* **Supplementary Table 1.** Dispersion criteria of key factors

|  |  |
| --- | --- |
| **Wildfire factors** | **Discretization interval** |
| Temperature(℃) | (0, 14.2)，[14.2, 20.2)，[20.2, 24.25), [24.25, ∞) |
| Relative humidity | (0, 0.74)，[0.74, 0.7725)，[0.7725, 0.825)，[0.825, 1) |
| Precipitation(mm) | (0, 50)，[50, 80)，[80, 134)，[134, ∞) |
| Wind Speed(m/s) | (0,3.55)，[3.55, 4.075)，[4.075, 4.8)，[4.8, ∞) |
| Consecutive dry day | (0, 0.5)，[0.5, 1.25)，[1.25,2.5)，[2.5, ∞) |
| Historical fire density (counts/(100km²·year)) | (0,1.5)，[1.5, 9.25)，[9.25, 18.75)，[18.75, ∞) |
| GDP(10,000 yuan/km2) | (0,460)，[460, 960)，[960, 1470)，[1470, ∞) |
| Population density(people/ km2) | (0,115)，[115, 160)，[160, 290)，[290, ∞) |
| Elevation (m) | (0, 60)，[60, 220)，[220,640)，[640, ∞) |

* **Supplementary Table 2**. ADF test of meteorological factor sequences

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Meteorological factors** | **ADF test** | **1% critical value** | **5% critical value** | **10% critical value** |
| Temperature | -13.1752 | -3.4397 | -2.8657 | -2.5690 |
| Relative Humidity | -8.3729 | -3.4496 | -2.8700 | -2.5713 |
| Precipitation | -12.4978 | -3.4394 | -2.8655 | -2.5689 |
| Wind Speed | -11.3526 | -3.4398 | -2.8657 | -2.5690 |
| Consecutive dry days | -6.4724 | -3.4901 | -2.8877 | -2.5807 |

**Supplementary Table 3.** ARCH-LM test for the ARIMA models

|  |  |  |
| --- | --- | --- |
| **Meteorological factors** | **ARCH-LM statistic** | **p-value** |
| Temperature | 72.6358 | 0.0000 |
| Relative Humidity | 15.0414 | 0.8689 |
| Precipitation | 69.4289 | 0.0000 |
| Wind Speed | 75.0251 | 0.0000 |
| Consecutive dry days | 14.8931 | 0.6635 |

**Supplementary Table 4.** Statistics of wildfire alerts in wildfire risk maps

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Low risk** | **Moderate risk** | **High risk** | **Very high risk** |
| Period 1 in 2023 | 1 | 1 | 2 | 6 |
| Period 1 in 2024 | 0 | 0 | 2 | 7 |
| Period 2 in 2023 | 1 | 2 | 5 | 2 |
| Period 2 in 2024 | 0 | 3 | 1 | 7 |

a curated subset of our proprietary dataset, filtered for [criteria]