

# Studying induced seismicity within the EPOS Thematic Core Service on Anthropogenic Hazards (TCS-AH)

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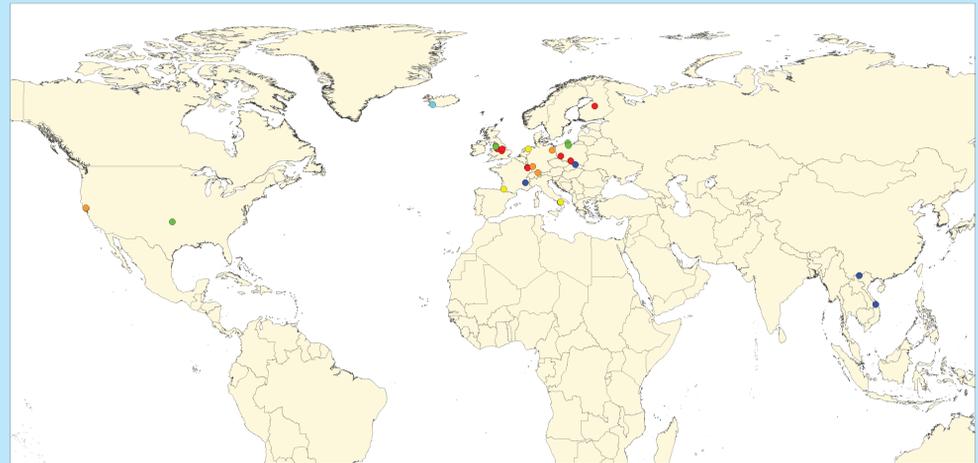
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## EPOS TCS-AH

brings together a broad community interested in Anthropogenic Hazards (AH) related to induced seismicity. It is designed as a functional e-research infrastructure that provides access to a large set of relevant data and allows free experimentations in a virtual laboratory, promoting interdisciplinary collaborations between stakeholders (the scientific community, industrial partners and society).

The platform provides datasets as Episodes, comprehensively sets of time-correlated, standardized datasets from exploration/exploitation of geo-resources, composed of seismic, industrial, geo and additional data. Two local centres provide metadata and data in commonly used standards and formats. A registration/authorization is mandatory to access some data covered by restriction (running projects, industrial data).



Episodes are related to different categories :

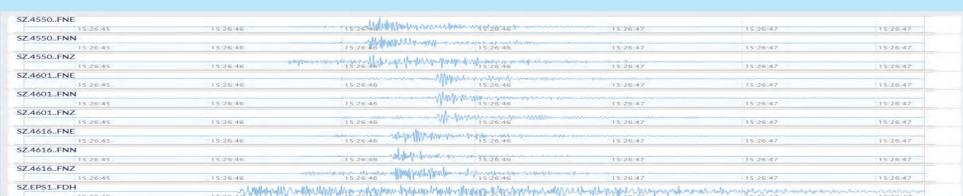
- CO2 sequestration
- conventional hydrocarbon extraction
- geothermal energy production
- reservoir impoundment
- unconventional hydrocarbon extraction
  - underground gas storage
- underground mining
  - wastewater injection

## APPLICATIONS

The platform grants access to an application portfolio, designed to analyse anthropogenic seismicity and related hazards, and process the data in a private workspace, including :

- data integration, handling and display
- build of physical models of stress/strain changes
- analyses of geophysical signals
- extraction of the relation between technological observations and observed induced seismic/deformation
- probabilistic assessment of anthropogenic seismic hazard.

Results of analyses are downloadable from private workspace.



**Completeness Magnitude Estimation**

Inputs: Catalog: Report ID: SF5193/SF5193-catalogue.net

Outputs:

Fit estimation by Goodness of Fit test at 95% confidence bounds	-1.8
Fit estimation by Goodness of Fit test at 91% confidence bounds	-1.7
Fit estimation by Maximum Curvature Method	-1.7
Fit estimation by Modified Goodness of Fit test	-1.6

Plot: Number of events vs Magnitude bins

**Catalog**

Summary: 10742 events from 1993 Sep 02 to 1993 Sep 22

Date	Location	Magnitude
1993 Sep 02 14:03:03	France	2.4
1993 Sep 02 14:03:03	France	2.4
1993 Sep 02 14:03:03	France	2.4
1993 Sep 02 14:03:03	France	2.4
1993 Sep 02 14:03:03	France	2.4
1993 Sep 02 14:03:03	France	2.4
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