

Global change of land sparing and land sharing pattern over the past 30 years: evidences from remote sensing and statistics

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Supplementary Information

Table S1. Hotspots for increasing land sparing

Ecoregion name	Ecoregion code	Mean LSS change rate
South Malawi montane forest-grassland mosaic	AT1014	0.02062
Sumatran peat swamp forests	IM0160	0.01052
Cardamom Mountains rain forests	IM0106	0.00975
Mascarene forests	AT0120	0.00904
Tocantins/Pindare moist forests	NT0170	0.00894
Peninsular Malaysian peat swamp forests	IM0145	0.00871
Kazakh upland	PA0811	0.00781
South Taiwan monsoon rain forests	IM0171	0.00779
Kazakh steppe	PA0810	0.00745
Sundaland heath forests	IM0161	0.00743
Borneo peat swamp forests	IM0104	0.00740
Southern Korea evergreen forests	PA0439	0.00733
Southeast Australia temperate savanna	AA0803	0.00726
Southeastern Indochina dry evergreen forests	IM0210	0.00723
Xingu-Tocantins-Araguaia moist forests	NT0180	0.00706
Mount Cameroon and Bioko montane forests	AT0121	0.00694
Mato Grosso seasonal forests	NT0140	0.00660
Sumatran freshwater swamp forests	IM0157	0.00621
Chiquitano dry forests	NT0212	0.00620
Jamaican dry forests	NT0218	0.00609
Jos Plateau forest-grassland mosaic	AT1010	0.00600
Western Guinean lowland forests	AT0130	0.00594
Central Korean deciduous forests	PA0413	0.00561
Maputaland coastal forest mosaic	AT0119	0.00543
Nenjiang River grassland	PA0903	0.00511
Knysna-Amatole montane forests	AT0115	0.00507

Madeira-Tapajós moist forest	NT0135	0.00507
KwaZulu-Cape coastal forest mosaic	AT0116	0.00498
Dry Chaco	NT0210	0.00478
Bajío dry forests	NT0204	0.00464
Mediterranean woodlands and forests	PA1214	0.00451
Petén-Veracruz moist forests	NT0154	0.00451
Altai steppe and semi-desert	PA0802	0.00440
Central Mexican matorral	NA1302	0.00438
Hokkaido montane conifer forests	PA0510	0.00428
West Sudanian savanna	AT0722	0.00420
Southwest Borneo freshwater swamp forests	IM0153	0.00415
Trans-Mexican Volcanic Belt pine-oak forests	NT0310	0.00403
Emin Valley steppe	PA0806	0.00394
Jian Nan subtropical evergreen forests	IM0118	0.00393
Tehuacán Valley matorral	NT1316	0.00390
Eastern Anatolian montane steppe	PA0805	0.00388
Southern Miombo woodlands	AT0719	0.00385
Tapajós-Xingu moist forests	NT0168	0.00384
Southeastern Iberian shrubs and woodlands	PA1219	0.00376
Caspian Hyrcanian mixed forests	PA0407	0.00366
Gulf of St. Lawrence lowland forests	NA0408	0.00362
Jamaican moist forests	NT0131	0.00360
Southern Annamites montane rain forests	IM0152	0.00355
Zagros Mountains forest steppe	PA0446	0.00351
Central American Atlantic moist forests	NT0111	0.00350
Southern Africa mangroves	AT1405	0.00345
Cross-Sanaga-Bioko coastal forests	AT0107	0.00342
Jalisco dry forests	NT0217	0.00338
Maputaland-Pondoland bushland and thickets	AT1012	0.00335
Helanshan montane conifer forests	PA0508	0.00334
Guinean forest-savanna mosaic	AT0707	0.00326
Cantabrian mixed forests	PA0406	0.00322
Pontic steppe	PA0814	0.00311
Palau tropical moist forests	OC0110	0.00311
Northeast China Plain deciduous forests	PA0430	0.00311
Kopet Dag semi-desert	PA1319	0.00306

Table S2. Hotspots for decreasing land sparing

Ecoregion name	Ecoregion code	Mean LSS change rate
Vanuatu rain forests	AA0126	-0.01577
Guayaquil flooded grasslands	NT0905	-0.01138
Puerto Rican moist forests	NT0155	-0.00748

Eastern Arc forests	AT0109	-0.00630
Puerto Rican dry forests	NT0226	-0.00608
Lesser Sundas deciduous forests	AA0201	-0.00538
Cauca Valley dry forests	NT0207	-0.00471
Motagua Valley thornscrub	NT1312	-0.00410
Lara-Fal drycon forests	NT0219	-0.00398
Costa Rican seasonal moist forests	NT0119	-0.00393
Naracoorte woodlands	AA1208	-0.00342
Sumba deciduous forests	AA0203	-0.00340
Western Java rain forests	IM0168	-0.00334
New Britain-New Ireland montane rain forests	AA0112	-0.00333
East African halophytics	AT0901	-0.00329
Western Java montane rain forests	IM0167	-0.00298
Southern Mesoamerican Pacific mangroves	NT1407	-0.00297
Western Ecuador moist forests	NT0178	-0.00295
Maranhão Babaçu forests	NT0139	-0.00292
Hispaniolan moist forests	NT0127	-0.00292
Sierra de la Laguna dry forests	NT0227	-0.00289
Angolan scarp savanna and woodlands	AT1002	-0.00284
Hispaniolan dry forests	NT0215	-0.00281
Ecuadorian dry forests	NT0214	-0.00276
Sierra Madre de Chiapas moist forests	NT0162	-0.00275
Central American dry forests	NT0209	-0.00258
Sao Tome, Principe and Annobon moist lowland forests	AT0127	-0.00251
Southern Atlantic mangroves	NT1406	-0.00242
Yucatán dry forests	NT0235	-0.00242
Araucaria moist forests	NT0101	-0.00238
Chiapas Depression dry forests	NT0211	-0.00233
Eastern Java-Bali montane rain forests	IM0112	-0.00232
Bahia coastal forests	NT0103	-0.00231
Sundarbans freshwater swamp forests	IM0162	-0.00221
Illyrian deciduous forests	PA1210	-0.00217
Mindanao-Eastern Visayas rain forests	IM0129	-0.00209
Catatumbo moist forests	NT0108	-0.00202
Northern Anatolian conifer and deciduous forests	PA0515	-0.00202
Edwards Plateau savanna	NA0806	-0.00201
Sulu Archipelago rain forests	IM0156	-0.00197
Pindus Mountains mixed forests	PA1217	-0.00195
Western Congolian forest-savanna mosaic	AT0723	-0.00194
Pantanos de Centla	NT0148	-0.00192
Central American pine-oak forests	NT0303	-0.00190
Trans Fly savanna and grasslands	AA0708	-0.00189
Serra do Mar coastal forests	NT0160	-0.00189

South Florida rocklands	NT0164	-0.00185
Northern Zanzibar-Inhambane coastal forest mosaic	AT0125	-0.00182
Rodope montane mixed forests	PA0435	-0.00178
Sierra de los Tuxtlas	NT0161	-0.00174
Sinú Valley dry forests	NT0229	-0.00172
New Caledonia dry forests	AA0202	-0.00166
Central European mixed forests	PA0412	-0.00163
Peninsular Malaysian montane rain forests	IM0144	-0.00159
Chimalapas montane forests	NT0114	-0.00154
Florida sand pine scrub	NA0513	-0.00149
Sierra de la Laguna pine-oak forests	NT0307	-0.00149
North Island temperate forests	AA0405	-0.00148
South American Pacific mangroves	NT1405	-0.00148
Khangai Mountains conifer forests	PA0512	-0.00144
Northland temperate kauri forests	AA0406	-0.00140
Isthmian-Pacific moist forests	NT0130	-0.00138
Banda Sea Islands moist deciduous forests	AA0102	-0.00137
Daba Mountains evergreen forests	PA0417	-0.00130
Balkan mixed forests	PA0404	-0.00126
Southern Pacific dry forests	NT0230	-0.00124
Eastern Java-Bali rain forests	IM0113	-0.00123
Mesoamerican Gulf-Caribbean mangroves	NT1403	-0.00120
Cuban wetlands	NT0902	-0.00119
Luzon rain forests	IM0123	-0.00118
East European forest steppe	PA0419	-0.00118
Carpathian montane forests	PA0504	-0.00116
Maldives-Lakshadweep-Chagos Archipelago tropical moist forests	IM0125	-0.00116
Araya and Paria xeric scrub	NT1301	-0.00116
Bahia interior forests	NT0104	-0.00116
Isthmian-Atlantic moist forests	NT0129	-0.00115
New Caledonia rain forests	AA0113	-0.00113
Atlantic Coast restingas	NT0102	-0.00112
Ethiopian montane moorlands	AT1008	-0.00110
Sri Lanka lowland rain forests	IM0154	-0.00108
Magdalena Valley dry forests	NT0221	-0.00107
Veracruz dry forests	NT0233	-0.00106
Western European broadleaf forests	PA0445	-0.00103
Yunnan Plateau subtropical evergreen forests	PA0102	-0.00103
