Thursday, October 11
Poster Session 4
10:30–12:00

» View Extended Abstract

Poster 88

AEROSOL MODELS FROM THE OCEAN COLOR SATELLITE SENSORS AND AERONET-OC AND THEIR IMPACT ON REFLECTANCE SPECTRA IN COASTAL WATERS

The choice of aerosol model in the atmospheric correction procedure is critical for the derivation of water leaving radiances from satellite Ocean Color (OC) imagery. At sea level, SeaPRISM radiometric instruments, which are installed on ocean platforms and which are part of the NASA AERONET and AERONET-OC networks, estimate the water leaving radiances from measurements of the total water and sky radiance; aerosol parameters are determined from the latter. The discrepancies between satellite and AERONET data are often significant in coastal areas which are primarily due to the complex atmospheres near the coast, therefore associated with less accurate atmospheric correction. Using NASA SeaDAS software for OC satellite data processing, characteristics of aerosols in atmospheric correction models for VIIRS and MODIS sensors are retrieved and compared with the ones from AERONET-OC data in terms of aerosol optical depth (AOD) and phase functions at the several AERONET OC sites. The impact of the Sun-sensor geometry and wind speed on the differences in aerosols parameters are evaluated and correlated with the accuracies in retrieval of the remote sensing reflectance spectra from ocean waters. Significant dependence of AOD on the wind speed is demonstrated, which is most likely related to the modeling of the state of the ocean surface and at least partially associated with dependence of sea surface reflectance on the wavelength, AOD and polarization effects.

Eder Herrera, The City College of New York, eherrer002@citymail.cuny.edu
Carlos Carrizo, The City College of New York, athelus2004@yahoo.com
Robert Foster, Naval Research Laboratory, robert.foster.ctr@nrl.navy.mil
Alex Gilerson, The City College of New York, gilerson@ccny.cuny.edu