

Canadian Shield:

The distinctive feature of the Kazan Upland Subregion is the extensive outcrops of plutonic (granitoid) Precambrian bedrock. The bedrock plays a direct role in the vegetation pattern because of the extent of the outcrops and its acidic nature. The Canadian Shield in northeastern Alberta is dominated by a complex of crystalline plutonic, igneous and metamorphic rocks that are part of the Churchill Structural Province of the Shield.

Climate

Few climatic data are available for the Kazan Upland. The climate generally is cool and subhumid with warm, dry summers and cold winters. The mean May - September temperature is about 12 °C.

Annual precipitation averages 320 mm with the May - September precipitation about 175 mm. July and October are the wettest months. Winds are generally light and from the east.

Soils

Much of the Kazan Upland Subregion has no soil, being either exposed bedrock or where the amount of weathered material is too thin over bedrock to qualify as a soil. Where soils have developed in upland sites, Podzolics and Regosolics are most common. Organics and Cryosolics occur in the peatlands.

Vegetation

The vegetation of the uplands is a mosaic of rock barrens, jack pine open forest on sand plains and rocky hills, and black spruce in wet depressional peatlands. Jack pine forests are most widespread, especially in the northeast, and often contain aspen.

The understory of these forests is quite simple and lichens are often as important as vascular plants.

The forests of rocky sites typically contain jack pine, black spruce, *Betula papyrifera* (paper birch), *Amelanchier alnifolia* (saskatoon), *Arctostaphylos uva-ursi* (bearberry), *Saxifraga tricuspidata* (three-toothed saxifrage), *Artemisia frigida* (pasture sage), and *Cladina rangiferina* (reindeer lichen).

On glaciofluvial, ice-contact stratified drift, and till deposits with Podzolic soils, forests of jack pine, paper birch and black spruce have a better developed understory with *Alnus crispa* (green alder), *Vaccinium vitis-idaea* (bog cranberry), *Arctostaphylos uva-ursi* (bearberry), *Vaccinium myrtilloides* (low bilberry), *Goodyera repens* (rattlesnake plantain), *Empetrum nigrum* (crowberry), *Cornus canadensis* (bunchberry), *Ledum groenlandicum* (Labrador tea) and reindeer lichens (*Cladina rangiferina*, *C. alpestris*, *Cetraria nivalis*).

Peatlands are mainly acidic, nutrient-poor bogs dominated by black spruce, tamarack, Labrador tea, reindeer lichens and peatmosses. Discontinuous permafrost is widespread in the peatlands. Fens are rare due to the acidic nature of the bedrock and soils, as well as the rocky lake shores.

Wildlife

Characteristic species of upland jack pine forests include common nighthawk, gray jay, common raven, boreal chickadee, American robin, hermit thrush, dark-eyed junco, red squirrel, varying hare, lynx and black bear. Wetland and open water species include common loon, lesser scaup, bufflehead, Bonaparte's gull, spotted sandpiper, alder flycatcher, rusty blackbird, red-winged blackbird, rusty blackbird, moose, beaver and mink.

Bald eagle and osprey are widely distributed throughout the Subregion, nesting near the numerous lakes. Golden eagle, which does not breed in the Boreal Forest, nests locally on cliffs. Rare peregrine falcons have also nested on cliffs in the area.

Northern shrike and arctic loon are both subarctic species that have bred in the Subregion. Winter visitors from further north include willow ptarmigan and, occasionally, barren ground caribou and arctic fox.