



## **Panel tracks climate changes**

By **LAURA INCALCATERRA**

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PALISADES — From prolonged droughts to hard-hitting hurricanes, the weather sure seems to be acting up. But determining if and when such weather events will occur isn't an easy task. Nonetheless, it is the job that scientists at the Cooperative Institute for Climate Applications and Research have eagerly taken on. Some of those scientists spoke yesterday during a one-day symposium that focused on climate change. The program, held at Columbia University's Lamont-Doherty Earth Observatory, where CICAR is based, drew more than a dozen presenters.

CICAR was established in November 2003 to form a collaboration between Columbia University and the National Oceanic and Atmospheric Administration, which wants to better understand climate change and increase the ability to plan and respond to it.

The theme of yesterday's session was "Climate Change of the Last Millennium: Towards Modeling the Climate from the Middle Ages into the Greenhouse Future." Yochanan Kushnir, the director of CICAR, said the approach behind the program was simple. "The whole idea was to try to put the future in the context of the past," Kushnir said. Scientists wanted to take "just the last 1,000 years," Kushnir said, and see if they could use proxies to determine what happened before and create models that would allow them to gauge what might occur in the future.

Scientists who spoke yesterday explained how they used different methods to obtain climate data, including acquiring "proxies" in the form of coral samples, land and sea-floor borings and tree-ring cores, among others. By applying various techniques, the scientists endeavored to reconstruct a record of climate. The researchers also explained that as good as their studies were, nothing was exact and, in fact, much of the information they secured only raised more questions. "That's always the way," Kushnir said.

Most of the scientists showed graphs and other illustrations that indicated the year and the type of climate. For example, David Stahle of the University of Arkansas used tree-ring records to show a significant North American drought in the 1950s and the severe Dust Bowl drought in the 1930s. He showed that 1833 was the wettest year on the continent of the previous 500 years, while 1864 was the driest. He took the information a step further by explaining the significance of these weather events to humans. For example, the Dust Bowl helped cause massive migration and crop failure, while flooding from the 1833 rains drowned Seminole Indian farmers who had previously been forced off their native lands.

CICAR also works with NOAA's Geophysical Fluid Dynamics Laboratory in Princeton, N.J., whose scientists specialize in developing scientific models to advance the theoretical understanding of the planet's climactic system.