Raster Version of the Circumpolar Arctic Vegetation Map (CAVM)

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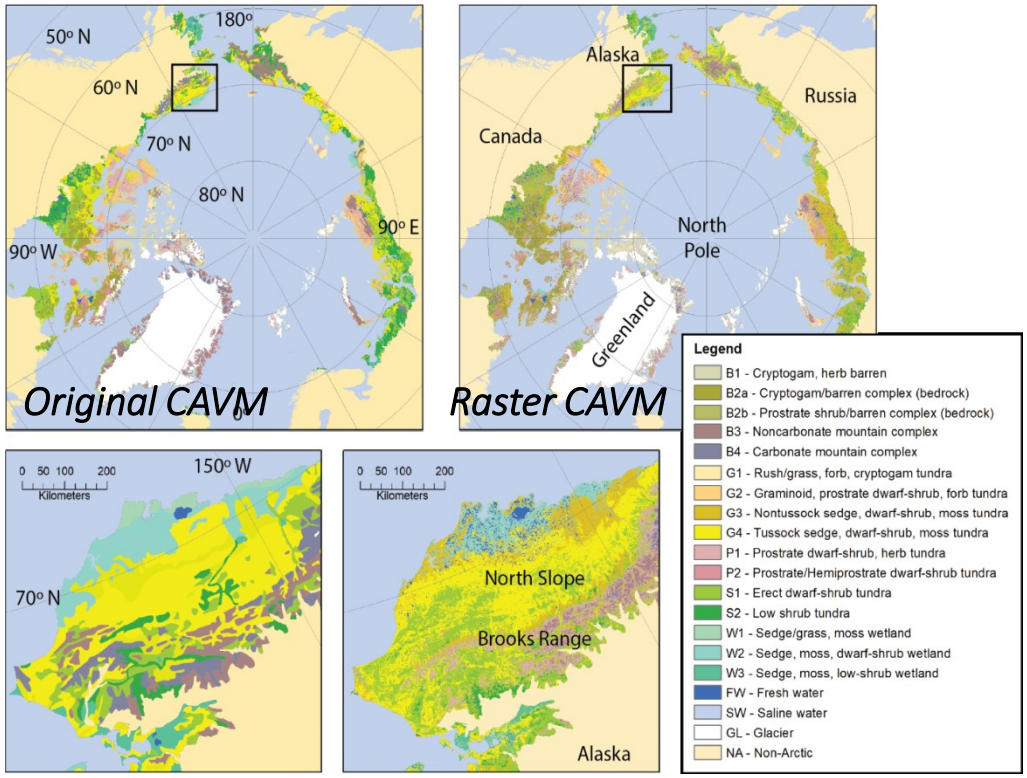
ARCTIC – BOREAL VULNERABILITY EXPERIMENT

Background

The Circumpolar Arctic Vegetation Map (CAVM) produced in 2003 has been a widely used data layer for understanding and modeling patterns and processes of Arctic ecosystems. However, the coarse resolution and vector format of the original CAVM limited its usefulness for some applications. We developed a raster version of the CAVM that provides much finer spatial resolution and improved map accuracy.



Analysis

We divided the Arctic into 18 floristic provinces and performed unsupervised classifications using a composite of AVHRR and MODIS satellite data and elevation data. A team of experts with field and mapping experience in each province reviewed the resultant classifications and provided feedback to improve the mapping of CAVM units.

Results

The Raster CAVM provides greatly improved mapping of landscape-scale heterogeneity in ecosystem conditions, particularly in areas with complex mosaics of waterbodies (e.g., Alaska's Y-K Delta) and barrens (e.g., Canadian Shield).

Significance

The Raster CAVM portrays the Arctic tundra biome at vastly improved spatial resolution in a format that is compatible with satellite and gridded climate datasets used for modeling.

Award Information

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