The Water Cycle Revisited: Linkages with Element Cycles

Interdisciplinary collaboration has become a hallmark of work in the environmental sciences for good reason – the linkages and feedbacks among various components of ecosystems are complex. The sheer heterogeneity of environmental systems is daunting and often leads us to tell "Just-so" stories about our particular field sites (apologies to Rudyard Kipling). A primary challenge for modern hydrology is to find ways to learn about patterns at various temporal and spatial scales in the face of heterogeneity and complexity. In my lecture I will present some of my own work on linking hydrology with transport of dissolved organic carbon and of nitrate in small catchments but also will explore some ideas of how extension of work at relatively small scales might be accomplished so the science can move beyond the telling of "Just-so" stories.