Since 2003, the BOUSSOLE mooring is deployed in Case 1 waters of the NW Mediterranean Sea (Fig. 1). It is acquiring a long-term time series of in-situ bio-optical measurements. A program of monthly cruises provides complementary measurements including underwater radiometry profiles and discrete rosette sampling for biogeochemical parameters. Here we show the relationships between both the Particulate Organic Carbon (POC) and the Suspended Particulate Matter (SPM) and the inherent optical properties (IOPs) measured at the BOUSSOLE site (beam attenuation coefficient, \(c_p\), and backscattering coefficient, \(b_{bp}\)).

**Data Acquisition**

**Bio-optical Relationships**

- Significant correlation between [POC] and \(c_{(660)}\) and [POC] vs \(b_{bp}\).
- Conversion factor: carbon-specific attenuation coefficient \(c_{(660)}\) = \(3.07 \text{ m}^{-1} \text{g}^{-1}\) consistent with estimates from various oceanic areas (2 - 3.2 \(\text{m}^{-1} \text{g}^{-1}\)).
- Correlation between [POC] and \(b_{bp}\) : determination coefficient (\(R^2\)) similar for all the wavelengths.

**Conclusions & Perspectives**

- Bio-optical relationships between both [POC] and [SPM] and IOPs (\(c_p\), \(b_{bp}\)) have been established with in situ measurements in the Mediterranean Sea (BOUSSOLE site).
- The ratio between absorption coefficients (\(a_p\) and \(a_{(660)}\)) and \(c_{(660)}\) will be examined and compared with the ratio [TChl-a] / [POC] and [TChl-a] / [TSM] measured at the BOUSSOLE site.
- These parameters will be compared with in situ AOPs measurements (reflectance) at BOUSSOLE site in order to assess current remote-sensing algorithms.

**References**

- Neukermans G. et al., 2012. Limnology and Oceanography, 57, 124-144.

**Acknowledgements**

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