Supplementary Table 1: The ecoregions of China with the geographic code assigned in this study, names of eco-regions, and the characteristics forest types each region. The elevation range represents the lower and higher elevation bands of respective ecoregions expressed in meter (above sea level). Area is the total surface coverage of terrestrial land expressed in sq. km. Species richness is the number of species present in each ecoregions.

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| --- | --- | --- | --- | --- | --- |
| **Ecoregions** | **Name of Ecoregions** | **Dominant forest types** | **Elevation range (m)** | **Area (Km2)** | **Species richness** |
| **Lower** | **Higher** | **All** | **Threatened** | **Endemic** | **Tree** | **Shrub** |
| ECO 1 | Eastern Gobi desert  | Steppe | 800 | 4600 | 562633.57 | 29 | 26 | 14 | 17 | 12 |
| ECO 2 | Junggar basin  | Semi-desert | 200 | 4000 | 334134.33 | 22 | 18 | 1 | 6 | 16 |
| ECO 3 | Tian Shan Mountain | Montane conifer forests | 200 | > 5300 | 275043.17 | 17 | 15 | 0 | 4 | 13 |
| ECO 4 | Tarim basin  | Deciduous forests and steppe | 0 | > 5300 | 859746.20 | 18 | 15 | 1 | 5 | 13 |
| ECO 5 | Qilian Mountains  | Sub-alpine meadows | 2000 | > 5300 | 73927.79 | 6 | 6 | 3 | 2 | 4 |
| ECO 6 | Qaidam basin  | Semi-desert | 2300 | > 5300 | 196906.83 | 6 | 5 | 2 | 2 | 4 |
| ECO 7 | North Tibetan Plateau-Kunlun Mountains  | Alpine desert | 1300 | > 5300 | 406009.22 | 8 | 8 | 1 | 1 | 7 |
| ECO 8 | Karakoram-West Tibetan plateau  | Alpine steppe | 3300 | > 5300 | 33397.25 | 6 | 6 | 1 | 1 | 5 |
| ECO 9 | Rock and Ice | Alpine desert | 2200 | > 5300 | 63447.03 | 12 | 9 | 2 | 7 | 5 |
| ECO 10 | East Siberian  | Taiga | 200 | 1800 | 156991.04 | 6 | 4 | 0 | 3 | 3 |
| ECO 11 | Mongolian – Manchurian  | Grassland | 200 | 2800 | 599228.87 | 24 | 20 | 6 | 14 | 10 |
| ECO 12 | East - Manchurian  | Mixed forests | 0 | 1700 | 379546.24 | 19 | 16 | 1 | 12 | 7 |
| ECO 13 | Suiphun-Khanka  | Meadows and forest meadows | 100 | 900 | 73737.27 | 3 | 2 | 0 | 2 | 1 |
| ECO 14 | Nenjiang river basin | Grassland | 100 | 400 | 24470.64 | 1 | 1 | 0 | 1 | 0 |
| ECO 15 | Changbai mountains  | Mixed forests | 200 | 2700 | 49969.12 | 16 | 13 | 1 | 11 | 5 |
| ECO 16 | Northeast China plain  | Deciduous forests | 0 | 1700 | 244140.99 | 17 | 12 | 2 | 15 | 2 |
| ECO 17 | Helanshan  | Montane conifer forests | 1100 | 3600 | 24688.53 | 5 | 5 | 3 | 4 | 1 |
| ECO 18 | Ordos plateau  | Steppe | 700 | 3000 | 215954.03 | 19 | 19 | 10 | 14 | 5 |
| ECO 19 | Central China-Loess plateau  | Mixed forests | 0 | 3100 | 365249.70 | 32 | 30 | 15 | 23 | 9 |
| ECO 20 | Qilian Mountains  | Conifer forests | 1400 | 4900 | 16667.03 | 26 | 25 | 22 | 24 | 2 |
| ECO 21 | Southeast Tibet  | Shrub-lands and meadows | 1200 | > 5300 | 464890.25 | 87 | 82 | 53 | 64 | 23 |
| ECO 22 | Tibetan plateau  | Alpine shrub-lands and meadows | 1800 | > 5300 | 279129.12 | 23 | 20 | 13 | 14 | 9 |
| ECO 23 | Central Tibetan plateau  | Alpine steppe | 2500 | > 5300 | 672936.45 | 19 | 18 | 8 | 13 | 6 |
| ECO 24 | Yarlung Tsangpo  | Arid steppe | 3100 | > 5300 | 63130.98 | 20 | 17 | 6 | 14 | 6 |
| ECO 25 | Northwestern Himalayan  | Alpine shrub and meadows | 2900 | > 5300 | 42596.89 | 4 | 3 | 1 | 2 | 2 |
| ECO 26 | Eastern Himalayan  | Subalpine conifer forests | 100 | > 5300 | 100020.92 | 45 | 40 | 19 | 39 | 6 |
| ECO 27 | Hengduan - Qionglai mountain  | Conifer forests | 300 | > 5300 | 258629.28 | 113 | 105 | 65 | 86 | 27 |
| ECO 28 | Eastern Himalayan  | Alpine shrub and meadows | 900 | > 5300 | 104258.09 | 32 | 28 | 9 | 22 | 10 |
| ECO 29 | Huang-He plain  | Mixed forests | 0 | 2900 | 453140.24 | 32 | 29 | 15 | 23 | 9 |
| ECO 30 | Qin Ling Mountains  | Deciduous forests | 0 | 4200 | 390328.86 | 79 | 75 | 49 | 58 | 21 |
| ECO 31 | Changjiang plain  | Evergreen forests | 0 | 1800 | 455068.40 | 60 | 56 | 30 | 51 | 9 |
| ECO 32 | Yunnan - Guizhou plateau  | Broadleaf and mixed forests | 100 | 4700 | 657161.43 | 112 | 103 | 59 | 89 | 23 |
| ECO 33 | South China  | Subtropical evergreen forests | 0 | 2600 | 876031.46 | 87 | 82 | 44 | 72 | 15 |
| ECO 34 | Taiwan  | Subtropical evergreen forests | 0 | 4000 | 37767.70 | 47 | 45 | 20 | 40 | 7 |