**Supplementary Table 1.** Definitions of the 13 environmental variables used in the species distribution models (SDMs) to simulate the climate suitability of apple diseases in China.

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| --- | --- | --- |
| **Variable** | **Abbreviation** | **Units** |
| Mean temperature monthly |  | 0.1°C |
| Max temperature monthly |  | 0.1°C |
| Min temperature monthly |  | 0.1°C |
| Mean Rainfall monthly |  | 0.1mm |
| Organic carbon 0-30 cm | OCTP | % |
| Sand content percentage 0-30 cm | SAND | % |
| Silt content percentage 0-30 cm | SILT | % |
| Human footprint |  |  |
| Soil types in soil units relevant to agricultural use |  | - |
| Altitude | ALT | m |
| Aspect | ASP | ° |
| Slope  Curvature | SLP | -  m |