



## **Long term physico-chemical time series in the southern part of the Western English Channel (1985-2010) : Comparison between low frequency and recent high frequency measurements obtained from in situ sensors.**

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In the ocean, coastal areas are exposed to increasing anthropic perturbations mostly due to the development of industrial activities and urbanisation of the littoral zones. The functioning of coastal ecosystems responds to complex interactions between physical and biogeochemical processes depending on natural climatic cycles and are influenced since the last decades by anthropic perturbations, which can modify natural cycles. To distinguish between the natural variability of the biogeochemical cycles and changes induced by anthropic activities, long term time series of observation of physical, biogeochemical and biological parameters are necessary to get a better knowledge of the sensibility of the ocean to the global change. In the Western English Channel a physico-chemical long term time series has been initiated since 1985. 14 different parameters are sampled at a low frequency (bi-monthly). Extreme events such as detection of low salinity waters originating from centennial flooding of the Loire river and spring and summer blooms of phytoplankton have been observed. But the extrema and the duration of these extreme events are not well known with these low frequency observations. To achieve a better knowledge of these extreme events, high frequency measurements have been launched since 2008 using a multi-instrumented buoy located at a fixed point and more recently by installing sensors on a ferry on the Roscoff – Plymouth line. Temperature, salinity, fluorescence and dissolved oxygen are measured at a 30 mn frequency on the buoy and every minute on the daily ferry transects. First results from these high frequency measurements will be presented and compared to the low frequency measurements. Statistical studies from these high frequency measurements will be presented by Brizard-Zongo and colleagues in this session.