

Erosion and resuspension processes of intertidal sediment and microphytobenthos in the west coast of Korea

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Intertidal flats are largely found throughout the world's coasts, which can provide important sedimentological, ecological and economic functions. They play a significant role in preventing and controlling coastal erosion. Microphytobenthos (MPB) living on intertidal environments are one of the major primary producers, which can be resuspended and considered as food sources for pelagic organisms. Despite aforementioned importance, intertidal flats are currently under pressure from climate changes, sea level rise and anthropogenic influences. In order to predict the risks on intertidal flats, we need to understand the dynamic forces driving sediment and MPB. Previous studies have investigated the dynamic behaviors of sediments in the tidal flat through *in-situ* moorings. Nonetheless, few studies have explored sediment and MPB dynamics within intertidal flats over a various timescale. The main objectives are (1) to examine the spatiotemporal variability of sediment erodibility and (2) to quantify the influence of various forcings on sediment and MPB resuspension. Especially, this presentation will show the interaction between sediment and MPB behaviors, focusing on the resuspension processes, and complex interplay between suspended sediment and microphytobenthic chlorophyll-*a*.