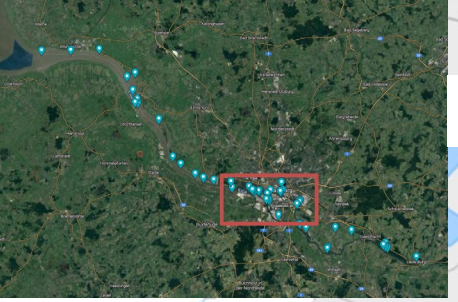
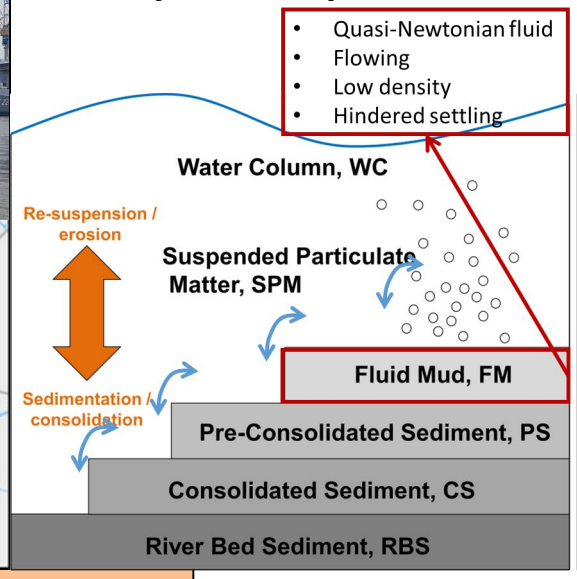
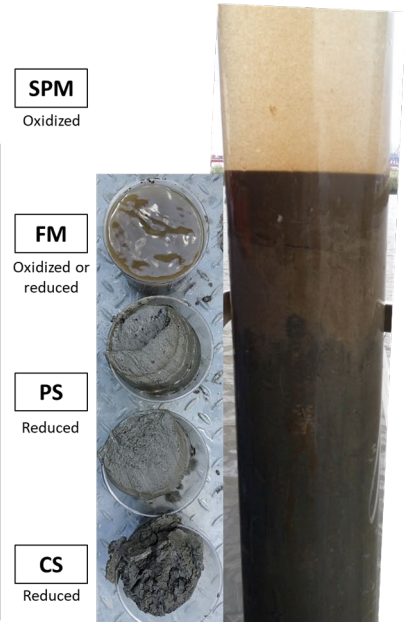
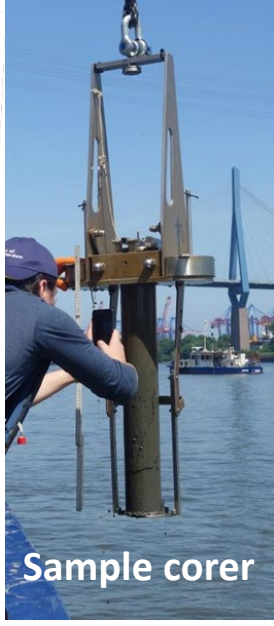


Four layer mud system







Research questions BIOMUD project (www.tudelft.nl/mudnet)

(1) Differences in properties and organic matter decay between sediment layers

(2) Relation between OM lability and physicochemical properties

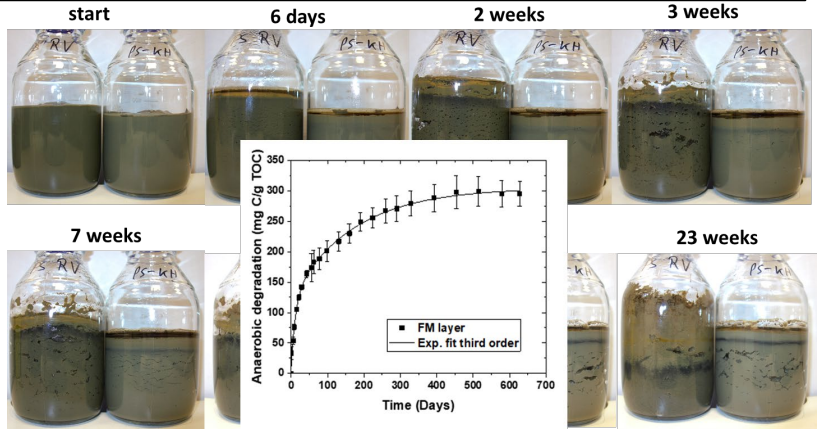
(3) Temporal and spatial variability of OM properties and degradability

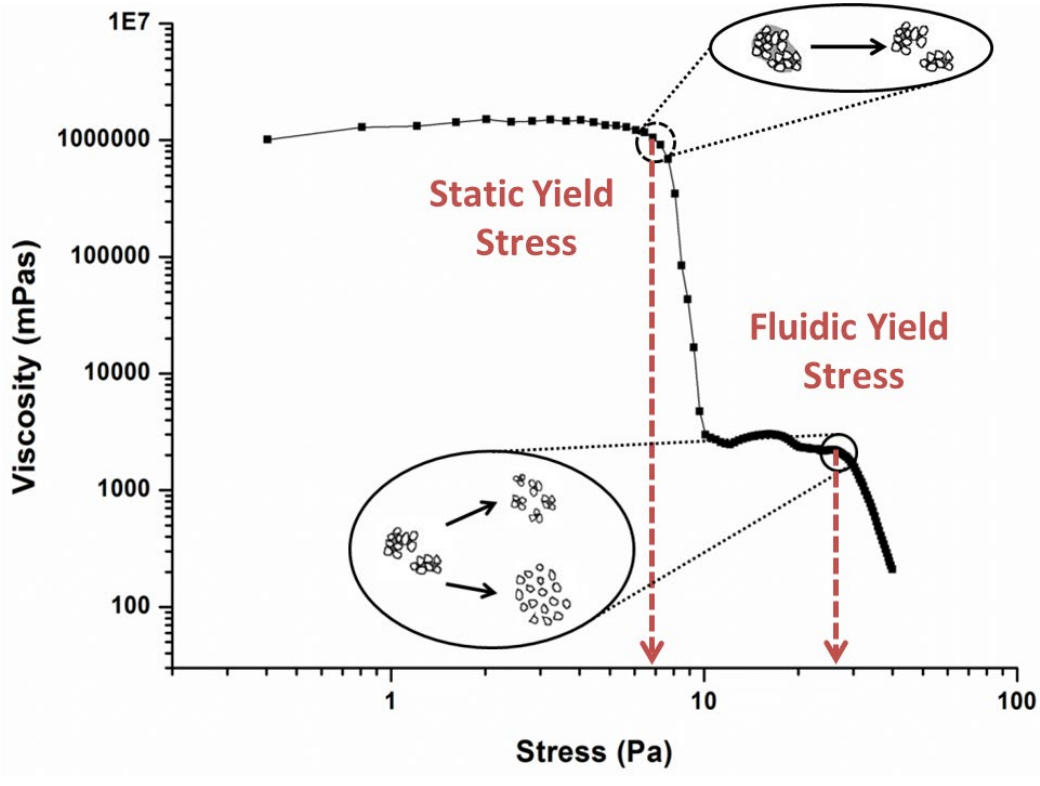
(4) Influence of SOM decay on flocculation, sedimentation and consolidation (**rheological properties** included)

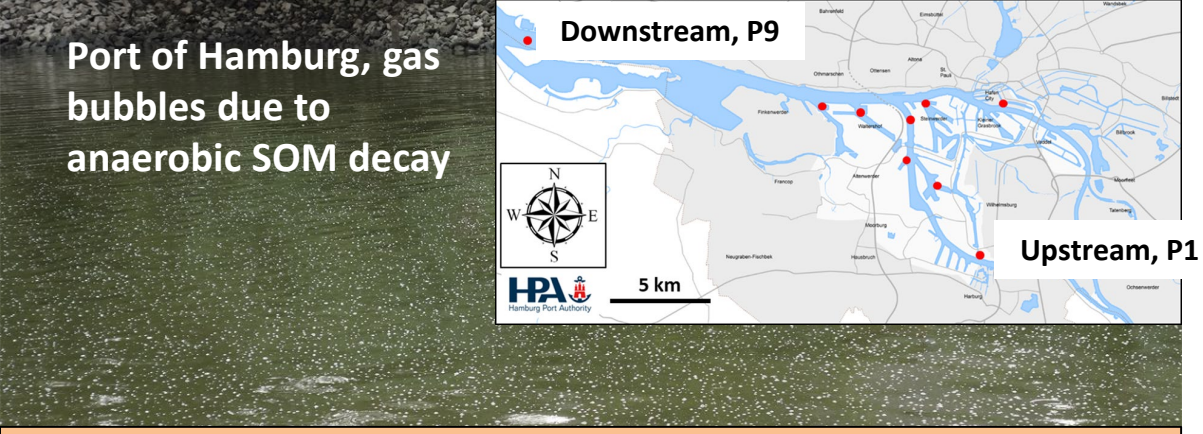
Effect of degraded sediment organic carbon on rheological characteristics of tidal mud

F. Zander, A. Shakeel, A. Kirichek, C. Chassagne, J. Gebert

TU Delft, Dept. Geoscience & Engineering







After anaerobic SOM decay (250d):

1. Largest FYS-changes at upstream locations for CS layers (P1), especially for anaerobic decay.
2. Decrease to about 70 % of initial-SYS and to 80 % of initial-FYF for anaerobic decay, aerobic decay shows less change in YS.
3. Largest YS-changes in deepest layers (CS, stars) for both SYS and FYS.

Conclusion: The deeper the layers, the larger the changes, anaerobic SOM decay decreases yield stresses significantly.

Change in static and fluidic yield stress after aerobic and anaerobic SOM decay (250d)