

OCEAN OPTICS XXIV

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Wednesday, October 10

Poster Session 3

16:00–18:00

Poster 39

RELATION BETWEEN ORGANIC CARBON AND CHLOROPHYLL IN THE NORTHERN ADRIATIC

Dissolved organic carbon (DOC) as well as particulate organic carbon (POC) represent dynamic fractions in the global C cycle and are now recognised as important factors which trace global change. POC and DOC in coastal areas predominantly come from biological (mostly phytoplankton) production as well as from terrigenous input. Shallow basin of the northern Adriatic (NA) which is significantly influenced by freshwater (mainly Po River), as well as advection of oligotrophic waters from the central Adriatic, and variable and complex circulation controlled by the Adriatic-Ionian Bimodal Oscillating System (BiOS), was selected as a site for monitoring relation between phytoplankton activities and organic matter production and distribution in the year period 2016-2017. Our study has shown that the NA is a highly dynamic system, and that distribution of DOC and POC is influenced by the freshwater input. The highest and most variable concentrations were observed at the westernmost stations SJ108 (up to 1.789 and 1.145 mg/L of DOC and POC respectively, March 2017) closest to the freshwater source in the surface layer, decreasing towards the eastern part of the basin. The lowest concentrations were measured in winter in the bottom layer of station SJ107 (0.928 and 0.044 mg/L of DOC and POC respectively). Strong correlation was found between DOC, POC and chlorophyll a concentrations (R ranges from 0.50 and 0.92 depending on the season and station, $P < 0.05$), which all are negatively correlated with salinity. The strongest correlation was always found for the westernmost stations SJ108 and SJ 101.

Irena Ciglenecki-Jusic, Rudjer Boskovic Institute, irena@irb.hr, <https://orcid.org/0000-0002-1873-6193>

Jelena Dautović, Rudjer Boskovic Institute, dautovic@irb.hr

Romina Kraus, Rudjer Boskovic Institute, kraus@irb.hr

Nastjenka Supic, Rudjer Boskovic Institute, supic@irb.hr

Robert Precali, Rudjer Boskovic Institute, precali@irb.hr