**Regional Technical Operations Workgroup (RTOWG)**

**Monthly Call – Tuesday, 11/19/19**

Attendees:

|  |  |
| --- | --- |
| Amanda Brimmer | RAQC |
| Abdullah Mahmud | CARB |
| Bob Kotchenruther | EPA Region 10 |
| Brandon McGuire | MT DEQ |
| David Stroh | North Dakota |
| Farren Herron-Thorpe | WA DoE |
| Gail Tonnesen | EPA Region 8 |
| George Milly | Columbia Univ. and HAQAST |
| Ken Rairigh | WY DEQ |
| Kevin Briggs | CDPHE |
| Kira Shonkwiler | CO APCD |
| Kirk Baker | EPA OAQPS |
| Leo Ramirez | CARB |
| Marco Rodriguez | Ramboll |
| Mark Hixson |  |
| Mary Uhl | WRAP |
| Pat Brewer | PFBrewerConsulting |
| Ralph Morris | Ramboll |
| Rebecca Matichuk | EPA Region 8 |
| Rene Nsanzineza | AZ DEQ |
| Rong Li | ID DEQ |
| Shawn McClure | CIRA-IWDW/TSS2 |
| Ted Friesner | CIRA-IWDW/TSS2 |
| Tim Allen | FWS |
| Tina Saurez | CARB |
| Tom Moore | WRAP |

**Ralph Morris (Ramboll) discussed status of base modeling and sensitivity runs (see WRAP\_2014\_Shake-Out\_RTOWG\_2019-11-19v2.pptx)**

* Review of current ‘phase III’ modeling tasks
* Model schedule delayed by ~week due to fires in California affecting power grid
* Scope of work somewhat streamlined (e.g., some sensitivity simulations removed/curtailed) to accelerate progress on 2028 simulation
* Fire sensitivity simulation
	+ DEASCO3 v. Bluesky plume rise treatment
	+ Bluesky plume rise treatment significantly more time consuming
	+ DEASCO3 typically results in larger impacts closer to the source
	+ Model performance for ozone and PM generally similar for both approaches
	+ Recommended to use WRAP/DEASCO3 fires for subsequent CAMx modeling due to faster throughput and consistency with future fire sensitivity modeling
* Treatment of explicit elements sensitivity simulation
	+ CAMx v7.0 includes 8 new explicit elemental species (Fe, Mg, Mn, Ca, K, Al, Si, Ti)
		- CaNO3 may be important with regard to nitrate formation, especially in the summer
		- Elements will influence aqueous-phase chemistry in cloud water droplets
	+ New version of CAMx gives very similar results with regard to sulfate and nitrate formation; recommend adopting since it represents updated state-of-science
* Biogenic emissions sensitivity simulation
	+ MEGAN and BEIS biogenic emissions models used generate biogenic inventories
	+ MEGAN updated to v.3.1
	+ MEGAN 3.1 emissions significantly different than MEGAN 3.0, and more in accord with BEIS
	+ BEIS and MEGAN v3.1 PM and ozone performance are comparable with BEIS being slightly higher at most sites
	+ 2014v2 modeling ozone performance is better using BEIS than MEGAN so recommend using BEIS for final 2014v2 configuration
* Review of final model configuration for v.1 and v.2 of CAMx and CMAQ
	+ Gail – is it possible to include ammonia bi-directional flux scheme in CMAQ?
* Summary of remaining tasks in phase III and phase IV modeling
	+ Phase IV includes 1) dynamic model evaluation and 2) state- and sector-specific source apportionment runs

**Tom Moore reviewed the draft “WESTAR-WRAP Emissions and Modeling Scenarios” table.**

* Current and upcoming CAMx and CMAQ modeling runs outlined
* Codes assigned to modeling scenarios (e.g., “D2” = 2028 On-the-book emissions with future wildfires

**Pat Brewer presented the TSS delivery update**

* Discussion of WRAP regional haze delivery process
	+ 8 steps, detailed in slide 1
* Format of slide 3 may change.
* CAMx model runs (e.g., “A2”, “C1”) correspond to modeling table from Tom
* Last slide is a ‘to do’ list for monitoring/emissions/modeling

Next RTOWG call scheduled for Tuesday, Dec. 10, 2-3:30pm mountain

* Finish 2014v2 model performance evaluation
* Representative baseline emission inventory