Minutes of the MRP NE-1438 Participants Meeting

SSSA International Soils Meeting

6 January 2019

San Diego, CA

1. In attendance  
     
   Mark Stolt (chair), Patrick Drohan, John Galbraith, Paula Gale, Deborah Henson, Marty Rabenhorst, Mickey Spokas, Jim Thompson, Bruce Vasilas, Karen Vaughan, Jon Wraith
2. Background
   1. NE-1438 is the third iteration of this hydropedology-oriented multistate research project. The focus of this project is vernal pools, with objectives related to hydrologic monitoring, measurement of C and N stocks, decomposition studies, and assessment of hydric soil indicators. The end date for the current project is 30 September 2019. The cooperators recently submitted a proposal for a new multistate research project to continue this
3. Comments from Jon Wraith on newly submitted proposal
   1. The proposal should not be focused on the NE Region then include a participant from Wyoming. Emphasis should be on ‘multistate’ not ‘regional’. Current participants should actively recruit new collaborators from outside the NE Region.
   2. The intent is for these multistate projects to act as seed grants with the expectation that the group seeks competitive funding. The new proposal should include a description of leveraged funds and submitted proposals from this group (e.g., funding from the NRCS).
   3. A project cannot go on forever. What is the endpoint for this project? When will this problem be ‘solved’?
   4. Regarding the experimental design: How will the group address uncontrolled variability among sample sites? How will the group address temporal variability of gas sampling? How will the group address the lack of replication? (Each site is an experimental unit. Transects are not replicates.)
   5. Regarding data analysis: Be more specific about intended statistical analysis; this section is too vague in the current proposal.
4. Review of agenda
   1. Add time to discuss a proposal to garner additional resources.
5. Review of posters
   1. Biogeochemistry of Vernal Pools Assessed Using IRIS Film Technology (Poster Number 1733)
      1. Coating removed per day saturated: Can temperature be added to this analysis? What is the influence (if any) of organic C, texture?
      2. Are the Mn-reducing bacteria the same as the Fe-reducing bacteria?
      3. The observed light brown staining on the Mn films is actually Fe oxides. This appears to be chemical reduction of Mn in the presence of dissolved Fe, such that the Fe replaces the Mn in the oxide coating.
   2. Redoximorphic Feature Expression in Seasonally Inundated Soils Reveals Belowground Climatic Influence on Development (Poster Number 1721)
      1. Visualization tools
      2. Need to have everyone contribute all of their soil, water table, and temperature data. For the soil morphology, need to have redox feature percentages (not few/common/many)
6. Status of data collection and analysis
   1. Decomposition data: Mostly complete. Can sticks be cut into segments to examine depth variability? For the next proposal, place sticks on the surface.
   2. Temperature and water table data: Average multiple daily measurements into a single daily value. Consider the HOBO Pro v2 2x External Temperature Data Logger for temperature logging (item # U23-003; <https://www.onsetcomp.com/products/data-loggers/u23-003>)
   3. Data compilation: Templates for assembling data from all participants will be prepared, including temperature (Mickey), water table (Jim), decomposition (Mark), IRIS (Marty), nitrate (Bruce), morphology (Karen)
   4. Vegetation survey: Some have been done; most need to be redone.
   5. Nitrate: Bruce has received samples from all participants except WY. All samples have been submitted for analysis except WV.
   6. C stocks: Not everyone has collected C data.
   7. Relative elevation of the wells: This is a critical component. It was suggested that elevation data be collected at 0.5-m intervals along each transect.
7. Climate data
   1. How do we assess ‘normal’?
   2. Important variables are daily temperature and daily precipitation
8. Plans for publication
   1. Translating posters into articles: “Multiple drivers of IRIS response”
   2. Important variables are daily temperature and daily precipitation
9. New multistate proposal
   1. If approved, will continue from 2020 to 2024

Submitted by Jim Thompson