DMAG FALL 2025 MINUTES

(Sept 29, 2025 01:00 – 02:30 PM Central)

Attendees:

Tim Sharac, Jean Steele, Dana Grabowski, Noel Deyette, Casey Lanham, Bob Larson, Christopher Rogers, Amanda Cole, Greg Beachley, Jason Lynch, Aaron Pina

Updates

Data Review:

- The PO hired Ella Osby as a new site support specialist. Dana has been training her on MDN review.

- NADP PO changed from their legacy process to a new stream lined process in August 2023. The new process involves the use of one new tool provided by Jean to assist in identifying samples that require special attention. Mark, Zac, and Jean worked to compare the two processes to ensure no clear bias was introduced. The analysis involved comparing coding frequencies to historic frequencies, a comparison of analyte concentrations to historic concentrations, and a detailed comparison of one months data set using both legacy and updated process.

  The coding frequency and analyte concentration review showed no clear change as a result of implementing the new process. The detailed comparison reflected an improvements on identifying precipitation based issues that may have been missed earlier, as well as identifying new sites requiring special coding (i.e. not invalidating contaminated samples due to lack of historic data). Of every data point, only .7% of the data was different between the two sets.

  Noel asked how long we were performing the side by side comparison for. We were only able to compare one months worth of data – the process of setting up a test environment was difficult and problematic.

  Tim asked if the .7% reflected .7% fewer errors. No. The .7% only provides a scale of the difference between the two data sets; the two processes resulted in nearly identical data.

- Staff changes – Jean departs in January 2026. Liam to train with Jean and pick up with the new NTN review process. Liams duties are split between the EPA and NADP.

- Network Optimization - NADP PO is updating the database and address book to allow for both 1 week and 2 week MDN sample periods. The PO proposed adjusting the h and e note codes which reflect sample times. If a sample runs 1 week long (3 weeks), the protocol should be to shorten the subsequent sample by one week so the collection schedule remains correct.

- OCR – Zac presented the our efforts to reduce labor costs and improve processing times through the use of Optical Character Recognition (OCR) software. NADP PO is currently in the beginning phases of developing this solution. This involves changes to the operator forms to assist with OCR accuracy,

determining how to integrate the new data flow into existing data structures, and considering what the new process will look like.

Amanda reflected that OCR form review makes the process less rigorous since visual inspection allows more human complacency than manual encoding. She suggested we consider retaining a second data entry person long enough to compare the quality of the two methods (traditional and new OCR).

- Form Updates – In conjunction with the updates to the lid removal procedure, current electronic rain gauge adoption, and upcoming OCR process changes, an updated to the NTN field form was proposed:
    - Remove bucket lid weight entry
    - Remove manual entry for precip
    - Update form from adjacent check boxes to circles for higher OCR accuracy.

  Feedback on the proposed form was:
    - Retain a space for the bucket lid weight entry – not all sites can move to the new process, and may need to document the lid weight for some cases.
    - Retain instructions for uploading sample data since operators are expecting to see it.
    - We need to ensure operators have sufficient notice to adjust to the changes.
    - We may wish to have the OCR developers work on the new forms before printing them to ensure they provide the improvements we are expecting.
    - Is it feasible to use QR codes on the forms to access on line forms? - QR and electric forms have been discussed, but the time line for those changes is far longer than this basic redesign.

      Amanda provided feedback on the EEEC's efforts to integrate electronic forms. While using electronic forms has worked well, it has not been entirely problem free. They have had to work through some operator issues including data entry issues. They currently have about 6 operators filling in both electronic and paper forms side by side for their intercomparison testing.

- MLN notes and QR codes – The PO is still working through what types of codes should be applied to litterfall data.

- AMON data processing – a small process change has occurred. Since the web processing started, the data manager waited on the data reviewer to approve final edits prior to publishing. This was in place since AMON did not have a double data entry process. Since no issues have thus been refuted by the data reviewer, the data manager will now publish to the web without waiting for the feedback from the data reviewer. If corrections are needed, the data manager will update the web data as needed.

- Web updates – Precipitation network API has been completed, and the precipitation web page has had a soft launch. A formal announcement is expected during the Fall meeting.

- API updates – API launch on hold until security concerns addressed. This is being researched by Casey and OIS. The rollout plan and public API documentation is 75% complete.

- Map updates –
    - New errors with the Total N maps were discovered by Jason Lynch. He identified 3 main years which were problematic. Mark is investigating, and will work with Jason as able / needed.

- Efforts were made to integrate the Canadian sites on the interpolated concentration and deposition maps. These were reviewed by DMAG group. The overall consensus was that the precipitation data used did not have the same resolution as the PRISM CONUS data. The resulting interpolation had an insufficient resolution for analysis, especially when placed adjacent to the higher CONUS map. The concentration map was felt to be sufficient. It was recommended that we investigate the CaPA resource for precipitation data (https://eccc-msc.github.io/open-data/msc-data/nwp_rdpa/readme_rdpa-datamart_en/), (https://www.canada.ca/en/environment-climate-change/services/climate-change/canadian-centre-climate-services/display-download/technical-documentation-regional-precipitation-analysis.html) It was decided to keep the precipitation maps as points, while the concentration maps could be interpolated as part of the CONUS maps. Per feedback from Amanda, BC22, AB32, AB36 designated as industrial sites, and not included in interpolation.

- New Data Products:
  - The US federal Site Status Hub report was started in 2025 as a response to sudden updates to the US federal agency organization. Feedback on this report was that stake holders continue to find this a useful report.
  - The Running Criteria Report involves currently reviewed samples and estimating the mapping criteria for each site. The PO was discussing how to roll this out to stake holders. (Richard has since rolled this out using a shared google spreadsheet).

- Additional Discussion Topics:
  - Mark asked the group for their thoughts on samples where a wet sample had been analyzed, but that reported 0 precip. Bob suggested double checking that the electronic rain gauge was functioning. Dana advised that MDN uses the sample volume to estimate precipitation depth.