

HAQAST Showcase 2025: Improving Decision-Making Tools in the West

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WESTAR
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The WESTAR Region

- 15 Western States
- 24% of US population (2020 US Census)
- 50% of US landmass
- 573,284,316 acres of federally-owned lands → 93% of total federal lands in the US

Why the American west's 'wildfire season' is a thing of the past – visualized

America's Skies Have Gotten Clearer,
but Millions Still Breathe Unhealthy Air

Wildfire Increasingly an Urban Issue

*Calculating Air Pollution's Death
Toll, Across State Lines*

*Health Risks of Smoke and Ozone Rise in
the West as Wildfires Worsen*

**Hazardous air quality: Smoke advisory extended due
to wildfires in Southern California**

Western Air Quality

*Smoke From Deadly McBride Wildfire Clouds Sky in
Ruidoso, New Mexico*

'Dust Bowl' winds hit tornado-devastated
western United States

Is it safe to use an HVAC system with bad outdoor air quality?

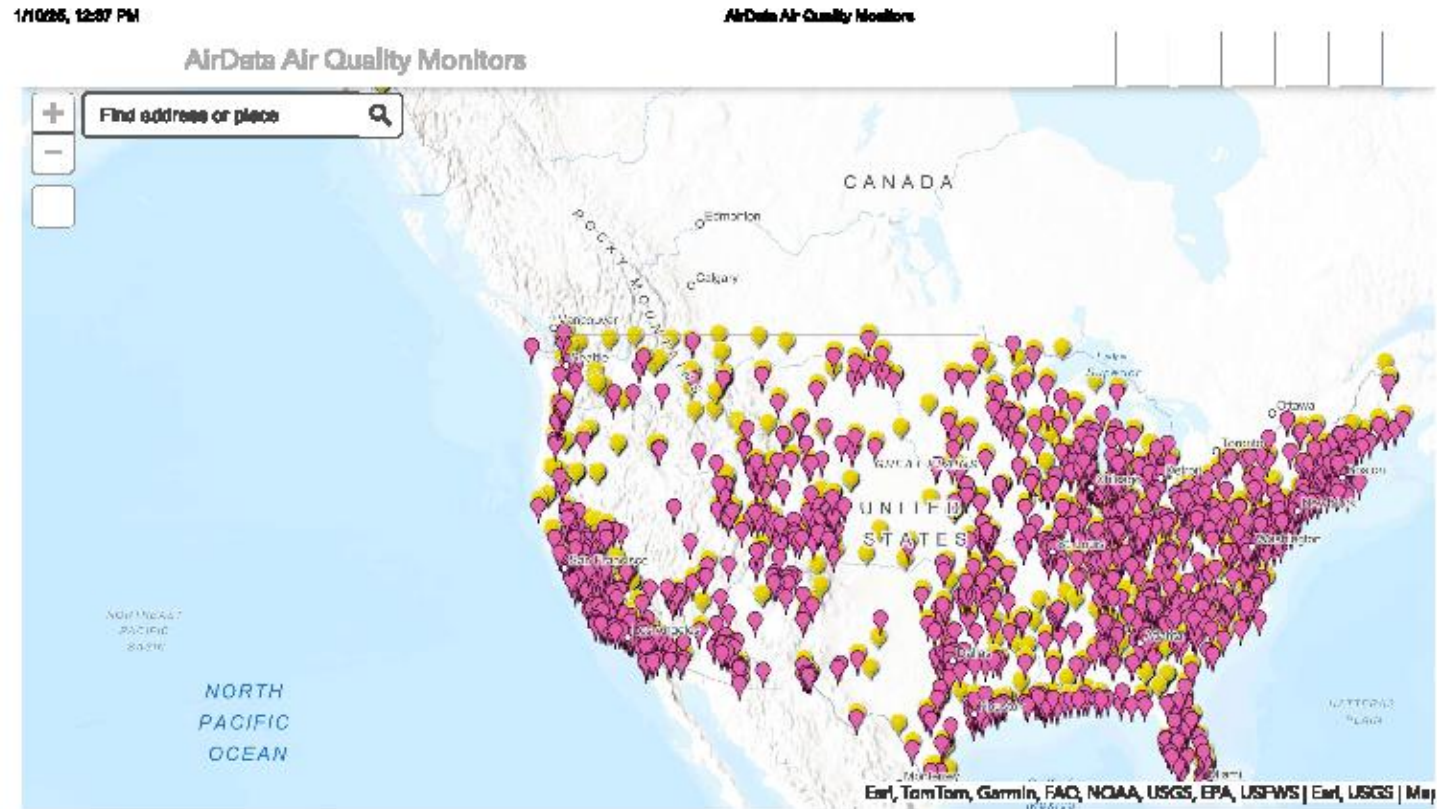
See How the World's Most Polluted
Air Compares With Your City's

*Extreme heat and the ongoing aridification of
the West*

*America's Air Quality
Worsens,
Ending Years of Gains,
Study Says*



PM 2.5 and Ozone Monitoring in the CONUS



<https://api.maps.arcgis.com/apps/locate/index.html?ui=0723043e72912468e03054e047ab84&extent=-146.2354,13.1513,-45.3868,64.0319>

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How Satellite Data may Enhance/Inform Western Air Quality Analysis:

CONCEPTUAL
MODEL
DEVELOPMENT

EXCEPTIONAL
EVENTS ANALYSIS

WILDFIRE SMOKE
ANALYSIS AND
FORECASTING

EMISSIONS
INVENTORY
DEVELOPMENT

AIR QUALITY
DECISIONMAKING

EVALUATION OF
MODELS

INFORMING
TRANSPORT

AIR TOXICS
ANALYSIS

PUBLIC
COMMUNICATIONS

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