

# Regional Haze Analysis in the West: Technical Status Report

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Regional Haze session

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# Technical progress report and work to follow

- Kickoff projects - underway/completed – foundational work
  - Planning work to update and modernize Fire Emissions Tracking System (FETS) and WRAP Fire Tools capabilities
  - Road Map project for analysis and planning work on Oil & Gas
  - Modeling Year representativeness analysis
- Next round of projects – about to start
  - Add staff at CSU/CIRA to update and support Technical Support System (TSS) for haze planning and other data delivery
  - Assessment of regional planning needs for Regional Haze
- 2018 through early 2020 regional analysis efforts
  - Complete Regional Haze and associated regional analyses using monitoring, emissions, and modeling data
  - Build tribal air quality program capacity through TDWG efforts
- Contractor-supported projects, numerous in-kind WRAP member agencies' efforts as well

# **Kickoff Project:**

## **Planning work to update Fire Emissions Tracking System (FETS) and WRAP Fire Tools capabilities**

- **Status of WRAP Fire Tools, Data Products, and Resources**
  - Fire Emissions Tracking System
  - Regional Air Quality Analysis System (WRAP Fire Tools)
  - Emissions Inventory Data
- **Emissions and Modeling Efforts in the Broader Fire Community**
  - Fire Activity Tracking
  - Operational Fire Emissions and Smoke Modeling
  - Planning Year Fire Emissions
  - Field Campaigns and Model Validation
  - Web-based Fire Emissions Calculators
- **WRAP Fire Resources**
  - Activity tracking
  - EI products – annual inventory, partnership with SMARTFIRE, validation and alternative approaches
  - Exceptional Events
  - Improved Modeling Inputs

# **Kickoff Project:**

## **Road Map for analysis and planning work on Oil & Gas**

### Tasks:

- I. Identification and Review of Oil & Gas Specific Projection Methodologies and Work Products
  - II. Base Year and Future Year Oil & Gas Emissions Inventories
  - III. Identification and Review of Member Agency Oil & Gas Programs and Emissions Management
- The scope of these tasks is the WRAP Region, including Alaska, and focused on the following pollutants: NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>2.5</sub>, VOC, CO, CH<sub>4</sub>, and CO<sub>2</sub>
  - [OGWG Road Map: Phase I Report](#) completed, consensus on April 16, 2018

# Kickoff Project:

## Modeling Year representativeness analysis

- Purpose: determine inter-annual variability of meteorology, emissions, and air quality observations in the western U.S. to assess representativeness for regional modeling and air quality planning
  - Examine available meteorology and air quality observations from monitoring networks in the western and central U.S. (i.e., WRAP and selected CENSARA states), focused on 2014-15-16, including:
    - Meteorology
      - Surface temp., Wind speed, Precipitation, Synoptic climatology variation and typing
    - Emissions trends and important changes/variation in source categories
    - Air Quality
      - Ozone, PM2.5 total mass and species and PM10 total mass, Wet deposition of nitrogen (NH<sub>4</sub><sup>+</sup>, NO<sub>3</sub><sup>-</sup>)
- 5 project calls since early Feb., final project report in mid-June
- Transfer data and display tools to Technical Support System

## **Next Round project:**

### **Add staff at CSU/CIRA to update and support Technical Support System (TSS) for haze planning and other data delivery**

- Develop TSSv2 by leveraging the existing TSS website, tools, and data
  - Add new regional haze and other western U.S. data (i.e., ozone, NO<sub>x</sub>, etc.)
  - Provide tools and data displays for Regional Haze planners.
- CSU/CIRA will provide a fulltime programmer / web database staff person via a WESTAR contract to accomplish the following tasks:
  - Determine User Requirements
  - Develop a Web Portal
  - Import Data and Results
  - Develop Display and Analysis Tools
  - Maintain the Web Portal and Data Inventory
  - Provide User Support
- The CSU/CIRA staff person starts April 30, 2018

# **Next Round project:**

## **Assessment of regional planning needs for Regional Haze**

### Review and compile for analysis

- RHR as of early 2017 and draft 2016 planning guidance
- Modeling and EI guidance from EPA related to Regional Haze
- Compile survey results from RHPWG outreach during 2017
- WESTAR 2021 RH SIP update doc
- WRAP 2018-19 Workplan

### E-Mail survey to address additional, current planning questions with follow-up calls

### Analysis from review and compilation, and E-Mail survey tasks:

- For any air quality planning related needs, assess any issues between survey results, WESTAR and WRAP plans
- Identify key timing issues
- State scope vs. regional analysis issues
- Gaps in state planning needs from survey

### Structure/upload results on a re-organized RHPWG web page

## **2018 through early 2020 regional analysis project efforts:**

### **Build tribal air quality program capacity with support from Institute for Tribal Environmental Professionals (ITEP) for TDWG**

- Help Tribes understand WRAP/WESTAR product benefits
- Solicit Tribal membership in WRAP and participation in TDWG
- Help Tribes understand monitoring data and use of AQS
- Help Tribes understand the EI process and NEI capability and use
- Ensure availability of monitoring/emissions data from Tribes
- Coordinate to facilitate support of TIPs and tribal programs
- Provide educational opportunities for WRAP member Tribes

## **2018 through early 2020 regional analysis project efforts:**

### **Slide 1: Complete Regional Haze and associated regional analyses using monitoring, emissions, and modeling data**

#### **Major Tasks:**

- Coordinate among other Work Groups to identify air quality modeling products that will be relevant to their Workplans
- Monitoring and Data analysis for representative modeling years and modeling performance evaluation
  - Investigate alternate regional haze data metrics that optimize model performance
- Dynamic Model Evaluation to assess Regional Haze progress
- Select global model simulations to be used for boundary conditions
  - Estimate natural and anthropogenic contributions to international contributions
- Base Year emissions processing including those inventories provided by other Work Group
- Base Year Meteorological Modeling and meteorological model performance
- Base Year Air Quality Modeling
  - Apply more complete and uniform model performance evaluation methods

## **2018 through early 2020 regional analysis project efforts:**

### **Slide 2: Complete Regional Haze and associated regional analyses using monitoring, emissions, and modeling data**

#### Major Tasks:

- Future Year (i.e., 2023, 2028) emissions projections
  - document methods and process data
- Future Year Air Quality Modeling
- Source Apportionment/Sensitivity Modeling
- Technology transfer - make modeling platform available through the IWDW
  - Post processing for display on TSS
- Investigate the influence of projection years' background ozone on the western U.S.

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Thanks.