

2013 Fellow, American Geophysical Union



Alan Mix

Professor, Ocean Ecology and Biogeochemistry

Mix has been named as an American Geophysical Union (AGU) 2013 Fellow. This honor is given to individual AGU members who have made exceptional scientific contributions and attained acknowledged eminence in the fields of Earth and space science. The designation is conferred upon not more than 0.1% of all AGU members in any given year.

Mix is a paleoceanographer who looks at climate change over thousands of years. He was honored for “his pioneering and enduring contributions to our understanding of ocean history and climate.”

Paleoceanographers seek to understand processes of change in the ocean using proxies preserved in ocean sediment, corals, porewater, and other archives. Stable isotopes provide primary data for dynamic changes in the Earth System.

For example, oxygen isotopes in fossil foraminifera record past temperature, ice volume, and watermass changes, carbon isotopes in both inorganic and organic components monitor the distribution of carbon in the ocean and its exchanges with the atmosphere, and nitrogen isotopes in organic matter track the oceanic nutrient cycle and its interaction with the biota that create or consume greenhouse gases such as CO₂ and N₂O.

Mix founded and directs OSU’s Stable Isotope Laboratory. The laboratory, a member of the OSU Mass Spectrometry Consortium, operates five gas-source isotope ratio mass spectrometers to analyze natural abundances of C, N, O and H isotopes in a variety of environmental, geological and biological sample types. He also served for 20 years as the director of the OSU Core Laboratory, a national community archive.

In his research career, Mix has participated in many Integrated Ocean Drilling Program expeditions to recover cores from the seafloor to study past climate. For example, in 2002, Mix served as Co-Chief Scientist on Expedition 202: Southeast Pacific Paleoceanographic Transects.

After a BS in Geology (cum laude) at University of Washington, Mix took his MS (1980) and PhD (1986) in Geology at Columbia University. Mix came to OSU as Assistant Professor in 1984, was named Professor in 1995, and served as Associate Dean from 2001–2004.



Co-Chief Christina Ravelo and Stratigraphic Correlator Alan Mix show off the core section that broke the APC depth record of 458.4 meters below seafloor on IODP Expedition 323 in the Bering Sea in 2009. (Credit Carlos Alvarez Zarikian, IODP/TAMU)

“Fellowship in AGU is a great honor, but no one does this alone. This is a testament to great students and colleagues, and to the fertile collaborative spirit at OSU that encourages us to ignore traditional discipline boundaries and work together to discover new things.” — Alan Mix