

OAQPS Technical Updates: Monitoring, Modeling & Emissions

NACAA Fall Meeting

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Ambient Monitoring Updates

Group Leader: TBD

COVID-19 Ambient Air Monitoring Update

- COVID-19 related impacts: monitoring and lab operations
 - Tracking of suspended monitors began March 2020.
 - Early in the COVID-19 response: about 6% of all monitors (and about 4% of regulatory monitors) were offline.
 - August: 2.2% of all monitors (1.7% of regulatory monitors) were offline.
 - August: all labs are operating, but some have limited operations.
- EPA Memos on Ambient Air Monitoring as Mission Essential
 - Ambient Air Monitoring Programs and Continuity of Operations
 - Ambient Air Monitoring Priorities
 - Resuming Operations of National QA Programs
- Evaluation of Air Quality During COVID - ongoing
 - Air quality impacts, emission inventory changes, etc.
 - Exceptional Events
 - Interest in analyses going on elsewhere

Ambient Air - Protocol Gas Verification Program (AA-PGVP)

- Traceability of NAAQS gas standards
 - Independent EPA verification of calibration Gas Standards
 - Specialty Gas Producers follow EPA’s traceability “Protocol”
 - Allows SLTs to make informed decisions when procuring Gas Standards
- AA-PGVP results from CY2018 and CY2019
 - 2018: 31 verifications (10 exceeded the $\pm 2\%$ Acid Rain Program criteria; one was -17.76% of the certified concentration)
 - 2019: 16 verifications (3 exceeded the $\pm 2\%$ Acid Rain Program criteria; one was +15.68% of the certified concentration.)
- Updates
 - EPA Regional lab shifts: R7 remains in program; R2 to be replaced by R4
 - Assess funding (for both annual and one-time equipment expenditures)
 - Follow-up: Further discussions on funding



Community Scale Air Toxics Air Monitoring (CSATAM) Grants

- 2020 grant competition
 - RFA announced February 13, 2020 and extended (due to COVID-19) until May 1, 2020.
 - Total funding: \$5M.
 - Projects to assist S/L/T air agencies in identifying and characterizing air toxics.
 - Received 24 eligible applications.
 - Selected 11 for award.
 - Agencies selected include (alphabetically):
 - Georgia; Michigan; City of Philadelphia; Puget Sound CAA; Rhode Island; Sacramento AQMD; Shelby County, TN; South Carolina; South Coast AQMD; Utah; and Virginia.
 - Details on award amounts and brief project descriptions can be found on EPA's AMTIC community scale air toxics webpage: <https://www.epa.gov/amtic/community-scale-air-toxics-ambient-monitoring-csatam>

Air Toxics Monitoring

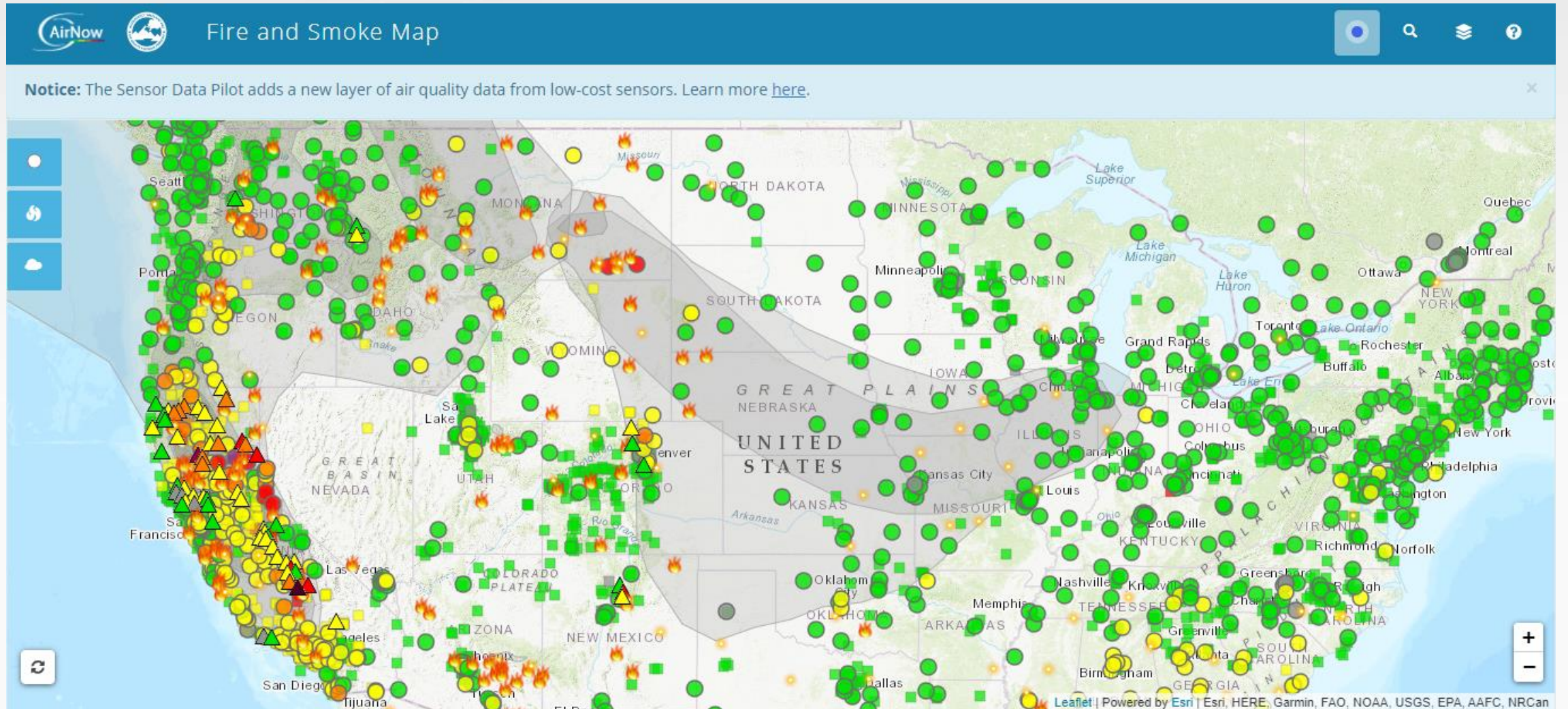
- National Air Toxics Trends Site (NATTS) Network
 - Total number of active NATTS sites: 26, including 2 new sites
 - Tulsa, OK
 - Pittsburgh, PA
 - Underway: 3rd NATTS network assessment
 - Include 2015-2018 new data to cover 2003-2018
 - Determine air toxics trends and data quality
 - Includes individual site evaluation and report
- Ethylene Oxide (EtO)
 - Added as a required analyte to NATTS in 2019
 - Improve ability to measure EtO
 - Method TO-15A - Develop and test new method; communicate via webinar
 - OIG report

On The Horizon

- Government Accountability Office (GAO) engagement on ambient air monitoring
 - 2018 - Project began after receiving a request from
 - Ranking Member Thomas Carper, Senate Committee on Environment and Public Works;
 - Ranking Member Sheldon Whitehouse, Subcommittee on Clean Air and Nuclear Safety, Senate Committee on Environment and Public Works; and
 - Senator Susan Collins
 - GAO staff have communicated extensively with EPA HQ staff, regional offices, 14 state and local air agencies, as well as AAPCA, NACAA, and most of the MJO's
 - Final report expected in November 2020
- OAQPS Air Toxics Strategy
 - Under development - A comprehensive strategy that recognizes the central role that air toxics plays in air quality management activities
 - Late fall – Likely timeframe for beginning outreach to the states, after the strategy receives a thorough regional review and OAR management approval

AIRNow Update

<https://fire.airnow.gov>



U.S. Environmental Protection Agency

Permit Modeling Updates

Group Leader Tyler Fox

Modeling Guidance and Clarifications

- Guidance on Ozone and Fine Particulate Matter Permit Modeling (O₃ & PM_{2.5} Permit Modeling Guidance)
 - Draft version released on February 10, 2020 with informal comment period through April 17, 2020
 - Currently processing comments from the draft version of guidance
https://www3.epa.gov/ttn/scram/guidance/guide/Draft_Guidance_for_O3_PM25_Permit_Modeling.pdf
 - Vast majority of the comments received were supportive, providing grammatical suggestions, or asking for additional clarification
 - Briefing senior management on revisions and aiming for final guidance release as soon as possible
- 2010 General Conformity Rule Clarification – NO₂, O₃, and PM_{2.5} Modeling Techniques
 - Rule only contains specific modeling requirements or recommendations for directly emitted pollutants
 - Preamble language in the 2010 rule conflicts with more recent regulation and modeling guidance
 - 2017 revisions to the *Guideline on Air Quality Models* provides recommendations for use of chemical transport models to assess O₃ and the PM_{2.5} precursors and has screening approaches for NO₂
 - The clarification memo will address these inconsistencies and highlight the rule requirements to conduct conformity demonstration modeling consistent with the most recent version of the *Guideline*.

Twelfth Conference on Air Quality Models

- Twelfth Conference on Air Quality Models or 12th Modeling Conference
 - Formal triennial public hearing required by Section 320 of the CAA
 - Held October 2-3, 2019 on the EPA RTP NC, Campus
 - Approximately 225 participants from the regulated, regulating (federal/state/local/tribal), academic, and environmental communities
 - The main focus was on model development and included 6 expert panels focused on the AERMOD Development White Papers.
 - The panelist were chosen from the external stakeholder community and academia.
 - 9 public presentations given during the open portion of the public hearing. Additionally, 4 public comment packages were submitted to the conference docket: [ID No. EPA-HQ-OAR-2019-0454](#).
 - All of the conference proceedings, audio recordings, transcripts, etc... are available on the EPA's SCRAM website and posted in the conference docket: <https://www.epa.gov/scram/12th-conference-air-quality-modeling>

AERMOD Development: Short Term

- **Current version: 19191**
 - RLINE (BETA) and RLINEEXT (ALPHA) source types for mobile sources
 - ORD and AWMA PRIME downwash options; both ALPHA options
 - Method 2 particle and gas deposition algorithms changed to ALPHA options
 - Bug fixes/enhancements to AERMET and AERMOD
- **Next release: Early 2021**
 - Bug fixes/enhancements to AERMET and AERMOD

ALPHA: experimental; not ready for regulatory use

BETA: peer-reviewed options potentially ready for consideration as alternative model(s)

AERMOD Development: Long Term

- Model development over next 2-3 years focused on several key areas as defined by the AERMOD White Papers and focus of expert panels at 12th Modeling Conference
 - Building downwash
 - Overwater modeling
 - Low wind conditions
 - NO₂ modeling techniques
 - Mobile source modeling
 - Deposition

Emission Inventory Updates

Group Leader Marc Houyoux

2020 National Emissions Inventory (NEI)

- 2020 plan released for next triennial NEI
 - Detailed schedule, best practices, and key 2020 NEI changes
 - Will build on the “one version” approach used for 2017 nonpoint
 - See <https://www.epa.gov/air-emissions-inventories/2020-national-emissions-inventory-nei-documentation>
- Key activities and timeframes
 - **Spring 2021:** Trainings planned (maybe via a virtual conference)
 - **Now through 2022:** State, local, tribal (SLT) collaboration provides great value to the process (e.g., “NOMAD” committee, MOVES workgroup)
 - **Dec. 31, 2021:** Reporting deadline to EPA for most data (2-week grace period)
 - **February and April 2022:** Feedback reports sent
 - **Fall 2022:** Releases of data categories as they are completed
 - **March 2023:** Full public release

Changes for 2020 Emissions Cycle

- Changes for reporting to the Emissions Inventory System (EIS)
 - Completeness feedback to SLTs, Regional Offices, and Air Directors
 - Consolidated Emissions Reporting Schema (CERS) changes
 - New reporting codes (e.g., source classification codes)
 - Adding several per- and polyfluoroalkyl (PFAS) compounds (for voluntary reporting)
- Key changes for NEI data
 - Focus on reflecting 2020 activity levels due to COVID-19
 - New nonpoint methods: solvents, abandoned oil & gas wells, and agricultural silage VOC emissions
 - MOVES3 expected to be used
- Key change for modeling
 - Focus on reflecting 2020 activity temporal and spatial patterns due to COVID-19

Combined Air Emissions Reporting (CAER)

- CAER Goal: streamline air emissions reporting
- **This year:** CAER System (CAERS) version 1 completed
 - Georgia’s sources have reported 2019 air emissions
 - Georgia staff are now reviewing data in CAERS to report to NEI
 - System is flexible and modular to more readily support different SLT needs
- **Fall 2020 and 2021:**
 - DC currently onboarding and planning to use for 2020 emissions
 - We are reviewing “must have” requirements with several other states
 - Considering working with SLEIS system developer on a SLEIS-CAERS interface
- We want to work with you to reduce effort for industry and SLT staff, and obtain high quality data in less time:

<https://www.epa.gov/e-enterprise/e-enterprise-combined-air-emissions-reporting-caer>

Source Measurement Updates

Group Leader Stef Johnson

Wood and Hydronic Heater Test Method Work

Leveraging NYSERDA/NESCAUM IDC Protocol

- Waiting for NYSERDA data to be publicly released
- Contracting with a West coast laboratory for IDC method tests
 - Wood heaters burning cord wood fuel
 - TEOM as the basis for PM measurement
- Intend to conduct TEOM precision & ruggedness study in RTP
- Project scope: 3 years of lab testing to collect supporting data
 - IDC method for wood heaters, hydronic heaters and forced-air furnaces

Emissions Testing and Monitoring - Training

CMS and Stack Test Material Review and Updates

- Multi-partner workgroup recently developed new CMS training materials to update APTI 474; now live.
- Curriculum developed to support updating of APTI 450 for source measurement training. Workgroup forming soon.
- Checklists for regulators observing source tests and reviewing test reports are in development – Due out by January 2021.