

UF Water Institute Smallwood Distinguished Scholar Seminar

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Abstract:

Getting Below the Surface: The Rise of Ground Water in Wetland Biogeochemistry and Plant Ecology

In the past two decades, wetland science has seen the slow emergence of an integrative view of hydrogeology, biogeochemistry, and plant community ecology. One area in which this integration has developed is in the study of ground-water dependent wetlands. Such wetlands occur only where ground water consistently reaches the plant rooting zone and influences the presence of distinctive plant communities. Motivated by the observed consequences of human alterations of ground-water inputs and nutrient loading to such wetlands, a small set of wetland scientists in Europe and North America has been asking questions about the linkages between geomorphological setting, ground water hydrology, water and soil chemistry, and the bryophyte and vascular plant species composition of ground-water dependent wetlands. In this seminar, I will summarize current understanding of the biogeochemical mechanisms controlling this dependence, the spatial and temporal scales at which they operate, and the various ways in which they are manifested in characteristics of the plant communities. Within this broader context, I will highlight research my graduate students, colleagues, and I have conducted in New York's rich fens. I will close with remarks on current conservation issues facing rich fens in North America.