Abstract:

The Arctic Geobotanical Atlas (AGA) is a web-based multiscale (plant-to-planet) collection of geobotanical maps and supporting data. Vegetation is mapped at eight scales ranging from 1:1 scale (1 m² plots) to 1:7,500,000 (entire Arctic). Visualization tools allow users to view thematic maps and raster data by several methods. The AGA currently focuses on the Circumpolar Arctic and Arctic Alaska, but also includes data from the Arctic Long-Term Ecological Research site at Toolik Lake, Alaska, and research sites in the surrounding Toolik Lake Research Natural Area (Imnavait Creek and the Kuparuk River Basin). Diverse geobotanical themes include vegetation, geology, topography, landforms, surficial geomorphology and soil type. Vegetation data is linked to the primary literature, providing detailed community and species descriptions.

The AGA will also be one of the primary outreach and education components for the upcoming Greening of the Arctic (GOA) project (one element of the International Polar Year initiative). The GOA project will examine the spatial and temporal trends of greening in the Arctic, how these trends are affecting the indigenous people of the Arctic, and communicate the results to students, scientists, government agencies, and the general public. A variety of tools will help users understand issues related to the greening of the Arctic. Users will also have access to data (GIS, environmental measurements) and descriptive information (reports, prepared maps, refereed publications) from the Circumpolar Arctic Vegetation Map and other maps at sites along the GOA transects.

The maps and website were developed at the Alaska Geobotany Center in collaboration with other groups at the University of Alaska Fairbanks, including: Water and Environmental Research Center, Geographic Information Network of Alaska, and Toolik Field Station.

Funding provided by National Science Foundation (ARC-0425517). The Alaska Geobotany Center is located within the Institute of Arctic Biology, University of Alaska Fairbanks, Fairbanks, Alaska, 99775-7000; http://www.iab.uaf.edu.

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