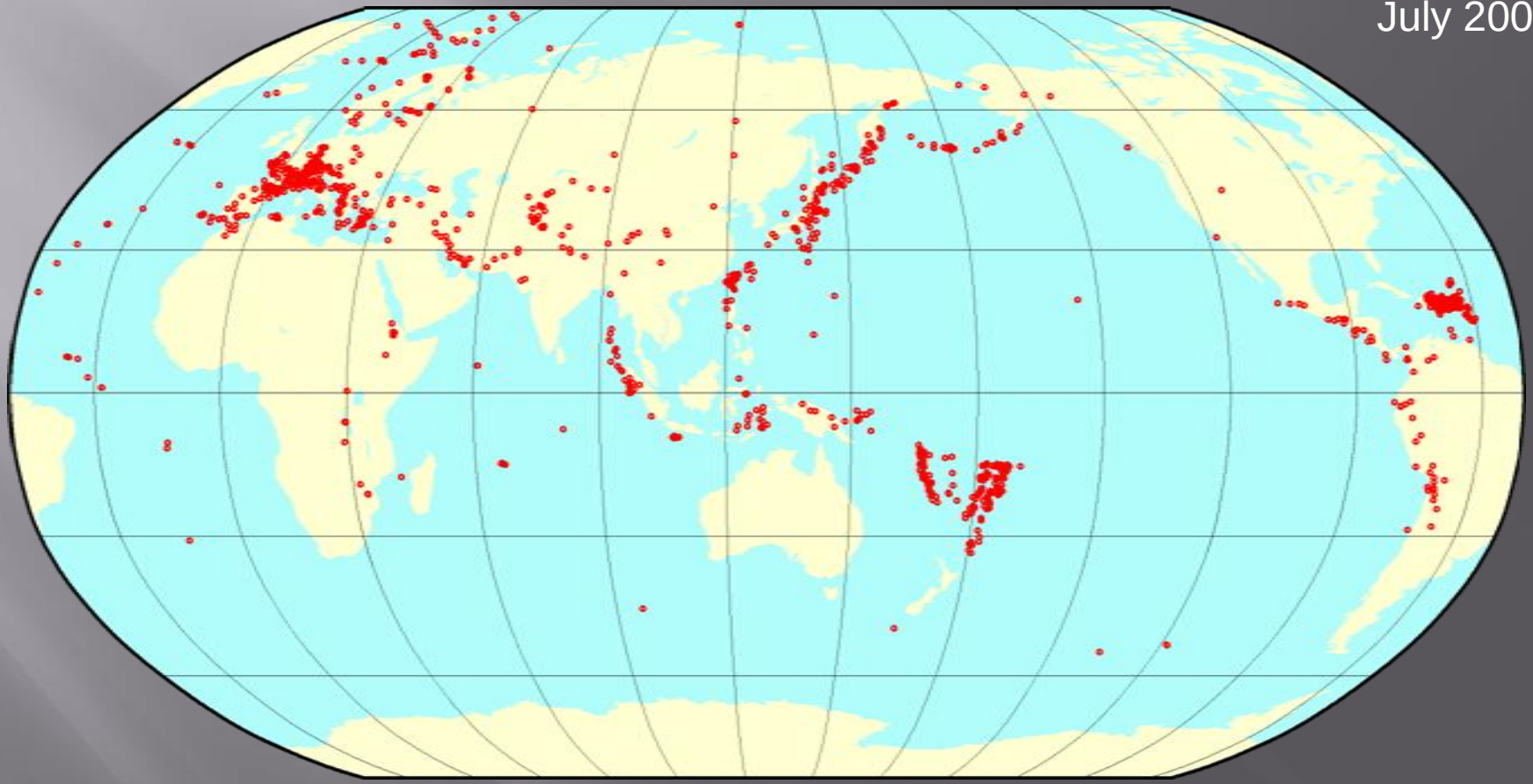
An event is counted when the ***first hypocentre*** *estimate is reported to ISC*

An event is counted when the ***last reviewed station arrival*** *is reported to ISC*

At present it takes:
16 months to collect minimum information
24 months to collect all information
for ≈ 95% of all events in the ISC Bulletin.

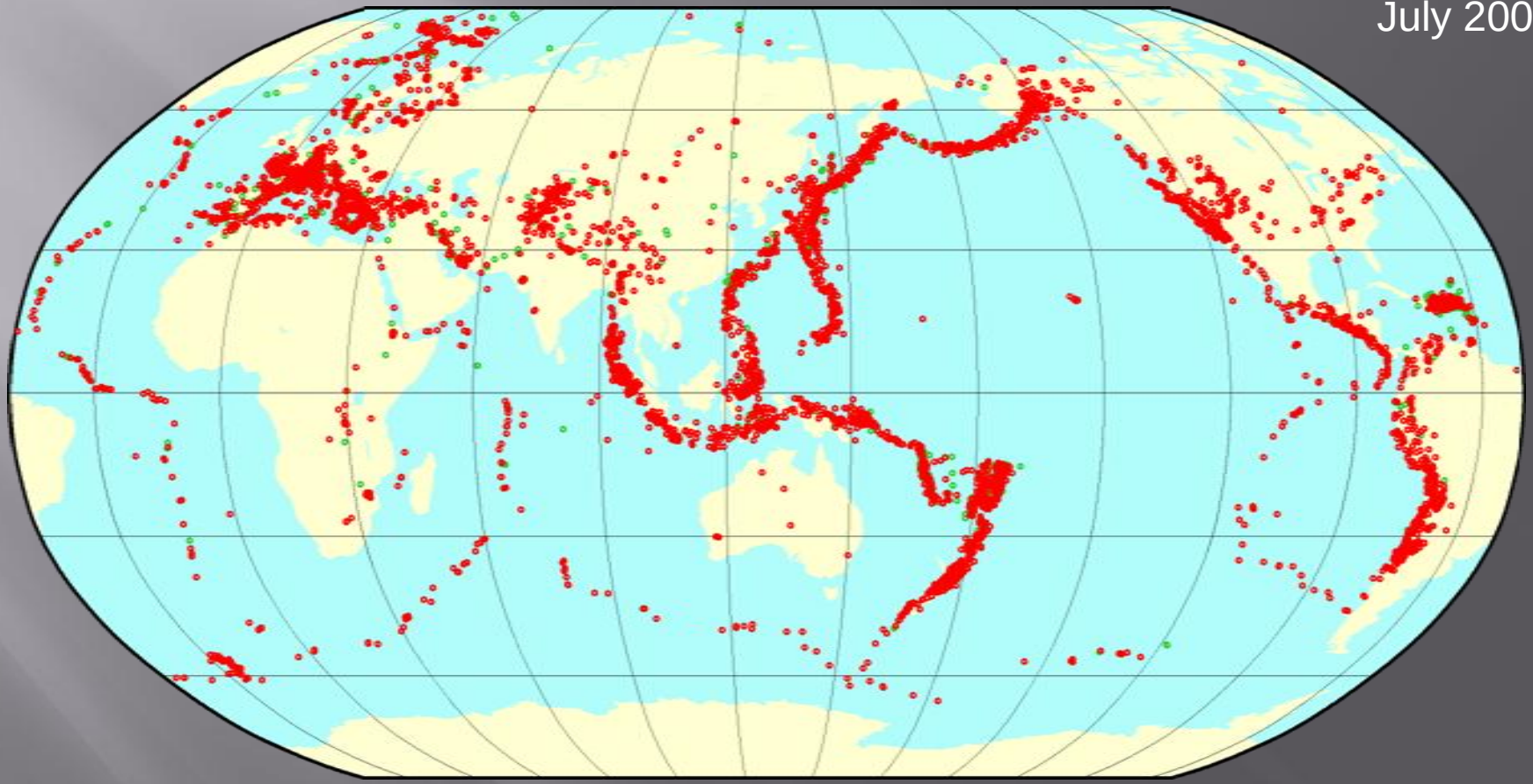
Available within 0-3 days

Aug 2005 - July 2006



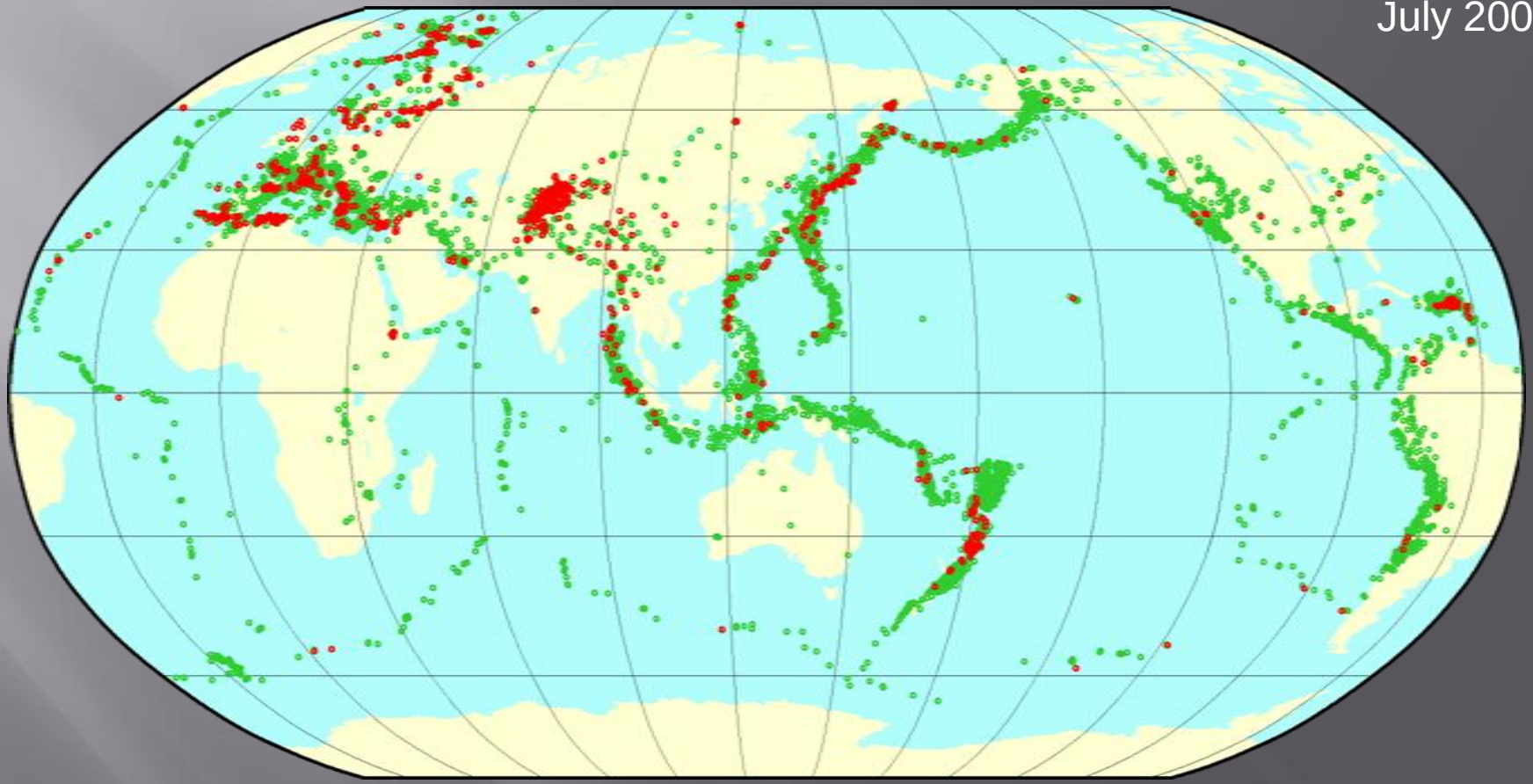
Available within 3-10 days

Aug 2005 - July 2006



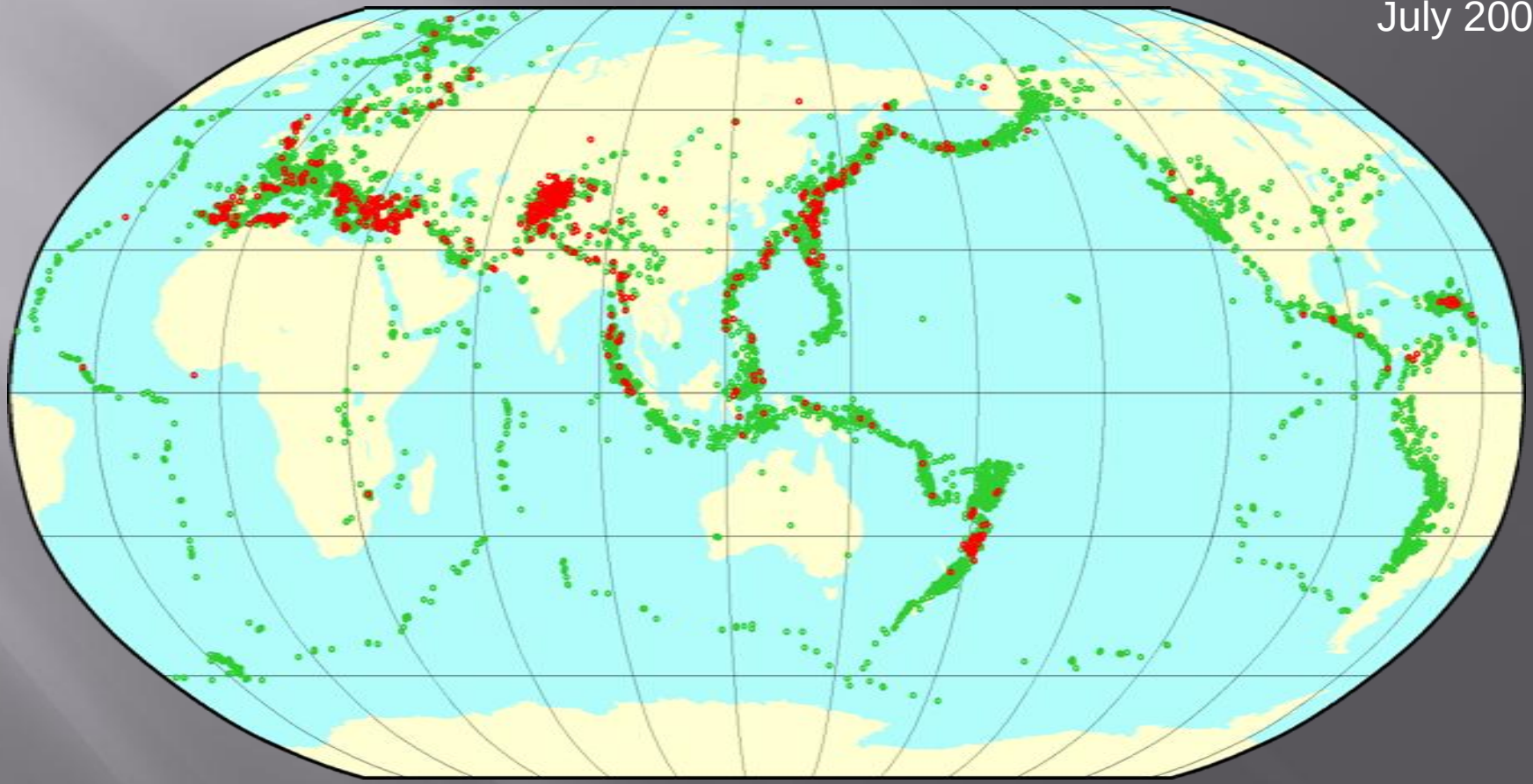
Available within 10-20 days

Aug 2005 - July 2006



Available within 20-30 days

Aug 2005 - July 2006



Available within 30-60 days

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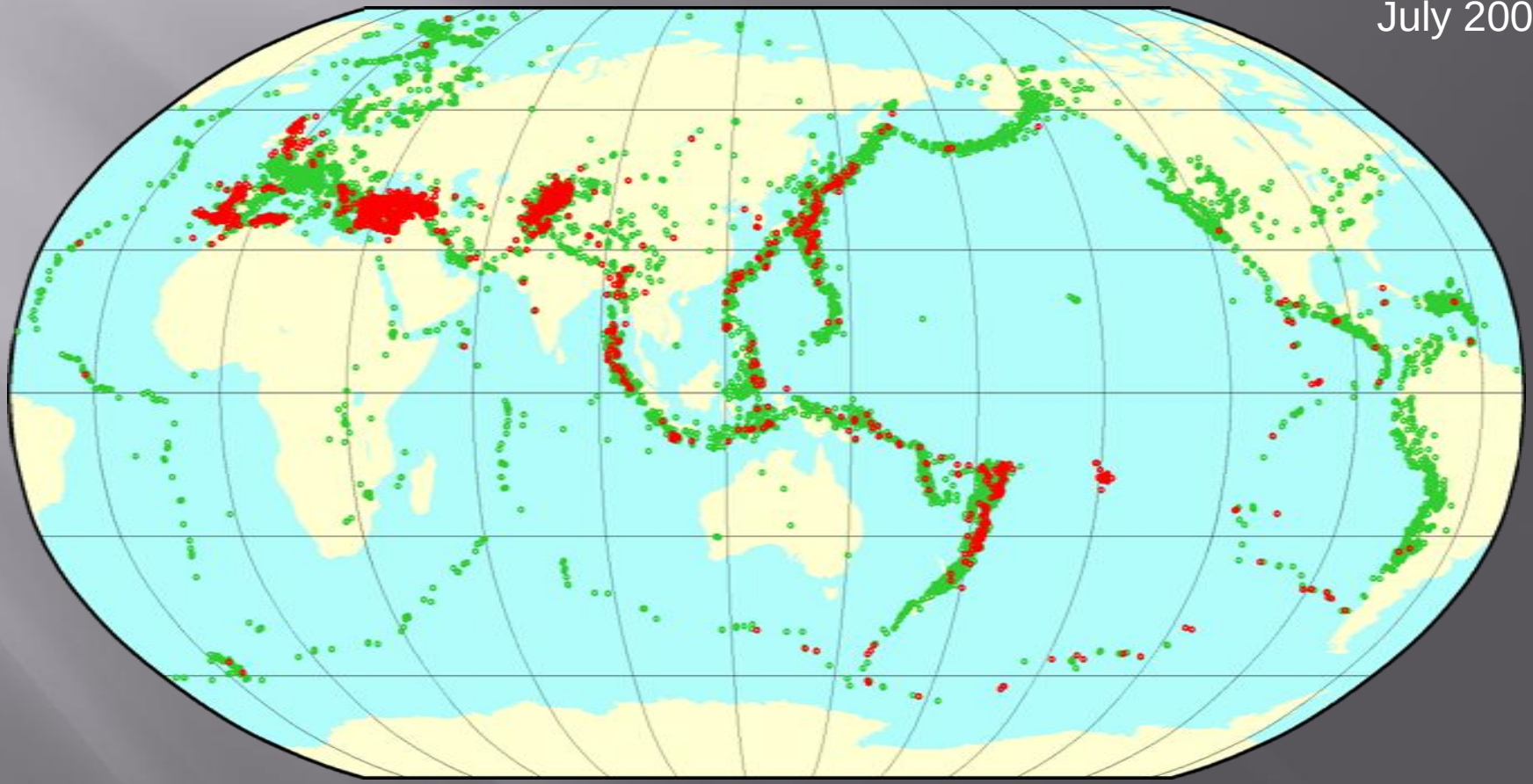
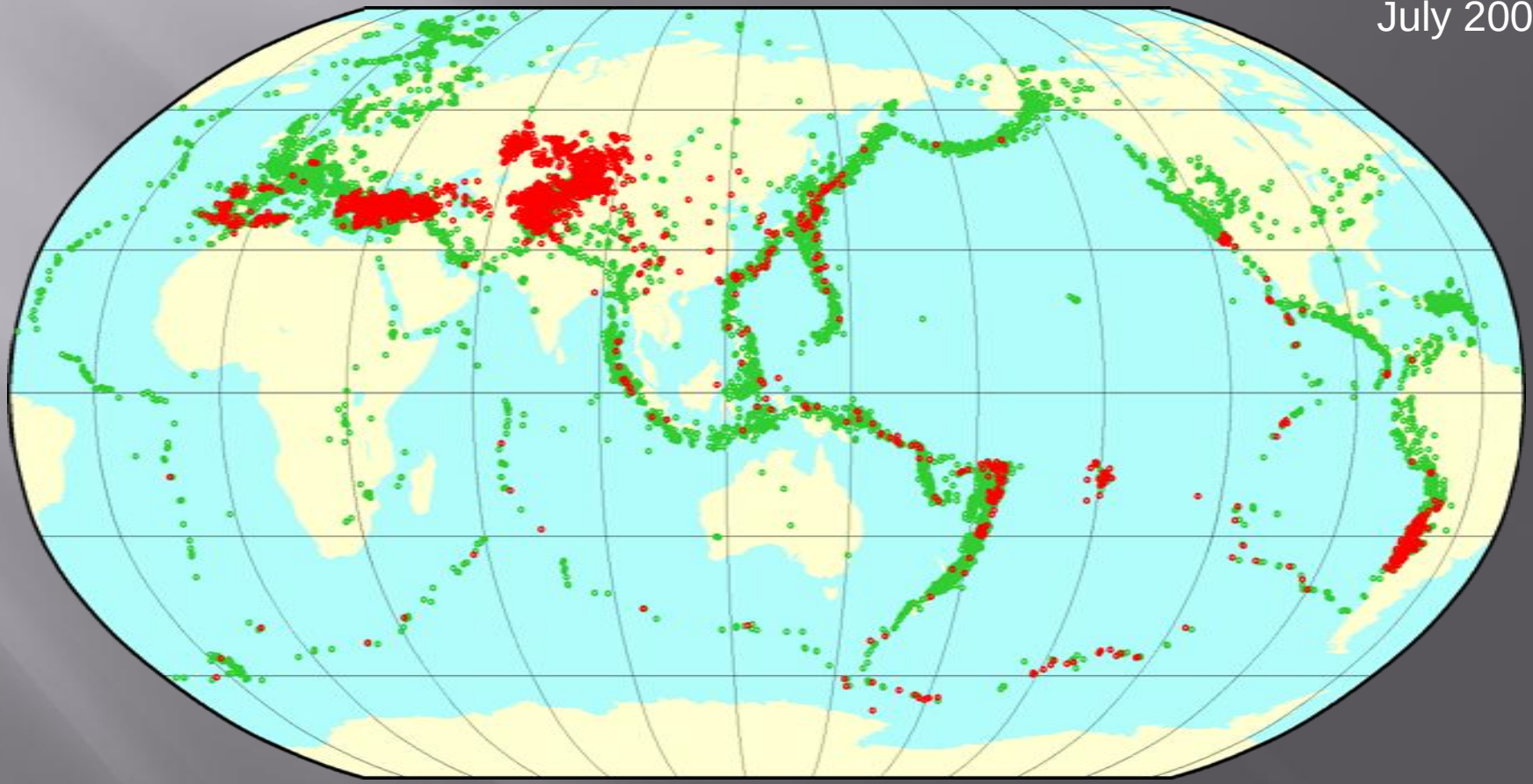


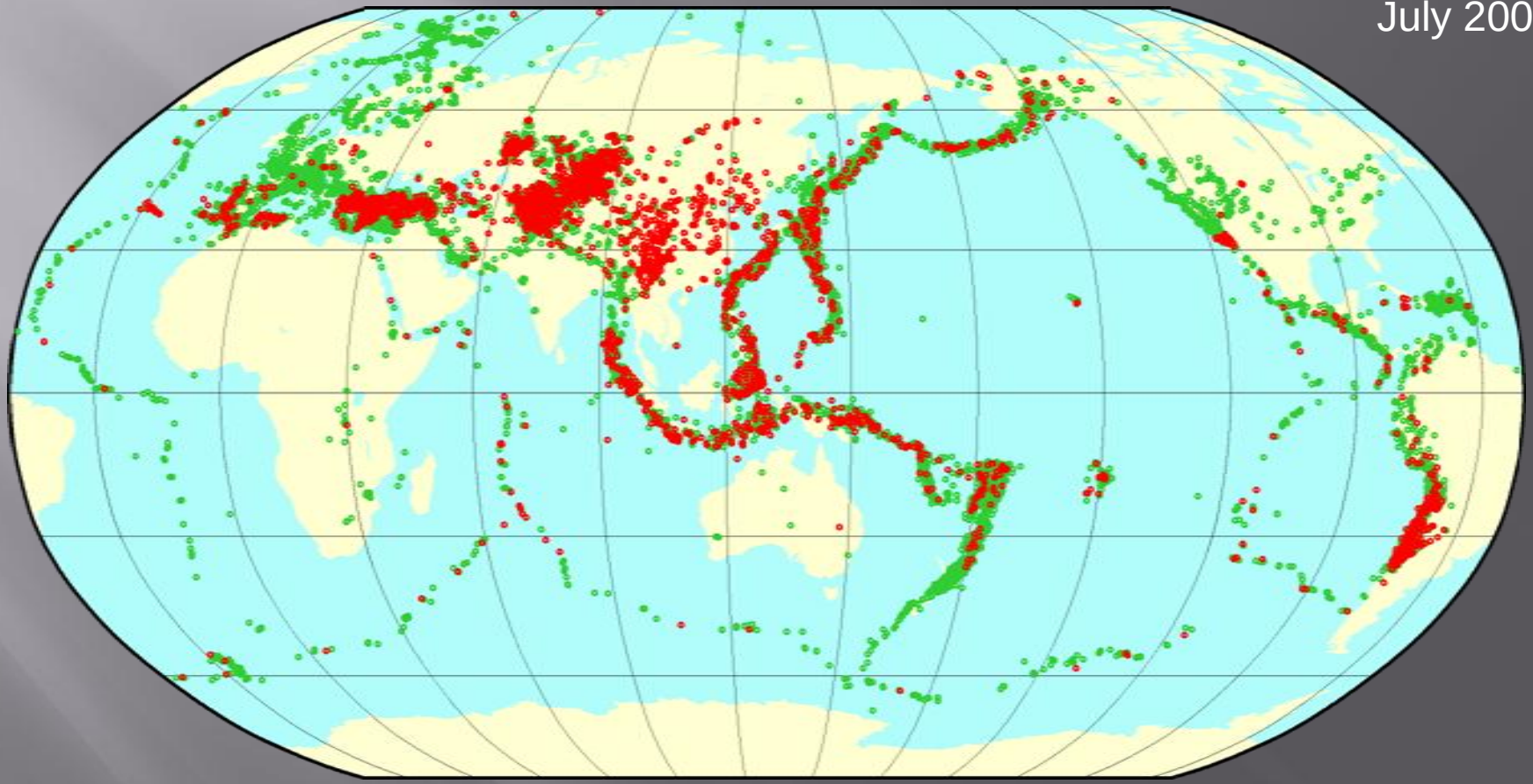
Available within 60-90 days

Aug 2005 - July 2006



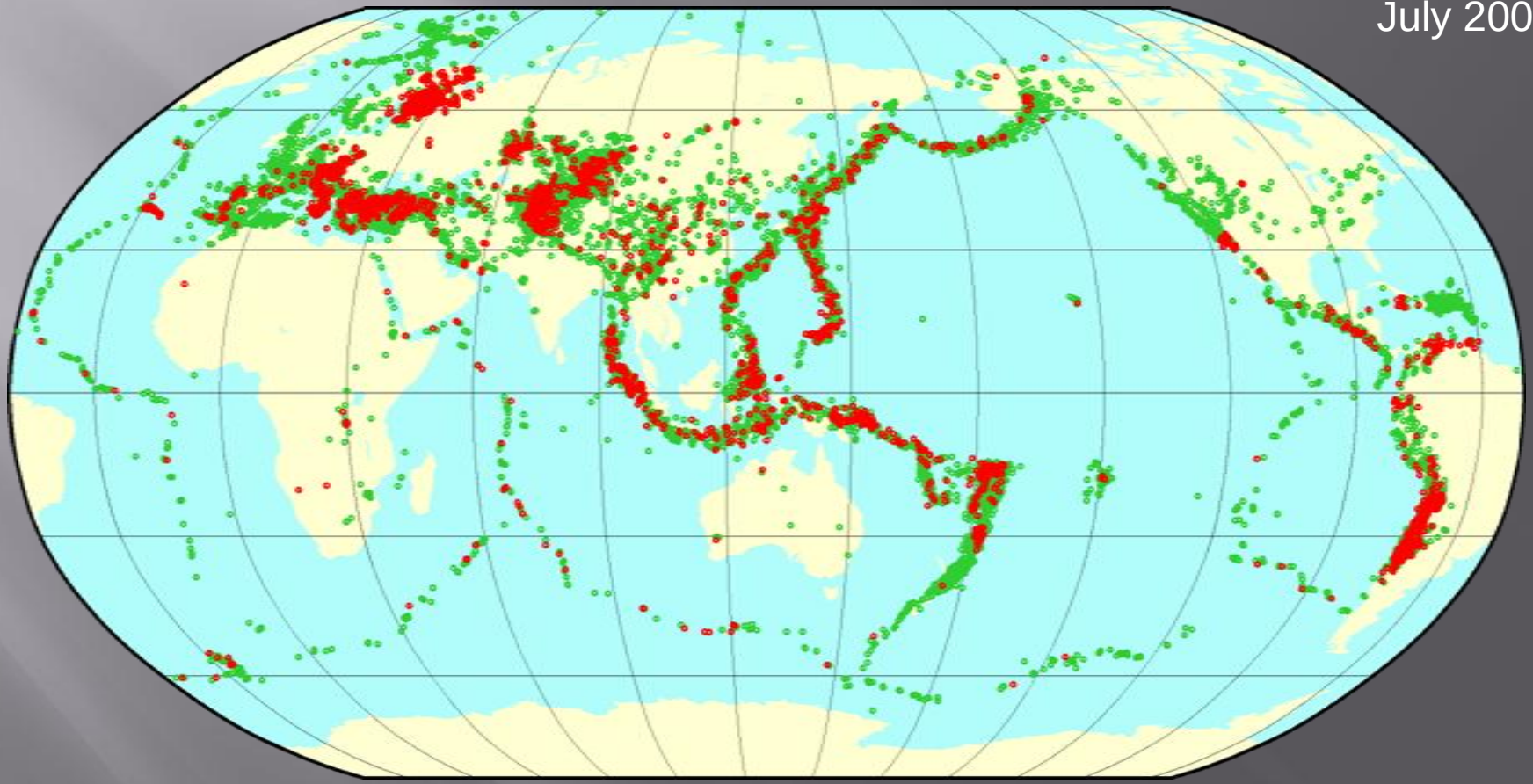
Available within 90-120 days

Aug 2005 - July 2006



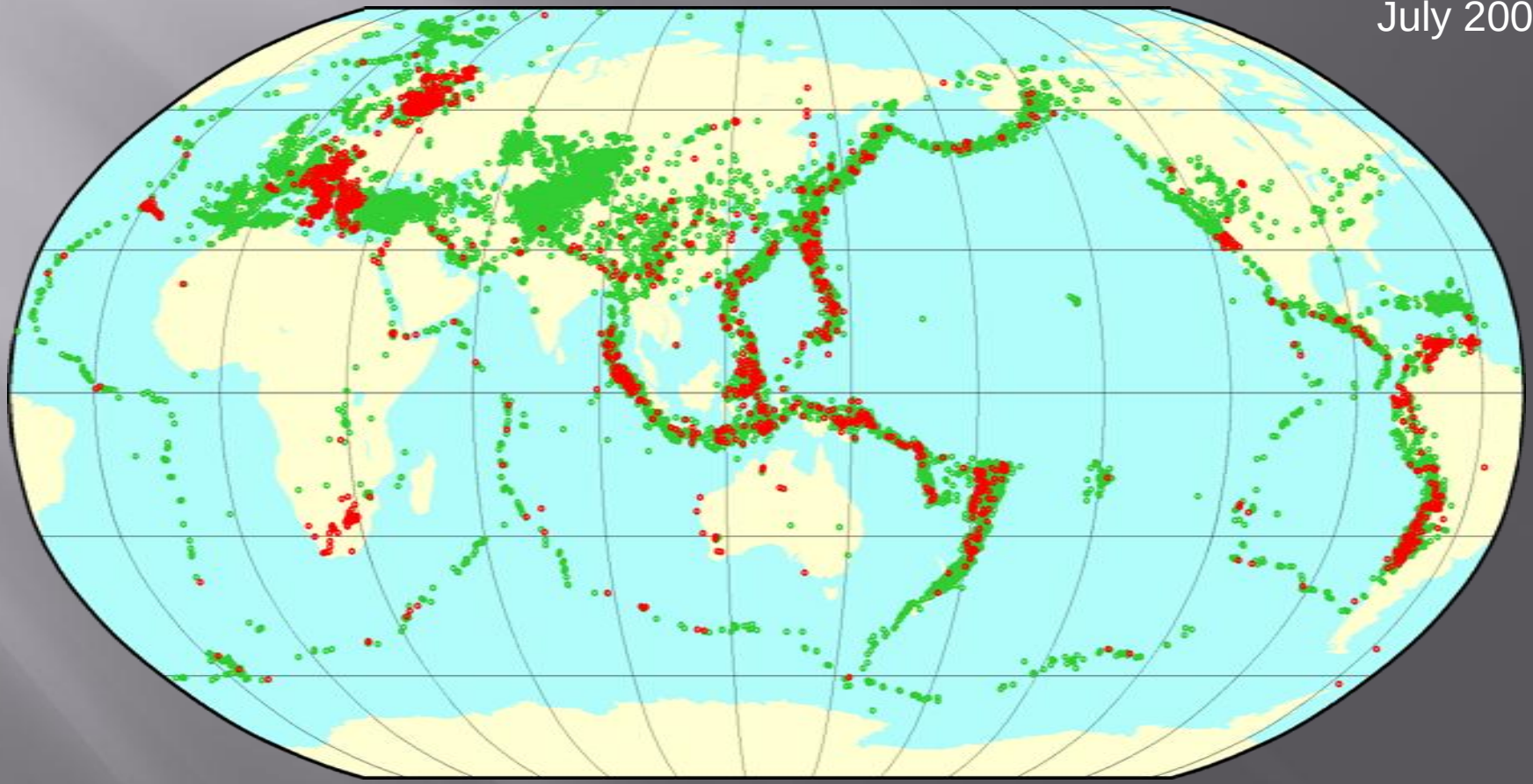
Available within 120-150 days

Aug 2005 - July 2006



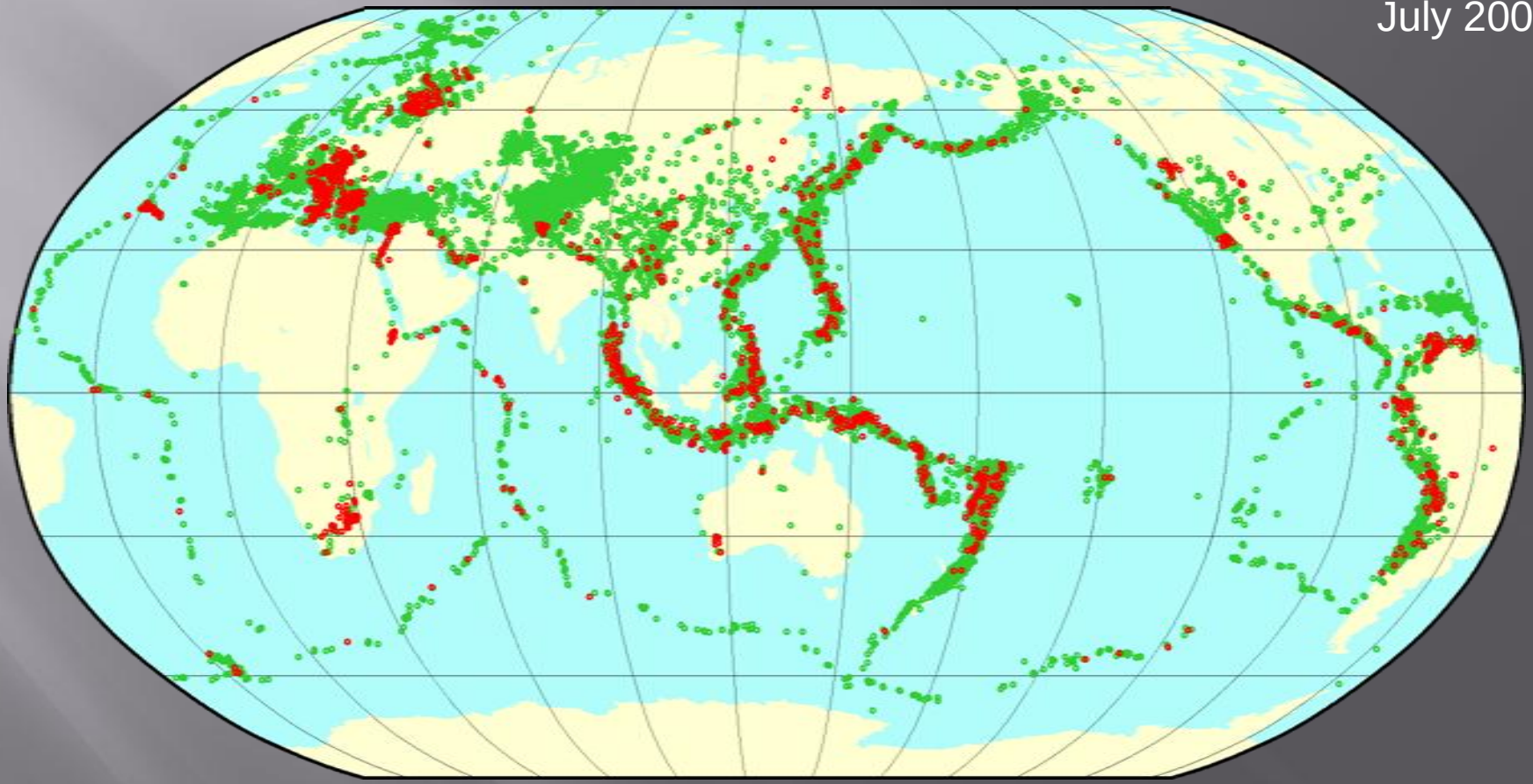
Available within 150-180 days

Aug 2005 -
July 2006



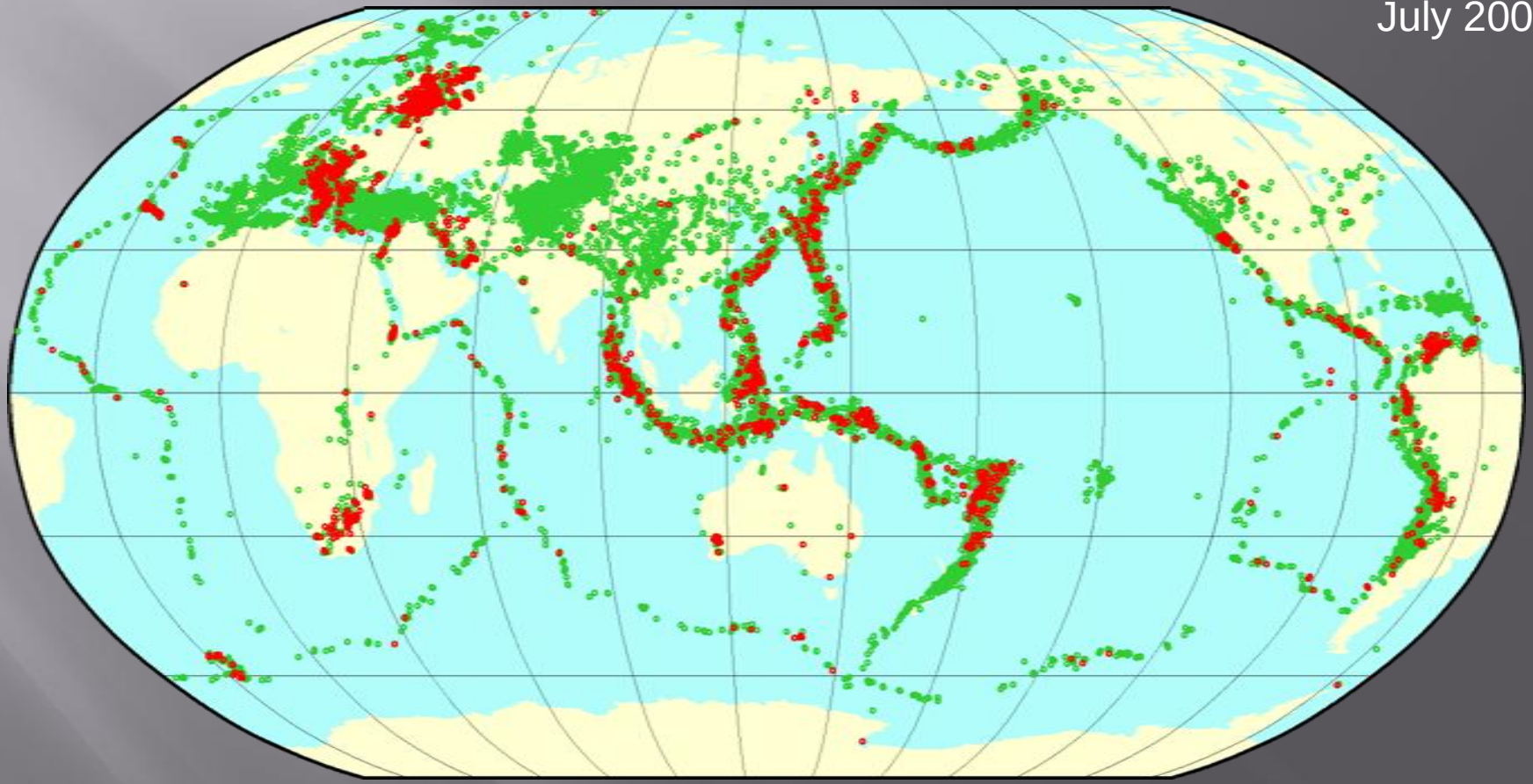
Available within 180-210 days

Aug 2005 - July 2006



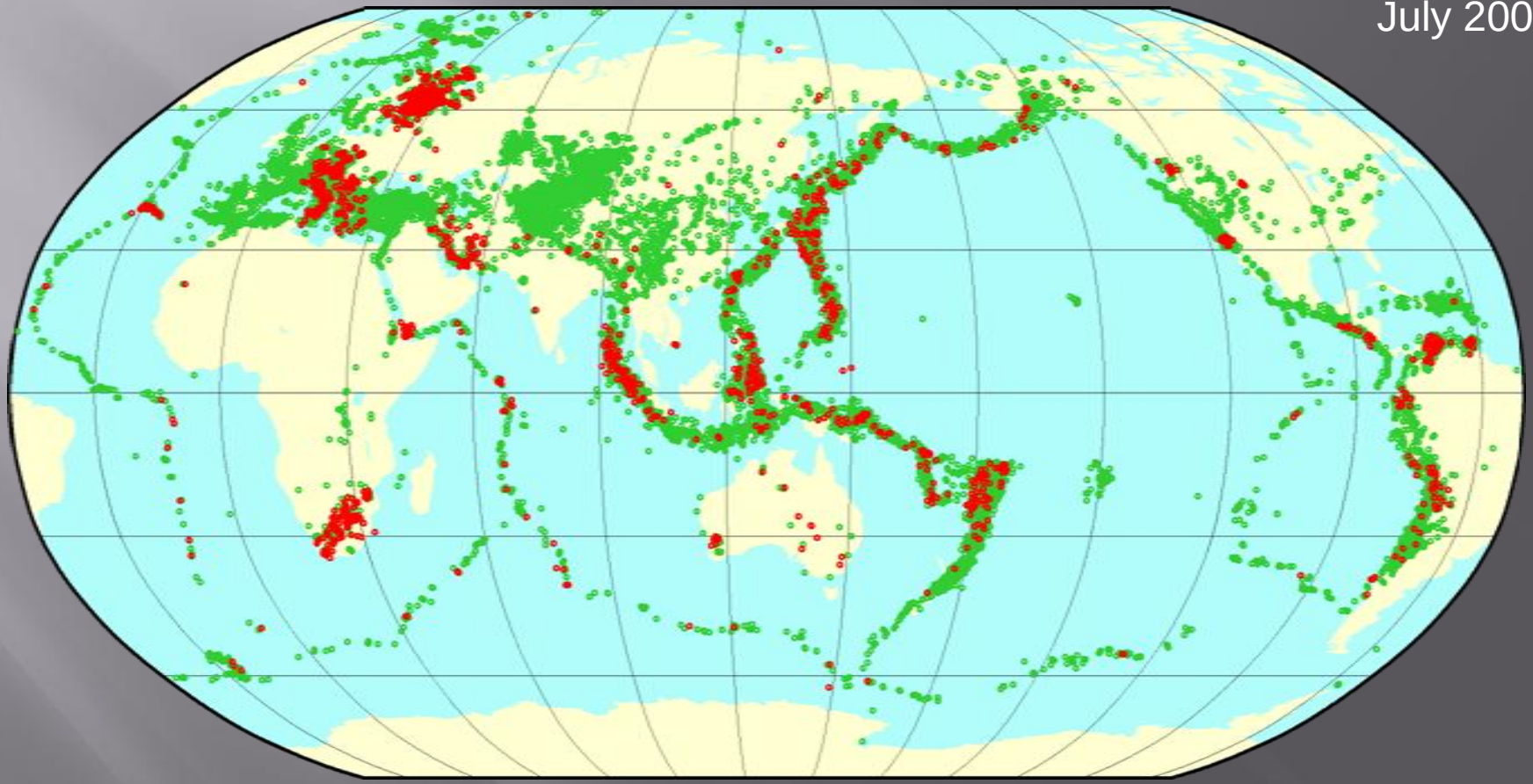
Available within 210-240 days

Aug 2005 - July 2006



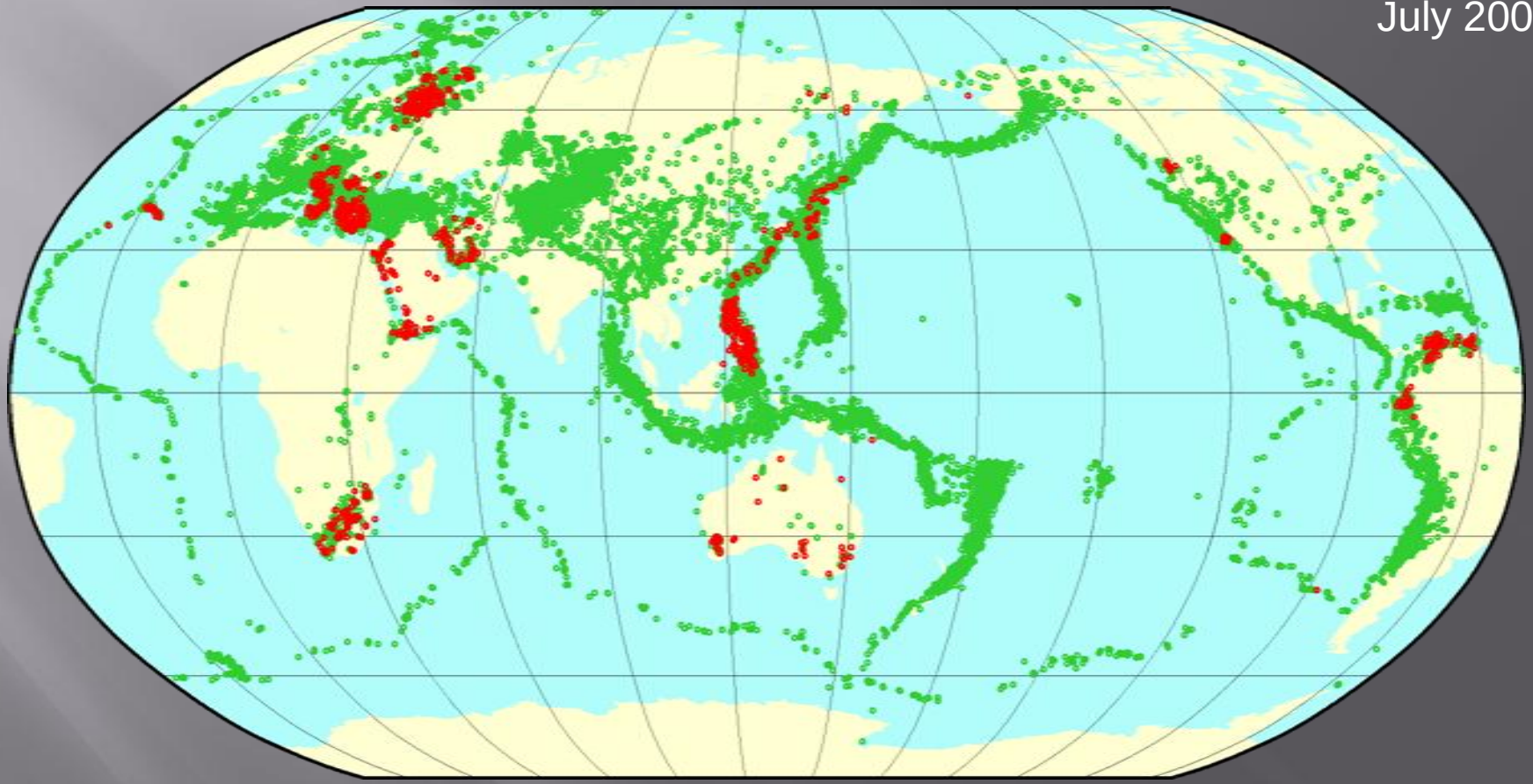
Available within 240-270 days

Aug 2005 - July 2006



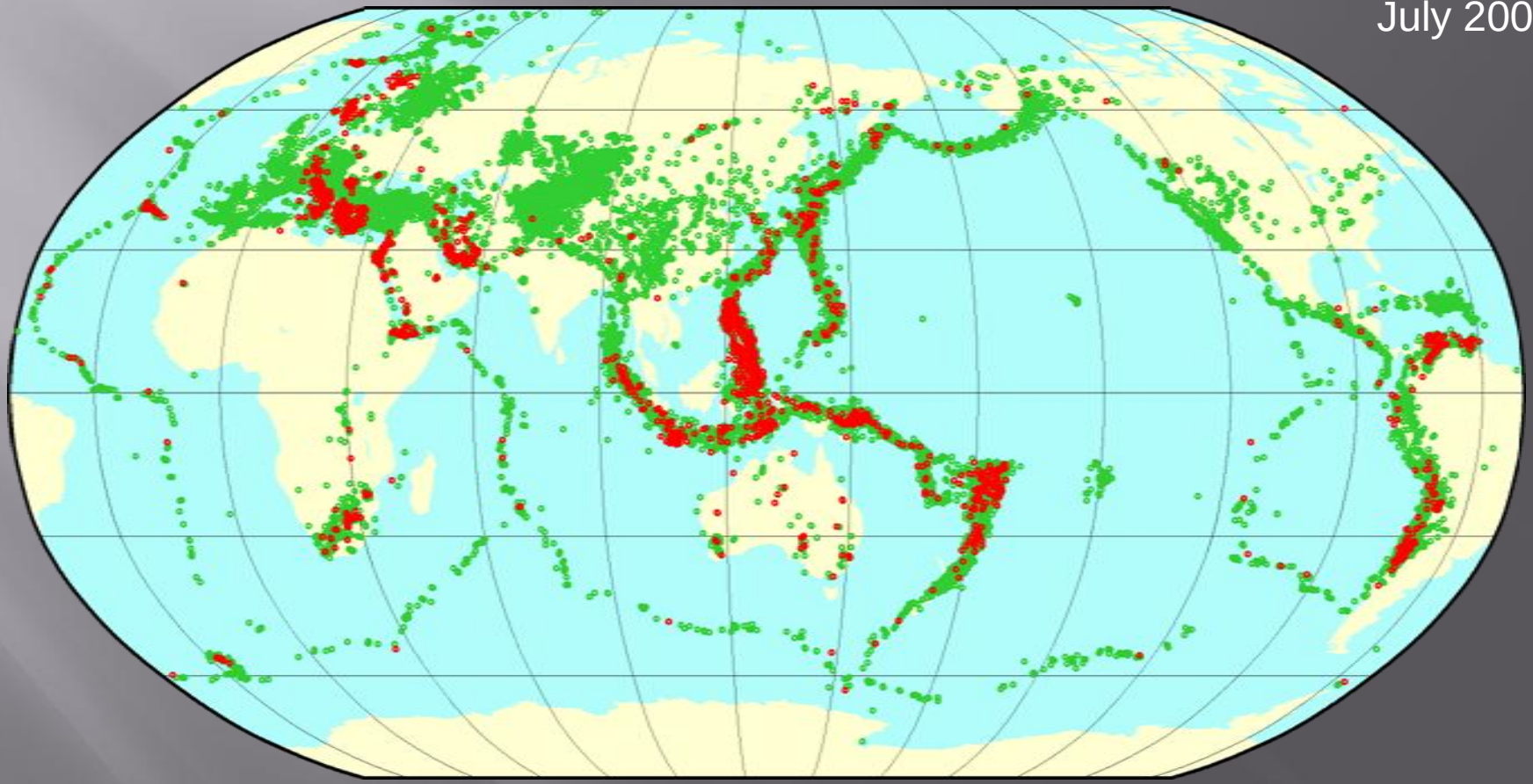
Available within 270-300 days

Aug 2005 - July 2006



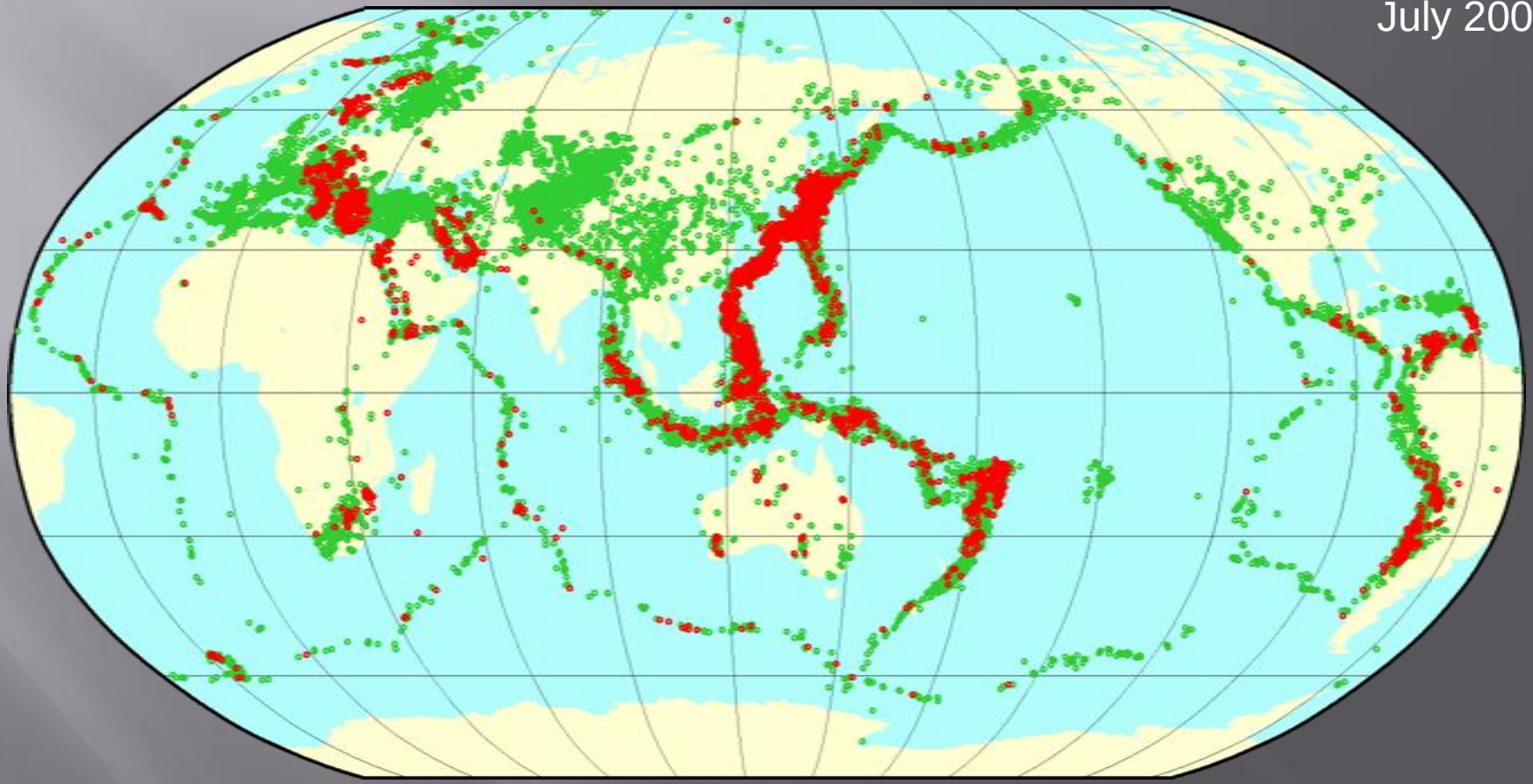
Available within 300-330 days

Aug 2005 - July 2006



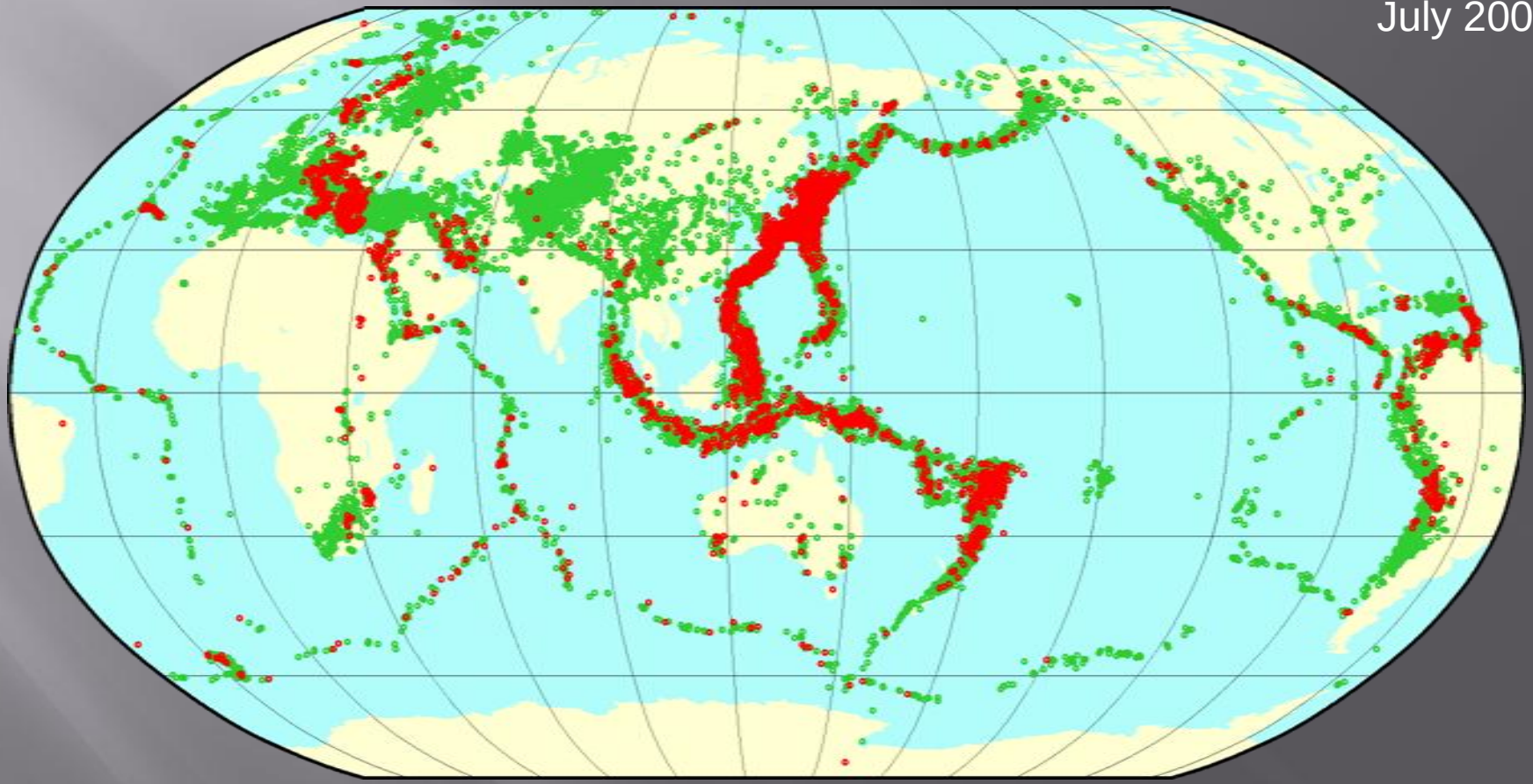
Available within 330-360 days

Aug 2005 - July 2006



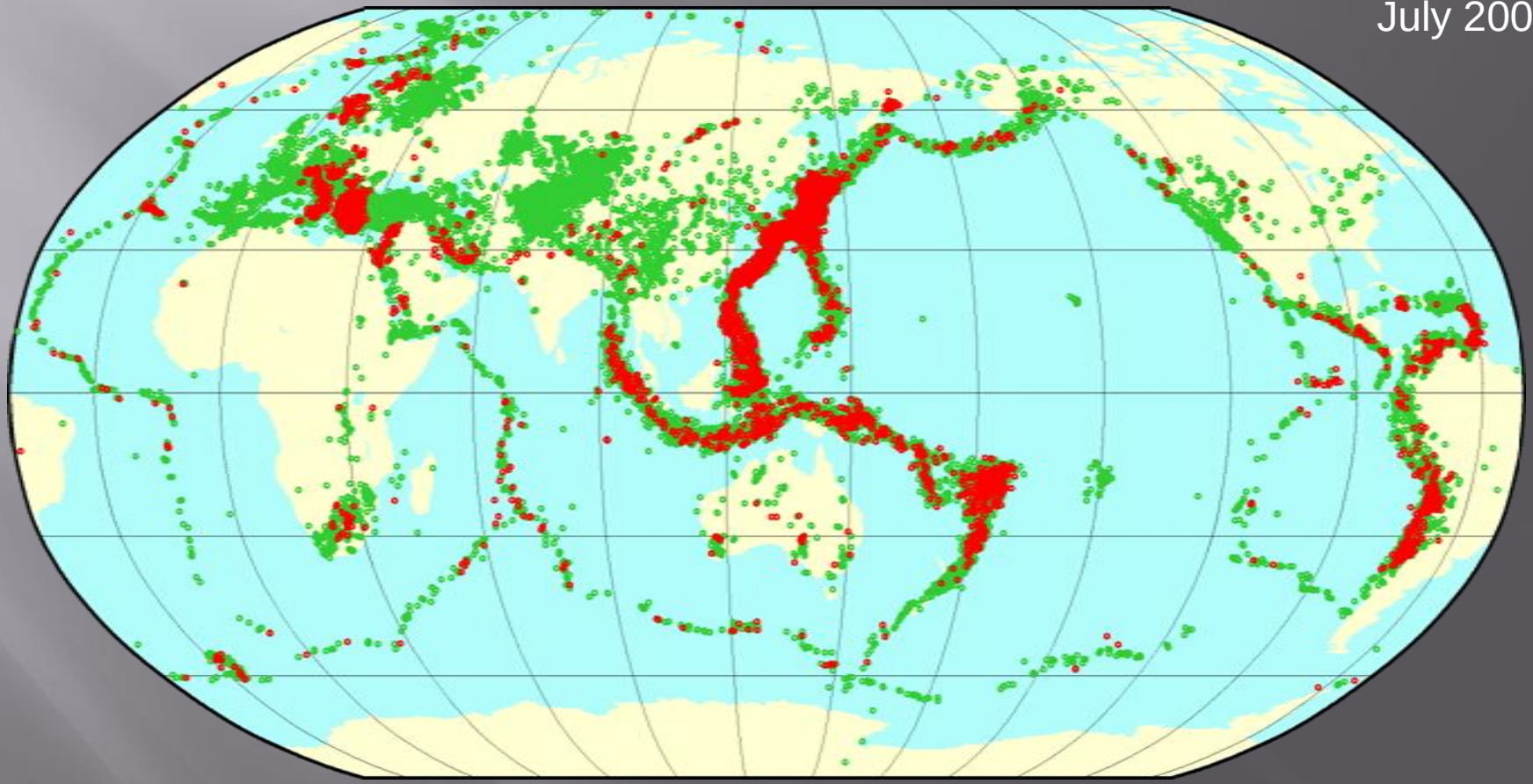
Available within 360-390 days

Aug 2005 -
July 2006



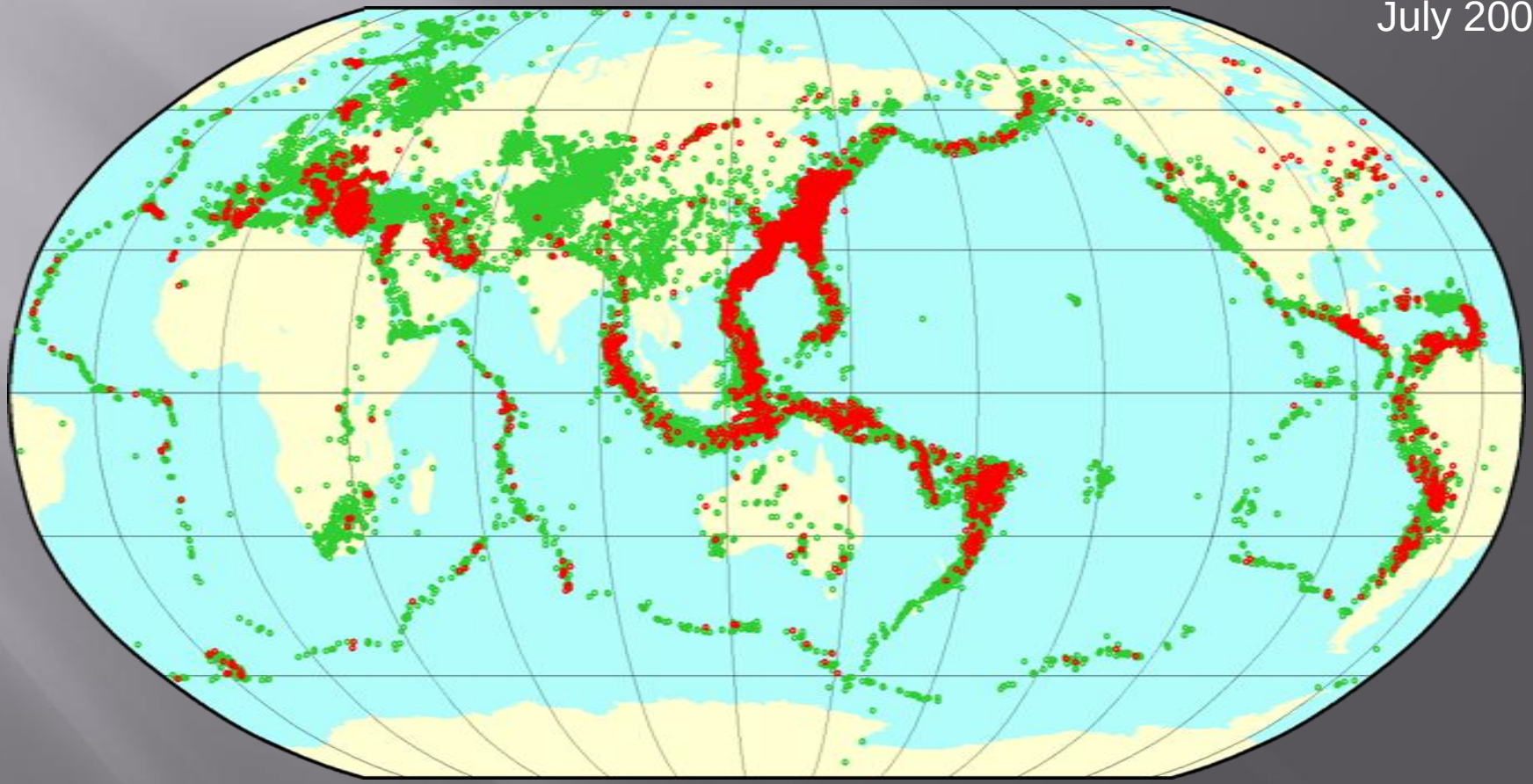
Available within 390-420 days

Aug 2005 -
July 2006



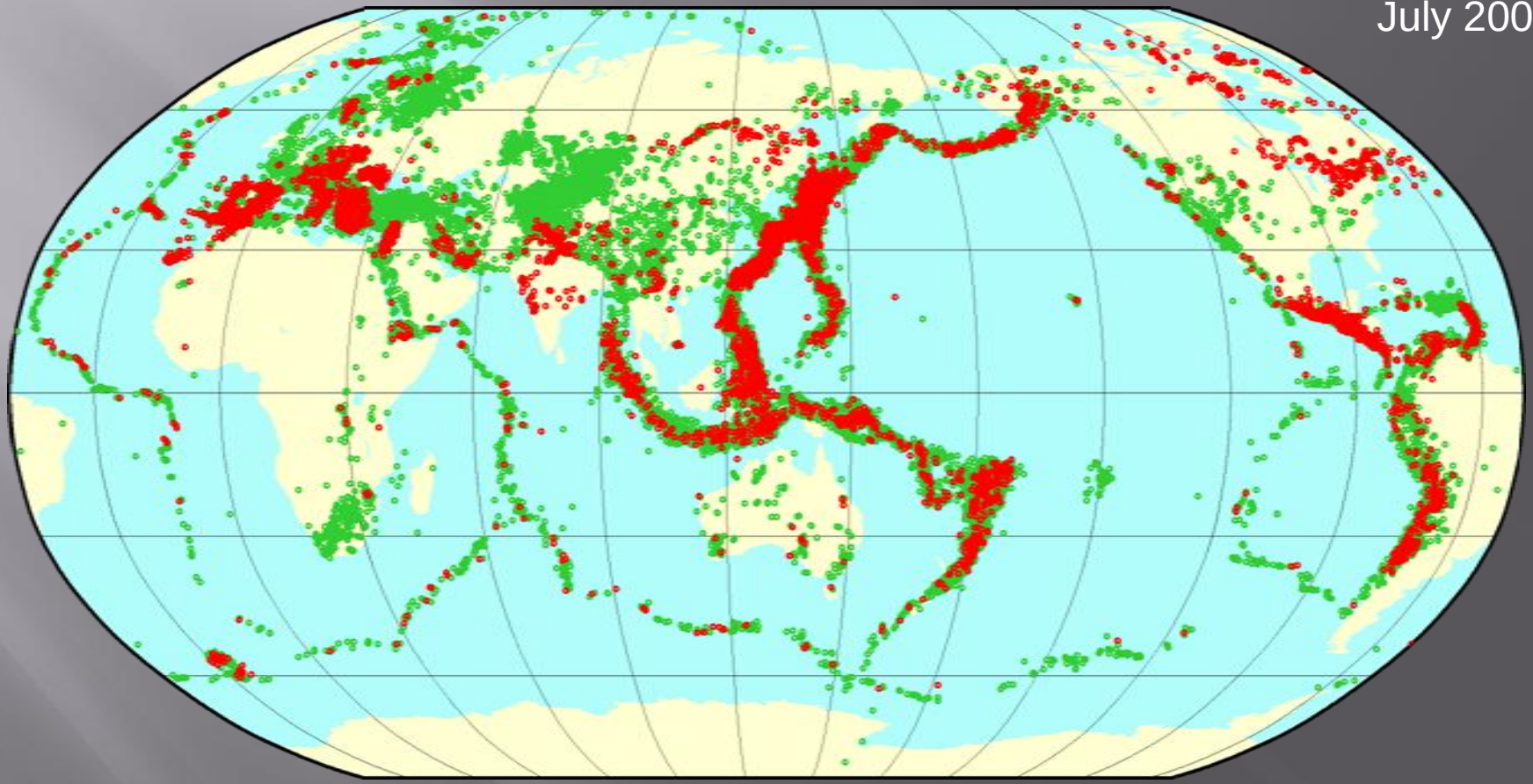
Available within 420-450 days

Aug 2005 -
July 2006



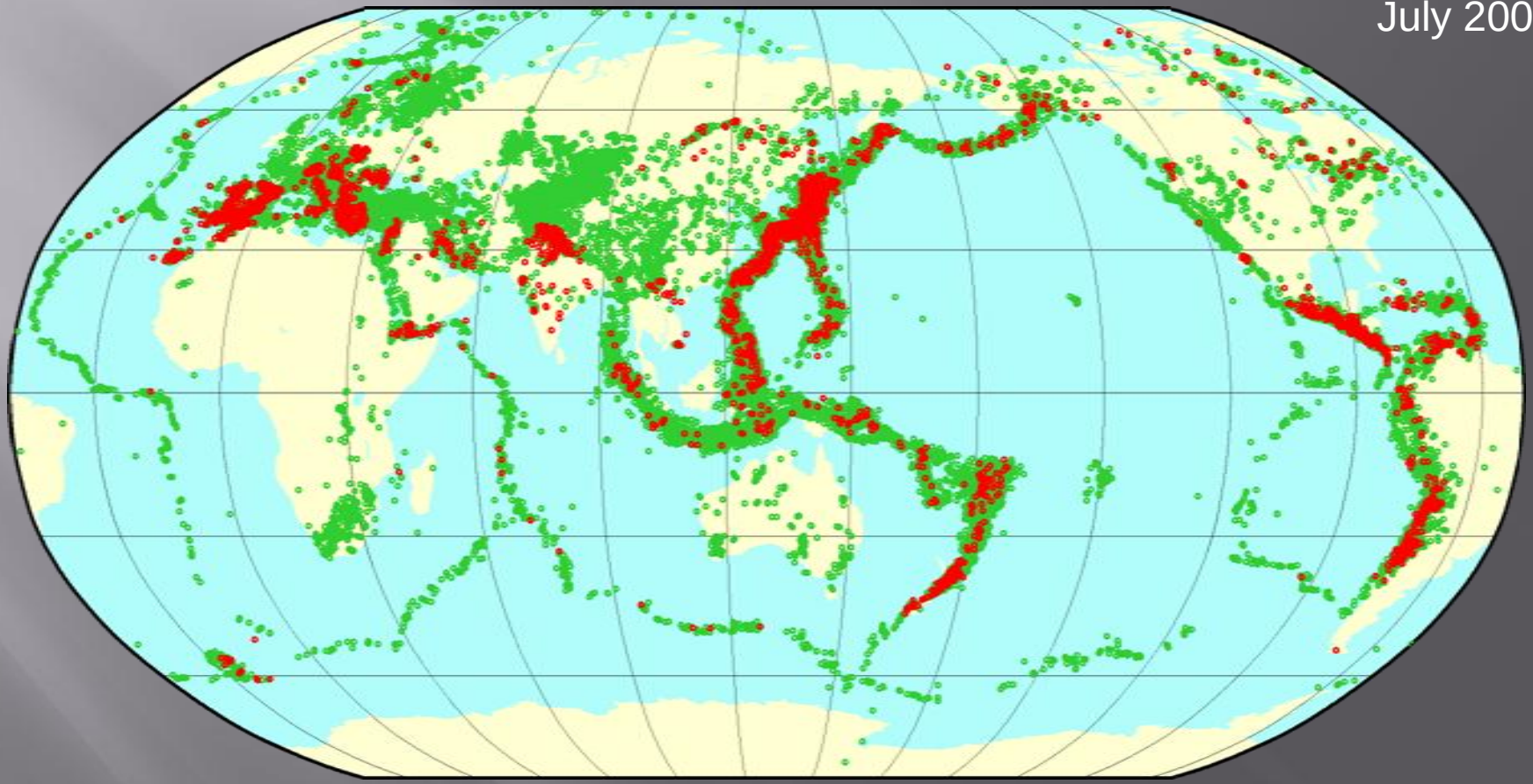
Available within 450-480 days

Aug 2005 - July 2006



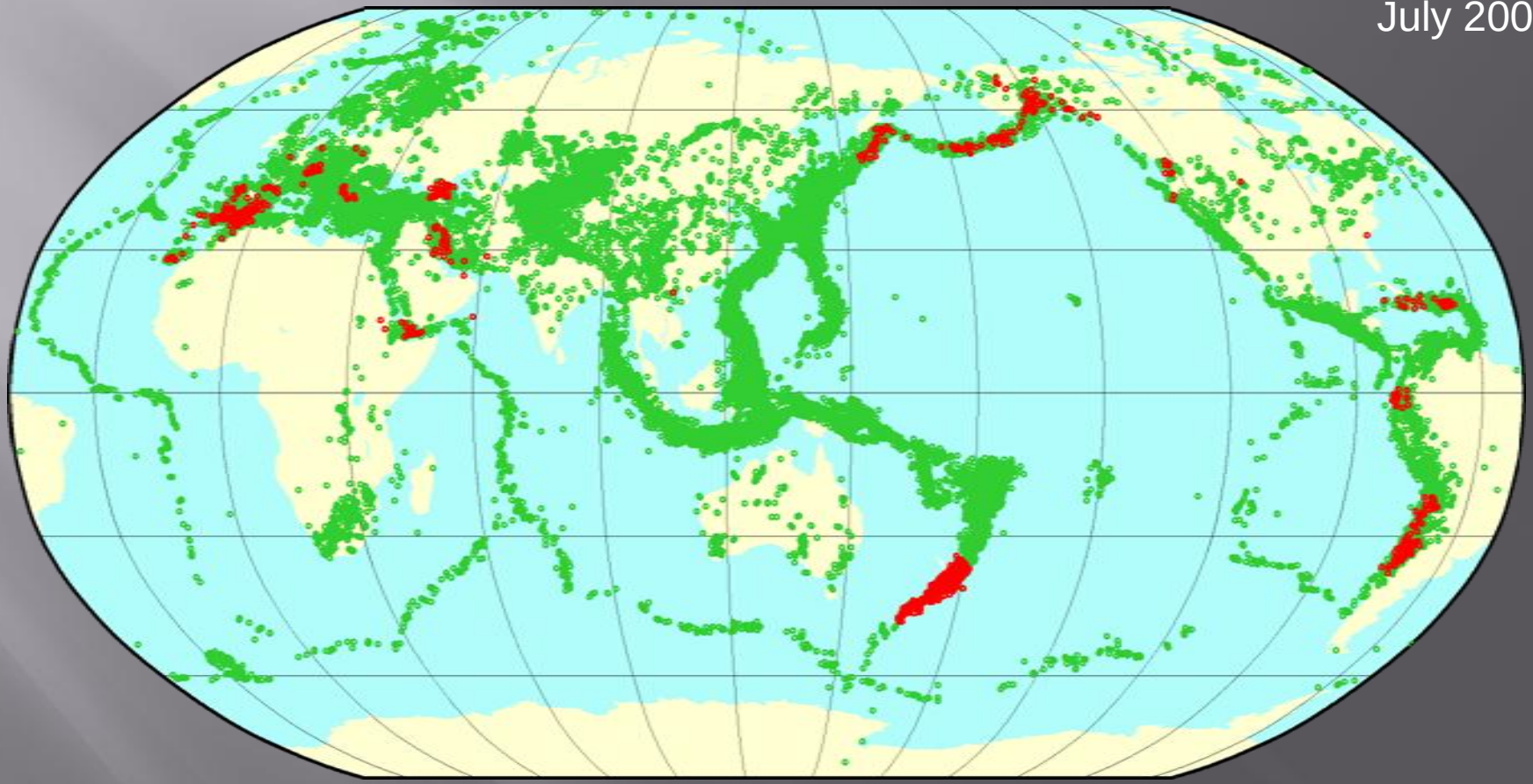
Available within 480-510 days

Aug 2005 -
July 2006



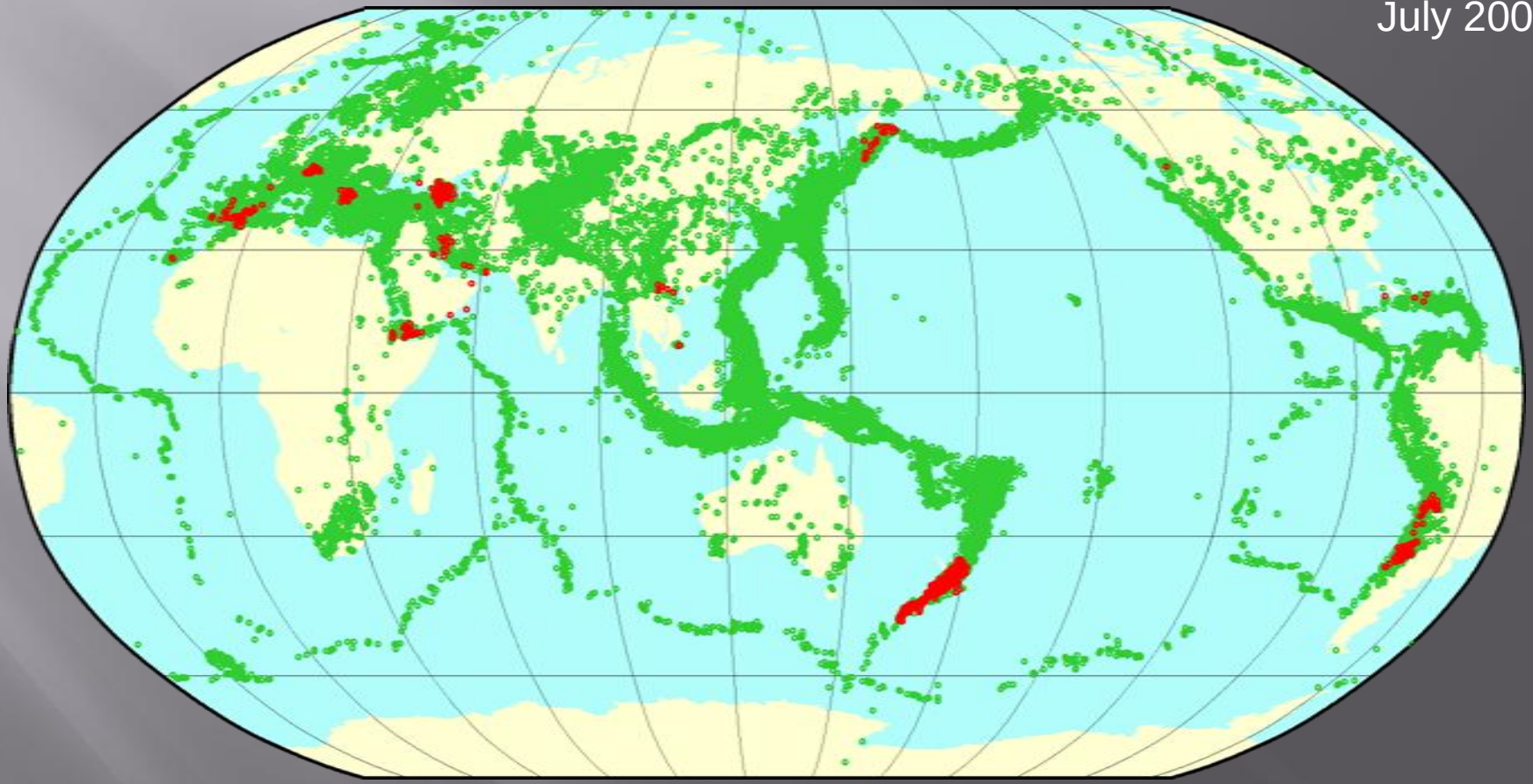
Available within 510-540 days

Aug 2005 -
July 2006



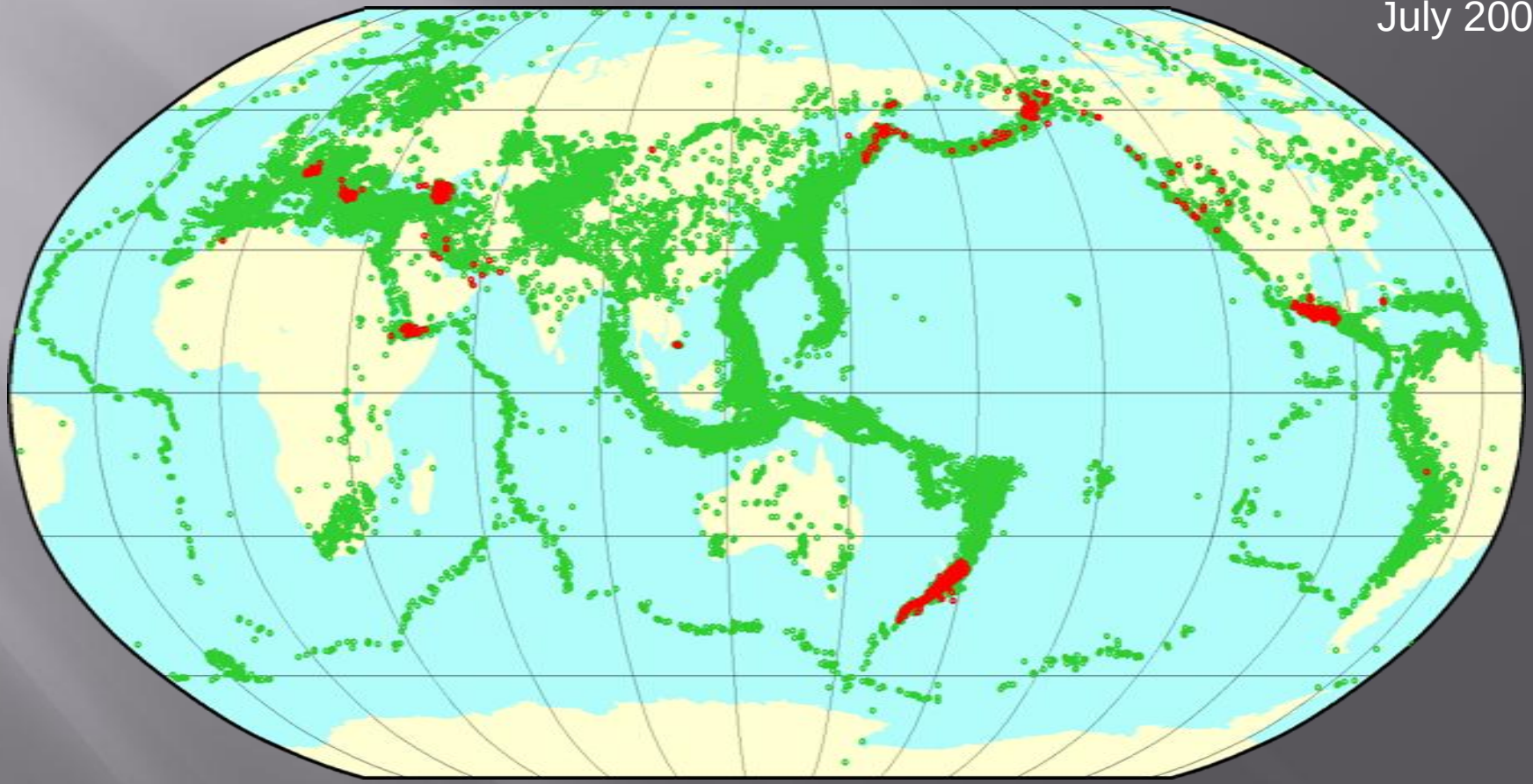
Available within 540-570 days

Aug 2005 - July 2006



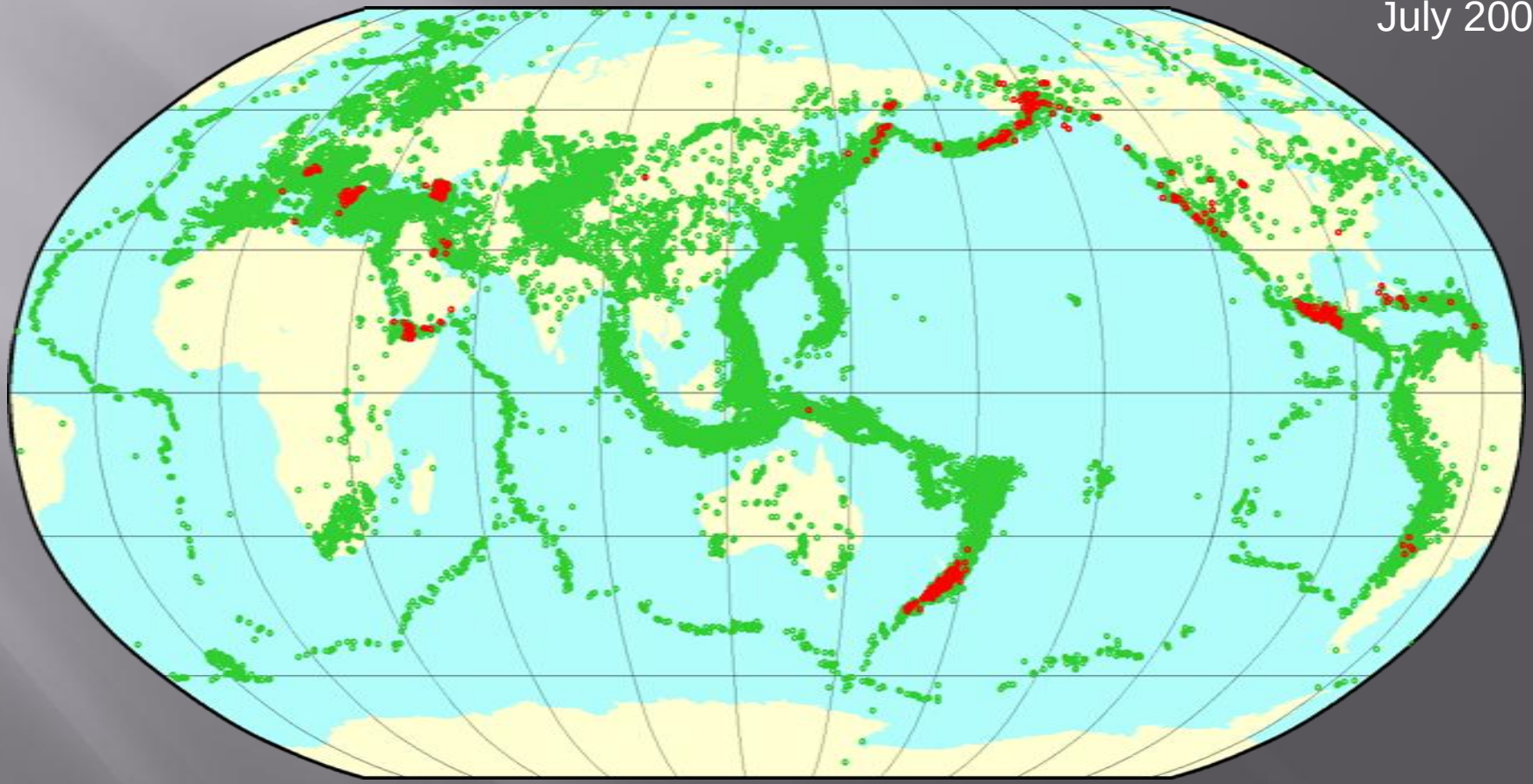
Available within 570-600 days

Aug 2005 - July 2006



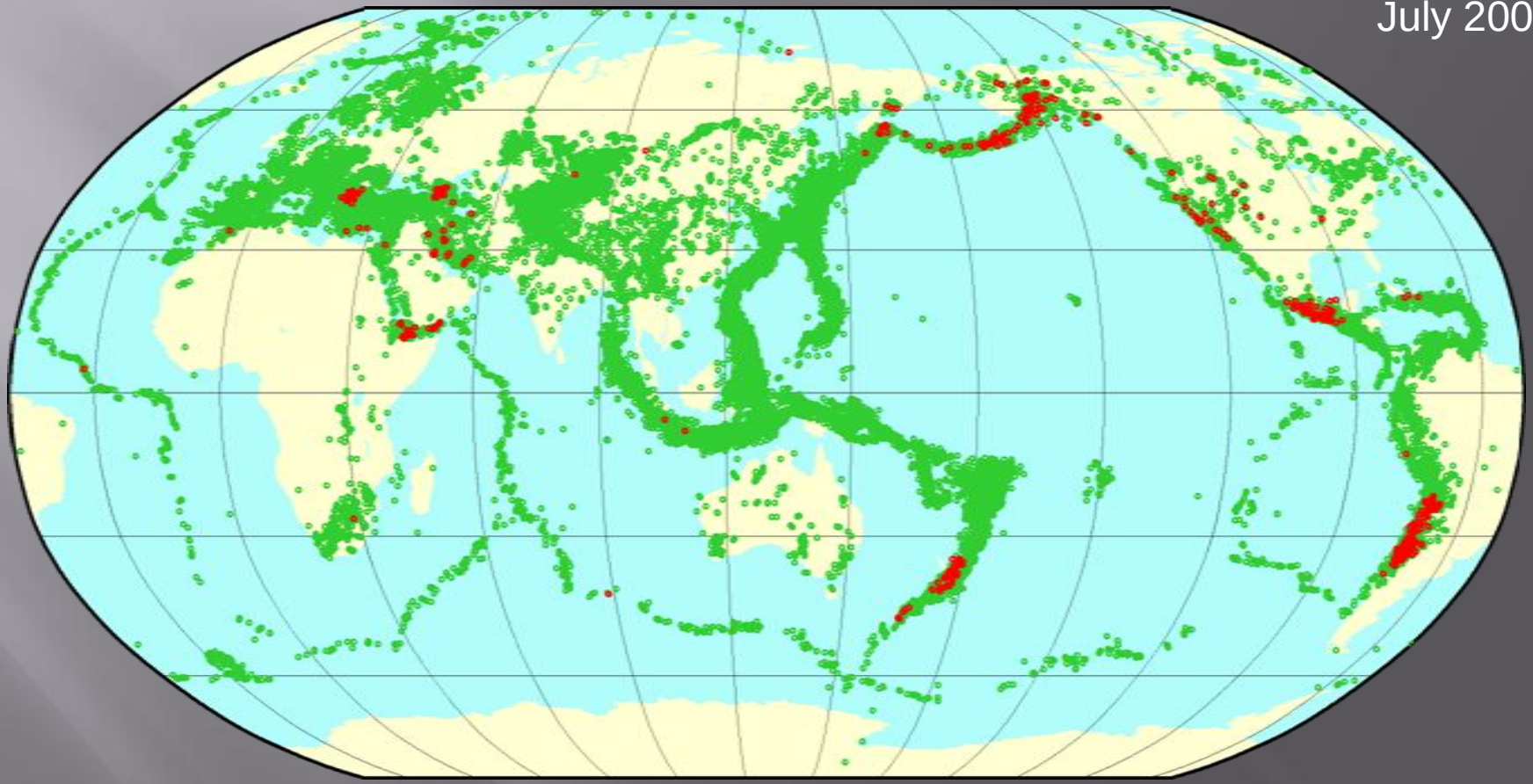
Available within 600-630 days

Aug 2005 -
July 2006



Available within 630-660 days

Aug 2005 -
July 2006

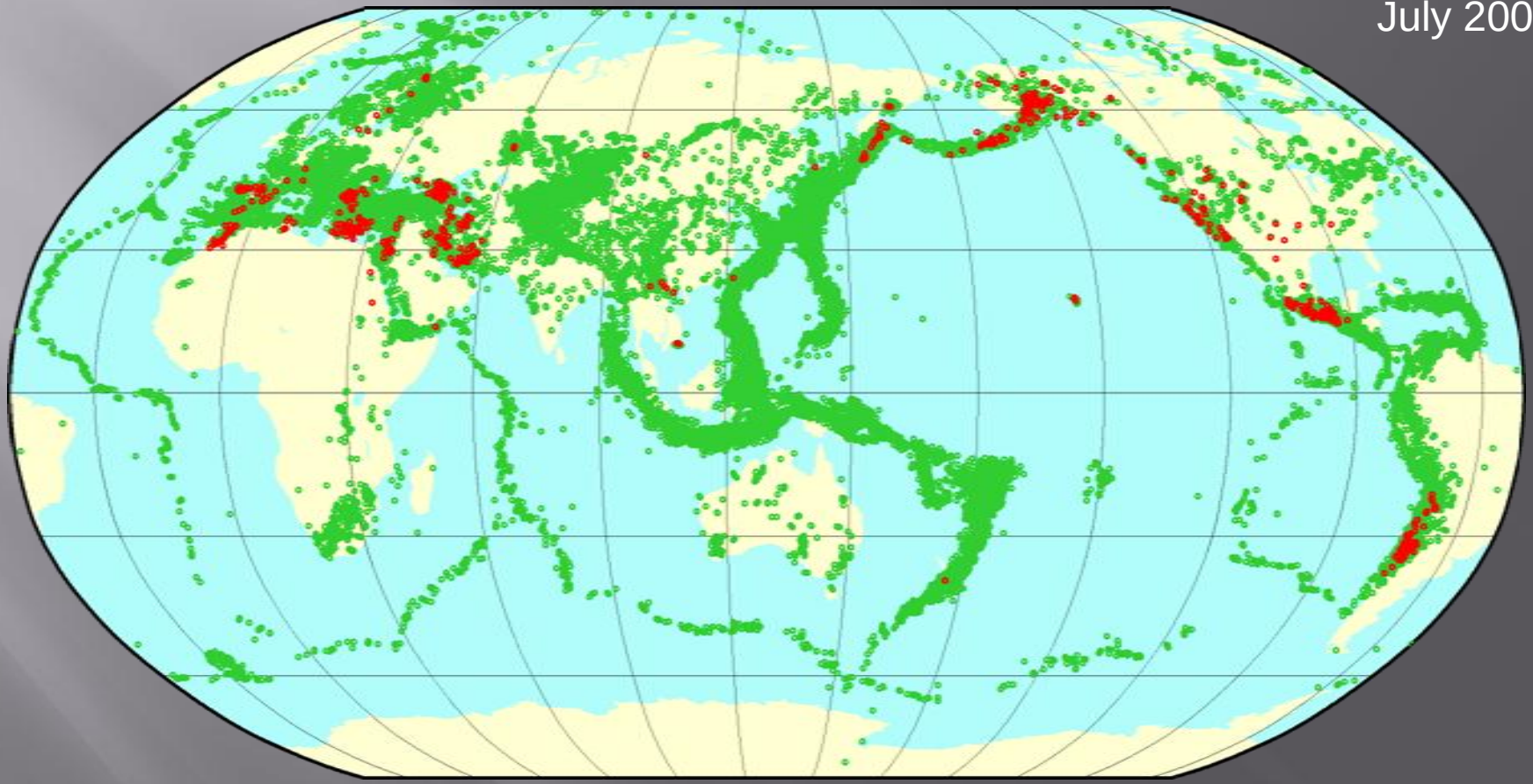


Available within 660-690 days

Aug 2005 - July 2006

Available within 690-720 days

Aug 2005 -
July 2006

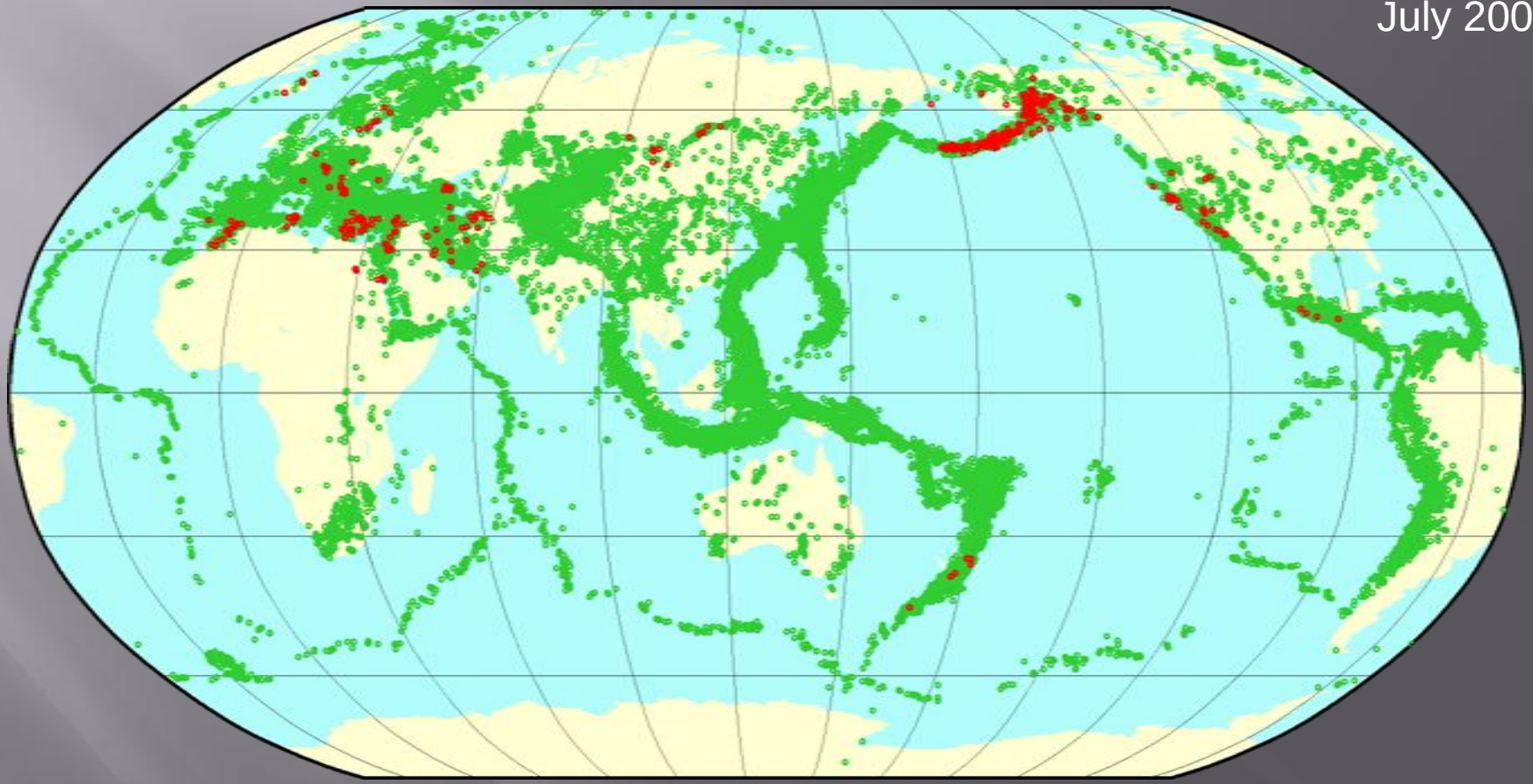


Available within 720-750 days

Aug 2005 -
July 2006

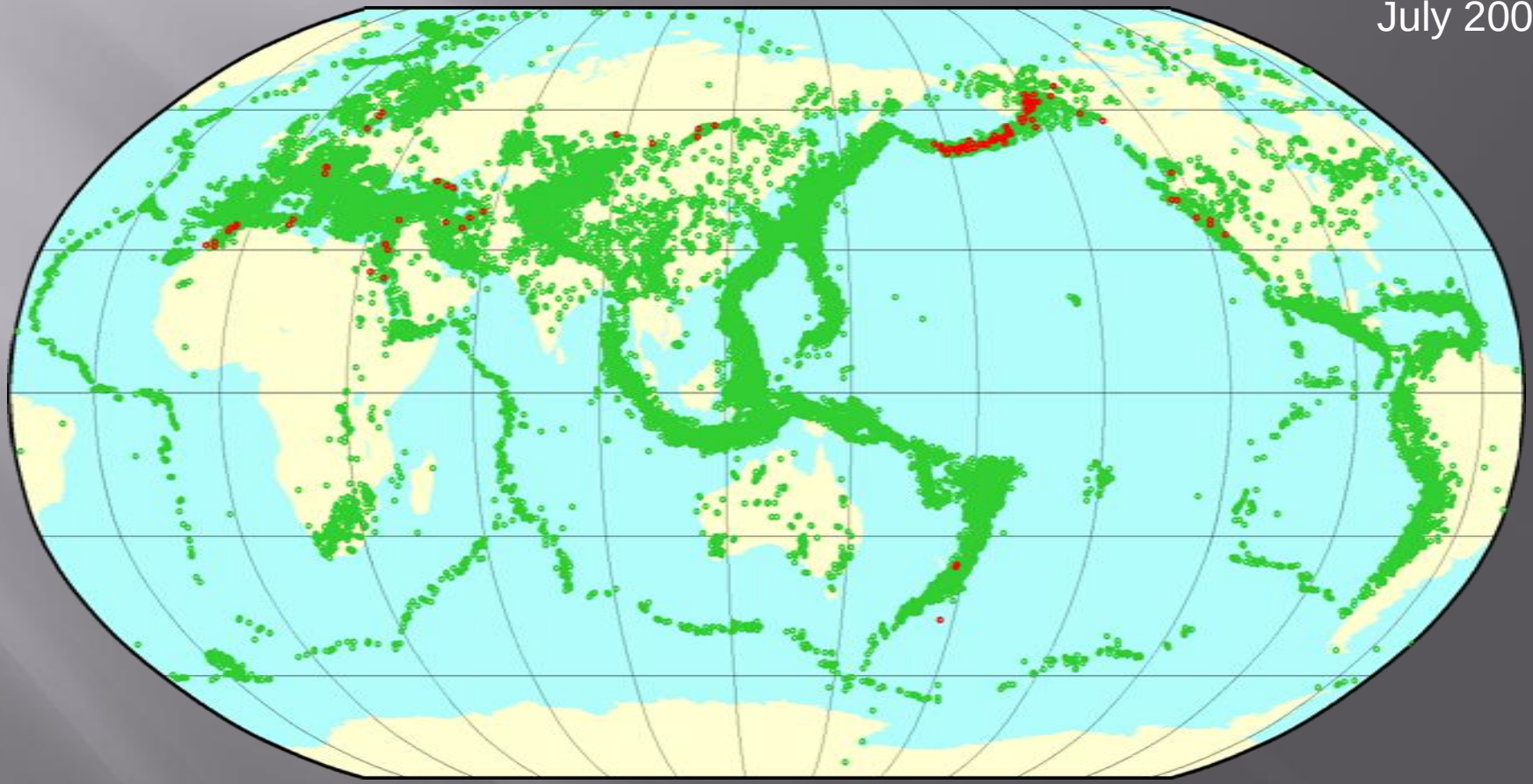
Available within 750-780 days

Aug 2005 - July 2006



Available within 780-900 days

Aug 2005 -
July 2006



The plan is:

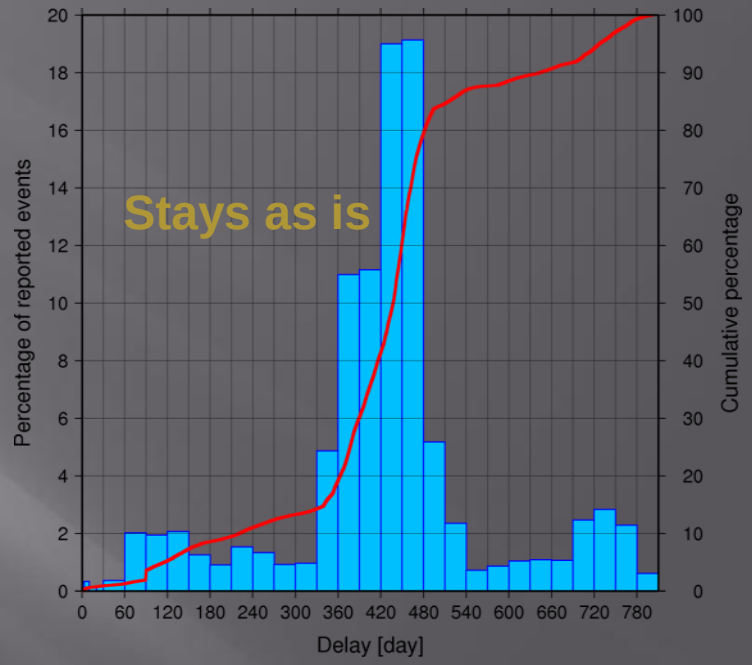
- To have the ISC database populated with the most accurate data available at each point in time.
- This can be achieved by collecting provisional reviewed bulletin data prior to normal collection of final reviewed data.
- Provisional data will be updated where necessary.
- Provisional data are going to be substituted with final reviewed data from agencies once those become available.
- The ISC is going to make these data available through the existing web-search mechanism with links to original sources of information and further increasing a visibility of data centres and national seismic networks.

Expected timeliness of ISC data collection

Provisional

July 2005-
Aug 2006

Final



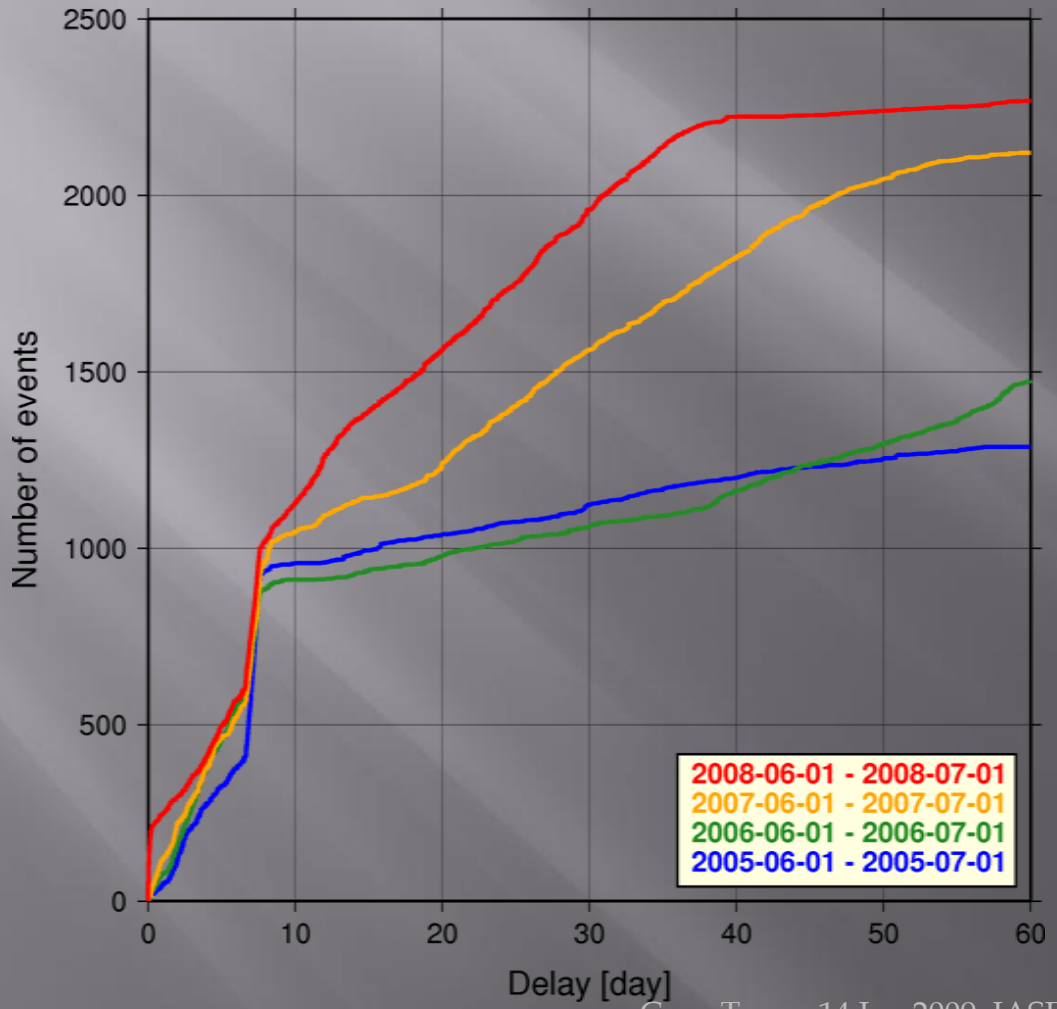
We hope to receive a provisional bulletin information about many more seismic events much sooner than now.

Collection of final reviewed bulletins should stay as is.

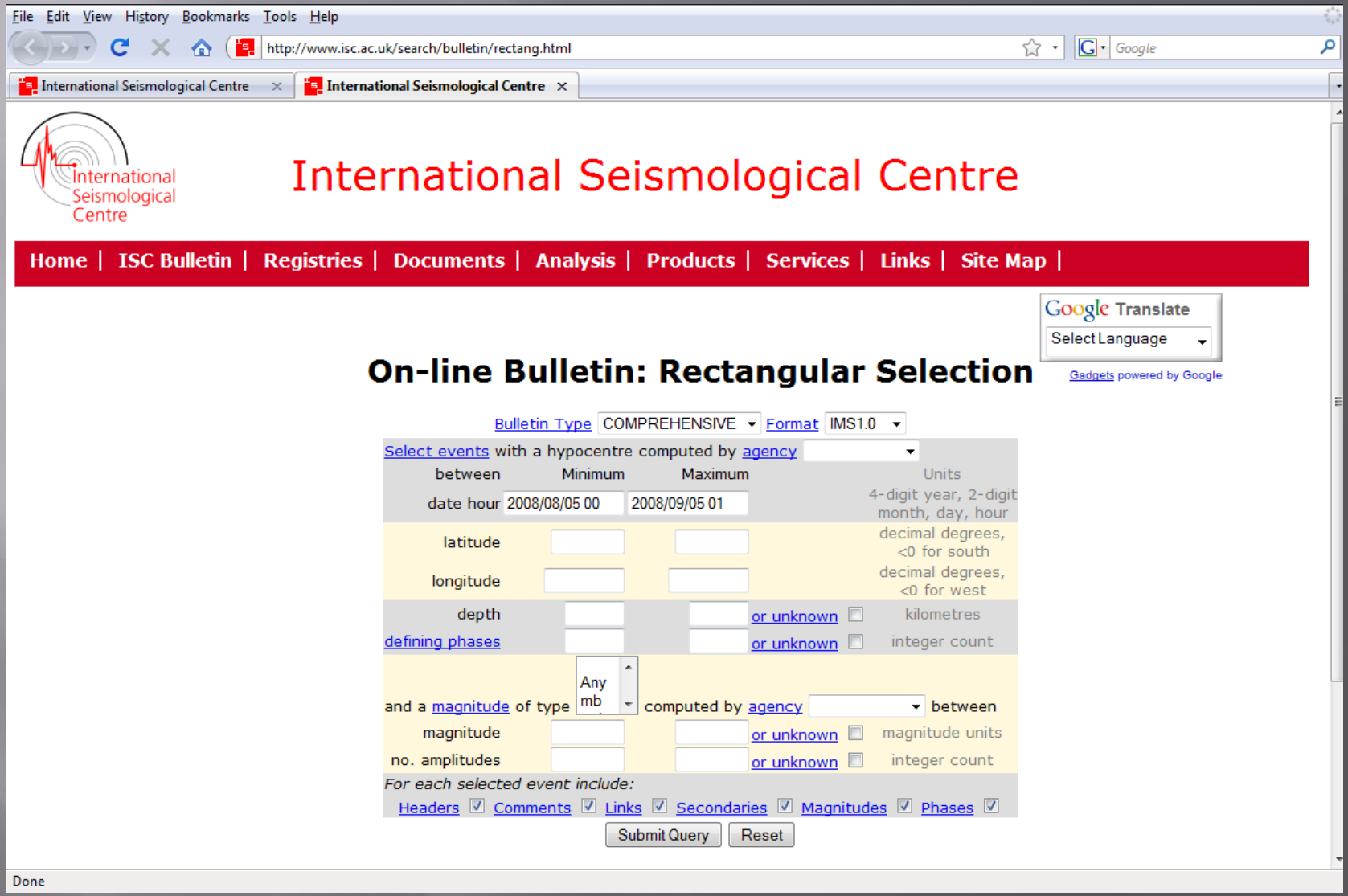
Important notice:

- The ISC is not going to provide a 24x7 service
- The ISC is not planning to compute its own solutions until 18-24 months after real time.
- The ISC is not planning to issue earthquake notification messages
- The ISC reviewed bulletin is not going to be based on purely automatic data.

First results of stepping up the ISC collection procedure.



Comparative timeliness of data collection for the month of June 2005,2006,2007,2008


File Edit View History Bookmarks Tools Help
http://www.isc.ac.uk/search/bulletin/rectang.html
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International Seismological Centre
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International Seismological Centre
Home | ISC Bulletin | Registries | Documents | Analysis | Products | Services | Links | Site Map |
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Gadgets powered by Google
On-line Bulletin: Rectangular Selection
Bulletin Type COMPREHENSIVE Format IMS1.0
Select events with a hypocentre computed by agency
between Minimum Maximum Units
date hour 2008/08/05 00 2008/09/05 01 4-digit year, 2-digit month, day, hour
latitude decimal degrees, <0 for south
longitude decimal degrees, <0 for west
depth or unknown kilometres
defining phases or unknown integer count
and a magnitude of type Any mb computed by agency between
magnitude or unknown magnitude units
no. amplitudes or unknown integer count
For each selected event include:
Headers Comments Links Secondaries Magnitudes Phases
Submit Query Reset
Done

Lake Baikal Region, 27-08-2008

Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.isc.ac.uk/cgi-bin/web-db-v3?start_year=2008&end_year=2008&start_month=8&end_m

International Seismological Centre | http://www.isc.a...clude_phases=on

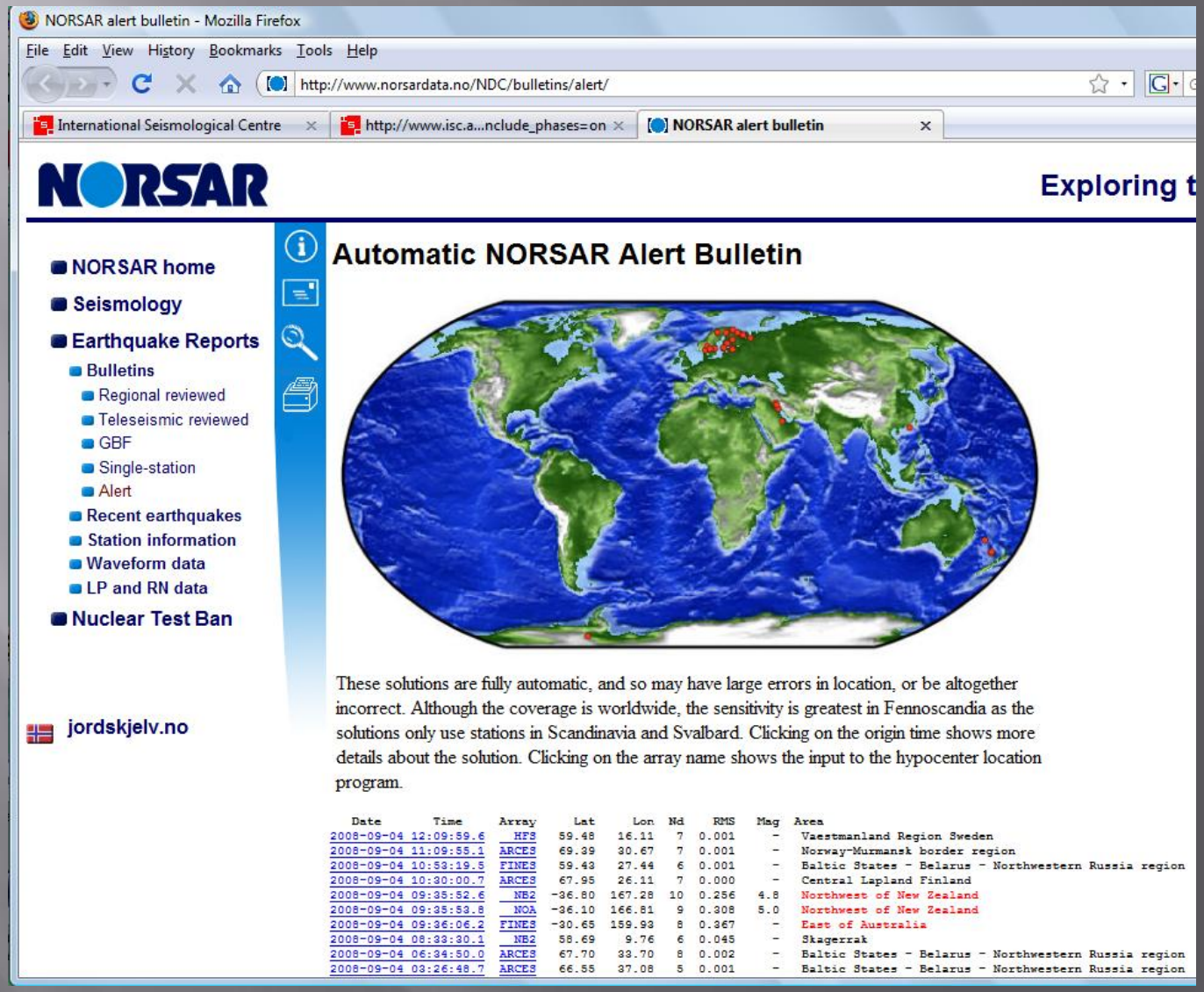
Event 11222332 Lake Baykal region

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author	OrigID
2008/08/27	01:35:29.10			51.7500	104.2100								60				CSEM	10411388
2008/08/27	01:35:31.00		0.600	51.7270	104.2460f				10.0f			5					IGIL	10431070
2008/08/27	01:35:32.10		0.800	51.6200	104.1350				16.0f		37						NEIC	10439157
(Felt (V) at Irkutsk. Also felt (III) at Ulaanbaatar, Mongolia. Felt as far north as Tulun, as far east as Chita, as far south as)																		
(Tosontsengel, Mongolia and as far east as Kyzyl.)																		
2008/08/27	01:35:35.38	7.66	0.100	51.8360	103.6110	336.0	65.00	100	25.0f		12		334	38.82	47.74	uk	NAO	10411382
(Uncertainty: 95 % ellipse)																		
2008/08/27	01:35:29.00			51.6400	104.1500				10.0			21					MOS	10412726
(#PRIME)																		

Magnitude	Err	Nsta	Author	OrigID
Mw 6.3			CSEM	10411388
mb 5.7			VIE	10411388
mb 5.6			BUC	10411388
mb 5.8			BEO	10411388
MS 7.0			IGIL	10431070
mb 5.8			NEIC	10439157
MS 6.2			NEIC	10439157
MW 6.2			NEIC	10439157
ME 5.9			USGS	10439157
MW 6.2			GCMT	10439157
mb 4.9			NAO	10411382
MS 6.1			MOS	10412726

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	ArrID
TLY	0.32	277.6	P	01:35:36.2						___				__		1
TLY	0.32	277.6	Pg	01:35:36.8						___				__		1
TLY	0.32	277.6	P	01:35:37.003						___				_e		1

NORSAR


NORSAR alert bulletin - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://www.norsardata.no/NDC/bulletins/alert/
International Seismological Centre
http://www.isc.a...nclude_phases=on
NORSAR alert bulletin
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Exploring t
NORSAR home
Seismology
Earthquake Reports
Bulletins
Regional reviewed
Teleseismic reviewed
GBF
Single-station
Alert
Recent earthquakes
Station information
Waveform data
LP and RN data
Nuclear Test Ban
jordskjelv.no
Automatic NORSAR Alert Bulletin
These solutions are fully automatic, and so may have large errors in location, or be altogether incorrect. Although the coverage is worldwide, the sensitivity is greatest in Fennoscandia as the solutions only use stations in Scandinavia and Svalbard. Clicking on the origin time shows more details about the solution. Clicking on the array name shows the input to the hypocenter location program.
Date Time Array Lat Lon Nd RMS Mag Area
2008-09-04 12:09:59.6 HFS 59.48 16.11 7 0.001 - Vaestmanland Region Sweden
2008-09-04 11:09:55.1 ARCES 69.39 30.67 7 0.001 - Norway-Murmansk border region
2008-09-04 10:53:19.5 FINES 59.43 27.44 6 0.001 - Baltic States - Belarus - Northwestern Russia region
2008-09-04 10:30:00.7 ARCES 67.95 26.11 7 0.000 - Central Lapland Finland
2008-09-04 09:35:52.6 NB2 -36.80 167.28 10 0.256 4.8 Northwest of New Zealand
2008-09-04 09:35:53.8 NOA -36.10 166.81 9 0.308 5.0 Northwest of New Zealand
2008-09-04 09:36:06.2 FINES -30.65 159.93 8 0.367 - East of Australia
2008-09-04 08:33:30.1 NB2 58.69 9.76 6 0.045 - Skagerrak
2008-09-04 06:34:50.0 ARCES 67.70 33.70 8 0.002 - Baltic States - Belarus - Northwestern Russia region
2008-09-04 03:26:48.7 ARCES 66.55 37.08 5 0.001 - Baltic States - Belarus - Northwestern Russia region

European-Mediterranean Seismological Centre

Centre Sismologique Euro-Méditerranéen
European-Mediterranean Seismological Centre

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Current time: 2008-09-04 10:31:06 UTC

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Real Time Seismicity

for details on a given earthquake, click on the Date & Time field

Disclaimer — Define your criteria to find specific events - Quick search: mag>=4 | mag>=5 — FAQ

Date & Time UTC	Latitude degrees	Longitude degrees	Depth km	Mag.	Region name	Last update
1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 ▸▸ Back in time						
2008-09-04 09:36:37.1	**11.81 S**	**167.21 E**	**33**	**mb 5.9**	**SANTA CRUZ ISLANDS**	**2008-09-04 10:15**
2008-09-04 09:09:55.4	50.53 N	13.55 E	10		CZECH REPUBLIC	2008-09-04 09:13
2008-09-04 08:40:01.8	36.81 N	21.70 E	14	ML 2.6	SOUTHERN GREECE	2008-09-04 08:43
2008-09-04 08:34:39.6	40.65 N	37.15 E	7	MD 3.0	CENTRAL TURKEY	2008-09-04 08:52
2008-09-04 08:07:50.0	0.22 S	124.41 E	10	M 4.5	MOLUCCA SEA	2008-09-04 09:46
2008-09-04 06:21:51.8	**10.58 N**	**85.78 W**	**64**	**mb 4.3**	**COSTA RICA**	**2008-09-04 08:55**
2008-09-04 05:35:05.1	**45.35 N**	**26.94 E**	**10**	**ML 2.6**	**ROMANIA**	**2008-09-04 08:54**
2008-09-04 05:17:36.8	**38.89 N**	**25.89 E**	**10**	**ML 3.3**	**AEGEAN SEA**	**2008-09-04 08:53**
2008-09-04 05:13:19.4	**38.31 N**	**29.95 W**	**2**	**ML 4.2**	**AZORES ISLANDS, PORTUGAL**	**2008-09-04 06:43**
2008-09-04 04:54:23.5	36.99 N	29.15 E	8	MD 3.0	WESTERN TURKEY	2008-09-04 06:33
2008-09-04 04:20:33.4	**37.00 N**	**29.14 E**	**5**	**ML 3.3**	**WESTERN TURKEY**	**2008-09-04 06:43**
2008-09-04 03:06:43.6	37.46 N	38.58 E	14	MD 3.3	EASTERN TURKEY	2008-09-04 07:12
2008-09-04 02:45:46.5	**39.38 N**	**25.33 E**	**10**	**ML 3.0**	**AEGEAN SEA**	**2008-09-04 08:52**
2008-09-04 02:04:10.9	51.13 N	157.19 E	70	mb 4.2	NEAR EAST COAST OF KAMCHATKA	2008-09-04 05:33
2008-09-04 01:55:31.6	**36.69 N**	**21.41 E**	**20**	**ML 3.4**	**SOUTHERN GREECE**	**2008-09-04 06:42**
2008-09-04 01:49:48.4	6.58 S	106.07 E	57	M 4.3	JAVA, INDONESIA	2008-09-04 06:28
2008-09-04 01:19:23.5	39.62 N	23.77 E	5	ML 2.5	AEGEAN SEA	2008-09-04 01:23
2008-09-04 00:13:20.1	**37.49 N**	**38.55 E**	**5**	**ML 3.0**	**EASTERN TURKEY**	**2008-09-04 06:40**
2008-09-03 23:46:56.0	40.74 N	20.50 E			ALBANIA	2008-09-04 07:35
2008-09-03 23:04:08.6	40.78 N	21.01 E	5	ML 2.6	GREECE	2008-09-03 23:09
2008-09-03 22:43:16.3	**32.44 N**	**47.28 E**	**50**	**mb 5.1**	**IRAN-IRAQ BORDER REGION**	**2008-09-03 23:23**
2008-09-03 22:34:39.2	**1.43 N**	**97.03 E**	**10f**	**mb 5.0**	**NIAS REGION, INDONESIA**	**2008-09-04 04:14**
2008-09-03 21:32:28.9	10.98 N	86.32 W	59	M 4.5	OFF COAST OF COSTA RICA	2008-09-04 06:22
2008-09-03 20:21:13.5	51.42 N	16.10 E		ML 2.1	POLAND	2008-09-03 20:26
2008-09-03 18:39:58.4	44.99 N	6.65 E	10	ML 2.4	FRANCE	2008-09-03 18:44
2008-09-03 18:29:04.6	**35.71 N**	**31.61 E**	**10**	**ML 3.4**	**CYPRUS REGION**	**2008-09-04 06:26**
2008-09-03 18:06:34.6	**35.10 N**	**33.16 E**	**30f**	**ML 3.0**	**CYPRUS REGION**	**2008-09-04 06:23**
2008-09-03 18:01:03.2	**37.10 N**	**28.97 E**	**10**	**ML 3.0**	**WESTERN TURKEY**	**2008-09-04 08:52**

Geophysical Survey, Russian Academy of Sciences

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RUSSIAN ACADEMY OF SCIENCES

GEOPHYSICAL SURVEY

INFORMATION | CATALOG | WAVE FORM | ALERT SURVEY | SOFT | LINKS | NETWORK | ABOUT

Quake happened 04-Sep-2008 02:04:10.9 in region Near east coast of Kamchatka lat: 51.13 lon: 157.19 mb: 4.2/4

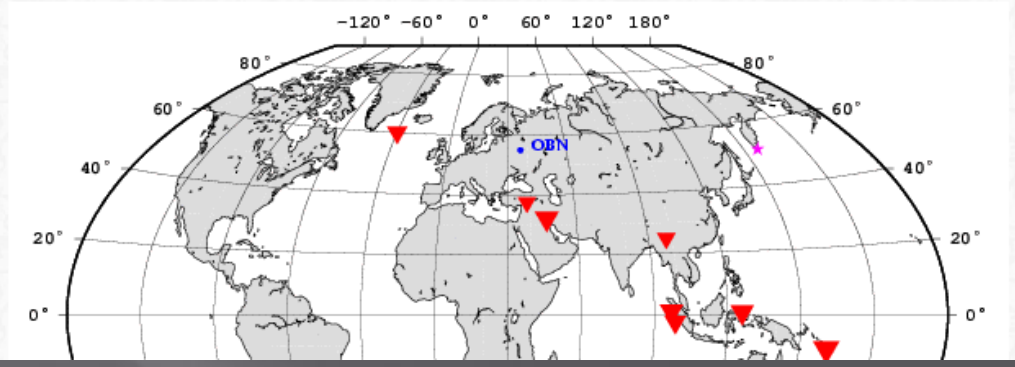
Recent earthquakes located by Alert Survey

Choice by number of events:
10 GO!
Information is presented for last month period

Choice by date:
4-09-108 GO!
Format: dd-mm-yyyy

Recent 10 earthquakes

Click on a region for regional information



United States Geological Survey

USGS
science for a changing world

Earthquake Hazards Program

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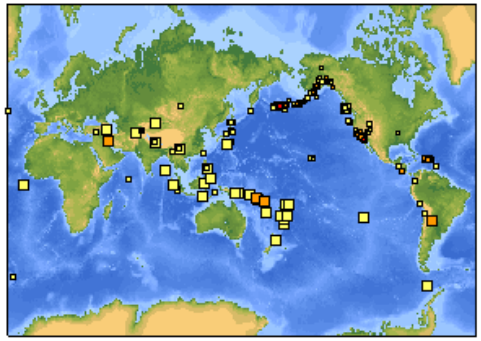
Latest Earthquakes - Last 7 Days

World *(Magnitude 4+)*

Thu Sep 04 11:06:50 GMT



USA *(Magnitude 1+)*

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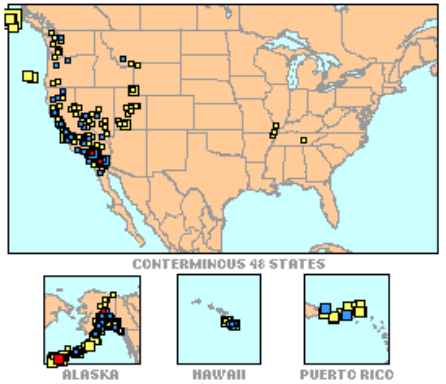

World Lists

- Magnitude 2.5/4+
- Magnitude 5+

World Regional Maps

- Africa
- Asia
- Australia
- Europe
- North America
- South America
- South Pacific
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USA Lists

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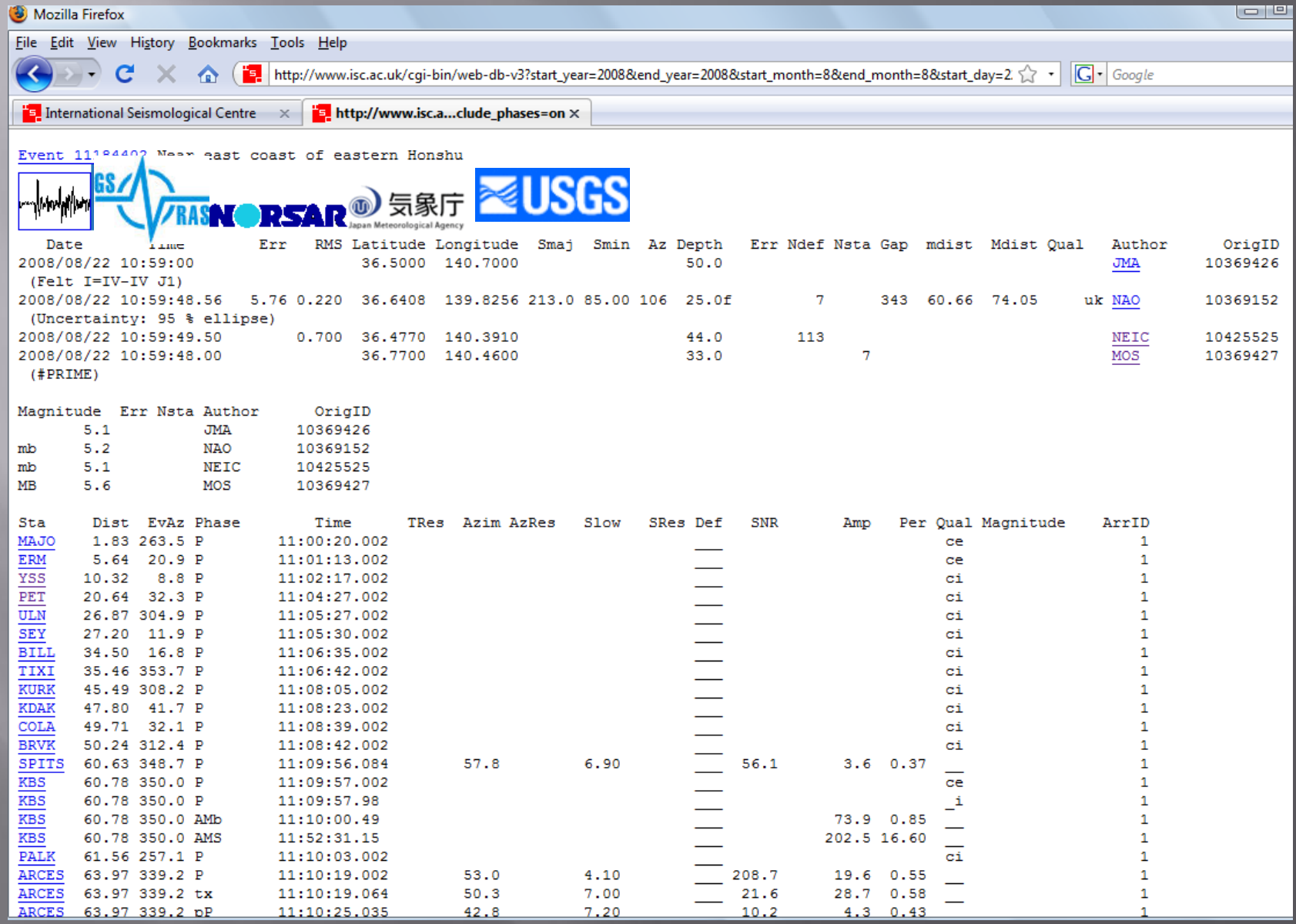
USA Regional Maps

- Alaska
- California/Nevada
- Central & Southeast
- Hawaii
- Long Valley
- Northeast
- Northwest
- Parkfield

Near coast of Eastern Honshu, 22-08-2008



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2008/08/22	10:59:00			36.5000	140.7000				50.0								JMA	10369426
(Felt I=IV-IV J1)																		
2008/08/22	10:59:48.56	5.76	0.220	36.6408	139.8256	213.0	85.00	106	25.0f		7		343	60.66	74.05	uk	NAO	10369152
(Uncertainty: 95 % ellipse)																		
2008/08/22	10:59:49.50		0.700	36.4770	140.3910				44.0		113						NEIC	10425525
2008/08/22	10:59:48.00			36.7700	140.4600				33.0			7					MOS	10369427
(#PRIME)																		

Magnitude	Err	Nsta	Author	OrigID
5.1			JMA	10369426
mb 5.2			NAO	10369152
mb 5.1			NEIC	10425525
MB 5.6			MOS	10369427

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	ArrID
MAJO	1.83	263.5	P	11:00:20.002						___				ce		1
ERM	5.64	20.9	P	11:01:13.002						___				ce		1
YSS	10.32	8.8	P	11:02:17.002						___				ci		1
PET	20.64	32.3	P	11:04:27.002						___				ci		1
ULN	26.87	304.9	P	11:05:27.002						___				ci		1
SEY	27.20	11.9	P	11:05:30.002						___				ci		1
BILL	34.50	16.8	P	11:06:35.002						___				ci		1
TIXI	35.46	353.7	P	11:06:42.002						___				ci		1
KURK	45.49	308.2	P	11:08:05.002						___				ci		1
KDAK	47.80	41.7	P	11:08:23.002						___				ci		1
COLA	49.71	32.1	P	11:08:39.002						___				ci		1
BRVK	50.24	312.4	P	11:08:42.002						___				ci		1
SPITS	60.63	348.7	P	11:09:56.084		57.8		6.90		___	56.1	3.6	0.37	__		1
KBS	60.78	350.0	P	11:09:57.002						___				ce		1
KBS	60.78	350.0	P	11:09:57.98						___				_i		1
KBS	60.78	350.0	AMb	11:10:00.49						___		73.9	0.85	__		1
KBS	60.78	350.0	AMS	11:52:31.15						___		202.5	16.60	__		1
PALK	61.56	257.1	P	11:10:03.002						___				ci		1
ARCES	63.97	339.2	P	11:10:19.002		53.0		4.10		___	208.7	19.6	0.55	__		1
ARCES	63.97	339.2	tx	11:10:19.064		50.3		7.00		___	21.6	28.7	0.58	__		1
ARCES	63.97	339.2	pP	11:10:25.035		42.8		7.20			10.2	4.3	0.43			1

Japan Meteorological Agency, recent events

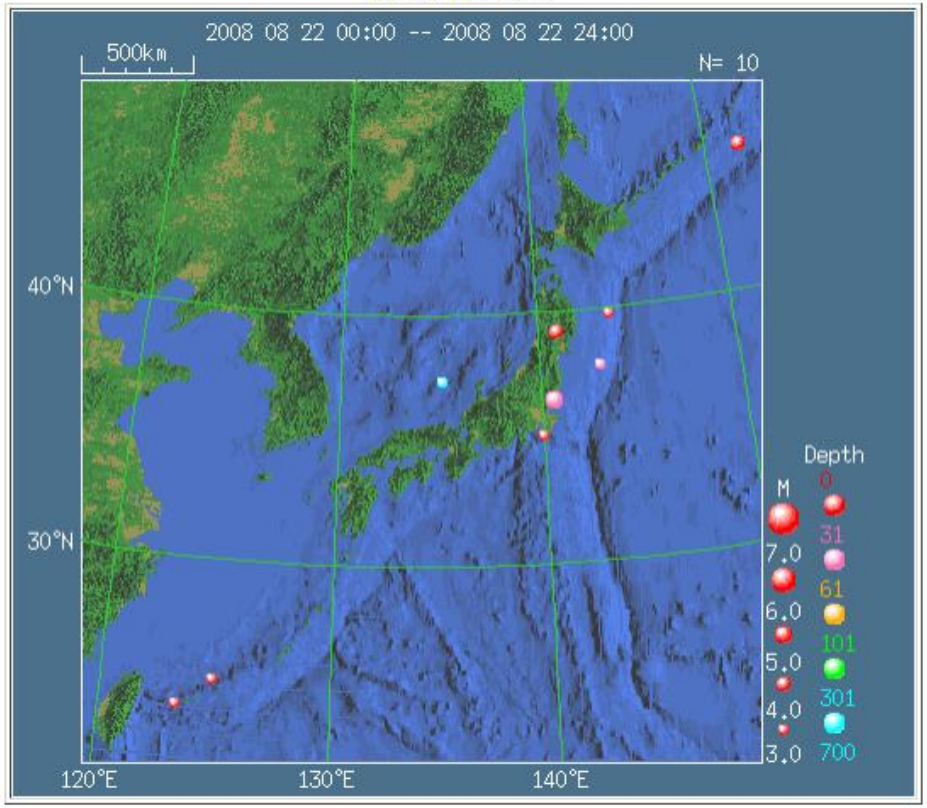
気象庁
Japan Meteorological Agency

サイトマッ

ホーム | 防災気象情報 | 気象統計情報 | 気象等の知識 | 気象庁について

ホーム > 気象統計情報 > 地震・津波 > 毎日の地震活動 > 全国M3以上の毎日の地震活動 > 8月22日の地震活動

翌日 前日 戻る



Southern Sumatera, last Saturday

Mozilla Firefox

File Edit View History Bookmarks Tools Help

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Google

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DATA_TYPE BULLETIN IMS1.0:short
ISC Comprehensive Bulletin
Event 11473230 Southern Sumatera
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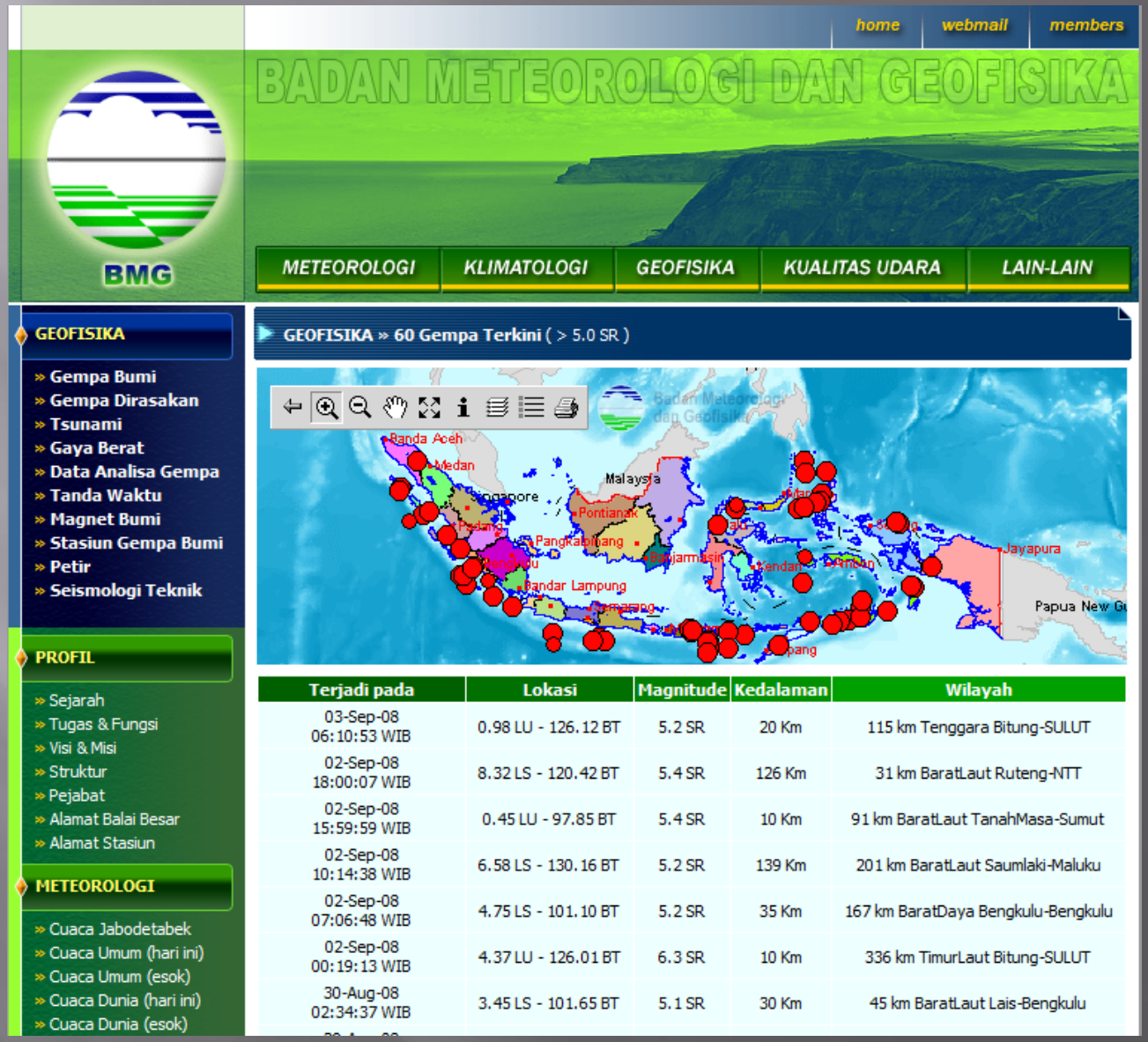
2008/11/22	22:05:55			-4.6540	101.1840												NEIC
2008/11/22	22:05:56.50			-4.6000	101.2000				30.0			5					CSEM
2008/11/22	22:05:57.00			-4.4800	101.4800				33.0				9				MOS
2008/11/22	22:05:56.80	0.80	0.700	-4.7500	101.1200				30.0f				238				DJA
(#PRIME)																	

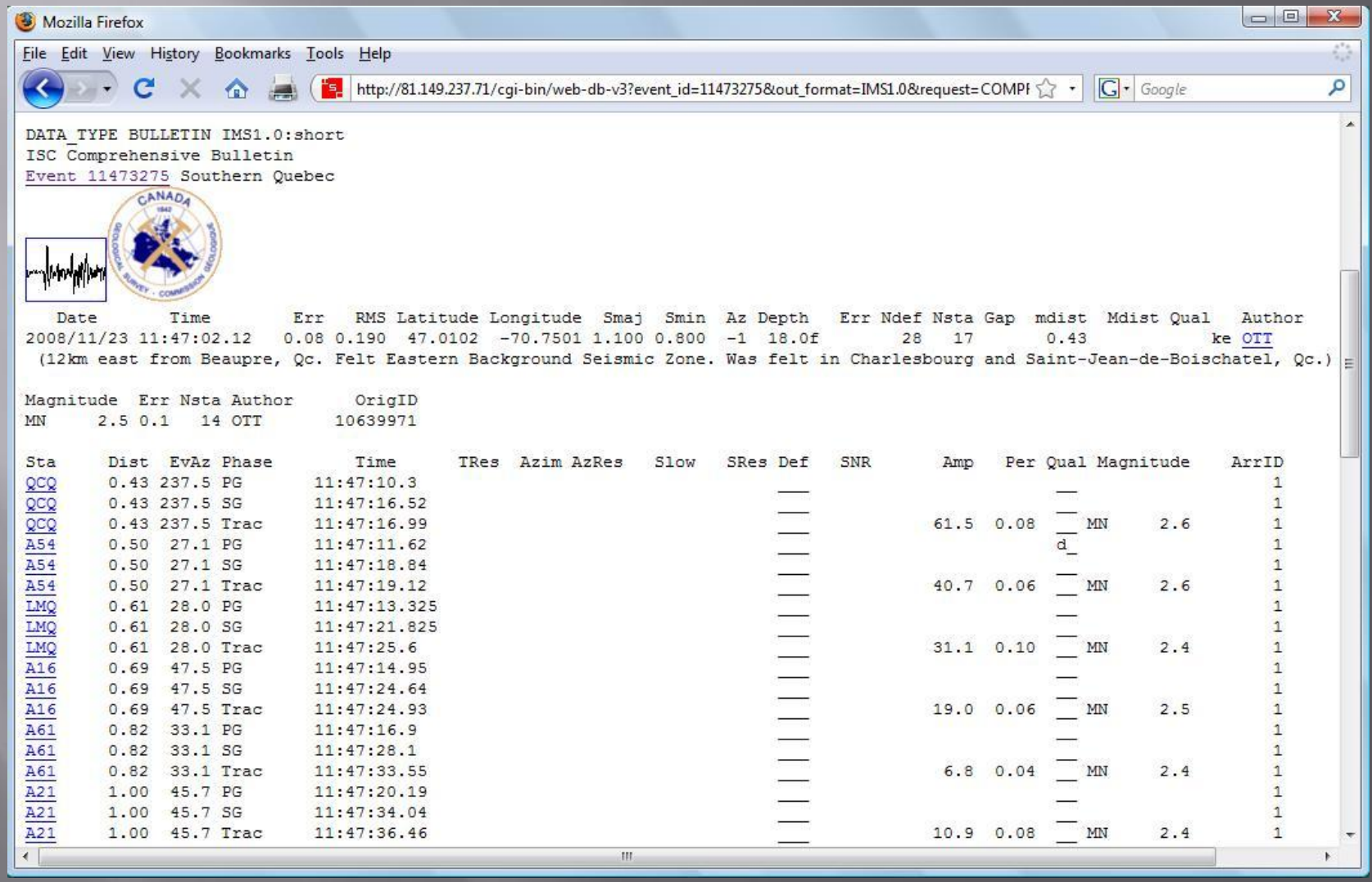
Magnitude	Err	Nsta	Author	OrigID
Mb 5.0			NEIC	10634560
M 5.1			CSEM	10636325
MB 5.3			MOS	10634562
M 5.0		5	DJA	10634559
mb 4.9		3	DJA	10634559
mB 5.2		3	DJA	10634559
MLv 5.1	0.2	5	DJA	10634559
Mw(mB 4.6		3	DJA	10634559

Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	ArrID
MNAI	1.82	80.6	P	22:06:26.8						___		25.3		MLv	5.0	1
KSI	1.83	53.5	P	22:06:25.1						___		57.1		MLv	5.3	1
LWLI	2.94	95.3	P	22:06:42.3						___		11.3		MLv	5.2	1
LWLI	2.94	95.3	S	22:07:17.7						___		11.3		MLv	5.2	1
MDSI	3.06	85.2	P	22:06:43.1						___		3.5		MLv	4.8	1
MDSI	3.06	85.2	S	22:07:22.1						___		3.5		MLv	4.8	1
SDSI	3.81	4.6	P	22:06:53.8						___						1
PDSI	3.87	350.2	P	22:06:54.2						___		3.5		MLv	5.1	1
BLSI	4.16	98.7	P	22:07:01.6						___						1
PPI	4.33	350.4	P	22:07:01.6						___						1
RGRI	4.54	15.5	P	22:07:03.7						___						1
RBSI	4.73	103.5	P	22:07:06.5						___						1
CGJI	4.91	112.3	P	22:07:08.3						___						1
BKNI	5.07	359.0	P	22:07:11.0						___		2813.0		mb	5.1	1

Badan Meteorology & Geophysics, Indonesia



Southern Quebec, last Sunday

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DATA_TYPE BULLETIN IMS1.0:short
ISC Comprehensive Bulletin
Event 11473275 Southern Quebec
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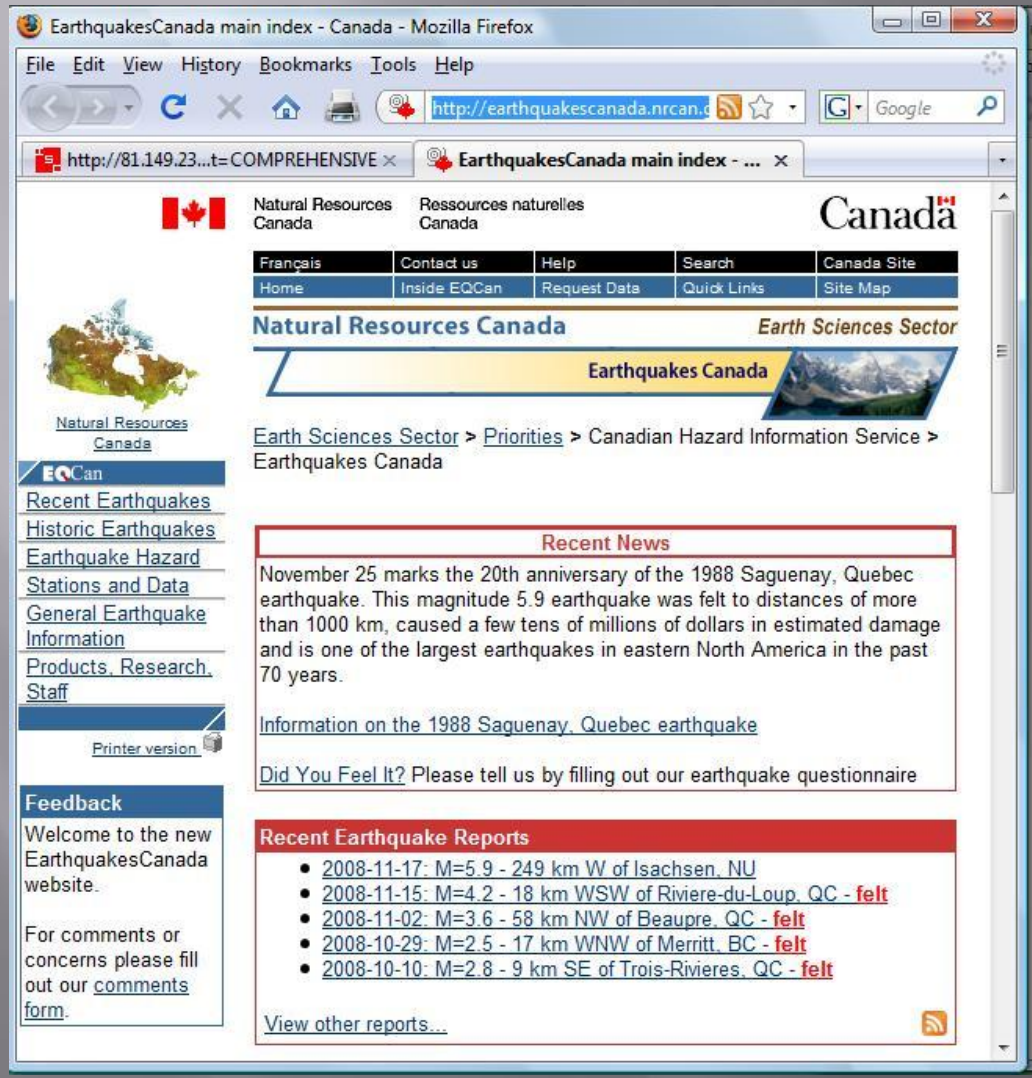
2008/11/23	11:47:02.12	0.08	0.190	47.0102	-70.7501	1.100	0.800	-1	18.0f			28	17	0.43		ke	OTT

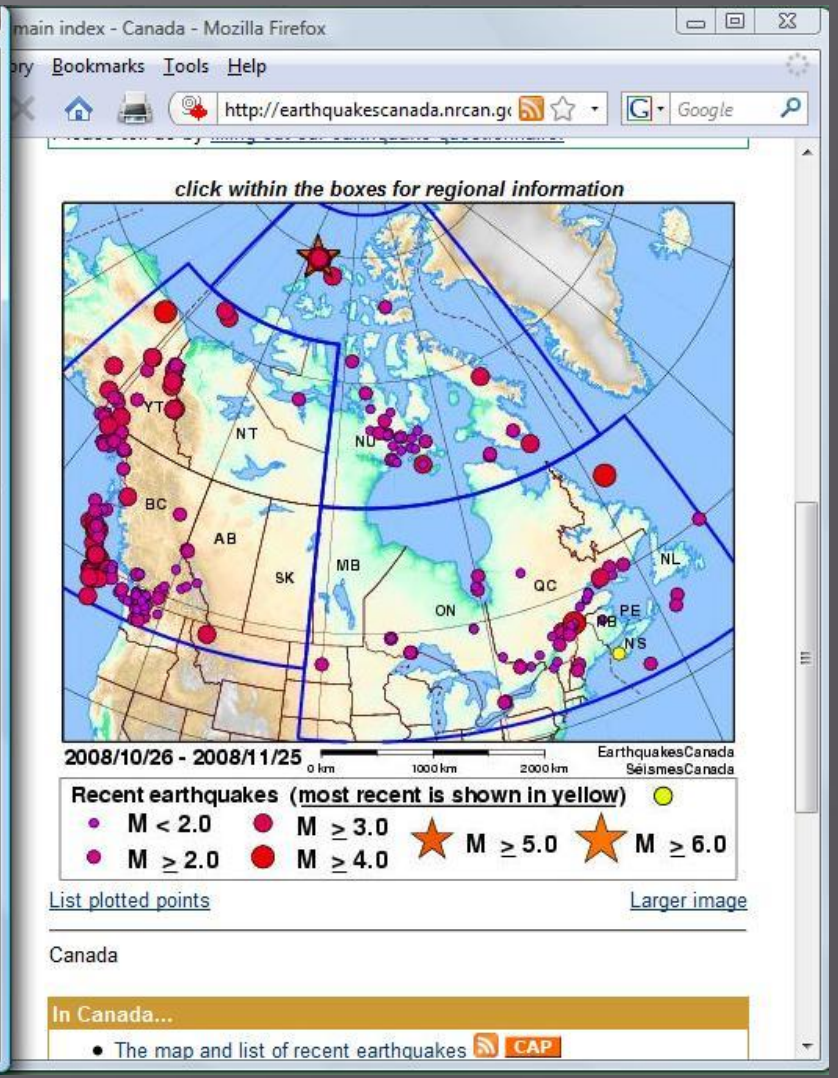
(12km east from Beaupre, Qc. Felt Eastern Background Seismic Zone. Was felt in Charlesbourg and Saint-Jean-de-Boischatel, Qc.)

Magnitude	Err	Nsta	Author	OrigID
MN 2.5	0.1	14	OTT	10639971

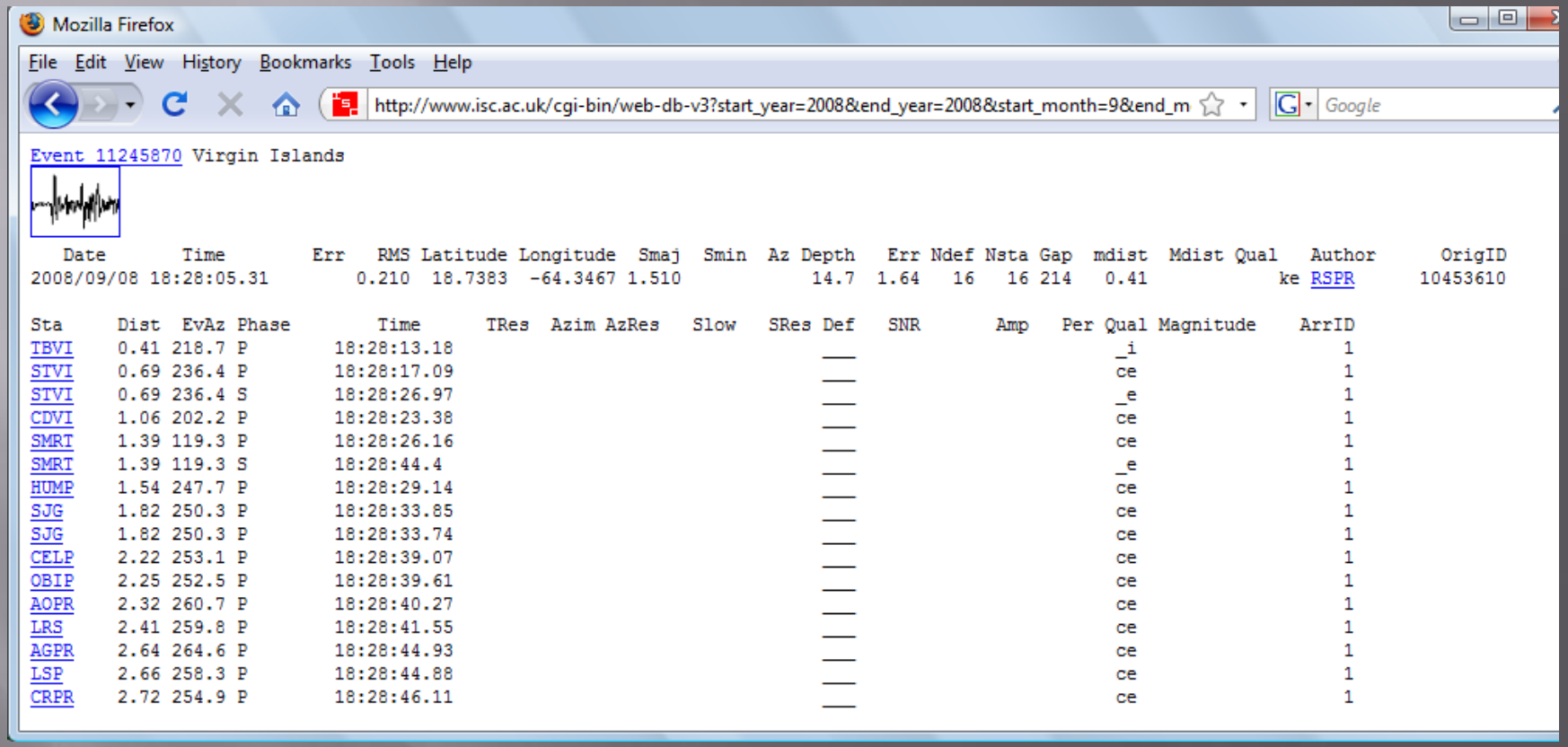
Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	ArrID
QCQ	0.43	237.5	PG	11:47:10.3						____				__		1
QCQ	0.43	237.5	SG	11:47:16.52						____				__		1
QCQ	0.43	237.5	Trac	11:47:16.99						____		61.5	0.08	__	MN 2.6	1
A54	0.50	27.1	PG	11:47:11.62						____				d_		1
A54	0.50	27.1	SG	11:47:18.84						____				__		1
A54	0.50	27.1	Trac	11:47:19.12						____		40.7	0.06	__	MN 2.6	1
LMQ	0.61	28.0	PG	11:47:13.325						____				__		1
LMQ	0.61	28.0	SG	11:47:21.825						____				__		1
LMQ	0.61	28.0	Trac	11:47:25.6						____		31.1	0.10	__	MN 2.4	1
A16	0.69	47.5	PG	11:47:14.95						____				__		1
A16	0.69	47.5	SG	11:47:24.64						____				__		1
A16	0.69	47.5	Trac	11:47:24.93						____		19.0	0.06	__	MN 2.5	1
A61	0.82	33.1	PG	11:47:16.9						____				__		1
A61	0.82	33.1	SG	11:47:28.1						____				__		1
A61	0.82	33.1	Trac	11:47:33.55						____		6.8	0.04	__	MN 2.4	1
A21	1.00	45.7	PG	11:47:20.19						____				__		1
A21	1.00	45.7	SG	11:47:34.04						____				__		1
A21	1.00	45.7	Trac	11:47:36.46						____		10.9	0.08	__	MN 2.4	1

Natural Resources, Canada





Virgin Islands, 08-09-2008



Event 11245870 Virgin Islands

Date	Time	Err	RMS	Latitude	Longitude	Smaj	Smin	Az	Depth	Err	Ndef	Nsta	Gap	mdist	Mdist	Qual	Author	OrigID
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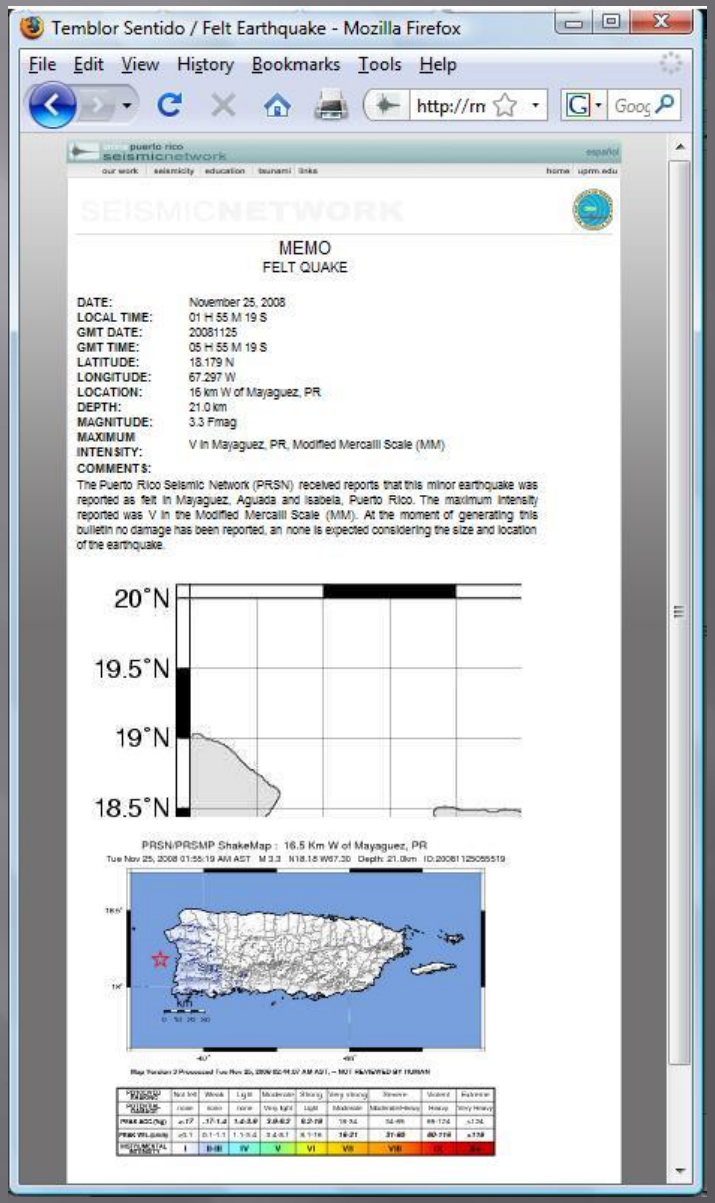
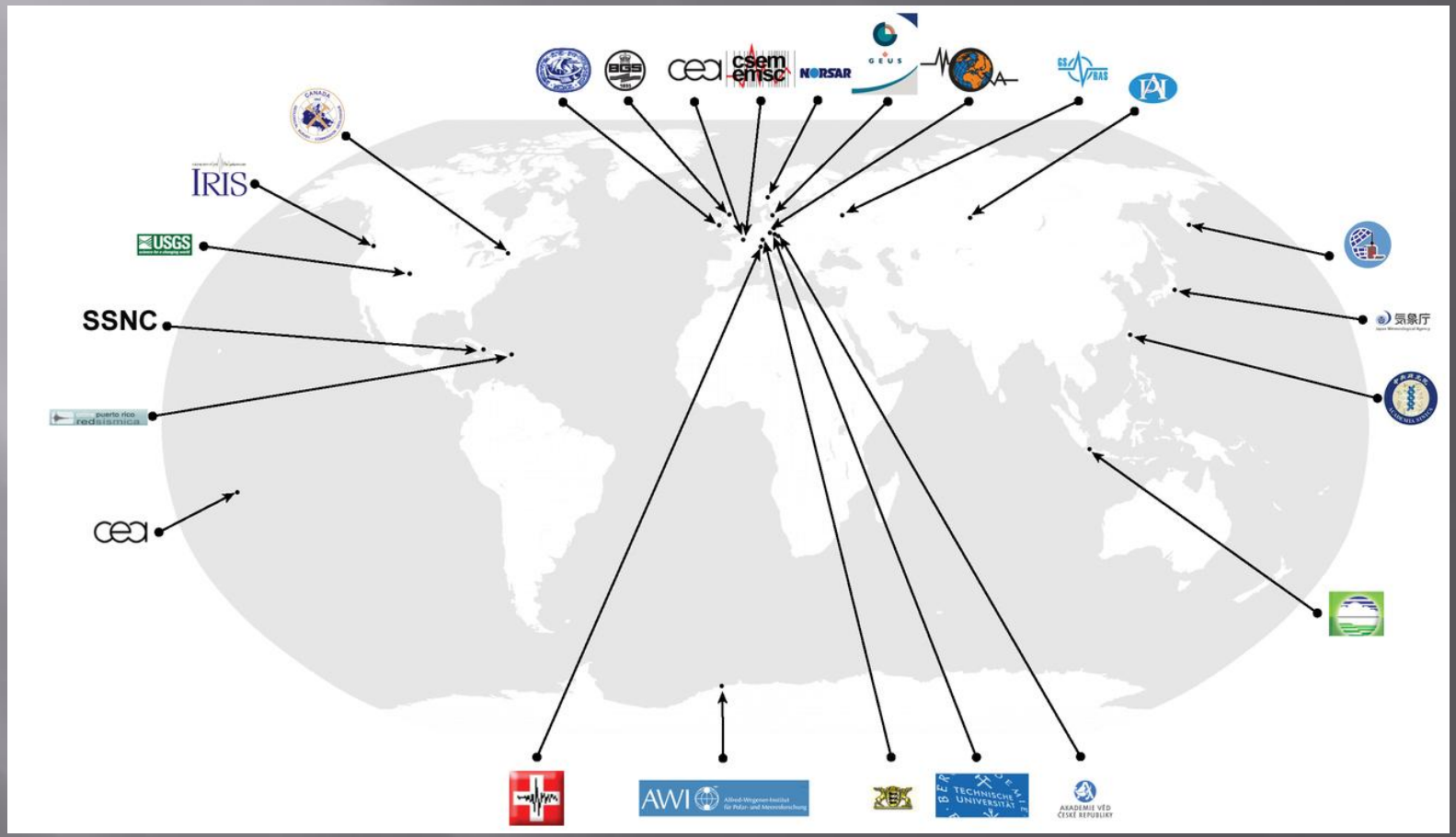
Sta	Dist	EvAz	Phase	Time	TRes	Azim	AzRes	Slow	SRes	Def	SNR	Amp	Per	Qual	Magnitude	ArrID
TBVI	0.41	218.7	P	18:28:13.18						___				_i		1
STVI	0.69	236.4	P	18:28:17.09						___				ce		1
STVI	0.69	236.4	S	18:28:26.97						___				_e		1
CDVI	1.06	202.2	P	18:28:23.38						___				ce		1
SMRT	1.39	119.3	P	18:28:26.16						___				ce		1
SMRT	1.39	119.3	S	18:28:44.4						___				_e		1
HUMP	1.54	247.7	P	18:28:29.14						___				ce		1
SJG	1.82	250.3	P	18:28:33.85						___				ce		1
SJG	1.82	250.3	P	18:28:33.74						___				ce		1
CELP	2.22	253.1	P	18:28:39.07						___				ce		1
OBIP	2.25	252.5	P	18:28:39.61						___				ce		1
AOPR	2.32	260.7	P	18:28:40.27						___				ce		1
LRS	2.41	259.8	P	18:28:41.55						___				ce		1
AGPR	2.64	264.6	P	18:28:44.93						___				ce		1
LSP	2.66	258.3	P	18:28:44.88						___				ce		1
CRPR	2.72	254.9	P	18:28:46.11						___				ce		1

Data reported by Puerto Rico Seismic Network

Puerto Rico Seismic Network



Agencies providing provisional data to the ISC at present



Message from the ISC:

1. The International Seismological Centre (ISC) is attempting to run a comprehensive **up-to-date** summary (1960-present) of **global** seismicity with bulletin data available to users soon after these data are made available to the ISC.

2. The ISC invites seismic networks and regional data centres to contribute **reviewed fast event solutions or provisional bulletin data** prior to normal delivery of final reviewed bulletin products.

Acknowledgements

The ISC is **grateful** to

- **56** Member-institutions contributing funds &
- **120** Agencies providing seismic bulletin data

towards compilation of the ISC Bulletin –
the definitive summary of global seismicity.