

ICTAS
NEW HORIZONS
SEMINAR SERIES

Measurement and reference frames in hydrology, ecology, and environmental law

Natural scientists must combine temporal and spatial information to develop an understanding of the bio-physical dynamics that shape the distribution of natural resources, organisms, communities, and chemicals. Recent developments in sensor technology are transforming temporal and spatial resolution of data collection. These developments will likely alter how data are collected, and potentially alter our most conceptualizations of how natural systems work.

This seminar will explore the evolution of reference frames in hydro-ecology (hydraulics, fish movement, biogeochemistry), and how different measurement techniques have caused the re-conceptualization of reference frames. The seminar will then expand into environmental law, with the notion that U.S. environmental law is just as sensitive to frames of reference as fluid mechanics, cartography, and any other discipline that studies natural phenomena, and that the assumed reference frame predetermines how we conceive of environmental problems and solutions far more than we realize. The emergence of novel measurement technologies will not only change hydro-ecology, but has the potential to invert accepted applications of environmental law.



ABOUT THE SPEAKER

Martin Doyle is Professor of River Science and Policy in the Nicholas School of the Environment at Duke University, with training in hydrology, geomorphology, and engineering. His research is at the interface of science, economics and policy of environmental management and restoration. His background is in hydraulics and sediment transport in rivers, but he also works on river infrastructure, including decommissioning dams and levees, as well as research on financing rehabilitation of aging hydropower dams and the impacts of infrastructure on river ecosystems across the US. He holds a PhD in Earth Science from Purdue University, and a Masters in Environmental Engineering from Ole Miss.

TUESDAY, JANUARY 28, 2014

2:00 - 3:30 pm, 310 Kelly Hall



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