

Bringing value to IceBridge airborne mission data users

Mary Jo Brodzik[†]; Marilyn Kaminski; Jess Lacy

[†] University of Colorado/CIRES/NSIDC, USA

Leading author: brodzik@nsidc.org

Operation IceBridge is a NASA airborne geophysical survey mission collecting laser altimetry, ice-penetrating radar profiling, gravimetry and other geophysical measurements to monitor and characterize the Earth's cryosphere. The IceBridge mission, begun in 2009, will continue through the launch of ICESat-2 (currently planned for 2016), and provides continuity of measurements between that mission and its predecessor. Data management activities at the National Snow and Ice Data Center include archiving and distributing the IceBridge data collection, and providing interoperable tools and services to users of the collection. The sheer volume of the IceBridge data collection requires on-demand subsetting, but for any tools to be truly useful to an interested scientist, the data must be accessible as a related collection for a user to determine what they might need to accomplish analysis of related science questions. We describe the architecture of our data access capabilities, which include a map-based on-line interface for users to find data by geographic area, time and airborne flightline. We are implementing a system architecture that leverages open standards-based web services for data discovery, access, subsetting and reformatting. Our architecture is scalable, to allow users to find and view locally-archived data as well as related data held in remote archives. Current standard services include OGC-based map services as well as OpenSearch-based data services. We discuss our experience with the ESIP Discovery Response Format, and describe our proposed extensions to it.