Palynology is the study of fossil pollen and spores, and these tiny grains can provide fundamental information about past climates on Earth. They are produced in vast quantities and are unique to the specific plant from which they originate. All these features make them ideal to reconstruct past climates from both recent history, as well as from the ancient past. The “Global Change in Local Places” education lesson gets students familiar with palynology and how scientists study climate change. It is based on real palynological data acquired from Antarctic cores obtained recently from the ANDRILL and SHALDRIL drilling campaigns. The “Global Change in Local Places” lesson also teaches students to use GeoMapApp to map these Antarctic data, thus learning about a powerful but simple to use GIS-type tool while investigating Antarctica’s past climate and plant species distribution.

This tool was designed as part of a NSF CAREER program to improve Climate Change literacy in Louisiana, a state directly affected by the rise of sea-level.
Audience

The education lesson is targeted at students grades 9-12, but it is also useful for undergraduate and graduate level students. Students in Earth Science and Environmental Science high school courses would find this course useful. No prior knowledge of GIS is needed to use GeoMapApp, and the lesson plans provide all the guidance needed to start from scratch. The GeoMapApp help center also has simple online video tutorials to help students. See http://www.geomapapp.org/tutorials/index.html

Decision-Support

This lesson was designed to teach students how to map geological data and show them how scientists are gathering the data that shows the climate is changing. Students are asked to upload core data from the recent SHALDRIL expedition to Antarctica to GeoMapApp and investigate Antarctica’s past climate and species distribution during various geologic time periods. Students then learn to relate past plants to modern vegetation and produce visualizations to communicate their findings.

What’s Next?

This lesson was paired with an activity to learn about palynology as a science. In order for students to understand palynological research and its importance, students are being taught to separate and identify pollen and spores from simulated core sample in which different pollen and spores are represented as glitter. Students are asked to compare the types and abundance of pollen and research the climate preferences of the types of plants recovered in order to reconstruct past climates.

For more information on this tool, or for a demonstration, contact: Dr. Sophie Warny (swarny@lsu.edu) Steve Babcock (sbabcock@lsu.edu) serc.carleton.edu/eet/shaldril/index.html

Gulf of Mexico Climate Community of Practice Updates

Mark your calendars for the 2016 Gulf of Mexico Climate Community of Practice meeting! The meeting will be held in Biloxi, Mississippi on April 19-21, 2016. We hope to see you there!

The Grand Bay and Weeks Bay National Estuarine Research Reserve are hosting a workshop titled “Climate Adaptation for Coastal Communities” on January 26-28, 2016 at the NOAA Gulf of Mexico Disaster Response Center in Mobile, Alabama. Contact Margo Posten (margo.posten@dmr.ms.gov) or Michael Shelton (michael.shelton@dcnr.alabama.gov) for more information.

NOAA’s Office for Coastal Management is hosting “Risk Communication - Seven Best Practices”, a 90-minute interactive webinar on December 16, 2015 from 3:00 - 4:30 PM Eastern. Space is limited, so register today at www.coast.noaa.gov/digitalcoast/training/risk-communication.

Is there a tool that you think should be featured in the Climate Community of Practice Tools Bulletin? Let us know! Send an email to rcollini@disl.org.