

STEAC MEETING REPORT (09/18/2024)

The members of the STEAC met on September 18, 2024, with a quorum of eight members attending (Meghan Avolio, Henry Bart, Rich Fiorella, Shannon LaDeau, Sydne Record, Daniel Rubenstein, Shawn Serbin, and Adrienne Sponberg). Seven NEON-Battelle staff attended (Teresa Burlingame, Chris Florian, Darcy Gora, Steve Jacobs, Tanya Maslak, Chris McKay, and Kate Thibault).

The meeting was virtual, and the following topics were discussed: I. Approval of the minutes, II. Wet deposition sampling change proposal, III. Fall meeting planning.

- I. **Approval of previous minutes for 08/21/2024:** Minutes approved (Unanimous vote).
- II. **Wet deposition sampling change proposal:** NEON requested from the STEAC a recommendation to move the wet deposition sensor to ground-level at NEON Core Terrestrial Sites. Deposition collections were installed on top of the flux towers at TIS sites to elevate the sample collection above the canopy. NEON samples every two weeks and uses weighing gauges and tipping buckets to measure precipitation located within 500m horizontal from the wet deposition collectors. This installation deviates from the community standards for data collection adopted by the National Atmospheric Deposition Program's National Trends Network (NADP-NTN) and the Global Networks of Isotopes in Precipitation (GNIP) initiated by the International Atomic Energy Agency of the World Meteorological Organization. NADP-NTN collects wet deposition samples weekly from the ground (0.5m vertical) and within >5m to <30m from a precipitation gauge (weighing gauge). GNIP collects wet deposition samples monthly and recommends installing deposition collectors 1-1.2m above the ground to limit wind interference. GNIP does not have a requirement for the type of accompanying precipitation gauge.

NEON proposes to move the wet deposition collectors to the ground at 19 core terrestrial sites. Note that Domain 16 WREF collector was already moved to the ground to prototype this change. The YELL site would have the weighing gauge and wet deposition relocated to the nearby BLDE aquatic site to provide year-round access to the field crews who cannot go to the YELL site ~3 months of the year due to bears. Potential advantages of this proposal include: bringing collectors into distance requirements to precipitation gauges of the NADP, increasing eligible field staff who can collect (some staff are not allowed on top of tower), decrease in labor time for collections, and increased data quality by making the samples more accessible. Potential disadvantages of this proposal include: minor discontinuity in the dataset, resources needed to perform the work (cost of labor and materials for installation, permitting, data ingest), and greater risk of environmental disruptions (e.g., snow drift, animal interference). Costs to cover this change would come out of the observatory's contingency funds.

The STEAC had several questions about how are NEON users using the data and if existing workflows would be disrupted by this change. Data usage by NEON users is not well known, but NADP users are not convinced of the bi-weekly, rather than weekly, sampling of NEON. The STEAC wondered if there had been any efforts to compare the NEON and NADP-NTN sampling to quantify how this change would impact synthesis of new and previously collected data. NEON has not been able to do this comparison as it

would require purchasing another deposition sampler. After the Q&A about the proposal by the STEAC, the STEAC members present voted unanimously to move forward with the proposal to move the deposition samplers as summarized in the proposal.

III. Fall meeting planning:

The suggested dates of 11/14/2024 - 11/15/2024 for a virtual, 1.5 day STEAC meeting conflicted with the schedules of many STEAC members. The STEAC will forego a virtual fall meeting of 1.5 days and will be queried well in advance to find dates for a spring in-person meeting.