

Development of a One-Environment Modeling Capability for Nitrogen Anchored by Atmospheric Modeling Advances at EPA

A seminar by Dr. Robin Dennis, EPA
Thursday, November 8, 4:10pm in Carpenter 102
Washington State University, Pullman WA

Speaker Details:

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<http://www.epa.gov/AMD/bios/dennis.html>

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The impetus to consider one-environment modeling with respect to nitrogen and co-pollutants from the point of view of atmospheric modeling experience and an EPA Office of Research and Development nitrogen initiative will introduce the talk. The general modeling approach will be described in the context of the nitrogen cascade and the goal of developing a screening level tool for option analysis that recognizes that land use and climate change will impact efforts at management and mitigation. Three key development areas of model coupling and linkage, using existing models, to create a focused one-environment capability will be described: (1) coupling of air and land through agriculture; (2) coupling meteorology and hydrology; and (3) linking air/land/hydrology with adapted watershed processing. The case example to provide direction for the development of a screening-level, one-environment capability is the simulation of the Mississippi-Atchafalaya River Basin (MARB) nitrogen inputs and subsequent loading to the Gulf of Mexico to support simulations of the Northern Gulf of Mexico hypoxia.

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