National Oceanic and Atmospheric Administration
Cooperative Remote Sensing Science and Technology Center

NOAA-CREST

ELECTRICAL ENGINEERING & NOAA-CREST SEMINAR SERIES

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Date: May 20, 2008

Time: 11:00AM

Venue—T623

Title:

Remote sensing of Chesapeake Bay phytoplankton dynamics

Abstract: Remote sensing has been an invaluable tool in elucidating trends and patterns of Chesapeake Bay phytoplankton dynamics. Large seasonal to interannual variability in biomass, primary productivity, and floral composition characterize the system. Much of the variability can be attributed to climate forcing at a variety of temporal and spatial scales. Here, I use an 18 yr time series of ocean color data, collected from low altitude aircraft 15 to 30 times per year, to quantify climate forcing of Chesapeake Bay phytoplankton dynamics. Analysis of the time series show that regional scale climate variability, described by a synoptic climatology, explains a significant fraction of the variance in spring phytoplankton biomass and summer productivity. Further, the value of aircraft remote sensing is highlighted by an example from 2003 where a large and unprecedented fall diatom bloom was documented in response to the passage of Hurricane Isabel. Finally, the importance of phytoplankton floral composition will be described along with preliminary work using hyperspectral technologies to identify these functional groups.

REFRESHMENTS WILL BE SERVED