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# Book of Abstracts

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## A large-scale field experiment on salt marsh construction

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### Introduction

Salt marshes provide important natural habitats, mitigate effects of subsidence and sea level rise and help in coastal defence. Commissioned by the municipality of Delfzijl, the EcoShape consortium obtained the opportunity to carry out a large-scale field experiment on salt marsh construction as part of their Living Lab for MUD.

### Methods

Land-water boundaries at the port of Delfzijl consist of rock protected dikes. In 2018 the bed level was raised with sand obtained from capital dredging in the estuary and a rockfill dam was built to provide shelter. The new bed height for the projected salt marshes was set around Mean High Water level from 1.65 m to 1.05 m in a gradient of 1:140. In the 15 ha salt marsh site we created test plots delineated with brushwood groynes, Fig. 1. Three plots to the west differ in shape but all have a surface area of 2.3 ha. They differ with respect to the percentage of clay and silt particles

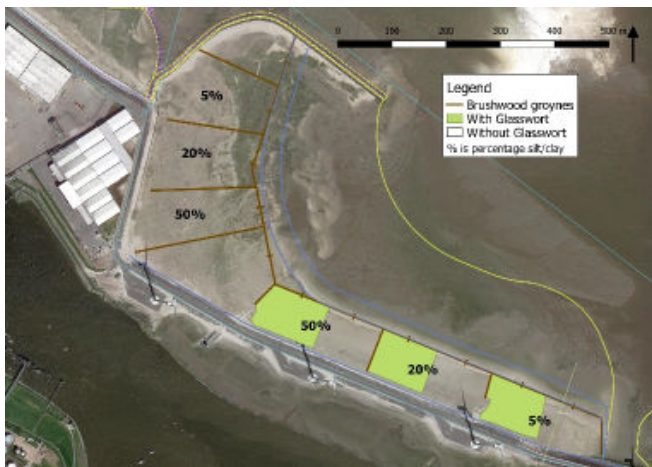


Figure 1 Aerial view of the Marconi test plots.

### Monitoring

A two year monitoring programme in 2019 and 2020 will determine sedimentation-erosion rates, development of drainage channels, bed height, flooding frequency, and density & condition of the glasswort seedlings. The biogeomorphodynamic developments will be analysed with respect to heights, slopes, silt percentages, and vegetation cover. Instruments include a.o. LiDAR drone, RTK-DGPS, Sedimentation-Erosion Bars, and Acoustic Surface Elevation Dynamics (ASED) sensors. The presentation will elucidate preliminary results of the ongoing research.

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