WESTAR and WRAP 2025 Priorities

Mary Uhl AAPCA Spring Meeting May 1 2025



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











WESTAR/WRAP and other MJOs

Coordination of training

Work with EPA to improve technical work

Coordination/consultation on technical work between regions

Sharing of knowledge, leadership efforts and initiatives

Joint workshops





Western Governors Association (WGA) Policy Resolution 2025-02 (December 2024)

Western Governors have significant concerns about the lack of CAA tools available to account for PM and ozone exceedances resulting from factors outside state control.

The West needs additional and ongoing research on background, interstate, and international ozone.

Congress should provide dedicated funding for analysis of background and transported ozone in the West, as it has historically done for the eastern United States

















What is Background Ozone?

- Background Ozone is Ozone formed from natural sources plus anthropogenic international sources and global methane background. Natural sources include:
 - Transport of O₃ from the stratosphere
 - Biogenic VOC & NOx, wildfires, lightning
- U.S. Background Ozone (for regulatory purposes) can only be determined using chemical transport models or source apportionment modeling. EPA estimates background ozone for regulatory purposes.













O₃ Design Values at pairs of monitoring sites

For nearby locations, higher elevation sites show much higher O_3 design values, demonstrating how background ozone is more important at elevation.



Site location	Meters Above Sea	O ₃ Design
	Level	Value
Bend, OR	1135	59
Mt. Bachelor, OR	2763	75
Carbon, WY	2015	55
Centennial, WY	3178	66
Camp Dodge, NH	451	57
Mt. Washington NH	1914	67

Atlanta ozone source contributions

Comparing Ozone Source Contributions in the East and West



Canyonlands ozone source contributions







Strategies for Improving the State of the Science for modeling O3 in the western U.S.



- More monitoring data to improve characterization of background O₃ and to evaluate the accuracy of model-based estimates of USB:
 - More measurements to improve characterization of vertical O₃ profiles.
 - Network of O₃ LIDAR vertical profiles (NASA TOLNET pilot study)
 - More ground based O₃ and precursor measurements in rural areas.
- Perform comprehensive model evaluation studies using new monitoring data to assess contributions to background O₃.
 - Do global models accurately estimate BC inflow?
 - Do regional models accurately simulate natural sources of O₃ from wildfires and biogenic precursors?
 - Do regional models accurately simulate vertical mixing of O₃?
 - Need improved projections of future emissions for uncontrollable sources as well as trends in global O3.
- Increase state/federal & planner/researcher collaborations to improve modeling and data analysis for O3 transport, wildfires, and stratospheric intrusion.



Current WESTAR collaboration to improve Ozone Analysis

National Emissions Collaborative for 2022 Model Platform Development

Working with NASA Tiger Team to improve boundary conditions for photochemical modeling

TEMPO Early Adopters—how can new satellite data help us to understand ozone formation and background ozone?





WGA Policy Resolution 2025-02

Western Governors are encouraged by attempts from EPA to provide CAA demonstrations and tools to demonstrate exceptional events and look forward to continued collaboration with states.

EPA should streamline the process for exceptional event demonstrations, provide additional technical assistance, grants, and funding for state personnel, and allocate resources to review state demonstrations regardless of regulatory significance status.

EPA should develop a database with information on air quality impacts that affect the West (e.g., wildfires, dust storms, volcanic activity, etc.) and provide a clearinghouse with tools that states can use for exceptional event demonstrations.

New Approaches to EE Analysis-EPA Guidance/Tools/Training Needed

National and regional CMAQ runs with source apportionment for EE

Archival of fire and smoke maps

Flagging of data-consistency, guidance and automation

Collaborative approach to demonstration development

Connect EE Demo Tool to EE Demo submission

Regional and national smoke forecasting

Streamline the EPA review process

Automate Tier 1 and Tier 2 demonstrations

The more EPA automates the process, the more time for state/local/Tribal work on air quality issues





MJOs, AAPCA and NACAA can help



Coordinate satellite

data analysis





Share State/Local/Tribal EE demo drafts

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Develop conceptual models for regional and national events Provide forums to share EE tools and initiatives





Communications Principles



Standardize

Standardize the message nationally



Partner

Partner with other agencies on messaging and move towards smoke-ready communities



Platforms

Get the message out across many platforms



Fire AirNow

Use the AQI and Fire AirNow



Reduce Exposure

Message the public on ways to reduce exposure





Final thoughts on Exceptional Events

Public perception of data is important.

If a large number of days are excluded through exceptional events, does this make design values less meaningful?

Exceptional Events are no longer just a western concern; it is important to come together to address exceptional events nationally.





WGA Policy Resolution 2025-02

- The profound effects of fire and smoke on visibility in Class I areas in the West should be recognized in the Regional Haze Guidance and Rule.
- Prior to developing a new rulemaking or guidance on regional haze, EPA should provide states with the opportunity to collaborate and maintain transparency between EPA and state decision making and permitting regarding regional haze.
- EPA should allow states adequate time to complete Regional Haze state implementation plans (SIPs), including extending deadlines if needed.
- Given the importance of improved visibility in the West, federal partners should provide funding and resources to states throughout the planning and implementation process. This includes funding through the Western Regional Air Partnership that assists states in completing monitoring and analysis.







The West's Regional Haze Analysis Complexities



118/156 Class I areas in the west



Class I areas with different missions and management strategies

National Parks with significant mobile source emissions

Wilderness Areas where motorized travel is not allowed

Wildlife refuges



Wildfire smoke influence



WESTAR's comments to EPA on RHR revision



Many Class I areas making progress, focus on Class I areas not making progress



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In areas not making progress, federally regulated sources, international emissions, emissions in the Class I area and nonanthropogenic sources have to be addressed



Simplify the Uniform Rate of Progress, make it a bright line of safe harbor: Class I areas meeting the URP have limited SIP requirements

Simplify 4-factor analysis

Most Impaired Days metric doesn't work in the west due to frequency of significant wildfire smoke

Regional Haze modeling is expensive; EPA should conduct national regional haze modeling





Western Regional Air Partnership

Mary Uhl WESTAR maryuhl@westar.org