

Solving challenges in water environments with numerical modelling

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About DHI



Independent, private foundation



Highly qualified



50 years of dedicated research

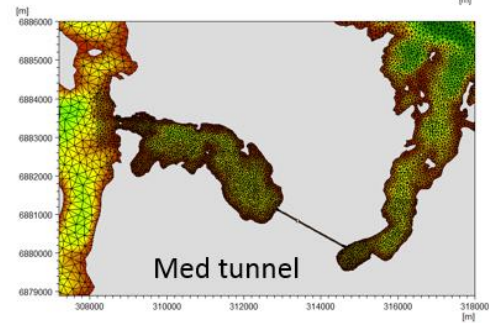
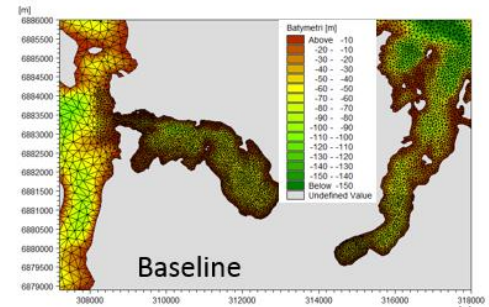
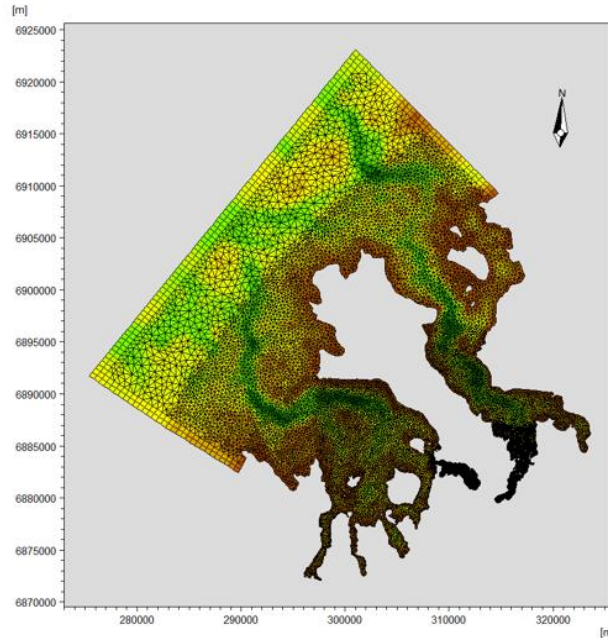


Globally available knowledge

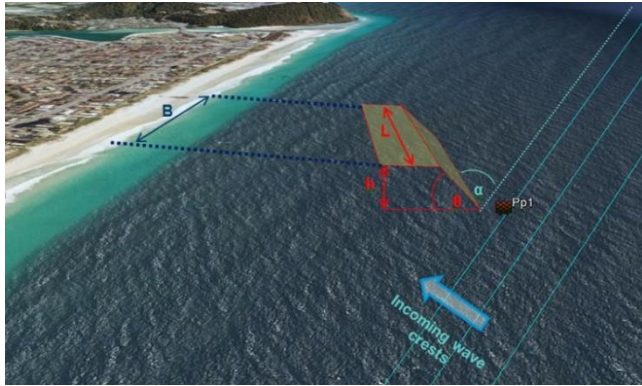


Stad ship tunnel

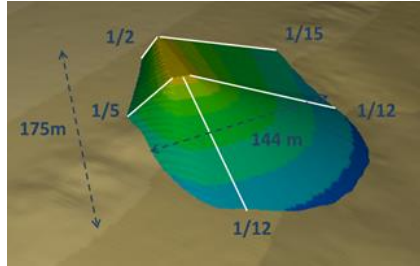
- Save life and not loose cargo
- Dimensioned for Hurtigruten
- Effect to the water bodies
- Validate the baseline model
- Influence
 - Hydrography
 - Water quality
 - Salmon lice
 - Mass deposition
 - Ships going to and from the tunnel



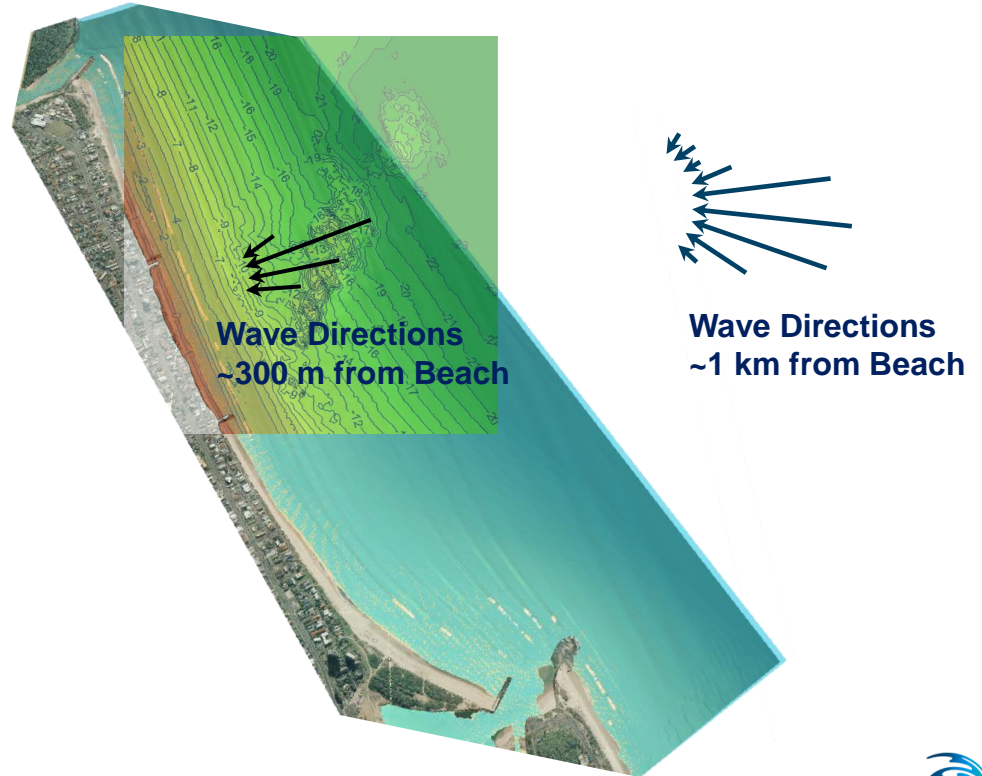
The Palm Beach Shoreline Project Concept Design



Credits: DHI



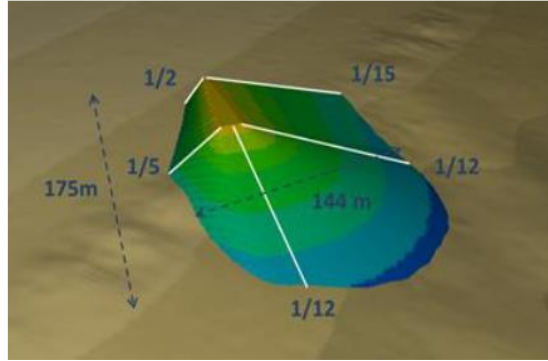
Credits: DHI



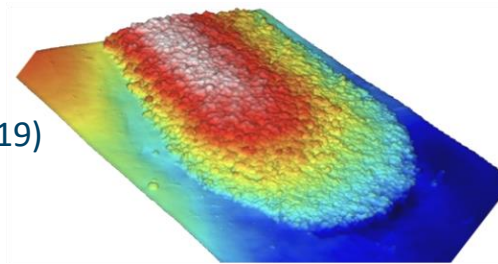
Credits: DHI

Design versus Reality

Concept Design
(DHI 2015)



Construction Completed (2019)
Credits: Veris Australia

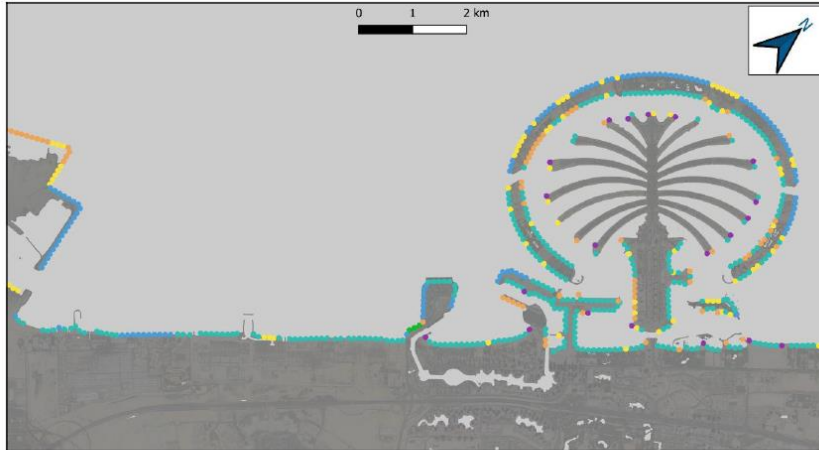


Palm Beach Reef 2019
Credits: www.raisedwater.com



Flooding assessment

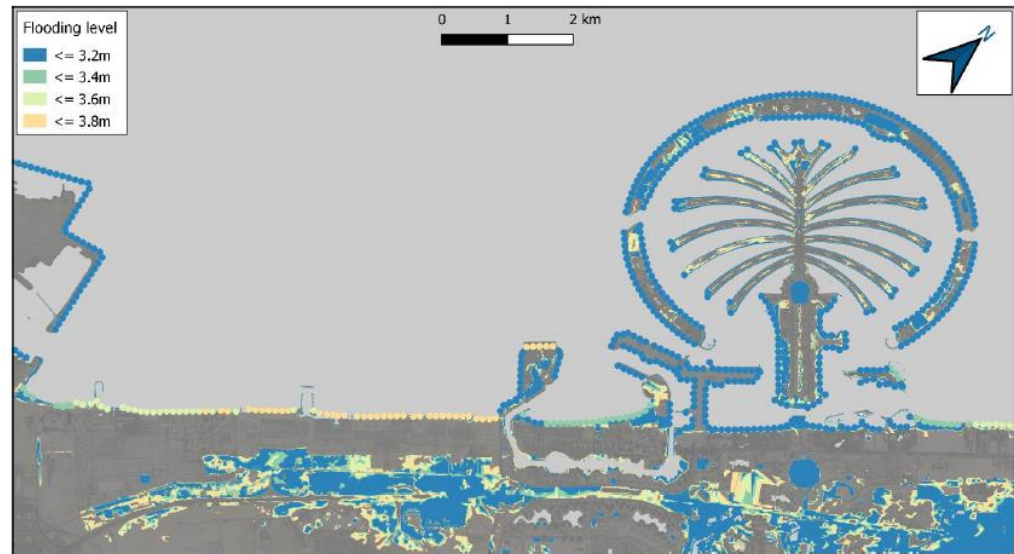
- GIS analysis for flooding
- "Light-weight" flooding risk classification



Risk Classification

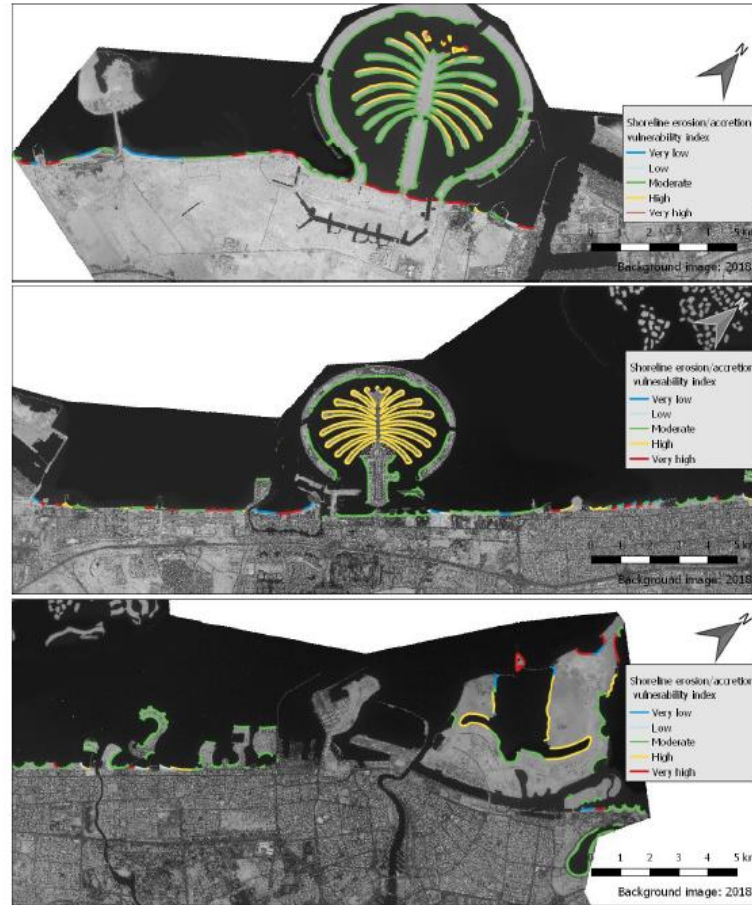
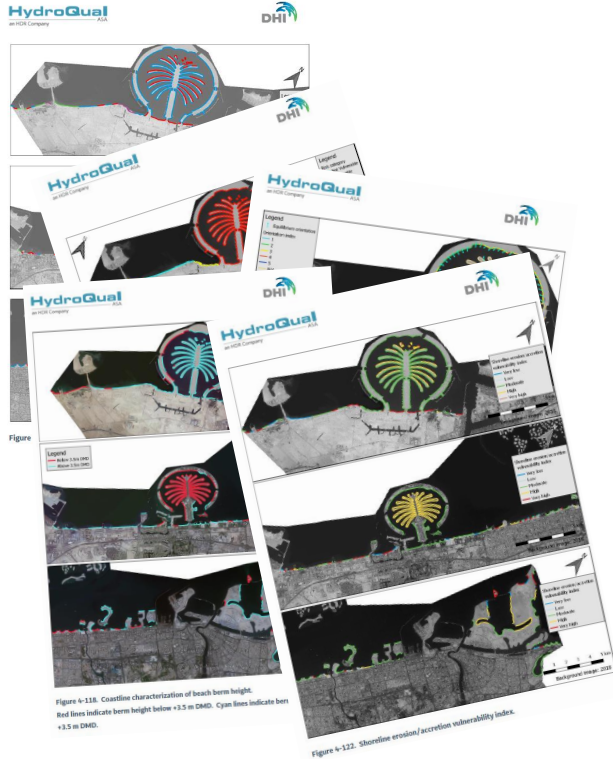
- No risk
- No risk of flooding, vulnerable to wetting of hinterland
- Not critical as flooding of backland is a natural process
- Moderately critical as potential flooded area is small
- Critical as major area may be flooded in case of breach of sea defence, check status of sea defence
- Not critical, vulnerable to major flooding, impose dev. restrictions
- Critical to flooding damage, introduce sea defence

Figure 5-8. Risk classification in Part 2 for a return period 1 year.

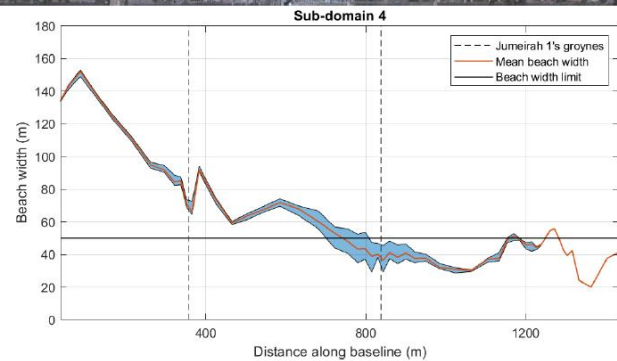
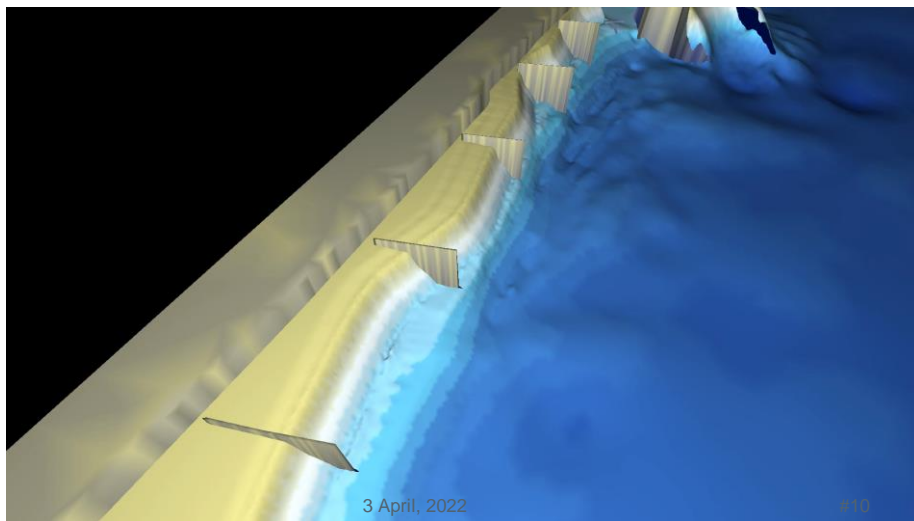
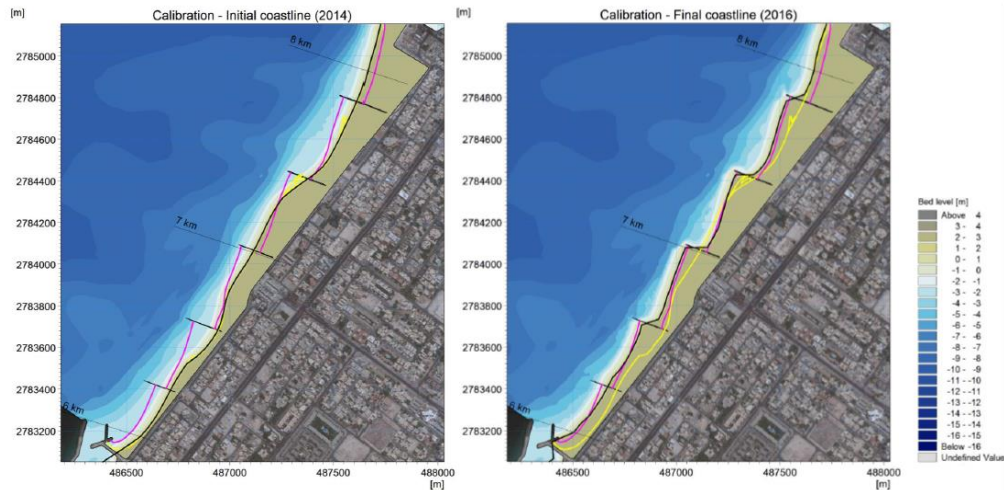


Coastline dynamics

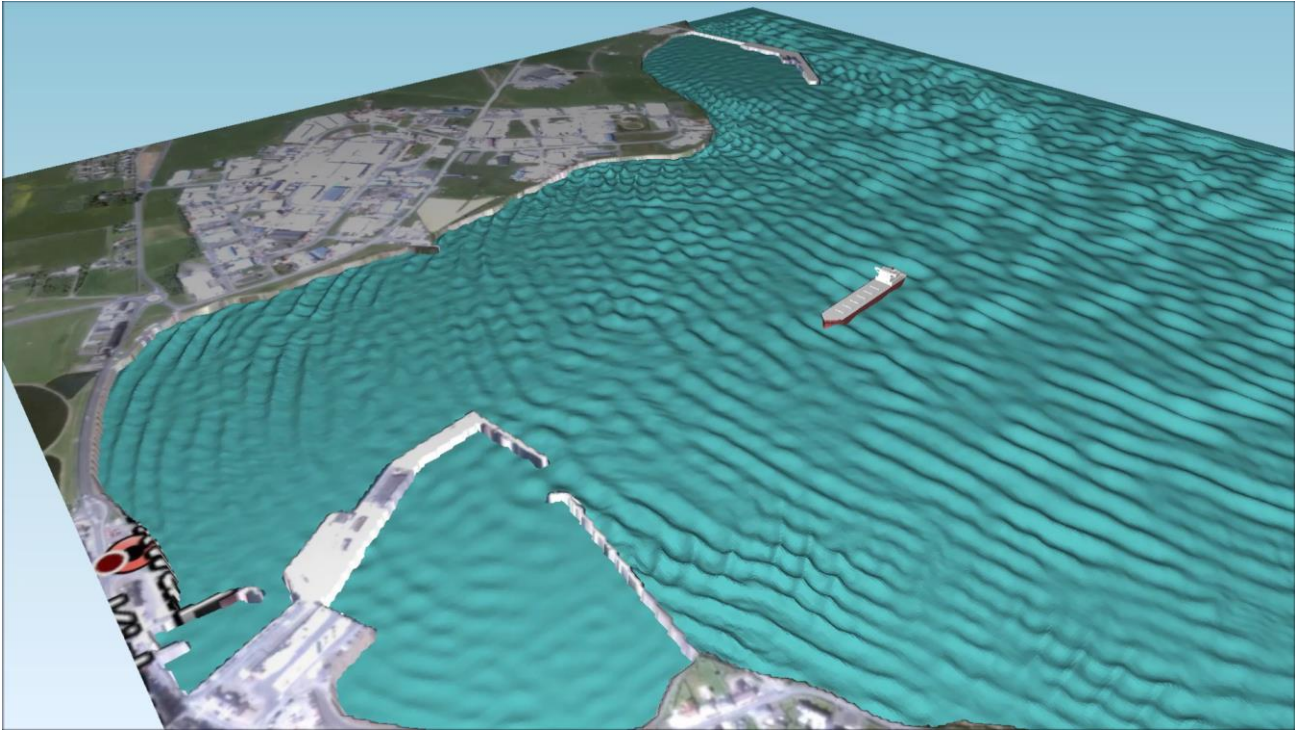
- GIS maps en masse



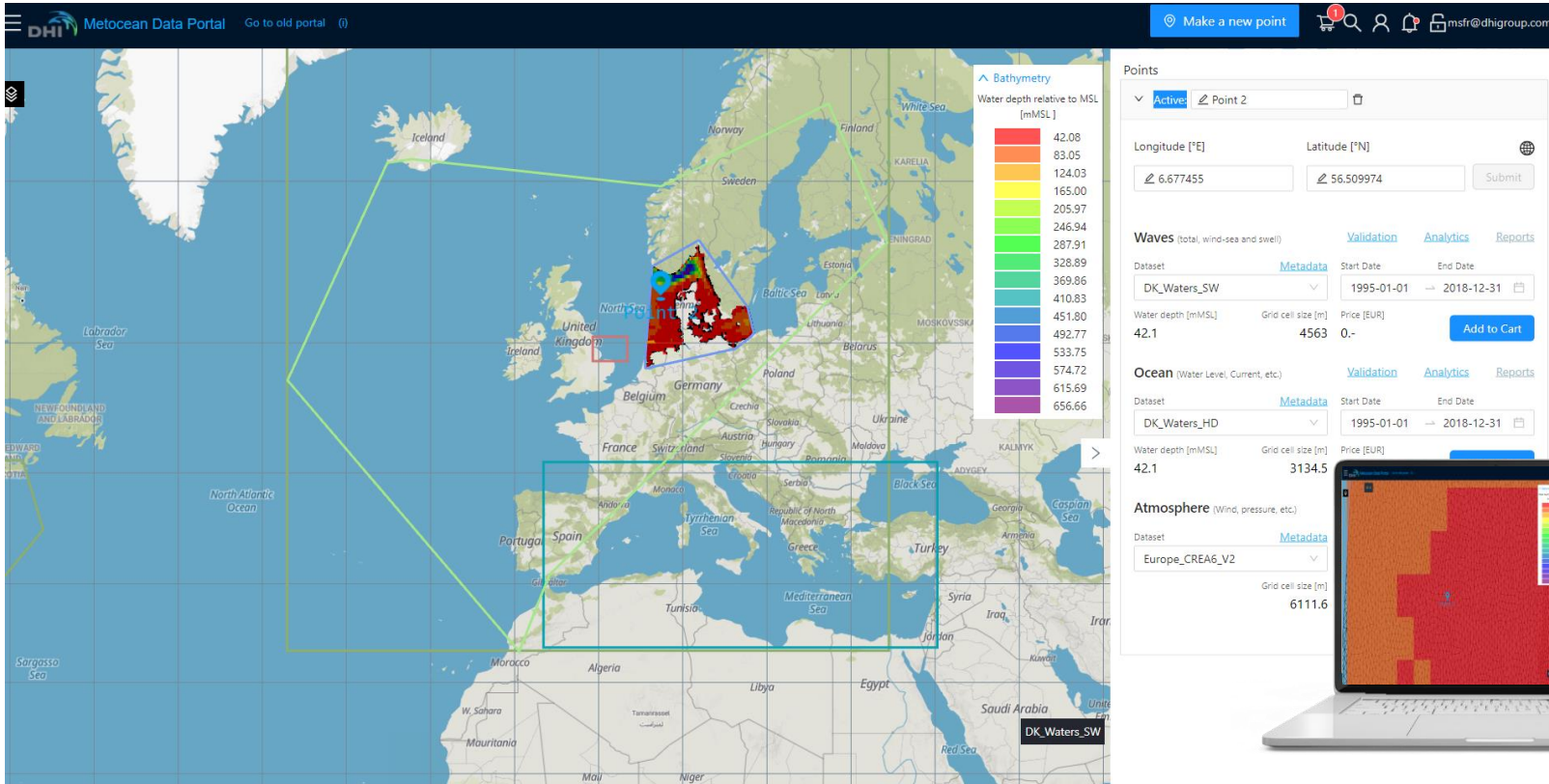
Shoreline morphology modelling



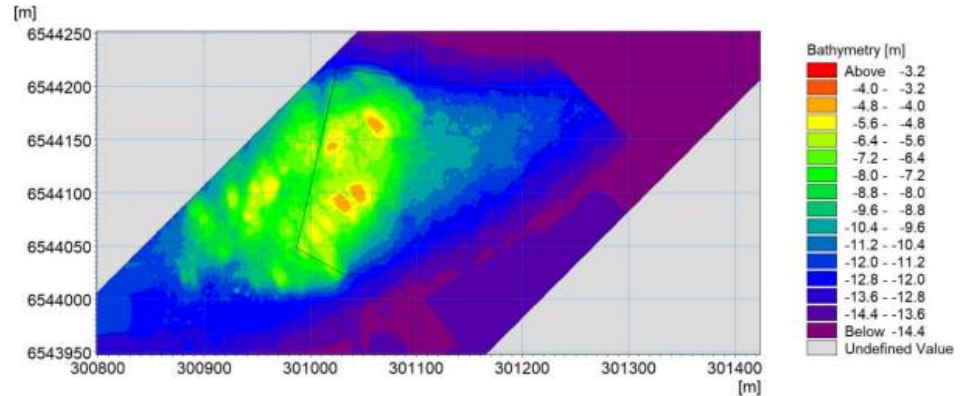
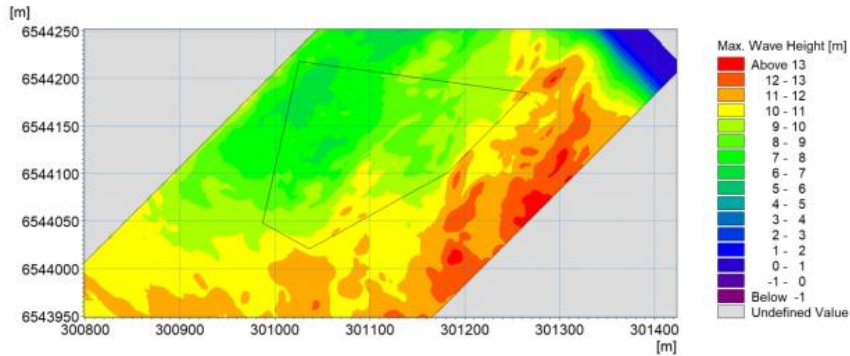
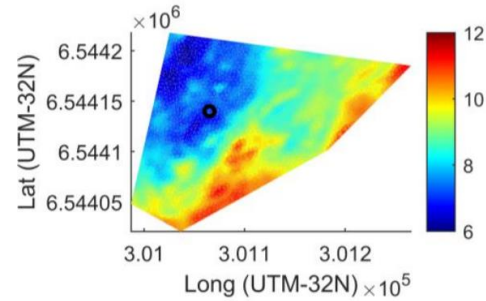
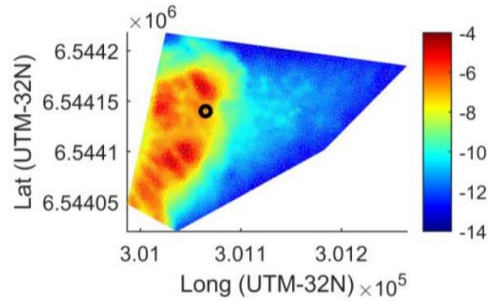
Other examples of numerical modelling



Other examples of numerical modelling



Other examples of numerical modelling



Questions?

