 

Regional Technical Operations Work Group workplan scope

November 29, 2021

**Overview**

Over the past several years, various efforts by regional, federal, state, and local groups have developed infrastructure upon which the WRAP has established and can effectively operate the WRAP Regional Technical Center to provide technical information that is credible, current, consistent, virtual, and accessible based on input from WRAP members, as described in the [WRAP Strategic Plan](http://www.wrapair2.org/pdf/WRAP%20Strategic%20Plan%20final%20March_2015.pdf).

The WRAP Regional Technical Center selected by the RTOWG for regional monitoring, emissions, and modeling data and analysis activities is the [Intermountain West Data Warehouse](https://views.cira.colostate.edu/iwdw/) (IWDW) – Western Air Quality Study (WAQS). The IWDW-WAQS also has been and will continue to directly apply resources provided by the IWDW-WAQS [Cooperating Agencies](https://views.cira.colostate.edu/iwdw/Docs/ProjectDocs.aspx) sponsoring the IWDW-WAQS to support and deliver WRAP regional modeling work efforts 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 in the context of the Regional Technical Center includes:

* Regional analysis in support of planning activities related to emissions and modeling for Class I area visibility and regional haze, as well as ozone, PM, and other indicators across the region.
* Background and regional transport, international transport, sensitivity and other analyses of emissions data focused on the western U.S. sources.
* 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
* Close coordination with other WRAP Work Groups.

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 implementing their data collection efforts. 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.

The WRAP Regional Technical Center is overseen by WRAP/WESTAR staff and provides data support and decision support for regional inputs to air quality planning in the WRAP region and is comprised of two interrelated components.

1. 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)](http://www.wrapair2.org/pdf/CSU-CIRA_IWDW-TSS-FED__scope_April_2020.pdf).
2. Websites designed, implemented, and maintained by CSU-CIRA deliver data, analysis results, and decision support for air quality planning activities. 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 also provide access to 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.

**Responsibilities and Deliverables**

These RTOWG Workplan Scope activities are intended to provide a structure and sequence for building and using a regional modeling platform.

1) Prepare protocol(s) to develop and apply a current modeling platform on a regular cycle, pending available resources, and implement as listed:

1. Prepare 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, conduct regional analyses using the modeling platform to improve model performance and provide regional results useful to WESTAR-WRAP member agencies:

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

b) model future air quality conditions of specific indicators for air quality planning needs;

c) conduct ozone source apportionment modeling using CAMx Anthropogenic Precursor Culpability Assessment tool to apportion source categories and states contributing to regional ozone transport and international contributions and to evaluate control strategies;

d) conduct ozone source apportionment modeling using the CAMx Ozone Source Apportionment Tool to evaluate ozone formation contributions and other questions;

e) conduct Particulate Matter source apportionment modeling using the CAMx Particulate Source Apportionment Tool to apportion source categories and states contributing to regional transport and international contributions for both PM indicators and Class I area visibility impacts;

f) apply in studies to evaluate nitrogen and sulfur deposition, including the assessment of critical loads in sensitive ecosystems; and

g) consider analyses of other pollutants and/or use additional analysis tools and data.

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, initially on a quarterly basis 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 the 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 scope, 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.