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Poster Session 3

16:00–18:00

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UNCERTAINTIES IN ATMOSPHERIC PARAMETERS FOR DIURNAL REMOTE SENSING OF COASTAL OCEANS

The coastal oceans, bays, and estuaries are highly dynamic systems in nature with myriads of physical/biological processes occurring at short-time scales, i.e., hourly. Daily satellite ocean color observations, therefore, do not provide adequate observations over such dynamic systems. Diurnal ocean color observations from geo-stationary orbits or constellations of ocean color imagers in Low Earth Orbits can provide unprecedented information about the temporal variability of near-surface bio-geochemical properties and physiological responses of marine plants to various short-term physical forcings. High-quality hourly ocean color products at land-water interfaces, however, are subject to robust characterizations of ambient atmospheric conditions. In this study, we analyze how uncertainties in ancillary data (e.g., column trace gases) utilized in the atmospheric correction impact down-stream products. We will further examine sensitivity of these products to varying aerosol height distribution. These scenarios are tested using both observations made by the Korean Geostationary Ocean Color Imager (GOCI) and simulated datasets. We anticipate that the analyses help determine measurement requirements for diurnal atmospheric parameters, including trace gases, aerosols, and ancillary data, to achieve high-quality ocean color products.

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