Projected Impacts of Climate Change on the Protected Areas of Myanmar: Supplementary Material

Thazin Nwe [1,2], Robert J. Zomer [3] and Richard T. Corlett [1,4,*]

[1] Center for Integrative Conservation, Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, Menglun, Yunnan 666303, China; thazin@xtbg.ac.cn
[2] University of Chinese Academy of Sciences, Beijing 100049, China
[3] Center for Mountain Futures, Kunming Institute of Botany, Chinese Academy of Sciences, Kunming, Yunnan 650201, China
[4] Center of Conservation Biology, Core Botanical Gardens, Chinese Academy of Sciences, Menglun, Yunnan 666303, China
* Correspondence: corlett@xtbg.org.cn; Tel.: +86-182-8805-9408

Table S1. Projected changes in mean annual temperature and precipitation for Myanmar between 1960-2000 and 2050 and 2070 with three earth system models under two RCPs.

RCP	Model	Mean annual temperature		Mean maximum temperature		Annual precipitation		
			increase		increase		increase	
		˚C	˚C	˚C	˚C	mm/yr	mm/yr	%
1960-2000		23.2		32.9		1992.4		
2050								
RCP 2.6	CNRM-CM5	24.3	1.1	34.0	1.1	2105.9	113.5	5.4
	GFDL-CM3	25.2	2.0	34.4	1.5	2025.3	32.9	1.6
	HadGEM2-ES	25.0	1.8	34.7	1.8	2069.9	77.5	3.7
RCP 8.5	CNRM-CM5	24.9	1.7	34.3	1.4	2125.0	132.6	6.2
	GFDL-CM3	26.2	3.0	36.0	3.1	1962.9	-29.5	-1.5
	HadGEM2-ES	26.1	2.9	35.7	2.8	2070.1	77.7	3.8
2070								
RCP 2.6	CNRM-CM5	24.4	1.2	33.9	1.0	2040.9	48.5	2.4
	GFDL-CM3	25.5	2.3	34.7	1.8	2070.3	77.9	3.8
	HadGEM2-ES	25.0	1.8	34.7	1.8	2129.6	137.2	6.4
RCP 8.5	CNRM-CM5	25.8	2.6	35.3	2.4	2101.4	109.0	5.2
	GFDL-CM3	27.3	4.1	36.4	3.5	2112.4	120.0	5.7
	HadGEM2-ES	27.6	4.4	36.9	4.0	2177.2	184.8	8.5

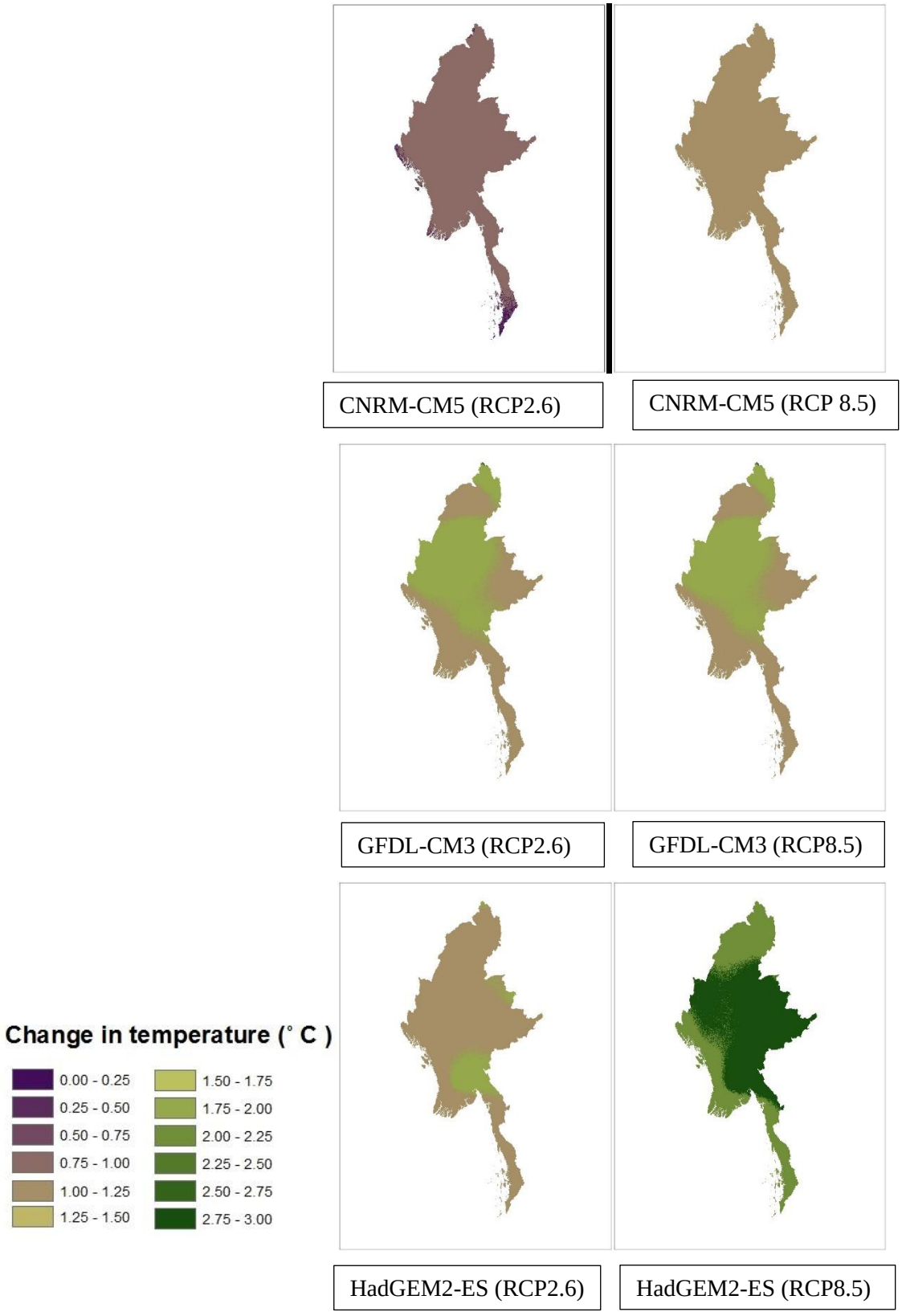

Figure S1. Change in mean annual temperature as projected for the year 2050 for three different earth system models under RCP2.6 and RCP8.5

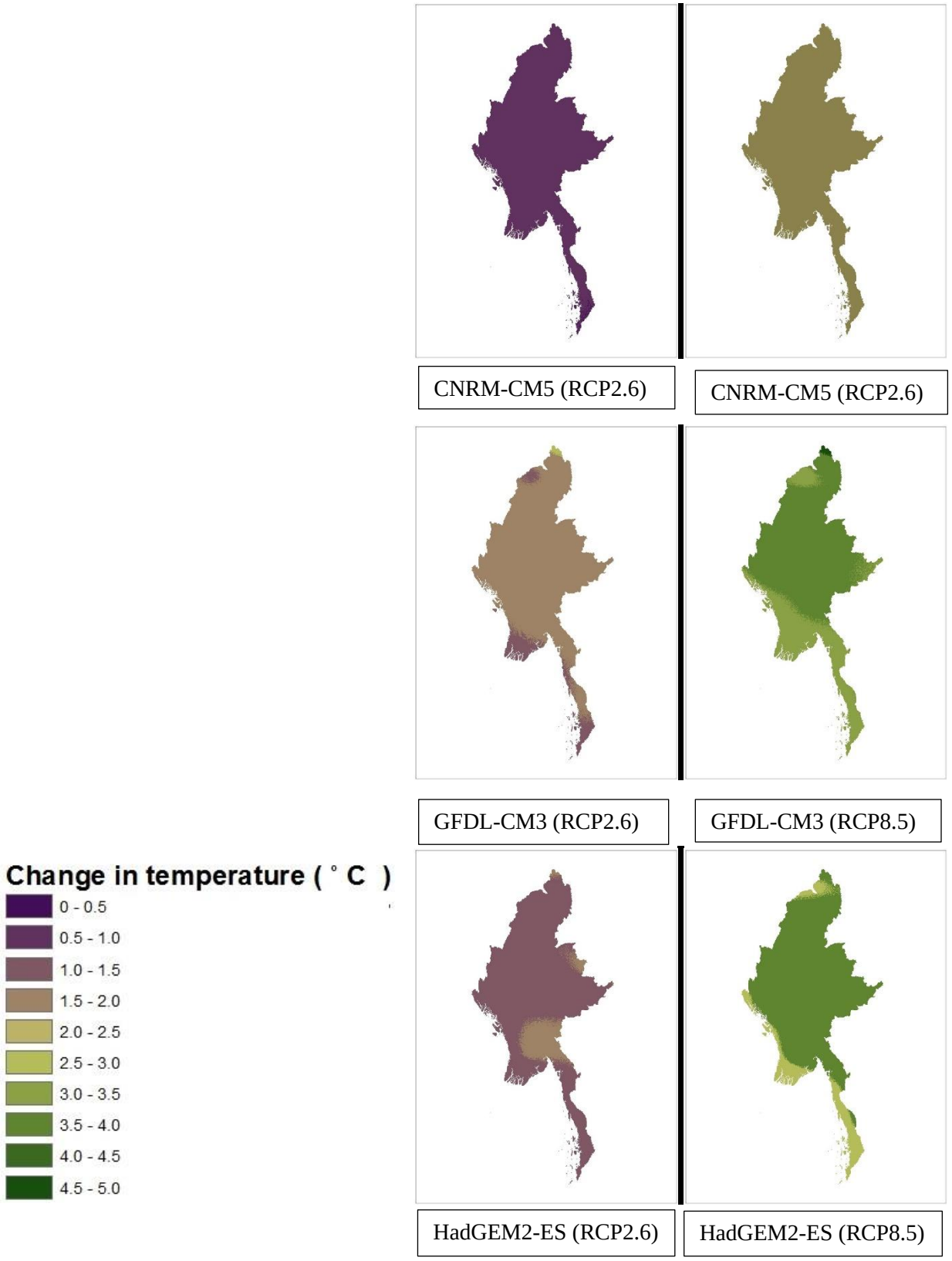

Figure S2. Change in mean annual temperature as projected for the year 2070 for three different earth system models under RCP2.6 and RCP8.5

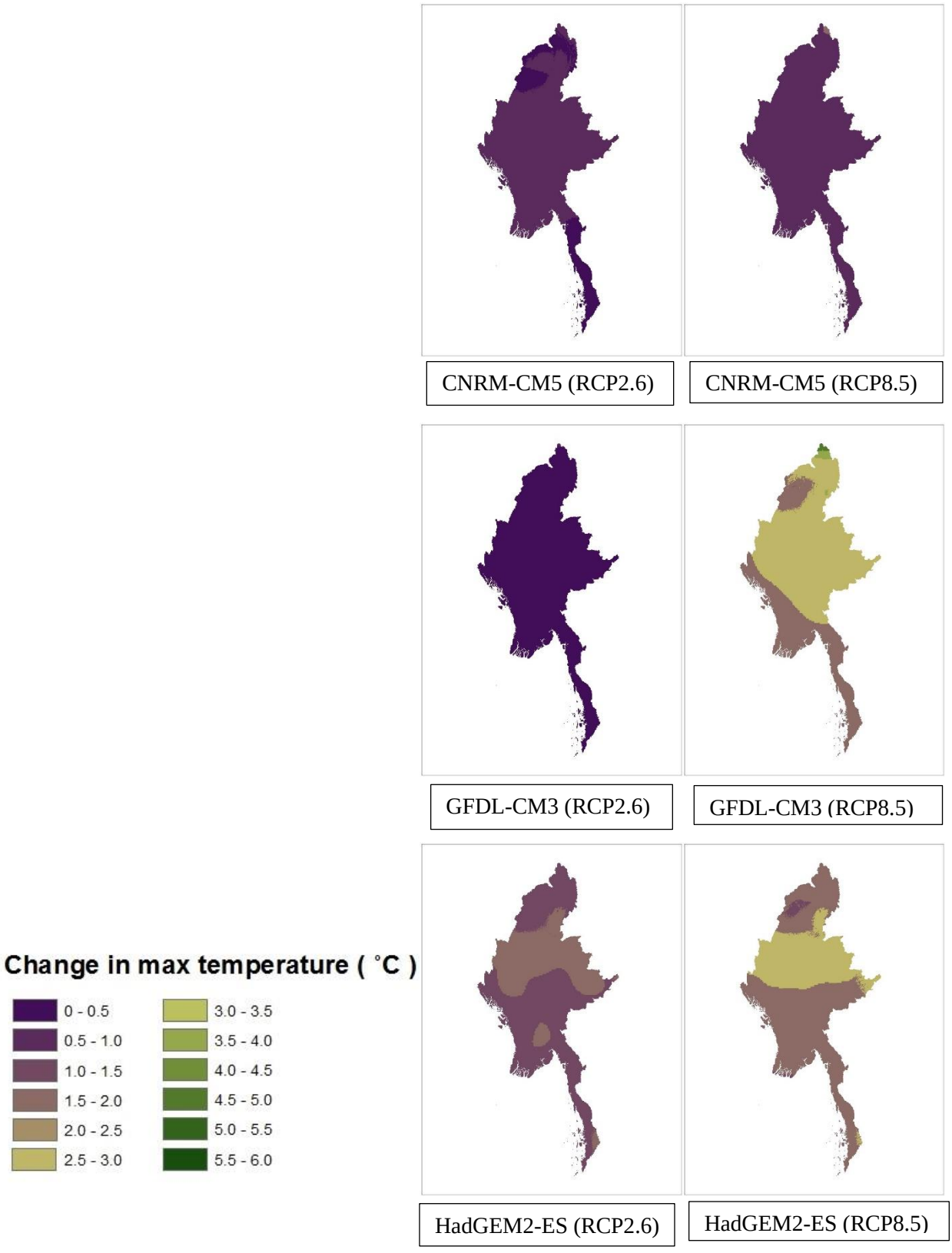

Figure S3. Change in maximum temperature of the warmest month as projected for the year 2050 for three different earth system models under RCP2.6 and RCP8.5

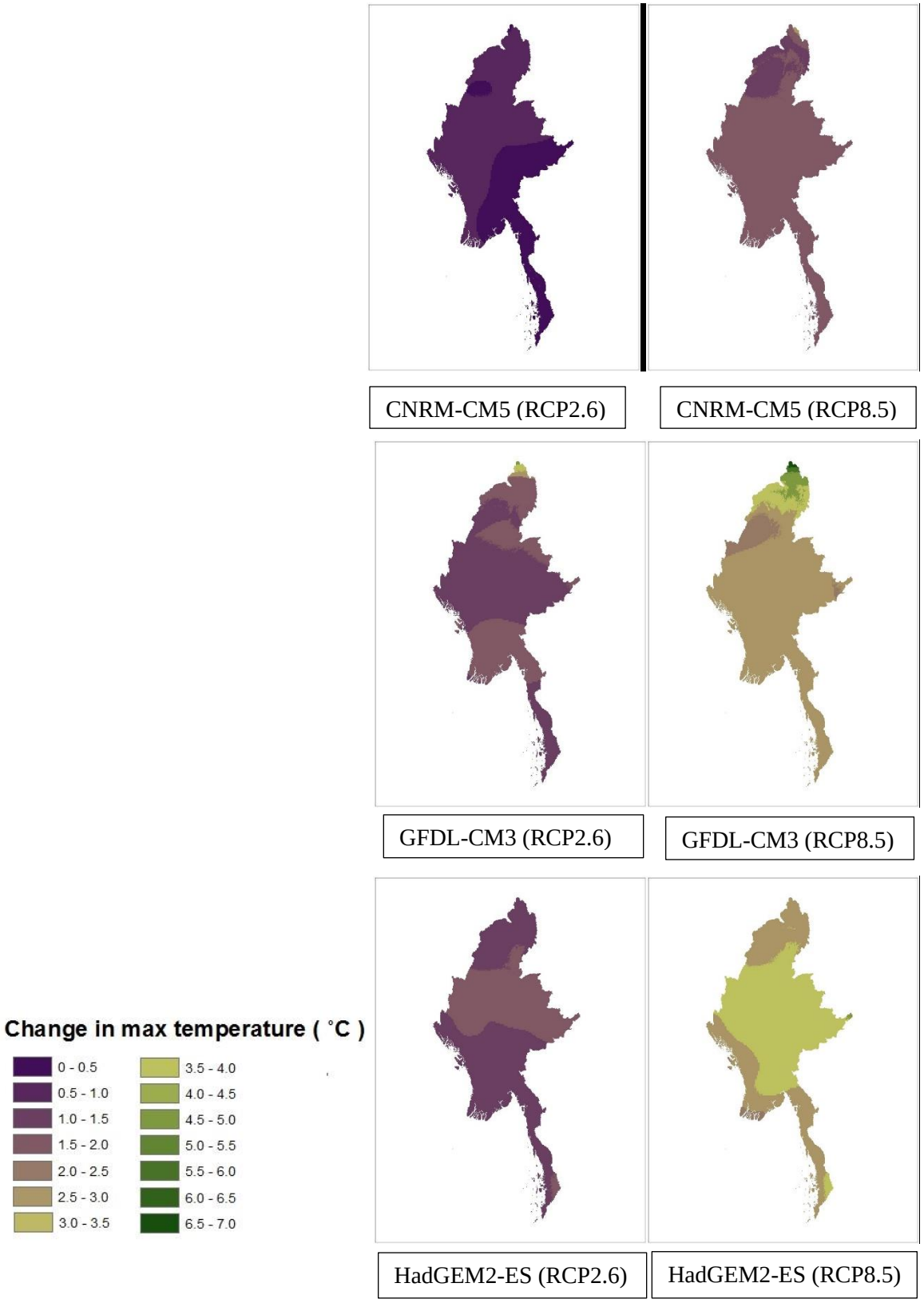

Figure S4. Change in maximum temperature of the warmest month as projected for the year 2070 for three different earth system models under RCP2.6 and RCP8.5

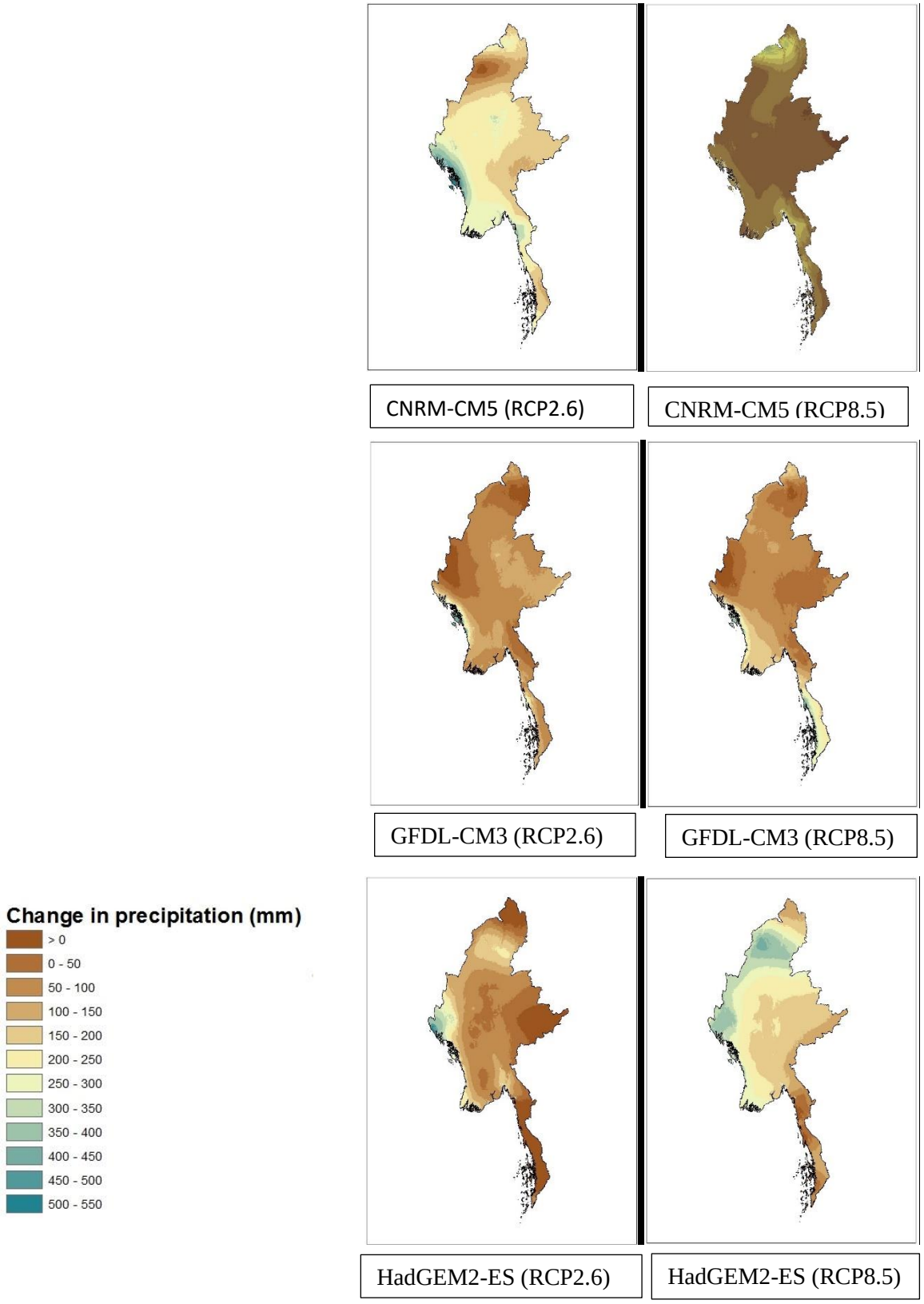

Figure S5. Change in mean annual precipitation as projected for the year 2050 for three different earth system models under RCP2.6 and RCP8.5

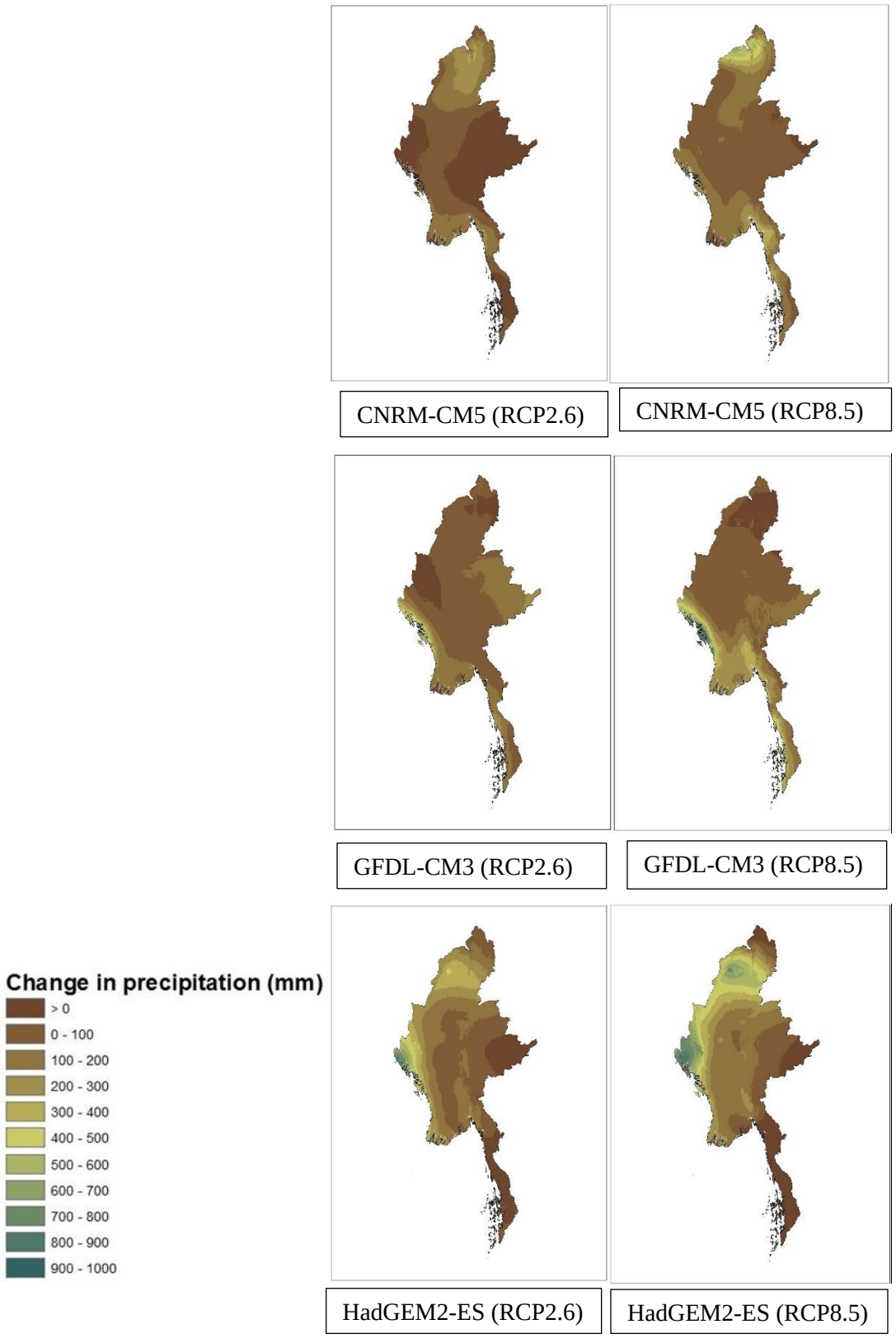

Figure S6. Change in mean annual precipitation as projected for the year 2070 for three different earth system models under RCP2.6 and RCP8.5

Table S2. Projected change in areal extent and mean elevation of bioclimatic zones and their upward shift by 2050, with three earth system models and two RCPs.

Bioclimatic Zone	Model	Area (km²)			Area change (km²)		Mean Elevation (m a.s.l)			Shift (m a.s.l)	
		Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5
Extremely cold and wet	CNRM-CM5	3	2	2	-1	-1	5409	5437	5437	28	28
	GFDL-CM3		0	0	-3	-3		-	-	-	-
	HadGEM2-ES		0	0	-3	-3		-	-	-	-
Extremely cold and mesic	CNRM-CM5	816	481	337	-335	-479	4450	4571	4637	120	187
	GFDL-CM3		63	14	-753	-802		4873	5049	423	599
	HadGEM2-ES		272	127	-544	-689		4671	4786	221	336
Cold and mesic	CNRM-CM5	2900	2421	2220	-479	-680	3612	3815	3914	203	303
	GFDL-CM3		1968	1462	-932	-1438		4102	4255	490	643
	HadGEM2-ES		2207	1885	-693	-1015		3944	4089	332	477
Cool temperate and moist	CNRM-CM5	4831	3493	3047	-1338	-1784	2842	3036	3130	194	289
	GFDL-CM3		2122	1569	-2709	-3262		3328	3578	486	736
	HadGEM2-ES		2486	1944	-2345	-2887		3199	3367	358	525
Warm temperate and mesic	CNRM-CM5	55576	41482	37532	-14094	-18044	1595	1794	1860	199	264
	GFDL-CM3		30661	21072	-24915	-34504		2036	2285	440	690
	HadGEM2-ES		33590	25649	-21986	-29927		1962	2141	366	545
Hot and mesic	CNRM-CM5	219324	233226	227878	13902	8554	579	706	750	127	171
	GFDL-CM3		223454	172060	4130	-47264		788	909	210	330
	HadGEM2-ES		218834	184533	-490	-34791		772	870	194	292
Hot and dry	CNRM-CM5	78900	38695	25465	-40205	-53435	1190	1361	1437	172	248
	GFDL-CM3		23162	13442	-55738	-65458		1499	1699	309	510
	HadGEM2-ES		27657	10550	-51243	-68350		1454	1643	264	454
Extremely hot and moist	CNRM-CM5	224377	250732	258169	26355	33792	183	236	273	52	90
	GFDL-CM3		245484	300268	21107	75891		286	345	103	162
	HadGEM2-ES		267000	305727	42623	81350		275	339	91	156
Extremely hot and xeric	CNRM-CM5	77215	93411	109293	16196	32078	155	188	209	33	54
	GFDL-CM3		137028	154055	59813	76840		229	308	74	153
	HadGEM2-ES		111897	133528	34682	56313		214	292	59	137
Average upward shift for all zones									CNRM-CM5	125	181
									GFDL-CM3	282	425
									HadGEM3-ES	210	325

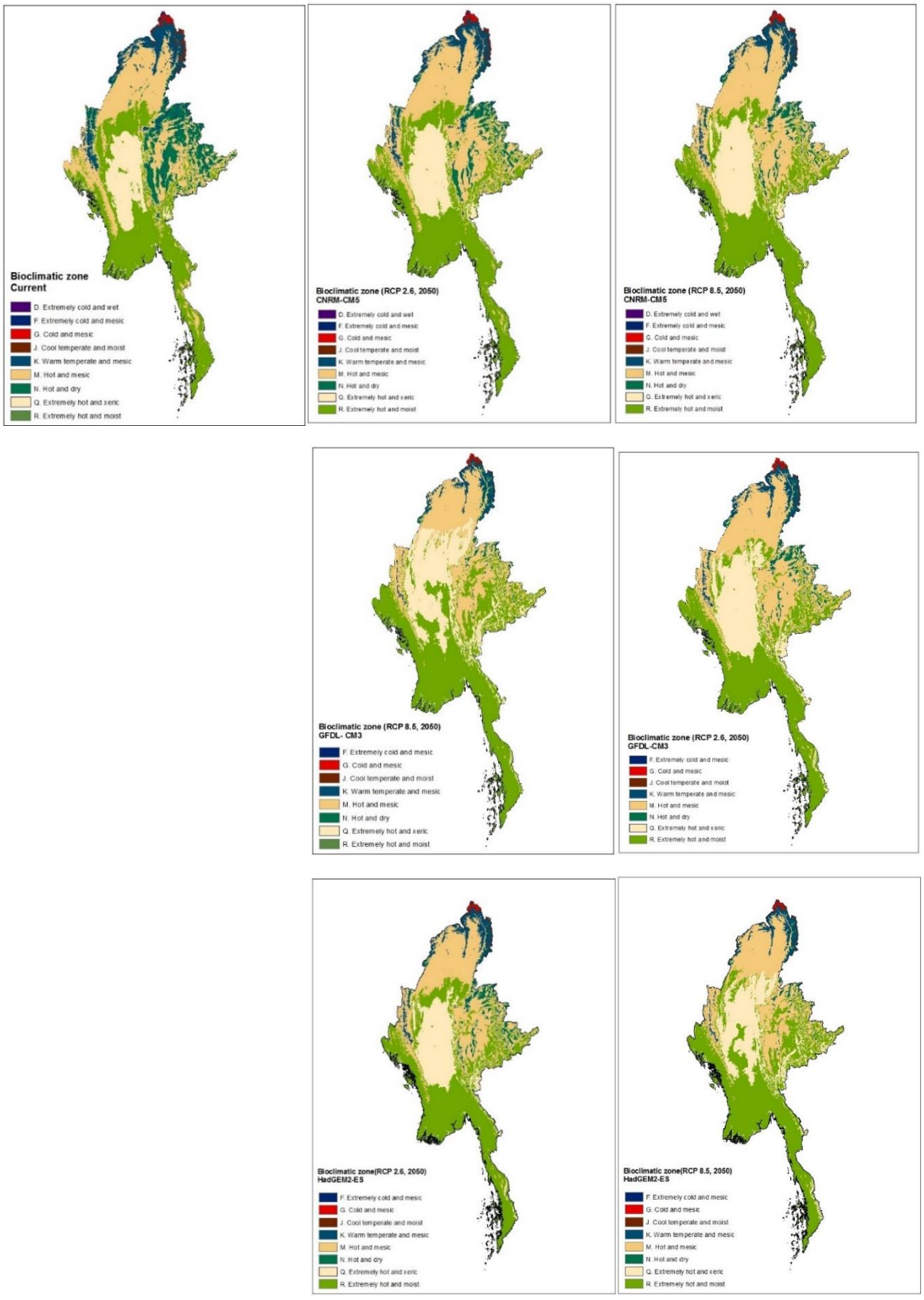

Figure S7. Bioclimatic stratification of Myanmar based on spatially interpolated weather station data average from 1960 to 2000, and as projected by three earth system models under two RCPs for 2050

Table S3. Projected change in areal extent and mean elevation of bioclimatic zones and their upward shift by 2070 with three earth system models and two RCPs.

Bioclimatic Zone	Model	Area (km²)			Area change (km²)		Mean Elevation (m a.s.l)			Shift (m a.s.l)	
		Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5
Extremely cold and wet	CNRM-CM5	3	2	1	-1	-2	5409	5437	5558	28	149
	GFDL-CM3		0	0	-3	-3		-	-	-	-
	HadGEM2-ES		0	0	-3	-3		-	-	-	-
Extremely cold and mesic	CNRM-CM5	816	477	135	-339	-681	4450	4572	4776	122	326
	GFDL-CM3		51	2	-765	-814		4892	5437	442	987
	HadGEM2-ES		259	21	-557	-795		4685	5025	235	575
Cold and mesic	CNRM-CM5	2900	2383	1893	-517	-1007	3612	3823	4083	211	471
	GFDL-CM3		1836	885	-1064	-2015		4141	4433	529	821
	HadGEM2-ES		2174	1389	-726	-1511		3955	4272	343	660
Cool temperate and moist	CNRM-CM5	4831	3594	2461	-1237	-2370	2842	3038	3297	197	455
	GFDL-CM3		1990	1148	-2841	-3683		3384	3874	542	1032
	HadGEM2-ES		2682	1385	-2149	-3446		3189	3637	347	795
Warm temperate and mesic	CNRM-CM5	55576	40861	29875	-14715	-25701	1595	1785	2015	190	420
	GFDL-CM3		28464	13420	-27112	-42156		2089	2607	493	1012
	HadGEM2-ES		34745	16903	-20831	-38673		1938	2435	343	839
Hot and mesic	CNRM-CM5	219324	224671	199490	5347	-19834	579	706	827	128	249
	GFDL-CM3		224002	146847	4678	-72477		812	985	233	406
	HadGEM2-ES		222830	127610	3506	-91714		766	1061	187	482
Hot and dry	CNRM-CM5	78900	40829	14015	-38071	-64885	1190	1369	1564	180	375
	GFDL-CM3		18919	10058	-59981	-68842		1541	1964	351	774
	HadGEM2-ES		26321	5102	-52579	-73798		1452	1941	262	752
Extremely hot and moist	CNRM-CM5	224377	246521	278832	22144	54455	183	245	330	61	147
	GFDL-CM3		242222	377823	17845	153446		292	334	109	151
	HadGEM2-ES		264775	426970	40398	202593		272	340	89	157
Extremely hot and xeric	CNRM-CM5	77215	104605	137241	27390	60026	155	194	251	39	97
	GFDL-CM3		146458	113759	69243	36544		236	496	81	341
	HadGEM2-ES		110157	84563	32942	7348		214	562	59	407
Average upward shift for all zones									CNRM-CM5	128	299
									GFDL-CM3	309	614
									HadGEM3-ES	207	519

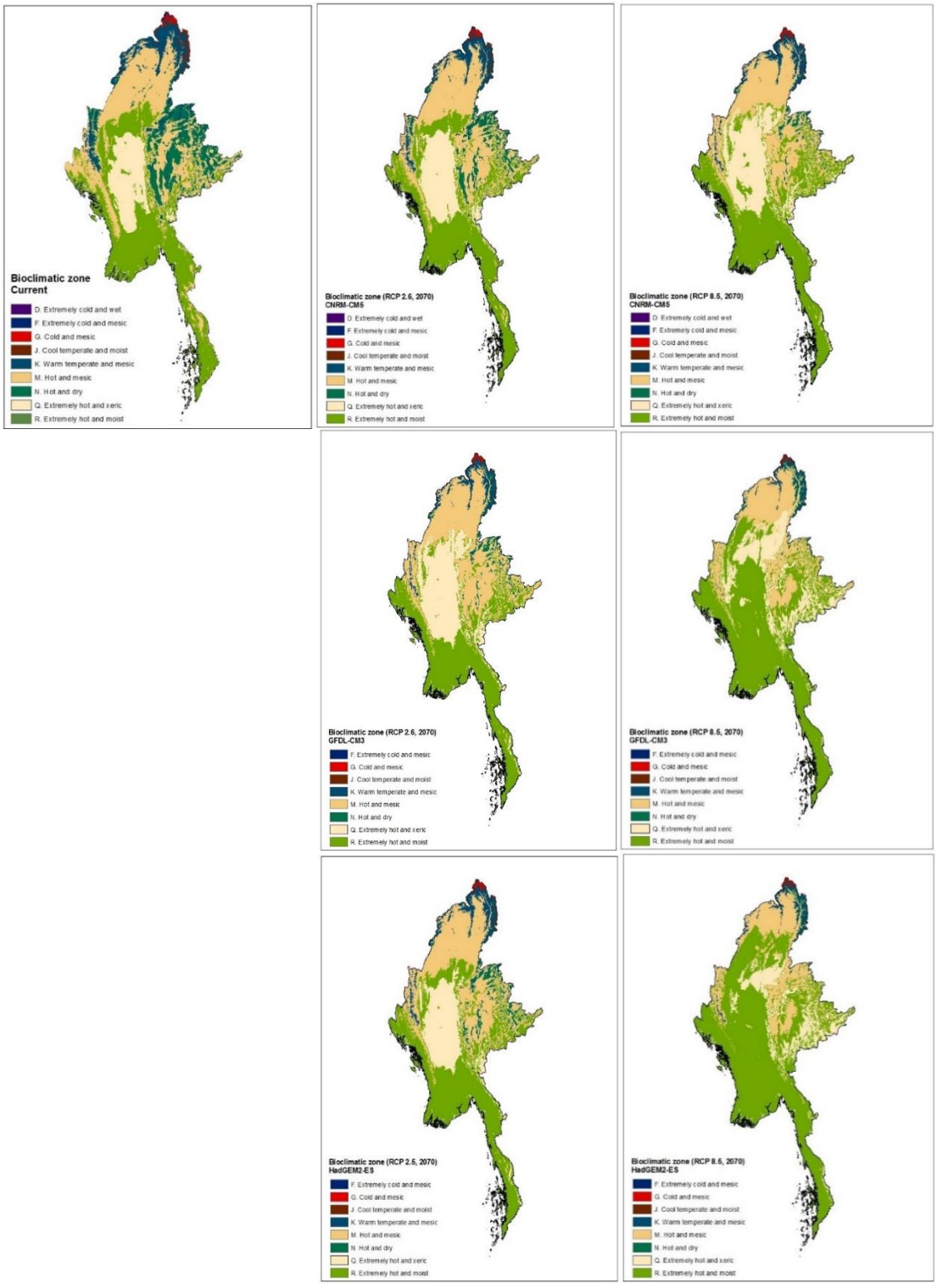

Figure S8. Bioclimatic stratification of Myanmar based on spatially interpolated weather station data average from 1960 to 2000, and as projected by three earth system models under two RCPs for 2070.

Table S4. Projected change in areal extent and mean elevation of bioclimatic strata and their upward shift by 2050, with three earth system models and two RCPs.

Bioclimatic zone	Bioclimatic strata	Model	Area (km²)			Area change (km²)		Mean elevation (m a.s.l.)			shift (m a.s.l.)	
			Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5
D. Extremely cold and wet	D3	CNRM-CM5	3	2	2	-1	-1	5409	5437	5437	28	28
		GFDL-CM3		0	0	-3	-3		-	-	-	-
		HadGEM2-ES		0	0	-3	-3		-	-	-	-
F. Extremely cold and mesic	F4	CNRM-CM5	23	7	3	-16	-20	4940	5023	5092	83	152
		GFDL-CM3		0	0	-23	-23		-	-	-	-
		HadGEM2-ES		2	2	-21	-21		5437	5437	497	497
	F13	CNRM-CM5	793	474	334	-319	-459	4436	4564	4633	128	197
		GFDL-CM3		63	14	-730	-779		4873	5049	437	613
		HadGEM2-ES		270	125	-523	-668		4666	4775	230	339
G. Cold and mesic	G7	CNRM-CM5	0	0	0	0	0	-	-	-	-	-
		GFDL-CM3		266	115	266	115		4592	4761	4592	4761
		HadGEM2-ES		0	0	0	0		-	-	-	-
	G11	CNRM-CM5	1649	1388	1297	-261	-352	3815	4026	4121	210	305
		GFDL-CM3		867	556	-782	-1093		4222	4431	407	615
		HadGEM2-ES		1476	1377	-173	-272		4111	4211	296	395
	G13	CNRM-CM5	1251	1033	923	-218	-328	3343	3531	3624	188	281
		GFDL-CM3		835	791	-416	-460		3821	4058	478	715
		HadGEM2-ES		731	508	-520	-743		3605	3760	262	417
J. Cool temperate and moist	J1	CNRM-CM5	245	124	142	-121	-103	3137	3376	3440	239	303
		GFDL-CM3		3	0	-242	-245		3563	-	426	-
		HadGEM2-ES		24	18	-221	-227		3395	3554	259	417
	J2	CNRM-CM5	21	12	4	-9	-17	2695	2773	2868	78	173
		GFDL-CM3		0	0	-21	-21		-	-	-	-
		HadGEM2-ES		4	0	-17	-21		2868	-	173	-
	J3	CNRM-CM5	1185	946	781	-239	-404	3026	3235	3346	209	320
		GFDL-CM3		792	594	-393	-591		3508	3735	482	709
		HadGEM2-ES		841	731	-344	-454		3392	3523	365	497
	J4	CNRM-CM5	3291	2308	2040	-983	-1251	2753	2935	3023	182	271

		GFDL-CM3		595	196	-2696	-3095		3083	3334	330	582
		HadGEM2-ES		1039	558	-2252	-2733		3055	3199	302	446
		CNRM-CM5		103	80	14	-9		3101	3219	201	320
	J5	GFDL-CM3	89	732	779	643	690	2900	3331	3519	431	620
		HadGEM2-ES		578	637	489	548		3173	3330	274	430
		CNRM-CM5		1191	949	52	-190		2751	2841	200	291
	K1	GFDL-CM3	1139	2264	1865	1125	726	2551	2951	3144	400	594
		HadGEM2-ES		2065	1891	926	752		2841	2977	290	426
		CNRM-CM5		3261	2923	-2682	-3020		2458	2575	222	339
	K2	GFDL-CM3	5943	840	306	-5103	-5637	2236	2653	2851	416	614
		HadGEM2-ES		1473	837	-4470	-5106		2619	2800	383	564
		CNRM-CM5		0	0	0	0		-	-	-	-
	K5	GFDL-CM3	0	423	905	423	905	-	2738	2894	2738	2894
		HadGEM2-ES		62	286	62	286		2662	2754	2662	2754
K. Warm temperate and mesic		CNRM-CM5		7089	6263	-1252	-2078		2213	2315	232	334
	K7	GFDL-CM3	8341	6964	4446	-1377	-3895	1981	2370	2566	389	585
		HadGEM2-ES		7029	5704	-1312	-2637		2330	2485	349	504
		CNRM-CM5		0	0	-5	-5		-	-	-	-
	K10	GFDL-CM3	5	53	521	48	516	2028	2469	2593	441	564
		HadGEM2-ES		0	4	-5	-1		-	2278	-	249
		CNRM-CM5		27784	26357	-5645	-7072		1566	1635	219	288
	K12	GFDL-CM3	33429	17737	10694	-15692	-22735	1347	1731	1929	384	582
		HadGEM2-ES		21484	15861	-11945	-17568		1707	1864	360	518
		CNRM-CM5		2157	1040	-4562	-5679		1826	1919	200	293
	K13	GFDL-CM3	6719	2380	2335	-4339	-4384	1626	2108	2318	482	692
		HadGEM2-ES		1477	1066	-5242	-5653		2000	2247	373	621
		CNRM-CM5		26102	22183	505	-3414		1039	1164	256	381
	M1	GFDL-CM3	25597	19843	14973	-5754	-10624	783	1192	1417	410	634
		HadGEM2-ES		24484	21580	-1113	-4017		1142	1333	360	551
M. Hot and mesic		CNRM-CM5		54463	53080	5930	4547		975	1068	191	284
	M2	GFDL-CM3	48533	57236	31100	8703	-17433	784	1134	1307	350	524
		HadGEM2-ES		45646	27024	-2887	-21509		1067	1280	283	496
	M4	CNRM-CM5	23284	15236	8753	-8048	-14531	921	1109	1226	188	305

		GFDL-CM3		3349	3722	-19935	-19562		1336	1456	414	534
		HadGEM2-ES		14891	5236	-8393	-18048		1190	1426	269	505
		CNRM-CM5		24982	31073	-68	6023		425	468	131	174
	M5	GFDL-CM3	25050	27524	37425	2474	12375	294	453	471	159	177
		HadGEM2-ES		30619	42772	5569	17722		461	493	167	199
		CNRM-CM5		0	0	-1	-1		-	-	-	-
	M6	GFDL-CM3	1	0	0	-1	-1	892	-	-	-	-
		HadGEM2-ES		0	0	-1	-1		-	-	-	-
		CNRM-CM5		23695	21954	66	-1675		913	1007	211	305
	M7	GFDL-CM3	23629	14124	12904	-9505	-10725	702	1089	1254	387	553
		HadGEM2-ES		25444	15115	1815	-8514		983	1212	281	510
		CNRM-CM5		88748	90835	15518	17605		396	451	76	131
	M8	GFDL-CM3	73230	101378	71936	28148	-1294	320	545	769	225	448
		HadGEM2-ES		77750	72806	4520	-424		457	692	137	372
N. Hot and dry		CNRM-CM5		0	0	0	0		-	-	-	-
	N1	GFDL-CM3	0	39	95	39	95	-	1993	2133	1993	2133
		HadGEM2-ES		0	0	0	0		-	-	-	-
		CNRM-CM5		10127	5977	-14768	-18918		1526	1612	170	256
	N3	GFDL-CM3	24895	5378	3341	-19517	-21554	1356	1691	1915	335	559
		HadGEM2-ES		6386	2450	-18509	-22445		1634	1830	278	474
		CNRM-CM5		0	0	-27	-27		-	-	-	-
	N4	GFDL-CM3	27	0	0	-27	-27	1725	-	-	-	-
		HadGEM2-ES		0	0	-27	-27		-	-	-	-
		CNRM-CM5		24283	18388	-12424	-18319		1282	1374	222	314
	N8	GFDL-CM3	36707	17190	9894	-19517	-26813	1060	1433	1621	373	561
		HadGEM2-ES		16086	7622	-20621	-29085		1377	1577	316	516
		CNRM-CM5		1275	220	-5989	-7044		1549	1703	218	371
	N9	GFDL-CM3	7264	88	18	-7176	-7246	1332	1788	2029	457	697
		HadGEM2-ES		1624	101	-5640	-7163		1586	1915	255	583
		CNRM-CM5		3010	880	-6997	-9127		1368	1499	223	354
	N11	GFDL-CM3	10007	467	94	-9540	-9913	1145	1593	1770	448	625
		HadGEM2-ES		3561	377	-6446	-9630		1417	1702	272	557
	R1	CNRM-CM5	20886	19666	20501	-1220	-385	533	755	864	221	331

R. Extremely hot and moist		GFDL-CM3		15623	18112	-5263	-2774		936	1087	403	554
		HadGEM2-ES		22038	22043	1152	1157		834	1046	301	513
	R2	CNRM-CM5	331	6	0	-325	-331	783	940	-	157	-
		GFDL-CM3		0	0	-331	-331		-	-	-	-
		HadGEM2-ES		0	0	-331	-331		-	-	-	-
	R3	CNRM-CM5	17682	11667	8381	-6015	-9301	226	402	496	176	270
		GFDL-CM3		6702	2609	-10980	-15073		525	737	299	511
		HadGEM2-ES		6163	3887	-11519	-13795		498	713	272	487
	R4	CNRM-CM5	3400	2008	1432	-1392	-1968	397	618	739	221	342
		GFDL-CM3		848	313	-2552	-3087		738	995	340	597
		HadGEM2-ES		1728	721	-1672	-2679		727	893	330	496
	R5	CNRM-CM5	44993	28544	21467	-16449	-23526	271	432	627	161	356
		GFDL-CM3		24975	34865	-20018	-10128		716	870	445	599
		HadGEM2-ES		26957	29730	-18036	-15263		593	853	322	582
	R6	CNRM-CM5	11244	8112	7141	-3132	-4103	270	463	561	193	291
		GFDL-CM3		7584	5818	-3660	-5426		572	776	303	506
		HadGEM2-ES		6860	5016	-4384	-6228		557	734	287	465
	R7	CNRM-CM5	101364	137335	153707	35971	52343	39	71	89	32	50
		GFDL-CM3		154296	208396	52932	107032		90	126	51	87
		HadGEM2-ES		153489	207012	52125	105648		88	124	49	85
	R8	CNRM-CM5	5924	5141	2933	-783	-2991	70	168	273	98	203
		GFDL-CM3		1278	349	-4646	-5575		290	451	220	381
		HadGEM2-ES		2646	697	-3278	-5227		295	473	225	403
	R9	CNRM-CM5	17097	32810	36023	15713	18926	272	328	385	56	113
		GFDL-CM3		29253	25210	12156	8113		472	730	200	458
		HadGEM2-ES		38983	29899	21886	12802		368	650	96	378
	R10	CNRM-CM5	1456	5443	6584	3987	5128	67	161	257	94	191
		GFDL-CM3		4925	4596	3469	3140		263	448	196	381
		HadGEM2-ES		8136	6722	6680	5266		258	416	191	350
Q. Extremely hot and xeric		CNRM-CM5		1720	115	-44181	-45786		395	585	207	397
	Q1	GFDL-CM3	45901	169	19	-45732	-45882	188	778	919	589	731
		HadGEM2-ES		1512	44	-44389	-45857		370	927	182	738
	Q3	CNRM-CM5	23609	48927	40335	25318	16726	110	218	274	108	164

		GFDL-CM3		51743	75683	28134	52074		301	373	191	263
		HadGEM2-ES		36574	63683	12965	40074		282	359	172	249
		CNRM-CM5		42764	68843	35059	61138		145	171	52	77
	Q4	GFDL-CM3	7705	84259	69552	76554	61847	93	185	256	92	162
		HadGEM2-ES		73811	69801	66106	62096		178	230	84	136
		CNRM-CM5		0	0	0	0		-	-	-	-
	Q6	GFDL-CM3	0	857	8801	857	8801	-	60	168	60	168
		HadGEM2-ES		0	0	0	0		-	-	-	-
Average upward shift for all zones								CNRM-CM5			153	233
								GFDL-CM3			531	683
								HadGEM3-ES			298	457

Table S5. Projected change in areal extent and mean elevation of bioclimatic strata and their upward shift by 2070, with three earth system models and two RCPs.

Bioclimatic zone	Bioclimatic strata	Model	Area (km²)			Area change (km²)		Mean elevation (m)			Upward shift (m)	
			Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5
D. Extremely cold and wet	D3	CNRM-CM5	3	2	1	-1	-2	5409	5437	5558	28	149
		GFDL-CM3		0	0	-3	-3		-	-	-	-
		HadGEM2-ES		0	0	-3	-3		-	-	-	-
F. Extremely cold and mesic	F4	CNRM-CM5	23	9	1	-14	-22	4940	5027	5316	87	376
		GFDL-CM3		0	0	-23	-23		-	-	-	-
		HadGEM2-ES		2	0	-21	-23		5437	-	497	-
	F13	CNRM-CM5	793	468	134	-325	-659	4436	4563	4772	127	336
		GFDL-CM3		51	2	-742	-791		4892	5437	456	1001
		HadGEM2-ES		257	21	-536	-772		4680	5025	244	589
G. Cold and mesic	G7	CNRM-CM5	0	0	0	0	0	-	-	-	-	-
		GFDL-CM3		194	21	194	21		4641	4972	4641	4972
		HadGEM2-ES		0	0	0	0		-	-	-	-
	G11	CNRM-CM5	1649	1381	1117	-268	-532	3815	4030	4274	214	459
		GFDL-CM3		831	213	-818	-1436		4280	4652	464	837
		HadGEM2-ES		1446	1131	-203	-518		4124	4342	308	527
	G13	CNRM-CM5	1251	1002	776	-249	-475	3343	3539	3808	196	465
		GFDL-CM3		811	651	-440	-600		3878	4343	535	1000
		HadGEM2-ES		728	258	-523	-993		3620	3964	277	620
J. Cool temperate and moist	J1	CNRM-CM5	245	191	91	-54	-154	3137	3371	3530	234	394
		GFDL-CM3		3	0	-242	-245		3508	-	372	-
		HadGEM2-ES		97	1	-148	-244		3455	3173	318	36
	J2	CNRM-CM5	21	4	0	-17	-21	2695	2868	-	173	-
		GFDL-CM3		0	0	-21	-21		-	-	-	-
		HadGEM2-ES		8	0	-13	-21		2829	-	134	-
	J3	CNRM-CM5	1185	867	768	-318	-417	3026	3240	3503	214	477
		GFDL-CM3		765	393	-420	-792		3551	4046	525	1020
		HadGEM2-ES		789	449	-396	-736		3397	3810	371	784
	J4	CNRM-CM5	3291	2445	1460	-846	-1831	2753	2939	3165	186	412

		GFDL-CM3		536	41	-2755	-3250		3148	3508	395	756
		HadGEM2-ES		1365	210	-1926	-3081		3050	3460	297	707
		CNRM-CM5		87	142	-2	53		3103	3397	203	497
	J5	GFDL-CM3	89	686	714	597	625	2900	3382	3800	482	900
		HadGEM2-ES		423	725	334	636		3196	3582	297	682
		CNRM-CM5		864	986	-275	-153		2755	2990	204	440
	K1	GFDL-CM3	1139	2109	1377	970	238	2551	2995	3434	444	884
		HadGEM2-ES		1587	1405	448	266		2846	3228	295	678
		CNRM-CM5		3758	2049	-2185	-3894		2470	2722	233	485
	K2	GFDL-CM3	5943	742	57	-5201	-5886	2236	2718	3128	481	892
		HadGEM2-ES		2158	313	-3785	-5630		2612	3059	376	823
		CNRM-CM5		0	0	0	0		-	-	-	-
	K5	GFDL-CM3	0	276	1179	276	1179	-	2786	3139	2786	3139
		HadGEM2-ES		3	645	3	645		2711	2968	2711	2968
K. Warm temperate and mesic		CNRM-CM5		6530	5615	-1811	-2726		2221	2469	240	488
	K7	GFDL-CM3	8341	6520	1973	-1821	-6368	1981	2443	2778	462	797
		HadGEM2-ES		6429	3283	-1912	-5058		2340	2750	360	770
		CNRM-CM5		0	0	-5	-5		-	-	-	-
	K10	GFDL-CM3	5	15	1148	10	1143	2028	2473	2844	445	816
		HadGEM2-ES		0	317	-5	312		-	2724	-	696
		CNRM-CM5		27607	20659	-5822	-12770		1556	1772	209	426
	K12	GFDL-CM3	33429	16861	5595	-16568	-27834	1347	1786	2199	440	853
		HadGEM2-ES		23542	9198	-9887	-24231		1704	2126	357	780
		CNRM-CM5		2102	566	-4617	-6153		1820	2117	194	491
	K13	GFDL-CM3	6719	1941	2091	-4778	-4628	1626	2198	2550	572	923
		HadGEM2-ES		1026	1742	-5693	-4977		1961	2466	335	839
		CNRM-CM5		21432	18119	-4165	-7478		1036	1325	253	542
	M1	GFDL-CM3	25597	20084	8355	-5513	-17242	783	1261	1686	478	903
		HadGEM2-ES		25866	15460	269	-10137		1160	1577	378	794
M. Hot and mesic		CNRM-CM5		48294	35715	-239	-12818		982	1215	198	431
	M2	GFDL-CM3	48533	51539	21231	3006	-27302	784	1179	1489	395	705
		HadGEM2-ES		43538	10048	-4995	-38485		1059	1519	275	736
	M4	CNRM-CM5	23284	19345	6643	-3939	-16641	921	1105	1356	184	435

		GFDL-CM3		2442	106	-20842	-23178		1382	1752	461	831
		HadGEM2-ES		16186	944	-7098	-22340		1177	1674	256	752
		CNRM-CM5		29026	36790	3976	11740		407	507	112	213
	M5	GFDL-CM3	25050	31965	49005	6915	23955	294	470	505	176	211
		HadGEM2-ES		36828	46325	11778	21275		467	717	173	423
		CNRM-CM5		0	0	-1	-1		-	-	-	-
	M6	GFDL-CM3	1	0	0	-1	-1	892	-	-	-	-
		HadGEM2-ES		0	0	-1	-1		-	-	-	-
		CNRM-CM5		28201	18784	4572	-4845		899	1137	197	435
	M7	GFDL-CM3	23629	10022	3627	-13607	-20002	702	1149	1479	447	778
		HadGEM2-ES		25545	4986	1916	-18643		973	1473	271	771
		CNRM-CM5		78373	83439	5143	10209		390	583	70	263
	M8	GFDL-CM3	73230	107950	64523	34720	-8707	320	610	1064	290	744
		HadGEM2-ES		74867	49847	1637	-23383		447	1075	127	755
		CNRM-CM5		0	0	0	0		-	-	-	-
	N1	GFDL-CM3	0	28	5	28	5	-	2094	2377	2094	2377
		HadGEM2-ES		0	0	0	0		-	-	-	-
		CNRM-CM5		0	0	0	0		-	-	-	-
	N2	GFDL-CM3	0	0	49	0	49	-	-	2618	-	2618
		HadGEM2-ES		0	0	0	0		-	-	-	-
		CNRM-CM5		10243	3099	-14652	-21796		1536	1750	180	394
	N3	GFDL-CM3	24895	4135	2511	-20760	-22384	1356	1742	2196	386	840
		HadGEM2-ES		5655	1621	-19240	-23274		1637	2129	281	773
N. Hot and dry		CNRM-CM5		2	0	-25	-27		1959	-	233	-
	N4	GFDL-CM3	27	0	0	-27	-27	1725	-	-	-	-
		HadGEM2-ES		0	0	-27	-27		-	-	-	-
		CNRM-CM5		22016	10656	-14691	-26051		1275	1507	215	446
	N8	GFDL-CM3	36707	14459	7472	-22248	-29235	1060	1479	1880	419	820
		HadGEM2-ES		15311	3438	-21396	-33269		1376	1851	315	791
		CNRM-CM5		3004	40	-4260	-7224		1522	1909	191	578
	N9	GFDL-CM3	7264	47	8	-7217	-7256	1332	1871	2327	540	996
		HadGEM2-ES		1681	10	-5583	-7254		1597	2252	266	920
	N11	CNRM-CM5	10007	5564	220	-4443	-9787	1145	1353	1688	208	543

		GFDL-CM3		250	13	-9757	-9994		1668	2139	523	994
		HadGEM2-ES		3674	33	-6333	-9974		1419	1996	274	851
R. Extremely hot and moist	R1	CNRM-CM5	20886	19928	21542	-958	656	533	759	996	226	463
		GFDL-CM3		13378	7045	-7508	-13841		980	1328	447	795
		HadGEM2-ES		21012	10297	126	-10589		838	1314	304	781
	R2	CNRM-CM5	331	103	0	-228	-331	783	968	-	185	-
		GFDL-CM3		0	0	-331	-331		-	-	-	-
		HadGEM2-ES		0	0	-331	-331		-	-	-	-
	R3	CNRM-CM5	17682	11137	4884	-6545	-12798	226	384	633	158	407
		GFDL-CM3		6251	1527	-11431	-16155		584	982	357	756
		HadGEM2-ES		5743	3576	-11939	-14106		522	1010	295	784
	R4	CNRM-CM5	3400	1982	674	-1418	-2726	397	596	886	198	489
		GFDL-CM3		588	17	-2812	-3383		771	1091	374	694
		HadGEM2-ES		1591	121	-1809	-3279		726	1097	329	700
	R5	CNRM-CM5	44993	30901	28542	-14092	-16451	271	478	790	207	519
		GFDL-CM3		23004	27782	-21989	-17211		759	1051	488	780
		HadGEM2-ES		25010	18179	-19983	-26814		614	1115	343	844
	R6	CNRM-CM5	11244	8873	5561	-2371	-5683	270	451	699	182	429
		GFDL-CM3		6785	4266	-4459	-6978		618	988	348	719
		HadGEM2-ES		6697	4873	-4547	-6371		561	928	292	658
	R7	CNRM-CM5	101364	130559	180005	29195	78641	39	66	116	27	77
		GFDL-CM3		161850	304949	60486	203585		100	174	61	135
		HadGEM2-ES		155995	351638	54631	250274		91	196	52	157
	R8	CNRM-CM5	5924	6008	763	84	-5161	70	159	375	89	305
		GFDL-CM3		932	12	-4992	-5912		317	461	247	391
		HadGEM2-ES		2125	255	-3799	-5669		292	695	222	625
	R9	CNRM-CM5	17097	31101	31491	14004	14394	272	335	554	63	282
		GFDL-CM3		24998	31070	7901	13973		566	903	294	631
		HadGEM2-ES		39113	34968	22016	17871		370	925	98	653
	R10	CNRM-CM5	1456	5929	5370	4473	3914	67	150	371	83	305
		GFDL-CM3		4436	1155	2980	-301		291	675	224	608
		HadGEM2-ES		7489	3063	6033	1607		261	631	195	565
	Q1	CNRM-CM5	45901	4220	43	-41681	-45858	188	382	846	193	657

Q. Extremely hot and xeric	Q3	GFDL-CM3	23609	100	0	-45801	-45901	110	821	-	633	-
		HadGEM2-ES		619	0	-45282	-45901		479	-	290	-
		CNRM-CM5		39019	57724	15410	34115		232	319	122	209
		GFDL-CM3		57634	64964	34025	41355		308	605	198	495
		HadGEM2-ES		37471	49825	13862	26216		282	687	172	577
	Q4	CNRM-CM5	7705	61366	79318	53661	71613	93	157	202	64	109
		GFDL-CM3		86991	47577	79286	39872		191	351	98	258
		HadGEM2-ES		72067	34738	64362	27033		177	384	84	290
	Q6	CNRM-CM5	0	0	156	0	156	-	-	59	-	59
		GFDL-CM3		1733	1218	1733	1218		71	282	71	282
		HadGEM2-ES		0	0	0	0		-		-	0
Average upward shift for all zones								CNRM-CM5			160	353
								GFDL-CM3			574	930
								HadGEM3-ES			304	627

Table S6. Representation of bioclimatic strata within protected areas.

Zone	Stratum	Total Area (km²)	Area protected (km²)	% of zone protected	% of total protected area
D. Extremely cold and wet	D3	3	1	33	0
F. Extremely cold and mesic	F4	23	17	74	0
	F13	793	565	71	1
G. Cold and mesic	G11	1649	1336	81	3
	G13	1251	622	50	2
J. Cool temperate and moist	J1	245	77	31	0
	J2	21	19	90	0
	J3	1185	484	41	1
	J4	3291	905	27	2
	J5	89	44	49	0
K. Warm temperate and mesic	K1	1139	157	14	0
	K2	5948	2383	40	6
	K7	8341	748	9	2
	K10	5	0	0	0
	K12	33429	9270	28	22
	K13	6719	6	0	0
M. Hot and mesic	M1	25597	6770	26	16
	M2	48533	741	2	2
	M4	23284	610	3	1
	M5	25050	5995	24	14
	M6	1	1	100	0
	M7	23629	644	3	2
	M8	73230	4752	6	11
N. Hot and dry	N3	24895	120	0	0
	N4	27	0	0	0
	N8	36707	159	0	0
	N9	7264	23	0	0
	N11	10007	24	0	0

R. Extremely hot and moist	R1	20886	515	2	1
	R2	331	21	6	0
	R3	17682	1458	8	3
	R4	3400	0	0	0
	R5	44993	777	2	2
	R6	11244	662	6	2
	R7	101364	882	1	2
	R8	5924	1	0	0
	R9	17097	239	1	1
	R10	1456	0	0	0
Q. Extremely hot and xeric	Q1	45901	263	1	1
	Q3	23609	382	2	1
	Q4	7705	1	0	0

Table S7. Projected change in areal extent and mean elevation of bioclimatic zones in protected areas and their upward shifts by 2050

Bioclimatic Zone	Model	Area (km²)			Area change (km²)		Mean Elevation (m a.s.l)			Shift (m a.s.l)	
		Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5
Extremely cold and wet	CNRM-CM5	1	1	1	0	0	5354	5354	5354	0	0
	GFDL-CM3		0	0	-1	-1		-	-	-	-
	HadGEM2-ES		0	0	-1	-1		-	-	-	-
Extremely cold and mesic	CNRM-CM5	582	282	184	-300	-398	4398	4535	4581	136	183
	GFDL-CM3		34	10	-548	-572		4848	4946	449	547
	HadGEM2-ES		151	65	-431	-517		4616	4736	217	338
Cold and mesic	CNRM-CM5	1958	1919	1831	-39	-127	3727	3881	3958	154	231
	GFDL-CM3		1605	1191	-353	-767		4093	4202	365	474
	HadGEM2-ES		1775	1602	-183	-356		3985	4077	257	350
Cool temperate and moist	CNRM-CM5	1529	1276	1177	-253	-352	2837	3046	3156	209	318
	GFDL-CM3		1013	969	-516	-560		3392	3666	554	829
	HadGEM2-ES		1026	933	-503	-596		3251	3426	414	589
Warm temperate and mesic	CNRM-CM5	12564	10617	10506	-1947	-2058	1534	1734	1776	200	242
	GFDL-CM3		9193	7073	-3371	-5491		1965	2225	431	691
	HadGEM2-ES		9363	7713	-3201	-4851		1909	2095	375	561
Hot and mesic	CNRM-CM5	19513	20304	19990	791	477	494	552	563	57	69
	GFDL-CM3		21332	23029	1819	3516		605	684	111	189
	HadGEM2-ES		21376	22347	1863	2834		596	652	102	158
Hot and dry	CNRM-CM5	326	133	31	-193	-295	1209	1267	1590	57	381
	GFDL-CM3		182	407	-144	81		1768	1956	559	747
	HadGEM2-ES		45	123	-281	-203		1537	1671	328	462
Extremely hot and moist	CNRM-CM5	4555	6320	6955	1765	2400	297	382	426	85	130
	GFDL-CM3		6489	6867	1934	2312		461	468	165	172
	HadGEM2-ES		6953	6962	2398	2407		425	478	129	182
Extremely hot and xeric	CNRM-CM5	646	822	999	176	353	142	181	213	38	71
	GFDL-CM3		1826	2128	1180	1482		273	404	131	262
	HadGEM2-ES		985	1929	339	1283		213	338	71	196
Average upward shift for all zones							CNRM-CM5			104	180
							GFDL-CM3			307	435
							HadGEM3-ES			210	315

Table S8. Projected change in areal extent and mean elevation of bioclimatic zones in protected areas and their upward shifts by 2070

Bioclimatic Zone	Model	Area (km²)			Area change (km²)		Mean elevation (m a.s.l)			Shift (m a.s.l)	
		Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5
Extremely cold and wet	CNRM-CM5	1	1	1	0	0	5354	5354	5354	0	0
	GFDL-CM3		0	0	-1	-1		-	-	-	-
	HadGEM2-ES		0	0	-1	-1		-	-	-	-
Extremely cold and mesic	CNRM-CM5	582	280	71	-302	-511	4398	4536	4709	137	311
	GFDL-CM3		29	1	-553	-581		4863	5354	464	956
	HadGEM2-ES		143	16	-439	-566		4628	4944	229	546
Cold and mesic	CNRM-CM5	1958	1902	1603	-56	-355	3727	3888	4074	161	346
	GFDL-CM3		1522	653	-436	-1305		4114	4372	386	645
	HadGEM2-ES		1769	1144	-189	-814		3990	4211	262	484
Cool temperate and moist	CNRM-CM5	1529	1275	1077	-254	-452	2837	3053	3372	216	534
	GFDL-CM3		995	957	-534	-572		3456	3937	618	1099
	HadGEM2-ES		1045	926	-484	-603		3252	3714	415	877
Warm temperate and mesic	CNRM-CM5	12564	10961	9496	-1603	-3068	1534	1710	1909	176	375
	GFDL-CM3		8682	5178	-3882	-7386		2023	2568	489	1034
	HadGEM2-ES		9584	5552	-2980	-7012		1890	2421	356	887
Hot and mesic	CNRM-CM5	19513	19929	20606	416	1093	494	545	602	51	108
	GFDL-CM3		21789	24748	2276	5235		625	769	131	274
	HadGEM2-ES		21127	21244	1614	1731		590	805	96	311
Hot and dry	CNRM-CM5	326	169	8	-157	-318	1209	1334	1696	125	487
	GFDL-CM3		158	814	-168	488		1834	2144	625	935
	HadGEM2-ES		46	586	-280	260		1522	1930	313	721
Extremely hot and moist	CNRM-CM5	4555	6268	6943	1713	2388	297	382	486	85	189
	GFDL-CM3		6457	7021	1902	2466		468	428	171	132
	HadGEM2-ES		6993	10286	2438	5731		426	379	130	82
Extremely hot and xeric	CNRM-CM5	646	889	1869	243	1223	142	194	288	52	146
	GFDL-CM3		2042	2302	1396	1656		304	547	162	405
	HadGEM2-ES		967	1920	321	1274		210	548	67	406
Average upward shift for all zones							CNRM-CM5			111	277
							GFDL-CM3			339	609
							HadGEM3-ES			208	479

Table S9. Percentage of all protected areas shifting to a different zone by 2050

Percentage of an individual protected areas showing a shift in bioclimatic zone	Model	Percentage of all protected areas showing this shift	
		RCP 2.6	RCP 8.5
0	CNRM-CM5	36	33
	GFDL-CM3	30	29
	HadGEM2-ES	33	25
>10%	CNRM-CM5	21	12
	GFDL-CM3	10	7
	HadGEM2-ES	10	10
>20%	CNRM-CM5	17	14
	GFDL-CM3	12	0
	HadGEM2-ES	12	5
>30%	CNRM-CM5	12	10
	GFDL-CM3	14	14
	HadGEM2-ES	17	17
>40%	CNRM-CM5	12	10
	GFDL-CM3	2	10
	HadGEM2-ES	7	0
>50%	CNRM-CM5	0	12
	GFDL-CM3	10	2
	HadGEM2-ES	12	5
>60%	CNRM-CM5	2	5
	GFDL-CM3	10	7
	HadGEM2-ES	5	10
>70%	CNRM-CM5	0	2
	GFDL-CM3	5	10
	HadGEM2-ES	2	10
>80%	CNRM-CM5	0	0
	GFDL-CM3	0	5
	HadGEM2-ES	0	2
>90%	CNRM-CM5	0	0
	GFDL-CM3	2	2
	HadGEM2-ES	0	2
>99%	CNRM-CM5	0	0
	GFDL-CM3	0	2
	HadGEM2-ES	0	2
100%	CNRM-CM5	0	2
	GFDL-CM3	5	12
	HadGEM2-ES	2	12
Total percentage area shifting to a different zone	CNRM-CM5	64	67
	GFDL-CM3	70	71
	HadGEM2-ES	67	75

Table S10. Percentage of all protected areas shifting to different strata by 2050

Percentage of an individual protected areas showing a shift in bioclimatic zone	Model	Percentage of all protected areas showing this shift	
		RCP 2.6	RCP 8.5
0	CNRM-CM5	19	18
	GFDL-CM3	18	20
	HadGEM2-ES	19	19
>10%	CNRM-CM5	2	0
	GFDL-CM3	0	0
	HadGEM2-ES	0	0
>20%	CNRM-CM5	17	10
	GFDL-CM3	2	2
	HadGEM2-ES	2	2
>30%	CNRM-CM5	10	10
	GFDL-CM3	7	0
	HadGEM2-ES	12	0
>40%	CNRM-CM5	14	5
	GFDL-CM3	10	7
	HadGEM2-ES	7	7
>50%	CNRM-CM5	10	7
	GFDL-CM3	5	7
	HadGEM2-ES	5	12
>60%	CNRM-CM5	7	10
	GFDL-CM3	7	2
	HadGEM2-ES	14	0
>70%	CNRM-CM5	5	12
	GFDL-CM3	10	5
	HadGEM2-ES	12	2
>80%	CNRM-CM5	2	2
	GFDL-CM3	12	7
	HadGEM2-ES	5	10
>90%	CNRM-CM5	2	7
	GFDL-CM3	0	14
	HadGEM2-ES	5	14
>99%	CNRM-CM5	2	2
	GFDL-CM3	10	10
	HadGEM2-ES	2	10
100%	CNRM-CM5	10	17
	GFDL-CM3	19	26
	HadGEM2-ES	17	24
Total percentage of area shifting to different strata	CNRM-CM5	81	82
	GFDL-CM3	82	80
	HadGEM2-ES	81	81

Table S11. Percentage of all protected areas shifting to a different zone by 2070

Percentage of an individual protected areas showing a shift in bioclimatic zone	Model	Percentage of all protected areas showing this shift	
		RCP 2.6	RCP 8.5
0	CNRM-CM5	33	31
	GFDL-CM3	32	20
	HadGEM2-ES	33	19
>10%	CNRM-CM5	24	10
	GFDL-CM3	7	5
	HadGEM2-ES	10	2
>20%	CNRM-CM5	10	12
	GFDL-CM3	12	2
	HadGEM2-ES	12	0
>30%	CNRM-CM5	14	10
	GFDL-CM3	14	5
	HadGEM2-ES	17	10
>40%	CNRM-CM5	10	2
	GFDL-CM3	5	12
	HadGEM2-ES	7	7
>50%	CNRM-CM5	7	5
	GFDL-CM3	2	5
	HadGEM2-ES	12	12
>60%	CNRM-CM5	2	7
	GFDL-CM3	12	5
	HadGEM2-ES	5	2
>70%	CNRM-CM5	0	10
	GFDL-CM3	7	10
	HadGEM2-ES	2	7
>80%	CNRM-CM5	0	2
	GFDL-CM3	0	7
	HadGEM2-ES	0	7
>90%	CNRM-CM5	0	2
	GFDL-CM3	2	0
	HadGEM2-ES	0	5
>99%	CNRM-CM5	0	2
	GFDL-CM3	2	10
	HadGEM2-ES	2	10
100%	CNRM-CM5	0	7
	GFDL-CM3	5	19
	HadGEM2-ES	0	19
Total percentage area shifting to a different zone	CNRM-CM5	67	69
	GFDL-CM3	68	80
	HadGEM2-ES	67	81

Table S12. Percentage of all protected areas shifting to different strata by 2070

Percentage of an individual protected areas showing a shift in bioclimatic zone	Model	Percentage of all protected areas showing this shift	
		RCP 2.6	RCP 8.5
0	CNRM-CM5	20	19
	GFDL-CM3	20	19
	HadGEM2-ES	20	19
>10%	CNRM-CM5	5	0
	GFDL-CM3	0	0
	HadGEM2-ES	0	0
>20%	CNRM-CM5	2	2
	GFDL-CM3	2	0
	HadGEM2-ES	2	0
>30%	CNRM-CM5	19	5
	GFDL-CM3	5	0
	HadGEM2-ES	14	0
>40%	CNRM-CM5	7	12
	GFDL-CM3	7	0
	HadGEM2-ES	2	0
>50%	CNRM-CM5	14	5
	GFDL-CM3	7	2
	HadGEM2-ES	2	5
>60%	CNRM-CM5	12	0
	GFDL-CM3	7	5
	HadGEM2-ES	19	10
>70%	CNRM-CM5	2	7
	GFDL-CM3	12	7
	HadGEM2-ES	12	0
>80%	CNRM-CM5	2	17
	GFDL-CM3	7	17
	HadGEM2-ES	5	7
>90%	CNRM-CM5	2	5
	GFDL-CM3	5	0
	HadGEM2-ES	5	2
>99%	CNRM-CM5	5	7
	GFDL-CM3	7	21
	HadGEM2-ES	5	17
100%	CNRM-CM5	10	21
	GFDL-CM3	21	29
	HadGEM2-ES	14	40
Total percentage of area shifting to different strata	CNRM-CM5	80	81
	GFDL-CM3	80	81
	HadGEM2-ES	80	81

Table S13. Projected change in areal extent and mean elevation of bioclimatic strata in protected areas and their upward shifts by 2050

Bioclimatic zone	Bioclimatic strata	Model	Area (km²)			Area change (km²)		Mean elevation (m a.s.l)			Shift (m a.s.l)	
			Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5
D. Extremely cold and wet	D3	CNRM-CM5	1	1	1	0	0	5354	5354	5354	0	0
		GFDL-CM3		0	0	-1	-1		-	-	-	-
		HadGEM2-ES		0	0	-1	-1		-	-	-	-
F. Extremely cold and mesic	F4	CNRM-CM5	17	3	1	-14	-16	4889	4926	5320	37	431
		GFDL-CM3		0	0	-17	-17		-	-	-	-
		HadGEM2-ES		1	1	-16	-16		5354	5354	465	465
	F13	CNRM-CM5	565	279	183	-286	-382	4384	4530	4577	147	193
		GFDL-CM3		34	10	-531	-555		4848	4946	464	562
		HadGEM2-ES		150	64	-415	-501		4611	4727	227	343
G. Cold and mesic	G7	CNRM-CM5	0	0	0	0	0	-	-	-	-	-
		GFDL-CM3		143	53	143	53		4538	4703	4538	4703
		HadGEM2-ES		0	0	0	0		-	-	-	-
	G11	CNRM-CM5	1336	1291	1195	-45	-141	3881	4036	4107	155	226
		GFDL-CM3		760	399	-576	-937		4206	4405	325	524
		HadGEM2-ES		1335	1194	-1	-142		4090	4169	210	288
	G13	CNRM-CM5	622	628	636	6	14	3398	3563	3680	165	281
		GFDL-CM3		702	739	80	117		3879	4056	481	658
		HadGEM2-ES		440	408	-182	-214		3665	3809	266	411
J. Cool temperate and moist	J1	CNRM-CM5	77	33	36	-44	-41	3027	3224	3387	197	359
		GFDL-CM3		1	0	-76	-77		3514	-	487	-
		HadGEM2-ES		1	0	-76	-77		3270	-	243	-
	J2	CNRM-CM5	19	7	1	-12	-18	2691	2806	3014	115	323
		GFDL-CM3		0	0	-19	-19		-	-	-	-
		HadGEM2-ES		1	0	-18	-19		3014	-	323	-
	J3	CNRM-CM5	484	427	412	-57	-72	3048	3302	3393	254	346
		GFDL-CM3		406	432	-78	-52		3574	3832	526	784
		HadGEM2-ES		415	401	-69	-83		3449	3572	402	524
	J4	CNRM-CM5	905	728	655	-177	-250	2706	2880	2983	174	277
		GFDL-CM3		223	99	-682	-806		3006	3252	300	546

	J5	HadGEM2-ES	44	248	121	-657	-784	2953	2948	3071	241	365
		CNRM-CM5		81	73	37	29		3145	3250	191	297
		GFDL-CM3		383	438	339	394		3423	3596	470	643
		HadGEM2-ES		361	411	317	367		3232	3389	278	435
K. Warm temperate and mesic	K1	CNRM-CM5	157	249	271	92	114	2530	2779	2887	249	357
		GFDL-CM3		617	623	460	466		3036	3271	506	740
		HadGEM2-ES		659	691	502	534		2858	2992	328	462
	K2	CNRM-CM5	2383	1443	1225	-940	-1158	2183	2390	2491	207	307
		GFDL-CM3		403	162	-1980	-2221		2632	2794	448	611
		HadGEM2-ES		570	259	-1813	-2124		2548	2717	365	533
	K5	CNRM-CM5	0	0	0	0	0	-	-	-	-	-
		GFDL-CM3		63	149	63	149		2890	3064	2890	3064
		HadGEM2-ES		12	126	12	126		2863	2847	2863	2847
	K7	CNRM-CM5	748	873	815	125	67	2006	2194	2312	189	306
		GFDL-CM3		1875	1670	1127	922		2360	2574	354	569
		HadGEM2-ES		1487	1437	739	689		2302	2431	297	426
	K12	CNRM-CM5	9270	8052	8195	-1218	-1075	1312	1534	1580	222	268
		GFDL-CM3		6159	4364	-3111	-4906		1680	1888	368	576
		HadGEM2-ES		6621	5078	-2649	-4192		1669	1825	357	513
	K13	CNRM-CM5	6	0	0	-6	-6	1715	-	-	-	-
		GFDL-CM3		76	105	70	99		2274	2410	559	694
		HadGEM2-ES		14	122	8	116		2197	2217	482	502
M. Hot and mesic	M1	CNRM-CM5	6770	5479	3581	-1291	-3189	654	869	1016	216	362
		GFDL-CM3		5228	4609	-1542	-2161		1060	1320	407	666
		HadGEM2-ES		5379	4816	-1391	-1954		1016	1230	363	577
	M2	CNRM-CM5	741	405	237	-336	-504	782	893	1052	111	269
		GFDL-CM3		319	399	-422	-342		1055	1318	273	536
		HadGEM2-ES		217	113	-524	-628		1035	1195	253	413
	M4	CNRM-CM5	610	41	23	-569	-587	850	1066	1300	216	450
		GFDL-CM3		13	8	-597	-602		1429	1491	579	641
		HadGEM2-ES		30	19	-580	-591		1297	1495	447	645
	M5	CNRM-CM5	5995	8801	12069	2806	6074	314	407	460	93	145
		GFDL-CM3		11843	15407	5848	9412		444	503	129	189

		HadGEM2-ES		11937	15745	5942	9750		438	488	124	173
		CNRM-CM5		0	0	-1	-1		-	-	-	-
	M6	GFDL-CM3	1	0	0	-1	-1	892	-	-	-	-
		HadGEM2-ES		0	0	-1	-1		-	-	-	-
		CNRM-CM5		736	502	92	-142		866	905	230	269
	M7	GFDL-CM3	644	90	25	-554	-619	635	1063	1395	428	760
		HadGEM2-ES		493	27	-151	-617		908	1301	272	665
		CNRM-CM5		4842	3578	90	-1174		394	395	9	10
	M8	GFDL-CM3	4752	3839	2581	-913	-2171	385	434	516	49	131
		HadGEM2-ES		3320	1627	-1432	-3125		402	478	17	93
		CNRM-CM5		0	0	0	0		-	-	-	-
	N1	GFDL-CM3	0	31	92	31	92	-	2182	2110	2182	2110
		HadGEM2-ES		0	0	0	0		-	-	-	-
		CNRM-CM5		16	5	-104	-115		1614	1745	220	351
	N3	GFDL-CM3	120	42	58	-78	-62	1394	1817	2093	423	699
		HadGEM2-ES		7	44	-113	-76		1710	1752	316	358
		CNRM-CM5		111	25	-48	-134		1209	1555	165	511
N. Hot and dry	N8	GFDL-CM3	159	107	257	-52	98	1044	1631	1870	587	826
		HadGEM2-ES		7	75	-152	-84		1522	1624	478	580
		CNRM-CM5		1	1	-22	-22		1684	1684	284	284
	N9	GFDL-CM3	23	1	0	-22	-23	1400	1684	-	284	-
		HadGEM2-ES		19	0	-4	-24		1555	-	156	-
		CNRM-CM5		5	0	-19	-24		1354	-	160	-
	N11	GFDL-CM3	24	1	0	-23	-24	1194	1587	-	393	-
		HadGEM2-ES		12	4	-12	-20		1418	1659	223	464
		CNRM-CM5		467	578	-48	63		691	826	191	326
	R1	GFDL-CM3	515	700	95	185	-420	499	887	1073	388	573
		HadGEM2-ES		614	428	99	-87		829	927	329	427
		CNRM-CM5		0	0	-21	-21		-	-	-	-
R. Extremely hot and moist	R2	GFDL-CM3	21	0	0	-21	-21	759	-	-	-	-
		HadGEM2-ES		0	0	-21	-21		-	-	-	-
	R3	CNRM-CM5	1458	1651	1100	193	-358	327	489	586	162	259
		GFDL-CM3		769	199	-689	-1259		590	748	262	421

		HadGEM2-ES		579	123	-879	-1335		599	713	272	386
		CNRM-CM5		9	28	9	28		808	864	808	864
	R4	GFDL-CM3	0	24	29	24	29	-	879	1069	879	1069
		HadGEM2-ES		49	72	49	72		845	956	845	956
		CNRM-CM5		814	711	37	-66		498	586	193	281
	R5	GFDL-CM3	777	485	731	-292	-46	305	683	883	377	578
		HadGEM2-ES		725	506	-52	-271		583	844	277	539
		CNRM-CM5		241	382	-421	-280		469	573	184	288
	R6	GFDL-CM3	662	663	542	1	-120	285	588	766	303	481
		HadGEM2-ES		734	621	72	-41		559	726	274	441
		CNRM-CM5		2267	3153	1385	2271		219	264	107	152
	R7	GFDL-CM3	882	3196	4640	2314	3758	112	267	315	155	203
		HadGEM2-ES		2925	3998	2043	3116		264	305	152	193
		CNRM-CM5		150	185	149	184		225	339	149	263
	R8	GFDL-CM3	1	14	37	13	36	76	354	524	278	448
		HadGEM2-ES		329	143	328	142		368	538	292	462
		CNRM-CM5		700	776	461	537		327	356	9	37
	R9	GFDL-CM3	239	536	384	297	145	319	544	765	225	446
		HadGEM2-ES		774	569	535	330		350	669	32	350
		CNRM-CM5		21	42	21	42		170	260	170	260
	R10	GFDL-CM3	0	102	210	102	210	-	265	474	265	474
		HadGEM2-ES		224	502	224	502		278	442	278	442
		CNRM-CM5		33	13	-230	-250		506	676	337	507
	Q1	GFDL-CM3	263	18	4	-245	-259	169	778	873	609	704
		HadGEM2-ES		34	4	-229	-259		576	843	406	673
		CNRM-CM5		438	333	56	-49		216	329	93	205
Q. Extremely hot and xeric	Q3	GFDL-CM3	382	1019	1126	637	744	124	340	495	217	372
		HadGEM2-ES		249	1163	-133	781		330	411	207	287
		CNRM-CM5		351	653	350	652		105	144	37	76
	Q4	GFDL-CM3	1	789	996	788	995	68	175	300	107	232
		HadGEM2-ES		702	762	701	761		154	225	86	157
		CNRM-CM5		0	0	0	0		-	-	-	-
	Q6	GFDL-CM3	0	0	2	0	2	-	-	194	-	194

		HadGEM2-ES		0	0	0	0		-	-	-	-
Average upward shift for all zones							CNRM-CM5				174	274
							GFDL-CM3				603	745
							HadGEM3-ES				363	470

Table S14. Projected change in areal extent and mean elevation of bioclimatic strata in protected areas and their upward shifts by 2070

Bioclimatic zone	Bioclimatic strata	Model	Area (km²)			Area change (km²)		Mean elevation (m a.s.l)			Shift (m a.s.l)	
			Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5
D. Extremely cold and wet	D3	CNRM-CM5	1	1	1	0	0	5354	5354	5354	0	0
		GFDL-CM3		0	0	-1	-1		-	-	-	-
		HadGEM2-ES		0	0	-1	-1		-	-	-	-
F. Extremely cold and mesic	F4	CNRM-CM5	17	4	0	-13	-17	4889	4893	-	3	0
		GFDL-CM3		0	0	-17	-17		-	-	0	0
		HadGEM2-ES		1	0	-16	-17		5354	-	465	0
	F13	CNRM-CM5	565	276	71	-289	-494	4384	4530	4709	147	326
		GFDL-CM3		29	1	-536	-564		4863	5354	479	970
		HadGEM2-ES		142	16	-423	-549		4622	4944	239	561
G. Cold and mesic	G7	CNRM-CM5	0	0	0	0	0	-	-	-	-	-
		GFDL-CM3		91	16	91	16		4594	4915	4594	4915
		HadGEM2-ES		0	0	0	0		-	-	-	--
	G11	CNRM-CM5	1336	1290	933	-46	-403	3881	4037	4233	156	352
		GFDL-CM3		711	122	-625	-1214		4253	4583	372	703
		HadGEM2-ES		1294	900	-42	-436		4104	4275	223	395
	G13	CNRM-CM5	622	612	670	-10	48	3398	3575	3852	176	453
		GFDL-CM3		720	515	98	-107		3916	4305	517	907
		HadGEM2-ES		475	244	-147	-378		3678	3976	280	578
J. Cool temperate and moist	J1	CNRM-CM5	77	38	27	-39	-50	3027	3224	3596	197	569
		GFDL-CM3		0	0	-77	-77		-	-	-	-
		HadGEM2-ES		4	0	-73	-77		3402	-	375	-
	J2	CNRM-CM5	19	1	0	-18	-19	2691	3014	-	323	-
		GFDL-CM3		0	0	-19	-19		-	-	-	-
		HadGEM2-ES		5	0	-14	-19		2843	-	152	-
	J3	CNRM-CM5	484	428	458	-56	-26	3048	3303	3544	255	497
		GFDL-CM3		407	363	-77	-121		3625	4050	577	1002
		HadGEM2-ES		427	384	-57	-100		3454	3851	406	803
	J4	CNRM-CM5	905	733	449	-172	-456	2706	2889	3157	183	451
		GFDL-CM3		204	22	-701	-883		3090	3622	384	916

	J5	HadGEM2-ES	44	300	33	-605	-872	2953	2974	3415	268	708
		CNRM-CM5		75	143	31	99		3151	3451	198	498
		GFDL-CM3		384	572	340	528		3471	3877	517	923
		HadGEM2-ES		309	509	265	465		3249	3630	295	677
K. Warm temperate and mesic	K1	CNRM-CM5	157	250	365	93	208	2530	2789	3053	258	523
		GFDL-CM3		600	645	443	488		3091	3533	561	1003
		HadGEM2-ES		598	643	441	486		2880	3287	350	756
	K2	CNRM-CM5	2383	1498	862	-885	-1521	2183	2386	2627	202	443
		GFDL-CM3		342	37	-2041	-2346		2679	3058	496	875
		HadGEM2-ES		765	77	-1618	-2306		2500	2892	316	708
	K5	CNRM-CM5	0	0	0	0	0	-	-	-	-	-
		GFDL-CM3		45	347	45	347		2922	3327	2922	3327
		HadGEM2-ES		0	368	0	368		-	3006	-	3006
	K7	CNRM-CM5	748	795	917	47	169	2006	2214	2497	209	492
		GFDL-CM3		1743	928	995	180		2439	2777	434	772
		HadGEM2-ES		1165	844	417	96		2341	2652	336	646
	K10	CNRM-CM5	0	0	0	0	0	-	-	-	-	-
		GFDL-CM3		0	193	0	193		-	3017	-	3017
		HadGEM2-ES		0	163	0	163		-	2808	-	2808
	K12	CNRM-CM5	9270	8418	7352	-852	-1918	1312	1510	1695	198	383
		GFDL-CM3		5870	2885	-3400	-6385		1741	2145	429	833
		HadGEM2-ES		7055	3054	-2215	-6216		1666	2074	354	762
	K13	CNRM-CM5	6	0	0	-6	-6	1715	-	-	-	-
		GFDL-CM3		82	143	76	137		2310	2806	595	1091
		HadGEM2-ES		1	403	-5	397		2338	2396	623	681
M. Hot and mesic	M1	CNRM-CM5	6770	4326	2830	-2444	-3940	654	898	1239	244	585
		GFDL-CM3		5006	3340	-1764	-3430		1134	1617	480	964
		HadGEM2-ES		4750	3634	-2020	-3136		1030	1511	377	858
	M2	CNRM-CM5	741	158	160	-583	-581	782	991	1212	209	430
		GFDL-CM3		244	767	-497	26		1144	1531	362	749
		HadGEM2-ES		200	115	-541	-626		1049	1530	267	748
	M4	CNRM-CM5	610	95	14	-515	-596	850	1021	1431	172	581
		GFDL-CM3		12	0	-598	-610		1444	-	594	-

		HadGEM2-ES		28	6	-582	-604		1332	1692	482	842
		CNRM-CM5		11087	14832	5092	8837		415	510	100	196
	M5	GFDL-CM3	5995	13378	18883	7383	12888	314	462	567	147	253
		HadGEM2-ES		13221	17042	7226	11047		441	644	127	330
		CNRM-CM5		0	0	-1	-1		-	-	-	-
	M6	GFDL-CM3	1	0	0	-1	-1	892	-	-	-	-
		HadGEM2-ES		0	0	-1	-1		-	-	-	-
		CNRM-CM5		824	58	180	-586		877	1173	241	537
	M7	GFDL-CM3	644	54	13	-590	-631	635	1157	1515	522	879
		HadGEM2-ES		491	20	-153	-624		908	1552	272	916
		CNRM-CM5		3439	2712	-1313	-2040		410	388	24	3
	M8	GFDL-CM3	4752	3095	1745	-1657	-3007	385	459	985	74	600
		HadGEM2-ES		2437	427	-2315	-4325		432	976	47	591
		CNRM-CM5		0	0	0	0		-	-	-	-
	N1	GFDL-CM3	0	26	5	26	5	-	2201	2435	2201	2435
		HadGEM2-ES		0	0	0	0		-	-	-	-
		CNRM-CM5		0	0	0	0		-	-	-	-
	N2	GFDL-CM3	0	0	42	0	42	-	-	2616	-	2616
		HadGEM2-ES		0	0	0	0		-	-	-	-
		CNRM-CM5		22	0	-98	-120		1613	-	219	-
	N3	GFDL-CM3	120	45	165	-75	45	1394	1951	2291	557	897
N. Hot and dry		HadGEM2-ES		4	236	-116	116		1733	2072	339	678
		CNRM-CM5		115	8	-44	-151		1236	1696	192	652
	N8	GFDL-CM3	159	86	602	-73	443	1044	1663	2068	619	1024
		HadGEM2-ES		9	350	-150	191		1417	1834	373	790
		CNRM-CM5		19	0	-4	-23		1550	-	150	-
	N9	GFDL-CM3	23	0	0	-23	-23	1400	-	-	-	-
		HadGEM2-ES		20	0	-3	-23		1580	-	181	-
		CNRM-CM5		13	0	-11	-24		1419	-	225	-
	N11	GFDL-CM3	24	1	0	-23	-24	1194	1684	-	490	-
		HadGEM2-ES		13	0	-11	-24		1439	-	245	-
R. Extremely hot and moist	R1	CNRM-CM5	515	408	580	-107	65	499	716	903	216	404
		GFDL-CM3		602	21	87	-494		905	1390	405	891

		HadGEM2-ES		622	23	107	-492		824	1413	324	914
		CNRM-CM5		0	0	-21	-21		-	-	-	-
	R2	GFDL-CM3	21	0	0	-21	-21	759	-	-	-	-
		HadGEM2-ES		0	0	-21	-21		-	-	-	-
		CNRM-CM5		1398	457	-60	-1001		481	713	154	385
	R3	GFDL-CM3	1458	851	52	-607	-1406	327	629	909	302	582
		HadGEM2-ES		676	34	-782	-1424		606	706	279	379
		CNRM-CM5		13	36	13	36		876	1028	876	1028
	R4	GFDL-CM3	0	14	0	14	0	-	974	-	974	-
		HadGEM2-ES		43	15	43	15		860	1055	860	1055
		CNRM-CM5		872	514	95	-263		521	791	216	486
	R5	GFDL-CM3	777	432	31	-345	-746	305	766	1185	461	879
		HadGEM2-ES		687	15	-90	-762		587	1255	281	949
		CNRM-CM5		435	480	-227	-182		474	721	189	436
	R6	GFDL-CM3	662	471	207	-191	-455	285	623	909	338	624
		HadGEM2-ES		666	225	4	-437		554	910	269	625
		CNRM-CM5		2080	4285	1198	3403		213	323	101	211
	R7	GFDL-CM3	882	3582	6042	2700	5160	112	284	351	172	239
		HadGEM2-ES		3019	8756	2137	7874		268	304	156	192
		CNRM-CM5		260	0	259	-1		229	-	153	-
	R8	GFDL-CM3	1	1	0	0	-1	76	493	-	417	-
		HadGEM2-ES		265	34	264	33		361	638	285	562
		CNRM-CM5		773	564	534	325		322	591	3	272
	R9	GFDL-CM3	239	452	568	213	329	319	591	915	273	596
		HadGEM2-ES		814	694	575	455		355	886	36	567
		CNRM-CM5		29	27	29	27		160	507	160	507
	R10	GFDL-CM3		52	100	52	100		330	668	330	668
		HadGEM2-ES		201	490	201	490		277	618	277	618
Q. Extremely hot and xeric		CNRM-CM5		66	6	-197	-257		443	753	274	583
	Q1	GFDL-CM3	263	15	0	-248	-263	169	803	-	634	-
		HadGEM2-ES		27	0	-236	-263		608	-	439	-
	Q3	CNRM-CM5	382	257	1012	-125	630	124	271	371	147	247
		GFDL-CM3		1191	837	809	455		383	761	259	638

		HadGEM2-ES		255	991	-127	609		326	698	202	574
		CNRM-CM5		566	851	565	850		131	187	63	119
	Q4	GFDL-CM3	1	835	1465	834	1464	68	184	425	116	357
		HadGEM2-ES		685	929	684	928		151	387	83	319
		CNRM-CM5		0	0	0	0		-	-	-	-
	Q6	GFDL-CM3	0	1	0	1	0	-	50		50	0
		HadGEM2-ES		0	0	0	0		-	-	-	-
Average upward shift for all zones							CNRM-CM5				185	342
							GFDL-CM3				639	1004
							HadGEM3-ES				294	692

Table S15. Percentage shift of each protected area to different bioclimatic zone for 2050 and 2070, with three earth system models under two RCPs.

No.	NAME	Elevation (m a.s.l)	Percentage shift											
			CNRM-CM5				GFDL-CM3				HadGEM2-ES			
			2050		2070		2050		2070		2050		2070	
			RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5
1	Alaungdaw Katthapa National Park	135-1335	39	49	41	58	56	71	58	93	49	59	49	72
2	Bumpha Bum Wildife Sanctuary	140-3435	18	18	13	23	25	30	26	35	23	28	22	36
3	Bwe Par Taung National Park	No data	5	11	6	19	14	37	19	65	11	25	11	40
4	Chatthin Wildlife Sanctuary	165-260	0	0	0	100	100	100	100	100	0	100	0	90
5	Chungponkan Wildlife Sanctuary	No data	0	0	0	0	0	0	0	100	0	0	0	100
6	Hkakaborazi National Park	900-5710	7	11	7	17	20	26	21	38	14	19	15	27
7	Hlawga Park	20-55	0	0	0	0	0	0	0	0	0	0	0	0
8	Hponkanrazi Wildlife Sanctuary	295-5165	7	11	8	16	18	24	19	34	15	20	14	27
9	Htamanthi Wildlife Sanctuary	105-2465	0	0	0	0	0	0	0	3	0	0	0	100
10	Hukaung Valley Wildlife Sanctuary	185-3435	9	8	6	13	17	25	19	32	16	23	14	32
11	Hukaung Valley Wildlife Sanctuary (extension)	125-3255	11	13	11	17	18	26	20	32	18	25	18	32
12	Indawgyi Wildlife Sanctuary	105-1400	3	3	3	3	3	3	3	15	3	3	3	73

13	Inkhain Bum National Park	No data	20	23	21	25	24	25	24	25	24	25	24	25
14	Inlay Wetland Bird Sanctuary	830-1270	1	37	1	100	86	100	91	100	44	100	42	100
15	Kahilu Wildlife Sanctuary	20-260	0	0	0	0	0	0	0	0	0	0	0	0
16	Kaylatha Wildlife Sanctuary	0-355	0	0	0	0	0	0	0	0	0	0	0	0
17	Kyauk Pan Taung Wildlife Sanctuary	25-1310	18	46	48	71	67	83	68	91	41	71	43	85
18	Kyeikhtiyoe Wildlife Sanctuary	50-1090	21	25	20	26	26	26	26	26	26	26	26	26
19	Lampi Marine National Park	0-455	0	0	0	0	0	0	0	0	0	0	0	0
20	Lawkananda Sanctuary	45-70	0	0	0	0	0	0	0	100	0	100	0	100
21	Loimwe Protected Area	925-1920	0	49	22	92	51	92	62	100	22	92	24	100
22	Meinmahla Kyun Wildlife Sanctuary	0-30	0	0	0	0	0	0	0	0	0	0	0	0
23	Minsontaung Wildlife Sanctuary	195-375	6	6	6	6	6	6	6	94	6	6	6	94
24	Minwuntaung Wildlife Sanctuary	75-305	3	3	3	3	3	30	3	95	3	3	3	94
25	Moeyungyi Wetland Wildlife Sanctuary	0-30	0	0	0	0	0	0	0	0	0	0	0	0
26	Moscos Islands Wildlife Sanctuary	0-355	0	0	0	0	0	0	0	0	0	0	0	0
27	Mulayit Wildlife Sanctuary	80-2010	31	51	36	60	53	63	55	67	51	62	51	67
28	Natmataung National Park	740-3070	11	19	9	35	28	52	33	75	20	40	20	50

29	North Zamrari Wildlife Sanctuary	No data	3	3	3	3	16	4	11	3	3	3	3	3
30	Panlaung and Padalin Cave Wildlife Sanctuary	150-1555	16	34	25	54	47	65	53	56	37	59	34	47
31	Parsar Protected Area	370-1105	50	64	53	65	8	65	10	74	60	65	62	97
32	Pharbaung Taung Managed Nature Reserve	No data	0	0	0	0	0	0	0	0	0	0	0	0
33	Pidaung Wildlife Sanctuary	155-665	0	0	0	0	0	0	0	0	0	0	0	70
34	Popa Mountain Park	285-1490	36	46	41	60	60	70	62	44	48	63	47	40
35	Pyin-O-Lwin Bird Sanctuary	975-1210	11	100	15	100	100	100	100	100	100	100	99	100
36	Rakhine Yoma Elephant Range	20-1270	33	44	30	55	44	59	49	63	43	57	45	63
37	Se Taung Wildlife Sanctuary	No data	39	52	38	60	53	61	54	61	53	61	52	61
38	Shwesettaw Wildlife Sanctuary	55-555	17	20	19	20	20	37	20	77	20	13	20	80
39	Shwe-U-Daung Wildlife Sanctuary	180-1845	29	34	30	48	40	50	52	53	35	52	35	48
40	Taninthayi Nature Reserve	20-130	28	36	28	42	36	43	38	45	33	42	33	45
41	Taunggyi Bird Sanctuary	1045-1750	20	20	20	80	40	100	80	100	20	80	20	100
42	Wetthikan Bird Sanctuary	No data	0	0	0	0	0	100	0	100	0	100	0	100

Table S16. Percentage shift of each protected area to different bioclimatic strata for 2050 and 2070, with three earth system models under two RCPs.

No.	NAME	Elevation (m a.s.l)	Percentage shift											
			CNRM-CM5				GFDL-CM3				HadGEM2-ES			
			2050		2070		2050		2070		2050		2070	
			RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5
1	Alaungdaw Katthapa National Park	135-1335	41	57	47	75	72	88	77	99	57	80	56	100
2	Bumpha Bum Wildife Sanctuary	140-3435	36	56	46	65	58	68	62	74	54	67	56	74
3	Bwe Par Taung National Park	No data	26	32	26	45	44	38	46	65	43	47	45	41
4	Chatthin Wildlife Sanctuary	165-260	94	100	100	100	100	100	100	100	100	100	100	100
5	Chungponkan Wildlife Sanctuary	No data	100	100	100	100	100	100	100	100	100	100	100	100
6	Hkakaborazi National Park	900-5710	10	14	11	26	39	46	40	63	27	32	25	55
7	Hlawga Park	20-55	0	0	0	0	0	0	0	0	0	0	0	0
8	Hponkanrazi Wildlife Sanctuary	295-5165	11	16	24	25	38	48	40	56	33	43	28	54
9	Htamanthi Wildlife Sanctuary	105-2465	7	10	25	40	36	81	55	93	29	79	57	100
10	Hukaung Valley Wildlife Sanctuary	185-3435	15	22	18	30	24	34	26	43	21	31	21	42
11	Hukaung Valley Wildlife Sanctuary (extension)	125-3255	16	26	20	38	29	42	32	56	25	40	28	55
12	Indawgyi Wildlife Sanctuary	105-1400	17	24	23	30	26	31	29	71	26	31	26	85
13	Inkhain Bum National Park	No data	22	28	26	37	40	63	39	64	31	43	29	99
14	Inlay Wetland Bird Sanctuary	830-1270	77	100	96	100	100	100	100	100	100	100	100	100
15	Kahilu Wildlife Sanctuary	20-260	0	0	0	0	0	0	0	0	0	0	0	0
16	Kelatha Wildlife Sanctuary	0-355	0	0	0	0	0	0	0	0	0	0	0	0

17	Kyauk Pan Taung Wildlife Sanctuary	25-1310	18	46	48	71	67	83	68	91	45	76	51	93
18	Kyeikhtiyoe Wildlife Sanctuary	50-1090	41	68	53	71	71	71	71	71	71	71	71	71
19	Lampi Marine National Park	0-455	0	0	0	0	0	0	0	0	0	0	0	0
20	Lawkananda Sanctuary	45-70	100	100	100	100	100	100	100	100	100	100	100	100
21	Loimwe Protected Area	925-1920	65	92	54	100	97	100	97	70	54	97	57	100
22	Meinmahla Kyun Wildlife Sanctuary	0-30	0	0	0	0	0	0	0	0	0	0	0	0
23	Minsontaung Wildlife Sanctuary	195-375	100	100	100	100	100	100	100	100	100	100	100	100
24	Minwuntaung Wildlife Sanctuary	75-305	100	100	99	100	100	100	100	100	100	100	100	100
25	Moeyungyi Wetland Wildlife Sanctuary	0-30	0	0	0	0	0	0	0	0	0	0	0	0
26	Moscos Islands Wildlife Sanctuary	0-355	0	0	0	0	0	0	0	0	0	0	0	0
27	Mulayit Wildlife Sanctuary	80-2010	31	51	37	62	53	85	55	90	58	84	59	90
28	Natmataung National Park	740-3070	27	34	24	37	35	52	36	75	34	40	35	51
29	North Zamrari Wildlife Sanctuary	No data	58	72	58	75	73	76	74	76	73	76	73	76
30	Panlaung and Padalin Cave Wildlife Sanctuary	150-1555	48	69	42	80	75	85	82	99	62	84	61	100
31	Parsar Protected Area	370-1105	50	64	53	88	94	91	100	100	60	91	62	100
32	Pharbaung Taung Managed Nature Reserve	No data	0	0	0	0	0	0	0	0	0	0	0	0
33	Pidaung Wildlife Sanctuary	155-665	11	11	11	11	11	11	11	70	11	11	11	100
34	Popa Mountain Park	285-1490	46	58	48	79	62	91	66	97	54	87	53	97
35	Pyin-O-Lwin Bird Sanctuary	975-1210	38	100	38	100	100	100	100	100	100	100	99	100
36	Rakhine Yoma Elephant Range	20-1270	35	48	31	79	62	91	62	98	57	87	54	98
37	Se Taung Wildlife Sanctuary	No data	39	84	43	98	91	99	92	100	91	100	90	100

38	Shwesettaw Wildlife Sanctuary	55-555	38	81	71	97	91	100	95	100	85	99	85	100
39	Shwe-U-Daung Wildlife Sanctuary	180-1845	56	68	55	92	78	87	85	97	60	94	61	95
40	Taninthayi Nature Reserve	20-130	29	48	29	72	51	79	55	93	64	83	62	91
41	Taunggyi Bird Sanctuary	1045-1750	80	80	80	100	100	100	100	100	80	100	80	100
42	Wetthikan Bird Sanctuary	No data	67	67	67	67	67	100	67	100	67	100	67	100

Table S17. Projected change in areal extent of bioclimatic zones in each protected area by 2050

Protected area	Bioclimatic Zone	Area (km²)	CNRM-CM5				GFDL-CM3				HadGEM2-ES			
			Area (km²)		Area change (km²)		Area (km²)		Area change (km²)		Area (km²)		Area change (km²)	
		Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5
Alaungdaw Katthapa National Park	M. Hot and mesic	837	302	151	-535	-686	53	0	-784	-18	155	8	-682	-829
	N. Hot and dry	18	0	0	-18	-18	385	0	367	-18	0	0	-18	-18
	R. Extremely hot and moist	567	1120	1188	553	621	984	410	417	-150	1207	713	640	146
	Q. Extremely hot and xeric	0	0	83	0	83	0	1012	0	1012	60	701	60	701
Bumpha Bum Wildife Sanctuary	J. Cool temperate and moist	25	10	6	-15	-19	6	1	-19	-24	7	2	-18	-23
	K. Warm temperate and mesic	1282	780	769	-502	-513	581	433	-701	-849	616	477	-666	-805
	M. Hot and mesic	1618	2135	2150	517	532	2338	2491	720	873	2302	2446	684	828
Bwe Par Taung National Park	J. Cool temperate and moist	1	0	0	-1	-1	0	0	-1	-1	0	0	-1	-1
	K. Warm temperate and mesic	194	184	173	-10	-21	166	120	-28	-74	173	145	-21	-49
	M. Hot and mesic	11	22	33	11	22	40	86	29	75	33	61	22	50
Chatthin Wildlife Sanctuary	R. Extremely hot and moist	285	285	284	0	-1	0	0	-285	-285	285	0	0	-285
	Q. Extremely hot and xeric	0	0	1	0	1	285	285	285	285	0	285	0	285
Chung	Q. Extremely hot and xeric	3	3	3	0	0	3	3	0	0	3	3	0	0

ponkan Wildlife Sanctuary														
Hkakaborazi National Park	D. Extremely cold and wet	1	1	1	0	0	0	0	-1	-1	0	0	-1	-1
	F. Extremely cold and mesic	515	258	172	-257	-343	33	10	-482	-505	144	64	-371	-451
	G. Cold and mesic	1585	1595	1547	10	-38	1361	1029	-224	-556	1502	1372	-83	-213
	J. Cool temperate and moist	740	696	683	-44	-57	646	731	-94	-9	612	644	-128	-96
	K. Warm temperate and mesic	1254	1516	1612	262	358	1725	1641	471	387	1753	1739	499	485
	M. Hot and mesic	0	29	80	29	80	178	312	178	312	82	161	82	161
	N. Hot and dry	0	0	0	0	0	152	372	152	372	2	115	2	115
Hlawga Park	R. Extremely hot and moist	6	6	6	0	0	6	6	0	0	6	6	0	0
Hpon-kanrazi Wildlife Sanctuary	F. Extremely cold and mesic	67	24	12	-43	-55	1	0	-66	-67	7	1	-60	-66
	G. Cold and mesic	373	324	284	-49	-89	244	162	-129	-211	273	230	-100	-143
	J. Cool temperate and moist	606	496	444	-110	-162	320	230	-286	-376	362	271	-244	-335
	K. Warm temperate and mesic	1710	1908	1992	198	282	1988	1861	278	151	1981	1945	271	235
	M. Hot and mesic	0	4	24	4	24	203	478	203	478	133	309	133	309
	N. Hot and dry	0	0	0	0	0	0	25	0	25	0	0	0	0

Htamanthi Wildlife Sanctuary	M. Hot and mesic	2147	2147	2147	0	0	2147	2147	0	0	2147	2147	0	0
Hukaung Valley Wildlife Sanctuary	J. Cool temperate and moist	107	50	29	-57	-78	27	5	-80	-102	30	11	-77	-96
	K. Warm temperate and mesic	2622	2093	2154	-529	-468	1624	1108	-998	-1514	1678	1223	-944	-1399
	M. Hot and mesic	3762	4348	4308	586	546	4840	5378	1078	1616	4783	5257	1021	1495
Hukaung Valley Wildlife Sanctuary (extension)	J. Cool temperate and moist	32	17	14	-15	-18	14	2	-18	-30	14	5	-18	-27
	K. Warm temperate and mesic	4208	3010	2800	-1198	-1408	2230	1340	-1978	-2868	2180	1456	-2028	-2752
	M. Hot and mesic	7012	8225	8438	1213	1426	9008	9905	1996	2893	9058	9791	2046	2779
	N. Hot and dry	0	0	0	0	0	0	5	0	5	0	0	0	0
Indawgyi Wildlife Sanctuary	K. Warm temperate and mesic	11	0	0	-11	-11	0	0	-11	-11	0	0	-11	-11
	M. Hot and mesic	705	739	739	34	34	739	739	34	34	739	739	705	705
	N. Hot and dry	23	0	0	-23	-23	0	0	-23	-23	0	0	-23	-23
Inkhain Bum National Park	K. Warm temperate and mesic	71	14	5	-57	-66	3	0	-68	-71	3	0	-68	-71
	M. Hot and mesic	226	283	292	57	66	294	297	68	71	294	297	68	71
Inlay Wetland Bird Sanctuary	M. Hot and mesic	547	553	348	6	-199	79	0	-468	-547	311	0	-236	-547
	N. Hot and dry	6	0	0	-6	-6	0	0	-6	-6	0	0	-6	-6

	R. Extremely hot and moist	0	0	205	0	205	474	553	474	553	242	553	242	242
Kahilu Wildlife Sanctuary	R. Extremely hot and moist	150	150	150	0	0	150	150	0	0	150	150	0	0
Kaylatha Wildlife Sanctuary	R. Extremely hot and moist	21	21	21	0	0	21	21	0	0	21	21	0	0
Kyauk Pan Taung Wildlife Sanctuary	M. Hot and mesic	114	91	57	-23	-57	31	11	-83	-103	62	26	-52	-88
	R. Extremely hot and moist	13	36	70	23	57	96	116	83	103	62	101	49	88
Kyeik-htiyoe Wildlife Sanctuary	M. Hot and mesic	33	6	1	-27	-32	0	0	-33	-33	0	0	-33	-33
	R. Extremely hot and moist	100	127	132	27	32	133	133	33	33	133	133	33	33
Lampi Marine National Park	R. Extremely hot and moist	143	143	143	0	0	143	143	0	0	143	143	0	0
Lawka-nanda Sanctuary	Q. Extremely hot and xeric	1	1	1	0	0	1	1	0	0	1	1	0	0
Loimwe Protected Area	K. Warm temperate and mesic	5	0	0	-5	-5	0	0	-5	-5	0	0	-5	-5
	M. Hot and mesic	0	8	18	8	18	19	35	19	35	8	34	8	34
	N. Hot and dry	38	35	25	-3	-13	24	5	-14	-33	35	7	-3	-36
	R. Extremely hot and moist	0	0	0	0	0	0	3	0	3	0	2	0	2
Meinmahla Kyun Wildlife Sanctuary	R. Extremely hot and moist	102	102	102	0	0	102	102	0	0	102	102	0	0
Minson-	R. Extremely hot and moist	1	0	0	-1	-1	0	0	-1	-1	0	0	-1	-1

taung Wildlife Sanctuary	Q. Extremely hot and xeric	19	20	20	1	1	20	20	1	1	20	20	1	1
Minwun-taung Wildlife Sanctuary	R. Extremely hot and moist	6	0	0	-6	-6	0	65	-6	59	0	0	-6	-6
	Q. Extremely hot and xeric	184	190	190	6	6	190	125	6	-59	190	190	6	6
Moeyun-gyi Wetland Wildlife Sanctuary	R. Extremely hot and moist	100	100	100	0	0	100	100	0	0	100	100	0	0
Moscos Islands Wildlife Sanctuary	R. Extremely hot and moist	2	2	2	0	0	2	2	0	0	2	2	0	0
Mulayit Wildlife Sanctuary	M. Hot and mesic	138	88	42	-50	-96	38	15	-100	-123	41	17	-97	-121
	N. Hot and dry	25	2	1	-23	-24	2	0	-23	-25	2	0	-23	-25
	R. Extremely hot and moist	80	153	200	73	120	203	211	123	131	200	221	120	40
	Q. Extremely hot and xeric	0	0	0	0	0	0	17	0	17	0	5	0	5
Natma-taung National Park	J. Cool temperate and moist	18	7	1	-11	-17	0	0	-18	-18	1	0	-17	-18
	K. Warm temperate and mesic	1171	1099	995	-72	-176	876	570	-295	-601	975	728	-196	-443
	M. Hot and mesic	9	157	268	148	259	388	693	379	684	288	536	279	527
	N. Hot and dry	66	1	0	-65	-66	0	0	-66	-66	0	0	-66	-66
	R. Extremely hot and moist	0	0	0	0	0	0	1	0	1	0	0	0	0
North Zarmani	M. Hot and mesic	35	0	0	-35	-35	0	0	-35	-35	0	0	-35	-35

Wildlife Sanctuary	R. Extremely hot and moist	962	997	997	35	35	837	961	-125	-1	997	993	35	31
	Q. Extremely hot and xeric	0	0	0	0	0	160	36	160	36	0	4	0	4
Panlaung And Padalin Cave Wildlife Sanctuary	M. Hot and mesic	95	66	59	-29	-36	47	19	-48	-76	53	31	-42	-64
	N. Hot and dry	27	8	0	-19	-27	1	0	-26	-27	1	0	-26	-27
	R. Extremely hot and moist	186	178	132	-8	-54	100	68	-86	-118	128	75	-58	-111
	Q. Extremely hot and xeric	33	89	150	56	117	193	254	160	221	159	235	126	202
Parsar Protected Area	M. Hot and mesic	67	17	2	-50	-65	59	0	-126	-67	6	0	-61	-67
	R. Extremely hot and moist	37	87	101	50	64	35	61	-2	24	98	56	61	19
	Q. Extremely hot and xeric	0	0	1	0	1	10	43	10	43	0	48	0	48
Pharbaung Taung Managed Nature Reserve	R. Extremely hot and moist	2	2	2	0	0	2	2	0	0	2	2	0	0
Pidaung Wildlife Sanctuary	M. Hot and mesic	121	121	121	0	0	121	121	0	0	121	121	0	0
Popa Mountain Park	M. Hot and mesic	17	10	5	-7	-12	4	0	-13	-3	4	1	-13	-16
	N. Hot and dry	3	0	0	-3	-3	0	0	-3	-3	0	0	-3	-3
	R. Extremely hot and moist	54	32	27	-22	-27	15	10	-39	-44	26	15	-28	-39
	Q. Extremely hot and xeric	23	55	65	32	42	78	87	55	64	67	81	44	58
Pyin-O-Lwin Bird Sanctuary	M. Hot and mesic	0	10	90	10	90	90	90	90	90	90	90	90	90
	N. Hot and dry	90	80	0	-10	-90	0	0	-90	-90	0	0	-90	-90

Rakhine Yoma Elephant Range	M. Hot and mesic	1088	515	335	-573	-753	338	84	-750	-1004	348	113	-740	-975
	R. Extremely hot and moist	628	1201	1381	573	753	1378	1632	750	1004	1368	1603	740	975
Se Taung Wildlife Sanctuary	M. Hot and mesic	162	61	26	-101	-136	25	1	-137	-161	25	0	-137	-162
	R. Extremely hot and moist	103	204	239	101	136	240	264	137	161	240	265	137	162
Shwe-settaw Wildlife Sanctuary	R. Extremely hot and moist	98	17	0	-81	-98	0	278	-98	180	0	163	-98	65
	Q. Extremely hot and xeric	378	459	476	81	98	476	198	98	-180	476	313	98	-65
Shwe-U-Daung Wildlife Sanctuary	K. Warm temperate and mesic	35	13	6	-22	-29	0	0	-35	-35	0	0	-35	-35
	M. Hot and mesic	62	102	107	40	45	107	96	45	34	4	103	-58	62
	N. Hot and dry	24	0	0	-24	-24	0	0	-24	-24	100	0	76	-24
	R. Extremely hot and moist	38	44	42	6	-2	32	16	-6	-22	4	12	-34	-26
	Q. Extremely hot and xeric	0	0	4	0	0	20	47	0	0	51	44	51	44
Tanin-tharyi Nature Reserve	M. Hot and mesic	707	265	147	-442	-560	142	24	-565	-683	191	53	-516	-654
	R. Extremely hot and moist	871	1313	1431	442	560	1436	1554	565	683	1387	1525	516	654
Taunggyi Bird Sanctuary	K. Warm temperate and mesic	1	0	0	-1	-1	0	0	-1	-1	0	0	-1	-1
	M. Hot and mesic	0	0	2	0	2	4	7	4	7	2	6	2	6
	N. Hot and dry	6	7	5	1	-1	3	0	-3	-6	5	1	-1	-5
Wetthikan Bird Sanctuary	R. Extremely hot and moist	0	0	0	0	0	0	5	0	5	0	5	0	5
	Q. Extremely hot and xeric	5	5	5	0	0	5	0	0	-5	5	0	0	-5

Table S18. Projected change in areal extent of bioclimatic zones in each protected area by 2070

Protected area	Bioclimatic Zone	Area (km²)	CNRM-CM5				GFDL-CM3				HadGEM2-ES			
			Area (km²)		Area change (km²)		Area (km²)		Area change (km²)		Area (km²)		Area change (km²)	
		Current	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5	RCP 2.6	RCP 8.5
Alaungdaw Katthapa National Park	M. Hot and mesic	837	271	28	-566	-809	28	0	-809	-837	150	31	-687	-806
	N. Hot and dry	18	0	0	-18	-18	0	0	-18	-18	0	0	-18	-18
	R. Extremely hot and moist	567	1140	878	573	6	778	103	211	-464	1221	359	654	-208
	Q. Extremely hot and xeric	0	11	516	11	516	616	1319	616	1319	51	1032	51	1032
Bumpha Bum Wildife Sanctuary	J. Cool temperate and moist	25	10	2	-15	-23	4	0	-21	-25	6	0	-19	-25
	K. Warm temperate and mesic	1282	911	618	-371	-664	550	284	-732	-998	651	263	-631	-1019
	M. Hot and mesic	1618	2004	2305	386	687	2371	2641	753	1023	2268	2662	650	1044
Bwe Par Taung National Park	J. Cool temperate and moist	1	0	0	-1	-1	0	0	-1	-1	0	0	-1	-1
	K. Warm temperate and mesic	194	183	156	-11	-38	156	64	-38	-130	173	114	-21	-80
	M. Hot and mesic	11	23	50	12	39	50	140	39	129	33	86	22	75
	R. Extremely hot and moist	0	0	0	0	0	0	2	0	0	0	6	0	6
Chatthin Wildlife Sanctuary	R. Extremely hot and moist	285	285	0	0	-285	0	0	-285	-285	285	30	0	-255
	Q. Extremely hot and xeric	0	0	285	0	285	285	285	285	285	0	255	0	255

Chungponkan Wildlife Sanctuary	R. Extremely hot and moist	0	0	0	0	0	0	3	0	3	0	3	0	3
	Q. Extremely hot and xeric	3	3	3	0	0	3	0	0	-3	3	0	0	-3
Hkakaborazi National Park	D. Extremely cold and wet	1	1	1	0	0	0	0	-1	-1	0	0	-1	-1
	F. Extremely cold and mesic	515	256	69	-259	-446	28	1	-487	-514	136	16	-379	-499
	G. Cold and mesic	1585	1585	1367	0	-218	1294	552	-291	-1033	1500	1000	-85	-585
	J. Cool temperate and moist	740	699	696	-41	-44	665	811	-75	71	615	740	-125	0
	K. Warm temperate and mesic	1254	1522	1746	268	492	1734	1639	480	385	1749	1561	495	307
	M. Hot and mesic	0	32	216	32	216	239	489	239	489	95	284	95	284
	N. Hot and dry	0	0	0	0	0	135	603	135	603	0	494	0	494
Hlawga Park	R. Extremely hot and moist	6	6	6	0	0	6	6	0	0	6	6	0	0
Hponkanrazi Wildlife Sanctuary	F. Extremely cold and mesic	67	24	2	-43	-65	1	0	-66	-67	7	0	-60	-67
	G. Cold and mesic	373	317	236	-56	-137	228	101	-145	-272	269	144	-104	-229
	J. Cool temperate and moist	606	498	363	-108	-243	296	146	-310	-460	376	186	-230	-420
	K. Warm temperate and mesic	1710	1912	2044	202	334	1955	1566	245	-144	1985	1672	275	-38
	M. Hot and mesic	0	5	111	5	111	276	788	276	788	119	662	119	662
	N. Hot and dry	0	0	0	0	0	0	155	0	155	0	92	0	92

Htamanthi Wildlife Sanctuary	M. Hot and mesic	2147	2147	2147	0	0	2147	2085	0	-62	2147	7	0	-2140
	R. Extremely hot and moist	0	0	0	0	0	0	62	0	62	0	2140	0	2140
Hukaung Valley Wildlife Sanctuary	J. Cool temperate and moist	107	50	11	-57	-96	22	0	-129	-107	29	0	-78	-107
	K. Warm temperate and mesic	2622	2286	1866	-336	-756	1482	686	-1140	-1936	1781	684	-841	-1938
	M. Hot and mesic	3762	4155	4614	393	852	4987	5805	1225	2043	4681	5807	919	2045
Hukaung Valley Wildlife Sanctuary (extension)	J. Cool temperate and moist	32	17	5	-15	-27	8	0	-24	-32	14	0	-18	-32
	K. Warm temperate and mesic	4208	3037	2277	-1171	-1931	1993	645	-2215	-3563	2256	664	-1952	-3544
	M. Hot and mesic	7012	8198	8970	1186	1958	9251	10551	2239	3539	8982	10291	1970	3279
	N. Hot and dry	0	0	0	0	0	0	56	0	56	0	0	0	0
	R. Extremely hot and moist	0	0	0	0	0	0	0	0	0	0	297	0	297
Indawgyi Wildlife Sanctuary	K. Warm temperate and mesic	11	0	0	-11	-11	0	0	-11	-11	0	0	-11	-11
	M. Hot and mesic	705	739	739	34	34	739	631	34	-74	739	209	34	-496
	N. Hot and dry	23	0	0	-23	-23	0	0	-23	-23	0	0	-23	-23
	R. Extremely hot and moist	0	0	0	0	0	0	95	0	95	0	530	0	530
	Q. Extremely hot and xeric	0	0	0	0	0	0	13	0	13	0	0	0	0
Inkhain Bum National Park	K. Warm temperate and mesic	71	11	0	-60	-71	2	0	-69	-71	3	0	-68	-71

	M. Hot and mesic	226	286	297	60	71	295	296	69	70	294	263	68	37
	R. Extremely hot and moist	0	0	0	0	0	0	0	0	0	0	34	0	34
	Q. Extremely hot and xeric	0	0	0	0	0	0	1	0	1	0	0	0	0
Inlay Wetland Bird Sanctuary	M. Hot and mesic	547	553	2	6	-545	48	0	-499	-547	318	0	547	-547
	N. Hot and dry	6	0	0	-6	-6	0	0	-6	-6	0	0	-6	-6
	R. Extremely hot and moist	0	0	551	0	551	505	368	505	368	235	393	235	393
	Q. Extremely hot and xeric	0	0	0	0	0	0	185	0	185	0	160	0	160
Kahilu Wildlife Sanctuary	R. Extremely hot and moist	150	150	150	0	0	150	150	0	0	150	150	0	0
Kaylatha Wildlife Sanctuary	R. Extremely hot and moist	21	21	21	0	0	21	21	0	0	21	21	0	0
Kyauk Pan Taung Wildlife Sanctuary	M. Hot and mesic	114	54	26	-60	-88	29	1	-85	-113	60	8	-54	-106
	R. Extremely hot and moist	13	73	101	60	88	98	126	85	113	67	119	54	106
Kyeikhtiyoe Wildlife Sanctuary	M. Hot and mesic	33	7	0	-26	-33	0	0	-33	-33	0	0	-33	-33
	R. Extremely hot and moist	100	126	133	26	33	133	133	33	33	133	133	33	33
Lampi Marine National Park	R. Extremely hot and moist	143	143	143	0	0	143	143	0	0	143	143	0	0
Lawkananda Sanctuary	Q. Extremely hot and xeric	1	1	1	0	0	1	0	0	-1	1	0	0	-1
	R. Extremely hot and moist	0	0	0	0	0	0	1	0	1	0	1	0	1
Loimwe Protected Area	K. Warm temperate and mesic	5	0	0	-5	-5	0	0	-5	-5	0	0	-5	-5

	M. Hot and mesic	0	8	35	8	35	23	30	23	30	9	25	9	25
	N. Hot and dry	38	35	7	-3	-31	20	0	-18	-38	34	0	-4	-38
	R. Extremely hot and moist	0	0	1	0	1	0	31	0	31	0	18	0	18
Meinmahla Kyun Wildlife Sanctuary	R. Extremely hot and moist	102	102	102	0	0	102	102	0	0	102	102	0	0
Minsontaung Wildlife Sanctuary	R. Extremely hot and moist	1	0	0	-1	-1	0	20	-1	19	0	20	-1	19
	Q. Extremely hot and xeric	19	20	20	1	1	20	0	1	-19	20	0	1	-19
Minwuntaung Wildlife Sanctuary	R. Extremely hot and moist	6	0	0	-6	-6	0	186	-6	180	0	185	-6	179
	Q. Extremely hot and xeric	184	190	190	6	6	190	4	6	-180	190	5	6	-179
Moeyungyi Wetland Wildlife Sanctuary	R. Extremely hot and moist	100	100	100	0	0	100	100	0	0	100	100	0	0
Moscos Islands Wildlife Sanctuary	R. Extremely hot and moist	2	2	2	0	0	2	2	0	0	2	2	0	0
Mulayit Wildlife Sanctuary	M. Hot and mesic	138	74	221	-64	83	33	2	-105	-136	41	2	-97	-136
	N. Hot and dry	25	5	0	-20	-25	1	0	-24	-25	2	0	-23	-25
	R. Extremely hot and moist	80	164	222	142	142	209	186	129	106	200	179	120	99
	Q. Extremely hot and xeric	0	0	0	0	0	0	55	0	55	0	62	0	62
Natmataung National Park	J. Cool temperate and moist	18	1	0	-17	-18	0	0	-18	-18	5	0	-13	-18
	K. Warm temperate and mesic	1171	1088	789	-83	-382	810	294	-361	-877	982	594	-189	-577

	M. Hot and mesic	9	137	475	128	466	454	963	445	954	277	661	268	652
	N. Hot and dry	66	38	0	-28	-66	0	0	-66	-66	0	0	-66	-66
	R. Extremely hot and moist	0	0	0	0	0	0	6	0	6	0	9	0	9
	Q. Extremely hot and xeric	0	0	0	0	0	0	1	0	1	0	0	0	0
North Zamrari Wildlife Sanctuary	M. Hot and mesic	35	0	0	-35	-35	0	0	-35	-35	0	0	-35	-35
	R. Extremely hot and moist	962	985	985	23	23	891	996	-71	34	997	997	35	35
	Q. Extremely hot and xeric	0	12	12	12	12	106	1	106	1	0	0	0	0
Panlaung and Padalin Cave Wildlife Sanctuary	M. Hot and mesic	95	64	38	-31	-57	49	31	-46	-64	56	33	-39	-62
	N. Hot and dry	27	8	0	-19	-27	1	0	-26	-27	2	0	2	-27
	R. Extremely hot and moist	186	150	84	-36	-102	77	90	-109	-96	136	118	-50	-68
	Q. Extremely hot and xeric	33	119	219	86	186	214	220	181	187	147	190	114	157
Parsar Protected Area	M. Hot and mesic	67	13	0	-54	-67	57	0	-10	-67	4	0	-63	-67
	R. Extremely hot and moist	37	91	72	54	35	35	29	-2	-8	96	4	59	-33
	Q. Extremely hot and xeric	0	0	32	0	32	12	75	32	75	4	100	4	100
Pharbaung Taung Managed Nature Reserve	R. Extremely hot and moist	2	2	2	0	0	2	2	0	0	2	2	0	0
Pidaung Wildlife Sanctuary	M. Hot and mesic	121	121	121	0	0	121	121	0	0	121	34	0	-87
	R. Extremely hot and moist	0	0	0	0	0	0	0	0	0	0	87	0	87
Popa Mountain Park	M. Hot and mesic	17	10	3	-7	-14	3	0	-14	-17	4	0	-13	-17

	N. Hot and dry	3	0	0	-3	-3	0	0	-3	-3	0	0	-3	-3
	R. Extremely hot and moist	54	27	16	-27	-38	14	39	-40	-15	27	43	-27	-11
	Q. Extremely hot and xeric	23	60	78	37	55	80	58	57	35	66	54	43	31
Pyin-O-Lwin Bird Sanctuary	M. Hot and mesic	0	14	90	14	90	90	90	90	90	89	90	89	90
	N. Hot and dry	90	76	0	-14	-90	0	0	-90	-90	1	0	-89	-90
Rakhine Yoma Elephant Range	M. Hot and mesic	1088	578	151	-510	-937	257	1	-831	-1087	316	0	-772	-1088
	R. Extremely hot and moist	628	1138	1565	510	937	1459	1715	831	1087	1400	1716	772	1088
Se Taung Wildlife Sanctuary	M. Hot and mesic	162	64	4	-98	-158	21	0	-141	-162	26	0	-136	-162
	R. Extremely hot and moist	103	201	261	98	158	244	265	141	162	239	265	136	162
Shwesettaw Wildlife Sanctuary	R. Extremely hot and moist	98	8	0	-90	-98	0	463	-98	365	0	0	-98	-98
	Q. Extremely hot and xeric	378	468	476	90	98	476	13	98	-365	476	476	98	98
Shwe-U-Daung Wildlife Sanctuary	K. Warm temperate and mesic	35	11	0	-24	-35	0	0	-35	-35	4	0	-31	-35
	M. Hot and mesic	62	102	108	40	46	112	76	50	14	103	78	41	16
	N. Hot and dry	24	0	0	-24	-24	0	0	-24	-24	0	0	-24	-24
	R. Extremely hot and moist	38	46	19	8	-19	13	11	-25	-27	48	19	10	-19
	Q. Extremely hot and xeric	0	0	32	0	32	34	72	34	72	4	62	4	62
Tanintharyi Nature Reserve	M. Hot and mesic	707	270	49	-437	-658	103	0	-604	-707	195	4	-512	-703
	R. Extremely hot and moist	871	1308	1529	437	658	1475	1578	604	707	1383	1574	512	703

Taunggyi Bird Sanctuary	K. Warm temperate and mesic	1	0	0	-1	-1	0	0	-1	-1	0	0	-1	-1
	M. Hot and mesic	0	0	6	0	6	6	0	6	0	0	0	0	0
	N. Hot and dry	6	7	1	1	-5	1	7	-5	1	7	7	1	1
Wetthikan Bird Sanctuary	R. Extremely hot and moist	0	0	0	0	0	0	5	0	5	0	5	0	5
	Q. Extremely hot and xeric	5	5	5	0	0	5	0	0	-5	5	0	0	-5