

# American Geophysical Union: Geophysical Information For Teachers (GIFT) Workshop, December 10, 2013, San Francisco, CA

## Exploring Seafloor Sediments Using Real Data

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**Goal:** To explore marine sediments (a major archive of Earth history) using cores, photos, and smear slide data.

**Objectives:** After this exercise, your students should be able to:

- Describe the physical characteristics of sediment cores.
- Identify major sediment components and their origin.
- Use composition and texture data from smear slide samples to determine the names of the main types of marine sediments.
- Make a map showing the distribution of the modern sediment types of the Pacific and North Atlantic Oceans.
- Explain the distribution of modern marine sediments on their map.
- Accurately predict what the modern sediments are at other locations on the sea floor (e.g., in the Indian Ocean).

**This exercise is from:** St. John, K., Leckie, R.M., Pound, K., Jones, M., and Krissek, L., 2012. *Reconstructing Earth's Climate History: Inquiry-based Exercises for Lab and Class*. Wiley-Blackwell, 485p

<http://www.wiley.com/WileyCDA/WileyTitle/productCd-EHEP002690.html>.

**To download this student exercise and three others go to:**

[http://www.wiley.com/legacy/wileychi/stjohn/sample\\_chapters.html](http://www.wiley.com/legacy/wileychi/stjohn/sample_chapters.html)

Ch 2. Seafloor Sediments

Ch 3. Marine Microfossils and Biostratigraphy

Ch 11. Antarctica and Neogene Global Climate Change

Ch 12. Interpreting Antarctic Sediment Cores – A record of Dynamic Neogene Climate

**For teaching tips, core photos, smear slide images, data tables, maps, a powerpoint and other supplemental materials go to:**

<http://serc.carleton.edu/NAGTWorkshops/intro/activities/29154.html>

<http://www.wiley.com/legacy/wileychi/stjohn/supplementary.html>

A pdf file that contains a **detailed answer key** and additional suggestions for instructors can be obtained by emailing Kristen St. John ([stjohnke@jmu.edu](mailto:stjohnke@jmu.edu)).

