

IRIS: Incorporated Research Institutions for Seismology

*Operators of the
Seismological Facilities for the Advancement of Geosciences
SAGE*



Overview of IRIS for
Urban Geophysics Workshop
6/4/19





IRIS Mission

In a nutshell

- **We are funded by NSF/EAR to provide instrumentation and facilities (THE FACILITY) that might otherwise be out of reach for the community**
- **We have a representative form of Governance (THE CONSORTIUM) to receive guidance and strategic vision from the community we serve**
- **This creates a democratization of resources to support seismology**
 - **AND GEOPHYSICS**

Facilitate, Collaborate, Educate

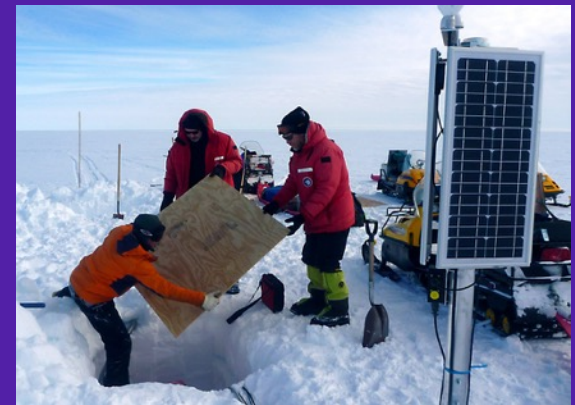




IRIS - The Facility

Facility Operator

- Instrumentation Services
 - Global Seismographic Network (w/USGS)
 - Long-term global research and monitoring
 - Portable Instrumentation (PASSCAL)
 - Shorter-term research experiments
 - Seismic Source Facilitation
 - Magnetotelluric Facility – adding more NSG
 - USArray (part of EarthScope)
 - Structure and evolution of North America
 - Now in Alaska
 - Polar Services
- Data Services
 - Data Archiving, Distribution and Products
- Education and Public Outreach
 - Students and Public



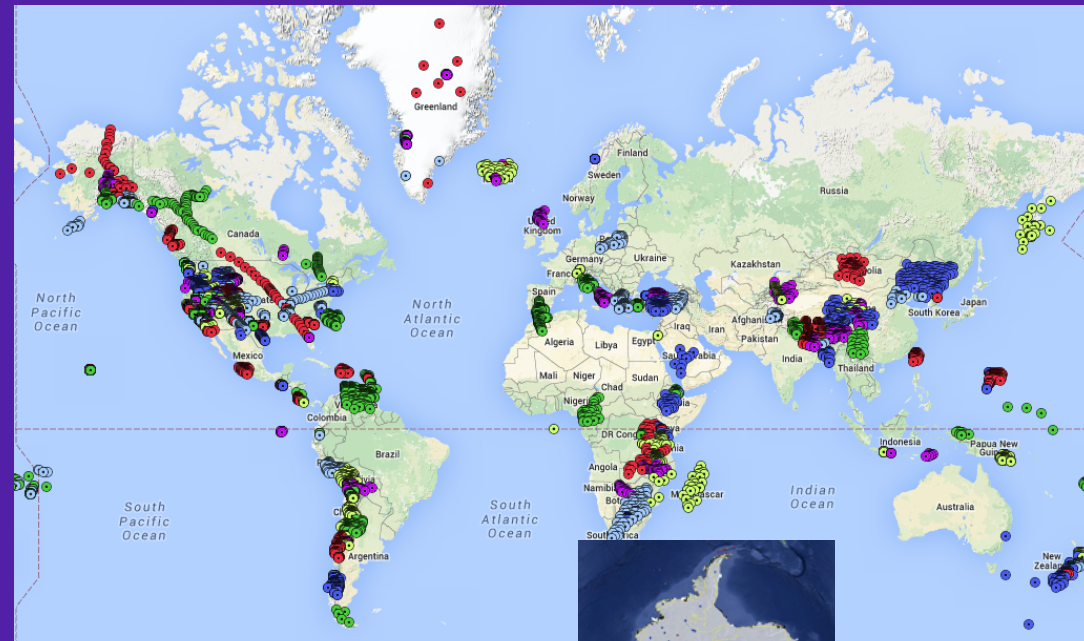


Portable Array Seismic Studies of the Continental Lithosphere (PASSCAL)

- Provides state-of-the art instrumentation to PIs and their students
- Maintenance, test, storage, field prep, packing and shipment
 - ~930 broadband
 - ~430 short/intermediate period
 - ~3800 active source
 - MT and GPR – being added
- Support PIs with planning, training, in-field support (if needed), post-experiment data support
- ~\$80 M inventory
- Instrument depot at New Mexico Tech
- Source facility at UTEP
- ~7M/y
- In the past year:
 - Supported 60 new and 41 continuing experiments

Science Impacts

- Diverse studies & innovative approaches
- Earth structure at all scales
- Earthquake sources and seismicity



~10,000 stations



Supporting Experiments Large and Small



PASSCAL Instrument
Center



Active Source Experiments



EarthScope - Flexible Array
IDOR – Idaho Oregon
Active Source



Seeking New Funding

- Mid-Scale Research Infrastructure (MsRI)
 - Proposal submitted
 - ~\$18.5M to enhance Portable observations
 - Near Surface Geophysics Instrument Center
 - Large N – another 2,500 nodes
 - Next Gen Data Acquisition and BB sensors
 - Infrasond (200)
 - If funded – 4 year project begins on 1 Oct 2019!