

LINKING HYDROLOGY TO VEGETATION TYPE AND STRUCTURE IN A COASTAL FLORIDA MARSH

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ABSTRACT - Point measurements of inundation frequency, depth, extent and salinity were collected over a seven year period in a small watershed within a *Juncus roemerianus* (black needlerush) marsh in coastal Florida. The collected data described channel flushing as well as marsh platform inundation extending from nearer the coastline to within the adjacent upland forest. Measurements, however, were interrupted due to system and calibration problems and equipment loss from fire, storms, and lightning strikes. During the same period, optical to microwave remote sensing data were collected and used to: (a) describe vegetation type, structure, and biomass, (b) monitor severe vegetation impact and recovery, (c) detect flooding, (d) generate the marsh microtopography, and (e) estimate soil moisture content. Problems and successes in the collection of inundation and salinity measurements, as well as methods and validation of vegetation and topographic parameters are described. Our attempts to explain the changes in the coastal landscape are also described. Model developments include simulations of coastal inundation from projected sea-level rise scenarios, and linking the hydrology to the current and predicted the future distribution of coastal vegetation type and structure. These predictions do not account for factors inhibiting or exacerbating coastal resource loss (e.g., due to erosion, shoreline protection structures, vegetation loss), but are meant to provide the resource managers and coastal planners a reasonable long-term look at possible consequences of sea-level rise and coastal management practices.

Remote Sensing & Resource Management In Nearshore and Inland Waters

Program

October 22 - 24, 2001
Wolfville, Nova Scotia, Canada

A WORD OF WELCOME

On behalf of the Alliance for Marine Remote Sensing (AMRS) Association, we welcome you to our workshop on "Remote Sensing & Resource Management in Nearshore and Inland Waters". This international event has been organized in cooperation with the Canadian Space Agency, and is sponsored by AMRS, the Canada Centre for Remote Sensing, the National Wetlands Research Center of the US Geological Survey, and Optech.

We gratefully acknowledge the outstanding help that we received from the members of the AMRS Workshop Steering Committee. They include the following individuals who dedicated time and effort to bring this event about: Robert Bukata (CCIW, Canada), Arnold Dekker (CSIRO, Australia), Michaela Mueksch (MCM, Germany/France), Chris Penisi (NEIU, USA), Dmitry Pozdnyakov (Nansen Center, Russia), Terry Pultz (CCRS, Canada), Elijah Ramsey III (USGS/NWRC, USA).

The response of the international community to our call for papers has been enthusiastic. The Steering Committee has organized a series of sessions on User Requirements, Sensors & Methods, and Applications. We have more than 30 papers and presentations; these are bound to stimulate debate and generate constructive recommendations.

On behalf of the AMRS and the Steering Committee we welcome you to Wolfville, Nova Scotia!

Brian Whitehouse
Executive Director
AMRS Association

Dirk Werle
Chair, Workshop Steering Committee
Aerde Environmental Research

ABSTRACTS

ORAL PRESENTATIONS

