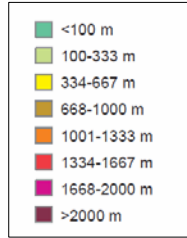
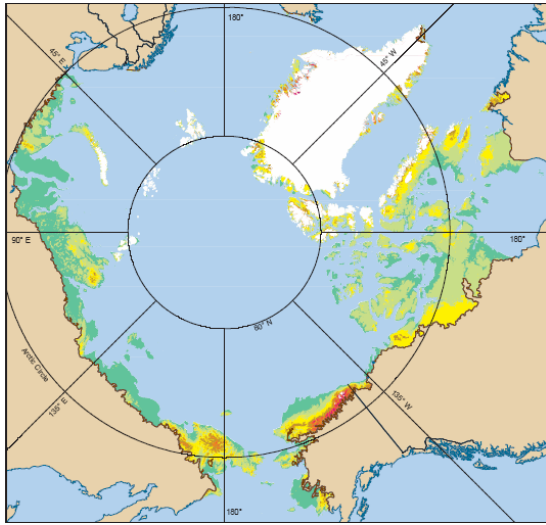




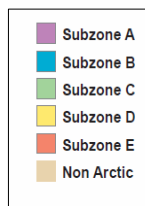
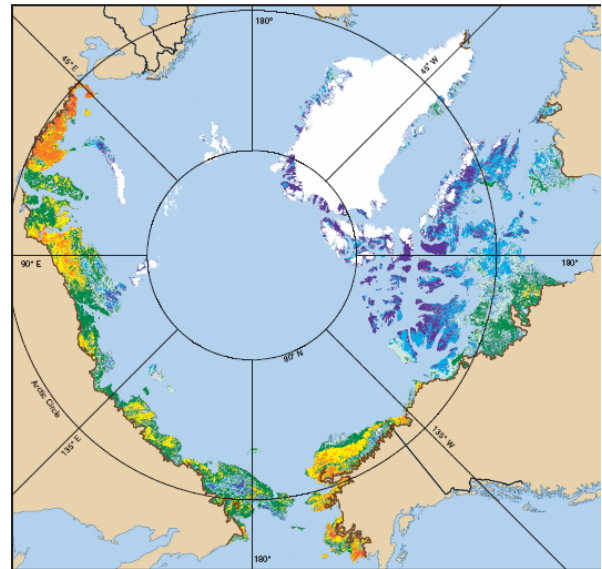
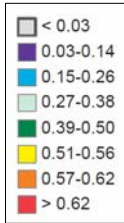
CARMA – diversity across circumpolar caribou range

- The maps below are part of the information used in the Circumpolar Arctic Vegetation Map (CAVM Team 2003).
- The point of showing them is that they do illustrate the diversity of environmental attributes across the circumpolar caribou ranges. The data are available as downloadable shp files from the web site <http://www.geobotany.uaf.edu/cavm/abstract.shtml>
- (CAVM Team. 2003. Circumpolar Arctic Vegetation Map. Scale 1:7,500,000. Conservation of Arctic Flora and Fauna (CAFF) Map No. 1. U.S. Fish and Wildlife Service, Anchorage, Alaska)

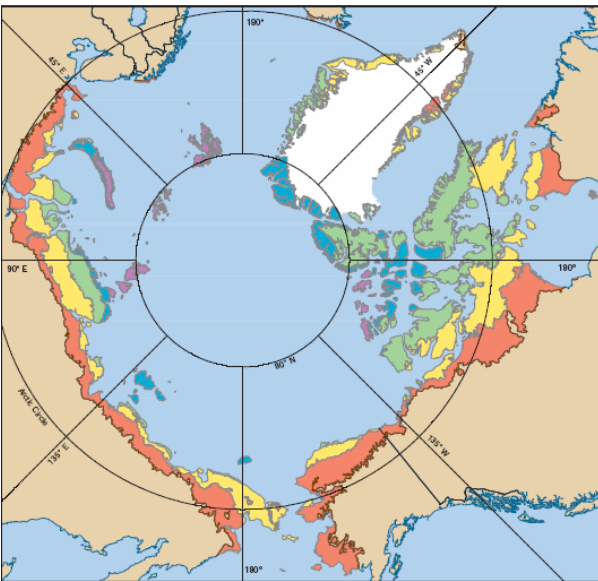


Topography
Topography strongly influences soil moisture and patterns of tundra plant communities. The topography map was divided into 333-m elevation intervals to show approximate 2°C temperature shifts in the mountainous areas. Areas below 100 m are separated to show low elevation plains. Data are at approximately 1 km spacing, taken from the GTOPO30 global digital elevation model (DEM)(Gesch et al. 1999).

Maximum NDVI
Maximum normalized difference vegetation index (NDVI) values of the Arctic region, north of tree line, during 11 July through 31 August, 1993 and 1995, which were relatively warm years with minimum snow cover. NDVI is a measure of vegetation greenness. The index is a ratio of the reflectance in the near infrared (NIR; 725-1100 nm) band and the visible red (R; 580-680 nm) band. AVHRR data used to calculate NDVI was obtained from the USGS, EROS Alaska Field Office as bi-weekly composite images.



Bioclimate Subzones
Cushion forb subzone: Mean July temperatures 0-3oC. Lichens, bryophytes, cyanobacteria and scattered forbs. Woody plants and sedges absent.
Prostrate dwarf-shrub subzone: Mean July temperatures 3-5oC. Prostrate dwarf shrubs, forbs, graminoids, mosses and lichens.
Hemiprostrate dwarf-shrub subzone: Mean July temperatures 5-7oC. Hemi prostrate and prostrate dwarf-shrubs, forbs, graminoids, mosses and lichens.
Erect dwarf-shrub subzone: Mean July temperatures 7-9oC. Erect and prostrate dwarf-shrubs, graminoids, mosses and lichen.
Low-shrub subzone: Mean July temperatures 9-12oC. Low and erect dwarf-shrubs, graminoids, mosses and lichens.



Floristic Variation

The Arctic has a relatively consistent core of plant species that occur around the circumpolar region, but there is also considerable east to west variation in the regional floras, particularly in subzones C, D, and E. This variation is due to a number of factors, including different histories related to glaciations, land bridges, and north-south trending mountain ranges, primarily in Asia. These influences have restricted the exchange of species between parts of the Arctic. Russian geobotanists have described subdivisions based primarily on these floristic differences. The map shown here was adapted from the Panarctic Flora Initiative (Elvebakk et al. 1999), based largely on Yurtsev (1994).

