

Wildfire and Smoke GIS Resources (16 Total Examples)

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United States & Canada

1. AirNow Fire & Smoke Map

- URL: <https://fire.airnow.gov>
- Platform: Esri ArcGIS Web App + EPA Sensors
- Description: Real-time AQI, smoke plumes, PurpleAir and EPA sensor data.
- Use Cases: Public health advisories; GIS integration of real-time sensor data.
- UI Notes: Intuitive layers and legend; can be cluttered when zoomed out.

2. BlueSky Canada Smoke Forecasts

- URL: <https://firesmoke.ca/forecasts/current/>
- Platform: Custom Canadian web app
- Description: 48-hour smoke forecast visualization for Canada and U.S.
- Use Cases: Anticipatory alerts and modeling; regional GIS analysis.
- UI Notes: Smooth timeline animation, but lacks interactivity/pop-ups.

3. NOAA Hazard Mapping System (HMS)

- URL: <https://www.ospo.noaa.gov/Products/land/hms.html>
- Platform: NOAA custom viewer
- Description: Satellite-based smoke plumes across North America.
- Use Cases: Air quality monitoring, shapefile integration.
- UI Notes: Basic toggles; dated UI.

4. Esri Fire & Smoke Viewer

- URL: <https://livingatlas.arcgis.com/fire-smoke-map/>
- Platform: ArcGIS Online Viewer
- Description: Combines fire, perimeter, and smoke layers using Living Atlas.
- Use Cases: Real-time emergency response coordination.

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- UI Notes: Responsive UI; sometimes data heavy.

5. 2025 Canadian Wildfires (Wikipedia)

- URL: https://en.wikipedia.org/wiki/2025_Canada_wildfires
- Platform: Background data source
- Description: Public summaries of smoke dispersion into U.S. and Europe.
- Use Cases: Media, analysis, GIS event reconstruction.

6. 2024 Jasper Wildfire (Wikipedia)

- URL: https://en.wikipedia.org/wiki/2024_Jasper_National_Park_wildfire
- Platform: Informational/visual GIS source
- Description: Fire spread and smoke impact visualizations.
- Use Cases: Use in historical GIS timelines.

South America

7. NASA FIRMS Global Map

- URL: <https://firms.modaps.eosdis.nasa.gov/map/>
- Platform: NASA web app (non-Esri)
- Description: Satellite-detected fire locations, including South America.
- Use Cases: Detection and data download.
- UI Notes: Technical but feature-rich.

8. South America Active Fires (ArcGIS Hub)

- URL: <https://hub.arcgis.com/pages/south-america-fires>
- Platform: ArcGIS Hub
- Description: Visualizes fire data across South America.
- Use Cases: Monitoring and exporting hotspot data.

9. NASA Earth Observatory (South America Smoke)

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- URL: <https://earthobservatory.nasa.gov/images/145528/smoke-fills-south-americas-skies>
- Platform: Satellite imagery
- Description: Wildfire smoke plumes over Amazon and surrounding areas.
- Use Cases: Public awareness and GIS validation layers.

10. HOTOSM: South America Fires

- URL: <https://hotosm.org/projects/south-america-in-flames/>
- Platform: Open Mapping
- Description: Community-sourced mapping of wildfires.
- Use Cases: NGO coordination; geospatial crisis response.

Europe

11. Copernicus CAMS Smoke Forecasts

- URL: <https://atmosphere.copernicus.eu/charts/cams/fire-activity>
- Platform: Copernicus satellite system
- Description: Forecast and real-time tracking of transboundary smoke.
- Use Cases: EU-wide smoke monitoring; integration into air quality GIS.

12. Europe AQ Alerts (IQAir)

- URL: <https://www.iqair.com/europe>
- Platform: AQ dashboard
- Description: Smoke-driven air quality alerts and stats.
- Use Cases: Urban response planning; overlay with public health zones.

Australia & New Zealand

13. GIS-Based Bushfire Assessment (NSW)

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- URL: <https://www.mdpi.com/2571-6255/4/2/26>
- Platform: GIS-integrated research platform
- Description: Modeling wildfire risk and smoke impacts using geospatial data.
- Use Cases: Planning for bushfire mitigation and prescribed burns.

Portugal & Greece

14. Portugal Wildfires (Wikipedia)

- URL: https://en.wikipedia.org/wiki/Wildfires_in_Portugal
- Platform: Informational archive
- Description: Timeline of key wildfire years and smoke impact events.
- Use Cases: Historic GIS risk layer development.

15. Greece Wildfires (Wikipedia)

- URL: https://en.wikipedia.org/wiki/2021_Greece_wildfires
- Platform: Informational archive
- Description: Overview of wildfire severity, evacuation, and smoke impacts.
- Use Cases: Used in retrospective GIS fire modeling.

Global

16. Greenpeace Global Fire Dashboard

- URL: <https://fires.greenpeace.org/map/>
- Platform: Remote sensing and web mapping
- Description: Global overview of wildfire trends and smoke data.
- Use Cases: NGOs, climate reporting, spatial decision making.

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Prepared for Lesson 10, Question 1 - Wildfire GIS Application Design Planning.