

OCEAN OPTICS XXIV

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<https://oceanopticsconference.org>

Monday, October 8

Poster Session 1

16:00–18:00

Poster 25

SPATIAL, TEMPORAL AND SEASONAL VARIABILITY IN OPTICAL PROPERTIES IN THE NORTHERN ADRIATIC SEA

The Northern Adriatic Sea is presently the area within the Mediterranean Sea, where river plumes show the most significant influence, as several rivers discharge high amount of freshwater in this semi-enclosed regional sea. These freshwater discharges and associated particulate and dissolved matter inputs have a significant effect, both on the physical and biogeochemical properties of the whole basin. We present a characterization of the spatial, temporal and seasonal variability in optical properties and composition of particulate and dissolved matter in the Northern Adriatic Sea based on several research voyages (May 2012, February 2014, November 2014, March 2015). We measured bulk and apportioned inherent optical properties (IOPs) as well as apparent optical properties (AOPs), biogeochemical properties and particle size distribution, in different riverine discharge conditions as well as during the tidal cycle. We observed a significant variability in the shape and amplitude factors controlling the IOPs and the concentration-specific IOPs (SIOPs) across several optical water types. The variability of the IOPs and SIOPs parameters was analysed in view of parameterising retrieval algorithms for the adaptive inversion approach (Brando et al., 2012) and the optical water type approaches (e.g. Melin et al., 2011; Moore et al 2014; Vantrepotte et al., 2012) to accurately retrieve chlorophyll and suspended matter concentrations in these complex coastal waters.

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