



**“REGIME SHIFTS, FISHERIES, AND PREDICTING THE FUTURE:  
THE ROLE OF CHAOTIC DYNAMICS IN MARINE ECOSYSTEMS”**

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**Monday, March 24, 2014**  
3:30 PM

***Room 1202, Engineering and Computational Sciences Building***

Abstract

Regime shifts in marine systems have become a topic *du jour*, yet they remain difficult to detect and, more importantly, to predict. Here, I examine evidence for regime shifts in both physical and biological oceanographic data using dynamic time series analysis. Fish populations in particular are likely to contain chaotic dynamics, predisposing them to regime shifts and increasing their vulnerability to collapse. Furthermore, fish that are subject to human fishing are three times more likely to be chaotic than fish that are not subject to fishing. Does fishing *cause* dynamics to become chaotic, or do those species humans tend to fish have biological characteristics that make them more likely to have chaotic dynamics even absent fishing? I investigate this question and the role of non-equilibrium dynamics in marine systems generally.

Biography

Dr. Sarah Glaser is a fisheries ecologist at the University of Denver, where she recently relocated from the College of William and Mary and the Virginia Institute of Marine Science. She earned her Ph.D. at the Scripps Institution of Oceanography. Her research investigates the dynamics of global fisheries, marine food web ecology, and fisheries-derived food security in East Africa.

*Reception before seminar at 3:00 PM*