



Why Study Seafloor Composition?

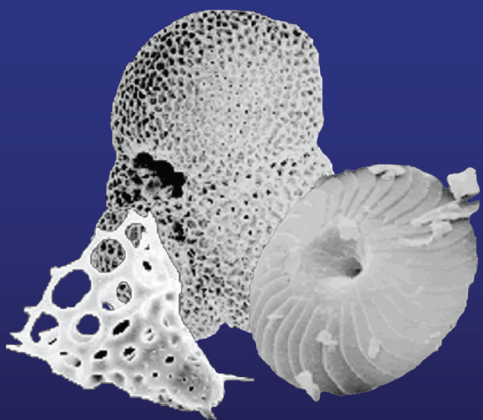


Seafloor composition, including lithology, mineralogy, geochemistry, imagery, and physical properties of sediment, among other measurements, can be used to:

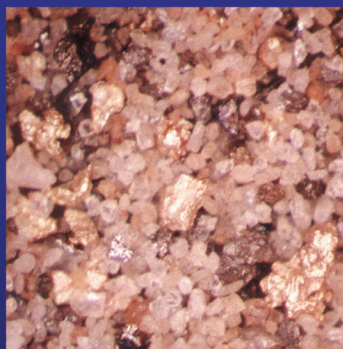


- ✓ Study past climate change for environmental prediction
- ✓ Understand the impact of benthic habitat on fisheries and other biological communities
- ✓ Study pollution patterns & mechanisms to sustain healthy coasts
- ✓ Route cables and pipelines, and site offshore structures
- ✓ Locate strategic offshore mineral resources, including material for beach replenishment
- ✓ Provide ground-truth for, and refine remote sensing techniques
- ✓ Learn how Earth and its environmental systems function

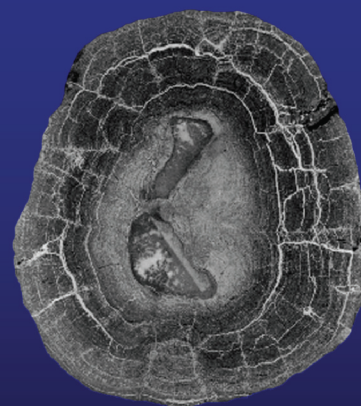
Cores from the Deep Sea Drilling Project (DSDP) are an invaluable record of Earth's past processes and climate. Photo: DSDP



(left) Radiolarian, a siliceous microfossil, (center) Foraminifera, and (right) Coccolith, calcareous microfossils. All used in paleo-oceanographic research. Photos courtesy Dr. William Ruddiman from: Ruddiman, W.F., 1985, *Climate Studies in Ocean Cores*, in *Paleoclimate Analysis and Modeling*, ed. Alan D. Hect, John Wiley & Sons, NY.



Gold, from a river deposit on the seafloor. Photo: Dr. Andrew Grosz



Cross-section of a polymetallic nodule from the Blake Plateau, with phosphorite pebbles as nuclei, from the collection of Dr. Frank Manheim. Photo: Dann Blackwood.

For more information and a list of contributors, please see:

<https://ngdc.noaa.gov/mgg/geology/why.html>