**Table 1**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Response | Model type | Predictor | Main effect | | SWAFR effect | | SWAFR interaction | |
| (a) *S*QDS | Main effect \* region | Elevation | 140.176 | \*\*\* | 124.429 | \*\*\* | -56.081 | \* |
|  |  | MAP | 171.950 | \*\*\* | 54.493 | \*\* | -54.057 | \*\* |
|  |  | PDQ | 73.412 | \*\*\* | 55.552 | \* | 61.946 | \*\* |
|  |  | NDVI | 154.898 | \*\*\* | -7.760 |  | -102.221 | \*\*\* |
|  | Main effect + region | PC1 | 66.986 | \*\*\* | 92.536 | \*\*\* |  |  |
|  | Main effect only | Surface T | 62.099 | \*\*\* |  |  |  |  |
|  |  | CEC | 14.677 |  |  |  |  |  |
|  |  | Clay | 42.066 | \*\*\* |  |  |  |  |
|  |  | Soil C | 62.885 | \*\*\* |  |  |  |  |
|  |  | pH | 21.890 | \* |  |  |  |  |
| (b) *S*HDS | Main effect \* region | MAP | 399.043 | \*\*\* | -41.461 |  | -185.013 | \*\* |
|  |  | Clay | -12.818 |  | -216.055 | \*\* | 173.612 | \* |
|  | Main effect only | Elevation | 163.667 | \*\*\* |  |  |  |  |
|  |  | PDQ | 226.295 | \*\*\* |  |  |  |  |
|  |  | Surface T | 135.945 | \*\*\* |  |  |  |  |
|  |  | NDVI | 246.553 | \*\*\* |  |  |  |  |
|  |  | Soil C | 159.374 | \*\*\* |  |  |  |  |
|  |  | PC1 | 123.113 | \*\*\* |  |  |  |  |
|  | Region only | CEC | -26.341 |  | -251.888 | \*\* |  |  |
|  |  | pH | 53.771 |  | -193.035 | \* |  |  |
| (c) *S*DS | Main effect \* region | Elevation | -1455.897 | \* | -2278.402 | \*\* | 1668.476 | \* |
|  |  | MAP | 683.334 | \*\*\* | -519.111 | \*\* | -382.055 | \* |
|  |  | CEC | -933.250 | \*\* | -1043.419 | \*\*\* | 837.067 | \* |
|  | Main effect + region | Clay | 273.018 | \* | -542.787 | \* |  |  |
|  |  | Soil C | 246.547 | \* | -615.400 | \* |  |  |
|  | Main effect only | PDQ | 363.062 | \*\* |  |  |  |  |
|  |  | Surface T | 336.668 | \*\* |  |  |  |  |
|  |  | NDVI | 475.337 | \*\*\* |  |  |  |  |
|  |  | pH | 448.445 | \*\*\* |  |  |  |  |
|  |  | PC1 | 231.117 | \*\*\* |  |  |  |  |

A close up of text on a white background

Description automatically generated

**Figure 2**

**A close up of a map

Description automatically generated**

**Figure 3**

**A screenshot of a cell phone

Description automatically generated**

**Figure 4**

**A screenshot of a cell phone

Description automatically generated**

**Figure 5**