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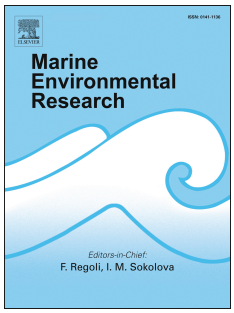

Dynamics of phytoplankton productivity and exopolysaccharides (EPS and TEP) pools in the Seine Estuary (France, Normandy) over tidal cycles and over two contrasting seasons

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Title

Dynamics of phytoplankton productivity and exopolysaccharides (EPS and TEP) pools in the Seine Estuary (France, Normandy) over tidal cycles and over two contrasting seasons

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Abstract

Exopolysaccharides (EPS) play an important role in the carbon flux and may be directly linked to phytoplankton and microphytobenthos production, most notably in estuarine systems. However the temporal and spatial dynamics of estuarine EPS are still not well understood, nor how primary productivity triggers this variability at these different scales.

The aim of this study was to investigate the primary productivity of phytoplankton and EPS dynamics in the Seine estuary over a tidal cycle in three different haline zones over two contrasted seasons. The other objectives was to investigate the origin of pools of soluble carbohydrates (S-EPS) and transparent exopolymeric particles (TEP) in phytoplankton, microphytobenthos or other compartments. High frequency measurements of productivity were made in winter and summer 2015. Physical and chemical