







SSB WP2 Module 2

Dan Mayor (on behalf of Henry Ruhl)

## Biogeochemical cycling of sediment N, P, Si and C [M1]

microbial and faunal structure
temporal and spatial variability
and flows
quality and quantity of organic material
impact of trawling, tidal currents or storms

C & N within detrital and biological pools burial of organic and inorganic C model long-term C storage under different scenarios

Role of sediments in C storage [M2]

N, P, Si and C cycling Short to long term C storage

Effects of environmental, seasonal and stochastic events on rates, processes, controls

Role of natural and anthropogenic disturbance Microbial-macrofaunal coupling

Climate change

infaunal contributions to C and nutrient dynamics cohesive and non-cohesive / natural and anthropogenically disturbed (trawling)

Role of macrofauna and impacts of natural and anthropogenic disturbance [M3]

exchange of nutrients and C across the sediment-water interface near-bed processes and temporal variability in sediment-water column exchange Effects of alternative hydrodynamic and environmental futures

Impacts of sediment resuspension and near-bed current flow [T4]

Observations - Experiments [in situ field and lab] - Modelling

## Role of sediments in C storage [M2]

C & N within detrital and biological pools burial of organic and inorganic C model long-term C storage under different scenarios

## What are the pools of C in sediment at contrasting sites and seasons and what are the relative importance of these over annual to multi-decadal timescales?



