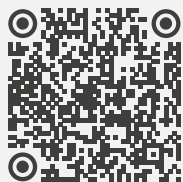
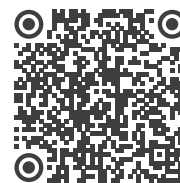


# NSF National Geophysical Facility

## Free Education Resources (6-12)

### Demos & Activities

Hands-on demonstrations and scaffolded classroom activities use real geoscience data and physical models to help students explore concepts like earthquakes, tectonics, and Earth deformation through active learning.

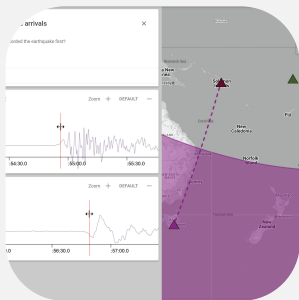
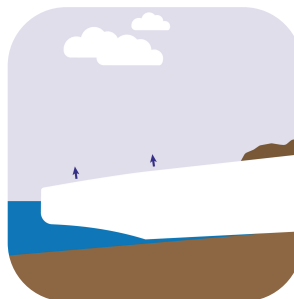


### Visual & Text-based Resources

Posters, infographics, articles, and fact sheets present key Earth science concepts – such as plate motion, geodesy, and hazards – in clear, engaging formats that support both classroom instruction and public understanding.

### Videos

Short videos and animations illustrate dynamic Earth processes and hazards (e.g., earthquakes, early warning systems) to make complex geoscience concepts accessible and relevant to learners.

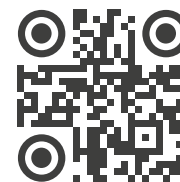
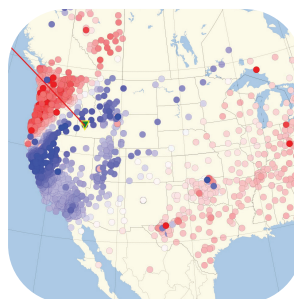
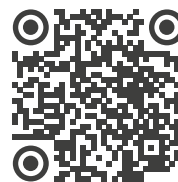


### Online Tools & Software

Interactive web-based tools and applications allow students to analyze real Earth data, model geologic processes, and engage in authentic scientific investigation and problem-solving.

### Data Visualizations

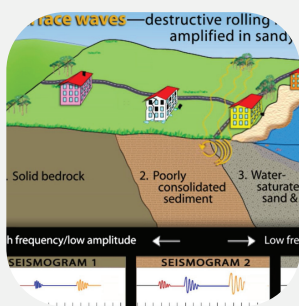
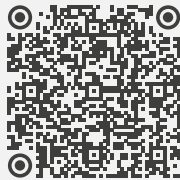
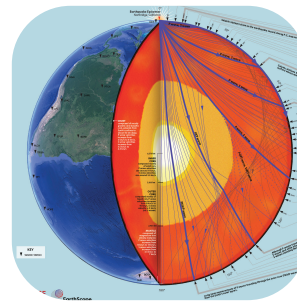
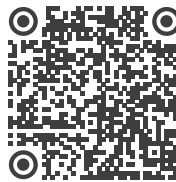
Visualizations enable learners to interpret real-world geophysical datasets – such as GPS and seismic data – related to events like significant earthquakes.



# Teach Earth Science Concepts

## Earth's Interior and Waves

Students explore how seismic waves reveal Earth's layered structure, helping them model the composition and behavior of the crust, mantle, and core. This aligns with NGSS MS-ESS2-3 and HS-ESS2-2.

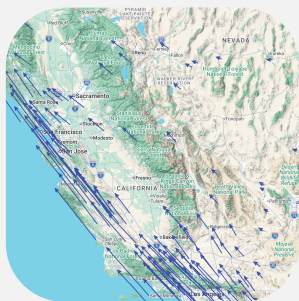
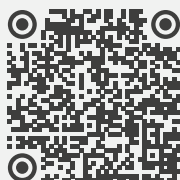
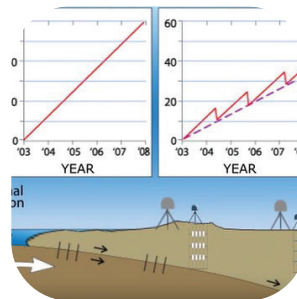
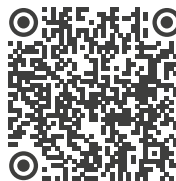


## Earthquakes & Hazards

Students analyze earthquake data to identify patterns, understand stress accumulation and release along faults, and evaluate risks to communities. This is connected to NGSS MS-ESS3-2 and HS-ESS3-2.

## Plate Tectonics & Surface Change

Learners investigate plate motion and interactions to explain the formation of mountains, faults, and volcanoes. NGSS MS-ESS2-2 and HS-ESS2-2 guide students in developing and using models to understand plate dynamics and crustal deformation.



## Measuring & Monitoring Earth

Materials introduce tools like GPS, seismometers, and InSAR to measure Earth's motions. NGSS MS-ETS1-3 and HS-ESS2-2 support students in planning investigations and using technology to gather evidence about Earth processes.

## Earth Science in Society & Careers

Resources highlight how geoscientists apply Earth data to real-world problems like hazard monitoring, resource management, and environmental decision-making, while showcasing related career paths. This connects to NGSS HS-ESS3-1 and HS-ETS1-1.



Visit [earthscope.org](http://earthscope.org) for more resources!

