

Scripps Climate Researcher Awarded Major Environmental Prize

V. Ramanathan's career of climate change discovery cited in Zayed International Prize

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V. Ramanathan, a Scripps Institution of Oceanography at UC San Diego professor of climate and atmospheric science and a pioneer of climate change research, received the Zayed International Prize for the Environment from the United Arab Emirates government in a recent ceremony.

The award recognizes and promotes "major pioneering contributions in the field of environment and sustainable development, in accordance with the development philosophy and vision of the late Sheikh Zayed Bin Sultan Al Nahyan," the U.A.E.'s former president, according to the government prize committee. Ramanathan shared a \$300,000 prize with Oregon State University researcher Jane Lubchenco in the award's category for scientific or technological achievement. The ceremony took place June 9 in Dubai.

"It is a tremendous honor to receive this award," said Ramanathan. "With the Zayed Prize, the U.A.E. demonstrates a solid commitment to creating a sustainable environment."

Ramanathan, who joined Scripps in 1990, has been making groundbreaking observations of climate, the role of greenhouse gases and of aerosols, especially soot and other forms of black carbon, since the mid-1970s. In 1975, he discovered the greenhouse effect of chlorofluorocarbons and other gases and predicted in 1980 that carbon dioxide-induced global warming would be detected by 2000.

Additionally, in a series of ambitious field campaigns in the 1980s and 1990s, Ramanathan demonstrated the positive amplifying effect of water vapor absorption on global warming and the global cooling effects of clouds on climate.

More recently, he made significant contributions to the discovery of the widespread atmospheric brown clouds (ABC) phenomenon. He showed that soot in the clouds led to a reduction in the solar radiation at the ocean surface, heating of the atmosphere and regional climate change in South Asia.

Ramanathan's team revolutionized the gathering of atmospheric data in 2006 when the researchers first successfully deployed autonomous unmanned aircraft in the Maldives AUAV Campaign (MAC). Miniaturized instruments on the aircraft, which typically flew in formations of three, measured a range of properties such as the quantity and size of the aerosols upon which cloud droplets form. The instruments also recorded variables such as temperature, humidity and the intensity of light that permeates clouds and masses of smog. It was the first time such comprehensive measurements were made at a cost that was very low relative to traditional manned flights.

The research team is currently using the aircraft in a study of Southern California air pollution and will deploy them to monitor Chinese pollution emissions before, during and after the summer Olympic Games in Beijing, which begin Aug. 8.

Ramanathan is a member of the National Academy of Sciences, the American Philosophical Society, The Academy of Sciences for Developing Countries (TWAS), and the Pontifical Academy of Sciences.

Lubchenco, the 2003 recipient of Scripps's Nierenberg Prize for Science in the Public Interest, is the Wayne and Gladys Valley Professor of Marine Biology and a professor of zoology at Oregon State University. The award cited her discovery of fundamental ecological and evolutionary relationships among animals and plants in complex coastal systems and her study of the effect of aquaculture on world fish supplies.

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