CHARACTERISTICS OF THE WETLAND REGIONS

A ARCTIC WETLAND REGIONS

Common wetlands are fens, lowland polygon bogs, peat mound bogs, marshes and shallow waters. The climate is cold and the precipitation is low. Permafrost underlies all wetlands.

AH HIGH ARCTIC Wetland Region

Characteristic wetlands are basin fens, with or without lowland polygon development, and peat mound bogs. Marshes are common along the coast. Shallow waters are associated with low lying areas. The climate is cold with cold, short summers and very cold winters. The precipitation is very low.

Peat development is minimal; the average thickness is about 50 cm. In some areas cryoturbation is sufficiently intense to prevent the establishment of plants, resulting in nearly barren, frost-patterned ground. The maximum development of the thawed active layer is less than 40 cm.

AM MID-ARCTIC Wetland Region

Characteristic wetlands are horizontal fens and basin fens with small, elevated peat mound bogs. Low centre polygonal bogs are locally common but active high centre polygonal bogs are rare. Marshes are common along the coast and shallow waters are associated with low lying areas. The climate is cold and arid.

The active layer on the peat mounds under better drained peat is about 30 cm and in the wet fens it is about 40 cm. The thickness of peat is less than 150 cm in the peat mounds and usually less than 50 cm in the fens.

AL LOW ARCTIC Wetland Region

Characteristic wetlands are lowland polygon fens, both the low and high centre varieties. The large expanses of tundra covered with tussock-forming graminoid species such as *Eriophorum vaginatum* and *Carex bigelowii* are not considered to be wetlands as they are not waterlogged throughout the year. Other wetlands, such as spring fens, high and low coastal marshes and shallow waters may occur in hydrologically suitable areas. The climate is characterized by cool summers and low precipitation.

The active layer in the wet fens may reach 80 cm but is usually only 40 cm in the better drained high centre polygons. The average thickness of peat in high centre polygons is about 1.5 m, but it is only about 50 cm in the polygonal fens.

S SUBARCTIC WETLAND REGIONS

Common wetlands are fens, bogs, marshes and shallow waters. The climate is characterized by cool summers and cold winters. The precipitation is low to moderate. Permafrost occurs under palsa bogs, peat plateau and polygonal peat plateau bogs, veneer bogs and some fens.

SH SUBARCTIC Wetland Region

Characteristic wetlands are polygonal peat plateau bogs with basin fens and locally occurring shore fens. In areas recently emerged from Hudson Bay, polygon development is lacking. In the fens, small, incipient palsa bogs are a common and conspicuous feature. Extensive fens dominated by *Carex* spp. are found in the coastal zone. Stream fens develop in hydrologically suitable areas. High and low coastal marshes occur along coastal areas. Shallow waters are common in the Mackenzie River delta and along the Hudson Bay coast. The climate is characterized by cool summers and low precipitation.

Permafrost underlies all wetlands except some shore fens located within a few metres of lakes. The active layer in the fens may be as much as 1 m thick but it is only approximately 40 cm in the polygonal peat plateau bogs. The average peat thickness is approximately 2 m.

SL LOW SUBARCTIC Wetland Region

Characteristic wetlands are peat plateau bogs, palsa bogs, ribbed and horizontal fens. Palsa bogs occur frequently east of the Nelson River, but are much less common further west. Marshes and shallow waters are common in the Hudson Bay lowlands. The climate is characterized by cold winters and moderately cool summers. Precipitation is low in the west but increases considerably in the east.

Permafrost occurs under peat plateau bogs and palsa bogs, but not under fens. The active layer is about 60 cm deep at its maximum development. The average thickness of peat is 2-3 m.

SA ATLANTIC SUBARCTIC Wetland Region

Characteristic wetlands are bogs and fens. The climate is characterized by cool wet summers and relatively cool winters. High winds and extreme exposure are characteristic of the region.

SAc Coastal Atlantic Subarctic Wetlands

Characteristic wetlands are Atlantic plateau bogs with associated palsa bogs in northern to mid-Labrador and peat mound bogs in southern Labrador and northern Newfoundland. Average peat depth in plateau bogs is 2 m.

SAo Oceanic Atlantic Subarctic Wetlands.

Characteristic wetlands are slope bogs, basin bogs and, at higher elevations, ribbed fens. There are extensive complexes of slope bogs and ribbed fens (sometimes slope fens occur on mountain slopes). The average peat thickness in bogs is 1-2 m while in ribbed fens thickness varies from a few centimetres to 2 m. Permafrost is absent.

B BOREAL WETLAND REGIONS

Common wetlands are fens and bogs. Marshes and shallow waters occur in some depressions and along coastal areas. The climate is characterized by mild to cold winters and warm to moderately cool summers. The precipitation is moderate to high. Permafrost occurs under palsa bogs, peat plateau and veneer bogs.

BH HIGH BOREAL Wetland Region

Characteristic wetlands are peat plateau bogs, palsa bogs, string bogs, and ribbed fens in inland areas, and veneer bogs on gently sloping terrain in northern regions. In suitable areas shore and stream fens may develop. High and low coastal marshes, horizontal fens and shallow waters occur near Hudson Bay. The climate is characterized by cold winters and moderately cool summers. Precipitation is low in the west but increases in the eastern part of the region.

BHc Continental High Boreal Wetlands

Characteristic wetlands are peat plateau bogs and palsa bogs with collapse scars, and veneer bogs. Fens are of relatively minor importance. Continuous permafrost occurs in peat plateau and palsa bogs and the amount of collapsing decreases in the northern areas. The active layer ranges from 40 to 60 cm in the north to 1 to 2 m on the southern fringe. Veneer bogs, common in the northern areas, are characterized by active layers of varying depths and discontinuous permafrost. Stream swamps are locally common. The average peat thickness is 2-3 m.

BHh Humid High Boreal Wetlands

Characteristic wetlands are ribbed fens and string bogs in inland areas and raised palsa/ bogs in coastal areas. Horizontal fens are widespread in the Hudson Bay Lowland. Peat plateau bogs and palsa bogs occur, as do swamps, but are not common. Peat thickness in string bogs and ribbed fens rarely exceeds 2 m while in plateau bogs the depth is often 2-4 m. Permafrost distribution is sporadic, occurring most frequently in areas of higher elevations.

BM MID-BOREAL Wetland Region

Characteristic wetlands are treed bogs and fens occurring on broad flats and in confined basins. Raised bogs are common in the humid east but not in the subhumid west. Floating fens and shore swamps may border lakes and ponds. The climate varies from severe winters and warm summers in the west to mild winters and cool summers in the east. Precipitation is higher in the east, decreasing gradually westward. Permafrost is absent.

BMc Continental Mid-Boreal Wetlands

Flat bogs and basin bogs are common, often in association with horizontal and ribbed fens. Occasionally in larger fens, plateau bogs occur. Marshes can be found along gently sloping lakeshores. The average peat thickness is approximately 4 m.

BMh Humid Mid-Boreal Wetlands

Domed, flat, and basin bogs are common but fens are relatively scarce, except along ponds, where marshes may also occur. Swamps may be locally common. Average peat thickness in wetlands is about 5 m.

BMt Transitional Mid-Boreal Wetlands

This area is transitional between the Prairie to the south and the Boreal region to the north. Basin fens, bogs, swamps and marshes occupy depressions in about equal proportions. Horizontal fens and floating fens occur along drainageways and lakeshores. Average peat thickness is approximately 3-3 m in bogs, but less in fens, and minimal in swamps and marshes.

BL LOW BOREAL Wetland Region

Characteristic wetlands are bowl bogs that are treed and often surrounded by peat margin swamps. Basin swamps and fens are less common, occupying depressions. The climate is characterized by cold winters and warm summers with high precipitation, especially in the eastern part of the region. The average thickness of peat in bogs and fens is approximately 5 m. In swamps the peat is well humified and seldom exceeds 50 cm in thickness, except where the swamp occurs on the fringe of a bog or fen.

BA ATLANTIC BOREAL Wetland Region

Characteristic wetlands are domed bogs, peat plateau bogs, and string bogs, Atlantic ribbed fens, slope fens, and stream fens. Basin swamps exist, most commonly characterized by Black Spruce and Tamarack. Freshwater marshes are common along major streams and floodplains, and salt marshes characterize most of the coastal areas, especially of southern Nova Scotia. A maritime climate exists typified by relatively mild winters, cool summers and persistent fog. Precipitation varies between 950 and 1 500 mm annually. The common thickness of peat is approximately 5-10 m in domed bogs; 8-10 m in plateau bogs and 1-2 m in fens.

BAa Acadian Atlantic Boreal Wetlands

Characteristic wetlands are domed bogs consisting of poorly to moderately decomposed Sphagnum peats. Fens are rare and are largely associated with stream marshes where they do occur. Basin swamps characterized by Black Spruce and/or Tamarack or Red Maple are the dominant treed wetlands. Speckled Alder typifies stream swamps. Coastal marshes with associated mud flats characterize the Bay of Fundy lowlands.

BAc Coastal Atlantic Boreal Wetlands

Characteristic wetlands are domed bogs, stream and horizontal fens, and coastal marshes. Peat depths are approximately 5 m in bogs and are generally less than 2 m in fens.

BAe Eastern Atlantic Boreal Wetlands

Characteristic wetlands are string bogs with some areas of Atlantic ribbed fens. Average peat depth in string bogs is approximately 1.5 m.

BAg Gulf Atlantic Boreal Wetlands

Wetland occurrence is minimal with small domed bogs being most prevalent. Basin swamps occupy poorly-drained bottomlands characterized by Black Spruce, Cedar and sometimes Black Ash. Marsh development is restricted to small stream marshes.

BAi Interior Atlantic Boreal Wetlands

Characteristic wetlands are Atlantic ribbed fens with some areas of string bogs. Throughout upland areas small basin bogs and slope fens occur. Average peat depth in ribbed fens is approximately 1 m.

BAm Maritime Atlantic Boreal Wetlands

Characteristic wetlands are extensive and deep (7-10 m) domed or peat plateau bogs in New Brunswick and Nova Scotia, but shallower (2-4 m) peat plateau bogs (and some domed bogs) in western Newfoundland. Slope fens are also common on the limestone bedrock and tills of western Newfoundland but are relatively uncommon in the coastal areas of Nova Scotia and New Brunswick. Coastal marshes are less common in Newfoundland.

BAn Northern Atlantic Boreal Wetlands

Characteristic wetlands are string bogs and Atlantic ribbed fens. Raised bogs, basin bogs, and basin swamps occur, although, less common. Marshes are uncommon.

BAo Oceanic Atlantic Boreal Wetlands

Characteristic wetlands are domed bogs, slope bogs and slope fens all occurring within the main forested regions of central and west-central Newfoundland. The characteristic wetlands in Labrador are domed bogs with some string bogs occurring. Pools are often abundant on the domed bogs and are usually arranged in concentric patterns around the highest point of the bog surface. Swamps and marshes are uncommon.

P PRAIRIE WETLAND REGIONS

Common wetlands are marshes and shallow waters. The climate is semi-arid with cold winters and hot summers.

PC CONTINENTAL PRAIRIE Wetland Region

Characteristic wetlands are marshes, usually in association with shallow basin, kettle or shore water. The climate is semi-arid with cold winters and hot summers.

PCa Aspen Parkland Continental Prairie Wetlands

Common wetlands are shallow basin and kettle marshes associated with fresh to saline shallow water and encircled by tall shrubs or hardwood. Locally, grass and shrub filled depressions occur. Saline shore marshes may border larger lakes. There is limited development of well-humified peat, usually less than 50 cm thick.

PCg Grassland Continental Prairie Wetlands

Shallow basin marshes associated with fresh to saline shallow waters are common. Seasonal ponds and semi-permanent open shallow water lakes with high salinity are common. Peat development is absent.

PI INTERMOUNTAIN PRAIRIE Wetland Region

Characteristic wetlands are marshes, usually bordering fresh to saline ephemeral or semi-permanent shallow waters. Peat development is absent. The climate is semi-arid, with hot summers and mild winters.

T TEMPERATE WETLAND REGIONS

Common wetlands in the eastern region are swamps and marshes while, in the western region, bogs and fens are characteristic. The climate is characterized by mild winters and warm summers, with moderate to high annual precipitation.

TE EASTERN TEMPERATE Wetland Region

Characteristic wetlands are basin and stream swamps typified by hardwood trees. Basin and flat bogs are characteristic but less common. Shore marshes, stream marshes and fens may be found along the shores of ponds, lakes, and along drainageways. The climate is characterized by mild winters and warm summers, with moderately high annual precipitation. Average peat thickness is approximately 2 m in swamps and 3 m in bogs. It is composed dominantly of well to moderately decomposed woody-amorphous peat and some moderately decomposed sedge peat and undecomposed Sphagnum peat.

TP PACIFIC TEMPERATE Wetland Region

Characteristic wetlands are horizontal fens, basin swamps, and flat band basin bogs. Floodplains and deltaic areas may contain extensive marshes. Coastal marshes may be found locally, especially in deltaic areas. The climate is humid with mild winters and warm summers and high annual precipitation. The average thickness of peat in swamps is 4-5 m, in bogs approximately 2 m, and in fens it seldom exceeds 4 m in thickness.

O OCEANIC WETLAND REGIONS

Common wetlands are bogs, fens and marshes. The climate is characterized by cool summers and cold winters on the east coast and mild winters on the west coast with high precipitation in both areas.

OA ATLANTIC OCEANIC Wetland Region

Characteristic wetlands are blanket bogs that cover both valleys and hills over extensive areas. Small slope fens and slope bogs also occur throughout the region; small areas of ribbed fens are also common. The climate is characterized by cold winters and cool summers with high amounts of precipitation. The peat thickness is usually less than 2 m.

OP PACIFIC OCEANIC Wetland Region

Characteristic wetlands are flat bogs, slope bogs and horizontal and stream fens. Swamps and tidal marshes are also present. The climate is characterized by very high amounts of precipitation, most of it falling as rain. Winters are mild and the summers are cool.

OPn North Coast Pacific Oceanic Wetlands

Characteristic wetlands are slope bogs, flat bogs and basin bogs. In some locations stream fens and basin swamps are also present. Coastal and estuarine marshes are common along the coast. The average thickness of peat is 2 m in slope bogs, 1.5 m in flat bogs, 4 m in basin bogs, and 1 to 2 m in fens.

OPs South Coast Pacific Oceanic Wetlands

Characteristic wetlands are flat bogs and basin bogs. In some locations stream fens and basin swamps are also present. Coastal and estuarine marshes are common along the coast. The average thickness of peat is 1.5 m in flat bogs, 4 m in basin bogs and 1 to 2 m in fens.

M MOUNTAIN WETLAND REGIONS

Common wetlands are bogs and fens although marshes may be found along lakes and in deltaic areas. The climate ranges from cool to cold and due to vertical climatic zonation imposed by the mountainous terrain a wide variety of wetlands occur. Precipitation is generally moderate, although it does vary from low to high depending on location and elevation. Permafrost occurs under palsa bogs, peat plateau bogs and veneer bogs.

MC COASTAL MOUNTAIN Wetland Region

Characteristic wetlands are flat bogs and horizontal fens in valleys and small basin bogs and fens in alpine areas. Marshes are generally found along lakes and in deltaic areas. The climate is cool and the precipitation is moderate to high.

MCn North Coastal Mountain Wetlands

Characteristic wetlands are flat bogs and horizontal fens in valleys, ribbed fens at higher elevations and small basin bogs and fens in alpine areas. The peat thickness is usually 1 m or less.

MCc Central Coastal Mountain Wetlands

Characteristic wetlands are flat bogs, horizontal and ribbed fens in valleys with small basin bogs and fens in alpine areas. Marshes occur in deltaic areas along the inlets. The average peat thickness is approximately 1.5 m.

MCs South Coastal Mountain Wetlands

Characteristic wetlands are horizontal fens and shore marshes in valleys with ribbed fens at higher elevations. The peat thickness is usually 1 m or less.

MI INTERIOR MOUNTAIN Wetland Region

Characteristic wetlands are flat and basin bogs with horizontal fens also occurring in the south and ribbed fens, palsa and peat plateau bogs occurring in the north. Marshes occur along lakes and in deltaic areas. The climate is cool to cold and the precipitation is moderate to low.

MIn North Interior Mountain Wetlands

Characteristic wetlands are peat plateau bogs, palsa bogs, with horizontal and ribbed fens occurring in valleys and fens and small basin bogs occurring in alpine areas. The average peat thickness is usually 2-3 m.

MIc Central Interior Mountain Wetlands

Characteristic wetlands are flat bogs, horizontal and ribbed fens with delta marshes, floodplain marshes and shallow basin marshes occurring in valleys. Peat plateau bogs and palsa bogs also occur in valleys in the northern part of this unit. Small basin bogs and basin fens are found in alpine areas. The average peat thickness is usually 2-3 m.

MIs South Interior Mountain Wetlands

Characteristic wetlands are flat bogs, basin bogs and shallow basin marshes. Small basin fens and basin bogs occur in alpine areas. The average peat thickness is usually 1-2 m.

MR ROCKY MOUNTAIN Wetland Region

Characteristic wetlands are flat bogs and basin bogs in the south and ribbed fens, palsa bogs, peat plateau and veneer bogs in the north. Marshes are found along lakes and in deltaic areas. The climate is cool to cold and the precipitation is moderate to low.

MRn North Rocky Mountain Wetlands

Characteristic wetlands are peat plateau bogs, palsa and veneer bogs in valleys and on lower slopes and small basin bogs and basin fens in alpine areas. The average peat thickness is usually 1-1.5 m. Permafrost underlies most wetlands.

MRc Central Rocky Mountain Wetlands

Characteristic wetlands are peat plateau bogs, palsa bogs, and veneer bogs with ribbed fens in valleys and on lower slopes in basin fens and basin bogs in alpine areas. The peat thickness varies from 0.5-1.0 m.

MRs South Rocky Mountain Wetlands

Characteristic wetlands are flat bogs, horizontal fens, floodplain marshes with shallow basin marshes occurring in valleys and small basin fens and basin bogs occurring in alpine areas. The peat thickness is usually 1 m or less.

ME EASTERN MOUNTAIN Wetland Region

Characteristic wetlands are slope fens and ribbed fens with the slope fens being associated with the southern mountains (Mealy Mountains). The climate is characterized by cold winters and cool summers with low amounts of precipitation. The peat thickness usually varies between 10 to 20 cm.

DEFINITIONS AND NOTES

WETLAND REGIONS are areas within which similar and characteristic wetlands develop in locations that have a similar topography, hydrology, and nutrient regime. Subdivisions of the wetland regions are made based on the distribution of these wetlands, the relative abundance of the various kinds of wetlands (bogs, fens, swamps, marshes and shallow water), or developmental trends somewhat divergent to those in the rest of the region.

WETLAND is defined as land that is saturated with water long enough to promote wetland or aquatic processes as indicated by poorly drained soils, hydrophytic vegetation, and various kinds of biological activity which are adapted to a wet environment.

Wetlands include peatlands which are characterized by more than 40 cm peat accumulation on mineral deposits. Organic soils (excluding Folisols) develop. Wetlands also occur on areas that are influenced by excess water but which, for climatic, edaphic (factors related to soil), or biotic reasons, produce little or no peat. These wetlands are characterized as Gleysolic or peaty phases of Chernozemic soils.

Shallow open water, generally less than 2 m deep, is also included in wetlands. In certain of these wetlands, vegetation is lacking and soils are frequently covered by water. Shallow open water wetlands occur in areas of surface water movement, water flow, turbidity, or a high concentration of salts or other toxic substances in the water or in the soil.

Wetlands also include areas which are modified by water control structures or which are tilled and planted but which, if allowed to revert again, become saturated for long periods and will be associated with wet soils (Gleysolic and hydrophytic vegetation.

Regional differences in the development of wetlands are readily apparent in Canada. Some of these differences relate to the distribution or abundance of wetlands. Although distribution is often influenced by physiography, the developmental trends and the establishment of specific kinds of wetlands can be attributed to climatic factors.

Wetlands are dynamic ecosystems where an interaction of the biotic and abiotic environment produces specific physical and biological conditions. Various factors, such as water quantity and quality, peat formation, vegetation, organisms, are continually interacting and reacting to changes brought about by other factors. These interactions take place through time under climatic conditions that may change. This emphasizes the dynamic nature of wetlands, in which different wetlands develop under different conditions. If the developing wetland is in equilibrium with its environment (as modified by the wetland itself), very few changes will occur. On the other hand, if the developing wetland alters its own environment, or if the environment changes due to external natural or artificial causes, changes will take place in the development of the wetland. It follows that surface conditions reflect the present status which is but a slice in time of what may be a steady state or transitional period. An understanding of wetland dynamics is therefore essential in a rational study and classification of wetlands.

Regional studies in Europe and Asia have shown that broad geographic regions have characteristic wetlands. In Canada, similar regionalization of wetland development is observed, generally along a north-south temperature gradient and an east-west precipitation gradient.

WETLAND TYPES

BOG is a peatland, generally with the water table at or near the surface. The bog surface, which may be raised or level with those of the surrounding wetlands, is virtually unaffected by the nutrient-rich ground waters from the surrounding mineral soils and is thus generally acidic and low in nutrients. The dominant peat materials are mostly to moderately decomposed Sphagnum and forest peat, undertain at times by fen peat. The soils are mainly Fibrisols, Mesisols, and Organic Cryosols. The bogs may be treed or treeless, and they are usually covered with Sphagnum mosses, and ericaceous shrubs.

FEN is a wetland where the water table usually at or above the surface. The waters are mainly nutrient-rich, circumneutral waters from mineral soils. The dominant peat materials are well to moderately decomposed fen peat of variable thickness. The soils are mainly Mesisols, Humisols, and Organic Cryosols. The vegetation consists dominantly of sedges, grasses, reeds, and brown mosses with some shrub cover and, at times, a sparse tree layer.

MARSH is a mineral wetland or a peatland that is periodically inundated by standing or slowly moving waters. Surface waters may fluctuate seasonally, with declining levels exposing drawdown zones of matted vegetation or mudflats. The waters are rich in nutrients. The substratum usually consists of mineral material, although occasionally it consists of peat deposits. The soils are dominantly Gleysols, with some Humisols and Mesisols. Marshes characteristically show zonal or mosaic surface patterns comprised of pools or channels interspersed with unconsolidated stands of emergent sedges, grasses, rushes, and reeds, bordering grassy meadows and peripheral bands of shrubs or trees. Where open water areas occur, a variety of submerged and floating aquatic plants flourish.

SWAMP is a peatland or mineral wetland with standing or gently flowing waters occurring in pools or channels. The water table is usually at or near the surface. There is pronounced water movement from the margin or other mineral sources, hence the waters are rich in nutrients. If peat is present, it is mainly well decomposed forest peat, underlain at times by fen peat. The associated soils are Mesisols, Humisols, and Gleysols. The vegetation is characterized by a dense tree or shrub cover of deciduous or coniferous species, herbs, and some mosses.

SHALLOW WATER is characteristic of intermittently or permanently flooded or exposed areas of open water regimes, featuring large open expanses of standing or flowing water which are variously called ponds, pools, shallow lakes, oxbows, reaches, channels, or impoundments. Shallow water wetlands are usually less than 2 m deep and contain less than 30% by area of emergent vegetation, shrubs, or trees. Submerged aquatic vegetation may occupy 75% or more of the wetland surface area. Larger, deeper water areas, greater than 8 hectares in size, would be classified variously as shallow water wetlands, despite the area or extent of bordering vegetation zones. Periodic flooding may increase water depths, but during droughts, low flows, drainage or intended periods, drawdown flats may be exposed. Shallow waters are distinguished from upland-wetland boundaries by water-eroded shorelines, or by the landward margins of mudflats, floating mats, emergents, or shrubs. In the open water zone, living vegetation, if present, is confined to submerged and floating aquatic plant forms.

Energy, Mines and Resources Canada / Énergie, Mines et Ressources Canada

THE NATIONAL ATLAS OF CANADA 5th EDITION

CANADA
WETLAND REGIONS

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Scale 1:7 500 000 or 1 centimetre represents 75 kilometres

75 0 150 225 300 375 400 kilometres

Lambert Conformal Conic Projection. Standard Parallels 49°N and 77°N.
Modified Polyconic Projection, North of Latitude 80°

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MEAN DAILY TEMPERATURE (°C) AND MEAN ANNUAL PRECIPITATION (cm) VALUES[1] IN THE WETLAND REGIONS OF CANADA

WETLAND REGION	MEAN DAILY JANUARY TEMPERATURE	MEAN DAILY JULY TEMPERATURE	MEAN ANNUAL TOTAL PRECIPITATION	MEAN ANNUAL SNOWFALL
Ah	-33	5	10	70
Am	-29	7	20	110
Al	-29	9	15	80
Sh	-29	13	35	190
Sl	-29	15	50	310
Sa₀	-15	12	85	460
Sa₀	-5	15	130	270
Bhc	-25	16	40	160
Bmh	-23	13	70	260
Bmc	-20	17	50	150
Bmh	-19	17	80	280
Bmt	-20	19	50	120
Bl	-13	18	95	250
Bam	-11	18	110	290
Bac	-4	16	135	190
Bae	-20	14	95	320
Bag	-12	17	105	370
Bai	-16	13	95	450
Bam	-7	16	115	280
Ban	-20	14	95	360
Bao	-5	16	100	300
Pcs	-18	18	45	110
Pcg	-15	19	35	120
Pi	-7	19	45	130
Te	-9	20	95	210
Tp	-3	16	155	70
Oa	-2	14	135	190
Opn	2	14	195	110
Ops	3	14	305	110
Mcc	-19	13	30	130
Mcs	-8	15	105	270
Mcc	-4	17	85	120
Mi	-27	14	30	120
Mc	-20	13	50	250
Mr	-8	18	50	190
Mrc	-28	15	34	155
Mrs	-21	14	50	180
Me	-13	15	55	250
Me	-23	12	70	370

1 Canadian Climate Normals (1951-1980). Environment Canada, Atmospheric Environment Service. 1982. Vol. 1 and 2. The values represent the mean of the stations which fall into the respective regions. The number of stations used varies from region to region.

WETLAND REGIONS

A ARCTIC
- AH HIGH ARCTIC
- AM MID-ARCTIC
- AL LOW ARCTIC

P PRAIRIE
- PC CONTINENTAL PRAIRIE
  - PCa - Aspen Parkland
  - PCg - Grassland
- PI INTERMOUNTAIN PRAIRIE

T TEMPERATE
- TE EASTERN TEMPERATE
- TP PACIFIC TEMPERATE

S SUBARCTIC
- SH HIGH SUBARCTIC
- SL LOW SUBARCTIC
- SA ATLANTIC SUBARCTIC
  - SAc - Coastal
  - SAo - Oceanic

O OCEANIC
- OA ATLANTIC OCEANIC
- OP PACIFIC OCEANIC
  - OPn - North Coast
  - OPs - South Coast

B BOREAL
- BH HIGH BOREAL
  - BHc - Continental
  - BHh - Humid
- BM MID-BOREAL
  - BMc - Continental
  - BMh - Humid
  - BMt - Transitional
- BL LOW BOREAL
- BA ATLANTIC BOREAL
  - BAa - Acadian
  - BAc - Coastal
  - BAe - Eastern
  - BAg - Gulf
  - BAi - Interior
  - BAm - Maritime
  - BAn - Northern
  - BAo - Oceanic

M MOUNTAIN
- MC COASTAL MOUNTAIN
  - MCn - North
  - MCc - Central
  - MCs - South
- MI INTERIOR MOUNTAIN
  - MIn - North
  - MIc - Central
  - MIs - South
- MR ROCKY MOUNTAIN
  - MRn - North
  - MRc - Central
  - MRs - South
- ME EASTERN MOUNTAIN

GLACIERS

The research and preparation of this map was done by the NATIONAL WETLAND WORKING GROUP OF THE CANADA COMMITTEE ON ECOLOGICAL LAND CLASSIFICATION.

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