During early spring of 2004, the Department of Earth Sciences of the University of Rome asked MMRI/CMRET to participate in seabed surveys near two volcanic islands west of the Italian mainland in the Tyrrhenian Sea: Ischia Island, the site of an extinct volcano, and Stromboli Island, the site of an active volcano. Both have experienced significant slope failure, Ischia in the distant past and Stromboli in December 2001. The recent Stromboli failure generated a tsunami which damaged nearby facilities and beaches. It was that event which prompted the comparative studies.

The work was done during the period 8-20 August, 2004. The University of Mississippi contingent included researchers/engineers from MMRI/CMRET and marine acoustics engineers from Specialty Devices Inc. of Plano, Texas. MMRI/CMRET provided a prototype vertical line array (VLA) and other equipment. The University of Rome provided the 148' academic research vessel “Universitatis” which is equipped with a swath bathymetry system. All expenses were paid by the Italian Civil Protection Agency.

Previous to this, the VLA had been used only in areas of soft sediment in the Gulf of Mexico. Its use in areas of coarse volcanic material with bottom slopes as high as 40° was an experimental first and demonstrated definite promise for providing critical sub-bottom information essential to the comprehensive study of sites of such complexity. With such information it is conceivable that volcanic island slopes at risk for failure could be monitored to provide early warning of slump-generated tsunamis.

MMRI/CMRET personnel traveled to Florence, Italy to make an oral presentation to the 32nd International Geological Congress during the week of Aug. 20-28. The presentation summarized recent research done by CMRET and was entitled “Toward Understanding the
Migration of Hydrocarbons and Brines Through the Gas Hydrate Stability Zone of the Northern Gulf of Mexico.

Another presentation by MMRI/CMRET personnel was made to the American Association of Petroleum Geologists (AAPG) Hedburg Conference that met during 12-16 September in Vancouver, B.C. Researchers presented a conjecture based on geologic interpretation of high-resolution seismic profiles recorded during several CMRET research cruises in recent years. The research was done as part of an attempt to learn where in the Gulf of Mexico it might be possible to produce commercial quantities of natural gas from hydrates. The title of the presentation was “Can Fractures in Soft Sediments Host Significant Quantities of Gas Hydrates?”

Periodically, the AAPG hosts invitation-only Hedberg Conferences to convene experts from academia, industry and government for critical examination of a specific topic in earth science research/development. This Hedberg was entitled "Gas Hydrates: Energy Resource Potential and Associated Geologic Hazards."

EARTHQUAKE DISPLAY GOES TO THE NATIONAL EARTHQUAKE CONFERENCE IN ST. LOUIS

In September of this year, the National Earthquake Conference was held in St. Louis, Missouri. Attendees from University of Mississippi included Mr. Charles Swann of the Mississippi Mineral Resources Institute, Dr. Chris Mullen of the Civil Engineering Department, and Dr. Terry Panhorst from the Department of Geology and Geological Engineering. This group forms the core of the University of Mississippi’s Center for Community Earthquake Preparedness (CCEP), which has several projects designed to evaluate earthquake hazard and risk in Mississippi. The display contained an overview of current and past CCEP work and a set of preliminary conclusions regarding its on-going work with the HAZUS loss estimation code. The meeting also provided an opportunity to discuss the ongoing investigations with earthquake scientists across the country and to examine the latest earthquake mitigation technology.

HOW TO CONTACT US

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