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Our mission

To deliver knowledge, expertise and advice on issues relevant to the sustainable development, exploitation and protection of the Belgian coast.

Research priorities

Researchers and experts have to work now on longer time and space scales and, at the same time, account for processes often occurring locally at small scales. This fact represents a new challenge, especially for the assessment of uncertainty of results and for the validation of the models that should now be based on long-term data including extreme events which in many cases have never been monitored.

CZM needs

Climate change effects as rising sea levels or increased storminess make necessary modifying CZM practices and priorities. As a consequence, new synergies between research and arising needs need to be found. Reliable and user-friendly tools and methodologies for impact assessment and risk awareness in Belgian coastal towns.

The Coastal Team @ Flanders Hydraulics Research: Matching research priorities and CZM needs for the XXI century

QUEST4D

Quantification of Erosion and Sedimentation patterns to trace the natural versus anthropogenic sediment dynamics, in 4 dimensions (x, y, z, time). Knowledge of the sediment transport system is crucial for sustainable development of the Belgian part of the North Sea and the coastal zone in particular.

BOREAS

Exploring marine energy potential of the Belgian part of the North Sea. Both wave energy potential and tidal energy potential will be assessed.

CLIMAR

Developing a framework for the assessment of possible adaptation strategies to cope with climate change.

SAFE COAST

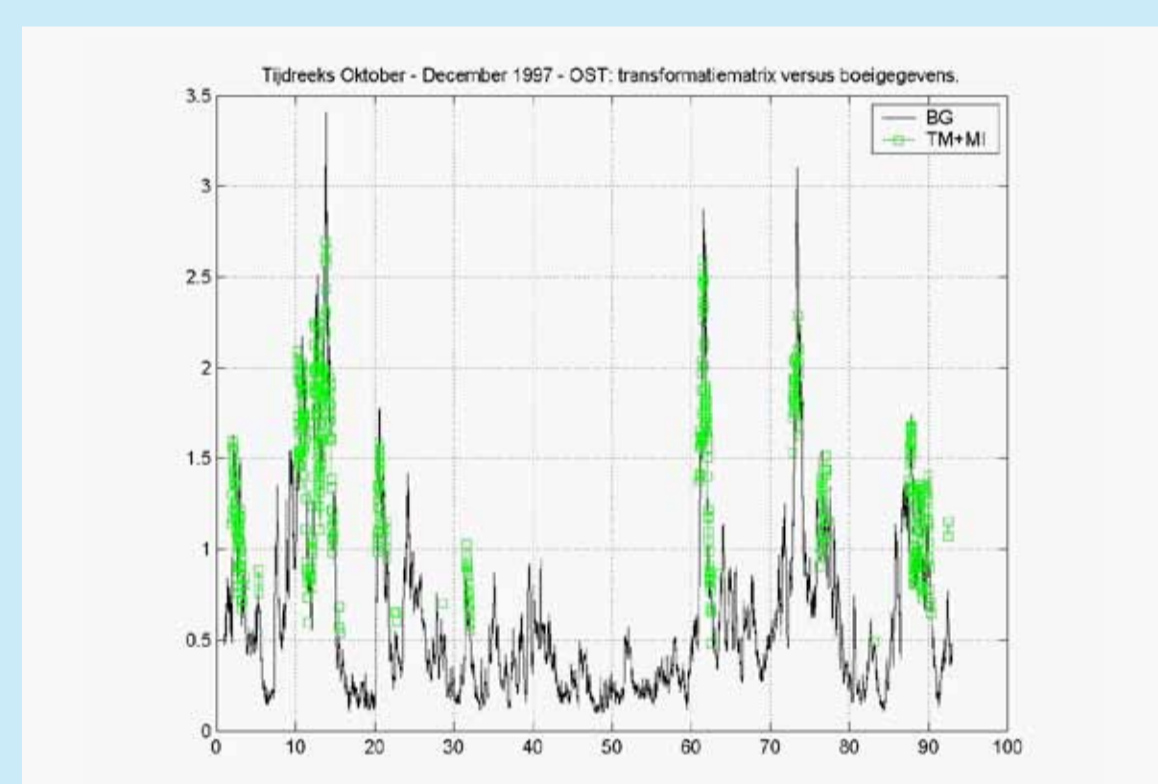
Methodology for coastal risk assessment in the North Sea.

SUSCOD

Practical attempt to facilitate direct knowledge transfer between experts and coastal managers. We will provide a reliable and user-friendly tool for impact assessment and risk awareness for Belgian coastal towns.

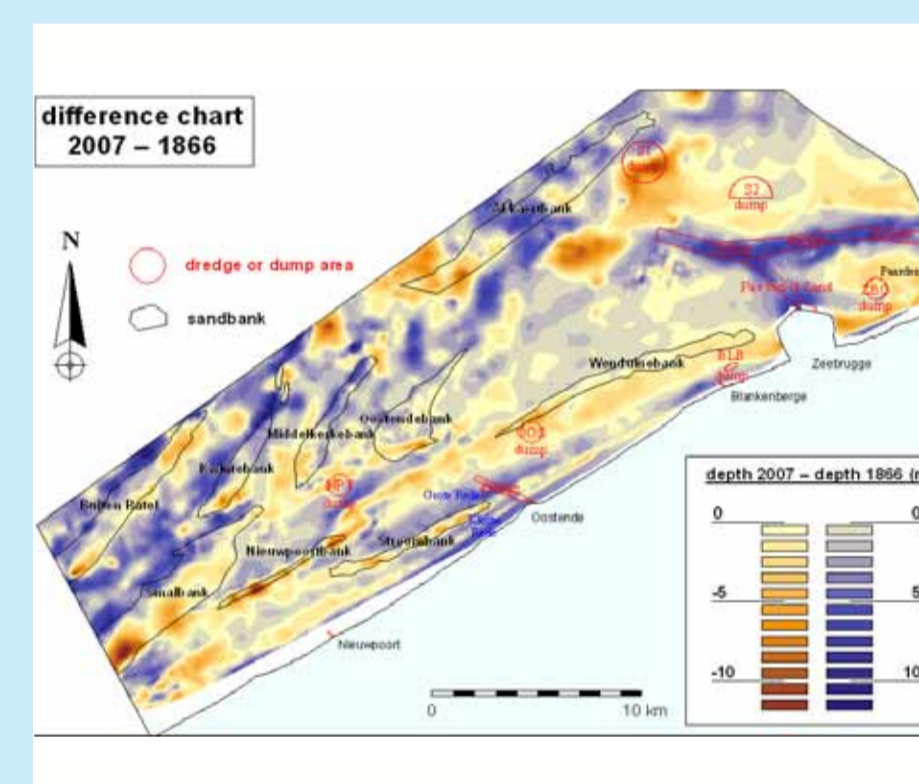
An Integrated Safety Plan for the Belgian Coast : GKVP

Project to protect our coast against flooding by storm surges. Our role is to assess a series of scenarios involving superstorms in order to identify the weaknesses in the existing seawall and the possible consequences in terms of victims and damage.

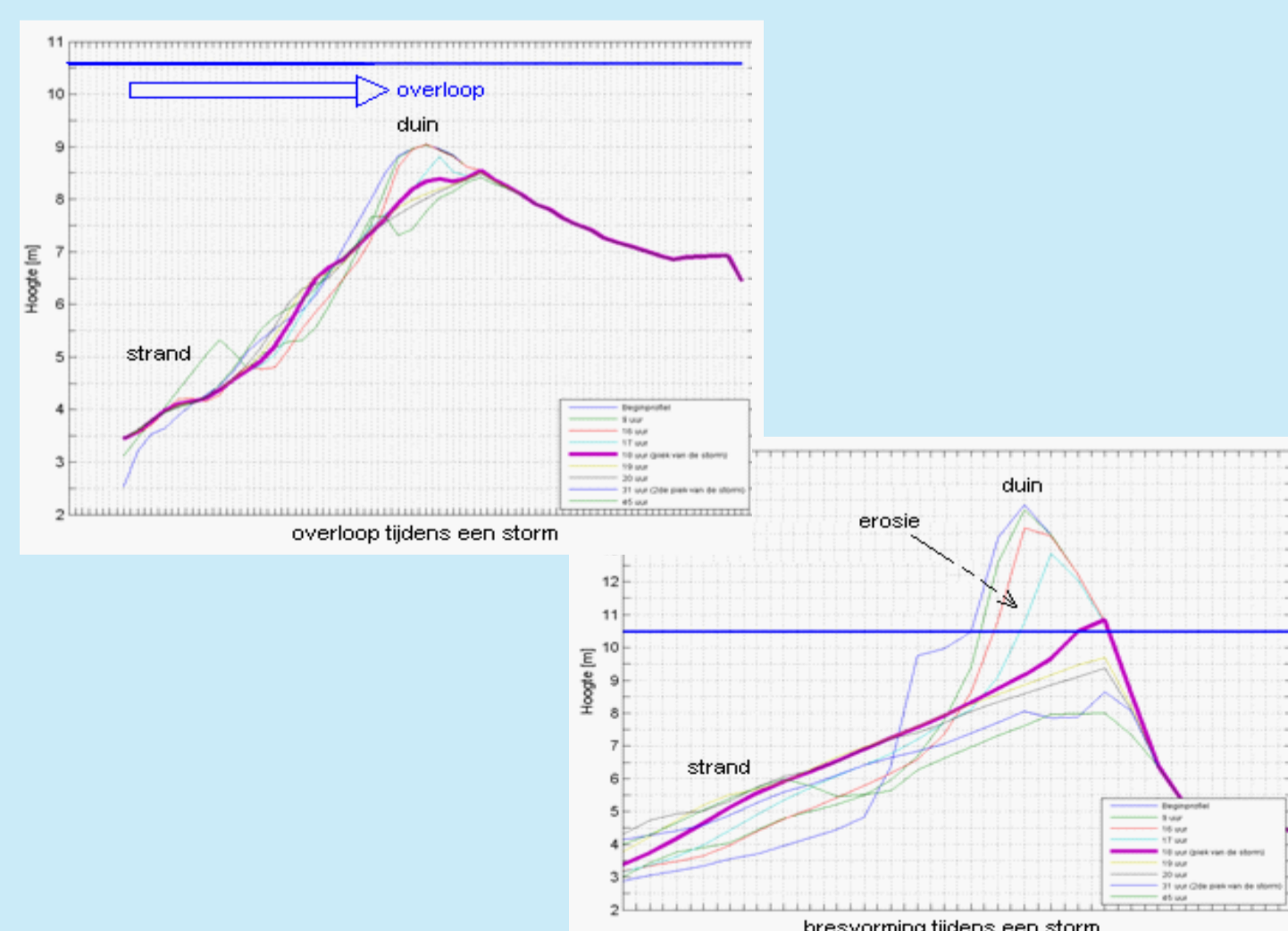
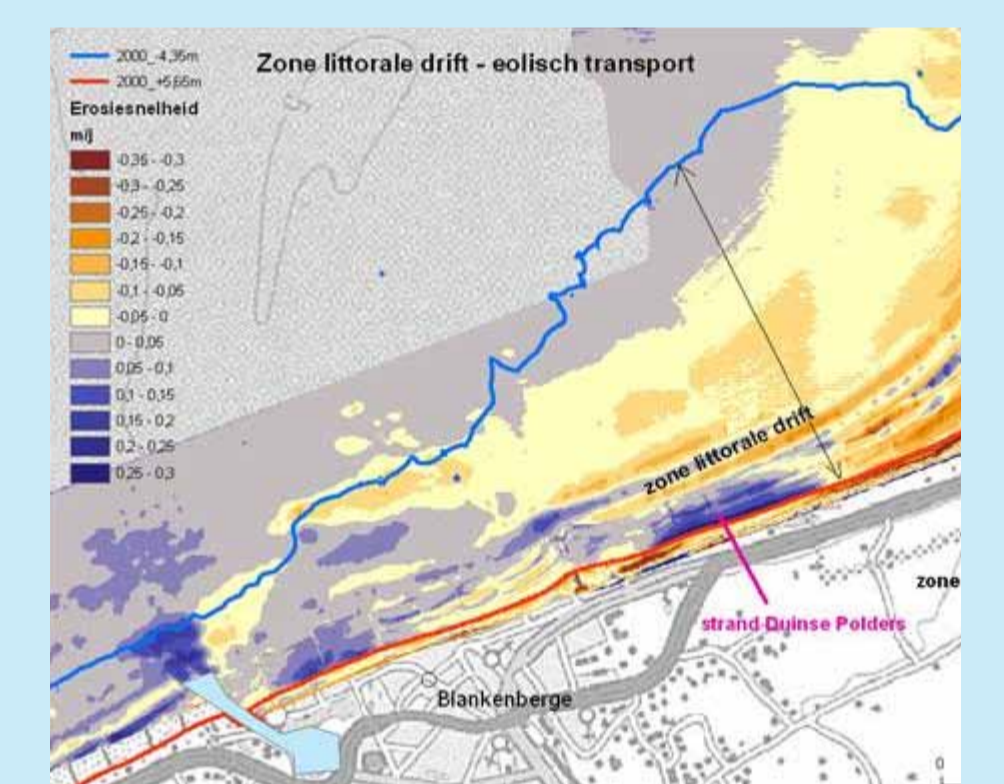
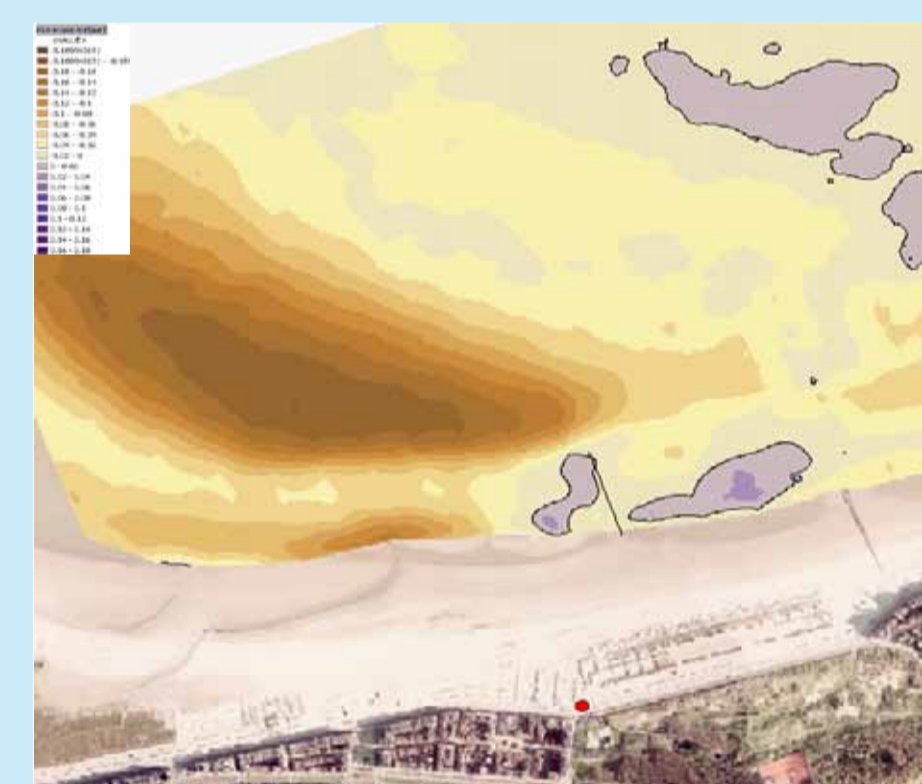


Assessing wave and tide climates

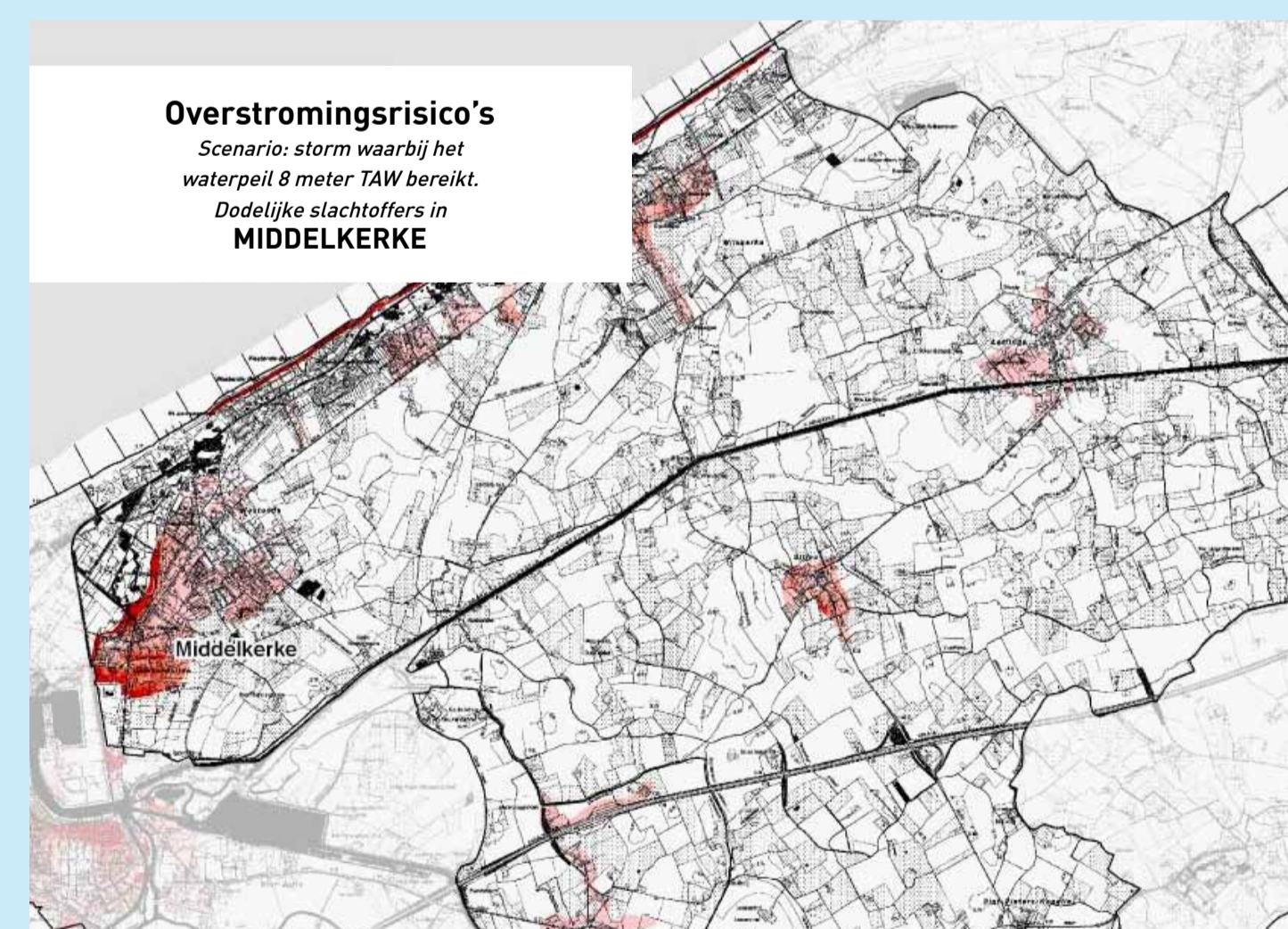
- study the wave impact on defense constructions
- research into sediment transport along our coast
- predicting a calm sea during offshore work
- assessing wave and tide energy potential



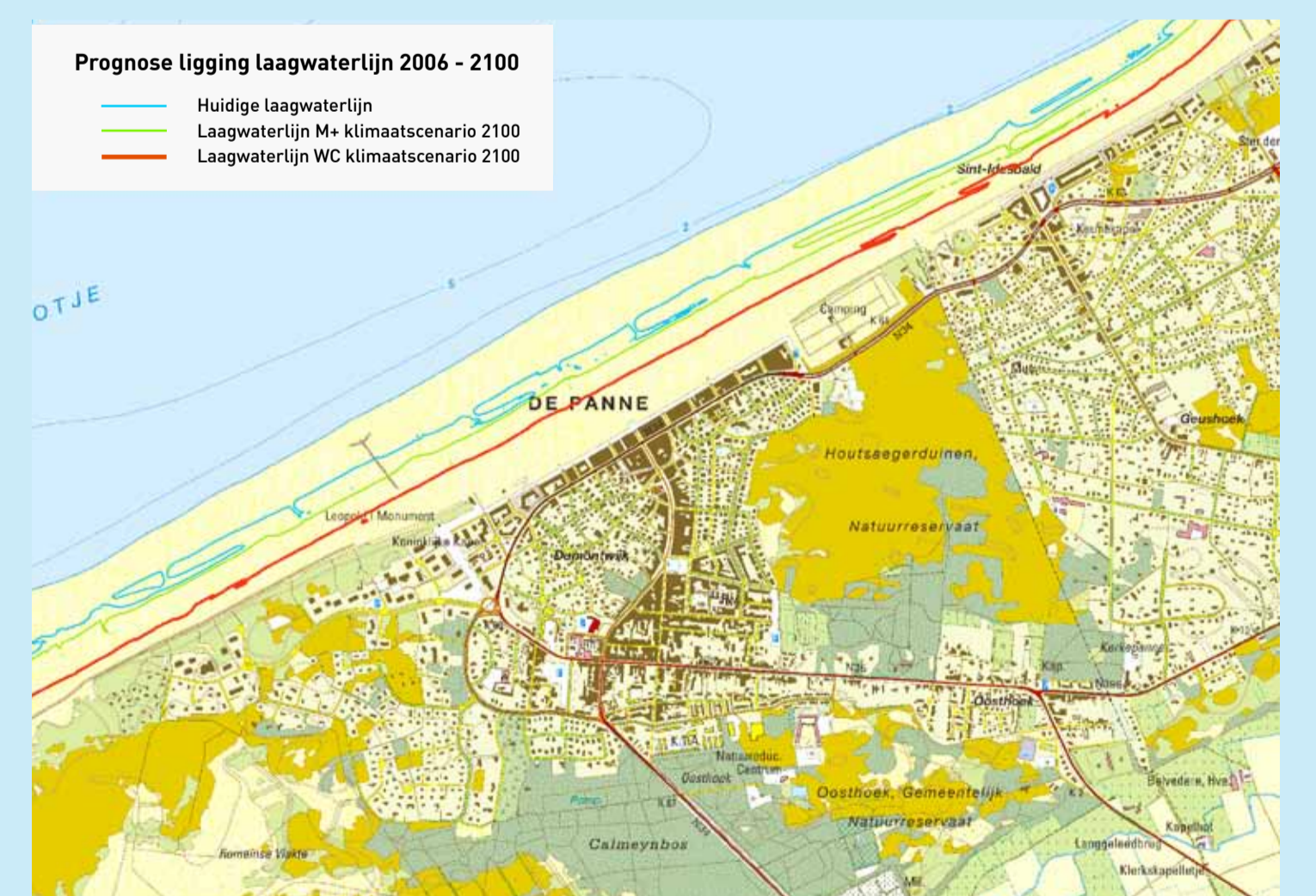
For an efficient and sustainable sediment management, a sound understanding of the dynamics of sediment and their interaction with facilities widespread along the Flemish coast is needed. (QUEST4D)



Anticipating possible climate change effects. (CLIMAR)



The government need to know on which part of the town do they need to act first to avoid victims of flooding. (GKVP)



Anticipating possible climate change effects. (CLIMAR)