ISC Repository of Author's Seismological Datasets

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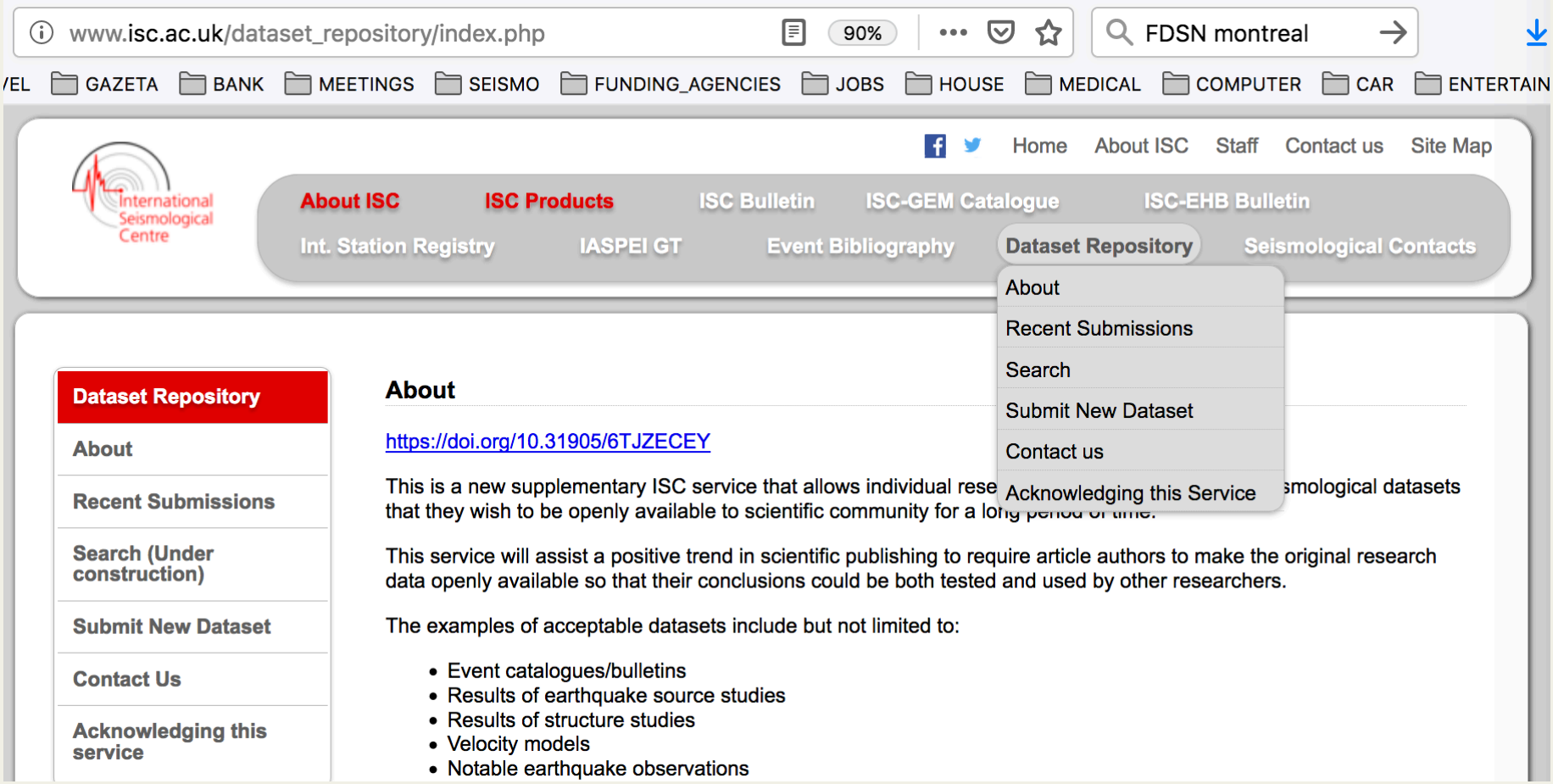
Intro: New Service from ISC – Dataset Repository



We introduced a new supplementary ISC service that allows individual researchers or groups to submit various seismological datasets and expect them to be available to the community in the long term.

Intro: Examples of Accepted Datasets

Examples of acceptable datasets include but not limited to:

- Event catalogues
- Results of earthquake source studies
- Results of structure studies (maps and cross-sections)
- Velocity models
- Notable earthquake observations
- Seismological computer code
- Other?

No raw waveforms

Intro: Benefits

- ✓ Free for Submitters,
- ✓ DOI (CrossRef),
- ✓ Free for Users,
- ✓ long-term availability,
- ✓ secure preservation,
- ✓ one of the legitimate independently maintained repositories to satisfy scientific journal requirements.

This service will assist a growing trend in scientific publishing to require article authors make the original research data openly available so that their conclusions could be both tested and used by other researchers.

Intro: One or Two DOIs

- If a dataset is to be preserved (*e.g. an event catalogue that was used in a published article*) - **a single DOI**, no updates or changes will be allowed.
- If a dataset is likely to be changed in the future (*e.g. velocity models*) - **two DOIs: a version DOI and a concept DOI**. To update your dataset - submit a new version to receive a new DOI.

We are following the guidelines of the Repositories Expert Group (Fenner, M., Crosas, M., Grethe, J.S., Kennedy, D., Hermjakob, H., Rocca-Serra, P., Durand, G., Berjon, R., Karcher, S., Martone, M. and Clark, T., 2019, A data citation roadmap for scholarly data repositories, Scientific data, 6, https://doi.org/10.1038/s41597-019-0031-8

Example 1: USGS Broadband Source Parameter Catalog

Title: **USGS Broadband Source Parameters Catalog (1987-2013)**

DOI: https://doi.org/10.31905/GYFGEW7I

Submission Date: 12-06-2019

Author: George L Choy

Affiliation: USGS

Keywords: *Global Catalog, Radiated Energy and Energy Magnitude, Broadband depths, Broadband focal mechanism, Apparent Stress*

Related Publications:

Boatwright, J., and Choy, G. L., 1986, Teleseismic estimates of the energy radiated by shallow earthquakes: Journal of Geophysical Research, v. 91, p. 2095–2112.

Choy, G. L., and Boatwright, J., 1995, Global patterns of radiated seismic energy and apparent stress: Journal of Geophysical Research, v. 100, p. 18205-18208.

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Example 2: Travel times of seismic waves from US nuclear explosions recorded in USSR

Title: **Pahute Test Site Travel-times to Seismic Array at Borovoye**

Arrival times of seismic waves from US underground nuclear test Pahute at the Nevada test site recorded by the sub-system "Ozherelye" of the large-base seismic array of Geophysical Observatory "Borovoye"

DOI: https://doi.org/10.31905/GYFGEW7I

Submission Date: 12-06-2019

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[2] Research Station of Russian Academy of Sciences (RS RAS), Bishkek, Kyrgyzstan

Related Publications:

An, V.A., Kaazik, P.B., Nepeina, K.S., Chelyubeyeva, T.V. Seismic arrays "Ozhereleye" of Geophysical Observatory "Borovoye" NNC RK. p. 27-31. (in Russian)

Example 3: 2015 Gorkha Earthquake Sequence Recorded at a Temporary Network in Tibet Region

Title: **Source parameters and travel times of the 2015 Mw 7.8 Gorkha earthquake sequence**

Locations and arrival times recorded by stations at the China-Nepal border

DOI: https://doi.org/10.31905/QURKZNN1

Submission Date: 08-07-2019

Author: Ling Bai [1] Simon Klemperer[2], James Mori[3], Marianne Karplus[4], Lin Ding[5], Hongbing Liu[6], Guohui Li[7], Bowen Song[8], Sanjev Dhakal [9],

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Related Publications:

L. Bai, S. L. Klemperer, J. Mori, M. S. Karplus, L. Ding, H. Liu, G. Li, B. Song, S. Dhakal, Lateral variation of the Main Himalayan Thrust controls the rupture length of the 2015 Gorkha earthquake in Nepal. Sci. Adv. 5, eaav0723 (2019).

Summary

We hope that this new ISC service, the Seismological Dataset Repository, will be actively used by the community to:

- preserve the results of the former and current work by making those openly available long-term
- satisfy scientific journals requirement to make the datasets, used in scientific articles, openly available