**SUPPORTING INFORMATION**

**Trait‐based climate change predictions of vegetation sensitivity and distribution in China**

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**Figure S1** Simulation steps



**Figure S2** Calibration of the predictive model of trait-climate RDA relationships in China. The traits are SLA: specific leaf area; *N*area: leaf nitrogen per unit area; and LAI: leaf area index.



**Figure S3** Trait patterns predicted by the RDA trait-climate relationships. The traits are SLA: specific leaf area; *N*area: leaf nitrogen per unit area; and LAI: leaf area index.



**Figure S4** Comparisons of the natural vegetation map (a) with classification results from the GMM classifier (b).1: Tropical forest complex; 2: Subtropical forest complex; 3: Temperate forest complex; 4: Boreal and alpine forests; 5: Temperate scrub; 6: Temperate steppe; 7: Alpine steppe; 8: Tundra; and 9: No vegetation (masked).



**Table S1** Basic information on the CMIP5 climate models used in this study

|  |  |  |
| --- | --- | --- |
| Models | Institutions and countries | Resolution |
| IPSL-CM5A-MR | Institute Pierre Simon Laplace, France | 1.27°×2.5° |
| MPI-ESM-MR | Max Planck Institute for Meteorology, Germany | 1.875°×1.85° |
| NorESM1-M | Norwegian Climate Centre, Norway | 2.5°×1.9° |

**Table S2** Description of the sampling sites

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Site name** | **Longitude** | **Latitude** | **Elevation** | **No. of species** | **Vegetation type** | **region cate** | **Source** |
| NECTS03 | 129.78  | 43.02  | 136 | 17 | temperate steppe | Changbai | Wang et al 2018 |
| NECTS04 | 130.08  | 42.98  | 114 | 15 | temperate steppe | Changbai | Wang et al 2018 |
| NECTS05 | 131.15  | 43.30  | 289 | 22 | temperate steppe | Changbai | Wang et al 2018 |
| NECTS06 | 131.00  | 43.12  | 244 | 17 | temperate steppe | Changbai | Wang et al 2018 |
| NECTS07 | 129.67  | 43.39  | 224 | 13 | temperate steppe | Changbai | Wang et al 2018 |
| NECTS08 | 128.64  | 43.25  | 601 | 10 | temperate steppe | Changbai | Wang et al 2018 |
| NECTS09 | 127.03  | 43.73  | 390 | 19 | temperate steppe | Changbai | Wang et al 2018 |
| NECTS10 | 125.68  | 43.81  | 252 | 11 | temperate steppe | Changbai | Wang et al 2018 |
| NECTS11 | 123.51  | 44.59  | 146 | 10 | temperate steppe | Changbai | Wang et al 2018 |
| NECTS12 | 123.27  | 44.43  | 150 | 6 | temperate steppe | Changbai | Wang et al 2018 |
| NECTS01 | 118.48  | 42.88  | 1024 | 7 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS02 | 119.02  | 43.64  | 781 | 13 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS13 | 121.84  | 43.60  | 203 | 10 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS14 | 121.77  | 44.12  | 202 | 5 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS15 | 120.55  | 44.39  | 448 | 10 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS16 | 120.37  | 44.22  | 372 | 10 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS17 | 119.38  | 43.88  | 601 | 10 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS18 | 119.12  | 43.76  | 729 | 12 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS19 | 118.49  | 43.34  | 707 | 6 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS20 | 117.76  | 43.19  | 889 | 9 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS21 | 117.24  | 43.22  | 1259 | 11 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS22 | 116.89  | 43.39  | 1267 | 7 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS23 | 116.68  | 43.55  | 1261 | 12 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS24 | 116.64  | 43.69  | 1211 | 9 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS25 | 116.31  | 43.91  | 1199 | 11 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS26 | 115.32  | 43.90  | 1196 | 10 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS27 | 114.61  | 43.94  | 1123 | 8 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS28 | 113.83  | 43.83  | 1166 | 8 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS29 | 113.36  | 43.80  | 1017 | 6 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS30 | 112.59  | 43.72  | 974 | 9 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS31 | 112.17  | 43.63  | 999 | 8 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS32 | 111.92  | 43.66  | 1005 | 8 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| NECTS33 | 111.89  | 43.65  | 1017 | 7 | temperate steppe | Inner Mongolia | Wang et al 2018 |
| Mohe Flux | 122.34  | 53.47  | 290 | 20 | boreal forest | Mohe | Wang et al 2018 |
| Mohe Ghost-train | 122.34  | 53.46  | 325 | 20 | boreal forest | Mohe | Wang et al 2018 |
| Mohe Hilltop | 122.25  | 53.39  | 638 | 20 | boreal forest | Mohe | Wang et al 2018 |
| Qinling Mixed Forest | 108.44  | 33.44  | 1514 | 33 | tempeature forest | Qinling | Wang et al 2018 |
| Ailaoshan Dwarf | 101.03  | 24.54  | 2637 | 20 | tropical and subtropical forest | XSBN | Wang et al 2018 |
| Ailaoshan Flux | 101.03  | 24.54  | 2394 | 36 | tropical and subtropical forest | XSBN | Wang et al 2018 |
| Ailaoshan Mid | 100.99  | 24.50  | 2056 | 34 | tropical and subtropical forest | XSBN | Wang et al 2018 |
| Long Ling 1 | 101.58  | 21.62  | 1034 | 36 | tropical and subtropical forest | XSBN | Wang et al 2018 |
| Mandan Shrub | 101.85  | 23.69  | 758 | 32 | tropical and subtropical forest | XSBN | Wang et al 2018 |
| Mandan Wood | 101.86  | 23.69  | 772 | 39 | tropical and subtropical forest | XSBN | Wang et al 2018 |
| Mengla 1 Rainforest | 101.58  | 21.61  | 668 | 42 | tropical and subtropical forest | XSBN | Wang et al 2018 |
| Mengla 2 Midslope | 101.58  | 21.62  | 828 | 19 | tropical and subtropical forest | XSBN | Wang et al 2018 |
| Unholy Mt | 101.24  | 21.98  | 1075 | 40 | tropical and subtropical forest | XSBN | Wang et al 2018 |
| XBTG Rainforest | 101.27  | 21.92  | 502 | 44 | tropical and subtropical forest | XSBN | Wang et al 2018 |
| NM-02 | 116.36  | 43.89  | 1206 | 2 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-03 | 116.49  | 43.83  | 1101 | 1 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-04 | 116.11  | 43.74  | 1016 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-10 | 117.04  | 45.59  | 907 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-11 | 117.92  | 45.70  | 0 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-12 | 119.30  | 47.65  | 0 | 5 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-13 | 118.60  | 48.41  | 0 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-14 | 120.06  | 49.40  | 890 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-16 | 119.34  | 49.30  | 844 | 4 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-17 | 118.46  | 49.49  | 776 | 4 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-18 | 117.30  | 49.51  | 703 | 1 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-20 | 116.63  | 48.60  | 582 | 2 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-21 | 117.14  | 48.49  | 588 | 4 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-22 | 118.10  | 48.20  | 575 | 2 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-23 | 118.75  | 47.89  | 733 | 2 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-24 | 119.50  | 46.60  | 1060 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-26 | 118.54  | 46.27  | 857 | 5 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-27 | 118.26  | 46.16  | 919 | 2 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-28 | 116.91  | 45.41  | 877 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-29 | 116.13  | 44.93  | 873 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-33 | 115.31  | 43.90  | 1187 | 5 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-34 | 115.31  | 43.90  | 1200 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-35 | 114.22  | 43.88  | 1021 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-38 | 112.07  | 43.63  | 952 | 2 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-39 | 111.91  | 43.36  | 1037 | 1 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-42 | 108.76  | 41.51  | 1299 | 2 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-43 | 108.83  | 41.50  | 1286 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-44 | 108.25  | 41.87  | 1346 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-45 | 108.55  | 41.82  | 1527 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-46 | 108.64  | 39.76  | 1425 | 4 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-47 | 108.20  | 39.32  | 1437 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-48 | 107.62  | 38.91  | 1217 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-49 | 107.26  | 38.41  | 1458 | 4 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-JinDongwu | 116.44  | 45.07  | 858 | 2 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-Lanqi-1 | 116.13  | 43.26  | 1297 | 4 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-Lanqi-2 | 115.96  | 42.97  | 1231 | 5 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-Lanqi-3 | 115.92  | 42.16  | 1299 | 4 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-Lanqi-4 | 115.88  | 42.83  | 1305 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-Lymus | 116.35  | 43.55  | 1259 | 3 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-Stipa | 116.55  | 43.54  | 1178 | 2 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| NM-Xilinhe | 116.66  | 43.62  | 1168 | 2 | temperate steppe | Inner Mongolia | Geng et al 2017 |
| GS-50 | 102.44  | 35.10  | 3107 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| GS-51 | 102.89  | 34.97  | 2996 | 4 | Alpine steppe | Tibet | Geng et al 2017 |
| GS-52 | 102.83  | 34.90  | 3241 | 3 | Alpine steppe | Tibet | Geng et al 2017 |
| GS-53 | 102.34  | 34.49  | 3542 | 3 | Alpine steppe | Tibet | Geng et al 2017 |
| GS-54 | 102.34  | 34.28  | 3491 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| GS-55 | 102.49  | 34.70  | 3273 | 6 | Alpine steppe | Tibet | Geng et al 2017 |
| GS-56 | 102.51  | 34.71  | 3311 | 3 | Alpine steppe | Tibet | Geng et al 2017 |
| GS-57 | 102.09  | 34.05  | 3567 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| Q01 | 100.89  | 36.32  | 3277 | 1 | Alpine steppe | Tibet | Geng et al 2017 |
| Q02 | 100.46  | 36.12  | 2934 | 3 | Alpine steppe | Tibet | Geng et al 2017 |
| Q04 | 100.22  | 36.00  | 3078 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| Q06 | 100.23  | 35.76  | 3184 | 6 | Alpine steppe | Tibet | Geng et al 2017 |
| Q07 | 100.49  | 35.57  | 3304 | 3 | Alpine steppe | Tibet | Geng et al 2017 |
| Q09 | 100.93  | 35.35  | 3253 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| Q10 | 100.77  | 35.08  | 3565 | 4 | Alpine steppe | Tibet | Geng et al 2017 |
| Q11 | 100.82  | 34.86  | 3650 | 3 | Alpine steppe | Tibet | Geng et al 2017 |
| Q12 | 100.40  | 34.45  | 3938 | 4 | Alpine steppe | Tibet | Geng et al 2017 |
| Q13 | 100.22  | 34.53  | 3727 | 12 | Alpine steppe | Tibet | Geng et al 2017 |
| Q16 | 99.93  | 34.47  | 3930 | 7 | Alpine steppe | Tibet | Geng et al 2017 |
| Q18 | 98.97  | 34.84  | 4518 | 4 | Alpine steppe | Tibet | Geng et al 2017 |
| Q21 | 99.18  | 35.36  | 4158 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| Q22 | 99.39  | 35.43  | 4002 | 1 | Alpine steppe | Tibet | Geng et al 2017 |
| Q23 | 99.48  | 35.44  | 4089 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| Q24 | 98.58  | 34.99  | 4297 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| Q25 | 98.45  | 34.85  | 4219 | 3 | Alpine steppe | Tibet | Geng et al 2017 |
| Q26 | 98.25  | 34.88  | 4229 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| Q30 | 97.99  | 34.58  | 4278 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| Q31 | 97.66  | 34.20  | 5249 | 4 | Alpine steppe | Tibet | Geng et al 2017 |
| Q32 | 97.02  | 33.76  | 4589 | 3 | Alpine steppe | Tibet | Geng et al 2017 |
| Q34 | 96.37  | 33.97  | 4229 | 3 | Alpine steppe | Tibet | Geng et al 2017 |
| Q35 | 96.20  | 34.10  | 4363 | 6 | Alpine steppe | Tibet | Geng et al 2017 |
| Q37 | 95.80  | 34.14  | 4226 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| Q38 | 95.70  | 33.95  | 4161 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| Q39 | 95.88  | 33.73  | 4264 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| Q40 | 96.01  | 33.60  | 4330 | 3 | Alpine steppe | Tibet | Geng et al 2017 |
| Q41 | 96.36  | 33.28  | 4292 | 1 | Alpine steppe | Tibet | Geng et al 2017 |
| Q43 | 96.74  | 33.11  | 4238 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| Q44 | 96.91  | 33.02  | 3901 | 3 | Alpine steppe | Tibet | Geng et al 2017 |
| Q47 | 96.74  | 32.90  | 4286 | 4 | Alpine steppe | Tibet | Geng et al 2017 |
| Q48 | 96.56  | 32.59  | 3958 | 5 | Alpine steppe | Tibet | Geng et al 2017 |
| X01 | 96.53  | 31.97  | 4167 | 4 | Alpine steppe | Tibet | Geng et al 2017 |
| X02 | 96.39  | 32.00  | 4191 | 5 | Alpine steppe | Tibet | Geng et al 2017 |
| X03 | 96.51  | 31.10  | 4631 | 10 | Alpine steppe | Tibet | Geng et al 2017 |
| X04 | 94.96  | 31.70  | 4336 | 8 | Alpine steppe | Tibet | Geng et al 2017 |
| X06 | 93.79  | 31.84  | 4014 | 3 | Alpine steppe | Tibet | Geng et al 2017 |
| X08 | 93.54  | 31.85  | 4475 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| X09 | 93.14  | 31.93  | 4478 | 1 | Alpine steppe | Tibet | Geng et al 2017 |
| X10 | 92.90  | 31.84  | 4307 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| X12 | 92.87  | 31.83  | 4287 | 3 | Alpine steppe | Tibet | Geng et al 2017 |
| X17 | 91.69  | 31.10  | 4758 | 1 | Alpine steppe | Tibet | Geng et al 2017 |
| X19 | 90.81  | 30.31  | 4328 | 1 | Alpine steppe | Tibet | Geng et al 2017 |
| XX01 | 90.42  | 29.26  | 3667 | 1 | Alpine steppe | Tibet | Geng et al 2017 |
| XX02 | 89.95  | 29.33  | 3706 | 1 | Alpine steppe | Tibet | Geng et al 2017 |
| XX3 | 86.83  | 28.19  | 5100 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| XX4 | 86.84  | 28.30  | 4622 | 2 | Alpine steppe | Tibet | Geng et al 2017 |
| XX5 | 87.07  | 28.51  | 5242 | 4 | Alpine steppe | Tibet | Geng et al 2017 |
| XX6 | 88.15  | 29.15  | 4080 | 1 | Alpine steppe | Tibet | Geng et al 2017 |
| XJ01 | 86.49  | 43.81  | 1418 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ02 | 86.77  | 43.76  | 1105 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ03 | 85.78  | 45.94  | 1259 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ04 | 85.44  | 43.95  | 1356 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ05 | 85.32  | 43.96  | 1536 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ06 | 84.83  | 44.14  | 1424 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ07 | 84.81  | 44.09  | 1887 | 3 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ08 | 84.40  | 43.66  | 2505 | 3 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ09 | 84.40  | 43.53  | 2627 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ10 | 84.42  | 43.45  | 3267 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ11 | 84.37  | 43.16  | 2717 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ13 | 85.47  | 43.11  | 2885 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ16 | 83.28  | 42.45  | 2474 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ17 | 81.31  | 41.94  | 2471 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ18 | 81.36  | 41.92  | 1996 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ19 | 80.65  | 41.81  | 2358 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ20 | 77.91  | 39.92  | 1205 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ21 | 75.32  | 36.77  | 2535 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ22 | 75.05  | 38.42  | 3664 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ23 | 75.18  | 37.92  | 3101 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ24 | 74.93  | 38.30  | 3812 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ25 | 75.24  | 38.91  | 2591 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ26 | 75.57  | 39.20  | 1460 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ27 | 86.11  | 43.02  | 2992 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ28 | 84.90  | 43.15  | 2662 | 3 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ29 | 84.03  | 43.30  | 1523 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ30 | 83.72  | 43.40  | 1266 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ31 | 83.50  | 43.40  | 1100 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ32 | 83.17  | 43.38  | 1101 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ33 | 82.23  | 43.38  | 890 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ34 | 81.87  | 43.38  | 1466 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ35 | 81.68  | 43.50  | 1344 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ36 | 81.13  | 43.20  | 2005 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ37 | 81.37  | 43.15  | 1729 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ38 | 82.15  | 43.90  | 1064 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ39 | 80.97  | 44.35  | 1181 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ40 | 81.15  | 44.49  | 2126 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ41 | 81.22  | 44.50  | 2104 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ42 | 81.30  | 44.62  | 2101 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ43 | 81.15  | 45.02  | 1247 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ44 | 80.98  | 45.00  | 1428 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ45 | 81.25  | 44.87  | 1416 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ46 | 81.28  | 44.65  | 2106 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ47 | 81.47  | 44.62  | 2105 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ50 | 84.42  | 45.45  | 852 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ51 | 84.22  | 45.58  | 1140 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ52 | 83.90  | 45.50  | 1440 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ53 | 83.65  | 45.58  | 1820 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ54 | 83.57  | 45.80  | 1506 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ56 | 84.12  | 46.23  | 967 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ57 | 84.82  | 46.43  | 1113 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ58 | 84.63  | 45.92  | 1000 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ59 | 86.02  | 46.60  | 1046 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ60 | 86.10  | 46.70  | 1032 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ61 | 86.28  | 46.82  | 1142 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ62 | 86.52  | 46.97  | 1272 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ63 | 85.70  | 47.22  | 2136 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ64 | 86.17  | 47.28  | 1180 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ65 | 86.65  | 47.13  | 1125 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ67 | 86.92  | 48.80  | 1794 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ71 | 89.48  | 47.05  | 1085 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ72 | 89.37  | 46.87  | 1008 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ73 | 89.83  | 46.67  | 1103 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ77 | 90.07  | 44.25  | 733 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ78 | 90.62  | 43.65  | 1778 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ79 | 90.30  | 43.76  | 1422 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ80 | 93.67  | 43.35  | 2138 | 2 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ81 | 93.72  | 43.38  | 2120 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ84 | 93.70  | 43.28  | 2651 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ87 | 92.53  | 43.63  | 1737 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ88 | 92.30  | 43.70  | 2018 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ89 | 91.42  | 43.70  | 1670 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |
| XJ92 | 87.18  | 43.53  | 1690 | 1 | temperate steppe | Xinjiang | Geng et al 2017 |