 

draft of Regional Technical Operations Work Group workplan scope

October 27, 2021

**Overview**

The WRAP Workplan established topical Work Groups including the Regional Technical Operations Work Group (RTOWG). Since its inception in the WRAP Strategic Plan and Vision Statement, the mission statement for RTOWG is to, “Provide a forum for regional collaboration on technical and planning topics of common interest to the members” – the specific tasks focused on regional emissions and air quality modeling analyses. Over the past several years, various efforts by regional, federal, state, and local groups have developed infrastructure upon which the RTOWG can effectively continue to build regional collaboration forum for technical analysis and planning. The modeling center selected by the RTOWG for regional modeling is the [Intermountain West Data Warehouse](https://views.cira.colostate.edu/iwdw/) (IWDW) – Western Air Quality Study (WAQS). The IWDW-WAQS modeling center has been and will continue to directly apply resources provided by the Cooperating Agencies sponsoring the IWDW-WAQS to support and deliver WRAP regional modeling work efforts described in this workplan, readily adaptable for air quality planning purposes for the NAAQS, Regional Haze, and other programs. The Cooperating Agencies sponsoring the IWDW-WAQS are all active WRAP members.

The focus of the Regional Technical Operations Work Group includes:

* Regional analysis in support of planning activities related to emissions and modeling for regional haze, ozone, PM, and other indicators.
* Background and regional transport, international transport, sensitivity and other analyses of emissions data focused on the western U.S.
* Perform and leverage modeling, data analysis, and contribution assessment studies.
* Investigation of “background ozone” impacts to western U.S. locations.
* Coordination and collaboration with the WRAP member-sponsored IWDW-WAQS regional air quality modeling center, and leveraging work by groups including NW-AIRQUEST, EPA-OAQPS, and other state and local agencies performing regional modeling; and
* Several of these activities involve close coordination with other WRAP Work Groups.

The WRAP Regional Technical Center, in the form of the [IWDW-WAQS](https://views.cira.colostate.edu/docs/IWDW/Outreach/IWDW_WAQS_Overview_v06132019.pdf), provides data support and decision support for regional inputs to air quality planning in the WRAP region and is comprised of three interrelated components.

1. The IWDW-WAQS emissions and air quality modeling efforts are based on data housed at the Colorado State University’s Cooperative Institute for Research in the Atmosphere (CSU-CIRA) managed through a cooperative agreement with WESTAR. These data are stored, accessed, and analyzed via the CSU-CIRA Air Data Management System (ADMS).
2. Websites designed, implemented, and maintained by CSU-CIRA deliver data and analysis results. Those currently include the [Technical Support System](https://views.cira.colostate.edu/tssv2/), the [Federal Land Manager Environmental Database](http://views.cira.colostate.edu/fed/) (FED), and the [IWDW-WAQS](https://views.cira.colostate.edu/iwdw/). These websites deliver the data required to support regional air quality modeling including meteorological, emission inventories, air quality modeling platforms, and monitoring data, and the websites collectively support a variety of western air quality modeling activities.
3. In addition to data delivery and visualization on the websites, decision support for regional inputs to WESTAR-WRAP member agencies’ planning efforts are in the form of the [Technical Support System](http://views.cira.colostate.edu/tssv2/), providing access to a variety of data, work products, and data analysis capabilities to support air quality planning activities.

The work that the RTOWG does and oversees often uses guidance provided by EPA and others. The EPA’s Air Quality Modeling Group (AQMG) provides guidance documents to EPA Regional, State, and Tribal air quality management authorities and the general public on how to prepare attainment demonstrations for National Ambient Air Quality Standards (NAAQS) and the Regional Haze Rule using air quality modeling and other relevant technical analyses. These guidance documents are primarily directed at modeling applications in nonattainment areas but are also useful for modeling in maintenance areas or to support other rules or sections of the Clean Air Act. These guidance documents recommend procedures for estimating if a control strategy to reduce pollutant emissions (e.g., ozone precursors) will lead to attainment of the appropriate NAAQS or visibility metric. These guidance documents are periodically updated, or new documents are published at the discretion of EPA-OAQPS. Some of the current applicable guidance documents include:

The RTOWG also has an important role to coordinate regional communication and knowledge-sharing among WESTAR-WRAP members. The RTOWG will address the members’ programs and data collection. The RTOWG will provide oversight and coordinate efforts with projects and activities for WESTAR-WRAP and with other groups regionally and nationally, related to emissions and air quality modeling.

**Responsibilities and Deliverables**

1) Protocol to develop current modeling platform, pending available resources, implement by:

1. Preparing key western emissions inputs
	1. upstream oil & gas
	2. consumer solvents
	3. fire and smoke
	4. all mobile
	5. ammonia
	6. biogenics (esp. isoprene)
	7. windblown dust
	8. other emissions sectors
2. modeling inputs – boundary conditions, meteorological data
3. complete comprehensive model performance evaluations (MPEs)
4. determine projection year(s) of interest and simulate future air quality
5. finish by projecting future air quality conditions in compliance with EPA guidance

2) Based on air quality evaluation and planning needs, and available resources, determine modeling analyses:

a) run emissions sensitivity tests to improve and achieve better model performance

b) model future air quality conditions for planning

c) ozone source apportionment modeling run using CAMx APCA (Anthropogenic Precursor Culpability Assessment) diagnostic tool to apportion source categories and states contributing to regional ozone transport and international contributions

d) PM source apportionment modeling run using CAMx PSAT diagnostic tool to apportion source categories and states contributing to regional PM transport and international contributions

e) critical loads from PSAT

f) other analyses (HDDM, et cetera)

3. For source categories used in regional photochemical modeling above, compile and prepare methane emissions inventories for greenhouse gases

These would be implemented using resources from member agencies to build a more current year (2020/2021) base year modeling platform development through the IWDW-WAQS effort (*a draft 2022-24 workplan is in review by the Cooperators*). Substantial funding for contractor support of the above activities from IWDW-WAQS Cooperating Agencies will likely not be available before 2023. This work must take into consideration differing levels of expertise, programmatic approaches, cultural necessities, and needs by WESTAR-WRAP member agency. Several of these activities will involve close coordination within WESTAR-WRAP facilitated by the Technical Steering Committee (TSC), as is done with other WRAP Work Groups.

**Operations and Reporting**

The Co-Chairs will provide a summary report to the TSC at each TSC/WG Co-Chairs meeting, about the status of activities, findings, and work products for the topics described above. The Co-Chairs, with support from WESTAR-WRAP staff, will maintain an active open membership composed of interested state, tribal, local, and federal air agency and land manager experts, and publish the RTOWG membership list and track participation on the [Regional Technical Operations Work Group webpage](http://www.wrapair2.org/RTOWG.aspx). No formal detailed workplan is required but welcome.

The RTOWG will have regular virtual or in-person meetings (*preferred regular interval?*) to manage activities and provide oversight to projects. Subcommittees or Teams to be defined by the RTOWG will execute, track, and provide oversight for both in-kind and/or contractor-supported RTOWG projects, including the [IWDW-WAQS systems](https://views.cira.colostate.edu/iwdw/), and will meet at self-defined separate intervals. The task-oriented topics and responsibilities for a Subcommittee or Team will be a subset of the bulleted topics above from this Responsibilities and Deliverables section. The leads for Teams and Subcommittees will meet monthly with the RTOWG Co-Chairs to note progress. The topics above will need additional clarification and definition in the process of defining a Subcommittee’s or a Team’s scopes, assignments, and intended deliverables in writing. Any Teams and Subcommittees will report regularly to the RTOWG. The RTOWG Co-Chairs will plan and direct the regular calls and meetings, and with assistance from WESTAR-WRAP staff, take the lead in communications and other necessary TSC and Board interaction.

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On the [Regional Technical Operations Work Group webpage](http://www.wrapair2.org/RTOWG.aspx), continue display of the existing RTOWG webpage’s posted materials and add relevant and currently useful modeling-related files from the current WRAP website’s [Ozone](http://Ozone) and [PM-Nitrogen Deposition & Critical Loads-Mercury](http://www.wrapair2.org/pm.aspx) tabs.