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The New Jersey Shallow Shelf Expedition

Present-day sea levels are predicted to rise due to global warming, therefore sea-level change is one of the crucial issues affecting our planet and its inhabitants. Past sea-level rises and falls can be deciphered in sedimentary layers deposited during Earth`s history.

In the summer of 2009, the Integrated Ocean Drilling Program (IODP), supported by the International Continental Scientific Drilling Program (ICDP), will implement the New Jersey Shallow Shelf expedition (NJSS) to collect cores from early to mid-Miocene sedimentary sequences (some 24–14 million years old) off the coast of the eastern United States. The objective is to estimate the timing and magnitude of global sea-level changes during this time, and to determine the relationship between sea-level changes and the architecture of the sedimentary sequences. Major developments in Earth's climate system over this period include intense Antarctic glaciation and the warm mid-Miocene 'Climatic Optimum' when ice sheets were at a relative minimum.

The expedition team plans to drill three holes between 45 and 60 kilometres offshore in shallow water about 35 metres deep. These drill sites will form a key part of the so-called New Jersey/Mid-Atlantic transect; a suite of boreholes drilled over the last fifteen years in an effort to document global sea-level history over the past 42 million years. This transect has included drilling both onshore and farther offshore in deeper water. However, the critical zone for deciphering the sea-level history lies in the shallow-water region. This "missing link" is the target area for the NJSS expedition.

The European Consortium for Ocean Research Drilling (ECORD) will conduct the IODP NJSS expedition through the ECORD Science Operator (ESO), one of IODP's three regional drilling operators and the program's specialist in mission-specific platform operations. ECORD represents 17 nations and provides support to IODP as a contributing member. The scientific team will be led by Co-Chief scientists Professor Gregory Mountain of Rutgers, the State University of New Jersey, USA and Dr Jean-Noël Proust of the University of Rennes, France.

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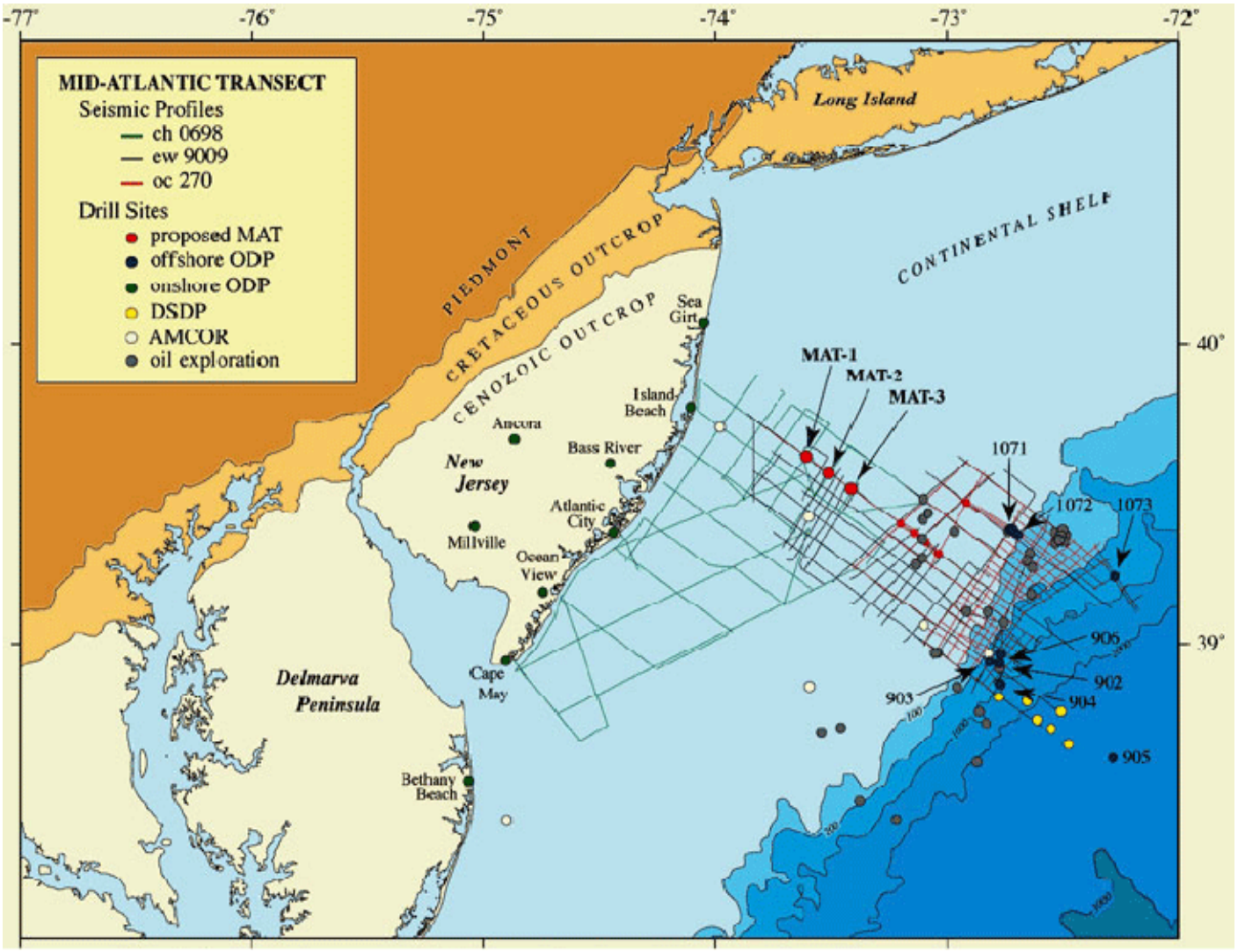

Location of the New Jersey/Mid Atlantic Transect with the drill sites (MAT-1 to -3) of the Expedition 313 (Mountain et al., 2006 - IODP Proposal 564-Full2).