

In-situ measurements in ISECA

The ISECA project aims to obtain information about the constituents present in coastal waters from satellite images of the water colour. This information can be used to inform politicians and society about the 'health' of the coastal ecosystems, in particular regarding dense algal blooms that can be a problem in coastal waters (so called eutrophication). However, in order to be able to use the satellite images for coastal monitoring we need to assess how good are the images from the satellite.

During ISECA, scientists are collecting water samples and measuring the water colour from an oceanographic vessel to test the measurements from the satellite. Weekly water samples are collected off Plymouth (UK) and brought back to the laboratory for analysis of the algae content, suspended particulate matter and dissolved coloured organic matter. Simultaneously to water samples, high precision electronic equipment is deployed to measure the optical properties (like absorption and scattering of light) of substances directly in the water column. Finally, sensors mounted on the bow of the vessel provide continuous data of the water colour.

In order to compare the measurements obtained in the UK, with others off France and Belgium, a dataset is being compiled from existing data from different institutions across the region.

The expectation is to produce a dataset that will allow not only the assessment of the quality of the satellite images, but also the development of new mathematical tools to advance the current knowledge of the causes of water colour in our coastal seas.