Ecological zoning for climate policy and global change studies

Extended Data Table 1. Equivalence table between the IPCC climate zones and ecological zones.

This table can be used by IPCC as an update to table 4.1, and subsequently tables 4.4, 4.7, 4.8, 4.9, 4.10, and 4.12 of the IPCC Guidelines on NGGI.

The table below can be used as a Tier 1 approach. Countries are encouraged to use national data with higher spatial and/or temporal resolution (Tier 2 or higher), following the methodology developed in this study. This Tier 2 (or higher) approach remains consistent with the IPCC guidelines for GHG emission and carbon stock change reporting.

IPCC Climate		HLZ Levels					
Name	Criteria	Level I fully aggregated for GEZs	Level II aggregated altitudinal belts to latitudinal equivalents	1986-2015		1991-2020	
				Level III disaggregated based on HLZs	Pixels (% of IPCC climate zone)	Level III disaggregated based on HLZs	Pixels (% of IPCC climate zone)
Tropical Montane	MAT>18°C, Altitude>1,000m, Frost ≤ 7 days	Tropical Rain Forest (1a)	Tropical Rain Forest (11)	Tropical Rain Forest (111)	1365 (0%)	Tropical Rain Forest (111)	1362 (0%)
		Tropical Rain Forest (1a)	Tropical Wet Forest (12)	Tropical Wet Forest (112)	42456 (1%)	Tropical Wet Forest (112)	42649 (1%)
		Tropical Moist Forest (1b)	Tropical Moist Forest (13)	Tropical Moist Forest (113)	252234 (4%)	Tropical Moist Forest (113)	253046 (4%)
		Tropical Dry Forest (1c)	Tropical Dry Forest (14)	Tropical Dry Forest (114)	410936 (7%)	Tropical Dry Forest (114)	420493 (7%)
		Tropical Dry Forest (1c)	Tropical Very Dry Forest (15)	Tropical Very Dry Forest (115)	149303 (2%)	Tropical Very Dry Forest (115)	143686 (2%)
		Tropical Shrubland (1d)	Tropical Thorn Forest (16)	Tropical Thorn Forest (116)	52830 (1%)	Tropical Thorn Forest (116)	54664 (1%)
		Tropical Shrubland (1d)	Tropical Desert Scrub (17)	Tropical Desert Scrub (117)	76184 (1%)	Tropical Desert Scrub (117)	73104 (1%)
		Tropical Desert (1e)	Tropical Desert (18)	Tropical Desert (118)	74620 (1%)	Tropical Desert (118)	76385 (1%)
		Subtropical Rain Forest (2a)	Subtropical Rain Forest (21)	Tropical Premontane Rain Forest (121)	6531 (0%)	Tropical Premontane Rain Forest (121)	6531 (0%)
		Subtropical Rain Forest (2a)	Subtropical Wet Forest (22)	Tropical Premontane Wet Forest (122)	236751 (4%)	Tropical Premontane Wet Forest (122)	238762 (4%)
		Subtropical Moist Forest (2b)	Subtropical Moist Forest (23)	Tropical Premontane Moist Forest (123)	1522071 (25%)	Tropical Premontane Moist Forest (123)	1566864 (25%)

		Subtropical Dry Forest (2c)	Subtropical Dry Forest (24)	Tropical Premontane Dry Forest (124)	2052421 (33%)	Tropical Premontane Dry Forest (124)	2035184 (33%)
		Subtropical Shrubland (2d)	Subtropical Thorn Woodland (25)	Tropical Premontane Thorn Woodland (125)	486330 (8%)	Tropical Premontane Thorn Woodland (125)	463680 (7%)
		Subtropical Shrubland (2d)	Subtropical Desert Scrub (26)	Tropical Premontane Desert Scrub (126)	191363 (3%)	Tropical Premontane Desert Scrub (126)	183180 (3%)
		Subtropical Desert (2e)	Subtropical Desert (27)	Tropical Premontane Desert (127)	202577 (3%)	Tropical Premontane Desert (127)	203853 (3%)
		Warm Temperate Rain Forest (3a)	Warm Temperate Rain Forest (31)	Tropical Lower Montane Rain Forest (131)	4074 (0%)	Tropical Lower Montane Rain Forest (131)	4074 (0%)
		Warm Temperate Rain Forest (3a)	Warm Temperate Wet Forest (32)	Tropical Lower Montane Wet Forest (132)	71599 (1%)	Tropical Lower Montane Wet Forest (132)	71647 (1%)
		Warm Temperate Moist Forest (3b)	Warm Temperate Moist Forest (33)	Tropical Lower Montane Moist Forest (133)	106155 (2%)	Tropical Lower Montane Moist Forest (133)	118326 (2%)
		Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Tropical Lower Montane Dry Forest (134)	94521 (2%)	Tropical Lower Montane Dry Forest (134)	83577 (1%)
		Warm Temperate Shrubland (3d)	Warm Temperate Thorn Woodland (35)	Tropical Lower Montane Thorn Woodland (135)	30206 (0%)	Tropical Lower Montane Thorn Woodland (135)	28935 (0%)
		Warm Temperate Shrubland (3d)	Warm Temperate Desert Scrub (36)	Tropical Lower Montane Desert Scrub (136)	13970 (0%)	Tropical Lower Montane Desert Scrub (136)	13966 (0%)
		Warm Temperate Desert (3e)	Warm Temperate Desert (37)	Tropical Lower Montane Desert (137)	2862 (0%)	Tropical Lower Montane Desert (137)	2826 (0%)
		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Rain Forest (41)	Tropical Montane Rain Forest (141)	3174 (0%)	Tropical Montane Rain Forest (141)	3174 (0%)
		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Wet Forest (42)	Tropical Montane Wet Forest (142)	6922 (0%)	Tropical Montane Wet Forest (142)	6683 (0%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Tropical Montane Moist Forest (143)	6450 (0%)	Tropical Montane Moist Forest (143)	7215 (0%)
		Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Tropical Montane Steppe (144)	1785 (0%)	Tropical Montane Steppe (144)	1259 (0%)
		Cool Temperate Steppe (4c)	Cool Temperate Desert Scrub (45)	Tropical Montane Desert Scrub (145)	223 (0%)	Tropical Montane Desert Scrub (145)	223 (0%)
		Cool Temperate Desert (4d)	Cool Temperate Desert (46)	Tropical Montane Desert (146)	16 (0%)	Tropical Montane Desert (146)	16 (0%)
		Boreal Rain/Wet Forest (5a)	Boreal Rain Forest (51)	Tropical Subalpine Rain Forest (151)	128 (0%)	Tropical Subalpine Rain Forest (151)	128 (0%)

			Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)	Tropical Subalpine Wet Forest (152)	1205 (0%)	Tropical Subalpine Wet Forest (152)	1205 (0%)
			Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Tropical Subalpine Moist Forest (153)	323 (0%)	Tropical Subalpine Moist Forest (153)	323 (0%)
			Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)	Tropical Alpine Rain Tundra (161)	54 (0%)	Tropical Alpine Rain Tundra (161)	54 (0%)
			Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Tropical Alpine Wet Tundra (162)	42 (0%)	Tropical Alpine Wet Tundra (162)	42 (0%)
			Polar (7a)	Polar (71)	Tropical Nival Desert (171)	75 (0%)	Tropical Nival Desert (171)	75 (0%)
			Subtropical Rain Forest (2a)	Subtropical Rain Forest (21)	Subtropical Rain Forest (211)	1164 (0%)	Subtropical Rain Forest (211)	1167 (0%)
			Subtropical Rain Forest (2a)	Subtropical Wet Forest (22)	Subtropical Wet Forest (212)	25057 (0%)	Subtropical Wet Forest (212)	24296 (0%)
			Subtropical Moist Forest (2b)	Subtropical Moist Forest (23)	Subtropical Moist Forest (213)	22900 (0%)	Subtropical Moist Forest (213)	20543 (0%)
			Subtropical Dry Forest (2c)	Subtropical Dry Forest (24)	Subtropical Dry Forest (214)	9025 (0%)	Subtropical Dry Forest (214)	9611 (0%)
			Subtropical Shrubland (2d)	Subtropical Thorn Woodland (25)	Subtropical Thorn Woodland (215)	317 (0%)	Subtropical Thorn Woodland (215)	212 (0%)
			Subtropical Shrubland (2d)	Subtropical Desert Scrub (26)	Subtropical Desert Scrub (216)	215 (0%)	Subtropical Desert Scrub (216)	201 (0%)
			Warm Temperate Rain Forest (3a)	Warm Temperate Wet Forest (32)	Warm Temperate Wet Forest (312)	2643 (0%)	Warm Temperate Wet Forest (312)	2647 (0%)
			Warm Temperate Moist Forest (3b)	Warm Temperate Moist Forest (33)	Warm Temperate Moist Forest (313)	11502 (0%)	Warm Temperate Moist Forest (313)	10042 (0%)
			Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Warm Temperate Dry Forest (314)	5849 (0%)	Warm Temperate Dry Forest (314)	5012 (0%)
			Warm Temperate Shrubland (3d)	Warm Temperate Thorn Woodland (35)	Warm Temperate Thorn Woodland (315)	820 (0%)	Warm Temperate Thorn Woodland (315)	806 (0%)
			Warm Temperate Shrubland (3d)	Warm Temperate Desert Scrub (36)	Warm Temperate Desert Scrub (316)	1230 (0%)	Warm Temperate Desert Scrub (316)	1155 (0%)
			Warm Temperate Desert (3e)	Warm Temperate Desert (37)	Warm Temperate Desert (317)	3489 (0%)	Warm Temperate Desert (317)	3057 (0%)
			Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Warm Temperate Montane Moist Forest (323)	10 (0%)		
Tropical Wet	MAT>18°C, MAP>2,000mm,	Tropical Rain Forest (1a)	Tropical Rain Forest (11)	Tropical Rain Forest (111)	22590 (0%)	Tropical Rain Forest (111)	2250 (0%)

		Frost ≤ 7 days						
			Tropical Rain Forest (1a)	Tropical Wet Forest (12)	Tropical Wet Forest (112)	1718864 (15%)	Tropical Wet Forest (112)	1783841 (15%)
			Tropical Moist Forest (1b)	Tropical Moist Forest (13)	Tropical Moist Forest (113)	9399512 (80%)	Tropical Moist Forest (113)	9345295 (79%)
			Tropical Dry Forest (1c)	Tropical Dry Forest (14)	Tropical Dry Forest (114)	715 (0%)		
			Subtropical Rain Forest (2a)	Subtropical Rain Forest (21)	Tropical Premontane Rain Forest (121)	10973 (0%)	Tropical Premontane Rain Forest (121)	11222 (0%)
			Subtropical Rain Forest (2a)	Subtropical Wet Forest (22)	Tropical Premontane Wet Forest (122)	223049 (2%)	Tropical Premontane Wet Forest (122)	222454 (2%)
			Subtropical Moist Forest (2b)	Subtropical Moist Forest (23)	Tropical Premontane Moist Forest (123)	76659 (1%)	Tropical Premontane Moist Forest (123)	77005 (1%)
			Warm Temperate Rain Forest (3a)	Warm Temperate Rain Forest (31)	Tropical Lower Montane Rain Forest (131)	1430 (0%)	Tropical Lower Montane Rain Forest (131)	1430 (0%)
			Warm Temperate Rain Forest (3a)	Warm Temperate Wet Forest (32)	Tropical Lower Montane Wet Forest (132)	20088 (0%)	Tropical Lower Montane Wet Forest (132)	19965 (0%)
			Warm Temperate Moist Forest (3b)	Warm Temperate Moist Forest (33)	Tropical Lower Montane Moist Forest (133)	5120 (0%)	Tropical Lower Montane Moist Forest (133)	5243 (0%)
			Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Rain Forest (41)	Tropical Montane Rain Forest (141)	491 (0%)	Tropical Montane Rain Forest (141)	481 (0%)
			Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Wet Forest (42)	Tropical Montane Wet Forest (142)	817 (0%)	Tropical Montane Wet Forest (142)	827 (0%)
			Boreal Rain/Wet Forest (5a)	Boreal Rain Forest (51)	Tropical Subalpine Rain Forest (151)	17 (0%)	Tropical Subalpine Rain Forest (151)	17 (0%)
			Subtropical Rain Forest (2a)	Subtropical Rain Forest (21)	Subtropical Rain Forest (211)	4131 (0%)	Subtropical Rain Forest (211)	4070 (0%)
			Subtropical Rain Forest (2a)	Subtropical Wet Forest (22)	Subtropical Wet Forest (212)	71735 (1%)	Subtropical Wet Forest (212)	68331 (1%)
			Subtropical Moist Forest (2b)	Subtropical Moist Forest (23)	Subtropical Moist Forest (213)	86393 (1%)	Subtropical Moist Forest (213)	84581 (1%)
			Warm Temperate Rain Forest (3a)	Warm Temperate Rain Forest (31)	Warm Temperate Rain Forest (311)	2468 (0%)	Warm Temperate Rain Forest (311)	2461 (0%)
			Warm Temperate Rain Forest (3a)	Warm Temperate Wet Forest (32)	Warm Temperate Wet Forest (312)	28031 (0%)	Warm Temperate Wet Forest (312)	28688 (0%)
			Warm Temperate Moist Forest (3b)	Warm Temperate Moist Forest (33)	Warm Temperate Moist Forest (313)	118701 (1%)	Warm Temperate Moist Forest (313)	113283 (1%)

Tropical Moist	MAT>18°C, 2,000mm>MAP>1,000mm, Frost ≤ 7 days	Tropical Moist Forest (1b)	Tropical Moist Forest (13)	Tropical Moist Forest (113)	3872749 (23%)	Tropical Moist Forest (113)	3835717 (23%)
		Tropical Dry Forest (1c)	Tropical Dry Forest (14)	Tropical Dry Forest (114)	10646011 (64%)	Tropical Dry Forest (114)	10823305 (65%)
		Tropical Dry Forest (1c)	Tropical Very Dry Forest (15)	Tropical Very Dry Forest (115)	182030 (1%)	Tropical Very Dry Forest (115)	99059 (1%)
		Subtropical Moist Forest (2b)	Subtropical Moist Forest (23)	Tropical Premontane Moist Forest (123)	316310 (2%)	Tropical Premontane Moist Forest (123)	314250 (2%)
		Subtropical Dry Forest (2c)	Subtropical Dry Forest (24)	Tropical Premontane Dry Forest (124)	101258 (1%)	Tropical Premontane Dry Forest (124)	103199 (1%)
		Warm Temperate Moist Forest (3b)	Warm Temperate Moist Forest (33)	Tropical Lower Montane Moist Forest (133)	9086 (0%)	Tropical Lower Montane Moist Forest (133)	8529 (0%)
		Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Tropical Lower Montane Dry Forest (134)	2990 (0%)	Tropical Lower Montane Dry Forest (134)	3547 (0%)
		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Wet Forest (42)	Tropical Montane Wet Forest (142)	38 (0%)	Tropical Montane Wet Forest (142)	278 (0%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Tropical Montane Moist Forest (143)	1319 (0%)	Tropical Montane Moist Forest (143)	1079 (0%)
		Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)	Tropical Subalpine Wet Forest (152)	163 (0%)	Tropical Subalpine Wet Forest (152)	163 (0%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)			Tropical Alpine Rain Tundra (161)	33 (0%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Tropical Alpine Wet Tundra (162)	56 (0%)	Tropical Alpine Wet Tundra (162)	23 (0%)
		Polar (7a)	Polar (71)	Tropical Nival Desert (171)	185 (0%)	Tropical Nival Desert (171)	185 (0%)
		Subtropical Moist Forest (2b)	Subtropical Moist Forest (23)	Subtropical Moist Forest (213)	497166 (3%)	Subtropical Moist Forest (213)	485347 (3%)
		Subtropical Dry Forest (2c)	Subtropical Dry Forest (24)	Subtropical Dry Forest (214)	65954 (0%)	Subtropical Dry Forest (214)	63773 (0%)
		Warm Temperate Moist Forest (3b)	Warm Temperate Moist Forest (33)	Warm Temperate Moist Forest (313)	799987 (5%)	Warm Temperate Moist Forest (313)	754891 (5%)
		Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Warm Temperate Dry Forest (314)	147297 (1%)	Warm Temperate Dry Forest (314)	149102 (1%)
Tropical Dry	MAT>18°C, MAP<1,000mm, Frost ≤ 7 days	Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Wet Forest (42)	Warm Temperate Montane Wet Forest (322)	151 (0%)		

Tropical Dry Forest (1c)	Tropical Dry Forest (14)	Tropical Dry Forest (114)	648585 (3%)	Tropical Dry Forest (114)	685179 (3%)
Tropical Dry Forest (1c)	Tropical Very Dry Forest (15)	Tropical Very Dry Forest (115)	6196618 (26%)	Tropical Very Dry Forest (115)	6368363 (27%)
Tropical Shrubland (1d)	Tropical Thorn Forest (16)	Tropical Thorn Forest (116)	3755893 (16%)	Tropical Thorn Forest (116)	3712747 (16%)
Tropical Shrubland (1d)	Tropical Desert Scrub (17)	Tropical Desert Scrub (117)	2852108 (12%)	Tropical Desert Scrub (117)	2820178 (12%)
Tropical Desert (1e)	Tropical Desert (18)	Tropical Desert (118)	7510592 (32%)	Tropical Desert (118)	7499561 (32%)
Subtropical Dry Forest (2c)	Subtropical Dry Forest (24)	Tropical Premontane Dry Forest (124)	143074 (1%)	Tropical Premontane Dry Forest (124)	149225 (1%)
Subtropical Shrubland (2d)	Subtropical Thorn Woodland (25)	Tropical Premontane Thorn Woodland (125)	72396 (0%)	Tropical Premontane Thorn Woodland (125)	65886 (0%)
Subtropical Shrubland (2d)	Subtropical Desert Scrub (26)	Tropical Premontane Desert Scrub (126)	55803 (0%)	Tropical Premontane Desert Scrub (126)	57717 (0%)
Subtropical Desert (2e)	Subtropical Desert (27)	Tropical Premontane Desert (127)	149833 (1%)	Tropical Premontane Desert (127)	147314 (1%)
Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Tropical Lower Montane Dry Forest (134)	3482 (0%)	Tropical Lower Montane Dry Forest (134)	3621 (0%)
Warm Temperate Shrubland (3d)	Warm Temperate Thorn Woodland (35)	Tropical Lower Montane Thorn Woodland (135)	5153 (0%)	Tropical Lower Montane Thorn Woodland (135)	5050 (0%)
Warm Temperate Shrubland (3d)	Warm Temperate Desert Scrub (36)	Tropical Lower Montane Desert Scrub (136)	2073 (0%)	Tropical Lower Montane Desert Scrub (136)	2446 (0%)
Warm Temperate Desert (3e)	Warm Temperate Desert (37)	Tropical Lower Montane Desert (137)	2111 (0%)	Tropical Lower Montane Desert (137)	1702 (0%)
Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Tropical Montane Moist Forest (143)	363 (0%)	Tropical Montane Moist Forest (143)	363 (0%)
Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Tropical Montane Steppe (144)	610 (0%)	Tropical Montane Steppe (144)	610 (0%)
Cool Temperate Steppe (4c)	Cool Temperate Desert Scrub (45)	Tropical Montane Desert Scrub (145)	28 (0%)	Tropical Montane Desert Scrub (145)	28 (0%)
Cool Temperate Desert (4d)	Cool Temperate Desert (46)	Tropical Montane Desert (146)	308 (0%)	Tropical Montane Desert (146)	308 (0%)
Subtropical Dry Forest (2c)	Subtropical Dry Forest (24)	Subtropical Dry Forest (214)	88593 (0%)	Subtropical Dry Forest (214)	82727 (0%)
Subtropical Shrubland (2d)	Subtropical Thorn Woodland (25)	Subtropical Thorn Woodland (215)	33408 (0%)	Subtropical Thorn Woodland (215)	25097 (0%)

		Subtropical Shrubland (2d)	Subtropical Desert Scrub (26)	Subtropical Desert Scrub (216)	70302 (0%)	Subtropical Desert Scrub (216)	67423 (0%)
		Subtropical Desert (2e)	Subtropical Desert (27)	Subtropical Desert (217)	205129 (1%)	Subtropical Desert (217)	204043 (1%)
		Warm Temperate Desert (3e)	Warm Temperate Desert (37)	Subtropical Lower Montane Desert (227)	5 (0%)		
		Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Warm Temperate Dry Forest (314)	282664 (1%)	Warm Temperate Dry Forest (314)	262631 (1%)
		Warm Temperate Shrubland (3d)	Warm Temperate Thorn Woodland (35)	Warm Temperate Thorn Woodland (315)	213450 (1%)	Warm Temperate Thorn Woodland (315)	186484 (1%)
		Warm Temperate Shrubland (3d)	Warm Temperate Desert Scrub (36)	Warm Temperate Desert Scrub (316)	346311 (1%)	Warm Temperate Desert Scrub (316)	328744 (1%)
		Warm Temperate Desert (3e)	Warm Temperate Desert (37)	Warm Temperate Desert (317)	971930 (4%)	Warm Temperate Desert (317)	932406 (4%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Warm Temperate Montane Moist Forest (323)	17 (0%)		
		Cool Temperate Steppe (4c)	Cool Temperate Desert Scrub (45)	Warm Temperate Montane Desert Scrub (325)	3 (0%)		
		Cool Temperate Desert (4d)	Cool Temperate Desert (46)	Warm Temperate Montane Desert (326)	11 (0%)		
Warm Temperate Moist	10°C<MAT≤18°C, MAP>PET	Tropical Moist Forest (1b)	Tropical Moist Forest (13)	Tropical Moist Forest (113)	18845 (0%)	Tropical Moist Forest (113)	22780 (0%)
		Tropical Dry Forest (1c)	Tropical Dry Forest (14)	Tropical Dry Forest (114)	24295 (0%)	Tropical Dry Forest (114)	24523 (0%)
		Subtropical Rain Forest (2a)	Subtropical Rain Forest (21)	Tropical Premontane Rain Forest (121)	557 (0%)	Tropical Premontane Rain Forest (121)	557 (0%)
		Subtropical Rain Forest (2a)	Subtropical Wet Forest (22)	Tropical Premontane Wet Forest (122)	23700 (0%)	Tropical Premontane Wet Forest (122)	22083 (0%)
		Subtropical Moist Forest (2b)	Subtropical Moist Forest (23)	Tropical Premontane Moist Forest (123)	382074 (5%)	Tropical Premontane Moist Forest (123)	391214 (5%)
		Subtropical Dry Forest (2c)	Subtropical Dry Forest (24)	Tropical Premontane Dry Forest (124)	36485 (0%)	Tropical Premontane Dry Forest (124)	37209 (0%)
		Warm Temperate Rain Forest (3a)	Warm Temperate Rain Forest (31)	Tropical Lower Montane Rain Forest (131)	1442 (0%)	Tropical Lower Montane Rain Forest (131)	1442 (0%)
		Warm Temperate Rain Forest (3a)	Warm Temperate Wet Forest (32)	Tropical Lower Montane Wet Forest (132)	40271 (1%)	Tropical Lower Montane Wet Forest (132)	391214 (5%)
		Warm Temperate Moist Forest (3b)	Warm Temperate Moist Forest (33)	Tropical Lower Montane Moist Forest (133)	280849 (4%)	Tropical Lower Montane Moist Forest (133)	282506 (3%)

Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Tropical Lower Montane Dry Forest (134)	64630 (1%)	Tropical Lower Montane Dry Forest (134)	64560 (1%)
Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Rain Forest (41)	Tropical Montane Rain Forest (141)	6560 (0%)	Tropical Montane Rain Forest (141)	5815 (0%)
Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Wet Forest (42)	Tropical Montane Wet Forest (142)	24414 (0%)	Tropical Montane Wet Forest (142)	24719 (0%)
Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Tropical Montane Moist Forest (143)	87585 (1%)	Tropical Montane Moist Forest (143)	88025 (1%)
Boreal Rain/Wet Forest (5a)	Boreal Rain Forest (51)	Tropical Subalpine Rain Forest (151)	1203 (0%)	Tropical Subalpine Rain Forest (151)	1195 (0%)
Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)	Tropical Subalpine Wet Forest (152)	7348 (0%)	Tropical Subalpine Wet Forest (152)	8571 (0%)
Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Tropical Subalpine Moist Forest (153)	3269 (0%)	Tropical Subalpine Moist Forest (153)	2054 (0%)
Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)	Tropical Alpine Rain Tundra (161)	510 (0%)	Tropical Alpine Rain Tundra (161)	506 (0%)
Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Tropical Alpine Wet Tundra (162)	1005 (0%)	Tropical Alpine Wet Tundra (162)	1009 (0%)
Polar (7a)	Polar (71)	Tropical Nival Desert (171)	1444 (0%)	Tropical Nival Desert (171)	1444 (0%)
Subtropical Rain Forest (2a)	Subtropical Rain Forest (21)	Subtropical Rain Forest (211)	332 (0%)	Subtropical Rain Forest (211)	332 (0%)
Subtropical Rain Forest (2a)	Subtropical Wet Forest (22)	Subtropical Wet Forest (212)	4558 (0%)	Subtropical Wet Forest (212)	4558 (0%)
Subtropical Moist Forest (2b)	Subtropical Moist Forest (23)	Subtropical Moist Forest (213)	4552 (0%)	Subtropical Moist Forest (213)	4268 (0%)
Subtropical Dry Forest (2c)	Subtropical Dry Forest (24)			Subtropical Dry Forest (214)	284 (0%)
Warm Temperate Rain Forest (3a)	Warm Temperate Rain Forest (31)	Subtropical Lower Montane Rain Forest (221)	8 (0%)	Subtropical Lower Montane Rain Forest (221)	8 (0%)
Warm Temperate Rain Forest (3a)	Warm Temperate Wet Forest (32)	Subtropical Lower Montane Wet Forest (222)	1924 (0%)	Subtropical Lower Montane Wet Forest (222)	1817 (0%)
Warm Temperate Moist Forest (3b)	Warm Temperate Moist Forest (33)	Subtropical Lower Montane Moist Forest (223)	911 (0%)	Subtropical Lower Montane Moist Forest (223)	775 (0%)
Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)			Subtropical Lower Montane Dry Forest (224)	1 (0%)

		Warm Temperate Rain Forest (3a)	Warm Temperate Rain Forest (31)	Warm Temperate Rain Forest (311)	2053 (0%)	Warm Temperate Rain Forest (311)	2116 (0%)
		Warm Temperate Rain Forest (3a)	Warm Temperate Wet Forest (32)	Warm Temperate Wet Forest (312)	172991 (2%)	Warm Temperate Wet Forest (312)	169527 (2%)
		Warm Temperate Moist Forest (3b)	Warm Temperate Moist Forest (33)	Warm Temperate Moist Forest (313)	4800016 (62%)	Warm Temperate Moist Forest (313)	4920129 (61%)
		Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Warm Temperate Dry Forest (314)	619362 (8%)	Warm Temperate Dry Forest (314)	574884 (7%)
		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Rain Forest (41)	Warm Temperate Montane Rain Forest (321)	3292 (0%)	Warm Temperate Montane Rain Forest (321)	2272 (0%)
		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Wet Forest (42)	Warm Temperate Montane Wet Forest (322)	106815 (1%)	Warm Temperate Montane Wet Forest (322)	107824 (1%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Warm Temperate Montane Moist Forest (323)	292711 (4%)	Warm Temperate Montane Moist Forest (323)	284717 (4%)
		Boreal Rain/Wet Forest (5a)	Boreal Rain Forest (51)	Warm Temperate Subalpine Rain Forest (331)	619 (0%)	Warm Temperate Subalpine Rain Forest (331)	570 (0%)
		Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)	Warm Temperate Subalpine Wet Forest (332)	5436 (0%)	Warm Temperate Subalpine Wet Forest (332)	4961 (0%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Warm Temperate Subalpine Moist Forest (333)	4140 (0%)	Warm Temperate Subalpine Moist Forest (333)	3751 (0%)
		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Rain Forest (41)	Cool Temperate Rain Forest (411)	9122 (0%)	Cool Temperate Rain Forest (411)	8930 (0%)
		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Wet Forest (42)	Cool Temperate Wet Forest (412)	158180 (2%)	Cool Temperate Wet Forest (412)	147284 (2%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Cool Temperate Moist Forest (413)	545527 (7%)	Cool Temperate Moist Forest (413)	480218 (6%)
Warm Temperate Dry	10°C<MAT≤18°C, MAP<PET	Tropical Dry Forest (1c)	Tropical Dry Forest (14)	Tropical Dry Forest (114)	31138 (0%)	Tropical Dry Forest (114)	34654 (0%)
		Tropical Dry Forest (1c)	Tropical Very Dry Forest (15)	Tropical Very Dry Forest (115)	165629 (1%)	Tropical Very Dry Forest (115)	166194 (1%)
		Tropical Shrubland (1d)	Tropical Thorn Forest (16)	Tropical Thorn Forest (116)	733833 (3%)	Tropical Thorn Forest (116)	764183 (3%)
		Tropical Shrubland (1d)	Tropical Desert Scrub (17)	Tropical Desert Scrub (117)	629301 (2%)	Tropical Desert Scrub (117)	679212 (2%)

		Tropical Desert (1e)	Tropical Desert (18)	Tropical Desert (118)	2797393 (10%)	Tropical Desert (118)	2874958 (10%)
		Subtropical Moist Forest (2b)	Subtropical Moist Forest (23)	Tropical Premontane Moist Forest (123)	13448 (0%)	Tropical Premontane Moist Forest (123)	14028 (0%)
		Subtropical Dry Forest (2c)	Subtropical Dry Forest (24)	Tropical Premontane Dry Forest (124)	421047 (2%)	Tropical Premontane Dry Forest (124)	419011 (1%)
		Subtropical Shrubland (2d)	Subtropical Thorn Woodland (25)	Tropical Premontane Thorn Woodland (125)	1343129 (5%)	Tropical Premontane Thorn Woodland (125)	1331638 (5%)
		Subtropical Shrubland (2d)	Subtropical Desert Scrub (26)	Tropical Premontane Desert Scrub (126)	1038582 (4%)	Tropical Premontane Desert Scrub (126)	1125104 (4%)
		Subtropical Desert (2e)	Subtropical Desert (27)	Tropical Premontane Desert (127)	823669 (3%)	Tropical Premontane Desert (127)	832488 (3%)
		Warm Temperate Moist Forest (3b)	Warm Temperate Moist Forest (33)	Tropical Lower Montane Moist Forest (133)	7981 (0%)	Tropical Lower Montane Moist Forest (133)	11902 (0%)
		Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Tropical Lower Montane Dry Forest (134)	309283 (1%)	Tropical Lower Montane Dry Forest (134)	304026 (1%)
		Warm Temperate Shrubland (3d)	Warm Temperate Thorn Woodland (35)	Tropical Lower Montane Thorn Woodland (135)	385720 (1%)	Tropical Lower Montane Thorn Woodland (135)	392993 (1%)
		Warm Temperate Shrubland (3d)	Warm Temperate Desert Scrub (36)	Tropical Lower Montane Desert Scrub (136)	224511 (1%)	Tropical Lower Montane Desert Scrub (136)	228011 (1%)
		Warm Temperate Desert (3e)	Warm Temperate Desert (37)	Tropical Lower Montane Desert (137)	106071 (0%)	Tropical Lower Montane Desert (137)	107537 (0%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Tropical Montane Moist Forest (143)	45764 (0%)	Tropical Montane Moist Forest (143)	46536 (0%)
		Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Tropical Montane Steppe (144)	61643 (0%)	Tropical Montane Steppe (144)	60765 (0%)
		Cool Temperate Steppe (4c)	Cool Temperate Desert Scrub (45)	Tropical Montane Desert Scrub (145)	32363 (0%)	Tropical Montane Desert Scrub (145)	32136 (0%)
		Cool Temperate Desert (4d)	Cool Temperate Desert (46)	Tropical Montane Desert (146)	23878 (0%)	Tropical Montane Desert (146)	24211 (0%)
		Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)			Tropical Subalpine Wet Forest (152)	12 (0%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Tropical Subalpine Moist Forest (153)	18813 (0%)	Tropical Subalpine Moist Forest (153)	18801 (0%)
		Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)	Tropical Subalpine Dry Scrub (154)	4564 (0%)	Tropical Subalpine Dry Scrub (154)	4564 (0%)
		Boreal Desert (5d)	Boreal Desert (55)	Tropical Subalpine Desert (155)	2682 (0%)	Tropical Subalpine Desert (155)	2682 (0%)

		Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Tropical Alpine Wet Tundra (162)	837 (0%)	Tropical Alpine Wet Tundra (162)	837 (0%)
		Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Tropical Alpine Moist Tundra (163)	2715 (0%)	Tropical Alpine Moist Tundra (163)	2684 (0%)
		Subpolar Desert (6c)	Subpolar Desert (64)	Tropical Alpine Desert (164)	673 (0%)	Tropical Alpine Desert (164)	704 (0%)
		Polar (7a)	Polar (71)	Tropical Nival Desert (171)	2678 (0%)	Tropical Nival Desert (171)	2678 (0%)
		Subtropical Dry Forest (2c)	Subtropical Dry Forest (24)	Subtropical Dry Forest (214)	3896 (0%)	Subtropical Dry Forest (214)	3896 (0%)
		Subtropical Shrubland (2d)	Subtropical Thorn Woodland (25)	Subtropical Thorn Woodland (215)	5127 (0%)	Subtropical Thorn Woodland (215)	7856 (0%)
		Subtropical Shrubland (2d)	Subtropical Desert Scrub (26)	Subtropical Desert Scrub (216)	6310 (0%)	Subtropical Desert Scrub (216)	6310 (0%)
		Subtropical Desert (2e)	Subtropical Desert (27)	Subtropical Desert (217)	50664 (0%)	Subtropical Desert (217)	51896 (0%)
		Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Subtropical Lower Montane Dry Forest (224)	450 (0%)	Subtropical Lower Montane Dry Forest (224)	385 (0%)
		Warm Temperate Shrubland (3d)	Warm Temperate Thorn Woodland (35)	Subtropical Lower Montane Thorn Woodland (225)	392 (0%)	Subtropical Lower Montane Thorn Woodland (225)	487 (0%)
		Warm Temperate Shrubland (3d)	Warm Temperate Desert Scrub (36)	Subtropical Lower Montane Desert Scrub (226)	232 (0%)	Subtropical Lower Montane Desert Scrub (226)	232 (0%)
		Warm Temperate Desert (3e)	Warm Temperate Desert (37)	Subtropical Lower Montane Desert (227)	1452 (0%)	Subtropical Lower Montane Desert (227)	2021 (0%)
		Warm Temperate Moist Forest (3b)	Warm Temperate Moist Forest (33)	Warm Temperate Moist Forest (313)	117234 (0%)	Warm Temperate Moist Forest (313)	113139 (0%)
		Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Warm Temperate Dry Forest (314)	4806348 (17%)	Warm Temperate Dry Forest (314)	4869251 (17%)
		Warm Temperate Shrubland (3d)	Warm Temperate Thorn Woodland (35)	Warm Temperate Thorn Woodland (315)	3435386 (12%)	Warm Temperate Thorn Woodland (315)	3462393 (12%)
		Warm Temperate Shrubland (3d)	Warm Temperate Desert Scrub (36)	Warm Temperate Desert Scrub (316)	3157526 (11%)	Warm Temperate Desert Scrub (316)	3116217 (11%)
		Warm Temperate Desert (3e)	Warm Temperate Desert (37)	Warm Temperate Desert (317)	3213064 (11%)	Warm Temperate Desert (317)	3182086 (11%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Warm Temperate Montane Moist Forest (323)	179984 (1%)	Warm Temperate Montane Moist Forest (323)	173278 (1%)
		Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Warm Temperate Montane Steppe (324)	859906 (3%)	Warm Temperate Montane Steppe (324)	837994 (3%)

		Cool Temperate Steppe (4c)	Cool Temperate Desert Scrub (45)	Warm Temperate Montane Desert Scrub (325)	1056963 (4%)	Warm Temperate Montane Desert Scrub (325)	1008022 (4%)
		Cool Temperate Desert (4d)	Cool Temperate Desert (46)	Warm Temperate Montane Desert (326)	826636 (3%)	Warm Temperate Montane Desert (326)	821202 (3%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Warm Temperate Subalpine Moist Forest (333)	15376 (0%)	Warm Temperate Subalpine Moist Forest (333)	13846 (0%)
		Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)	Warm Temperate Subalpine Dry Scrub (334)	53889 (0%)	Warm Temperate Subalpine Dry Scrub (334)	41645 (0%)
		Boreal Desert (5d)	Boreal Desert (55)	Warm Temperate Subalpine Desert (335)	22900 (0%)	Warm Temperate Subalpine Desert (335)	25771 (0%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Cool Temperate Moist Forest (413)	104143 (0%)	Cool Temperate Moist Forest (413)	76526 (0%)
		Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Cool Temperate Steppe (414)	552227 (2%)	Cool Temperate Steppe (414)	434455 (2%)
		Cool Temperate Steppe (4c)	Cool Temperate Desert Scrub (45)	Cool Temperate Desert Scrub (415)	189023 (1%)	Cool Temperate Desert Scrub (415)	170824 (1%)
		Cool Temperate Desert (4d)	Cool Temperate Desert (46)	Cool Temperate Desert (416)	113983 (0%)	Cool Temperate Desert (416)	98175 (0%)
Cool Temperate Moist	0°C<MAT≤10°C, MAP>PET	Warm Temperate Rain Forest (3a)	Warm Temperate Wet Forest (32)	Tropical Lower Montane Wet Forest (132)	759 (0%)	Tropical Lower Montane Wet Forest (132)	777 (0%)
		Warm Temperate Moist Forest (3b)	Warm Temperate Moist Forest (33)	Tropical Lower Montane Moist Forest (133)	10592 (0%)	Tropical Lower Montane Moist Forest (133)	8422 (0%)
		Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Tropical Lower Montane Dry Forest (134)	9778 (0%)	Tropical Lower Montane Dry Forest (134)	13327 (0%)
		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Rain Forest (41)	Tropical Montane Rain Forest (141)	28 (0%)		
		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Wet Forest (42)	Tropical Montane Wet Forest (142)	7835 (0%)	Tropical Montane Wet Forest (142)	8042 (0%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Tropical Montane Moist Forest (143)	137532 (1%)	Tropical Montane Moist Forest (143)	138416 (1%)
		Boreal Rain/Wet Forest (5a)	Boreal Rain Forest (51)	Tropical Subalpine Rain Forest (151)	376 (0%)	Tropical Subalpine Rain Forest (151)	376 (0%)
		Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)	Tropical Subalpine Wet Forest (152)	13011 (0%)	Tropical Subalpine Wet Forest (152)	13011 (0%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Tropical Subalpine Moist Forest (153)	68571 (0%)	Tropical Subalpine Moist Forest (153)	68571 (0%)

		Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)	Tropical Alpine Rain Tundra (161)	411 (0%)	Tropical Alpine Rain Tundra (161)	411 (0%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Tropical Alpine Wet Tundra (162)	31552 (0%)	Tropical Alpine Wet Tundra (162)	31552 (0%)
		Polar (7a)	Polar (71)	Tropical Nival Desert (171)	23384 (0%)	Tropical Nival Desert (171)	23384 (0%)
		Warm Temperate Rain Forest (3a)	Warm Temperate Rain Forest (31)	Warm Temperate Rain Forest (311)	5238 (0%)	Warm Temperate Rain Forest (311)	5304 (0%)
		Warm Temperate Rain Forest (3a)	Warm Temperate Wet Forest (32)	Warm Temperate Wet Forest (312)	72214 (0%)	Warm Temperate Wet Forest (312)	73720 (0%)
		Warm Temperate Moist Forest (3b)	Warm Temperate Moist Forest (33)	Warm Temperate Moist Forest (313)	388022 (2%)	Warm Temperate Moist Forest (313)	444223 (3%)
		Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Warm Temperate Dry Forest (314)	210533 (1%)	Warm Temperate Dry Forest (314)	233033 (1%)
		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Rain Forest (41)	Warm Temperate Montane Rain Forest (321)	36882 (0%)	Warm Temperate Montane Rain Forest (321)	38566 (0%)
		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Wet Forest (42)	Warm Temperate Montane Wet Forest (322)	331497 (2%)	Warm Temperate Montane Wet Forest (322)	327256 (2%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Warm Temperate Montane Moist Forest (323)	624669 (4%)	Warm Temperate Montane Moist Forest (323)	630634 (4%)
		Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Warm Temperate Montane Steppe (324)	942 (0%)	Warm Temperate Montane Steppe (324)	957 (0%)
		Boreal Rain/Wet Forest (5a)	Boreal Rain Forest (51)	Warm Temperate Subalpine Rain Forest (331)	13894 (0%)	Warm Temperate Subalpine Rain Forest (331)	12213 (0%)
		Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)	Warm Temperate Subalpine Wet Forest (332)	113852 (1%)	Warm Temperate Subalpine Wet Forest (332)	112393 (1%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Warm Temperate Subalpine Moist Forest (333)	43747 (0%)	Warm Temperate Subalpine Moist Forest (333)	46396 (0%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)	Warm Temperate Alpine Rain Tundra (341)	14014 (0%)	Warm Temperate Alpine Rain Tundra (341)	13939 (0%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Warm Temperate Alpine Wet Tundra (342)	26508 (0%)	Warm Temperate Alpine Wet Tundra (342)	26181 (0%)
		Polar (7a)	Polar (71)	Warm Temperate Nival Desert (351)	47330 (0%)	Warm Temperate Nival Desert (351)	45763 (0%)
		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Rain Forest (41)	Cool Temperate Rain Forest (411)	386910 (2%)	Cool Temperate Rain Forest (411)	383089 (2%)

		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Wet Forest (42)	Cool Temperate Wet Forest (412)	1465143 (9%)	Cool Temperate Wet Forest (412)	1480412 (9%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Cool Temperate Moist Forest (413)	9854412 (60%)	Cool Temperate Moist Forest (413)	9916756 (60%)
		Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Cool Temperate Steppe (414)	143031 (1%)	Cool Temperate Steppe (414)	127698 (1%)
		Boreal Rain/Wet Forest (5a)	Boreal Rain Forest (51)	Cool Temperate Subalpine Rain Forest (421)	68148 (0%)	Cool Temperate Subalpine Rain Forest (421)	66054 (0%)
		Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)	Cool Temperate Subalpine Wet Forest (422)	119148 (1%)	Cool Temperate Subalpine Wet Forest (422)	116785 (1%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Cool Temperate Subalpine Moist Forest (423)	91028 (1%)	Cool Temperate Subalpine Moist Forest (423)	92218 (1%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)	Cool Temperate Alpine Rain Tundra (431)	1753 (0%)	Cool Temperate Alpine Rain Tundra (431)	1598 (0%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Cool Temperate Alpine Wet Tundra (432)	4 (0%)	Cool Temperate Alpine Wet Tundra (432)	3 (0%)
		Polar (7a)	Polar (71)	Cool Temperate Nival Desert (441)	13 (0%)	Cool Temperate Nival Desert (441)	13 (0%)
		Boreal Rain/Wet Forest (5a)	Boreal Rain Forest (51)	Boreal Rain Forest (511)	139419 (1%)	Boreal Rain Forest (511)	134448 (1%)
		Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)	Boreal Wet Forest (512)	524650 (3%)	Boreal Wet Forest (512)	543295 (3%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Boreal Moist Forest (513)	1406524 (9%)	Boreal Moist Forest (513)	1261554 (8%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)	Boreal Alpine Rain Tundra (521)	14476 (0%)	Boreal Alpine Rain Tundra (521)	12204 (0%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Boreal Alpine Wet Tundra (522)	1772 (0%)	Boreal Alpine Wet Tundra (522)	1022 (0%)
		Polar (7a)	Polar (71)	Boreal Nival Desert (531)	65 (0%)	Boreal Nival Desert (531)	55 (0%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)	Subpolar Rain Tundra (611)	13291 (0%)	Subpolar Rain Tundra (611)	10267 (0%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Subpolar Wet Tundra (612)	2794 (0%)	Subpolar Wet Tundra (612)	1454 (0%)
		Polar (7a)	Polar (71)	Subpolar Nival Desert (621)	213 (0%)	Subpolar Nival Desert (621)	184 (0%)
		Polar (7a)	Polar (71)	Polar (711)	141 (0%)	Polar (711)	130 (0%)

Cool Temperate Dry	0°C<MAT≤10°C, MAP<PET	Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Tropical Lower Montane Dry Forest (134)	45690 (0%)	Tropical Lower Montane Dry Forest (134)	49104 (0%)
		Warm Temperate Shrubland (3d)	Warm Temperate Thorn Woodland (35)	Tropical Lower Montane Thorn Woodland (135)	100020 (0%)	Tropical Lower Montane Thorn Woodland (135)	106153 (0%)
		Warm Temperate Shrubland (3d)	Warm Temperate Desert Scrub (36)	Tropical Lower Montane Desert Scrub (136)	21821 (0%)	Tropical Lower Montane Desert Scrub (136)	24647 (0%)
		Warm Temperate Desert (3e)	Warm Temperate Desert (37)	Tropical Lower Montane Desert (137)	28861 (0%)	Tropical Lower Montane Desert (137)	30909 (0%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Tropical Montane Moist Forest (143)	121071 (1%)	Tropical Montane Moist Forest (143)	131192 (1%)
		Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Tropical Montane Steppe (144)	297954 (1%)	Tropical Montane Steppe (144)	288872 (1%)
		Cool Temperate Steppe (4c)	Cool Temperate Desert Scrub (45)	Tropical Montane Desert Scrub (145)	184076 (1%)	Tropical Montane Desert Scrub (145)	187393 (1%)
		Cool Temperate Desert (4d)	Cool Temperate Desert (46)	Tropical Montane Desert (146)	200272 (1%)	Tropical Montane Desert (146)	201510 (1%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Tropical Subalpine Moist Forest (153)	163879 (1%)	Tropical Subalpine Moist Forest (153)	162866 (1%)
		Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)	Tropical Subalpine Dry Scrub (154)	98873 (0%)	Tropical Subalpine Dry Scrub (154)	100607 (0%)
		Boreal Desert (5d)	Boreal Desert (55)	Tropical Subalpine Desert (155)	115045 (1%)	Tropical Subalpine Desert (155)	114324 (1%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Tropical Alpine Wet Tundra (162)	38903 (0%)	Tropical Alpine Wet Tundra (162)	43042 (0%)
		Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Tropical Alpine Moist Tundra (163)	66496 (0%)	Tropical Alpine Moist Tundra (163)	61364 (0%)
		Subpolar Desert (6c)	Subpolar Desert (64)	Tropical Alpine Desert (164)	62949 (0%)	Tropical Alpine Desert (164)	63942 (0%)
		Polar (7a)	Polar (71)	Tropical Nival Desert (171)	165212 (1%)	Tropical Nival Desert (171)	165212 (1%)
		Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Warm Temperate Dry Forest (314)	551977 (3%)	Warm Temperate Dry Forest (314)	593251 (3%)
		Warm Temperate Shrubland (3d)	Warm Temperate Thorn Woodland (35)	Warm Temperate Thorn Woodland (315)	1258700 (6%)	Warm Temperate Thorn Woodland (315)	1249011 (6%)
		Warm Temperate Shrubland (3d)	Warm Temperate Desert Scrub (36)	Warm Temperate Desert Scrub (316)	738561 (3%)	Warm Temperate Desert Scrub (316)	819462 (4%)
		Warm Temperate Desert (3e)	Warm Temperate Desert (37)	Warm Temperate Desert (317)	216434 (1%)	Warm Temperate Desert (317)	238274 (1%)

		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Warm Temperate Montane Moist Forest (323)	199830 (1%)	Warm Temperate Montane Moist Forest (323)	215012 (1%)
		Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Warm Temperate Montane Steppe (324)	1700487 (8%)	Warm Temperate Montane Steppe (324)	1729781 (8%)
		Cool Temperate Steppe (4c)	Cool Temperate Desert Scrub (45)	Warm Temperate Montane Desert Scrub (325)	1592892 (7%)	Warm Temperate Montane Desert Scrub (325)	1549448 (7%)
		Cool Temperate Desert (4d)	Cool Temperate Desert (46)	Warm Temperate Montane Desert (326)	1241005 (6%)	Warm Temperate Montane Desert (326)	1240323 (6%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Warm Temperate Subalpine Moist Forest (333)	247013 (1%)	Warm Temperate Subalpine Moist Forest (333)	251505 (1%)
		Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)	Warm Temperate Subalpine Dry Scrub (334)	530198 (2%)	Warm Temperate Subalpine Dry Scrub (334)	520487 (2%)
		Boreal Desert (5d)	Boreal Desert (55)	Warm Temperate Subalpine Desert (335)	170253 (1%)	Warm Temperate Subalpine Desert (335)	170104 (1%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Warm Temperate Alpine Wet Tundra (342)	19152 (0%)	Warm Temperate Alpine Wet Tundra (342)	19801 (0%)
		Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Warm Temperate Alpine Moist Tundra (343)	133125 (1%)	Warm Temperate Alpine Moist Tundra (343)	128992 (1%)
		Subpolar Desert (6c)	Subpolar Desert (64)	Warm Temperate Alpine Desert (344)	115008 (1%)	Warm Temperate Alpine Desert (344)	113460 (1%)
		Polar (7a)	Polar (71)	Warm Temperate Nival Desert (351)	280286 (1%)	Warm Temperate Nival Desert (351)	270671 (1%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Cool Temperate Moist Forest (413)	1412763 (7%)	Cool Temperate Moist Forest (413)	1306086 (6%)
		Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Cool Temperate Steppe (414)	7360096 (34%)	Cool Temperate Steppe (414)	7411073 (34%)
		Cool Temperate Steppe (4c)	Cool Temperate Desert Scrub (45)	Cool Temperate Desert Scrub (415)	1718535 (8%)	Cool Temperate Desert Scrub (415)	1685904 (8%)
		Cool Temperate Desert (4d)	Cool Temperate Desert (46)	Cool Temperate Desert (416)	481008 (2%)	Cool Temperate Desert (416)	437529 (2%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Cool Temperate Subalpine Moist Forest (423)	32758 (0%)	Cool Temperate Subalpine Moist Forest (423)	33039 (0%)
		Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)	Cool Temperate Subalpine Dry Scrub (424)	3416 (0%)	Cool Temperate Subalpine Dry Scrub (424)	2880 (0%)
		Boreal Desert (5d)	Boreal Desert (55)	Cool Temperate Subalpine Desert (425)	316 (0%)	Cool Temperate Subalpine Desert (425)	221 (0%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Boreal Moist Forest (513)	14414 (0%)	Boreal Moist Forest (513)	12011 (0%)

			Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)	Boreal Dry Scrub (514)	753 (0%)	Boreal Dry Scrub (514)	640 (0%)
Boreal Moist		MAT≤0°C, MMT>10°C, MAP>PET	Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Wet Forest (42)	Tropical Montane Wet Forest (142)	40 (0%)	Tropical Montane Wet Forest (142)	40 (0%)
			Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Tropical Montane Moist Forest (143)	4850 (0%)	Tropical Montane Moist Forest (143)	4946 (0%)
			Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)	Tropical Subalpine Wet Forest (152)	2488 (0%)	Tropical Subalpine Wet Forest (152)	2488 (0%)
			Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Tropical Subalpine Moist Forest (153)	2341 (0%)	Tropical Subalpine Moist Forest (153)	2341 (0%)
			Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Tropical Alpine Wet Tundra (162)	1675 (0%)	Tropical Alpine Wet Tundra (162)	1675 (0%)
			Polar (7a)	Polar (71)	Tropical Nival Desert (171)	1879 (0%)	Tropical Nival Desert (171)	1879 (0%)
			Warm Temperate Moist Forest (3b)	Warm Temperate Moist Forest (33)	Warm Temperate Moist Forest (313)	66 (0%)	Warm Temperate Moist Forest (313)	152 (0%)
			Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Warm Temperate Dry Forest (314)	463 (0%)	Warm Temperate Dry Forest (314)	734 (0%)
			Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Rain Forest (41)	Warm Temperate Montane Rain Forest (321)	1031 (0%)	Warm Temperate Montane Rain Forest (321)	675 (0%)
			Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Wet Forest (42)	Warm Temperate Montane Wet Forest (322)	24302 (0%)	Warm Temperate Montane Wet Forest (322)	26875 (0%)
			Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Warm Temperate Montane Moist Forest (323)	478246 (3%)	Warm Temperate Montane Moist Forest (323)	502238 (3%)
			Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Warm Temperate Montane Steppe (324)	132257 (1%)	Warm Temperate Montane Steppe (324)	126998 (1%)
			Boreal Rain/Wet Forest (5a)	Boreal Rain Forest (51)	Warm Temperate Subalpine Rain Forest (331)	384 (0%)	Warm Temperate Subalpine Rain Forest (331)	274 (0%)
			Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)	Warm Temperate Subalpine Wet Forest (332)	18817 (0%)	Warm Temperate Subalpine Wet Forest (332)	20957 (0%)
			Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Warm Temperate Subalpine Moist Forest (333)	73269 (0%)	Warm Temperate Subalpine Moist Forest (333)	71239 (0%)
			Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)	Warm Temperate Alpine Rain Tundra (341)	481 (0%)	Warm Temperate Alpine Rain Tundra (341)	481 (0%)
			Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Warm Temperate Alpine Wet Tundra (342)	4494 (0%)	Warm Temperate Alpine Wet Tundra (342)	4710 (0%)

		Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Warm Temperate Alpine Moist Tundra (343)	1869 (0%)	Warm Temperate Alpine Moist Tundra (343)	1653 (0%)
		Polar (7a)	Polar (71)	Warm Temperate Nival Desert (351)	5015 (0%)	Warm Temperate Nival Desert (351)	4919 (0%)
		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Rain Forest (41)	Cool Temperate Rain Forest (411)	1966 (0%)	Cool Temperate Rain Forest (411)	579 (0%)
		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Wet Forest (42)	Cool Temperate Wet Forest (412)	146982 (1%)	Cool Temperate Wet Forest (412)	151046 (1%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Cool Temperate Moist Forest (413)	4999383 (26%)	Cool Temperate Moist Forest (413)	5281126 (28%)
		Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Cool Temperate Steppe (414)	2044322 (11%)	Cool Temperate Steppe (414)	2045728 (11%)
		Boreal Rain/Wet Forest (5a)	Boreal Rain Forest (51)	Cool Temperate Subalpine Rain Forest (421)	6996 (0%)	Cool Temperate Subalpine Rain Forest (421)	4133 (0%)
		Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)	Cool Temperate Subalpine Wet Forest (422)	175218 (1%)	Cool Temperate Subalpine Wet Forest (422)	182396 (1%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Cool Temperate Subalpine Moist Forest (423)	1160622 (6%)	Cool Temperate Subalpine Moist Forest (423)	1140184 (6%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)	Cool Temperate Alpine Rain Tundra (431)	72 (0%)	Cool Temperate Alpine Rain Tundra (431)	37 (0%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Cool Temperate Alpine Wet Tundra (432)	25697 (0%)	Cool Temperate Alpine Wet Tundra (432)	22536 (0%)
		Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Cool Temperate Alpine Moist Tundra (433)	19311 (0%)	Cool Temperate Alpine Moist Tundra (433)	17680 (0%)
		Boreal Rain/Wet Forest (5a)	Boreal Rain Forest (51)	Boreal Rain Forest (511)	3339 (0%)	Boreal Rain Forest (511)	1457 (0%)
		Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)	Boreal Wet Forest (512)	1145362 (6%)	Boreal Wet Forest (512)	1187601 (6%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Boreal Moist Forest (513)	7200765 (38%)	Boreal Moist Forest (513)	7069633 (37%)
		Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)			Boreal Dry Scrub (514)	11313 (0%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)	Boreal Alpine Rain Tundra (521)	599 (0%)	Boreal Alpine Rain Tundra (521)	417 (0%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Boreal Alpine Wet Tundra (522)	112136 (1%)	Boreal Alpine Wet Tundra (522)	88266 (0%)

			Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Boreal Alpine Moist Tundra (523)	133527 (1%)	Boreal Alpine Moist Tundra (523)	111671 (1%)
			Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)	Subpolar Rain Tundra (611)	125 (0%)	Subpolar Rain Tundra (611)	114 (0%)
			Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Subpolar Wet Tundra (612)	578138 (3%)	Subpolar Wet Tundra (612)	460379 (2%)
			Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Subpolar Moist Tundra (613)	459948 (2%)	Subpolar Moist Tundra (613)	416905 (2%)
Boreal Dry		MAT≤0°C, MMT>10°C, MAP<PET	Warm Temperate Shrubland (3d)	Warm Temperate Desert Scrub (36)	Tropical Lower Montane Desert Scrub (136)	19 (0%)	Tropical Lower Montane Desert Scrub (136)	37 (0%)
			Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Tropical Montane Moist Forest (143)	2163 (0%)	Tropical Montane Moist Forest (143)	1691 (0%)
			Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Tropical Montane Steppe (144)	35956 (0%)	Tropical Montane Steppe (144)	39471 (0%)
			Cool Temperate Steppe (4c)	Cool Temperate Desert Scrub (45)	Tropical Montane Desert Scrub (145)	34616 (0%)	Tropical Montane Desert Scrub (145)	33880 (0%)
			Cool Temperate Desert (4d)	Cool Temperate Desert (46)	Tropical Montane Desert (146)	34404 (0%)	Tropical Montane Desert (146)	35011 (0%)
			Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Tropical Subalpine Moist Forest (153)	4106 (0%)	Tropical Subalpine Moist Forest (153)	4106 (0%)
			Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)	Tropical Subalpine Dry Scrub (154)	16248 (0%)	Tropical Subalpine Dry Scrub (154)	17171 (0%)
			Boreal Desert (5d)	Boreal Desert (55)	Tropical Subalpine Desert (155)	46426 (0%)	Tropical Subalpine Desert (155)	45503 (0%)
			Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Tropical Alpine Wet Tundra (162)	433 (0%)	Tropical Alpine Wet Tundra (162)	433 (0%)
			Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Tropical Alpine Moist Tundra (163)	2818 (0%)	Tropical Alpine Moist Tundra (163)	2836 (0%)
			Subpolar Desert (6c)	Subpolar Desert (64)	Tropical Alpine Desert (164)	50003 (0%)	Tropical Alpine Desert (164)	49985 (0%)
			Polar (7a)	Polar (71)	Tropical Nival Desert (171)	76684 (0%)	Tropical Nival Desert (171)	76684 (0%)
			Warm Temperate Dry Forest (3c)	Warm Temperate Dry Forest (34)	Warm Temperate Dry Forest (314)	3762 (0%)	Warm Temperate Dry Forest (314)	5238 (0%)
			Warm Temperate Shrubland (3d)	Warm Temperate Thorn Woodland (35)	Warm Temperate Thorn Woodland (315)	4543 (0%)	Warm Temperate Thorn Woodland (315)	7787 (0%)
			Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Warm Temperate Montane Moist Forest (323)	12100 (0%)	Warm Temperate Montane Moist Forest (323)	14012 (0%)

		Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Warm Temperate Montane Steppe (324)	662012 (4%)	Warm Temperate Montane Steppe (324)	683399 (4%)
		Cool Temperate Steppe (4c)	Cool Temperate Desert Scrub (45)	Warm Temperate Montane Desert Scrub (325)	211998 (1%)	Warm Temperate Montane Desert Scrub (325)	214202 (1%)
		Cool Temperate Desert (4d)	Cool Temperate Desert (46)	Warm Temperate Montane Desert (326)	34625 (0%)	Warm Temperate Montane Desert (326)	37106 (0%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Warm Temperate Subalpine Moist Forest (333)	86938 (1%)	Warm Temperate Subalpine Moist Forest (333)	83964 (1%)
		Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)	Warm Temperate Subalpine Dry Scrub (334)	175109 (1%)	Warm Temperate Subalpine Dry Scrub (334)	176575 (1%)
		Boreal Desert (5d)	Boreal Desert (55)	Warm Temperate Subalpine Desert (335)	59264 (0%)	Warm Temperate Subalpine Desert (335)	60772 (0%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Warm Temperate Alpine Wet Tundra (342)	945 (0%)	Warm Temperate Alpine Wet Tundra (342)	647 (0%)
		Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Warm Temperate Alpine Moist Tundra (343)	41927 (0%)	Warm Temperate Alpine Moist Tundra (343)	42025 (0%)
		Subpolar Desert (6c)	Subpolar Desert (64)	Warm Temperate Alpine Desert (344)	60010 (0%)	Warm Temperate Alpine Desert (344)	60210 (0%)
		Polar (7a)	Polar (71)	Warm Temperate Nival Desert (351)	155087 (1%)	Warm Temperate Nival Desert (351)	152155 (1%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Cool Temperate Moist Forest (413)	1988 (0%)	Cool Temperate Moist Forest (413)	6146 (0%)
		Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Cool Temperate Steppe (414)	6192577 (37%)	Cool Temperate Steppe (414)	6353516 (38%)
		Cool Temperate Steppe (4c)	Cool Temperate Desert Scrub (45)	Cool Temperate Desert Scrub (415)	285263 (2%)	Cool Temperate Desert Scrub (415)	286806 (2%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Cool Temperate Subalpine Moist Forest (423)	370083 (2%)	Cool Temperate Subalpine Moist Forest (423)	355809 (2%)
		Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)	Cool Temperate Subalpine Dry Scrub (424)	281115 (2%)	Cool Temperate Subalpine Dry Scrub (424)	272280 (2%)
		Boreal Desert (5d)	Boreal Desert (55)	Cool Temperate Subalpine Desert (425)	16496 (0%)	Cool Temperate Subalpine Desert (425)	13549 (0%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Cool Temperate Alpine Wet Tundra (432)	4 (0%)		
		Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Cool Temperate Alpine Moist Tundra (433)	13213 (0%)	Cool Temperate Alpine Moist Tundra (433)	11290 (0%)
		Subpolar Desert (6c)	Subpolar Desert (64)	Cool Temperate Alpine Desert (434)	2 (0%)	Cool Temperate Alpine Desert (434)	1 (0%)

					Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Boreal Moist Forest (513)	1374613 (8%)	Boreal Moist Forest (513)	1224405 (7%)
					Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)	Boreal Dry Scrub (514)	4868556 (29%)	Boreal Dry Scrub (514)	5006682 (30%)
					Boreal Desert (5d)	Boreal Desert (55)	Boreal Desert (515)	73419 (0%)	Boreal Desert (515)	60711 (0%)
					Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Boreal Alpine Moist Tundra (523)	158345 (1%)	Boreal Alpine Moist Tundra (523)	140212 (1%)
					Subpolar Desert (6c)	Subpolar Desert (64)	Boreal Alpine Desert (524)	11166 (0%)	Boreal Alpine Desert (524)	10039 (0%)
					Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Subpolar Moist Tundra (613)	730617 (4%)	Subpolar Moist Tundra (613)	571038 (3%)
					Subpolar Desert (6c)	Subpolar Desert (64)	Subpolar Desert (614)	509612 (3%)	Subpolar Desert (614)	541881 (3%)
Polar Moist		MAT≤0°C, MMT<10°C, MAP>PET	Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Rain Forest (41)	Tropical Montane Rain Forest (141)	51 (0%)	Tropical Montane Rain Forest (141)	43 (0%)		
			Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Wet Forest (42)	Tropical Montane Wet Forest (142)	506 (0%)	Tropical Montane Wet Forest (142)	400 (0%)		
			Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Tropical Montane Moist Forest (143)	16227 (0%)	Tropical Montane Moist Forest (143)	16563 (0%)		
			Boreal Rain/Wet Forest (5a)	Boreal Rain Forest (51)	Tropical Subalpine Rain Forest (151)	109 (0%)	Tropical Subalpine Rain Forest (151)	109 (0%)		
			Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)	Tropical Subalpine Wet Forest (152)	5162 (0%)	Tropical Subalpine Wet Forest (152)	5162 (0%)		
			Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Tropical Subalpine Moist Forest (153)	27510 (0%)	Tropical Subalpine Moist Forest (153)	27510 (0%)		
			Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)	Tropical Alpine Rain Tundra (161)	537 (0%)	Tropical Alpine Rain Tundra (161)	103 (0%)		
			Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Tropical Alpine Wet Tundra (162)	13788 (0%)	Tropical Alpine Wet Tundra (162)	14222 (0%)		
			Polar (7a)	Polar (71)	Tropical Nival Desert (171)	36124 (0%)	Tropical Nival Desert (171)	36124 (0%)		
			Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Rain Forest (41)	Warm Temperate Montane Rain Forest (321)	4233 (0%)	Warm Temperate Montane Rain Forest (321)	3144 (0%)		

		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Wet Forest (42)	Warm Temperate Montane Wet Forest (322)	30720 (0%)	Warm Temperate Montane Wet Forest (322)	31064 (0%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Warm Temperate Montane Moist Forest (323)	59062 (0%)	Warm Temperate Montane Moist Forest (323)	63044 (1%)
		Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Warm Temperate Montane Steppe (324)	13456 (0%)	Warm Temperate Montane Steppe (324)	13545 (0%)
		Boreal Rain/Wet Forest (5a)	Boreal Rain Forest (51)	Warm Temperate Subalpine Rain Forest (331)	11524 (0%)	Warm Temperate Subalpine Rain Forest (331)	14353 (0%)
		Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)	Warm Temperate Subalpine Wet Forest (332)	31143 (0%)	Warm Temperate Subalpine Wet Forest (332)	31493 (0%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Warm Temperate Subalpine Moist Forest (333)	20878 (0%)	Warm Temperate Subalpine Moist Forest (333)	20565 (0%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)	Warm Temperate Alpine Rain Tundra (341)	8673 (0%)	Warm Temperate Alpine Rain Tundra (341)	8322 (0%)
		Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Warm Temperate Alpine Wet Tundra (342)	4479 (0%)	Warm Temperate Alpine Wet Tundra (342)	4830 (0%)
		Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Warm Temperate Alpine Moist Tundra (343)	56 (0%)	Warm Temperate Alpine Moist Tundra (343)	56 (0%)
		Polar (7a)	Polar (71)	Warm Temperate Nival Desert (351)	18982 (0%)	Warm Temperate Nival Desert (351)	18760 (0%)
		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Rain Forest (41)	Cool Temperate Rain Forest (411)	9279 (0%)	Cool Temperate Rain Forest (411)	9559 (0%)
		Cool Temperate Rain/Wet Forest (4a)	Cool Temperate Wet Forest (42)	Cool Temperate Wet Forest (412)	66563 (1%)	Cool Temperate Wet Forest (412)	67859 (1%)
		Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Cool Temperate Moist Forest (413)	212407 (2%)	Cool Temperate Moist Forest (413)	223684 (2%)
		Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Cool Temperate Steppe (414)	179074 (1%)	Cool Temperate Steppe (414)	183675 (2%)
		Boreal Rain/Wet Forest (5a)	Boreal Rain Forest (51)	Cool Temperate Subalpine Rain Forest (421)	80103 (1%)	Cool Temperate Subalpine Rain Forest (421)	88081 (1%)
		Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)	Cool Temperate Subalpine Wet Forest (422)	229084 (2%)	Cool Temperate Subalpine Wet Forest (422)	227730 (2%)
		Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Cool Temperate Subalpine Moist Forest (423)	617868 (5%)	Cool Temperate Subalpine Moist Forest (423)	628399 (5%)
		Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)	Cool Temperate Subalpine Dry Scrub (424)	36954 (0%)	Cool Temperate Subalpine Dry Scrub (424)	36396 (0%)

			Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)	Cool Temperate Alpine Rain Tundra (431)	56880 (0%)	Cool Temperate Alpine Rain Tundra (431)	59788 (0%)
			Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Cool Temperate Alpine Wet Tundra (432)	88785 (1%)	Cool Temperate Alpine Wet Tundra (432)	91357 (1%)
			Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Cool Temperate Alpine Moist Tundra (433)	39611 (0%)	Cool Temperate Alpine Moist Tundra (433)	37953 (0%)
			Polar (7a)	Polar (71)	Cool Temperate Nival Desert (441)	23795 (0%)	Cool Temperate Nival Desert (441)	27984 (0%)
			Boreal Rain/Wet Forest (5a)	Boreal Rain Forest (51)	Boreal Rain Forest (511)	17652 (0%)	Boreal Rain Forest (511)	18786 (0%)
			Boreal Rain/Wet Forest (5a)	Boreal Wet Forest (52)	Boreal Wet Forest (512)	88483 (1%)	Boreal Wet Forest (512)	92313 (1%)
			Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Boreal Moist Forest (513)	687012 (6%)	Boreal Moist Forest (513)	710699 (6%)
			Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)	Boreal Dry Scrub (514)	108066 (1%)	Boreal Dry Scrub (514)	132060 (1%)
			Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)	Boreal Alpine Rain Tundra (521)	63924 (1%)	Boreal Alpine Rain Tundra (521)	65410 (1%)
			Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Boreal Alpine Wet Tundra (522)	360363 (3%)	Boreal Alpine Wet Tundra (522)	347863 (3%)
			Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Boreal Alpine Moist Tundra (523)	567962 (5%)	Boreal Alpine Moist Tundra (523)	573284 (5%)
			Polar (7a)	Polar (71)	Boreal Nival Desert (531)	400459 (3%)	Boreal Nival Desert (531)	397533 (3%)
			Subpolar Rain/Wet Tundra (6a)	Subpolar Rain Tundra (61)	Subpolar Rain Tundra (611)	37578 (0%)	Subpolar Rain Tundra (611)	38488 (0%)
			Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Subpolar Wet Tundra (612)	658144 (5%)	Subpolar Wet Tundra (612)	648528 (5%)
			Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Subpolar Moist Tundra (613)	1170745 (10%)	Subpolar Moist Tundra (613)	1223861 (10%)
			Subpolar Desert (6c)	Subpolar Desert (64)	Subpolar Desert (614)	145 (0%)	Subpolar Desert (614)	178 (0%)
			Polar (7a)	Polar (71)	Subpolar Nival Desert (621)	680937 (6%)	Subpolar Nival Desert (621)	655710 (5%)
			Polar (7a)	Polar (71)	Polar (711)	5427244 (44%)	Polar (711)	5315747 (44%)
Polar Dry	MAT≤0°C, MMT<10°C,	Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Tropical Montane Moist Forest (143)	11214 (0%)	Tropical Montane Moist Forest (143)	11499 (0%)	

		MAP<PET	Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Tropical Montane Steppe (144)	61900 (1%)	Tropical Montane Steppe (144)	62688 (1%)
			Cool Temperate Steppe (4c)	Cool Temperate Desert Scrub (45)	Tropical Montane Desert Scrub (145)	22922 (0%)	Tropical Montane Desert Scrub (145)	23345 (0%)
			Cool Temperate Desert (4d)	Cool Temperate Desert (46)	Tropical Montane Desert (146)	9710 (0%)	Tropical Montane Desert (146)	9762 (0%)
			Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Tropical Subalpine Moist Forest (153)	130096 (1%)	Tropical Subalpine Moist Forest (153)	133190 (1%)
			Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)	Tropical Subalpine Dry Scrub (154)	137491 (1%)	Tropical Subalpine Dry Scrub (154)	134186 (1%)
			Boreal Desert (5d)	Boreal Desert (55)	Tropical Subalpine Desert (155)	64119 (1%)	Tropical Subalpine Desert (155)	64330 (1%)
			Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Tropical Alpine Wet Tundra (162)	20586 (0%)	Tropical Alpine Wet Tundra (162)	21642 (0%)
			Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Tropical Alpine Moist Tundra (163)	175173 (2%)	Tropical Alpine Moist Tundra (163)	175611 (2%)
			Subpolar Desert (6c)	Subpolar Desert (64)	Tropical Alpine Desert (164)	129757 (1%)	Tropical Alpine Desert (164)	128263 (1%)
			Polar (7a)	Polar (71)	Tropical Nival Desert (171)	1199079 (12%)	Tropical Nival Desert (171)	1199079 (12%)
			Cool Temperate Moist Forest (4b)	Cool Temperate Moist Forest (43)	Warm Temperate Montane Moist Forest (323)	21 (0%)	Warm Temperate Montane Moist Forest (323)	21 (0%)
			Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Warm Temperate Montane Steppe (324)	4443 (0%)	Warm Temperate Montane Steppe (324)	4639 (0%)
			Cool Temperate Steppe (4c)	Cool Temperate Desert Scrub (45)	Warm Temperate Montane Desert Scrub (325)	3007 (0%)	Warm Temperate Montane Desert Scrub (325)	3122 (0%)
			Cool Temperate Desert (4d)	Cool Temperate Desert (46)	Warm Temperate Montane Desert (326)	144 (0%)		
			Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Warm Temperate Subalpine Moist Forest (333)	1919 (0%)	Warm Temperate Subalpine Moist Forest (333)	1942 (0%)
			Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)	Warm Temperate Subalpine Dry Scrub (334)	2971 (0%)	Warm Temperate Subalpine Dry Scrub (334)	2948 (0%)
			Boreal Desert (5d)	Boreal Desert (55)	Warm Temperate Subalpine Desert (335)	1846 (0%)	Warm Temperate Subalpine Desert (335)	1846 (0%)
			Subpolar Rain/Wet Tundra (6a)	Subpolar Wet Tundra (62)	Warm Temperate Alpine Wet Tundra (342)	398 (0%)	Warm Temperate Alpine Wet Tundra (342)	393 (0%)
			Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Warm Temperate Alpine Moist Tundra (343)	5596 (0%)	Warm Temperate Alpine Moist Tundra (343)	5601 (0%)

Subpolar Desert (6c)	Subpolar Desert (64)	Warm Temperate Alpine Desert (344)	1526 (0%)	Warm Temperate Alpine Desert (344)	1526 (0%)
Polar (7a)	Polar (71)	Warm Temperate Nival Desert (351)	68290 (1%)	Warm Temperate Nival Desert (351)	66742 (1%)
Cool Temperate Steppe (4c)	Cool Temperate Steppe (44)	Cool Temperate Steppe (414)	56392 (1%)	Cool Temperate Steppe (414)	59118 (1%)
Cool Temperate Steppe (4c)	Cool Temperate Desert Scrub (45)	Cool Temperate Desert Scrub (415)	54023 (1%)	Cool Temperate Desert Scrub (415)	60899 (1%)
Cool Temperate Desert (4d)	Cool Temperate Desert (46)	Cool Temperate Desert (416)	6606 (0%)	Cool Temperate Desert (416)	1818 (0%)
Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Cool Temperate Subalpine Moist Forest (423)	4111 (0%)	Cool Temperate Subalpine Moist Forest (423)	3180 (0%)
Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)	Cool Temperate Subalpine Dry Scrub (424)	55513 (1%)	Cool Temperate Subalpine Dry Scrub (424)	59565 (1%)
Boreal Desert (5d)	Boreal Desert (55)	Cool Temperate Subalpine Desert (425)	46251 (0%)	Cool Temperate Subalpine Desert (425)	45609 (0%)
Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Cool Temperate Alpine Moist Tundra (433)	4446 (0%)	Cool Temperate Alpine Moist Tundra (433)	4605 (0%)
Subpolar Desert (6c)	Subpolar Desert (64)	Cool Temperate Alpine Desert (434)	14047 (0%)	Cool Temperate Alpine Desert (434)	13806 (0%)
Polar (7a)	Polar (71)	Cool Temperate Nival Desert (441)	2807 (0%)	Cool Temperate Nival Desert (441)	2722 (0%)
Boreal Moist Forest (5b)	Boreal Moist Forest (53)	Boreal Moist Forest (513)	4382 (0%)	Boreal Moist Forest (513)	2315 (0%)
Boreal Dry Scrub (5c)	Boreal Dry Scrub (54)	Boreal Dry Scrub (514)	685417 (7%)	Boreal Dry Scrub (514)	713023 (7%)
Boreal Desert (5d)	Boreal Desert (55)	Boreal Desert (515)	62980 (1%)	Boreal Desert (515)	63645 (1%)
Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Boreal Alpine Moist Tundra (523)	232866 (2%)	Boreal Alpine Moist Tundra (523)	224448 (2%)
Subpolar Desert (6c)	Subpolar Desert (64)	Boreal Alpine Desert (524)	367091 (4%)	Boreal Alpine Desert (524)	372431 (4%)
Polar (7a)	Polar (71)	Boreal Nival Desert (531)	102983 (1%)	Boreal Nival Desert (531)	106114 (1%)
Subpolar Moist Tundra (6b)	Subpolar Moist Tundra (63)	Subpolar Moist Tundra (613)	816244 (8%)	Subpolar Moist Tundra (613)	731340 (7%)
Subpolar Desert (6c)	Subpolar Desert (64)	Subpolar Desert (614)	1706772 (17%)	Subpolar Desert (614)	1826548 (18%)

		Polar (7a)	Polar (71)	Subpolar Nival Desert (621)	769136 (8%)	Subpolar Nival Desert (621)	761319 (8%)
		Polar (7a)	Polar (71)	Polar (711)	3100690 (31%)	Polar (711)	3040085 (30%)

Extended Data Table 2. Summary Table of existing Ecological Zone Maps

EZ Map	Source Organisation	Method/ Approach	Intended application	Number of units	Limitations	Reference
Ecological zoning for biodiversity purposes						
Terrestrial Ecoregions of the World (TEOW)	WWF	Biogeographic 'ecoregions' units of land or water containing a distinct assemblage of natural communities	Regionalization of the Earth's terrestrial biodiversity to provide usable 'units for conservation action	867 Ecoregions nested within 14 biomes and 8 biogeographic realms.	Based on the distribution of species rather than climatic or physical factors	Olson et al. 2001
The Millenium Ecosystem Assessment	United Nations	Synthesized material from 1,360 experts in addition scientific publications	Help UN counties assess the consequences of ecosystem change for human well-being	Utilised the 14 biomes and 8 realms of the TEOW and split into 10 socio-ecological systems.	Included 'expert opinion' so fairly subjective	www.millennium assessment.org
Global Ecosystem Typology	IUCN	The same nested approach as the MEA but represents ecosystem function at the higher levels and biodiversity at the lower levels	Provide a 'Global Ecosystem Typology' called for at 'The World Congress 2020'	25 biomes, 108 ecosystem functional groups, followed by biogeographic ecotypes (3,000 – 7,500)	Same as MEA as uses some information from this but has flexibility as the IUCN Typology is designed to be able to incorporate other systems of classification where possible	Keith et al. 2020
Ecological zoning for climate purposes						
Köppen Geiger Classification (KGC)	Meteorologische Zeitschrift	Uses precipitation, temperature and seasonal precipitation and temperature variations to divide the globe into climate groups	To provide climate regions and the type of vegetation that can occur in them for botanists and other scientific disciplines	30 climate classes	Climate defined only	Köppen 1884
Köppen-Trewartha Classification (KTC)	Geographical Review	Same as KGC, yet with a re-definition of the middle latitudes	To provide climate regions and the type of vegetation that can occur in	13 climate classes	Climate defined only	Kriticos et al. 2012; Beck et al. 2018 Belda et al. 2014

		to be closer to vegetation zoning	them for botanists and other scientific disciplines			
FAO's Global Ecological Zones	UN FAO	Used KTC for climate zones and national/regional land cover data sets to develop Global Ecological Zones	Studies of global change. The IPCC adopted for use in the development of their Tier 1 emission factors	20 GEZs	No updates in the past 13 years. Relies on national land cover maps with different criteria and methods and is therefore very difficult to update	FAO 2011
Holdridge Life Zones	Life Zone Ecology (Book) by Oxford University Press	Uses mean annual precipitation, mean annual 'biotemperature', potential evapotranspiration ratio and elevation to designate 'Life Zones'	Studies of global vegetation change	107* distinct 'Life Zones' *While the HLZ chart would technically allow for a combination of 137 distinct HLZs, this study found a total number of 107 distinct HLZs using the CRU dataset. This can be explained by i) the polar latitudinal regions and nival altitudinal belts being classified as deserts regardless of the humidity province and ii) the specificity of the subtropical latitudinal region with the frost line as the defining factor. The frost line prevents subtropical latitudinal regions from expanding into higher altitudinal belts than the lower montane one.	Based on a limited set of parameters so room for over simplifications BUT is replicable unlike systems which rely on diverse national land cover datasets.	Holdridge 1967