Questions for NEIC from NEPEC:

How well, and how quickly, can offshore earthquakes in & around Cascadia (M=5) be located and characterized?

How do PNSN and NEIC divide responsibilities in this region?

What issues might arise given different information sources for events offshore Canada, or near the California-Oregon border?
ANSS Authoritative Regions

M5.2 May 9, 12:50 am PDT, 62 km West of Petrolia
2007-05-05 07:56 (MI 5.1) OFFSHORE NORTHERN CALIFORNIA 40.4-125.0
b: USGS EQS <ers@usgs.gov>

== PRELIMINARY EARTHQUAKE REPORT ==

BEGIN:
OFFSHORE NORTHERN CALIFORNIA

Geographic Coordinates: 125.01N, 40.40W
Magnitude: 5.1

IMF (M0): 8.5

Time near the epicenter: 9 May 2007 07:56:16

Location will report to nearby cities:

10 km (6 miles) S W of Santa Barbara, CA
21 km (13 miles) SW of Santa Barbara, CA
28 km (17 miles) S W of Santa Barbara, CA

ADDITIONAL EARTHQUAKE PARAMETERS:

-eqgr 10 2

This is a computer-generated message and has not yet been reviewed by a seismologist.
For assessment updates, maps, and technical information, see:
http://earthquake.usgs.gov/

CREDITS:
Northern California Seismograph Network
Environment Canada
USGS Hazards Study Branch

DISCLAIMER:

This email was sent by USGS.

The reported event is within the 'Continental US' region for MI 2 between 8.00 and 9.99 and MI 1 other times.

== USGS EARTHQUAKE RISK PROGRAM ==

Welcome to the U.S. Geological Survey Earthquake Hazards Program

Headlines
Earthquakes
Today's Earthquake Facts

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- ANSS/GP
- EQS
- Earthquake Topics
- Publications
- FAQS
- Faults
- Google Earth

Contact Us | Site Map


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First-Motion Focal Mechanism for Event nc51181705.ncfml

The focal mechanism shown below graphically portrays the orientation of the fault plane on which the earthquake occurred and the direction of relative motion on that plane. This information was automatically calculated from the first motion directions of the compressional (P) waves. A more detailed explanation describes how to interpret a focal mechanism, if more than one mechanism exists for this earthquake, then any of the solutions fit the first-motion data equally well. An index of other focal mechanisms is also available.

USGS NORTHERN CALIFORNIA SEISMO NETWORK

FIRST-MOTION FOCAL MECHANISM

Event Date & Time: 05/09/2017 07:10:05 GMT - Wed May 10 0:10:05 PDT 2017
Location: 40.257044, -122.091008
Depth: 9.6 km, depth (5.7 km.wd)
Magnitude: 5.1 Mw
Azimuthal uncertainties: 8 deg.
Ephemeris uncertainty: 5 deg.
Radiation pattern uncertainties: 5 deg.
First-Motion Focal Mechanism for Event nc5118705.ncfm2

The focal mechanism shown below graphically portrays the orientation of the fault plane on which the earthquake occurred and the direction of relative motion of the compressional (P) wave. A more detailed explanation describes how to interpret a focal mechanism. If more than one mechanism exists for this earthquake, then any of the solutions fit the first-motion data equally well. An index of other focal mechanisms is also available.

This is a preliminary USGS moment tensor solution for the event located 62 km W of Petrolia, CA; 40.376N 125.014W; Z=9km; MD=5.0 (USGS/NCDB Joint Notification System) on May 9, 2007 at 7:51:05 UTC. Other information about this event can be viewed at http://earthquake.usgs.gov/recenteqs/aql/aql.php

Reviewed by:
Guilhem
UCSB Seismological Laboratory

Inversion method: complete waveform
Stations used: GA, HUMB, JCC and WCC

Berkeley Moment Tensor Solution

Best Fitting Double-Couple:

\[ M_w = 7.1 \pm 0.5 \text{ Dyne-cm} \]
\[ M_v = 5.2D \]
Q = 11

Plane Strike Rake Dip
NP = 166 24 85
MP = 56 175 66

Principal Axes:

<table>
<thead>
<tr>
<th>Axis</th>
<th>Value</th>
<th>Plunge</th>
<th>Azimuth</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>7.810</td>
<td>20</td>
<td>34</td>
</tr>
<tr>
<td>N</td>
<td>0.000</td>
<td>66</td>
<td>119</td>
</tr>
<tr>
<td>P</td>
<td>-7.810</td>
<td>13</td>
<td>320</td>
</tr>
</tbody>
</table>

Event Date/Time: May 9, 2007 at 7:51:05 UTC
Event ID: nc5118705
Moment Tensor: Scale = [10**3] Dyne-cm

Component Value
Rxx -1.970
Rxy 6.908
Rzx 0.180
Myy 1.428
Myy 3.184
Mzz 6.552
ShakeCast: Summary Nuclear Power Plants: 51181705 (1)

ShakeCast Event: Magnitude 5.2

Damage Summary
Number of Facilities Reported: 24
Max Value: MMI 3.03
Number of Reports of Likely Damage: 0
Number of Reports of Possible Damage: 0

---

ShakeMap Facility Damage Estimates

<table>
<thead>
<tr>
<th>Facility</th>
<th>Damage Level</th>
<th>Metric</th>
<th>Value</th>
<th>Exceedance Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humboldt Bay, Eureka, CA</td>
<td>MMI 3</td>
<td>0.300</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

END