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Effects of Atmospheric Correction Aerosol Distribution Uncertainty on Hyperspectral Retrieval Error of Chlorophyll-a[1] COLTEN PETERSON, Southeast Missouri State University , RAPHAEL KUDELA, JESSE BAUSELL, University of California Santa Cruz — Ocean color satellite and airborne sensors can accurately monitor chlorophyll-a (chl-a) using remote sensing reflectance (Rrs), but Rrs must first be corrected for optical perturbations caused by the atmosphere. Here, we conduct a sensitivity analysis of the 6SV atmospheric correction algorithm in order to gauge its performance in retrieving accurate chl-a measurements while systematically altering the algorithm's aerosol parameters. 6SV was run using an uncorrected L1 AVIRIS image of Monterey Bay where chl-a was sampled at three ocean stations. 6SV was initially run using the most accurate input parameters available, including a local aerosol optical depth measurement (AOD). Corrections were performed for all three sampling stations using all 5 6SV aerosol models, and the resulting Rrs values were converted into chl-a concentration using the SeaWiFS OC4 Algorithm. AOD was altered iteratively in order to determine the effect on chl-a retrieval error. Results indicate that overestimating AOD leads to much higher error in chl-a retrieval as compared to underestimation. Out of the 5 6SV aerosol models, the coastal model produced the most accurate chl-a values.

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