



Department of Civil & Environmental Engineering & Earth Science

The Environmental Fluid Dynamics Lecture Series

Assessing Uncertainty in Environmental Systems

December 10th Seminar
Eleven-Noon in 127 Hayes/Healy



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In this talk I will provide an overview of my research in statistics and environment. I will focus on the use of statistical models to provide fast and efficient surrogates of weather and climate simulations for sensitivity analysis and uncertainty quantification. During the presentation, I will discuss the challenges that arise when modeling data at different spatial scales (local and global) and temporal resolutions (annual, monthly, daily and hourly), and propose solutions ranging from simple Gaussian models to more complex skewed or trans-Gaussian approaches for high resolution data.

Prof. Castruccio is Assistant Professor in the Department of Applied Mathematics and Computational Mathematics and Statistics at the University of Notre Dame. He received a PhD in Statistics at the University of Chicago, and before his current appointment he was a postdoctoral fellow at King Abdullah University of Science and Technology in Saudi Arabia and Lecturer in Newcastle University in England. His research interests are in spatio-temporal statistical models for environmental applications, ranging from climate model projections, wind power forecasting, and assessment of air quality. He has read a paper before the Royal Statistical Society in 2018, he is also the recipient of the 2016 Wilcoxon Award and an elected member of the International Statistical Society. He also currently serves on the editorial board of the *Annals of Applied Statistics* and *Stat.*