ASPRS 2011 Annual Conference
Ride on the Geospatial Revolution

May 1-5, 2011
Frontier Airlines Center, Milwaukee, WI
http://www.asprs.org/milwaukee2011/PreliminaryProgramTemp.pdf

Technical Program
Tuesday May 3, 2011
Poster Presentation III (3:30 PM to 5:00 PM)
Session: *Remote Sensing Applications for Environmental Monitoring*

Presentation Title: Seagrass Health Modeling and Prediction with NASA Science Data

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Abstract
Previous research has demonstrated that MODIS data products can be used as inputs into the seagrass productivity model developed by Fong and Harwell (1994). To further explore this use to predict seagrass productivity, Moderate Resolution Imaging Spectroradiometer (MODIS) custom data products, including Sea Surface Temperature, Light Attenuation, and Chlorophyll-a have been created for use as model parameter inputs. Coastal researchers can use these MODIS data products and model results in conjunction with historical and daily assessment of seagrass conditions to assess variables that affect the productivity of the seagrass beds. Current monitoring practices involve manual data collection (typically on a quarterly basis) and the data is often insufficient for evaluating the dynamic events that influence seagrass beds. As part of a NASA-funded research grant, the University of Mississippi, is working with researchers at NASA and Radiance Technologies to develop methods to deliver MODIS derived model output for the northern Gulf of Mexico (GOM) to coastal and environmental managers. The result of the project will be a data portal that provides access to MODIS data products and model results from the past 5 years, that includes an automated process to incorporate new data as it becomes available. All model parameters and final output will be available through the use National Oceanic and Atmospheric Administration's (NOAA) Environmental Research Divisions Data Access Program (ERDDAP) tools as well as viewable using Thematic Realtime Environmental Distributed Data Services (THREDDS) and the Integrated Data Viewer (IDV). These tools provide the ability to create raster-based time sequences of model output and parameters as well as create graphs of model parameters versus time. This tool will provide researchers and coastal managers the ability to analyze the model inputs so that the factors influencing a change in seagrass productivity can be determined over time.