DATA & APPLICATIONS ONLINE

IceBridge Data

Overview

The Operation IceBridge mission collects airborne remote sensing measurements of ice covered regions including coastal Greenland, coastal Antarctica, the Antarctic Peninsula, interior Antarctica, the southeast Alaskan glaciers, and Antarctic and Arctic sea ice. It was initiated in 2009 to bridge the gap between NASA's Ice, Cloud and Land Elevation Satellite (ICESat) mission and the ICESat-2 mission scheduled for 2016.

Data from laser altimeters and radar sounders are paired with gravitometer, magnetometer, mapping camera, and other data to provide dynamic, high-value, repeat measurements of rapidly-changing portions of land and sea ice.

About the Data

Many geophysical parameters are derived from IceBridge observations, including:
- ice surface topography
- bedrock topography beneath the ice sheets
- grounding line position
- ice and snow thickness
- sea ice distribution and freeboard

The NSIDC DAAC distributes Level 1 calibrated data, Level 2 products containing retrievals along the aircraft flight tracks, and Level 3 gridded or mapped parameters. For extensive information about IceBridge data products, instruments, and campaigns: http://nsidc.org/data/icebridge/index.html

Data Access

- For IceBridge data products: http://nsidc.org/data/icebridge/data_summaries.html.
- For data and flight reports: http://nsidc.org/icebridge/portal/

References

- Qi, W. and A. Braun. 2013. Accelerated Elevation Change of Greenland's Jakobshavn Glacier Observed by ICESat and IceBridge. Geoscience and Remote Sensing Letters, IEEE (99):1-5.
- Wang, X., et al. 2013. A Method to Automatically Determine Sea Level for Referencing Snow Freeboards and Computing Sea Ice Thicknesses from NASA IceBridge Airborne LIDAR, Remote Sensing of Environment, 131:160-172

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EOSDIS DAACs
The NSIDC DAAC is one of twelve NASA Earth Observing System Data and Information System (EOSDIS) Distributed Active Archive Centers (DAACs).

To learn more about data and tools available from EOSDIS, go to earthdata.nasa.gov.