Supplementary Material

# Supplementary Table

**Table S1.** Sampling points information of five alpine grasslands on the Tibetan Plateau. AD: alpine desert, ADS: alpine desert steppe, AM: alpine meadow, AMS: alpine meadow steppe, AS: alpine steppe, APB: above-ground plant biomass, UPB: under-ground plant biomass, SOM: soil organic matter, TN: total nitrogen, TP: total phosphorus, SWC: soil water content.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Alpine**  **grassland** | **Longitude** | **latitude** | **Altitude(m)** | **APB(g·kg-1)** | **UPB(g·kg-1)** | **SOM(g·kg-1)** | **TN(g·kg-1)** | **TP(mg·kg-1)** | **pH** | **SWC(%)** |
| AM | 91°6'41.51" | 30°44'59.96" | 4812 | 325.50 | 306.00 | 32.80 | 0.21 | 1.74 | 7.72 | 7.22 |
| AM | 91°58'47.75" | 31°22'38.75" | 4594 | 359.00 | 355.50 | 38.49 | 1.46 | 2.52 | 7.81 | 13.94 |
| AM | 92°4'11.00" | 31°43'43.00" | 4670 | 406.00 | 331.00 | 40.86 | 1.30 | 1.91 | 8.1 | 14.27 |
| AM | 91°43'46.49" | 31°42'59.04" | 4655 | 476.00 | 324.00 | 38.02 | 1.88 | 4.96 | 8.38 | 20.27 |
| AM | 88°41'56.76" | 30°57'25.52" | 4654 | 403.50 | 333.00 | 24.69 | 0.64 | 1.63 | 7.99 | 32.70 |
| AS | 90°46'36.34" | 31°23'19.28" | 4619 | 424.00 | 397.00 | 14.14 | 0.56 | 0.96 | 7.48 | 7.87 |
| AS | 88°41'59.82" | 31°7'24.89" | 4735 | 408.00 | 346.00 | 21.51 | 0.51 | 1.88 | 7.56 | 14.53 |
| AS | 87°29'0.02" | 31°30'17.32" | 4648 | 410.00 | 297.00 | 24.60 | 1.23 | 4.70 | 7.52 | 15.13 |
| AS | 86°30'11.30" | 31°55'55.24" | 4718 | 393.00 | 318.00 | 14.71 | 0.91 | 4.10 | 7.64 | 11.69 |
| AS | 85°21'21.71" | 32°1'53.54" | 4785 | 395.00 | 315.00 | 11.35 | 0.54 | 10.25 | 7.63 | 8.02 |
| AMS | 91°3'29.38" | 31°33'5.94" | 4544 | 435.00 | 349.00 | 4.06 | 0.17 | 1.72 | 9.64 | 7.00 |
| AMS | 88°42'7.70" | 30°57'24.98" | 4664 | 408.00 | 309.00 | 9.98 | 0.27 | 2.58 | 9.12 | 9.78 |
| AMS | 82°58'41.09" | 32°25'44.54" | 4421 | 369.50 | 347.50 | 15.21 | 0.82 | 5.27 | 9.81 | 18.08 |
| ADS | 88°42'42.26" | 30°57'34.31" | 4733 | 476.50 | 397.50 | 14.71 | 0.60 | 2.55 | 8.53 | 9.46 |
| ADS | 84°7'59.02" | 32°17'28.57" | 4438 | 372.00 | 308.00 | 5.82 | 0.17 | 3.12 | 8.87 | 9.83 |
| ADS | 81°49'33.96" | 32°4'15.64" | 4606 | 411.50 | 424.00 | 12.16 | 0.69 | 8.28 | 8.28 | 15.39 |
| ADS | 81°12'20.63" | 32°19'37.88" | 4543 | 436.00 | 340.00 | 4.33 | 0.09 | 4.13 | 8.53 | 7.48 |
| ADS | 80°42'54.69" | 32°20'47.47" | 4628 | 433.00 | 317.00 | 6.70 | 0.18 | 4.45 | 8.09 | 8.42 |
| AD | 79°45'16.78" | 33°25'53.80" | 4266 | 288.00 | 351.00 | 5.50 | 0.12 | 6.13 | 8.00 | 3.53 |
| AD | 79°47'3.77" | 32°50'15.32" | 4443 | 475.00 | 349.00 | 4.03 | 0.07 | 3.97 | 8.13 | 2.65 |
| AD | 80°3'40.79" | 32°32'36.89" | 4400 | 435.50 | 410.00 | 3.57 | 0.26 | 8.66 | 8.36 | 2.78 |