

IRIS Education and Public Outreach: K-16 Resources

We advance awareness and understanding of
seismology and geophysics, while inspiring careers
in Earth sciences

John Taber, taber@iris.edu

Director of Education and Public Outreach

www.iris.edu

Facilitate – Collaborate – Educate

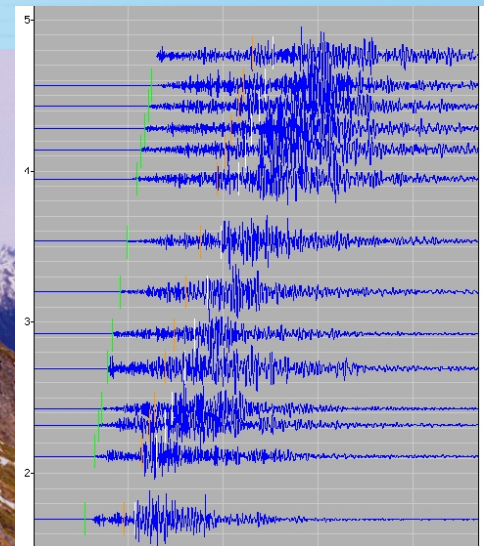
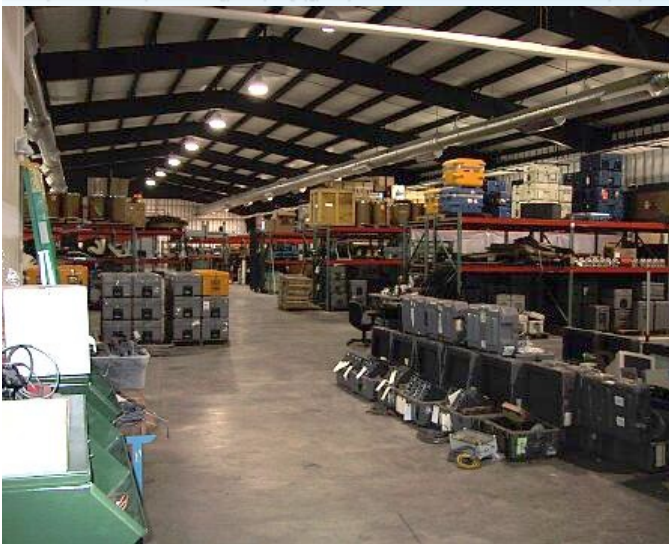
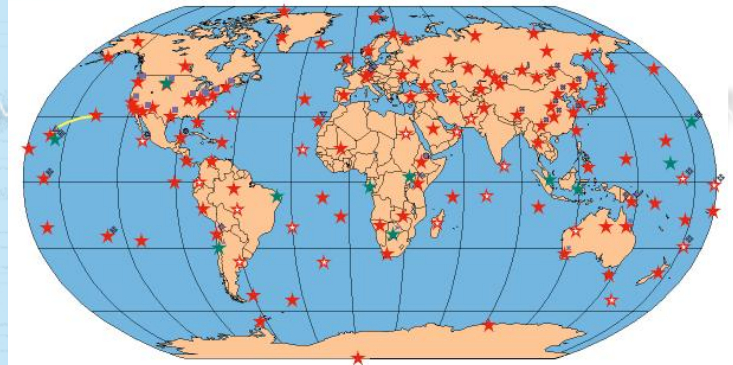




GLOBAL SEISMOGRAPHIC NETWORK

What is IRIS?

- Consortium of 140 US colleges and universities
- Global Seismic Network
- Equipment pool of thousands of portable seismographs for worldwide field studies
- Free and open access to all data and data products
- USArray
- **Education and Public Outreach**



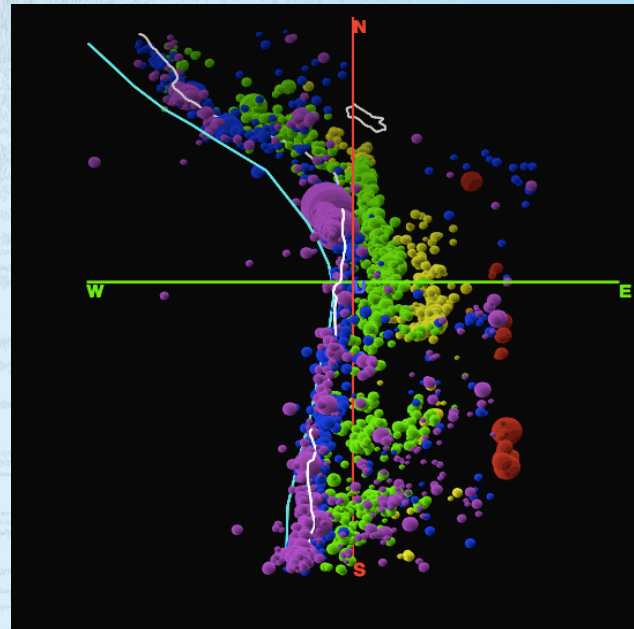
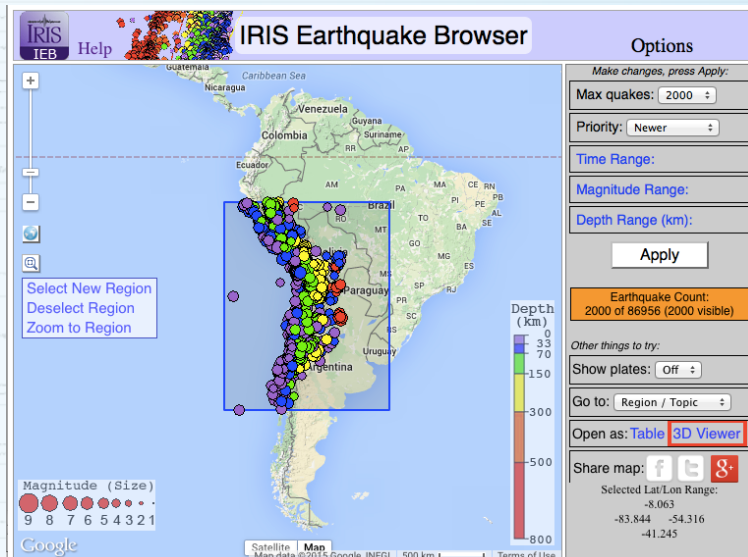
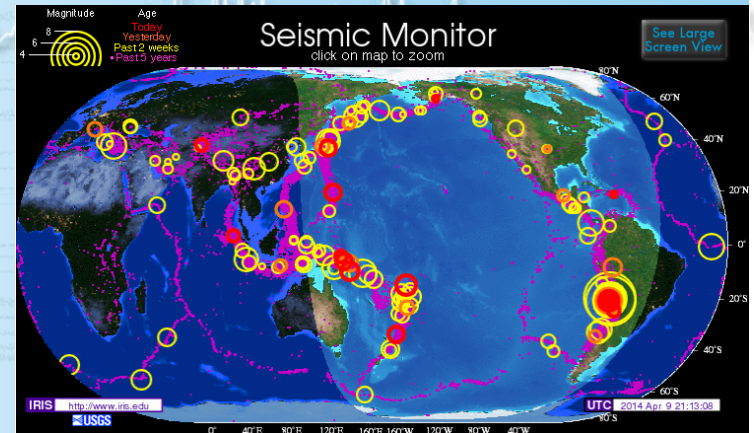
Education and Public Outreach Program

- Seismology in the science classroom
 - K-12, undergraduate, graduate
- Public awareness of earthquakes and Earth science



Viewing and exploring earthquake locations

- Seismic Monitor
 - Quick look at last 2 weeks
- Earthquake Browser
 - Explore recent and the past 50 years of earthquake locations worldwide
 - Map view and 3D



Teachable Moment slide sets

- Newsworthy earthquakes motivate students
- Slide sets produced within 1 day for M7+ earthquakes
 - Tell a story about the earthquake
 - Jointly produced with Univ. of Portland, collaborative content from USGS, UNAVCO, ESN0 and others
 - In English and Spanish

Magnitude 7.0 earthquake, 46km S of Acari, Peru
September 25, 2013
45 km deep

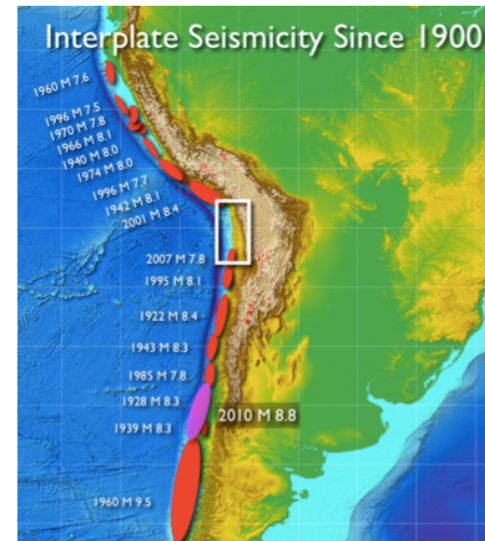


Topics:
Earthquakes
Plate tectonics
Subduction
Seismic waves

IRIS
TEACHABLE MOMENT

IRIS
Teachable Moments

Magnitude 8.2 NORTHWEST OF IQUIQUE, CHILE
Tuesday, April 1, 2014 at 23:46:46 UTC



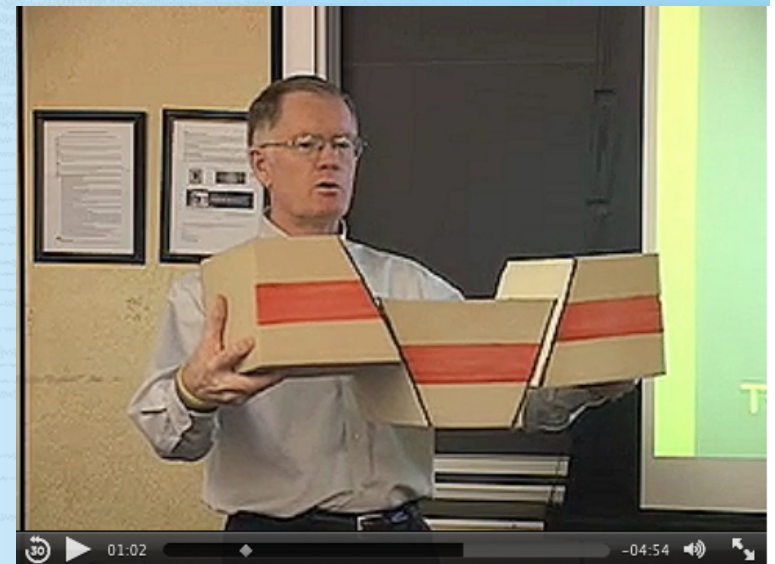
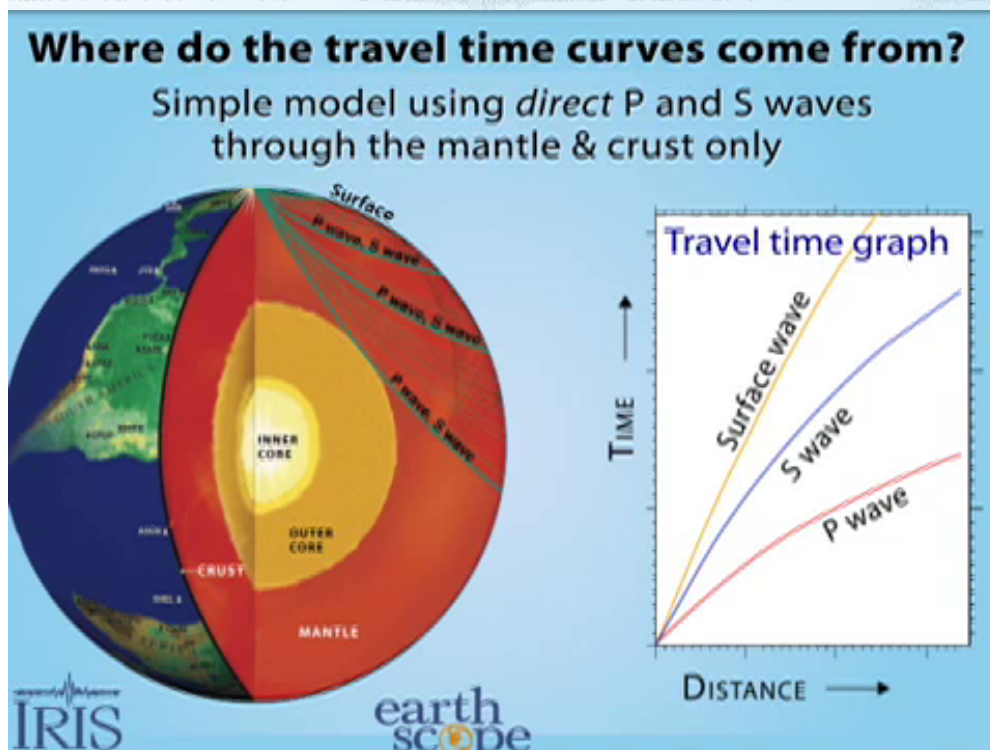
This figure, made prior to this earthquake, shows the approximate locations of megathrust earthquake events along the boundary between the Nazca and South American plates since 1990, based on a compilation from many sources by Matt Pritchard and Richard Allmendinger of Cornell.

The white box highlights the Iquique gap, which had not had a major megathrust earthquake since 1877 and thus had a high probability of rupturing.

Image courtesy Richard Allmendinger

Animations, videos, social media

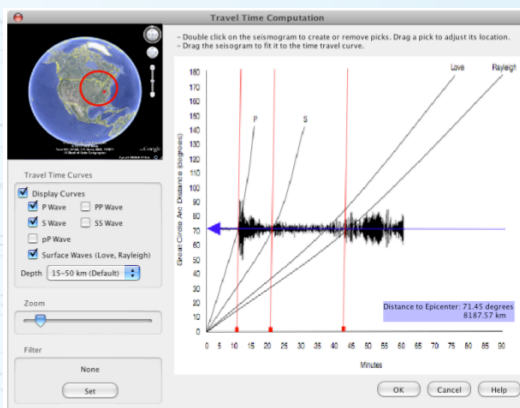
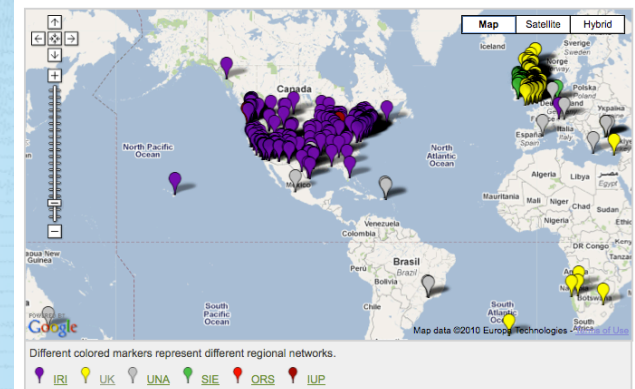
- Over 100 animations, visualizations and videos for use in teaching
- Via website and Youtube
- Designed to simplify and demonstrate concepts
- Follow us on Facebook and Twitter



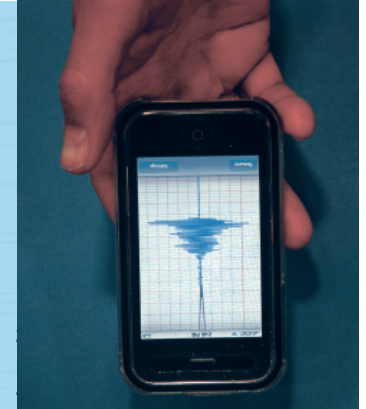
Seismographs in Schools

- Teacher training and specialized software
- Software will also display nearly-live data from Mars!
- Web environment to improve connections between schools
 - Over 150 US schools
 - 250 international schools
- USB accelerometers and smart phones for engagement

Stations - All Networks



Facilitate -



Summer Internships

- Provide an introduction to research or seismic instrumentation for undergraduates
 - Present a paper afterward at a national meeting



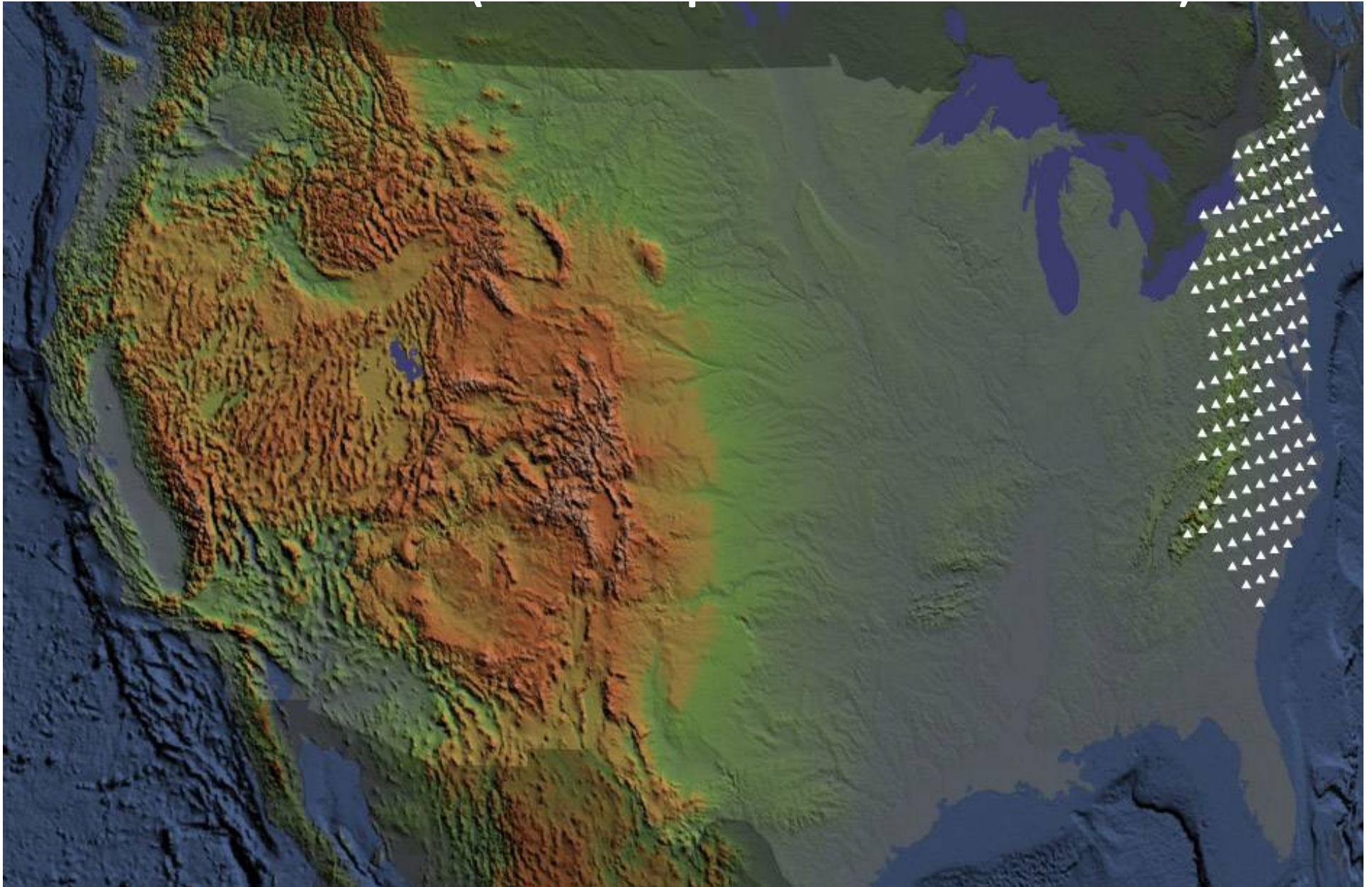
Facil

earth
scope
www.earthscope.org



USArray

(400 Transportable Seismometers)



USArray Ground Motion Visualizations

IRIS DMS Combined Ground Motion Visualization GULF OF CALIFORNIA 2007 - 2013

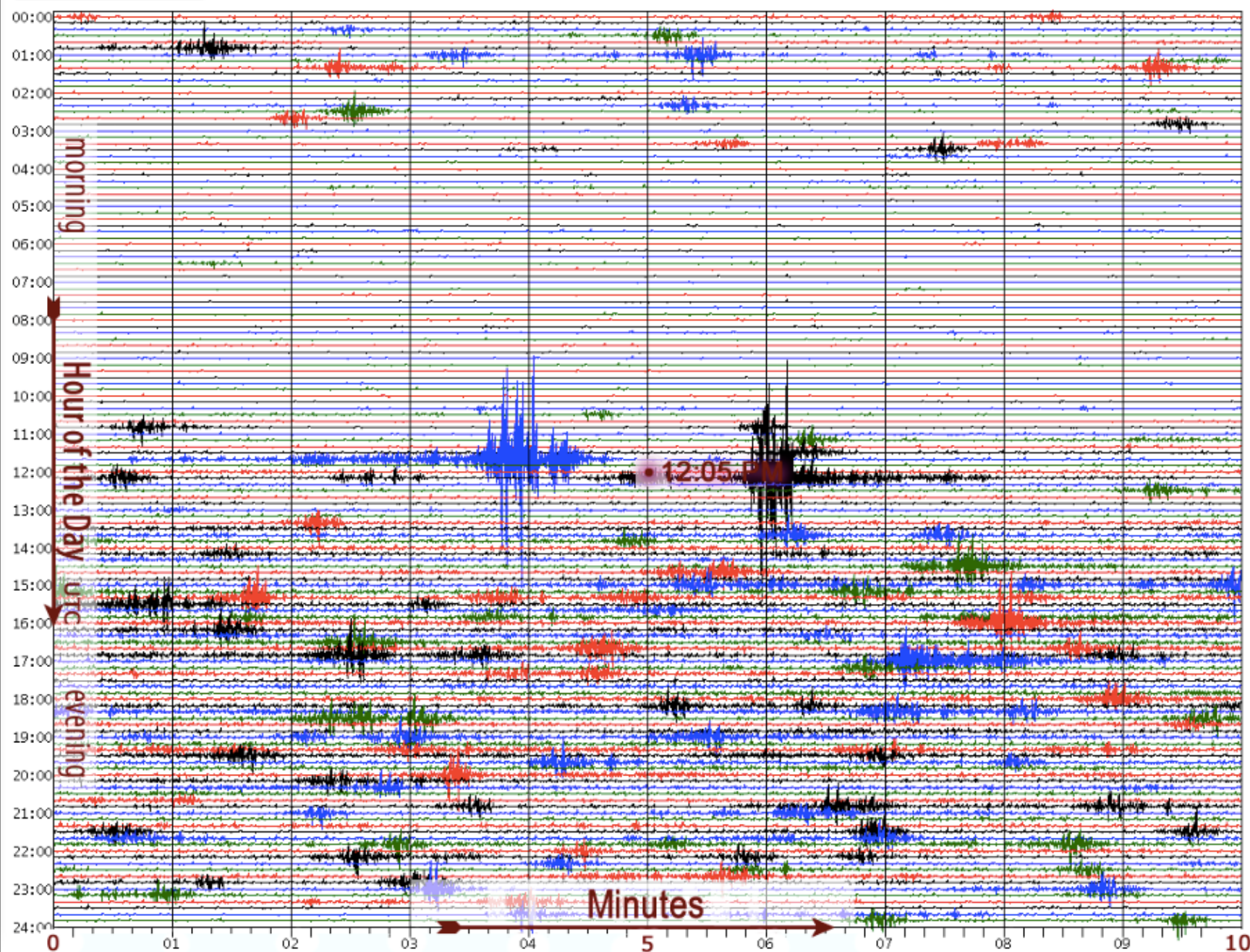


IRIS DMS Combined Ground Motion Visualization Gulf of California, 2007-2013



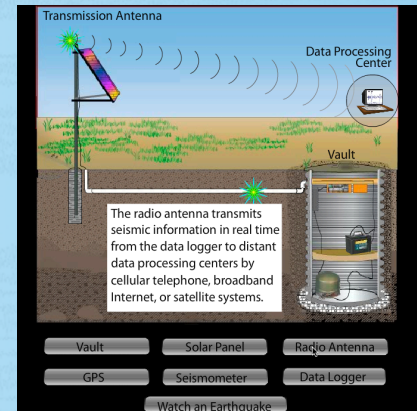
Yesterday's Seismic Activity at Station SPMN Marine on St. Croix, MN, USA

SPMN.TA.BHZ.2015.212



Active Earth Display

- Simple real-time display designed for schools, visitor centers, small museums, universities
- Use as a display or a computer lab activity
- Includes real-time seismic data
- Choose from 1 or more content sets
 - EarthScope, New Madrid, Cascadia, Basin and Range
 - Content development with UNAVCO, ESNO, SCEC and others



IRIS Educational Resources

- Tools for students to explore seismic data
- Classroom activities, educational seismographs
- Teachable Moment slide sets
- Simple real-time displays for schools, visitor centers, small museums, universities
- Animations

IRIS Teachable Moments
Magnitude 7.8 NEPAL
Saturday, April 25, 2015 at 06:11:26 UTC

The earthquake centered outside Kathmandu, the capital, was the worst to hit Nepal in over 80 years. It destroyed swaths of the oldest neighborhoods of Kathmandu and severely damaged three Unesco World Heritage sites. The earthquake was strong enough to be felt all across parts of India, Bangladesh, China's region of Tibet and Pakistan.

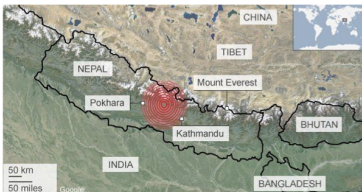
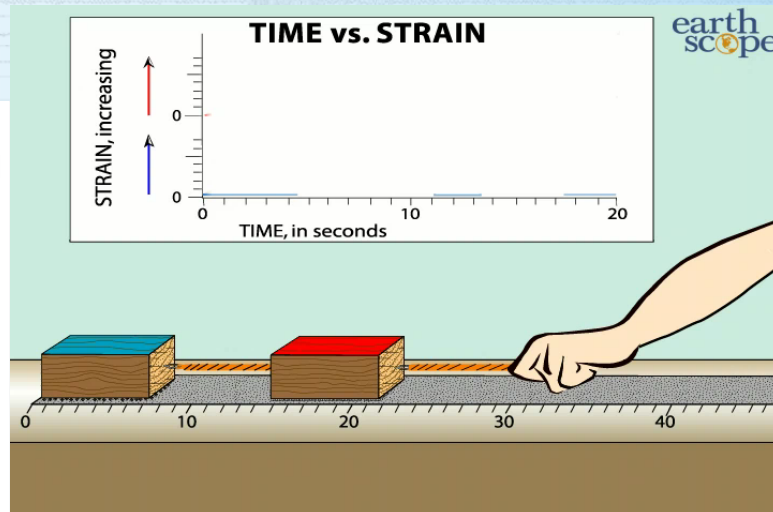


Image courtesy of the BBC

Reports of damage and injuries are still being confirmed. The situation is unclear in remote areas which remain cut off or hard to access.



All available via IRIS webpage

www.iris.edu



INCORPORATED RESEARCH INSTITUTIONS FOR SEISMOLOGY

Resources/Search



RESEARCH

Data, derived products,
software, web services

EDUCATION

Lessons, lectures,
videos, public displays

FACILITIES

Directorates, programs,
networks, centers

EARTHQUAKES

Recent earthquakes,
teachable moments

ABOUT IRIS

Organization, governance,
news, jobs, annual reports

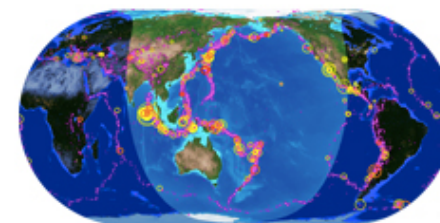
RESOURCES

Publications, webinars, posters,
newsletters, proposals



Earlier this spring, the Transportable Array team headed to the field to begin this year's deployment in Alaska and Northwestern Canada. [Continue Reading](#) ->

Calendar



Seismic Monitor



[Latest Major Earthquake Information > Magnitude 7.0 - New Guinea 2015-07-27](#)

[Other Major Earthquakes](#)

