

Major Environmental Characteristics Occurring in each Ecoregion

Ecoregion	Climate* (1)	Physiography (2)	Geology (3)	Permafrost (4)	Soils (5)	Vegetation (6)	Pleistocene Glaciation (7)
101. Arctic Coastal Plain (50,000 km ²) (1, 2, 4, 6)	Arctic. Ann. precip. =140 mm. Ann. snowfall 30 cm to 75 cm. Avg. daily min. temp. in winter is -30°C; avg. daily max. in summer is =8°C.	Nearly level plain. Elevations from sea level to 180 m. Slope gradients <1°.	Quaternary deposits of alluvial, glacial, and aeolian origin.	Underlain by continuous thick permafrost.	Histic Pergelic Cryaquepts and Pergelic Cryaquepts.	Wet graminoid herbaceous communities predominate. Dwarf scrub communities in areas where microtopography provides deeper rooting zone.	None.
102. Arctic Foothills (124,000 km ²) (1, 2, 4, 6)	Arctic. Ann. precip. =140 mm, up to 190 mm near Brooks Range. Ann. snowfall 75 cm to 130 cm. Avg. daily min. temp. in winter is -29°C; avg. daily max. in summer is 11°C to 15°C.	Broad, rounded ridges and mesas in northern section; irregular buttes, mesas, long, linear ridges, and undulating plains and plateaus in southern section. Elevations from sea level to 800 m. Slope gradients generally 0° to 5°.	Northern section has unconsolidated Quaternary deposits of glacial, alluvial, and aeolian origin. Southern section has undifferentiated alluvial and colluvial deposits over Jurassic and early Cretaceous formations.	Underlain by continuous thick permafrost.	Histic Pergelic Cryaquepts, Pergelic Cryaquepts, and Pergelic Ruptic-Histic Cryaquepts.	Mesic graminoid herbaceous communities predominate. Dwarf scrub on other well-drained sites. Open low scrub along drainages.	None, except for some areas directly north of the Brooks Range.
103. Brooks Range (134,000 km ²) (1, 2, 3, 4, 6, 7)	Arctic. Ann. precip. at Anaktuvuk Pass (the only long-term weather station in the region) 280 mm. Ann. snowfall 160 cm. Avg. daily min. temp. in winter at Anaktuvuk Pass is -30°C; avg. daily max. in summer for same location is 16°C.	Steep, rugged mountains. Elevations from 500 m to >2,400 m. Slope gradients generally 5° to 15°.	Stratified Paleozoic and Mesozoic sedimentary deposits. Much exposed bedrock and rubble.	Underlain by continuous thick permafrost.	Pergelic Cryaquepts, Pergelic Cryobrepts, and Lithic Cryorthents.	Much of region is barren of vegetation. Dwarf scrub communities on drier sites. Mesic graminoid herbaceous communities on wet to moist sites in lower valleys.	Extensive.
104. Interior Forested Lowlands and Uplands (269,000 km ²) (2, 3, 6, 7)	Continental. Ann. precip. 250-550 mm, usually increasing with elevation. Ann. snowfall 125 cm to 205 cm. Avg. daily min. temp. in winter is -35°C to -18°C; avg. daily max. in summer is 17°C to 22°C.	Rolling lowlands, dissected plateaus, and low to high hills. Elevations from sea level to 500 m. Slope gradients generally 0° to 5°.	Predominantly Mesozoic and Paleozoic sedimentary rocks, but also extensive areas of volcanic deposits. Region is covered by undifferentiated alluvium and slope deposits. Little bedrock exposure.	Western portion underlain by thin to moderately thick permafrost. Eastern portion underlain by discontinuous permafrost.	Histic Pergelic Cryaquepts, Pergelic Cryaquepts, Aquic Cryochrepts, Pergelic Cryochrepts, Typic Cryorthents, and Pergelic Cryobrepts.	Needleleaf, broadleaf, and mixed forest communities on newly exposed alluvium, burned or disturbed areas, and at treeline. Low scrub in moist areas and on north-facing slopes. Tall scrub swamps, low scrub bogs, and scrub-graminoid communities in wettest areas.	None.
105. Interior Highlands (115,000 km ²) (2, 6, 7)	Continental. No long-term weather data available. Likely increasing precip. and decreasing temp. with rise in elevation.	Steep, round ridges often capped by rugged peaks. Elevations from 500 m to >1,500 m. Slope gradients generally 5° to 15°, lower gradients typical around margins of ecoregion.	Paleozoic and Precambrian metamorphic rocks, felsic volcanic and intrusive rocks. Kuskokwim Mountains and Nulato Hills have Cretaceous and Lower Paleozoic sedimentary rocks. Much more bedrock exposure than Interior Forested Lowlands and Uplands Ecoregion.	Northern portions are underlain by continuous permafrost. Central and southern portions are underlain by discontinuous permafrost.	Histic Pergelic Cryaquepts, Typic Cryochrepts, Pergelic Cryochrepts, Lithic Cryorthents, and Typic Cryorthents.	Dwarf scrub on sites exposed to harsh climatic elements. Needleleaf forests and woodlands at lower elevations. Mesic graminoid herbaceous communities in poorly drained areas.	On higher peaks.
106. Interior Bottomlands (103,000 km ²) (2, 3, 6)	Continental. Ann. precip. 280 mm to 400 mm. Wetter in west, drier in east. Ann. snowfall 95 cm to 205 cm. Avg. daily min. temp. in winter is -33°C to -26°C; avg. daily max. in summer is 22°C.	Flat to nearly flat bottomlands, inclusion of local hills. Elevations from 120 m to 600 m. Slope gradients generally <1°.	Fluvial and aeolian deposits of mixed origin. Outwash gravel and moraine deposits in some areas.	Ranges from isolated masses of permafrost to continuous thin permafrost.	Histic Pergelic Cryaquepts, Pergelic Cryaquepts, Aquic Cryochrepts, Typic Cryochrepts, and Typic Cryofluvents.	Needleleaf, broadleaf, and mixed forest communities are widespread. Tall scrub communities on floodplains. Low scrub bogs, wet graminoid herbaceous meadows, and wet forb herbaceous meadows and marshes in wettest sites.	None.
107. Yukon Flats (33,000 km ²) (2, 3, 4, 6)	Continental. Ann. precip. 170 mm. Ann. snowfall 115 cm. Avg. daily min. temp. in winter is -34°C; avg. daily max. in summer is =22°C.	Flat to undulating basin floor. Elevations from 90 m to >250 m. Slope gradients generally <1°.	Quaternary alluvial (and some aeolian) deposits.	Permafrost widespread but discontinuous.	Histic Pergelic Cryaquepts, Pergelic Cryaquepts, Aquic Cryochrepts, and Pergelic Cryochrepts.	Needleleaf, broadleaf, and mixed forest communities widespread. Tall scrub communities on alluvial sites subject to periodic flooding. Tall scrub swamps and wet graminoid herbaceous communities in wettest areas.	None.
108. Ogilvie Mountains (11,000 km ²) (Region is most distinguishable on vegetation greenness images. Other important characteristics are distinctive mainly in Canada.)	Continental. No long-term weather data available. Ann. precip. probably from 500 mm to 650 mm. Ann. snowfall probably from 130 cm to 205 cm. Estimated avg. daily min. temp. in winter is -32°C; estimated avg. daily max. in summer is 22°C.	Predominantly flat-topped hills, sometimes overtopped by mountains, eroded from a former plain. Elevations from 900 m to >1,300 m. Slope gradients generally 0° to 5°.	Metamorphic and sedimentary rocks, primarily dolomite, phyllite, argillite, limestone, shale, chert, sandstone, and conglomerate. Karst topography common.	Permafrost widespread but discontinuous.	Histic Pergelic Cryaquepts, Typic Cryochrepts, and Pergelic Cryorthents.	Mesic graminoid herbaceous communities widespread on exposed sites. Needleleaf, broadleaf, and mixed forest communities on lower hillslopes and in valleys. Tall scrub communities mainly at lower elevations, sometimes extending above timberline.	None.
109. Subarctic Coastal Plains (91,000 km ²) (2, 3, 4, 5, 6)	Transitional. Ann. precip. 250 mm to 500 mm. Ann. snowfall 100 cm in north, 105 cm to 150 cm in south. Avg. daily min. temp. in winter is -25°C for the Kotzebue Sound area and -20°C to -15°C for the Cape Denbigh and Yukon-Kuskokwim Lowland areas; avg. daily max. temp. in summer is 13°C to 17°C.	Flat plains. Elevations from sea level to >120 m. Slope gradients generally <1°.	Older coastal deposits of interstratified alluvial and marine sediments. Includes areas of Quaternary mafic and undifferentiated volcanic rocks in western part of Yukon-Kuskokwim Lowlands and on Nunivak and St. Lawrence Islands. Cretaceous intermediate volcanic rocks in Selawik Wildlife Refuge Area.	Continuously thin to moderately thick permafrost.	Histic Pergelic Cryaquepts and Pergelic Cryofibrists.	Wet graminoid herbaceous communities predominate. Dwarf scrub communities in better drained areas. Needleleaf forests in southern portion of region, where drainage and warm temperatures sufficient.	Only northernmost portion glaciated.
110. Seward Peninsula (47,000 km ²) (3, 6)	Maritime to continental. Ann. precip. 250 mm to 510 mm in the lowlands, >1,000 mm estimated for the mountains. Ann. snowfall 100 cm to 190 cm in the lowlands, probably up to 250 cm in the mountains. Avg. daily min. temp. in winter is -24°C to -19°C; avg. daily max. in summer is 13°C to 17°C.	Narrow strips of coastal lowlands, extensive uplands of broad convex hills and flat divides, small, isolated groups of rugged mountains. Elevations from sea level to 500 m for most of region, >1,400 m on high mountains. Slope gradients generally 0° to 5°, up to 15° typical in the mountains.	Paleozoic sediments and metamorphosed volcanic rocks and Precambrian volcanic rocks. Highlands may be Cenozoic uplifts of these formations. Extensive Quaternary or Tertiary volcanic rock formations in northeastern portion of ecoregion.	Continuously thin to moderately thick permafrost.	Histic Pergelic Cryaquepts, Pergelic Cryaquepts, Typic Cryochrepts, Lithic Cryorthents, and Pergelic Cryobrepts.	Mesic graminoid herbaceous communities and low scrub communities widespread on hills and lower mountains. Wet graminoid herbaceous communities in wettest areas. Tall scrub communities along drainages and on floodplains. Dwarf scrub communities in highlands.	Only highlands were glaciated.
111. Ahklun and Kilbuck Mountains (51,000 km ²) (2, 3, 6, 7)	Transitional. Ann. precip. 1,020 mm in lowlands to 2,030 mm in highlands. Ann. snowfall 205 cm in lowlands to 510 cm in highlands. Avg. daily min. temp. in winter is -16°C; avg. daily max. in summer is 16°C to 19°C.	Steep, rugged mountain groupings separated by broad lowlands. Elevations from sea level to >1,500 m. Slope gradients generally 0° to 8°, steeper slopes not uncommon.	Strongly deformed sedimentary and volcanic rocks of late Paleozoic and Mesozoic age. Small granitic masses surrounded by more resistant hornfels have formed ringlike mountain groups.	Discontinuous permafrost at higher elevations, isolated masses at lower elevations.	Histic Pergelic Cryaquepts, Pergelic Cryaquepts, Typic Cryochrepts, Lithic Cryorthents, Pergelic Cryobrepts, and Pergelic Humicryods.	Dwarf scrub communities in mountains. Mesic graminoid herbaceous communities on mesic valley sites. Wet graminoid herbaceous communities and low scrub herbaceous bogs on wettest valley sites. Needleleaf, broadleaf, and mixed forest stands on better drained valley sites.	Extensive.

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112. Bristol Bay-Nushagak Lowlands (61,000 km ²) (2, 3, 6, 7)	Transitional. Ann. precip. 330 mm to 860 mm. Ann. snowfall 75 cm to 250 cm. Avg. daily min. temp. in winter is -15°C to -10°C (higher in south, lower in north); avg. daily max. in summer is 18°C.	Rolling lowlands. Elevations from sea level to 150 m. Slope gradients generally 0-2°.	Quaternary glacial outwash and moraine deposits, mantled in part by silt and peat.	Ranges from isolated masses of permafrost to areas free from permafrost.	Typic Haplocryands, Typic Vitricryands, Fluvaquentic Cryofibrists, Histic Pergelic Cryaquepts, and Typic Cryochrepts.	Dwarf scrub communities most common on better drained sites. Low scrub bogs, wet graminoid herbaceous communities, and wet forb herbaceous communities on poorly drained sites. Broadleaf and mixed forest communities on floodplains of major rivers.	Extensive.
113. Alaska Peninsula Mountains (48,000 km ²) (2, 3, 4, 6, 7)	Maritime. Ann. precip. 600 mm to 3,300 mm in coastal lowlands, >4,000 mm at higher elevations. Ann. snowfall 55 cm to 150 cm in lowlands, >510 cm in mountains. Avg. daily min. temp. in winter is -11°C to -6°C; avg. daily max. in summer is =15°C.	Rounded ridges overtopped by steep, rugged mountains. Elevations from sea level to 2,600 m. Slope gradients generally 0° to 11°, steeper slopes not uncommon.	Stratified Jurassic, Cretaceous, and Tertiary sediments and undifferentiated Quaternary volcanic rocks.	Generally free from permafrost.	Typic Haplocryands and Typic Vitricryands.	Dwarf scrub communities at higher elevations and on windswept areas. Low scrub communities in more protected sites. Of less extensive distribution are tall scrub communities (in drainages and at low elevations), broadleaf forests (on floodplains and south-facing slopes), and low scrub bogs and mesic graminoid herbaceous communities (in poorly drained areas).	Extensive.
114. Aleutian Islands (12,000 km ²) (1, 3, 4, 6, 7)	Maritime. Ann. precip. 530 mm to 2,080 mm at sea level locations (smaller islands may have much less precip.). Ann. snowfall 85 cm to 250 cm at same locations. Avg. daily min. temp. in winter is -7°C to -2°C; avg. daily max. in summer is 10°C to 13°C.	Low mountains, often overtopped by steep, rugged mountains. Elevations from sea level to >1,900 m. Slope gradients <1° in lowlands, >5° in mountains.	Blockfaulted Tertiary sediments surmounted by undifferentiated Quaternary and Tertiary volcanic rocks.	Generally free from permafrost.	Typic Haplocryands and Typic Vitricryands.	Dwarf scrub communities at higher elevations and on windswept areas. Mesic graminoid herbaceous communities and dry graminoid herbaceous communities at lower elevations and on sites protected from wind. Low scrub bogs in moist areas.	Only the easternmost portion glaciated.
115. Cook Inlet (28,000 km ²) (1, 3, 4, 5, 6, 7)	Transitional. Ann. precip. 380 mm to 680 mm. Ann. snowfall 160 cm to 255 cm. Avg. daily min. temp. in winter is -15°C; avg. daily max. in summer is 18°C.	Level to rolling terrain. Elevations from sea level to 600 m. Slope gradients generally 0° to 3°.	Poorly consolidated Tertiary coal-bearing rocks mantled by glacial moraine and outwash, aeolian deposits, and marine and lake deposits.	Generally free from permafrost.	Haplocryands, Sphagnic Borofibrists, Terric Borosaprists, Typic Borohemists, Andic Haplocryods, and Andic Humicryods.	Needleleaf, broadleaf, and mixed forests widespread. Mesic graminoid, graminoid herbaceous, and low scrub graminoid communities in dry to mesic sites. Tall scrub communities on periodically flooded alluvium. Low scrub communities on poorly drained lowlands. Tall scrub swamps, low scrub bogs, wet forb herbaceous communities, and wet graminoid herbaceous communities on wettest sites.	Extensive.
116. Alaska Range (117,000 km ²) (1, 2, 3, 4, 6, 7)	Continental. Weather data available only for low elevations. Ann. precip. 380 mm at low elevations, probably =2,030 mm at high elevations. Ann. snowfall 150 cm to 305 cm at low elevations, probably =1,015 cm at high elevations. Avg. daily min. temp. in winter is -25°C at low elevations; avg. daily max. in summer is 18°C at same locations.	Steep, rugged mountains and broad valleys. Elevations from 600 m (sea level in southwest portion of ecoregion) to >3,900 m (Mt. McKinley =6,100 m). Slope gradients generally 5° to 25°, >25° on some mountains.	Southern portion underlain by granitic batholiths intrusive into moderately metamorphosed, highly deformed Paleozoic and Mesozoic volcanic and sedimentary rocks. This area includes active volcanoes. Central and eastern portions of ecoregion are a broad syncline having Cretaceous rocks in the center and Paleozoic and Precambrian rocks on the flanks. Rocky slopes, icefields, and glaciers cover much of region.	Discontinuous permafrost.	Lithic Cryorthents, Andic Cryobrepts, Pergelic Ruptic-Histic Cryaquepts, Typic Cryochrepts, and Typic Cryobrepts.	Much of region is barren of vegetation. Dwarf scrub communities on drier, windswept sites. Low scrub communities and tall scrub communities on moist to mesic sites. Needleleaf forests and woodlands on well-drained sites of valleys and lower slopes.	Extensive.
117. Copper Plateau (17,000 km ²) (2, 3, 4, 5, 6, 7)	Continental. Ann. precip. 250 mm to 460 mm. Ann. snowfall 100 cm to 190 cm. Avg. daily min. temp. in winter is =-27°C; avg. daily max. in summer is =21°C.	Level to gently rolling plain. Elevations from 420 m to 900 m. Slope gradients generally 0° to 2°.	Pleistocene proglacial lake deposits.	Thin to moderately thick permafrost.	Histic Pergelic Cryaquepts, Aquic Cryochrepts, Pergelic Cryochrepts, and Typic Cryoborolls.	Needleleaf forests and woodlands predominate. Broadleaf forests, tall scrub communities, and needleleaf forests dominated by white spruce on better drained sites. Low scrub bogs and wet graminoid herbaceous communities in wettest areas.	Extensive.
118. Wrangell Mountains (29,000 km ²) (1, 2, 3, 4, 6, 7)	Continental. Ann. precip. 410 mm at McCarthy (the only long-term weather station in the ecoregion), probably =2,030 mm at higher elevations. Ann. snowfall 175 cm at McCarthy, probably =255 cm at higher elevations. Avg. daily min. temp. in winter is -34°C at McCarthy; avg. daily max. in summer at same location is 22°C.	Steep, rugged mountains. Elevations from 600 m to >3,900 m. Slope gradients usually >7°, >15° for many areas.	Shield and composite volcanoes of Cenozoic age. Rocky slopes, icefields, and glaciers cover much of region.	Discontinuous permafrost.	Lithic Cryorthents, Andic Cryobrepts, and Pergelic Cryobrepts.	Much of region is barren of vegetation. Dwarf scrub communities along drainages and on floodplains. Needleleaf and broadleaf forests at lower elevations on broad ridges, valleys, and hilly moraines.	Extensive.
119. Pacific Coastal Mountains (106,000 km ²) (1, 2, 3, 6, 7)	Transitional. No long-term weather data available. Ann. precip., interpolated from low elevation coastal station data, 2,030 mm to >7,000 mm. Ann. snowfall 510 cm to 2,030 cm. Ann. precip. generally increases with elevation.	Steep, rugged mountains. Elevations from sea level to >4,500 m. Slope gradients generally >7°, >20° on some mountains.	Cretaceous and Upper Jurassic sediments extensively throughout Chugach Mountains. Tertiary to Cretaceous (Paleozoic in some places) intrusive rock primarily throughout southeastern coastal mountains. Rocky slopes, icefields, and glaciers cover much of region.	Chugach Mountains have isolated masses of permafrost. The remainder of the ecoregion is generally free from permafrost.	Lithic Cryorthents, Andic Cryobrepts, Typic Cryobrepts, and Typic Humicryods.	Much of region is barren of vegetation. Low and dwarf scrub communities are common where vegetation does occur. Needleleaf forests in some lower drainages.	Extensive.
120. Coastal Western Hemlock-Sitka Spruce Forests (61,000 km ²) (1, 4, 5, 6, 7)	Maritime. Ann. precip. 1,350 mm to 3,900 mm. Ann. snowfall 80 cm to 600 cm. Avg. daily min. temp. in winter is -3°C; avg. daily max. in summer is 18°C.	Level to irregular terrain to steep foothills of coastal mountains. Elevations from sea level to 500 m (includes some local mountains up to 1,000 m). Median slope gradient 5°, range is from 0° to 28°.	Lower Tertiary interbedded sedimentary, volcanogenic, and volcanic rocks in Prince William Sound area. Upper Cretaceous sandstone and slate on Kodiak Island. Mesozoic volcanic and intrusive rock, and Mesozoic and Paleozoic sediments in the southeastern portion of the ecoregion.	Generally free from permafrost.	Terric Cryohemists, Andic Cryaquods, Andic Humicryods, Lithic Humicryods, and Typic Humicryods.	Needleleaf, broadleaf, and mixed forests predominate. Tall scrub swamps, low scrub bogs, wet graminoid herbaceous communities, and wet forb herbaceous communities on wet sites.	Extensive.

*Climate information for nearly all ecoregions represents interpolations from very few weather stations.

†Numbers below headings of environmental characteristics correspond with those listed in footnote c.

‡Numbers indicate the mapped environmental characteristics most useful for distinguishing the ecoregion and do not necessarily reflect the primary ecological driving factors:

1=climate, 2=physiography, 3=geology, 4=permafrost, 5=soils, 6=vegetation, and 7=Pleistocene glaciation.

§Includes snow water equivalent.

¶Elevation is in meters above mean sea level.