

## **Potential for Supercritical Carbon Sequestration in the Offshore Bedrock Formations of the Baltimore Canyon Trough**

Brian Slater, Langhorne Smith, and Alexa Stolorow

New York State Museum, Albany, NY 12230, [bslater@mail.nysed.gov](mailto:bslater@mail.nysed.gov)

Although geologists continue to find terrestrial rock formations that have the capacity to hold moderate amounts of carbon dioxide, the greatest potential for carbon sequestration in North Eastern United States lies in the offshore geologic formations that make up the continental shelf.

The Baltimore Canyon Trough is a portion of the continental shelf which lies approximately 100 miles south of Long Island and over 50 miles southeast of New Jersey. It is over 7,500 square miles in size and consists of Mesozoic and Cenozoic limestones, dolomites, sandstones, and shales. This area has been explored by a number of oil and gas companies as well as the Continental Offshore Stratigraphic Test (COST), the Offshore Drilling Project (ODP), and the Deep Sea Drilling Project (DSDP). A large amount of data including wireline logs, cores, and seismic surveys has been collected and much of it is available for additional study. Previous work indicates that there are several sandstone beds in this region having porosities greater than 25% and permeabilities over 100 md. This suggests an extremely large capacity for potential storage of supercritical CO<sub>2</sub>.

Offshore sequestration also avoids the issues associated with individual landowners' mineral rights and public concerns over leaks or drinking water contamination. Offshore sequestration also offers the benefit of additional trapping mechanisms such as density inversion and formation of hydrates.