

Subarctic/ boreal evergreen coniferous forest



ALASKA, USA

CREDIT: KRISTINA J. ANDERSON-TEIXEIRA

Vegetation

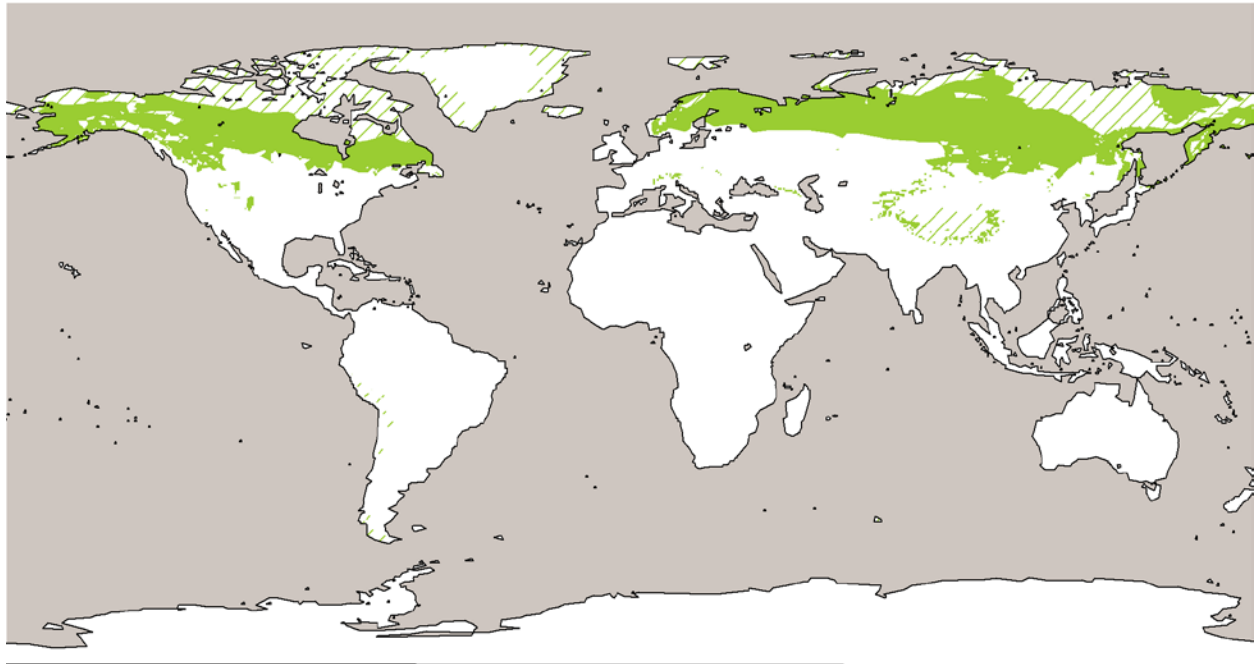
Subarctic/ boreal evergreen coniferous forest are dominated by needleleaf evergreen trees, which retain their leaves year-round. Needleleaf trees (conifers)—a group that includes pine (*Pinus*), fir (*Abies*), spruce (*Picea*), larch (*Larix*), and others—have needle-shaped leaves and produce seeds in cones.

Climate

Subarctic/ boreal broadleaf deciduous or mixed forests are found in very cold climates, with temperatures of the warmest month averaging below 22°C (72°F) (Köppen-Geiger climate system zones Dfc, Dwc, Dsc, Dfd, Dwd, Dsd, ET).

Potential Distribution

This distribution map illustrates the climate zones in which this ecosystem type occurs, with stippled areas indicating climate zones where it is rare. It is not present in all parts of its climatic range.



Climate regulation value

The average greenhouse gas value for ecosystems of this type is 551 metric tons CO₂-equivalents per hectare over a 50 year time frame (t CO₂-eq ha⁻¹ 50 yrs⁻¹). This includes 473 t CO₂-eq ha⁻¹ 50 yrs⁻¹ from storage of organic matter that would result in greenhouse gas release if cleared and 78 t CO₂-eq ha⁻¹ 50 yrs⁻¹ from ongoing greenhouse gas exchange between the ecosystem and the environment.

When biophysical effects are taken into account, the average climate regulation value for ecosystems of this type is 360 metric tons CO₂-equivalents per hectare (t CO₂-eq ha⁻¹ 50 yrs⁻¹). This is a 35% decrease relative to the value based on greenhouse gas regulation alone.

Considering an average car, emitting 1.1 lb CO₂ per mile driven, clearing 100 square feet (9.3 m²) of this ecosystem type would, on average, be equivalent to driving 1,025 miles/1,649 km (counting greenhouse gasses only). Counting biophysical effects, clearing the vegetation would be equivalent to driving 669 miles/1,077 km.