Assessing chemical contamination in the marine sediments of the southwest Portuguese Continental shelf, the CSS project: Preliminary results

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In the context of the Marine Strategy Framework Directive (Directive 2008/56/EC; MSFD), the CSS project focused on the sediment parameters (grain size, organic carbon, total nitrogen, C/N ratios, $\delta^{13}C$ & $\delta^{15}N$), radionuclide dating (^{210}Pb & ^{226}Ra) and assessment of chemical contamination (major elements, trace metals (including As, Cd, Co, Cr, Cu, Ni, Pn, Zn, REE), PAHs, PCBs, organochlorine pesticides and organotin compounds, stable Pb isotopes) in a set of 13 multicores and 63 surface sediment samples collected in the area between Cape Roca and Sines (Portugal). This area has not been assigned the good environmental status (GES) in the first MSFD evaluation report produced in 2012. Therefore, the main aims of CSS project are: 1) characterization of both temporal and spatial variabilities of the studied parameters; 2) definition of pre-industrial background values to estimate the level of contaminant enrichments; 3) identification of isotopic Pb signatures sources and 4) characterization of potential sources of organic matter.

The preliminary results are presented and discussed from a perspective of assessing the current marine environmental status and contamination trends, and also evaluating the effectiveness of MSFD policy that aims for reducing contaminants in Europe's marine environment.

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