NASA's Operation IceBridge Begins New Arctic Campaign

Details

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Written by YNN

Wallops Island, Virginia - Researchers aboard NASA's P-3 research aircraft left the agency's Wallops Flight Facility in Wallops Island, Virginia, March 10 for Greenland to begin a new season of collecting data on Arctic land and sea ice.

The mission, known as Operation IceBridge, is to gather data on changes to polar ice and maintain continuity of measurements between NASA's Ice, Cloud and Land Elevation Satellite (ICESat) missions. The original ICESat mission ended in 2009, and its successor, ICESat-2, is scheduled for launch in 2017.

By flying yearly campaigns, IceBridge provides valuable data on rapidly changing areas of polar land and sea ice. Flights run through May 23 from Thule Air Base and Kangerlussuaq, Greenland, with a week-long deployment to Fairbanks, Alaska.

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According to Jackie Richter-Menge, sea ice scientist with the U.S. Army Corps of Engineers Cold Regions Research and Engineering Laboratory in Hanover, N.H., snow radar works well on ice that has not been deformed. Ice with a rougher surface can scatter radar waves, making the returning signal harder to interpret.

The IceBridge team also will work with the CryoVEx (CryoSat-2 Validation Experiment) team, which operates a campaign to verify measurements made by the European Space Agency's ice-monitoring satellite, CryoSat-2, in orbit since 2010. The IceBridge team plans to fly directly beneath the orbit of CryoSat-2 around the same time the satellite passes overhead to compare measurements. Researchers from the European Space Agency, York University in Toronto, Canada, and the Technical University of Denmark also will be flying airborne instruments to measure ice and snow.

"It's really exciting to have all of these people working together," said Richter-Menge. "It shows how interested everyone is in advancing these measurements."

Three high school science teachers from the United States, Denmark and Greenland also will join IceBridge and fly with the team to get first-hand experience and knowledge they can bring back to their classrooms. These teachers come to IceBridge through partnerships with the U.S.-Denmark-Greenland Joint Committee

and PolarTREC, a U.S.-based program that pairs teachers with polar research expeditions.

For more about Operation IceBridge and to follow this year's campaign, visit:

http://www.nasa.gov/icebridge

For more about PolarTREC and the IceBridge teacher research experience, visit:

http://www.polartrec.com/expeditions/airborne-survey-of-polar-ice-2014

For more about the U.S.-Denmark-Greenland Joint Committee, visit:

http://denmark.usembassy.gov/gl/jc.html

NASA monitors Earth's vital signs from land, air and space with a fleet of satellites and ambitious airborne and ground-based observation campaigns. NASA develops new ways to observe and study Earth's interconnected natural systems with long-term data records and computer analysis tools to better see how our planet is changing. The agency shares this unique knowledge with the global community and works with institutions in the United States and around the world that contribute to understanding and protecting our home planet.

For more information about NASA's Earth science activities in 2014, visit:

http://www.nasa.gov/earthrightnow