

Determining the extent and dynamics of surface water for the ABoVE field campaign

M.L. Carroll¹, C.M. DiMiceli², J.R.G. Townshend², R.A. Sohlberg²

1: Sigma Space Corporation

2: University of Maryland

The following Data Management Plan was part of the NASA ROSES 2012 Proposal “Determining the extent and dynamics of surface water for the ABoVE field campaign” ([Abstract](#)) submitted to the Terrestrial Ecology Program. It is presented as an example plan.

Data Management Plan

The proposed project will generate 3 new maps of surface water extent in the North American Arctic representing 3 time periods 1991, 2001 and 2011. These maps will be derived from a time series of Landsat data that has a nominal spatial resolution of 30 meters. The time series of inputs will be used to minimize contamination of the results from anomalous conditions such as flood or drought and to avoid false positives in the classification of the data from cloud shadows, terrain shadows, and burn scars.

Data products will be provided to the data information system that is to be set up for the ABoVE project for distribution to all relevant project participants and will also be distributed through the Global Land Cover Facility (GLCF). The GLCF has long-standing experience with understanding the needs of various Earth science communities and is an invaluable resource for us in determining the best way to provide data that will be used across the spectrum of Earth science research. In addition, the data will be made available to the NASA-sponsored Distributed Active Archive Centers (DAACs) for further distribution. The facility at Oak Ridge National Laboratory (ORNL) DAAC currently distributes a number of Terrestrial Ecology related datasets and will be contacted as a potential long-term archive location for the data.

Data will be provided to the public as vector data products showing the average extent of the water bodies with detailed attributes for additional characteristics of each water body (min, max and mean size, date of last ice, # ice free days). Data products will be in ESRI shapefile format and in the Geographic Lat/Lon projection with WGS-84 datum. ESRI shapefile is a commonly used and open format for vector data and can be easily imported into spatial databases for advanced analysis in GIS software. Raster data products will be made available upon request. Federal Geographic Data Committee (FGDC) metadata records will be prepared for these data

products to facilitate long-term archival and discovery. Documentation will be provided in the form of a data user guide as well as a full article to be submitted to a peer reviewed journal at the conclusion of the project. Prior to public release the data products will undergo a rigorous quality assessment process where each data file is compared to independent data (high-resolution satellite data or field data where available) to identify anomalous conditions. Results of the QA analysis will be included in the metadata records, the user guide, and the journal article.

Software and code will be distributed under the Data Rights policy included with the Cooperative Agreement and will be exchanged without restriction as to its disclosure, use or duplication.