

Table S1: Elevation wise descriptive statistics of six key snow metrics.

| <b>Elev Zone (m)</b> | <b>Stats</b> | <b>Mean</b> | <b>StDev</b> | <b>Median</b> | <b>Min</b> | <b>Max</b> |
|----------------------|--------------|-------------|--------------|---------------|------------|------------|
| 0–500                | Max SWE      | 8.8         | 13.2         | 3             | 0          | 340        |
| 0–500                | April1_SWE   | 0.0         | 0.1          | 0             | 0          | 4          |
| 0–500                | SwS          | 886.4       | 6587.6       | 18            | 0          | 438012     |
| 0–500                | SWE_duration | 5.0         | 6.8          | 3             | 0          | 113        |
| 0–500                | MaxSWE.dowy  | 80.7        | 50.3         | 85            | 1          | 253        |
| 0–500                | SDD          | 82.9        | 50.9         | 89            | 2          | 255        |
| 500–1000             | Max SWE      | 28.5        | 33.1         | 19            | 0          | 598        |
| 500–1000             | April1_SWE   | 0.3         | 4.1          | 0             | 0          | 324        |
| 500–1000             | SwS          | 37989.6     | 207613.9     | 1771          | 0          | 7898984    |
| 500–1000             | SWE_duration | 24.6        | 26.0         | 16            | 0          | 188        |
| 500–1000             | MaxSWE.dowy  | 105.1       | 38.7         | 103           | 1          | 216        |
| 500–1000             | SDD          | 115.0       | 40.7         | 117           | 2          | 219        |
| 1000–1500            | Max SWE      | 290.1       | 218.2        | 232           | 5          | 1955       |
| 1000–1500            | April1_SWE   | 185.6       | 216.9        | 110           | 0          | 1715       |
| 1000–1500            | SwS          | 5321962.4   | 6222524.8    | 3205502       | 884        | 63714215   |
| 1000–1500            | SWE_duration | 170.8       | 41.8         | 174           | 14         | 273        |
| 1000–1500            | MaxSWE.dowy  | 149.5       | 34.9         | 154           | 12         | 240        |
| 1000–1500            | SDD          | 210.8       | 29.9         | 215           | 14         | 272        |
| 1500–2000            | Max SWE      | 290.1       | 218.2        | 232           | 5          | 1955       |
| 1500–2000            | April1_SWE   | 185.6       | 216.9        | 110           | 0          | 1715       |
| 1500–2000            | SwS          | 5321962.4   | 6222524.8    | 3205502       | 884        | 63714215   |
| 1500–2000            | SWE_duration | 170.8       | 41.8         | 174           | 14         | 273        |
| 1500–2000            | MaxSWE.dowy  | 149.5       | 34.9         | 154           | 12         | 240        |
| 1500–2000            | SDD          | 210.8       | 29.9         | 215           | 14         | 272        |
| 2000–2500            | Max SWE      | 537.3       | 302.5        | 479           | 18         | 2206       |
| 2000–2500            | April1_SWE   | 444.6       | 285.2        | 393           | 0          | 2073       |
| 2000–2500            | SwS          | 15507662.7  | NA           | 12374517      | 81104      | 97477030   |
| 2000–2500            | SWE_duration | 225.5       | 28.7         | 228           | 74         | 273        |
| 2000–2500            | MaxSWE.dowy  | 181.8       | 28.5         | 185           | 20         | 271        |
| 2000–2500            | SDD          | 243.3       | 17.6         | 245           | 32         | 273        |
| 2500–4500            | Max SWE      | 742.6       | 335.0        | 682           | 59         | 2574       |
| 2500–4500            | April1_SWE   | 591.3       | 283.2        | 541           | 0          | 2264       |
| 2500–4500            | SwS          | 26673736.7  | 15299912.9   | 23693557      | 929060     | 117581193  |
| 2500–4500            | SWE_duration | 253.8       | 16.5         | 257           | 154        | 273        |
| 2500–4500            | MaxSWE.dowy  | 210.0       | 24.2         | 212           | 42         | 273        |
| 2500–4500            | SDD          | 258.0       | 11.6         | 261           | 177        | 273        |