



Utrecht University

EURECCA
project



Prins Hendrikzanddijk

Wat kunnen we ervan leren?

TUDelft

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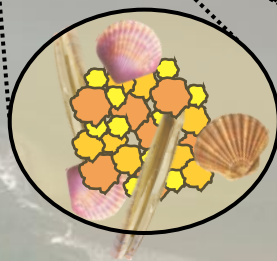




EURECCA (2020-2025)

Effective Upgrades and RETrofits for Coastal Climate Adaptation

- gefinancierd door NWO
- samenwerking ITC & TUD



sedimentsortering

kustwaterbouwkunde

gemengde energie

beschutte systemen

sleutelwoorden

sedimentmengsels

hoogwaterbescherming

zandsuppleties

bouwen met de natuur

Onderzoeksdoelen

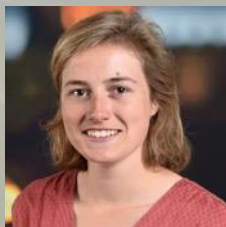
Het ontrafelen van gemengd sedimenttransport aangedreven door gemengde energieforcering, om kwantitatieve kennis en voorspellingstechnologie te leveren over de sedimentbeweging bij zandige keringen

onderzoeksgebied: Prins Hendrikzanddijk (PHZ)

2 werkpakketten:

- Marlies vd Lugt (TUD)

- kustdwarse profielverandering
- golfvormparametrisatie



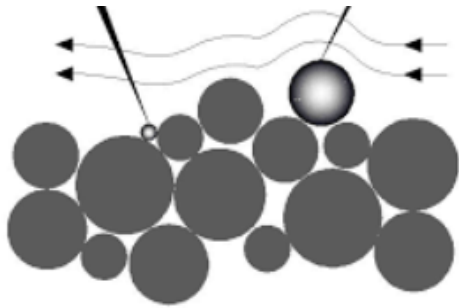
- Jorn Bosma (UU)

- korrelgrootteverdeling
- planvormontwikkeling

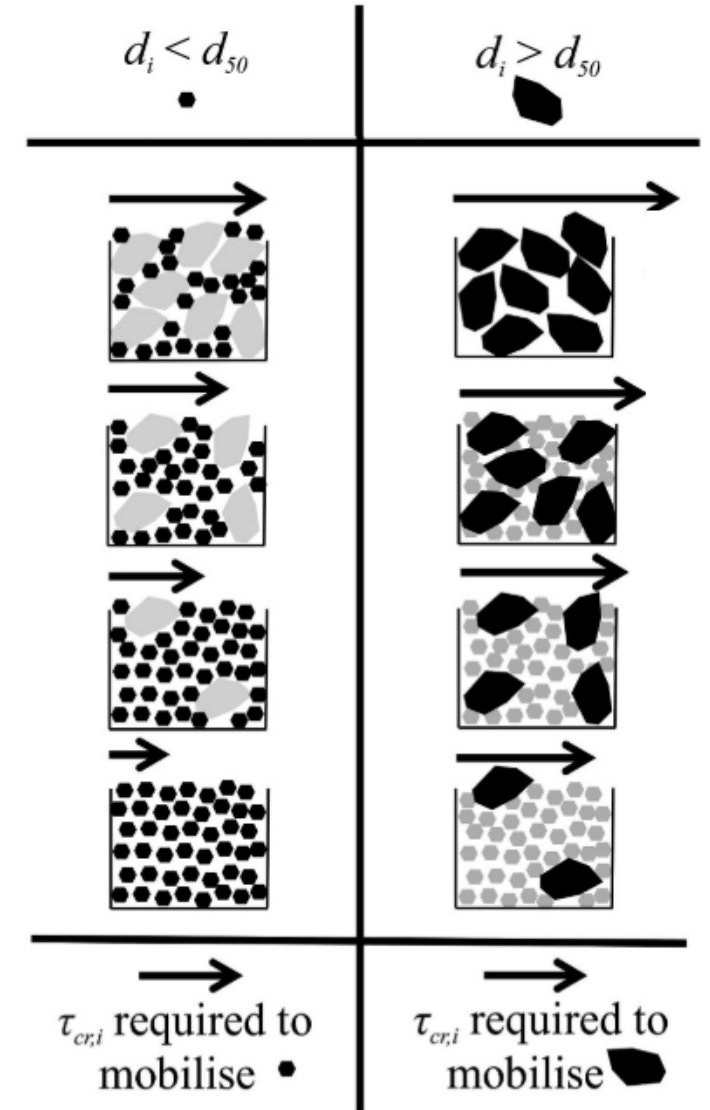
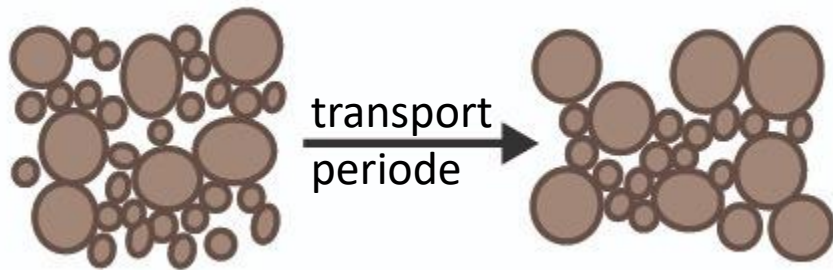


Het belang van korrelgroottes

- hiding & exposure

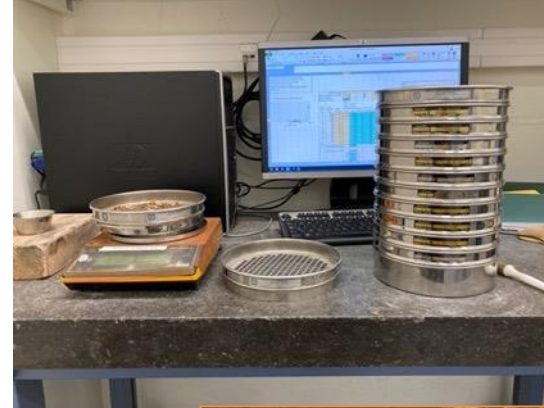


- uitwassing/hersortering



Lange termijnmonitoring

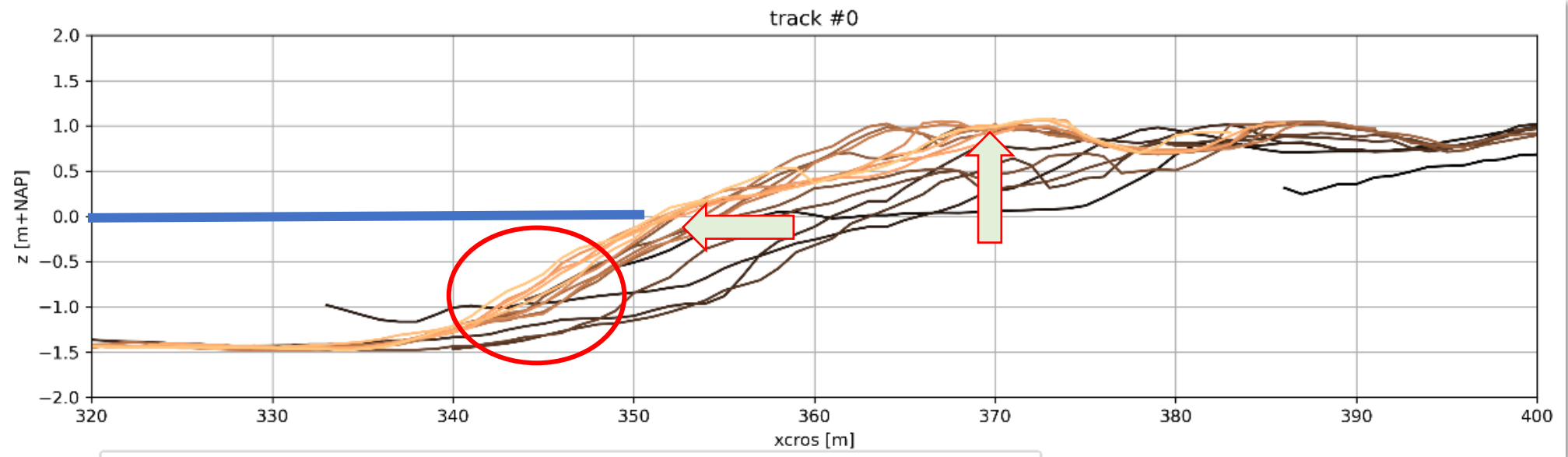
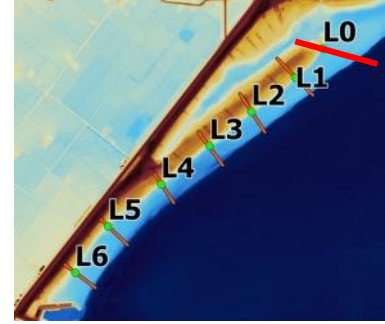
- enkeldaagse veldbezoeken
- frequentie: 2 à 3 maandelijks
- metingen:
 - hoogteprofielen
 - bodemmonsters
- hoogtekaart door Jan De Nul



Veldobservaties

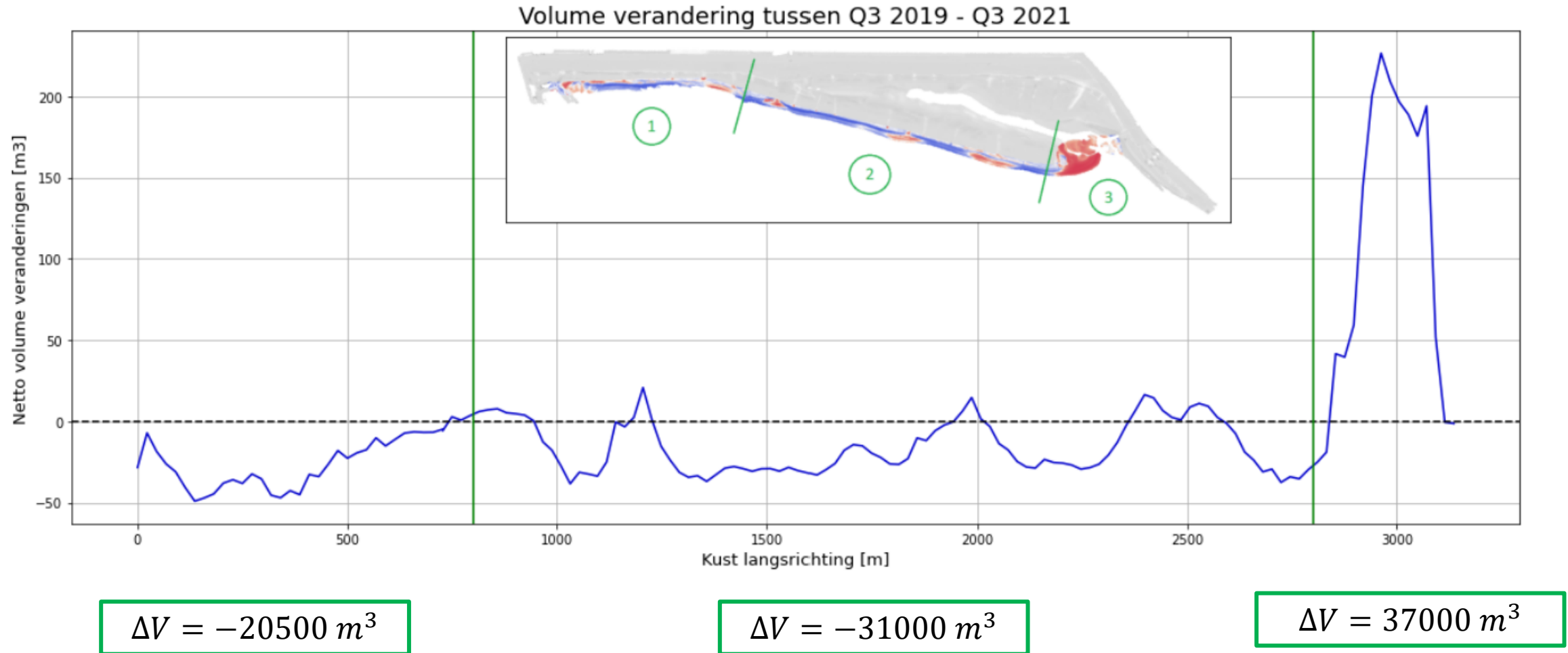


Punt van de strandhaak

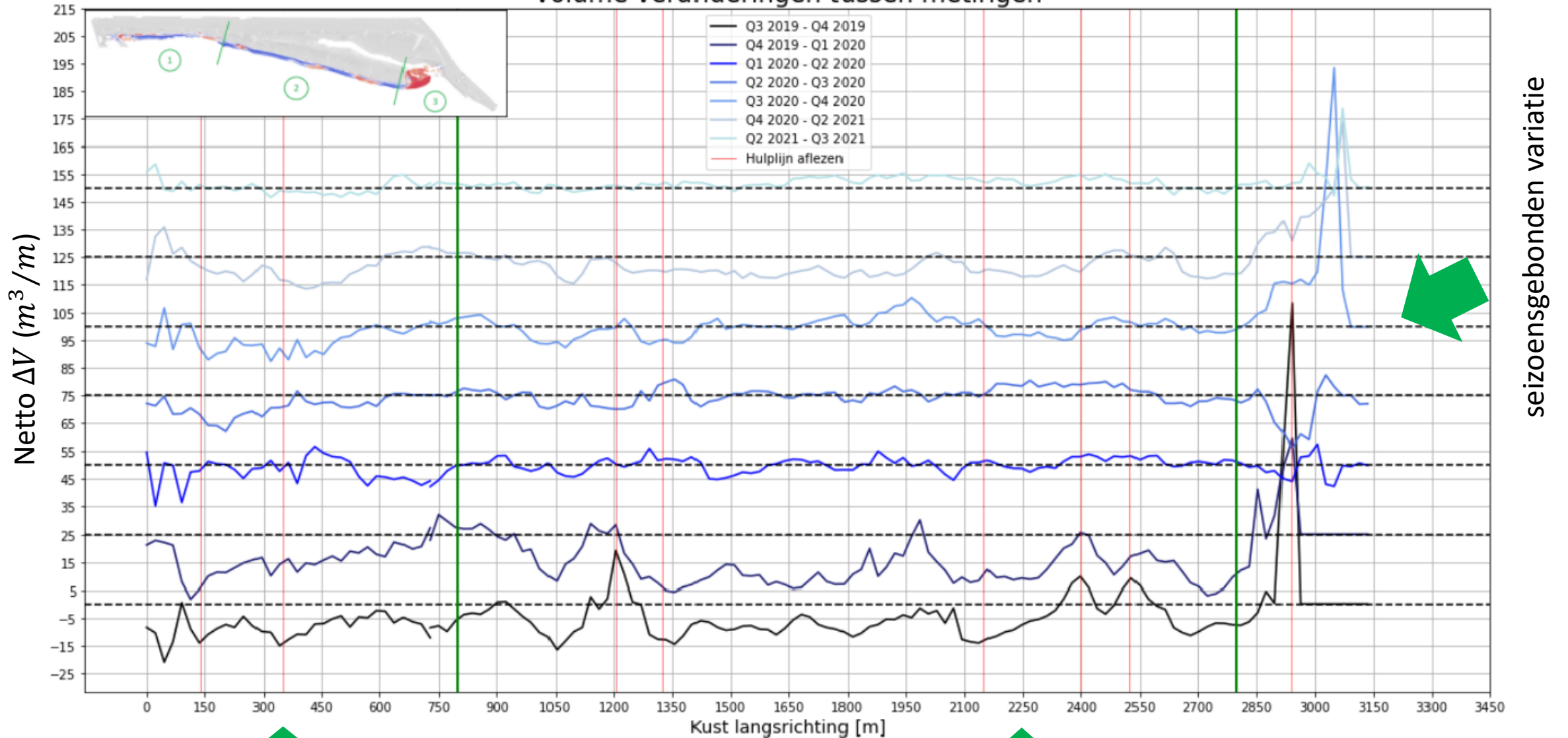



01-10-19	01-07-20	06-05-21	16-09-21	06-10-21	02-11-21
01-01-20	16-10-20	04-08-21	26-09-21	11-10-21	17-12-21
01-04-20	03-12-20	18-08-21	02-10-21	18-10-21	


Kustlangse volumeverandering



Volume veranderingen tussen metingen



 aanhoudende erosie

 initiële veranderingen

Intensieve meetcampagne

SEDMEX (mixed **SED**iment in **Mixed Energy eX**periment)

- periode: 8 sep – 19 okt 2021
- metingen:
 - hoogteprofielen
 - bodemmonsters
 - hydrodynamica
 - zandtransport



SEDMEX, 8 sep - 19 okt 2021

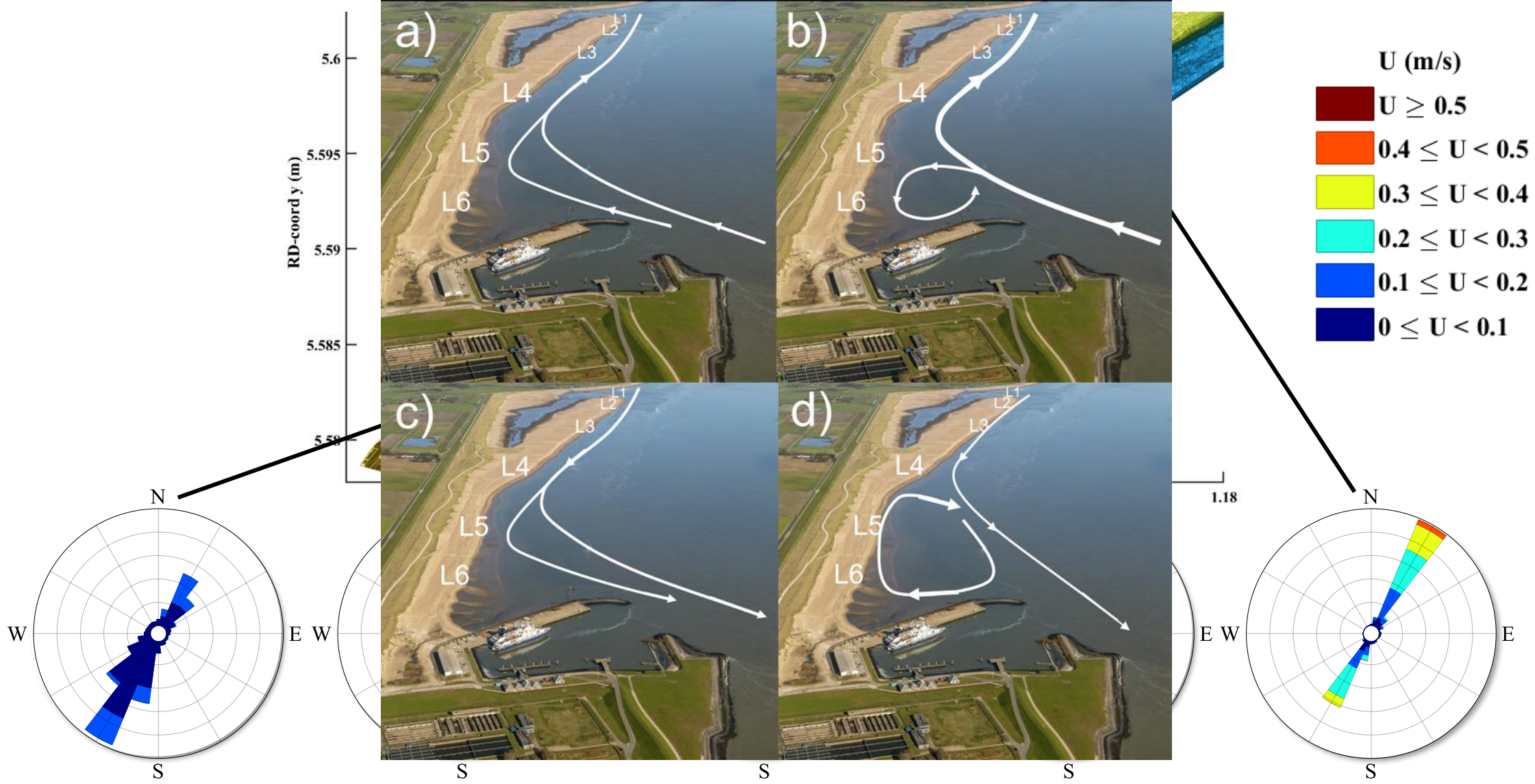


Meetopstelling SEDMEX



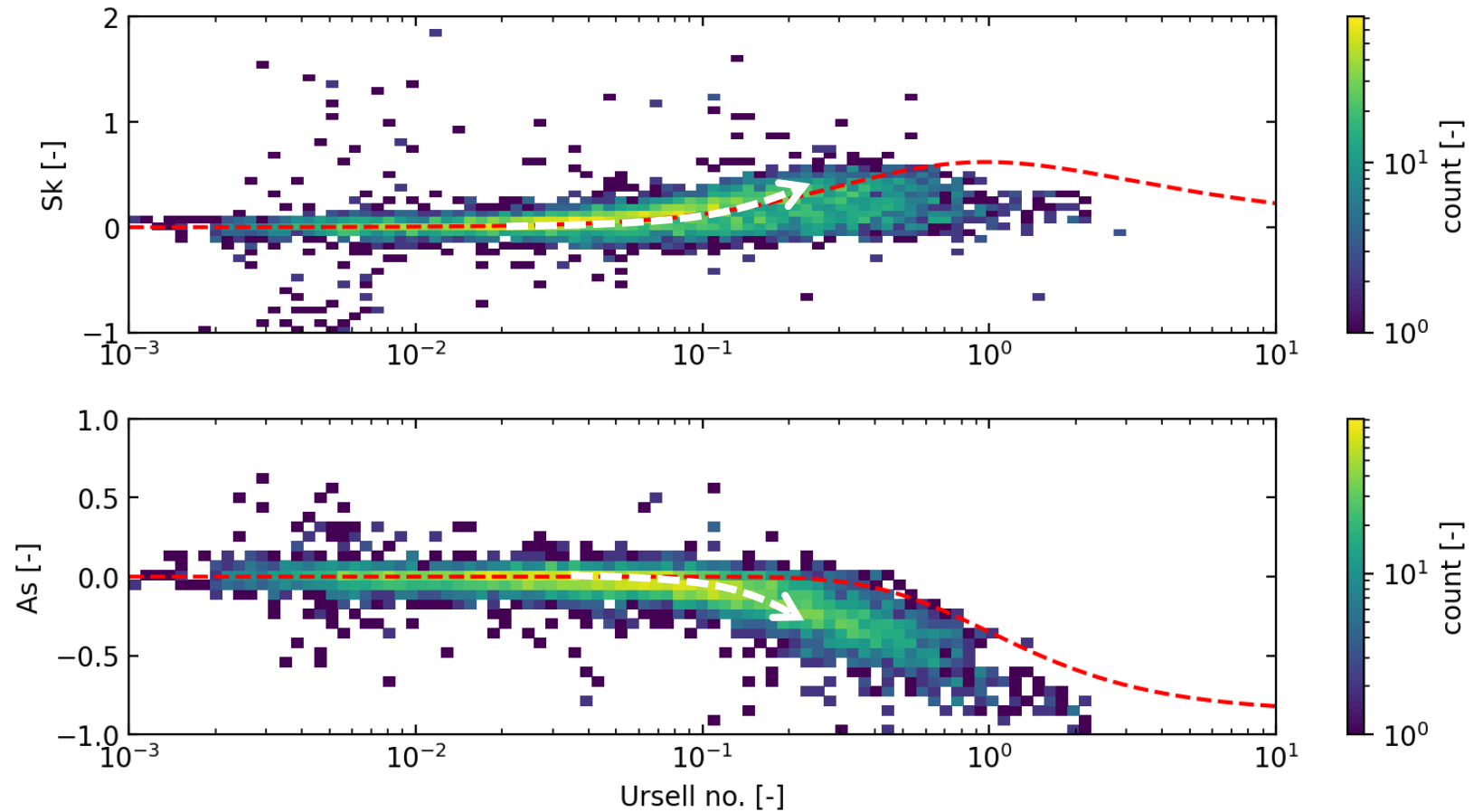
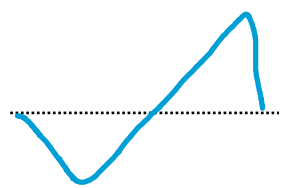
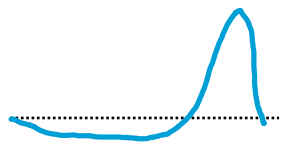
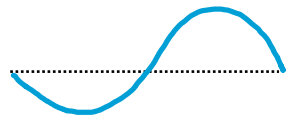


Kustlangse stroming





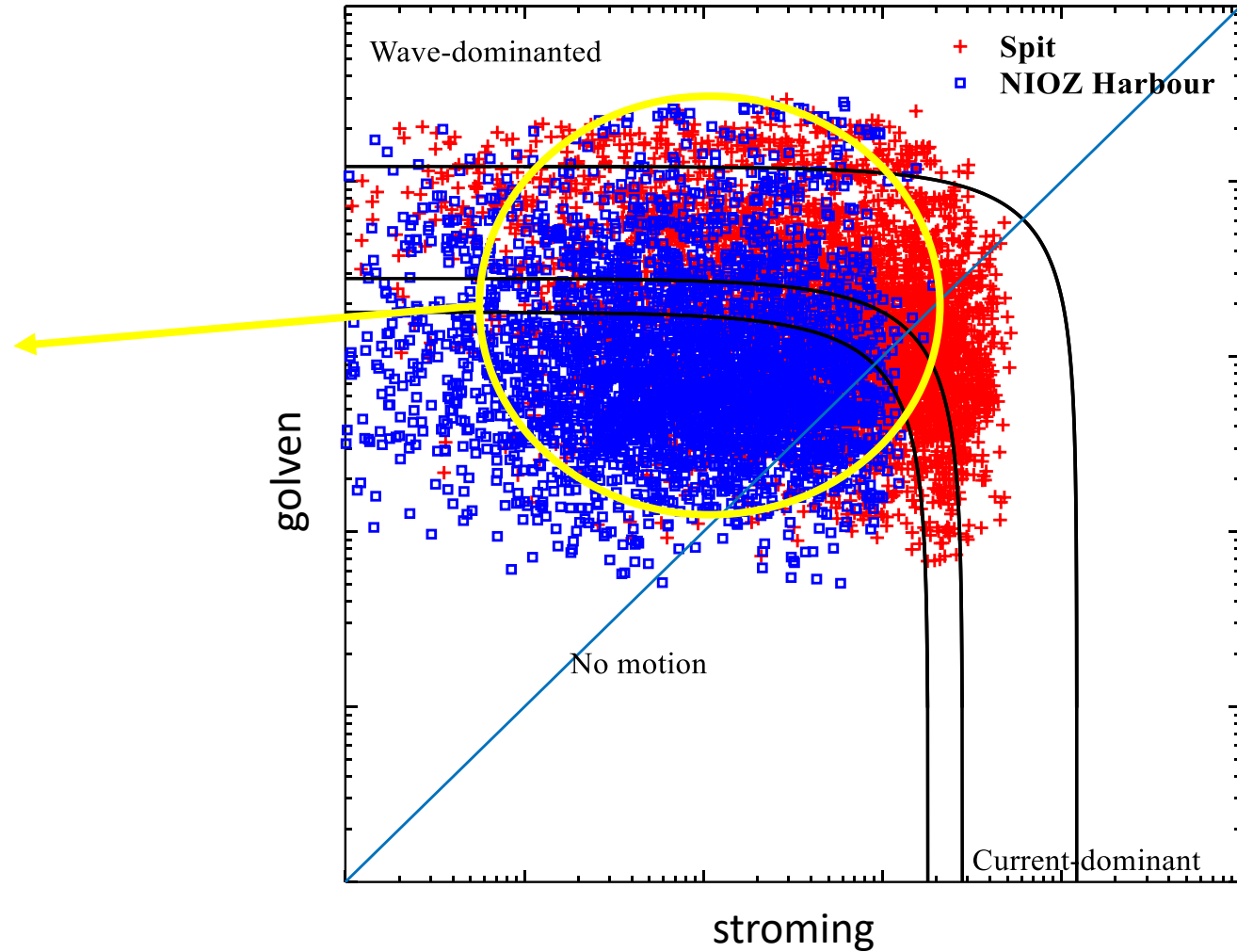
Golfvormparametrisatie

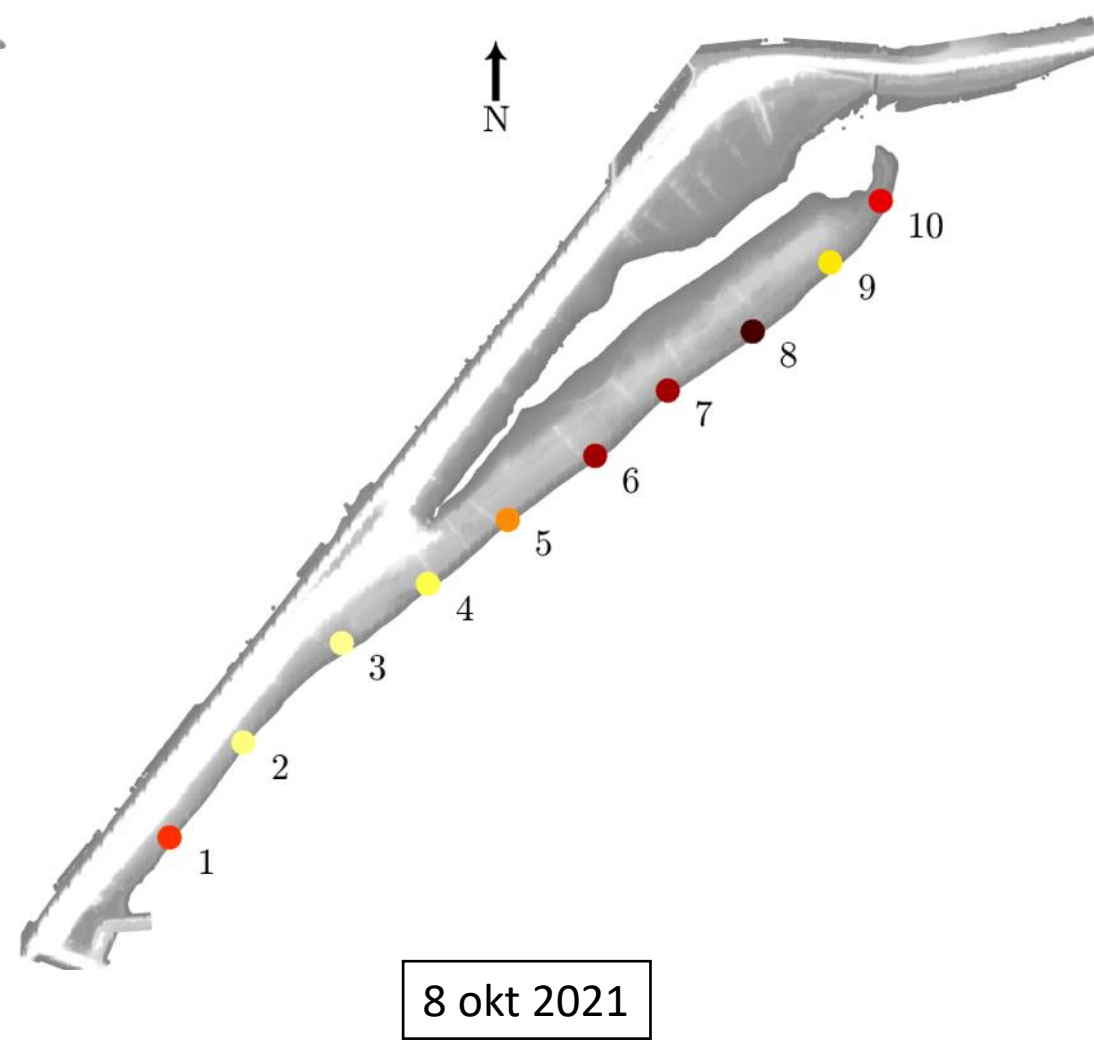
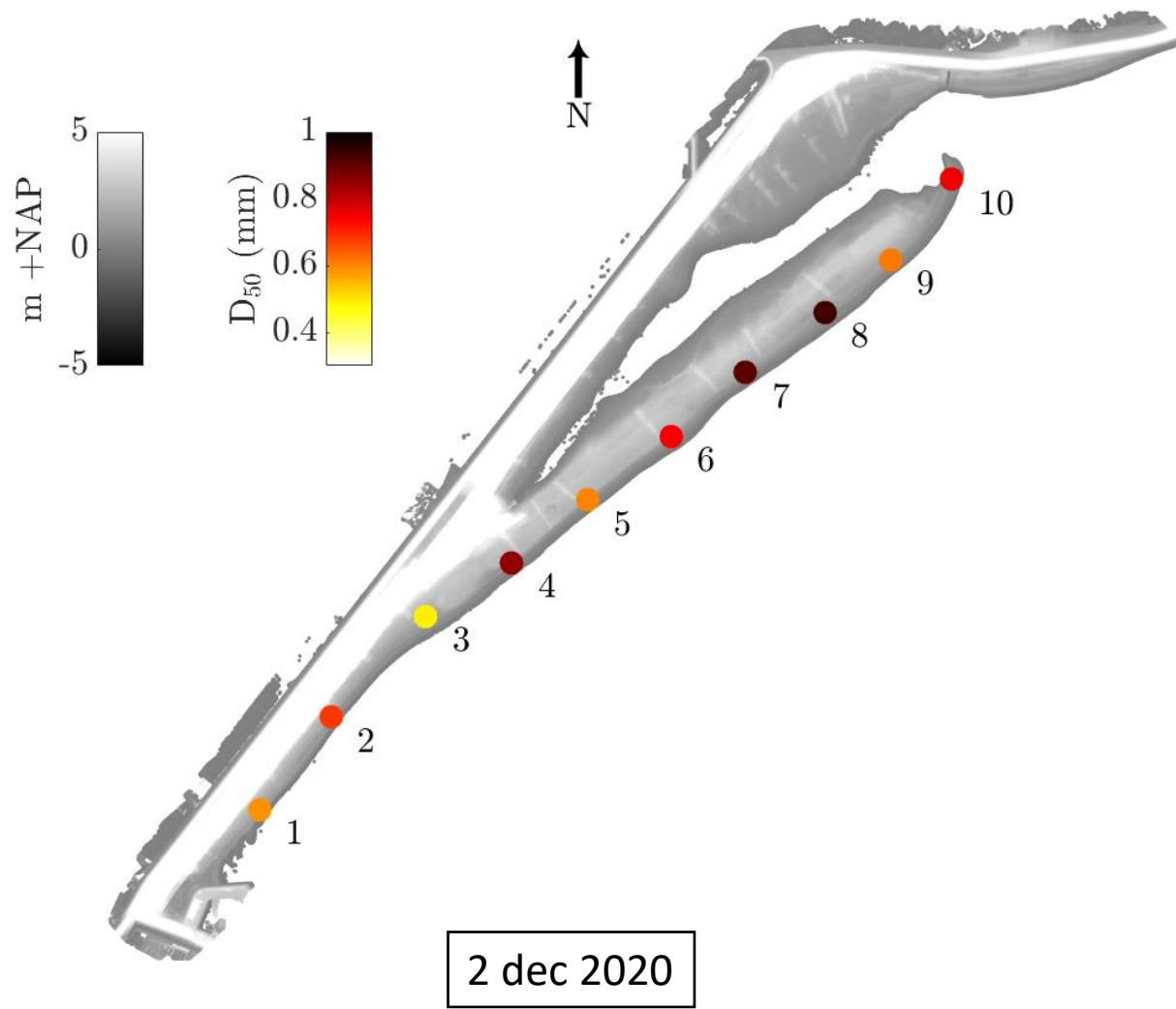




Golven vs stroming

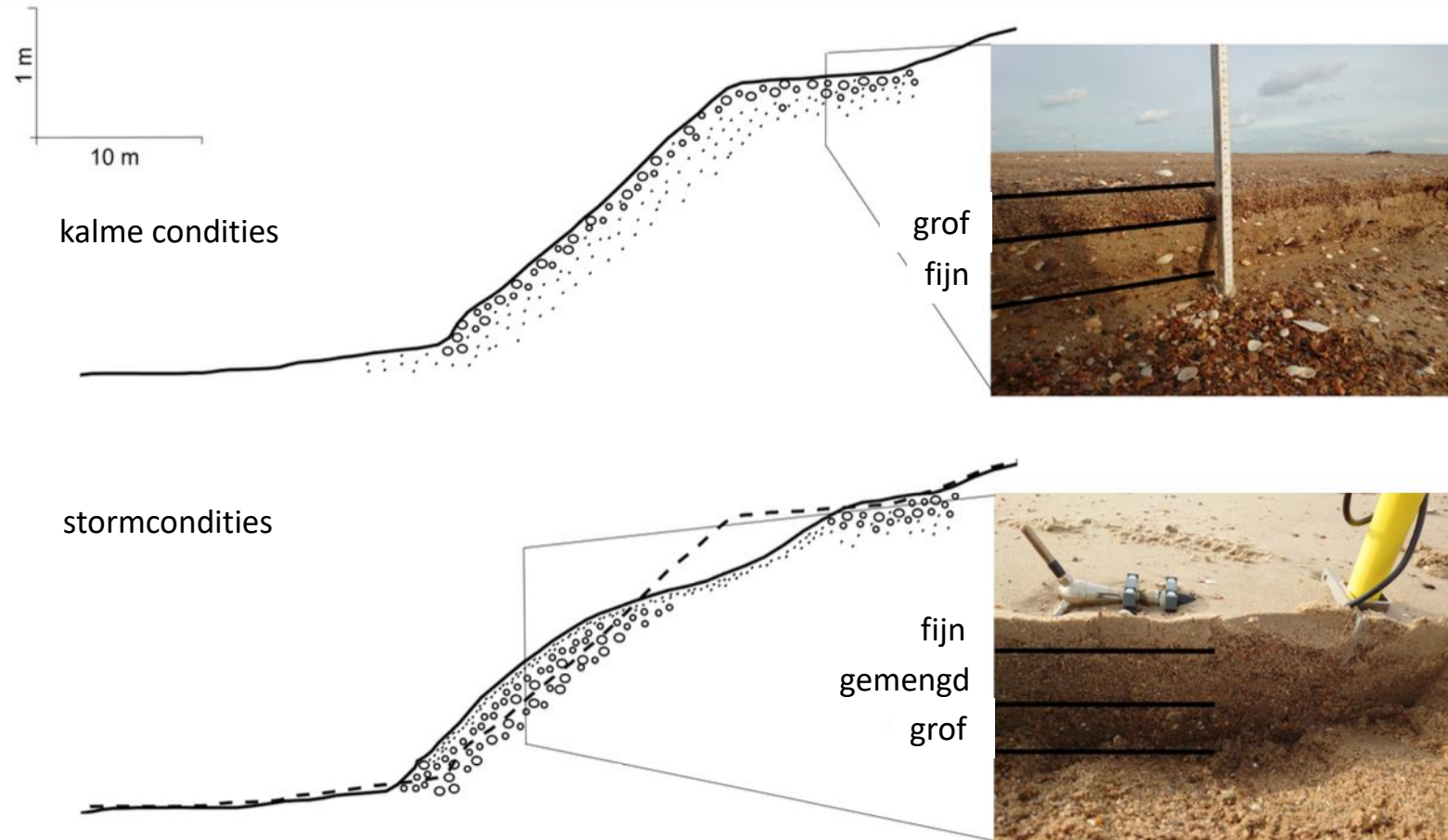
golven efficiënter in het mobiliseren van zand







(Ont)menging



En dan schelpen...



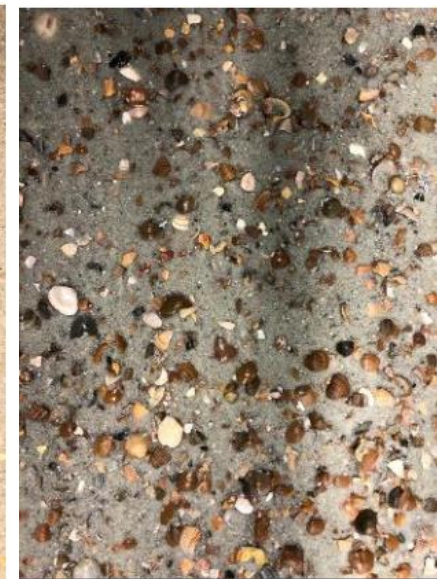
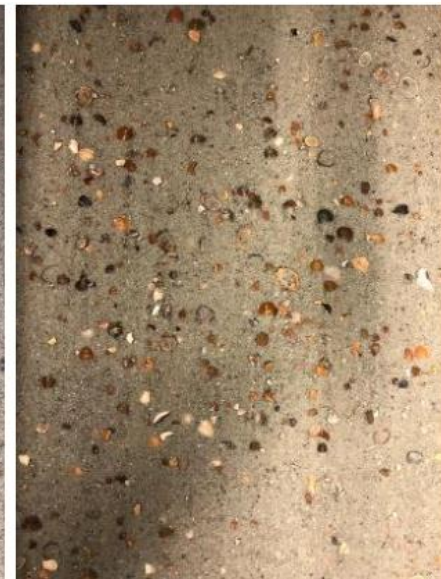
Ontwikkeling afpleisteringslaag

0%

10%

25%

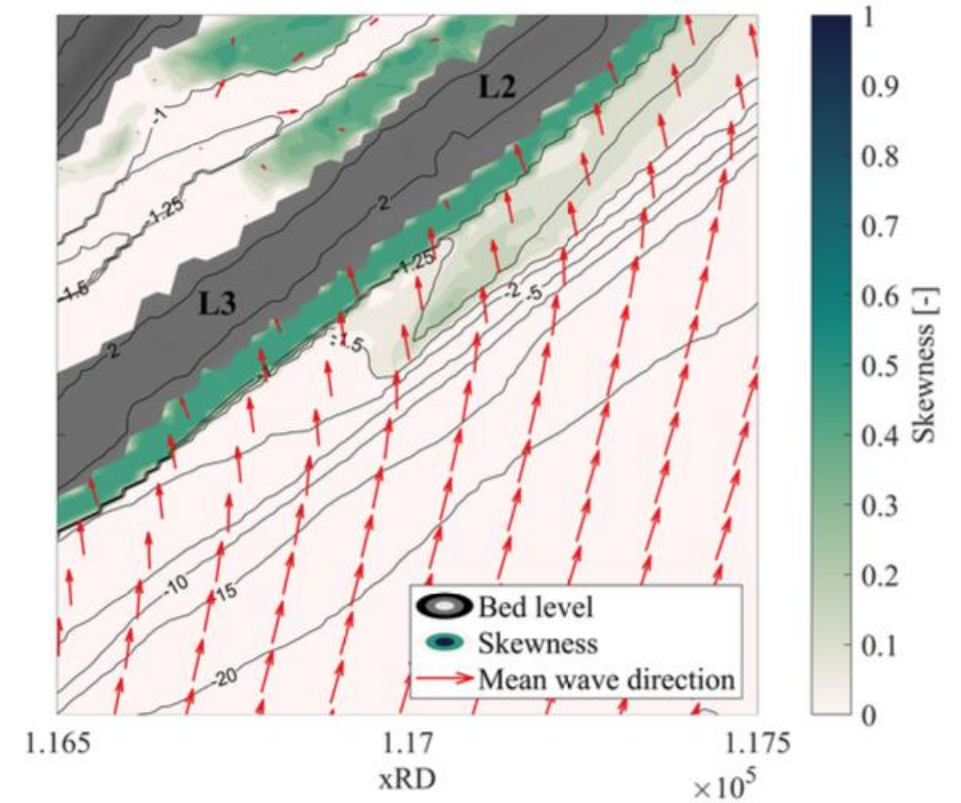
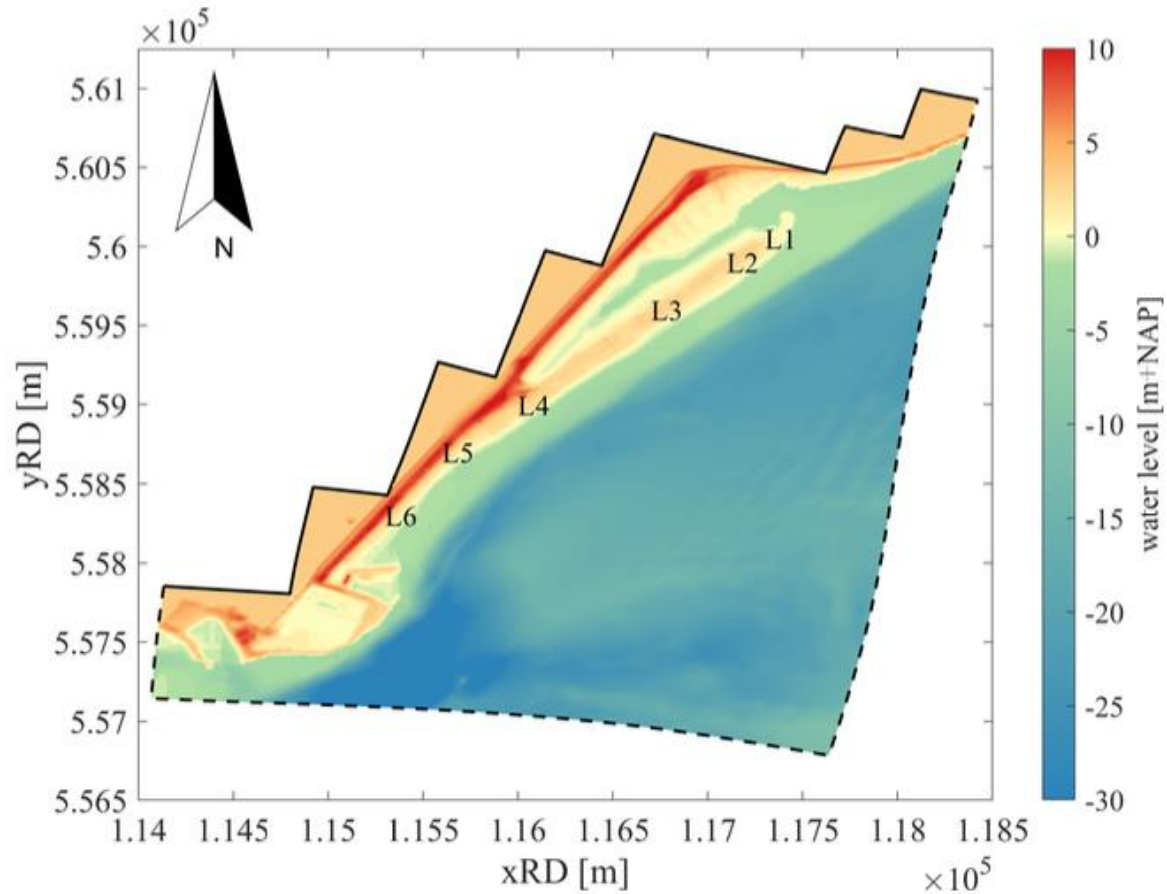
50%



tijd blootgesteld aan stroming



Modelstudie



Prins Hendrikzanddijk,
11 februari 2021

En dan nu zelf eens kijken...

