

Next steps and follow-up items from this workshop:

- Technical needs for western air quality planning
- Coordination / alignment efforts by WRAP, EPA, everyone...

May 15, 2015

Tom Moore

WRAP Air Quality Program Manager

WESTAR Council

2015 WRAP-EPA Western Air Quality Modeling Workshop

Boulder, CO

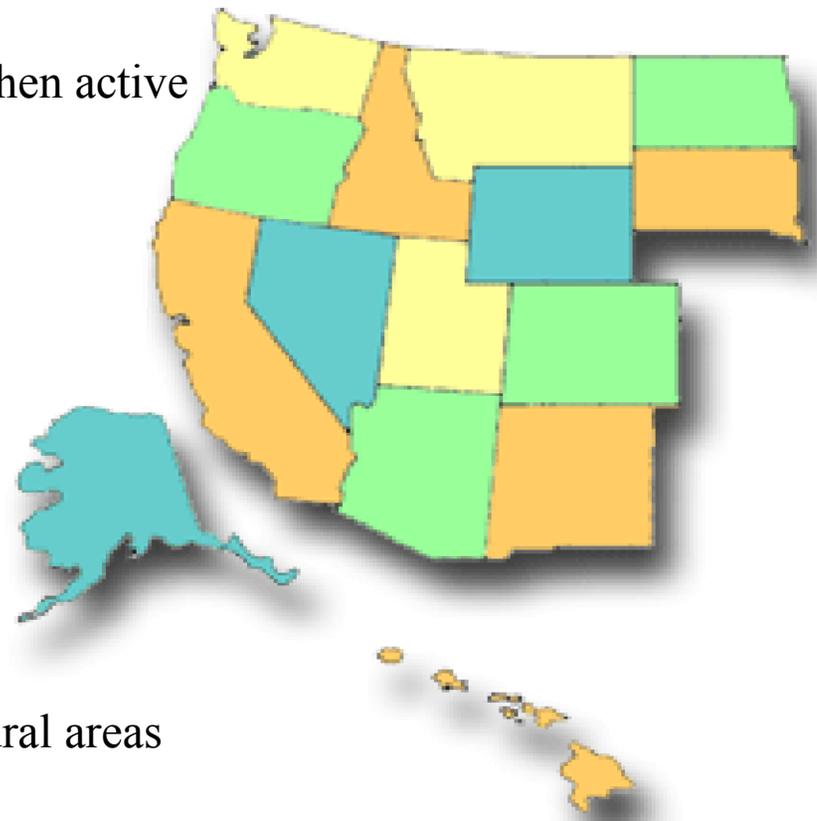


Topics

- Technical work to support planning in the West
 - WRAP work planning – next steps
 - Working groups
 - Collaborative work
 - Frame next steps in workshop report
- Closing the workshop

Western ozone, PM, visibility precursors - key emissions sources

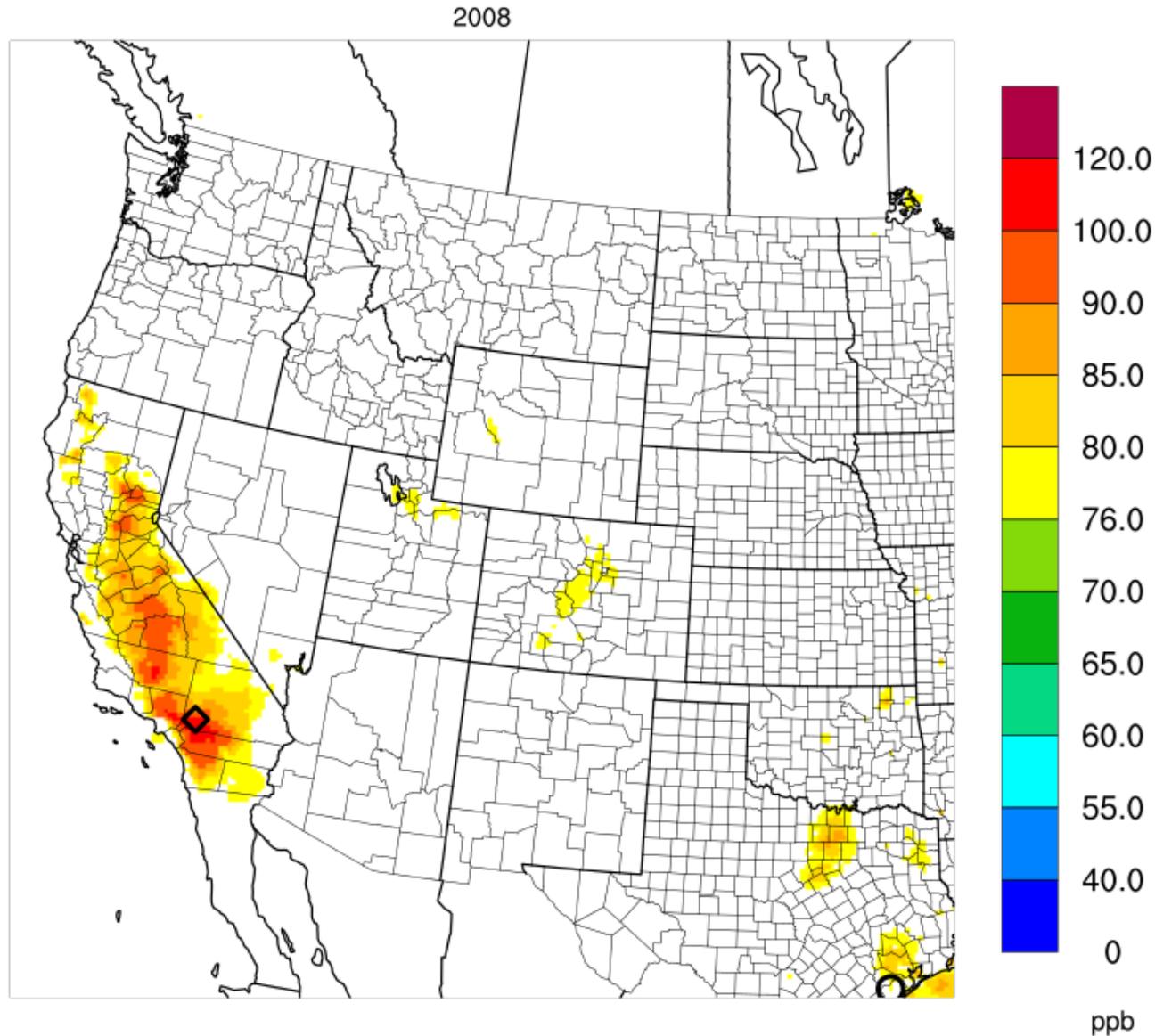
- Power plants decreasing markedly
- Mobile sources controlled and emission rates decreasing markedly through federal rules and state testing programs
- Fire activity and effects are huge
 - Largest air pollution source in the West when active
 - Receiving intensive management / study
- Biogenics (natural plant sources)
- Drought and climate change
 - Pattern changes to geogenic sources
 - Reflected in background and large events
- **Oil and gas activity increasing ...**
- Population growth
 - Concentrated in urban areas
 - More of us living in exurbia, playing in rural areas
 - Living in the Anthropocene...



WRAP Key Issues and Areas of Focus

- NAAQS Implementation and Maintenance
 - Data for future infrastructure and transport SIPs
- Exceptional Events
 - Develop technical support data and analysis protocols
- Implementation of Regional Haze SIPs
 - Identify and execute technical work needed for 2018 plans
- Needs of sub-regional groups of states
 - Currently oil and gas, fire
 - Similar efforts in past – dust, BART, other topics

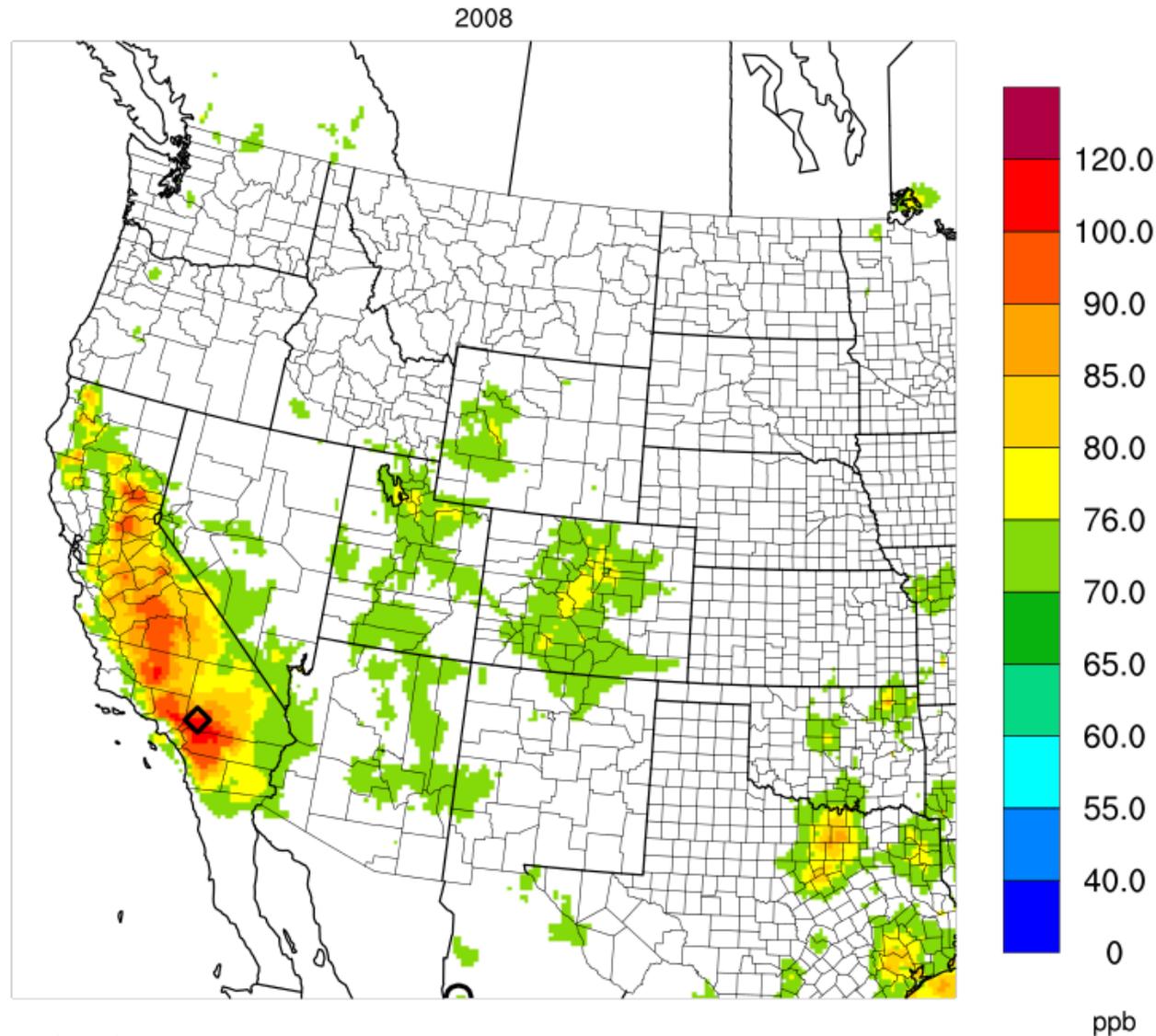
Ozone Modeled Attainment Test Software – Unmonitored Area Analysis with Design Value (2006-2010) ≥ 76 ppb



Source: [WestJumpAQMS](#)

○ Min(210,3) = 76.00, ◇ Max(45,67) = 113.30

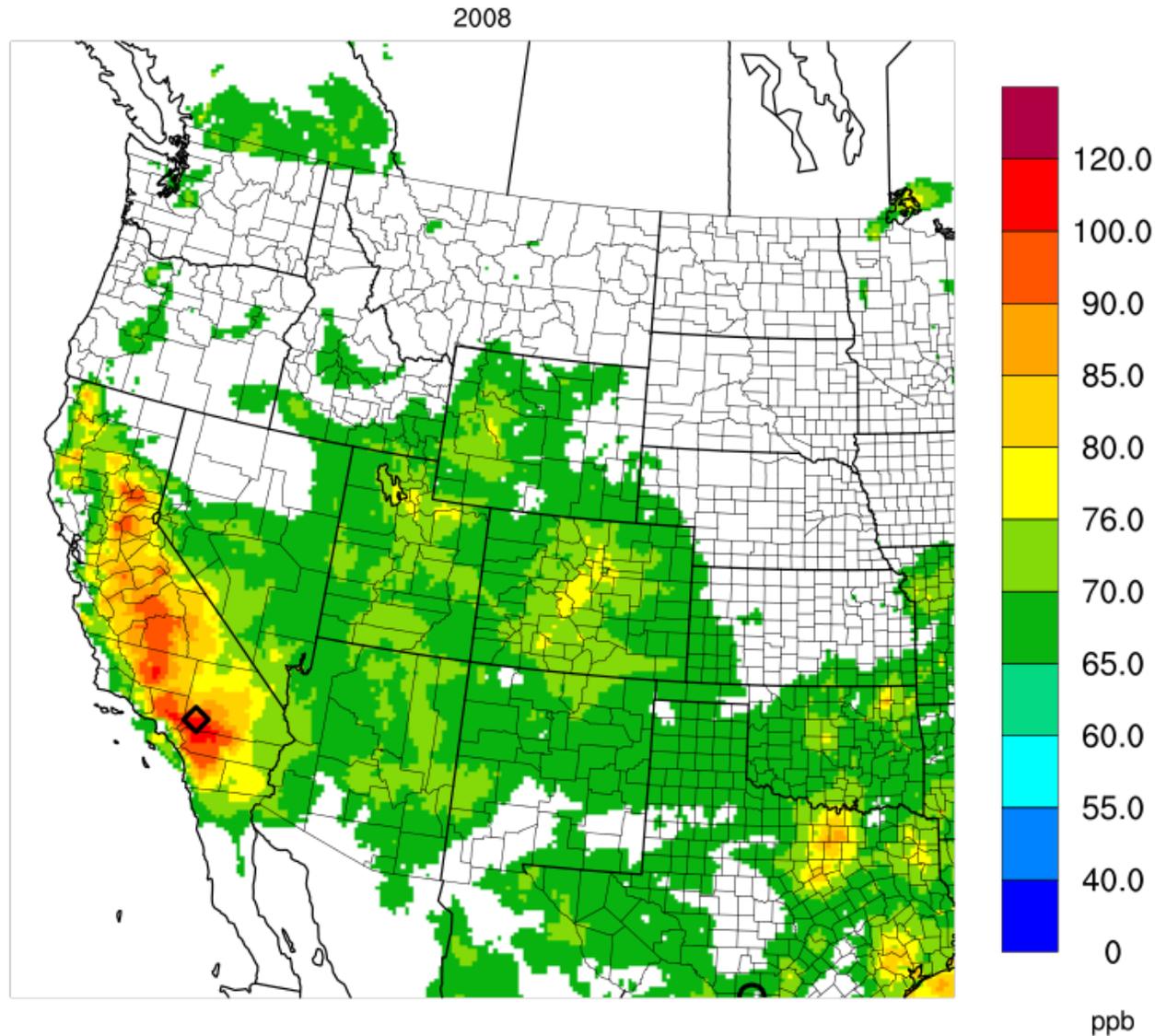
Ozone Modeled Attainment Test Software – Unmonitored Area Analysis with Design Value (2006-2010) ≥ 70 ppb



Source: WestJumpAQMS

○ Min(107,1) = 70.00, ◇ Max(45,67) = 113.30

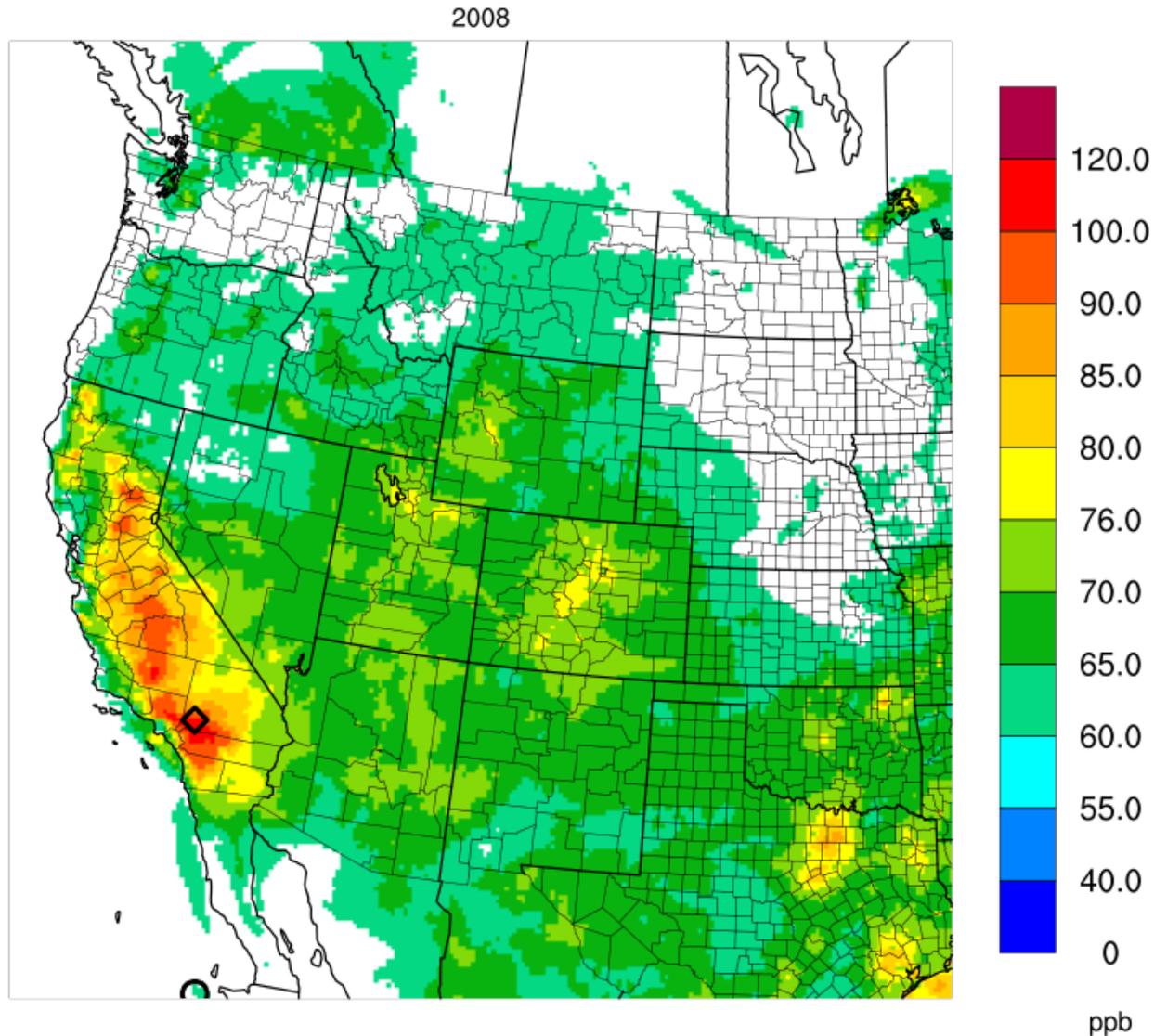
Ozone Modeled Attainment Test Software – Unmonitored Area Analysis with Design Value (2006-2010) ≥ 65 ppb



Source: WestJumpAQMS

○ Min(177,1) = 65.00, ◇ Max(45,67) = 113.30

Ozone Modeled Attainment Test Software – Unmonitored Area Analysis with Design Value (2006-2010) ≥ 60 ppb



Source: [WestJumpAQMS](#)

Five Ozone Planning Needs

1. Ozone NAAQS planning – requires photochemical modeling for SIP attainment demonstrations for nonattainment areas.
2. Ozone transport SIPs –photochemical source apportionment modeling can be used to quantify U.S. Ozone transport between states and jurisdictions.
3. Identification of Ozone exceptional events caused by stratospheric intrusion and wildfires – requires observations & data analysis, supplemented with global/regional scale photochemical models and regression models.
4. Identification of international transport of Ozone for §179B demonstrations: requires nested global and regional scale photochemical modeling to evaluate international transport of Ozone.
5. Identification of §182 Rural Transport Areas – combination of data analysis and photochemical modeling.

In the West
under CAA,
whom to do
which ?

Alone or
together ?

- States

- Regional

- Federal

Regional Haze: Reasonable Progress Reports and Next round of control SIPs

- WRAP produced a comprehensive, regionally-consistent technical report
 - completed Summer 2013
 - Regional, state, and Class I area reports
 - <http://www.wrapair2.org/reghaze.aspx>
 - Monitoring and emissions data analyses as required by Regional Haze Rule
 - Western states are using as a common basis in preparing individual SIP revisions – adding status of state actions to implement controls
 - Progress report SIP revisions are due in the 2013-16 timeframe
- Regional Haze Planning
 - WRAP providing western 2008, 2011, and associated projections (2014 is next base year) emissions data through Western / 3-State Study
 - Modeling platform leveraged from WestJumpAQMS / W3-SAQs
 - States will use to evaluate changes in monitored visibility
- Regional technical support for July 2018 (2021?) SIPs by WRAP

Attributes of a virtual WRAP Regional Technical Center

Desirable Capabilities

*Remote sensing/Satellite data,
Improved technical resolution for
international transport,
Efficient regional data and decision
support systems, et cetera*

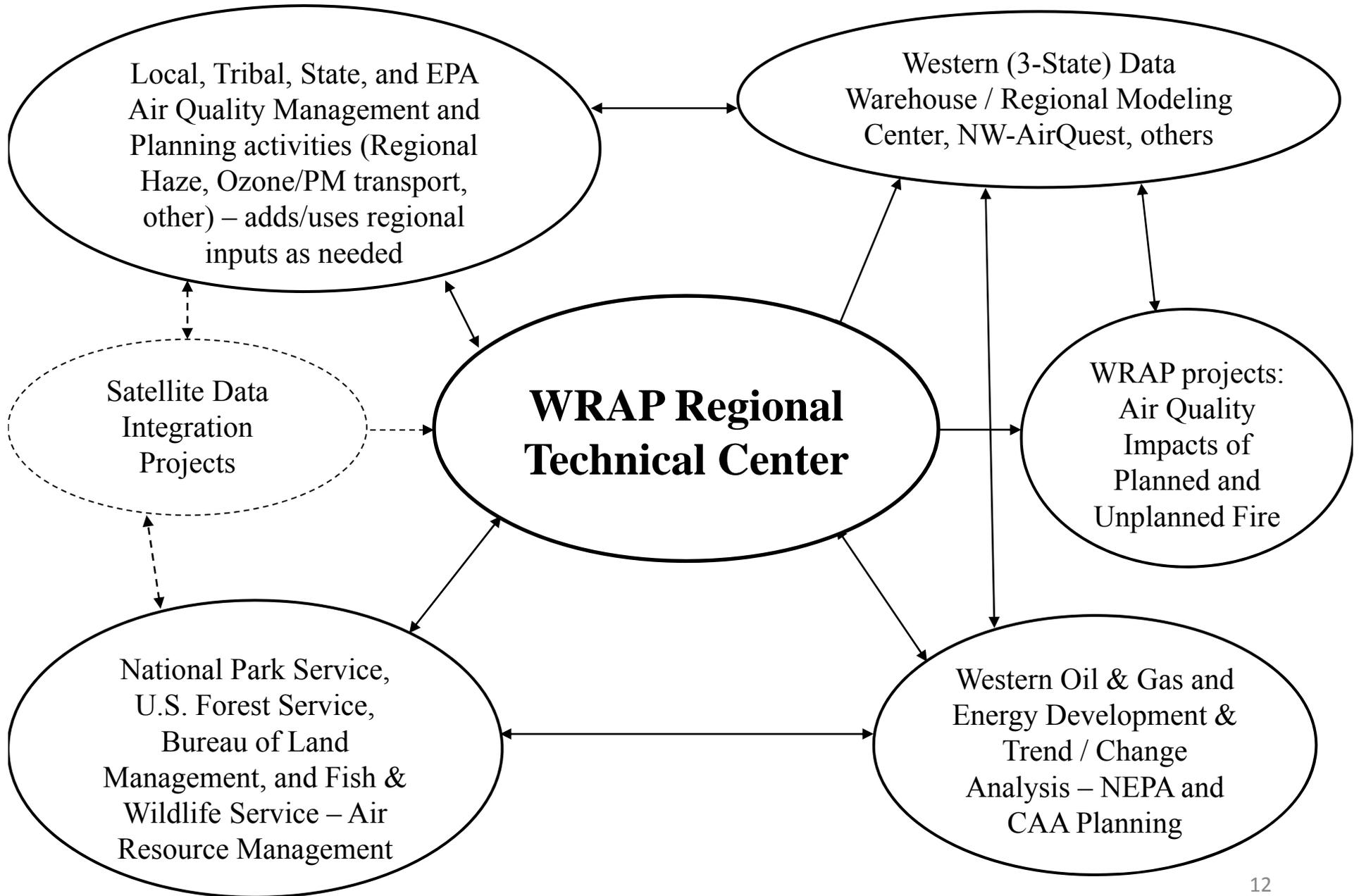
Necessary Regional Activities

*Regional Haze Planning Support,
Tracking and Analysis of Controls, et cetera*

Required Foundational Activities

*(WRAP Regional Technical Center,
Tracking and Projection of Regional Emissions,
Preparation/delivery of ready-to-use Datasets, e.g., Monitoring, Meteorology, et cetera*

WRAP members and relationship to regional technical activities



WRAP Work Planning

- April 2015 Board meeting
- Adopted Strategic Plan ([PDF](#))
- Action Plan
 - [review questions](#)
 - [Action Plan draft](#)

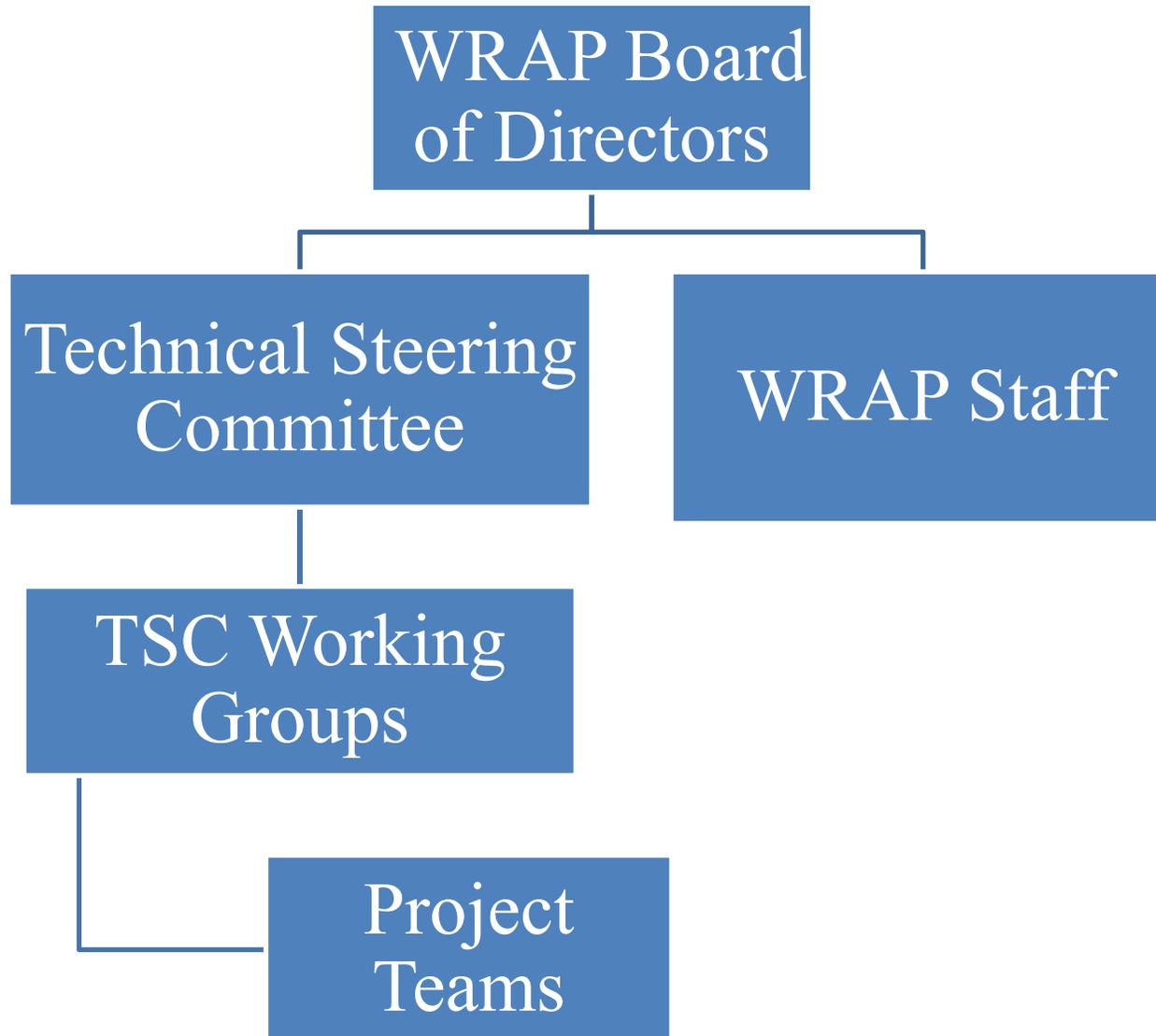
WRAP Action Plan

- 4 specific priorities are identified for 2015-16 that are focused on achieving the WRAP Strategic Plan goals:
 - **Priority 1: Needs assessment:** Determine the highest priority technical support needs based on a member needs assessment.
 - **Priority 2: Technical Steering Committee and Working Groups:** Determine membership, activities, reporting, and then update Committee and establish working groups.

WRAP Action Plan

- **Priority 3: Establish the WRAP Regional Technical Center:**
Develop the information and mechanisms to then design, test, and implement the initial version of the WRAP Technical Center, including data access and delivery, outreach, and training for members and other users.
- **Priority 4: Technical work planning and Gap analysis:**
Prepare white papers to support planning for potential regional analysis support for the revised Regional Haze Rule and potential more stringent Ozone air quality standard. Based on the needs assessment, through discussions by Technical Steering Committee and working groups, determine levels of activity needed and achievable for foundational components of the Technical Center. Identify gaps due to missing functionality, need revisions/enhancements, and resource/funding opportunities in order to deliver the priority needs of the members.

WRAP organizational chart



Working Groups with EPA

- By definition - national (or not?)
 - FACA issue?
 - Intersection(s) with WRAP work groups
- Success stories for the West
 - SI workgroup
 - National O&G Emissions Committee
 - Non-point (NOMAD) – early stages
- EGUs
 - Eastern EGU tools (little to no western participation)
 - CAMD IPM
- EPA OTAQ release training efforts on MOVES2014

Next steps for Working Groups

- WRAP groups (re)starting in 2015
 - Fire and Smoke
 - Oil and Gas
 - Tribal Data
 - Regional Haze planning (WESTAR committee, subset of Planning Committee)
 - Regional Technical
- Alignment with under the EPA umbrella
 - SI workgroup
 - National O&G Emissions Committee
 - Non-point (NOMAD) – early stages
 - EGUs (supplanted by Clean Power Plan rule requirements?)

Collaborative work with NOAA, academics, others

- Intersections
 - Global to regional modeling – evaluation of performance and coupling implications
 - Western / 3-State Data Warehouse
 - Cycle times
 - Operations costs and documentation
 - Level of evaluation and application
 - 2-way data and results transfers
 - EPA data
 - NEI vs. modeling platform
 - National processing – review and comment
 - WRAP organization – cooperative agreements with NOAA and perhaps NASA

Closing the workshop

- Thanks to NCAR for hosting – especially Louisa
- Great effort by EPA writ large
 - Kirk, Gail, Pat, Terry, Bob, and Carol
 - Thanks and lots more to do!
- All presenters and poster authors for time and thought
- All in-person and remote attendees for participating
- Next steps
 - Posting talks in PDF – **need final versions by May 22nd**
 - Draft workshop report based on review of presentations and discussions, relative to the [Charge Questions](#)

extra slides

Opportunities for Western Data Warehouse and Applying Regional Modeling Results from Western Regional Technical Studies

- Leveraged studies address both regulatory planning needs and fill gaps where data are needed
 - Working for the users of the data
- Tracking key western source categories / source areas
 - Regionally consistent, comparable, transparent, and reproducible
- Modeling analyses of Ozone and PM background and transport on a routine basis and during elevated episodes
 - NEPA air quality studies
 - Background data for SIP planning
 - Impacts of fire on ozone and PM across West
- Better oil & gas, fire, biogenics emissions data
 - Improves assessment of natural vs. anthropogenic contributions