



USC University of
Southern California



Induced Seismicity Consortium

Induced Seismicity Mapping (ISM) Software

Executive Director
Fred Aminzadeh

Developers
Qiaosi Chen
Tayeb Tafti
Aditya Tiwari

Clark

Menu

USC University of Southern California

California Oil and Gas Field Seismicity
Induced Seismicity Consortium (ISC)

Field District: District 1

Field Name: <Please select a Field District first>

Setting

Data Source

NCEDC (Northern California)

SCEC (Southern California)

ANSS (General California)

Hydraulic Fracture Jobs

2011 - present (Details from fracfocus)

All (from Doggr database)

Occurrence Year

ALL

Well Type

WF WD SF GS AI PM OG

Version: 1.0 (Published Version) Copyright University of Southern California

Developer:
Qiaosi Chen
Tayeb Ayatollahy Tafti

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Induced Seismicity Mapping (ISM) USER'S MANUAL

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1.1 Software Overview

The Induced Seismicity Map (ISM) software (developed in MATLAB v2012a) is a structured tool designed to aid in the visualization and discretization of earthquakes based on various plausible factors like fluid injection, oil and natural gas production, hydraulic fracturing and the presence of faults.

The ISM software provides a platform to map existing oilfields in California with details regarding the injection and production wells in that particular field. The software also allows the user to correlate subsurface injection and production (SFIP) activities with the regionally observed seismicity. In particular, the software maps the seismically active faults along with earthquakes and magnitudes in that specific region. The ISM allows the user to include parameters like time, depth, and location of seismic events along with SFIP activities. And the user has the option to implement queries with respect to these parameters for temporal and spatial analysis. In addition, the software provides an option to choose from the type of injection wells to correlate with, which includes water disposal (WD), steam flood (SF), and other type of injection wells.