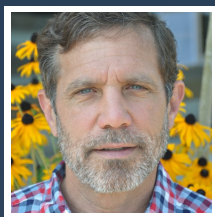


Extracting Clues from Glacial Ice



Edward Brook

Professor, College of Earth, Ocean and Atmospheric Sciences

CURRENT RESEARCH

Uncovering Earth's climate history from data found in ice

Humans have radically changed the earth's atmosphere and the climate system is responding. Knowing how much it will respond is a major challenge for earth science. Dr. Edward Brook, Professor of Earth, Ocean, and Atmospheric Sciences at Oregon State University, studies Earth's atmosphere and how climate has changed in the past. Using chemical measurements to probe Earth's climate history, his research involves understanding the relationship between greenhouse gases and climate by studying air trapped in ancient ice preserved in polar regions. He and his team conduct fieldwork in Greenland and Antarctica, develop new measurement techniques, and generate large data sets of greenhouse gas concentrations and isotope ratios, stretching back to about one million years ago.

Studies of past climate provide a rich context for understanding climate change and vital data to test mathematical models used for prediction. Additionally, they provide examples of abrupt shifts in the climate system which allow Dr. Brook and his team to evaluate the risk of such changes in the future. In short, his work underpins the modern study of climate change. Spending their time camping atop the largest glaciers in the world and analyzing samples collected, his team is one of less than a dozen labs in the world that study greenhouse gas records from ice cores. Their success has been evidenced by the proliferation of new data sets generated by Dr. Brooks's team over the last ten years while his new projects continue to ask questions that are relevant for the future of our planet.

Current research includes:

- The use of highly detailed and extremely precise measurements of greenhouse gases to reveal a...

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AFFILIATION



Oregon State University

EDUCATION

- B.S., 1985 , Geology Duke University
- M.S., 1988 , Geology University of Montana
- Ph.D., 1992 , MIT/Woods Hole Oceanographic Institution

AWARDS

- Fellow of the American Geophysical Union
- Fellow of the American Association for the Advancement of Science
- Leopold Leadership Fellow
- Google Science Communication Fellow
- Jack Dymond Award for Excellence in Mentoring, OSU CEOAS

RESEARCH AREAS

Environment, Geology, Oceanic, Clean Energy

FUNDING REQUEST

Your contributions will support the continued research of Dr. Edward Brook, of Oregon State University, whose work underpins the modern studies of climate change. Donations will fund the necessary \$500K/year required for personnel and equipment. Additionally, \$300K would support new initiatives in stable isotope research for equipment and personnel costs. \$25,000 to \$100,000 would allow Brook's group to pursue new instrumentation for field based measurement methods used to explore glacier sites where old ice may be preserved. The Earth's climate change history is complex; join in unraveling where we are going by understanding our past!