

ANGLE-Related Digital Resources



ANGLE Educational Materials are organized in two ways:

- 1) Workshop format - https://serc.carleton.edu/ANGLE/events/2019_workshop/program.html
- 2) Topic format - https://serc.carleton.edu/ANGLE/educational_materials/index.html

ANGLE Educational Materials include many items developed by or in collaboration with other organizations. Here we overview some of the partner and related organizations so you can access them directly.



1. IRIS (Incorporated Research Institutes for Seismology) – runs seismometers for

EarthScope <http://www.iris.edu/hq/programs/epo>

- Animations <https://www.iris.edu/hq/inclass/search#type=1> on plate tectonics, seismology, GPS, earthquakes, and tsunami are added periodically.
- We will sign you up to receive IRIS Earthquake Teachable Moments <http://www.iris.edu/hq/retm>. These are earthquake notices send out within 24 hours of all significant earthquakes. Let your colleagues know so they can sign up too.
- Earthquake Browser <https://ds.iris.edu/ieb> - map interface with earthquakes from around the world.



2. UNAVCO – runs GPS stations for EarthScope

Find your closest GPS station using the [Plate Boundary Observatory \(PBO\)](http://www.unavco.org/instrumentation/networks/status/pbo) network map <http://www.unavco.org/instrumentation/networks/status/pbo>. Zoom in and then click on station of interest. A small box will open up. Click on the station name to go to the station website with data and photos.

UNAVCO GPS Velocity Viewer <http://www.unavco.org/software/visualization/GPS-Velocity-Viewer/GPS-Velocity-Viewer.html> shows velocity arrows, but not all the stations show automatically. You can select at the bottom to see all, but it is better to do after you zoom into the general area of interest. A variety of resources are at <http://www.unavco.org/education/resources/resources.html>.



3. TOTLE – Teachers on the Leading Edge

Many of the educational materials from the ANGLE workshop were original compiled for TOTLE <https://sites.up.edu/totle/>. Plus there are more we could not cover in ANGLE. TOTLE was a previous middle school teacher professional development program funded by EarthScope for Oregon and Washington.



4. CEETEP – Cascadia EarthScope Earthquake and Tsunami Education Program

Other educational materials from the ANGLE workshop were original compiled for CEETEP <http://ceetep.oregonstate.edu/teaching-resources>. CEETEP was a previous

professional development program for teachers, park/museum interpreters and emergency management educators in Cascadia (Northern California, Oregon, and Washington).



5. Alaska Earthquake Center (AEC) (at UAF) is dedicated to reducing the impacts of earthquakes, tsunamis and volcanic eruptions in Alaska through providing seismic data and education products. <http://earthquake.alaska.edu/>



6. Alaska Volcano Observatory is run jointly by USGS, UAF Geophysical Institute, and AK Division of Geological & Geophysical Surveys. AVO has the mission to monitor volcanic activity and provide information on volcanic hazards. They have a variety of information about Alaska volcanoes. <https://www.avo.alaska.edu/>

7. Alaskan Maps

--Tsunami maps online version by Alaska Earthquake Center

<http://earthquake.alaska.edu/tsunamis/atom>

--Tsunami maps published PDF and GIS versions by the Alaska Department of Natural Resources

<http://dggs.alaska.gov/pubs/tsunami>

--Fault maps by AK Department of Geological & Geophysical Surveys (DGGS)

<http://maps.dggs.alaska.gov/qff/index.html>

--Lidar and elevation maps (included before/after of 2018 Anchorage earthquake)

<https://elevation.alaska.gov/>



8. Division of Homeland Security & Emergency Management

Variety of information on disaster preparedness and community resilience planning specifically for Alaska. <https://www.ready.alaska.gov/>.

Alaska Seismic Hazards Safety Commission has done Rapid Visual Screening reports for schools in several Alaska communities in order to determine the likelihood of significant damage or collapse. http://seismic.alaska.gov/presentations_reports.php



9. Quake Catcher Network is a network of low cost seismometers that are used in schools and other educational institutions. <http://quakecatcher.net/>



10. SHAKEOUT EARTHQUAKE DRILLS

Great ShakeOut <http://www.shakeout.org/> Earthquake Drills are an annual opportunity for people in homes, schools, and organizations to practice what to do during

earthquakes, and to improve preparedness. Alaska: <https://www.shakeout.org/alaska>



11. Emergency Planning Guides

Resources to develop an emergency plan for your family or workplace.

Red Cross <http://www.redcross.org/prepare>

FEMA <https://www.ready.gov/>



12. Readiness and Emergency Management for Schools (REMS)

<https://rems.ed.gov/> A wide variety of school readiness resources including Teen CERT training webinar (<http://rems.ed.gov/TeenCertEnhancingSchoolEmergMgrment.aspx>).

13. Lincoln County Schools, School Safety

Nationally recognized example: Lincoln County SD has taken a very proactive approach to safety. Their School Safety site http://www.lincoln.k12.or.us/dept_programs/safety.php includes district Emergency Plan, Safety Videos, Family reunification and much more.



14. USGS – United States Geologic Survey

Earthquake Hazard Program <https://earthquake.usgs.gov/earthquakes/> has information about and maps of earthquakes around the world.

- Did you feel it? <http://earthquake.usgs.gov/earthquakes/dyfi/> – if you feel an earthquake, input data about the shaking you felt there. This is valuable citizen science that helps USGS research correctly model expect shaking for future quakes.
- Earthquake Notifications <https://earthquake.usgs.gov/ens/> - sign up for notification of earthquakes in particular areas
- Alaska Volcano Guidebook for Teachers uses largely Alaska examples <https://pubs.usgs.gov/gip/99/>
- 1964 Great Alaska Earthquake Photo Tour of Anchorage (just hit "cancel" when it asks for a login - <https://alaska.usgs.gov/news/1964Earthquake/>
- ShakeAlert Earthquake Early Warning Program <https://www.shakealert.org> - in testing phase in lower-48 west coast. May eventually come to Alaska.
- Latest Earthquakes <https://earthquake.usgs.gov/earthquakes/map> - map of earthquakes around the world (Advanced National Seismic System (ANSS) - <https://earthquake.usgs.gov/monitoring/anss>)



15. NOAA – National Oceanic and Atmospheric Administration

NOAA <http://www.tsunami.gov/> runs the tsunami warning system for the USA. Tsunami warnings come through the NOAA warning system. NOAA also provides educational resources.

- NOAA's Tsunami Ready program for community preparedness <https://www.weather.gov/tsunamiready/>
- Information on tsunami safety <https://www.weather.gov/safety/tsunami>

16. Resources for children

- FEMA Disaster Master <http://www.ready.gov/kids/games> and Emergency Backpack activities
- FEMA Children & Disasters <https://www.fema.gov/children-and-disasters>
- USGS Earthquakes for Kids has a variety of earthquake activities/info <http://earthquake.usgs.gov/learn/kids/>
- Tsunami Teacher USA is a basic NOAA video that includes the mayor in the American Samoa community who helped his village evacuate https://www.youtube.com/watch?v=tUN_UTY0GNo
- NOAA Kids Hazard Quiz <https://www.ngdc.noaa.gov/hazard/kidsquiz/#/>
- Stop Disasters! Scenario Game <http://www.stopdisastersgame.org/>
- Extreme Event Scenario Game <https://labx.org/extreme-event/about-the-extreme-event-game/>
- Zombie Preparedness for Educators (please vet this through your administrators!)
After the successful zombie preparedness campaign in 2011, an overwhelming number of educators requested zombie-themed preparedness activities for school-aged children. This website was created to help educators teach middle school aged children the basics of emergency preparedness and response using a fun, fictitious scenario. <https://www.cdc.gov/phpr/zombie/educate.htm>
- Program for teaching about disasters using puppets; might provide ideas for approaching these topics in an unintimidating way <http://www.nostrings.org.uk/programmes/tales-of-disasters/>
- Alaska Tsunami Education Program – more tsunami curriculum for Alaskan-based tsunami learning for K-12 <http://www.aktsunami.org/>

17. Other

- IDEA Model: Model Message Design and Distribution Strategies for Rapid Response Risk Communication Before, During, and After Earthquakes (IRIS Webinar) https://www.iris.edu/hq/webinar/2016/11/ideal_model_message_design_and_distribution_strategies
- Plate Tectonics Poster (SCEC) with links to commonly lost pieces, user guide, ordering information and other resources: <https://www.scec.org/education/platetectonics/index.html>
- EarthScope's Birthday Quake site to find out about earthquakes that share your birthday <http://www.earthscope.org/birthquake/>
- Earthquake Simulator Program - The State of Alaska's new earthquake simulator provides citizens with a safe yet realistic experience of the intense shaking that can occur during an earthquake. Alaska has more earthquakes than any other state. The simulator, funded by the Alaska Division of Homeland Security is used to promote emergency preparedness and provide earthquake education. <https://www.ready.alaska.gov/Preparedness/Outreach/QuakeCabin>
- Chenega is Gone documentary (interviews we saw were min 8:31 to 17:40) - <https://diva.sfsu.edu/collections/sfbatv/bundles/189328>

- Seismic wave model from AK earthquake – Carl Tape
Iniskin earthquake - https://www.youtube.com/watch?v=SsR_frDIQXk
- Phone Apps (free):
 - FEMA App
 - GCI Alerts (only if you use GCI as your phone carrier/Data)
 - Red Cross App (First aid)
 - QuakeFeed
 - Nation Safety Council EMR App