Wednesday, October 10
Poster Session 3
16:00–18:00

Poster 270
REMOTE SENSING OF ORGANIC CONTENT IN SUSPENDED PARTICLES

The suite of water quality products based on remote sensing has been limited largely to those associated with water turbidity and chlorophyll concentration. We are expanding the suite of options in this study. Here, we inverted VIIRS satellite reflectance data in the Chesapeake Bay using the Quasi-Analytical Algorithm and the Generalized Stacked-Constraints Model, and obtained particulate absorption and backscattering coefficients. These data were matched up with field-measured particulate organic carbon (POC) and suspended particulate matter (SPM) obtained through the Chesapeake Bay Program. We show that the particulate absorption to backscattering ratio is correlated with the POC to SPM ratio, with the degree of correlation varying with location. Specifically, the lower bay has the highest correlation and the upper bay has the lowest correlation. Although it remains to be assessed whether such a correlation holds in other regions, our results shed light on obtaining organic content information from remote sensing, which can be a new water quality product independent from turbidity and chlorophyll.

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