Exchange Network Forum

Thursday, October 10, 2024
1:00 – 2:00 PM ET

Welcome

Alexander O'Neill, EPA Office of Information Management (OIM), Office of Mission Support (OMS)

- Alex O'Neill welcomed participants.
- The following is the agenda for the meeting:
    - Meet Your EN Coordinator: Region 5
    - Tribal Exchange Network Conference
    - Environmental Information & Innovation (E2i) National Meeting
    - Unified Platform (EPA Office of Air and Radiation)
    - Open Forum

Meet Your EN Coordinator: Region 5

Robert Senow, EPA Region 5

- Robert Senow is an IT specialist who has been with EPA for 4 years and 4 months. He's been in the RENC role for 1 year and 8 months.
- Robert's additional roles beyond the RENC include GIS Analyst, R5 GitHub Enterprise Admin, R5 GPO Admin, GIS/Data Visualization Support (Superfund & ER/RST).
- Region 5 has eight open grants and 111 total grants since 2002.
- Eighty-five percent of the grants have gone to the states.
- Twelve percent of the grants have gone to Tribes.
- Three percent have gone to other entities, such as universities.
- The largest type of open grants are open data projects, including geospatial data, with four open grants.
- There are two grants for water quality, both are with Tribal Nations.
- For questions, please contact Robert at senow.robert@epa.gov.

Tribal Exchange Network Conference

Alexander O'Neill, EPA Office of Information Management (OIM), Office of Mission Support (OMS)

- The Institute for Tribal Environmental Professionals (ITEP) and the Tribal Exchange Network Group (TXG) will be hosting the Tribal Exchange Network Conference (TENC) this October.
- This conference is designed for Tribal communities to connect with colleagues across the country as we expand Tribal capacity for environmental data sharing, management and analysis.
- The 2024 Tribal Exchange Network Conference (#TENC24) aims to expand Tribal capacity for environmental data sharing, management, and analysis through informational,

interactive sessions that foster connection and collaboration opportunities, and strengthen Tribal participation in the Exchange Network.

- The TENC is October 16th to 17th in Spokane, Washington and is free to attend.
- The conference will have hybrid sessions, exhibits, networking events and interactive workshops for Tribal environmental professionals and others working in this space.
- Virtual participation in this event will be accessible to all attendees through Zoom Events, with additional details sent via email one week in advance of the event. In-person attendees will have exclusive access to on-site activities and discounts from local businesses.
- The registration deadline is October 10, 2024.

Environmental Information & Innovation (E2i) National Meeting

Alexander O'Neill, EPA Office of Information Management (OIM), Office of Mission Support (OMS)

- E2i was a great success.
- The following are some statistics from the meeting:
    - E2i had 368 total attendees. Approximately 62% were in-person (n=229); about 38% were virtual (n=139).
    - Attendees represented 102 unique entities or organizations, which encompass 39 state environmental departments, including DC; 17 Tribal entities, including Tribal Consortia and Universities; and two federal agencies (US EPA; US DoE).
    - Over 60 speakers and panelists spoke during the 3-day meeting. E2i had a total of 38 presentations, including plenaries, panels and workshops.
- The following is a link to Access the Recordings.
- Key themes and topics of the meeting include:
    - Geospatial Data and conversations related to management, data standards, etc. were explored both during presentations and afterward as key discussion points.
    - Artificial Intelligence received notable attention, with related break-out sessions being the most well-attended of the conference.
- EPA was well represented with 114 attendees, representing nine program offices and nine EPA regions.
    - EPA program offices (n=73); Office of Mission Support was best represented (n=31), followed by Office of Water (n=14) and Office of Enforcement & Compliance Assurance (n=11).
        - Other EPA offices included Office of Air & Radiation; Office of International and Tribal Affairs; Office of Land and Emergency Management; Office of Research and Development; Office of the Administrator; Office of the Chief Financial Officer.
    - EPA regional staff (n=41); Region 7 was best represented (n=15), followed by Region 4 (n=8) and Region 5 (n=4). All the other regions were represented except Region 2.
    - Most EPA staff attended the meeting in-person, with 69% of program office staff and 61% of regional staff.
- 39 state environmental departments attended E2i, including Washington, D.C.

    - Most states had 2-3 representatives. Best represented were Oklahoma (n=14), Colorado (n=8); Alaska, Tennessee & Washington (n=6).
    - Several state affiliated groups attended in-person, including the Western States Air Resource Council, Oklahoma Water Resources Board, Kansas State University and University of Kansas.
    - Half of state staff attended the meeting in-person, with 52% state-affiliated registrants in Kansas City, MO.
    - States that did not have representation at the meeting, either in person or virtual: California, Illinois, Kentucky, Minnesota, Montana, Nevada, New Hampshire, Pennsylvania, South Dakota, Vermont, West Virginia and Wisconsin.
    - No territories participated.
- 17 Tribal entities attended E2i, including Federally Recognized Tribes (n=9), Alaskan Native Villages/Corporations (n=2), Tribal Consortia (n=2) and Universities (n=2).
    - Tribal Nations (n=10): Big Valley Band of Pomo Indians, Cherokee Nation, Colorado River Indian Tribes, Comanche Nation, Gila River Indian Community, Muscogee (Creek) Nation, Pueblo of Jemez, Quinault Indian Nation, Standing Rock Sioux Tribe and Tulalip Tribes of Washington.
    - Alaskan Native Villages (n=2): Native Village of Shungnak, Pedro Bay Village
    - Consortia (n=1): American Indian Higher Education Consortium
    - Others: Haskell Indian Nations University, College of the Muscogee Nation; Institute for Tribal Environmental Professionals (ITEP) and Northwest Portland Area Indian Health Board.
    - Seven speakers were from Tribal environmental programs.
- Industry was well represented with 73 participants. Government contractors and/or vendors made up these industry representatives.
    - Cloud Providers: Oracle (n=8); Amazon (n=2).
    - System Developers: IntePros Federal (n=8); CGI (n=5); GDIT (n=5); Gold Systems (n=5), ERG (n=4); Windsor Solutions (n=3); etc.
- Feedback
    - There was a great response rate for the in-person survey (68). The majority of responses came from states (47%) followed by EPA (29%), other (19%) and Tribes (4%).
    - The virtual response rate was less strong with only 9. Most responses were from States (44%), EPA (33%) and Other (22%).
    - There was overwhelmingly positive feedback. Those surveyed provided excellent anecdotes on what worked well and suggestions for how to make improvements for the next conference
    - For most participants this was their first Exchange Network meeting at 62% of survey participants.
    - Average rating was ~ 4.6 / 5. Folks enjoyed conference sessions, especially the Keynote address by George Hawkins.
        - In-person: 4.64 / 5
        - Virtual: 4.45 / 5

- The vast majority rated the meeting venue, session topics, and speakers 5 or 4. The majority felt session timing was appropriate, with few suggestions provided.
- Within the feedback there were a lot of notes about how great it was to have coregulators together and to meet counterparts from across organizations. Many said that it was of great value to hear from states and Tribes about their shared experiences with modernizing technology and hearing from EPA about how the Agency is grappling with this as well.
- For future meetings:
  - EN 101. There are so many new people, so an EN 101 primer would benefit most. Topics could be systems, roles, leads, grants, etc.
  - There needs to be more structured and deliberate networking events to facilitate conversations within specific communities (e.g., air, water) or among interest groups (e.g., security). These events should be in places conducive to conversation.
  - For general logistics, both in-person and virtual sessions. There is room for expanding and improving virtual aspects of the meeting.
  - Some participants noted issues with the Whova app.

Discussion

- Tom Waller said he thought the meeting was great. It was great to meet new people, see new faces, and reconnect and collaborate. The AI sessions were interesting as were the conversations around data and what people are doing with data. It's a good measuring stick to see where states and Tribes are. Our state is hand in hand with what everyone else is doing. AI and AI Chat were interesting and what we heard is similar to what we are trying to set up in our state agency. It's nice to walk away from the conference with notes with what others are doing and who we can reach out to. I hope we can continue this in the future.
- Miriam Patrocinio from North Carolina loved the keynote address with George Hawkins. He was a dynamic speaker and did an excellent job.
- Kurt Rakouskas from ECOS noted that in the future we are going to get creative and think about how we can provide more networking opportunities in the future. There are unfortunately limitations on what can be provided with government funding. There may be some creative solutions that would be valuable. We will come back to this community with thoughts and ideas. We know it is especially tough coming to the first meeting and not being an established member of the community yet. The app helped to an extent, but it's not a substitute for human interaction
- A participant thanked EPA and ECOS for the virtual component of the meeting so they could participate. They understand how hard it is to provide a virtual component and asked if that offering will be expanded in the future for those who can't travel.
  - Kurt expressed that they would like more feedback on how the experience was for those who were virtual. Now that they have a better insight into how the virtual component worked, they'll be looking into how that can be improved, made smoother, or expanded for the next conference.

Update on Unified Platform for Air Quality and Air Emissions Data

Ketan Patel, U.S. EPA Office of Air Quality Planning and Standards

- Ketan has been with the EPA for over 27 years working in IT and regulatory capacities.
- Over the last several years, the Office of Air Quality Planning and Standards (OAQPS) has been working toward aligning their existing systems under a single division.
- This started with aligning the ambient systems like AirNow and the Air Quality System (AQS) under one group (Information Transfer Group) while looking to transition the emissions and regulatory systems under another group (the National Air Data Group).
- In parallel, they are working on finding ways to be more efficient with collecting, processing, storing and disseminating program information.
- The new Unified Platform project is a modernization project for the Ambient, Emissions and Regulatory programs that OAQPS manages.
- Successful air quality management programs depend on access to high quality data (air monitoring data, emissions inventory data, permitting data, source compliance data, etc.)
- Data are used to demonstrate compliance, and in the development of regulatory actions, analyses of trends, and communication with the public.
- OAQPS's legacy air data systems are aging. The systems were developed, owned and operated by different program offices.
- To modernize OAQPS's data systems to address these issues and more, they have started work to transition their numerous data systems to a "unified platform."
- For background:
    - OAQPS started with several information collection systems managed in one division covering ambient air quality and emissions; but over time, has developed systems across the office to support other programmatic needs. This has resulted in:
        - Many systems that are in various stages of the life cycle (the oldest being over 30 years old).
        - Opportunities of overlap in information collection, business processes, shared services and system features.
        - Overlap in stakeholders using the systems.
    - The older the system, the more difficult to use and the ability for consumers to find, access and connect the information has become more cumbersome.
    - There is also a cost to operate, maintain, and enhance all of these systems which becomes unsustainable.
    - As a solution, OAQPS is moving all of these information collection systems to an IT centric division, the Outreach and Information Division (OID); while the programs will still be managed by the divisions the systems came from. For example, for the compliance and emissions data reporting interface (CEDRI), the program will still be managed in the Sector Policies and Programs Division, but the IT will be managed in OID.
- EPA's Office of Air Quality Planning and Standards is developing a modern data system that incorporates air related processes and data in an efficient, unified architecture. For now,

they are calling it a "unified platform" because it will be a single architecture that accepts, processes, stores, and distributes programmatic air data. That means:
    - Data will be submitted through one central mechanism.
    - Regardless of the program, data will be processed and stored in the same "place."
    - Regardless of the program, data will be accessible from a single "data store" or location.
    - The unified platform will streamline the submission, storage, and distribution of data for air quality planning and assessment.
- What does the unified platform mean to you?
    - Reduce the burden on SLTs, industry, and EPA.
        - Single submission portal that uses the same login as the system.
        - Modern system portal from which to view, modify and download information.
        - Single set of facility information that serves multiple programs.
        - Streamlined user experience.
    - Lower overall IT operational costs.
        - Reduced IT infrastructure hosting costs.
        - Lower operation and maintenance costs.
        - Faster application development and updates.
    - Greater data transparency.
        - This work includes the development of a unified platform to incorporate programmatic and community air quality information, to improve accessibility of the information for permitting authorities and communities so that EPA can better monitor air quality improvements over time.
- Here are some examples of issues OAQPS wants to address:
    - Ambient
        - We have identified problems when the same ambient information is submitted to different systems using different formats and data types.
        - The Unified Platform will create a single workflow allowing users to upload or query data.
    - General
        - Users have complained about needing to track numerous and varied login details to submit data to unique systems (e.g., AQS, CAERS, CEDRI, EIS).
        - The Unified Platform will use a single login (via login.gov) for submitting or accessing air data.
    - Emissions
        - Facility ID numbers and format vary in the current various systems. Users struggle to choose the correct facility ID when submitting information or reviewing a report for a given facility (CAERS, CEDRI, EIS, etc.).
        - The Unified Platform will rely on a single facility ID for all data purposes.
- Project Approach Following EPA's Digital Strategy: Four Phases
    - OAQPS is in the discovery phase now and will be quickly moving to design so they can start to build the new unified platform.

    - They are evaluating all the data collected by all of the systems and evaluating the business processes to remove redundancy and identify where there can be efficiencies.
    - During design, they will leverage user experience experts to design fresh, easy-to-use user interfaces.
    - As they begin to build the system, they will be reaching out to stakeholders for feedback and input as they iteratively build the unified platform.
- Phased Engagement Approach
    - They have a "working" communications and engagement plan that lays out how they plan to communicate and engage with each stakeholder type. They plan to leverage an internal knowledge base to develop inventory, design features, etc. before reaching out to external partners. They need to make sure they are aligned internally, before they go to external partners. This will reduce the level of effort required and the burden on their partners.
    - They will keep both internal and external stakeholders informed of their plans, updates on their progress and offer opportunities for feedback throughout the development of the unified platform.
    - The Discovery & Design phases are underway.
        - They have begun gathering information on user experiences and needs from OAQPS system managers and users. They are starting to engage with air agency stakeholders with an initial focus on ambient data.
    - During the Build phase, engagement will consist of very short development cycles, resulting in many opportunities to test and accept small units of code. As an example, one cycle might build the ability for state, local, and Tribal agencies to submit ambient air information for OAQPS' emissions inventory. Another might be the development of a single set of facility information to be used by multiple programs, or the creation of one or more data stores.
    - Training on the unified platform will be a key to success when they get to the Implementation phase.
- Key take-aways include:
    - OAQPS is developing a modern data system that incorporates their air-related processes and data in an efficient, unified architecture. This unified platform will streamline the submission, processing, storage, and distribution of data for air quality planning and assessment.
    - The legacy data systems will be gradually phased out.
    - The development plan includes four phases: Discovery, Design, Build and Implement.
    - Throughout the process, they will offer opportunities for input, review, and testing while keeping stakeholders informed of their progress.
    - The unified platform will be operational by the end of 2027.

Questions:

Q: How can I become a beta tester for the unified platform?

A: To express interest in becoming a tester, please email UP@epa.gov. OAQPS will send out a formal request for testers when they get to that point in the timeline.

Q: Are there any air data systems that will explicitly not be a part of this redesign?

A: The systems in scope are focused on OAQPS's collection systems. The term 'system' can be used in different ways, so they've broken down the definition by business line (reference slide 38). Air Now, Air Quality System (AQS), Combined Air Emissions Reporting System (CAERS), Compliance and Emissions Data Reporting Interface (CEDRI), Emissions Inventory System (EIS) etc. are in scope. Not all EPA air systems are in scope.

Q: Do you have a sense if/how the UP will affect any current and future EN grantees? Are there grantees who are working on solutions that would be outdated after this modernization? Is there a sense of any grants that would be affected?

A: OAQPS has not looked at the EN grants specifically, but that is on their list to analyze. They will develop an inventory of the grants related to the systems in scope.

Q: Is this a design/build project for EPA, or will EPA look to leverage COTS products? It sounds like this is more than a unifying architecture of infrastructure as a service and is getting into applications. Are you looking at these different programs and tools they use? Are you doing software as a service or thinking of redesigning the software?

A: OAQPS has not determined the answer to this yet. They are looking at the data first. There isn't a true data dictionary, and they have been collecting information for individual uses. A lot of the information in the systems is similar but collected for different reasons. There are different approaches and ways they can look at business processes and features to come up with a better way of doing business. If OAQPS develops another system, it will be tied to the air quality information. They want to look at this holistically—technology will be the last thing they will look at—they are focused on the data and the processes to determine what is there and what can be reused. The main idea is to ensure they are collecting the right information required for their programs. Their focus is currently on the process and then they will look at the "how" during the design phase.