Abstract

The Arctic Geobotanical Atlas (AGA) is a web-based multi-scale GIS database that focuses on the research sites at the Toolik Lake Field Station (Fig. 1), and also covers the Kuparuk River Basin, northern Alaska, Arctic Alaska, and the Circumpolar Arctic – 7 scales in all (Fig. 2).

The map themes, legends, and colors are consistent across scales. The maps can be viewed by a variety of tools to enhance downloading, and use of the maps, including PDF versions, downloads of the GIS databases, and various viewing options including the GINA SwathViewer, GINA Map Server, and EarthSLOT software.

The AGA is part of a regional GIS node at the University of Alaska Fairbanks (UAF) and a circum-Arctic GIS network. The site is in progress and currently includes maps covering the circumpolar Arctic, and arctic Alaska. This poster shows the latest addition to the hierarchy of maps – The vegetation of the Upper Kuparuk River Region and Toolik Lake Alaska. Inset maps contain the satellite image and maps of glacial geology, surficial geology, and NDVI/Biomass. It is anticipated that the hierarchy of maps for Toolik Lake will be completed in 2007.

Toolik Lake is an Arctic Observatory of the United States Arctic Research program during the International Polar Year (IPY, 2007-2008). The AGA is an IPY legacy dataset for future research and monitoring in the Toolik Lake region. Future use of the maps and data products is key to several ongoing and proposed IPY projects. The AGA is one of the primary outreach and education components for the Greening of the Arctic (GOA) IPY initiative.

The maps and website (www.arcticatlas.org) are being developed at the Alaska Geobotany Center in collaboration with other groups at the University of Alaska Fairbanks, including the Toolik Field Station, the Geographic Information Network of Alaska (GINA), and the Water and Environmental Research Center (WERC). Funding was provided by National Science Foundation (ARC-0425517). The Alaska Geobotany Center is located within the Institute of Arctic Biology, University of Alaska Fairbanks, www.iab.uaf.edu.


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Fig. 1. Toolik Lake Field Station in the Foothills of the Brooks Range (Circumpolar Arctic). Photo courtesy of IARC Photo Gallery. Photographer: J. Cherry.

Fig. 2. Hierarchy of digital terrain models of the Arctic Geobotanical Atlas.