Carbon-Monitoring Device Helps Shed Light On Climate Change

Lawrence Berkeley Natl Lab

The scientific community around the world is increasingly focusing its attention on a serious environmental issue affecting us all: global climate change. A significant component of global climate change research entails observing and measuring carbon emissions, which are linked to global warming. Given that roughly 70 percent of the earth's surface is covered by oceans, it stands to reason that understanding their carbon cycles and how those interplay with atmospheric carbon is key to this research.

In response to the need for reliable oceanic data, a researcher at Lawrence Berkeley National Laboratory in Berkeley, Calif., created a remarkable device to measure carbon levels in the far-flung reaches of the world's oceans. The Carbon Explorer was developed by James K. Bishop, a senior scientist at the Lawrence Berkeley Lab, in collaboration with the Scripps Institution of Oceanography in La Jolla, Calif., and WET Labs Inc. in Philomath, Ore. It was funded by the U.S. Department of Energy's Office of Science, the U.S. Office of Naval Research and the National Oceanic and Atmospheric Administration.

> *This cost-effective robotic ocean float measures carbon concentrations in the ocean, utilizing a system of optical sensors, advanced communications and remote operating capabilities. Thanks to the Carbon Explorer, researchers have, for the first time, the ability to continuously track the biological processes of oceanic carbon cycles.*

So far, Carbon Explorers have been sent to some of the most remote and extreme ocean environments in the world, gathering data that previously had not been generated. The Carbon Explorer already has helped reveal shortcomings in our current understanding of climate change. The data provided by this intelligent device will be key to developing effective strategies to curb global warming in the future.

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