

**CLAD (Critical Loads of Atmospheric Deposition) Science Committee Agenda**  
**Fall NADP Meeting – Rochester, NY**  
**October 19, 2015**

**10:00 am Welcome** (Jason Lynch & Claire O’Dea)

The participants introduce themselves (in person) - Tim Sullivan (E&S Environmental Chemistry), Tamara Blett (NPS), Jeff Herrick (EPA), Hiroyuki Sase (Asia Center for Air Pollution Research (EANET Network Center)), Kevin Horn (Virginia Tech), Mark Fenn (USFS), Greg Lampman (NYSERDA), Rick Haeuber (EPA), Wayne Robarge (NCSU), Jill Webster (USFS), April Maxwell (EPA), Jalyn Cummings (NPS), Tonnie Cummings (NPS), Todd McDonnell (E&S Environmental Chemistry), Bill Jackson (USFS), Ginger Tennant (EPA), Randy Waite (EPA), Linda Pardo (USFS), Ivan Fernandez (U of Maine), Eladio Knipping (EPRI), Chuck Sams (USFS), John Buckley (RTI), Ralph Perron (USFS), Bennet Leon (VT DEC), Jason Williams (Washington State U), Linda Geiser (USFS), Doug Burns (USGS), Karen Roy (NYS DEC), Jason Lynch (EPA), Claire O’dea (USFS), Jennifer Phelan (NADP/RTI), Cindy Huber (NADP). No participants joined remotely.

1. Accept Spring Meeting Minutes
  - Spring minutes have been formally accepted

**10:10 – 10:30 am FOCUS update** (Jason Lynch)

1. FOCUS Transition (Tamara Blett):
  - History:
    - o FOCUS Phase I
      - Unofficial FOCUS center in U.S. (small scale prototype of U.S. Focal Center for UNECE)
      - Develop national database of CL
    - o FOCUS Phase II
      - Continue U.S. collaboration with other countries
      - Fill CL gaps
      - Provide resource for policy makers and land managers
  - Transition:
    - o Cindy retiring as FOCUS Project Manager
      - Served as Project Manager from 2011-2015
      - Accomplishments:
        - FOCUS Phase I report; FOCUS project teams, Workshops, Webinars, etc.
    - o Jennifer stepping in as CLAD Program Manager October 2015
      - Starting at 25% time with additional funding through EPA (additional 25%)
    - o FOCUS Steering Committee and CLAD Advisory Group:
      - FOCUS project is complete

- FOCUS Project manager role can be replaced by CLAD Program Manager
- FOCUS Steering Committee oversight will be merged into CLAD Advisory Group
- CLAD Program Manager role to be more “science oriented”

Linda Geiser question – how will relationship with UNECE continue?

Tamara Blett response – will continue as CLAD Program Manager / will likely attend UNECE meetings

Jason Lynch response – part of reporting to UNECE for CL update will also continue

2. National Critical Load Database and Call for data (Jason Lynch)
  - NCLD v. 3 has been updated and will be loaded and posted to website after this fall meeting
  - SW CL:
    - o Expanded sites (3000 additional sites)
    - o Dealt with duplicate sites (LOCID)
    - o NHD Plus COMID update (has now been linked to water body and rivers)
    - o New data has been added: CA, VT, NY, NH, Alaska and EMDS (~140,000 points)
  - SW CLs for Nutrient Enrichment
    - o Jason Williams - funded by NPS to integrate SW CLs for western states
  - Forest Soils CLs:
    - o 2013 McNulty update from 2007
    - o Phelan et al from PA
    - o Sullivan and McDonald for VA and NY
  - Empirical CL
    - o Update to lichen for PNW
  - New Projection for CL – TDep projection (working with Gary Lear to make conversion for consistency with CMAQ projection which assumes Lambert perfect sphere)
  - Considering converting/providing CL as raster supported data
  - Still accepting new data

**10:30 – 10:45 am Critical Loads Projects (Jason Lynch & Claire O’Dea)**

1. Critical Load Maps (Jason Lynch)
  - Maps have finally been published as NADP document
  - Jason has goal of updating database annually (available on the website); printed maps won’t be updated annually
  - Jason also hopes to be adding new maps to CL database (available on the website)
2. Critical Load Definitions (Claire O’Dea)
  - 2 webinars to produce CLAD CL definitions
  - Not finalized yet; will be formally accepted in Spring Meeting
  - Still some definitions that need further work and input from CLAD
  - Claire encouraged people to contact her with any suggested changes or additions
  - Trying to build off European definitions but recognize evolution since original inception and for application in US and US condition WRT to deposition levels and policy

- CL definitions will be published on the website after they have been finalized and accepted by NADP Executive

**10:45 – 11:45 pm General Discussion and CLAD Business (Jason Lynch & Claire O’Dea)**

1. Annual Report (Jennifer Phelan)
  - First CLAD Annual Report (2014/15)
  - Way to summarize CL projects that are being conducted and CL publications
  - Accepted as final report and will be posted to website
2. Open Discussion – new topics/issues for CLAD/Spring 2015 meeting (Jason Lynch & Claire O’Dea)

Randy Waite/Linda Pardo suggestion – Invite Chris Clark, Linda Geiser and Kevin Horn to update on CL research for Spring Meeting

Linda Pardo suggestion – How to synthesize/put CL on the same spatial scale and location

Jason Williams suggestion – Uncertainty in deposition models

Linda Pardo suggestion – How the uncertainty varies across the landscape should also be considered

Tim Sullivan comment – Has publications of recent work available for anyone who is interested

Cindy Huber comment – FOCUS project is closing; FOCUS annual reports are not published on CLAD website; FOCUS project will be maintained on website

Jennifer Phelan suggestion – Chris Clark present his ideas for CL on same location / RTI project of putting all CL on same 12km grid; possible for these topics to be inter-session webinars or presentations in spring meeting

Jason Lynch response– perhaps good topic for a workshop

Ginger Tennant comment – NOxSOx secondary standards review; ISA currently being completed; Tara presenting on current state of ISA and Jeff Herrick and Meredith Lassiter will be presenting posters

3. Elect CLAD Co-Chair (Jason Lynch & Claire O’Dea)
  - Nomination = Tonnie Cummings (NPS)
  - Replace Jason Lynch for 2-year term
  - Jason motioned to accept Tonnie as co-chair
  - Accepted as co-chair
4. Announce CL papers and posters that will be presented at the Acid Rain 2015 (note that list of posters and presentations may not be complete; refer to 9<sup>th</sup> International Conference on Acid Deposition program for additional information)

Jason Lynch:

- Poster – SW CL exceedance poster

- Poster – Watershed S study (south of glaciation line) – focused on S budgets and adsorption. When will soils in the south reach their adsorption capacity and start releasing S?

Tim Sullivan:

- Will be co-chairing dynamic modelling session

Tamara Blett:

- Chairing CL session
- Good international session/representation
- NPS booth that celebrates NPS centennial and “what’s your park?”
- CLAD booth with mapping tool for CL mapping tool

Jeff Herrick:

- Poster – EPA NOxSOx secondary standard review Integrated Science Assessment (ISA)

Karen Roy:

- Poster – Re-evaluating EPA long-term monitoring data (that support NOxSOx secondary standard review)
- Poster – Discussing NY state strategy to reduce gaps in knowledge introduced during 2008 ISA
- Poster – NY deposition

Jason Williams:

- Poster - Phytoplankton responses in high elevation lakes in SW

Bennet Leon:

- Poster - NADP deposition maps to determine CL exceedances

Ralph Perron:

- Poster - Legacy effects of pollution

Chuck Sams:

- USFS booth

Riche Scheffe:

- Presentation – N and S emissions; importance of natural and agriculture-based emissions
- N and S in Acadia National park

Linda Pardo:

- Presentation – USFS pilot geospatial tool that accounts for site conditions on forest response
- Poster – methods and results of USFS geospatial tool
- Poster – CLs for acidity and growth patterns in Red spruce
- Hosting Forestry session

Bill Jackson:

- Poster – EMDS framework and model ; how to use the information for management

Tonnie Cummings:

- Poster – demonstration of CL mapping tool

Jalyn Cummings:

- Presentation – 36-year water quality monitoring program; NPS perspective as land manager

Jill Webster:

- Poster – annual trends in deposition

Wayne Robarge:

- Poster – NH<sub>4</sub> exchange calculations for monitoring stations (interference of bicarbonate)

Rick Haeuber:

- Poster – examines different monitoring networks (emissions, deposition, etc) and success with emission reduction programs

Hiroyuki Sase:

- Poster/presentation – CL exceedance in Japan

Mark Fenn:

- Presentation – 4 different ways to estimate total deposition
- Poster – use of isotope dilution as a method to estimate deposition

Kevin Horn:

- Presentation – Powell Center work that documents how trees responding to N deposition

Claire O’dea:

- Poster – how CLs being used by USFS for land management
- CLAD and TDep booths

Cindy Huber:

- CLAD booth

**11:45 – 1:00 pm Lunch**