



Key Findings from May & July 2008 WRAP Technical Workshops

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Purpose of WRAP Technical Workshops

- 2 workshops – May & July 2008:
 - Monitoring & Data for Regional Analysis
 - Regional Emissions & Air Quality Modeling Studies
- Review technical studies and tools in use by states, tribes, feds, and WRAP - that analyze *Western* air quality issues
- Identify priorities for changes to regional technical activities through the WRAP, that support:
 - Regional Haze initial SIP completion and implementation
 - Ongoing Regional Haze SIP tracking and analysis activities
 - Goals and objectives of WRAP 2008-12 Strategic Plan

Background on Key Findings

- Lessons learned and directions indicated at workshops:
 - Regional technical analyses have provided a platform to complete implementation of the Regional Haze plans and track progress
 - Continue leveraging of funding and in-kind work:
 - Increase efficiency and completeness by looking at regional haze implementation from a one-atmosphere perspective – simultaneously considering other air pollutants
 - Eliminate or minimize single issue regional analyses by acknowledging that pollutants are interrelated
 - Provide WRAP region the data and results interrelating sources to *multiple* air quality impacts
 - Support continuity of data and analysis infrastructure (staff, web systems ...)

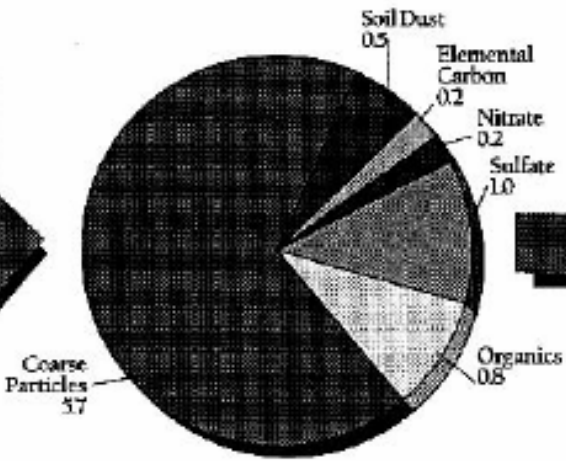
Background on Key Findings, continued

- The WRAP will not:
 - Require change to any WRAP member monitoring network or priorities, and
 - Make state, tribal, or local level air quality planning decisions

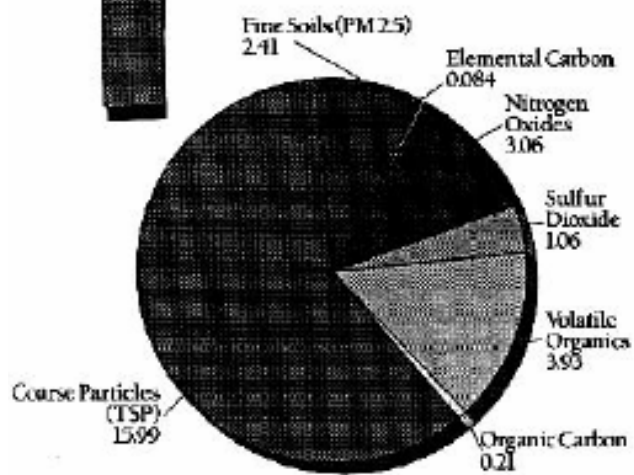
Grand Canyon Visibility Transport Commission

As they travel, emissions may change their chemical composition. Some fall or are washed out of the air. What goes up is not necessarily what comes down!

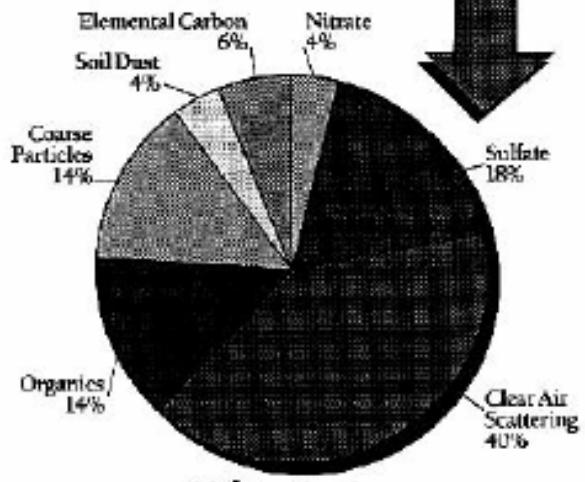
Emissions can form aerosols. Each type of aerosol varies in its ability to cause haze.



Aerosols over the Grand Canyon
micrograms per cubic meter



Emissions (millions of tons/year)
9 State Transport Region



Light extinction
(visibility impairment) over the Grand Canyon

As pollutants travel through the atmosphere, their composition and impact on visibility change.

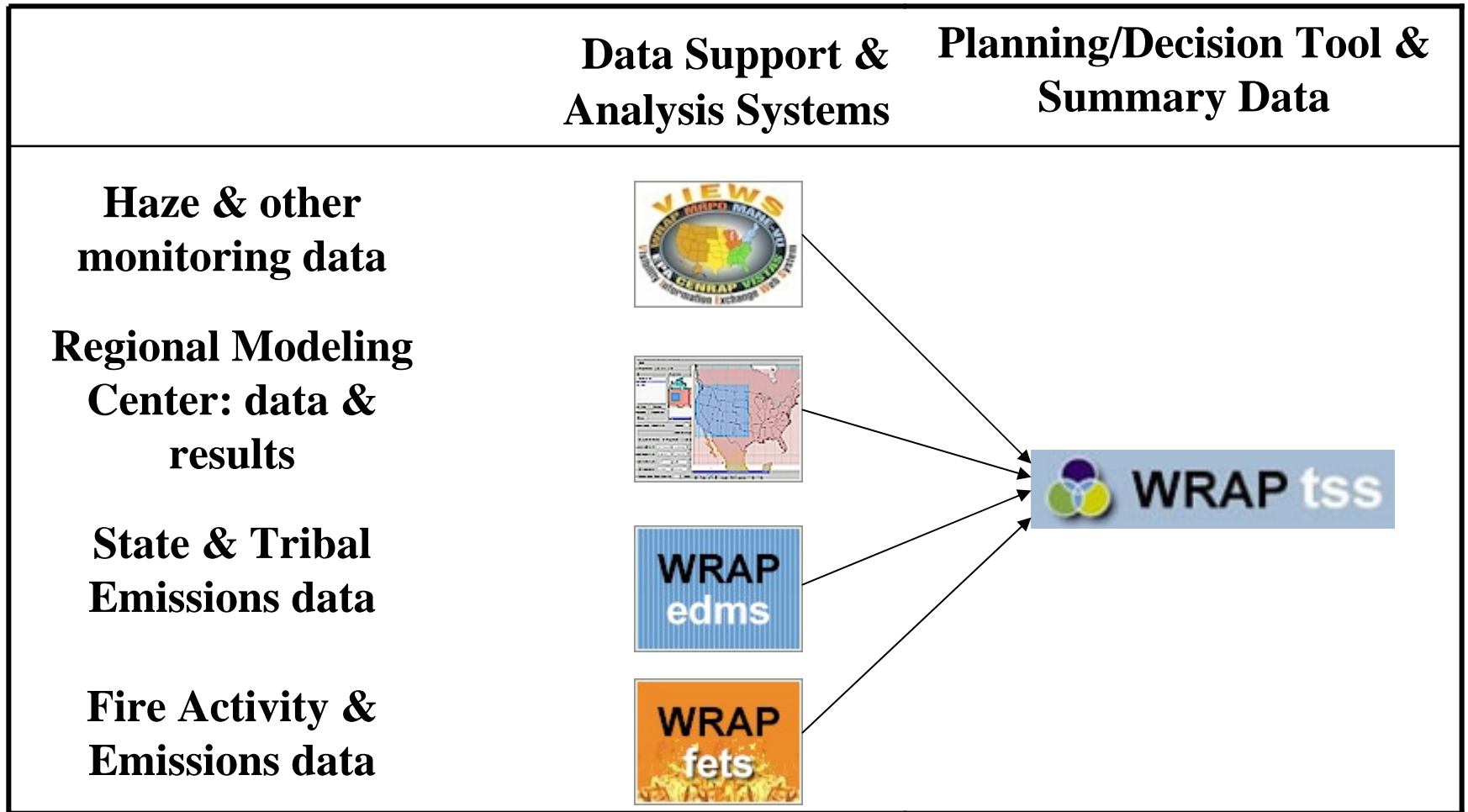
Where we were in the 1990s:

Detailed analyses produce lengthy paper reports and fixed graphics:

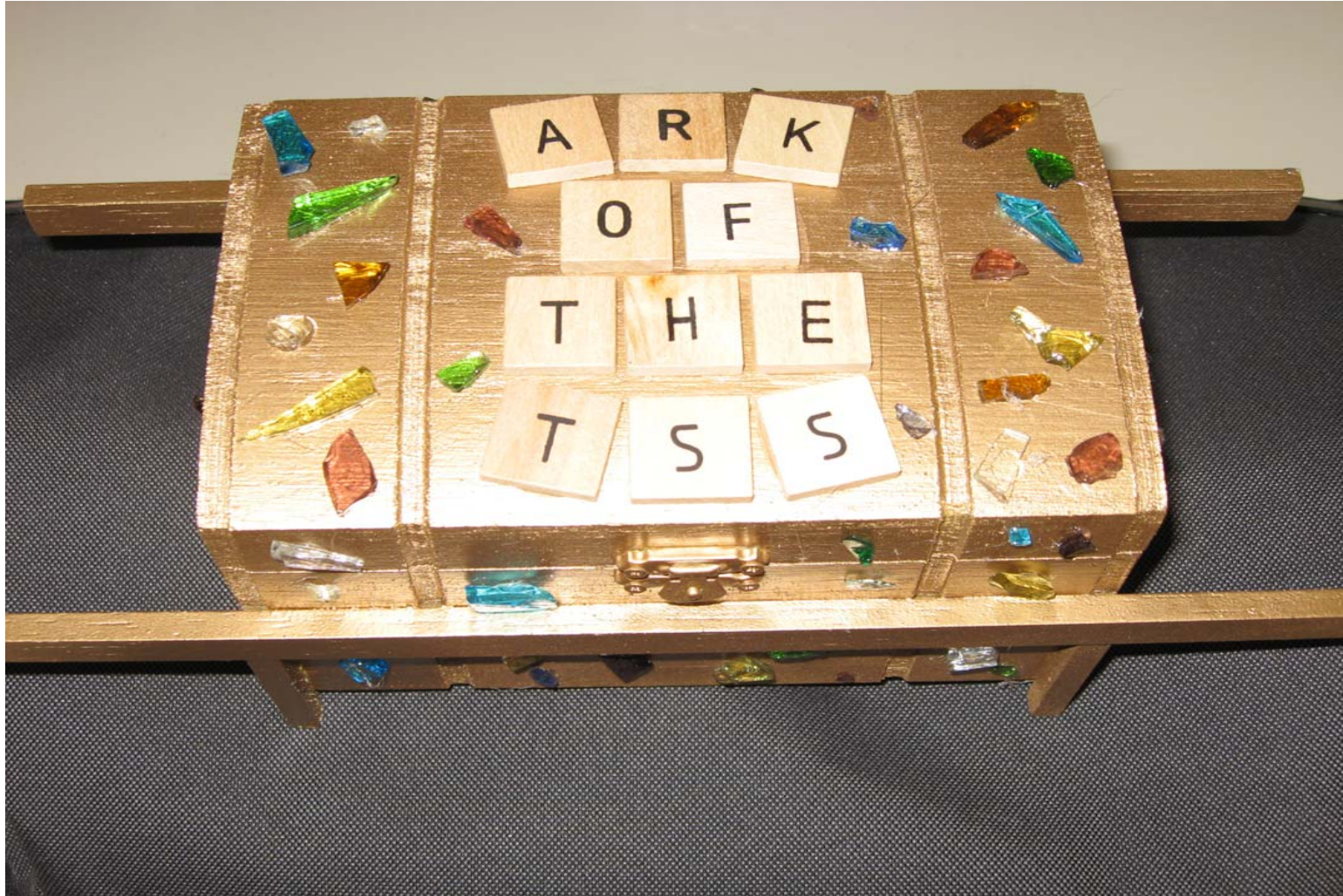
Good results for planning purposes, but not interactive and “question-friendly”

Where are we in 2008?

Web data systems efficiently deliver more complete data and results on a routine basis at the user's desired level of detail



Arizona's view of the TSS and other support systems



Monitoring and Data Analysis Workshop

Finding #1

- A coordinated regional effort can reduce gaps in knowledge through monitoring and improved data collection
 - Coordinate monitoring across the WRAP to improve data collection and storage.
 - Engage with the organizers of new monitoring efforts for multiple pollutants to maximize co-benefits.
 - Manage data storage through web-based support system (VIEWS) and report both concentrations and uncertainties.

Monitoring and Data Analysis Workshop

Finding #2

- Implement more complete monitoring networks to allow assessment of regional air pollution transport
 - Coordinate and expand monitoring efforts for the pollutants contributing to regional haze and NAAQS issues
 - To improve understanding of regional haze for the next planning cycle – need to close these gaps in knowledge
 - Work with EPA and other Federal partners toward a policy change to work through regional analysis groups such as WRAP to:
 - Direct research support for testing, implementation, and routine application of monitors for the nitrogen species' family, mercury compounds, and tracers for primary organic particles and secondary organic aerosols

Emissions and Modeling Workshop

Finding #1

Provide regionally consistent tracking of emissions data and continue to advance specific inventory improvements relevant to western concerns.

- Regional emissions work through WRAP has brought consistency (apples vs. apples) across jurisdictional lines
- WRAP activities have addressed emissions knowledge gaps allowing regional air quality analysis in the West and beyond
 - Fire Emissions Tracking System
 - Ammonia emissions model
 - Windblown Dust emissions model
 - Off-Shore Shipping
 - International Emissions
- EDMS emissions tracking is a key part of Regional Haze implementation
- Supports other programs such as NAAQS compliance
- Provides database for future emissions projections
- Establishes regional consistency for tracking progress

Emissions and Modeling Workshop

Finding #2

Develop next generation of Regional Modeling Center:

- Provide remaining modeling for regional haze plans and lay the foundation for future haze plans
- Conduct multiple levels of assessment ranging from simplified screening tools to detailed source-receptor analyses
- Provide data for local, state, tribal, federal air quality analyses across the West (e.g., boundary conditions)
- Identify sources and magnitude of air pollution transport
- RMC is cost-effective and employs consistent analysis methodologies across the West
- Regional haze implementation requires one-atmosphere analysis to be right, leveraging what we have spent and learned

Air Quality Planning – Regional Technical Support

Finding #1

Develop & maintain a web-based portal for air quality planners

- Cross-reference state, local, and national emission control effectiveness to historic and projected future emissions inventories
- Tools to easily identify and assess control programs and evaluate progress toward air quality standards and goals
 - Which sources and regions contribute to air quality issue at a point of interest?
 - What controls and programs exist now and in the future to mitigate those issues?
- Leverage & build off current EDMS & TSS systems

Air Quality Planning – Regional Technical Support

Finding #2

Continuing development of TSS for integrated analysis and results will:

- Continue development of simple & straightforward air quality planning and evaluation tools
 - e.g., assess ozone, nitrogen, organics, dust transport and event contributions
- Provide tools to extrapolate complex technical data for use in air quality planning purposes
 - How do upwind changes affect my air quality status?
- Support the assessment of multiple pollutants
 - Relate sources to more than one air quality indicator for planning

Regional Haze Planning

- <http://video.aol.com/video-detail/indiana-jones-and-the-raiders-of-the-lost-ark-rolling-boulder-clip/2364208868>