

**Table S1.** IPCC projected meteorological data for 2030 for Tibetan Region (TIB) climate zone.  
Data source: IPCC Assessment Report 6 Working Group I Interactive Atlas [56].

| <b>Rainfall (% Change; + increase, - decrease)</b> |          |          |          |          |
|--|----------|----------|----------|----------|
| Months   | SSP5-8.5 | SSP3-7.0 | SSP2-4.5 | SSP1-2.6 |
| Jan  | -1.77    | -13.28   | -10.82   | -4.7     |
| Feb  | 1.1      | -2.4     | 2.4      | 3.8      |
| Mar  | 0.55     | -0.47    | 2.4      | -2.14    |
| Apr  | 1.3      | 9.8      | 0.44     | 8.6      |
| May  | 5.1      | -2.3     | 2.3      | 8.4      |
| Jun  | 6.5      | 1.3      | 0.79     | -1.55    |
| Jul  | 2.3      | 8.6      | 5.4      | 10.6     |
| Aug  | 2.4      | 5.5      | 1.8      | 9.2      |
| Sep  | -2.1     | 3.7      | 0.38     | 12.8     |
| Oct  | 1.1      | -8.7     | -3.36    | 7.7      |
| Nov  | 2.8      | -17.9    | -20.22   | -4.49    |
| Dec  | 2.3      | 14.5     | 3.2      | -9.91    |
| <b>Maximum temperature change (°C)</b>             |          |          |          |          |
| Months   | SSP5-8.5 | SSP3-7.0 | SSP2-4.5 | SSP1-2.6 |
| Jan  | 1.2      | 1.2      | 1.6      | 0.99     |
| Feb  | 1.3      | 1.5      | 0.93     | 0.87     |
| Mar  | 1.1      | 1.4      | 1.2      | 0.91     |
| Apr  | 1.1      | 0.99     | 1.2      | 0.61     |
| May  | 0.99     | 0.88     | 0.78     | 0.58     |
| Jun  | 1.1      | 0.92     | 0.8      | 1.1      |
| Jul  | 1.1      | 0.62     | 0.64     | 0.9      |
| Aug  | 1.1      | 0.74     | 0.81     | 0.85     |
| Sep  | 1        | 1.1      | 1        | 0.91     |
| Oct  | 1.5      | 0.94     | 1.1      | 1        |
| Nov  | 1.2      | 1.1      | 1.1      | 0.8      |
| Dec  | 1.6      | 0.8      | 1.5      | 0.94     |
| <b>Snow/ice cover change (%)</b>                   |          |          |          |          |
| Months   | SSP5-8.5 | SSP3-7.0 | SSP2-4.5 | SSP1-2.6 |
| Jan  | -6.67    | -22.46   | -12.44   | -10.55   |
| Feb  | -7.67    | -7.17    | 9.32     | -6.58    |
| Mar  | -5.88    | 0.55     | 6.37     | 2.08     |
| Apr  | -3.43    | 6.18     | -5.28    | 0.72     |
| May  | 4.76     | -5.81    | 0.94     | -1.04    |
| Jun  | 1.47     | -6.75    | -9.22    | -14.47   |
| Jul  | -14.99   | -10.50   | -11.01   | -5.55    |
| Aug  | -16.79   | -19.74   | -11.39   | -15.07   |
| Sep  | -12.98   | -16.89   | -17.58   | -9.26    |
| Oct  | -7.65    | -13.89   | -6.02    | 0.47     |
| Nov  | -3.33    | -26.44   | -11.01   | -3.96    |
| Dec  | -9.20    | 14.59    | 5.87     | -6.16    |
| <b>Minimum temperature change (°C)</b>             |          |          |          |          |
| Months   | SSP5-8.5 | SSP3-7.0 | SSP2-4.5 | SSP1-2.6 |

|     |      |      |      |      |
|-----|------|------|------|------|
| Jan | 1.2  | 1.1  | 1.2  | 0.85 |
| Feb | 1.1  | 1.3  | 0.78 | 0.73 |
| Mar | 1    | 1.1  | 1.2  | 1    |
| Apr | 1.1  | 1.1  | 1    | 0.68 |
| May | 1    | 0.94 | 0.67 | 0.63 |
| Jun | 1.3  | 0.79 | 0.97 | 0.87 |
| Jul | 1.3  | 0.84 | 0.91 | 1    |
| Aug | 1.1  | 0.93 | 0.96 | 1    |
| Sep | 0.97 | 1.1  | 0.96 | 0.96 |
| Oct | 1.6  | 0.86 | 1.2  | 1.1  |
| Nov | 1.5  | 0.6  | 0.81 | 0.67 |
| Dec | 1.3  | 1.1  | 1.6  | 0.92 |