

# OCEAN OPTICS XXIV

Valamar Lacroma Dubrovnik Hotel | Dubrovnik, Croatia | October 7–12, 2018

<https://oceanopticsconference.org>

Tuesday, October 9

Poster Session 2

10:30–12:30

## **Poster 30**

### **EVALUATION OF REMOTE SENSING SENSORS AND ALGORITHMS FOR SEAGRASS PROTECTION IN COASTAL WATERS OF THE NORTHEAST GULF OF MEXICO**

Florida estuaries contain one million hectares of seagrass habitat, and the primary determinants of seagrass abundance and health are the amount and spectral quality of light reaching the seafloor. Working in the Panhandle and Big Bend regions, we have encountered many of the same problems that have vexed other coastal remote sensing scientists: variable river discharges laden with nutrients and CDOM, spatial and temporal changes in optical depth and bottom reflectance, and complex coastal atmospheres. In our subtropical region, the number of useable Modis Aqua or VIIRS scenes drops from 14 in February to fewer than 6 per month during the summer seagrass growing season. In our current project, we will try to increase the utility of remote sensing data for the assessment and protection of the second largest seagrass community in the United States. Drawing on 15 years of in situ seagrass and optical water quality data, we will carry out a retrospective analysis of Modis Aqua, VIIRS, and SeaWiFS imagery. Image segmentation will be used to classify optical depth of subregions, and Rayleigh-corrected reflectance will be used to increase the number of useable summer scenes. Lag analysis will be used to relate remotely sensed optical water to changes in seagrass distribution and abundance.

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