



Sustainable Phosphorus Alliance

Farm-to-Watershed Phosphorus (F2W-P) Modeling Workshop

August 23-24
Columbus, Ohio

Invitees are welcomed to attend this day-long (noon-to-noon) workshop on the topic of reconciling differences between measured and modeled soil phosphorus.

Motivation: One of the classic environmental management dilemmas is that we often understand and evaluate systems at large scales (watersheds, sub-basins), yet management of the landscape most often occurs at the field or even sub-field scale. This is especially true for agricultural management. Specific to our understanding of nutrient losses, the way in which we theoretically or mathematically model soil phosphorus is unrelated to the way we manage phosphorus in agricultural fields.

Most biogeochemical or watershed models simulate phosphorus in the soil through the establishment of theoretical phosphorus pools. Although some theoretical work has attempted to connect the soil test phosphorus measurement with these pools, these connections have not been fully evaluated. Mismatches between the measurement and modeling of soil phosphorus can lead to many problems, including the inability to incorporate measured soil test phosphorus data into watershed models to help inform sound watershed policy recommendations.

This workshop brings together practitioners to discuss how to dovetail existing in-field phosphorus measurements and modeled phosphorus pools. Topics discussed will include:

- Environmental and physical drivers of soil test phosphorus measurements
- Designing field tests to improve our understanding of soil test phosphorus measurements for incorporation into models
- Scaling field level results up to improved watershed models

Draft Agenda

Day 1 – Thursday, August 23, 2018

Time	Agenda Item
12:00 pm	Lunch (provided), Welcome, and Introductions
1:00 pm	STP Measurements Over Time <i>Dr. Peter Vadas, USDA-ARS Dairy Forage Research Center</i>
1:20 pm	--debrief activity--
1:35 pm	Development of Agronomic P Recommendations <i>Dr. Chad Penn, USDA National Soil Erosion Research</i>

1:55 pm	--debrief activity--
2:10 pm	P Stratification in Soils <i>Dr. Laura Johnson, Heidelberg University</i>
2:30 pm	--debrief activity--
2:45 pm	Break
3:00 pm	Monitoring P in Soil and Subsequent Losses <i>Dr. Kevin King, USDA Soil Drainage Research</i>
3:20 pm	--debrief activity
3:35 pm	Current Models of Soil P <i>Dr. Margaret Kalcic, Ohio State University</i>
3:55 pm	--debrief activity--
4:10 -5:00 pm	Wrap-up Activity & Discussion
6:00 pm	Optional dinner/drinks with group (not provided)

Day 2– Friday, August 24, 2018

Time	Agenda Item
8:00 am	Recap from Yesterday
9:00 am	Update on CIGLR Soil Health Modeling Workshop <i>Tom Zimmnicki, Michigan Environmental Council</i>
9:30 am	Small group breakouts
10:30 am	Report Back
10:45 am	Large group discussion – priorities, next steps
11:45	Closing remarks
12:00	End; lunch on own