Monday, October 8
Poster Session 1
16:00–18:00

Poster 193

OPTICAL PROPERTIES OF FOREL-ULE WATER TYPES

The Forel-Ule (FU) scale consists of 21 standard colors and was originally conceived as a visual comparator for indexing the color of natural waters. Archived in-situ FU data constitute the longest time series of color of oceans seas and lakes since more than a century, with currently more than 200000 measurements publicly available. Recently, the FU scale was spectrally characterized and projected into the CIE (x,y) space. Subsequently, accurate algorithms to calculate the FU index from ocean color data were developed. Our contribution takes advantage of all these technical developments and applies the FU algorithm to global ESA-OC-CCI climatologies. Results show that the global climatological CCI reflectances (Rrs) lay between the FU indexes FU 1 and 14, with the highest 7 likely corresponding to high-CDOM inland waters. All oligotrophic oceans saturate at FU=1, confirming a somewhat rough resolution the the FU scale in the lower end. By clustering the CCI Rrs with the calculated FU, we define the FU optical water types (OTWs). These classes are also associated to derived inherent and apparent optical properties for every FU. Additionally, the FU OWTs are compared to other OTWs in the CIE (x,y) space. The advantages and limitations of each are discussed.

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