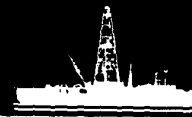


# NEWS RELEASE

## Ocean Drilling Program



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(COLLEGE STATION, TX) -- Scientists on board the drill ship, JOIDES Resolution, left Marseilles, France, today to drill along the coast of Northwest Africa. The international scientific team hopes to gather new information about the conditions of Earth's atmosphere, climate and ocean circulation as it occurred several million years ago.

During March and April, the ship will retrieve cores of sediment from beneath the seafloor by drilling a transect of 11 sites from two degrees south of the equator to 23 degrees north in water depths up to 4800 meters (about three miles).

In laboratories on board the ship, scientists will examine the cores of ancient sediment to learn more about the region's physical history. Clues to Earth's past locked in the cores include fossilized skeletons of ancient microscopic plants and animals, the geochemical composition of the water, and the layers of Saharan dust and other windblown particles that have settled on the ocean floor. Scientists will use this evidence to reconstruct Earth's atmospheric and climatic environment as it occurred during the last 5 million years.

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add one

The equatorial Atlantic is a complex region where atmospheric and oceanic conditions are closely linked to climatic changes across the rest of the planet. In particular, scientists hope to correlate the response of ocean circulation and surface winds in the equatorial region to changes in the volume of ice at the North and South poles.

Scientists on board also want to reconstruct the history of upwelling along the African continental margin. The wind in this region blows from the land to the sea, pushing the surface water away from the land mass. Nutrient-rich middle and bottom waters move up to replace the surface water, resulting in the abundant sea life found in this region.

Particles of dust, grass and plant life blown to sea and settling on the seafloor have also left their history of past environmental regimes. The windblown indicators found in the cores document the cycles of aridity and humidity that have plagued Northwest Africa through the ages. Scientists, by examining these subterranean specimens, hope to unravel both the history and causes of how part of Africa became a desert and the evolution of her 23,000-year cycles of aridity that have occurred during the last several hundred thousand years.

Previous core samples gathered in this area also indicate that significant changes in the exchange of deep waters between the eastern and western Atlantic occurred about 13,000 years ago. This phenomenon is linked to changes in global climate which increased upwelling and surface-water productivity in the equatorial region.

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At this time, scientists are unsure how oceans respond to past changes in climate and atmosphere or how geologic events in one oceanic region affect the conditions in other parts of Earth. JOIDES Resolution will use advanced drilling technology to produce cores of extremely high stratigraphic resolution. By accurately pinpointing specific intervals of geologic time, scientists hope to use this information for comparison with other regions of the world.

Co-chief scientists for the cruise are Dr. William Ruddiman of Lamont-Doherty Geological Observatory, Columbia University, and Dr. Michael Sarnthein, Geologisch-Palaontologisches Institut, Universitat Kiel, Federal Republic of Germany. Dr. Jack Baldauf is Texas A&M University staff scientist representative.

JOIDES Resolution, registered as SEDCO/BP 471, is the research vessel of ODP which is funded by the United States National Science Foundation, Canada, France, Japan, West Germany and the United Kingdom.

The 470-foot-long drill ship's derrick towers 200 feet above the waterline. The heart of the floating research center is a seven-story laboratory stack which provides space and equipment for on board examination of sediment and hard-rock cores. Studies include chemical, gas and physical properties, paleontology, petrology, paleomagnetism and sedimentology. Marine geophysics research is conducted while the ship is under way.

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add three

Texas A&M University, as science operator, operates and staffs the drill ship and retrieves cores from strategic sites around the world. The science operator also ensures that adequate scientific analyses are performed on the cores. Texas A&M maintains shipboard scientific labs, provides logistical and technical support for shipboard scientific teams, manages post-cruise activities, is curator for the cores and of the scientific results.

Lamont-Doherty Geological Observatory of Columbia University is responsible for downhole logging.

Joint Oceanographic Institutions for Deep Earth Sampling (JOIDES), an international group of scientists, provides scientific planning and program advice. Joint Oceanographic Institutions (JOI, Inc.), a nonprofit consortium of 10 major U.S. oceanographic institutions, manages the program.

"Plans for other cruises this spring and summer include drilling at the Mid-Atlantic Ridge and off Barbados," announced Dr. Philip D. Rabinowitz, director of ODP.

The Mid-Atlantic Ridge cruise, a return visit for JOIDES Resolution, will involve deepening a hole initiated on a previous cruise. By studying core samples of new, volcanic rock, scientists hope to learn more about the history and process of seafloor spreading.

In early summer, the ship will drill off the islands of Barbados at a site where the Atlantic tectonic plate is pushing under the Pacific.

(Note: JOIDES institutions are: University of California at San Diego, Scripps Institution of Oceanography; Columbia University, Lamont-Doherty Geological Observatory; University of Hawaii, Hawaii Institute of Geophysics; University of Miami, Rosenstiel School of Marine and Atmospheric Science; Oregon State University, College of Oceanography; University of Rhode Island, Graduate School of Oceanography; Texas A&M University, Department of Oceanography; University of Texas at Austin, Institute of Geophysics; University of Washington, College of Ocean and Fishery Sciences; and Woods Hole Oceanographic Institution.

Non-U.S. members are Department of Energy, Mines, and Resources, Earth Sciences Sector, Canada; Bundesanstalt fur Geowissenschaften und Rohstoffe, Federal Republic of Germany; Institut Francais de Recherche pour l'Exploitation de la Mer, France; University of Tokyo, Ocean Research Institute, Japan; and Natural Environment Research Council, United Kingdom.)