

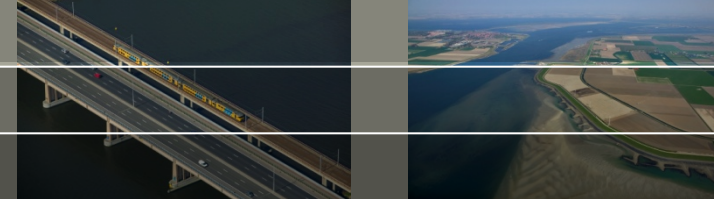


Coastal Protection in The Netherlands

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2 mei 2016

Coastal Protection



INTRODUCTION

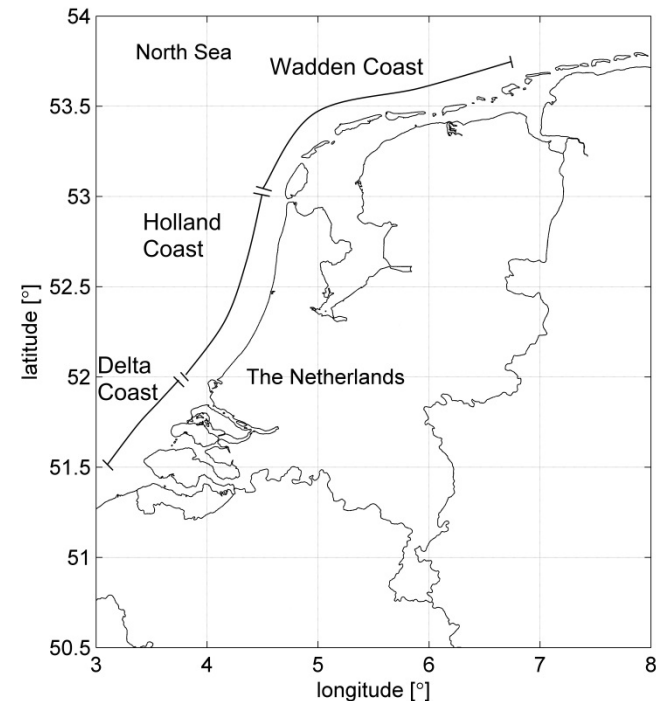
The Dutch coast

- 350km long.
- 27% of the territory is located below mean sea level.
- 55% is prone to flooding.

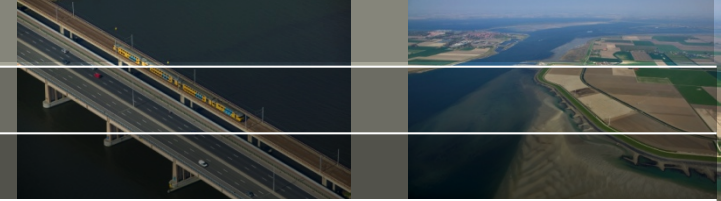
History of nourishments

- Storm of 1953.
- Law of 1990.
- Law of 2000.
- Dynamic Preservation

Nourishment practices: underwater + beach
12 millions m³ of sand



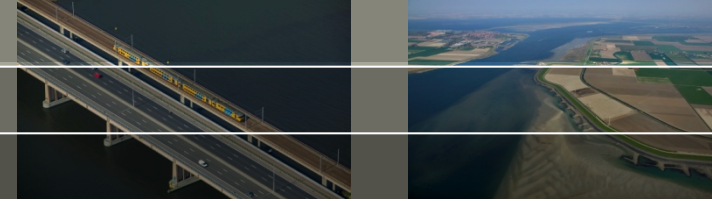
Coastal Protection



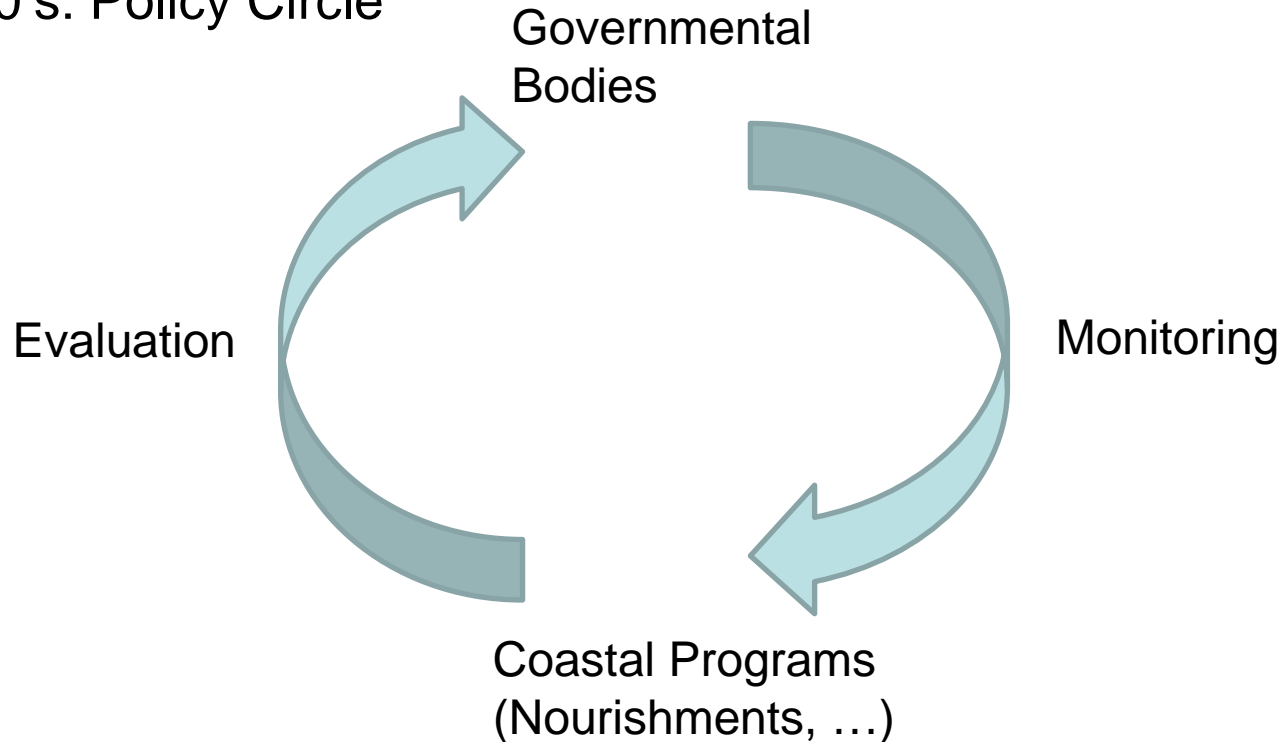
Safety, Nature or Sustainability?



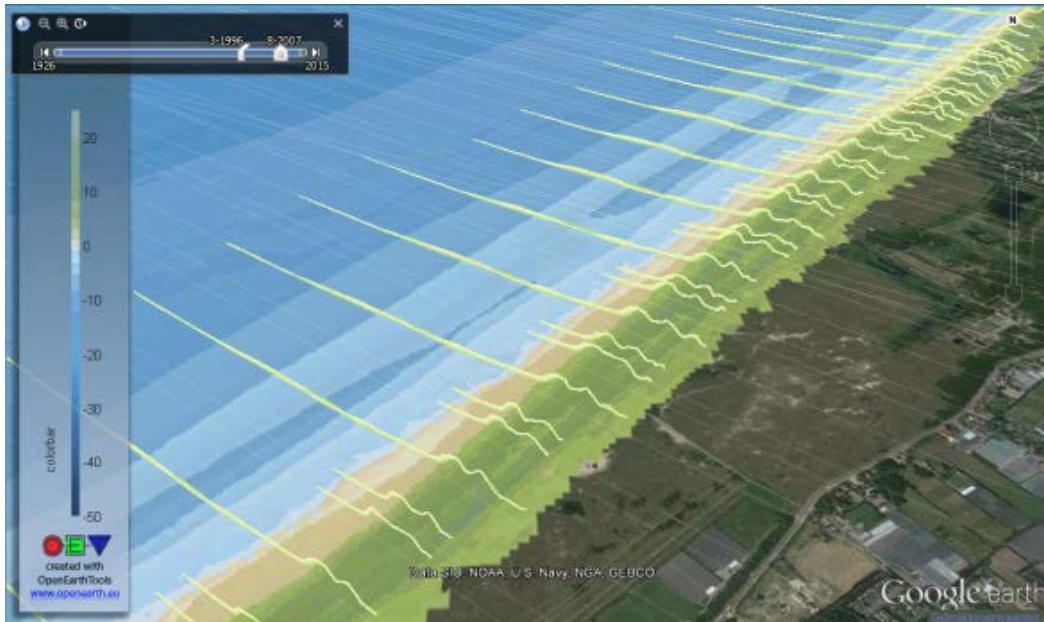
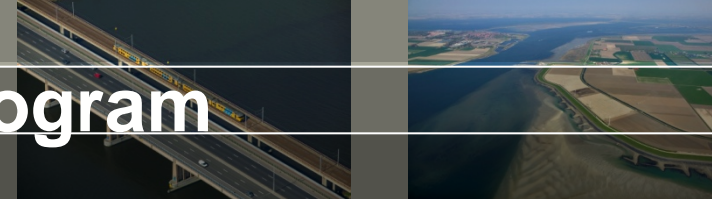
Coastal Protection



- Before 1970: Local Authorities decided upon Coastal Protection
- ~ 70's: Governmental
- 90's: Policy Circle

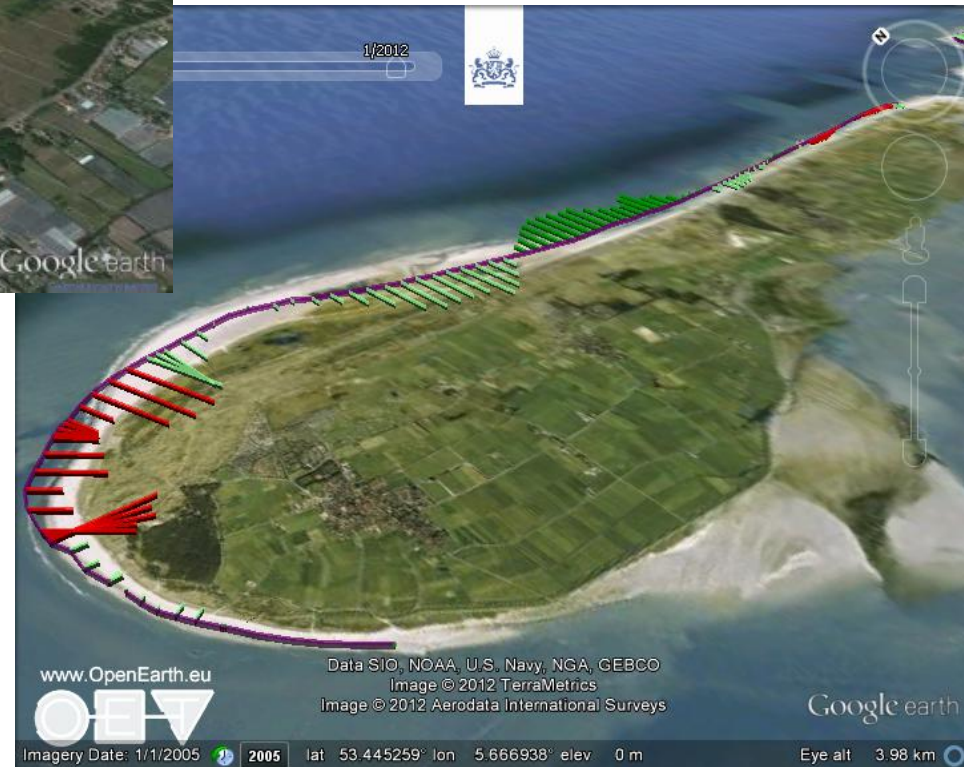


Coastal Policy: Monitoring program

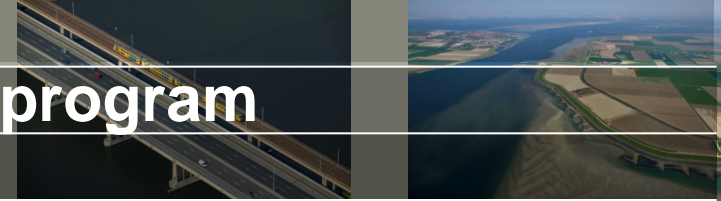


Transects on a yearly-base
Multi-beam monitoring

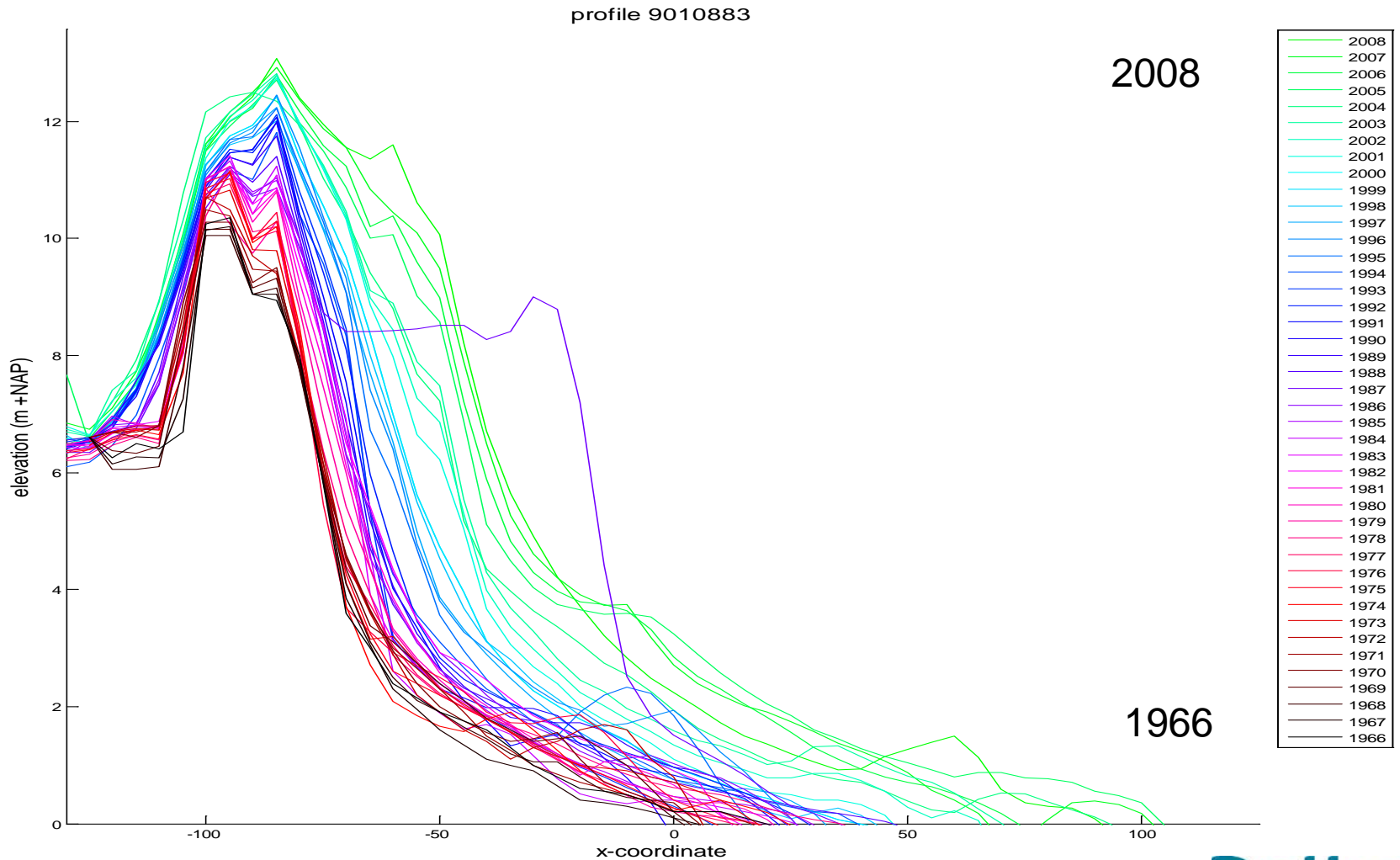
Testing, Evaluation, Application



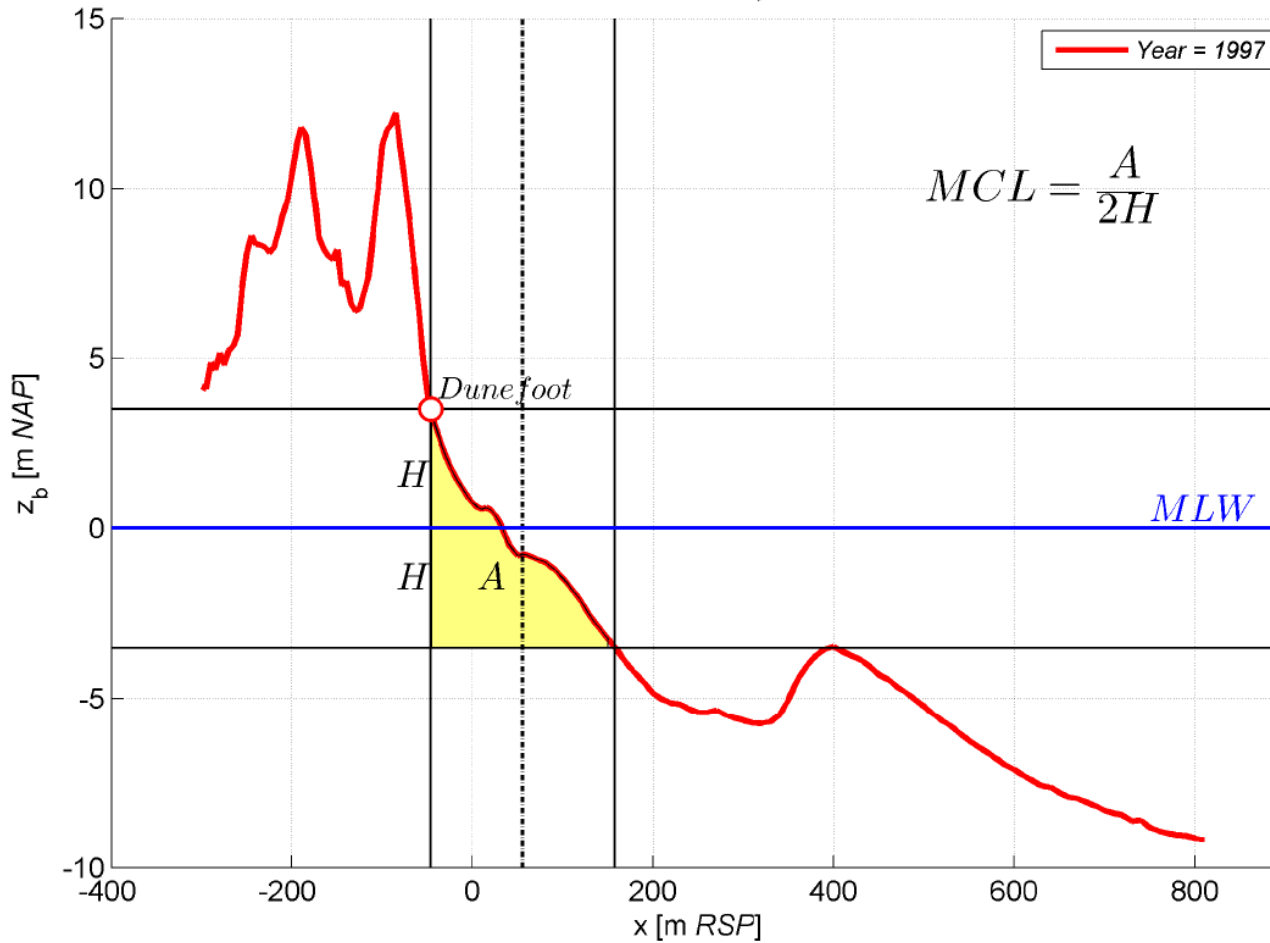
Coastal Policy: Jarkus monitoring program



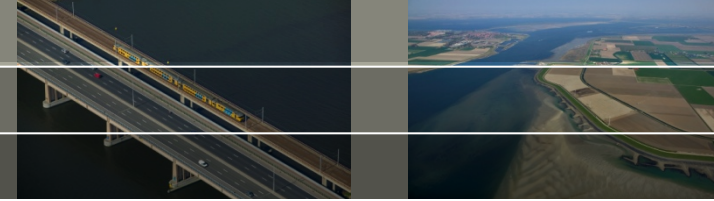
Since the start of regular nourishments, more space is available on the coast



Evaluation: Momentary Coast Line



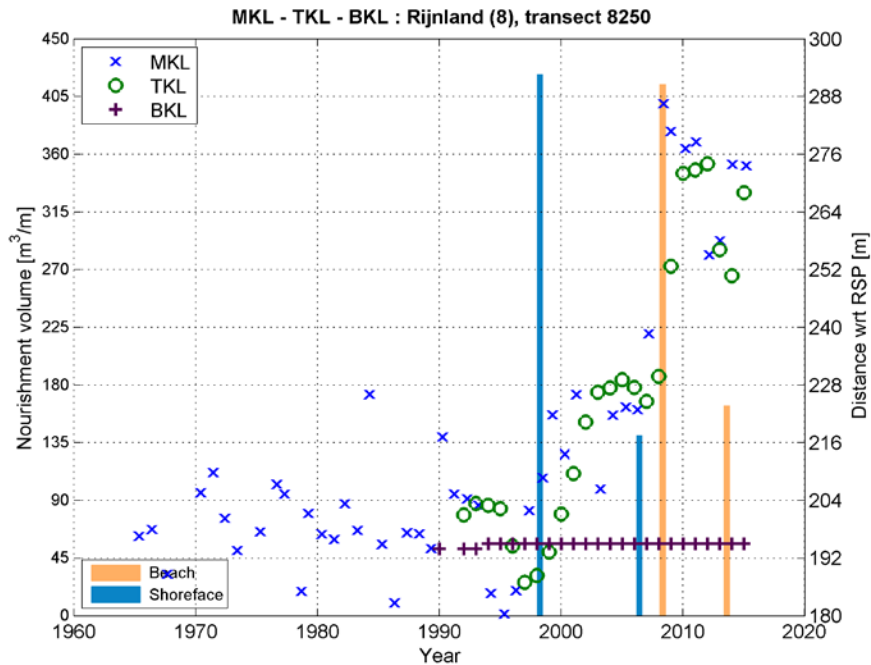
Coastal Indicators



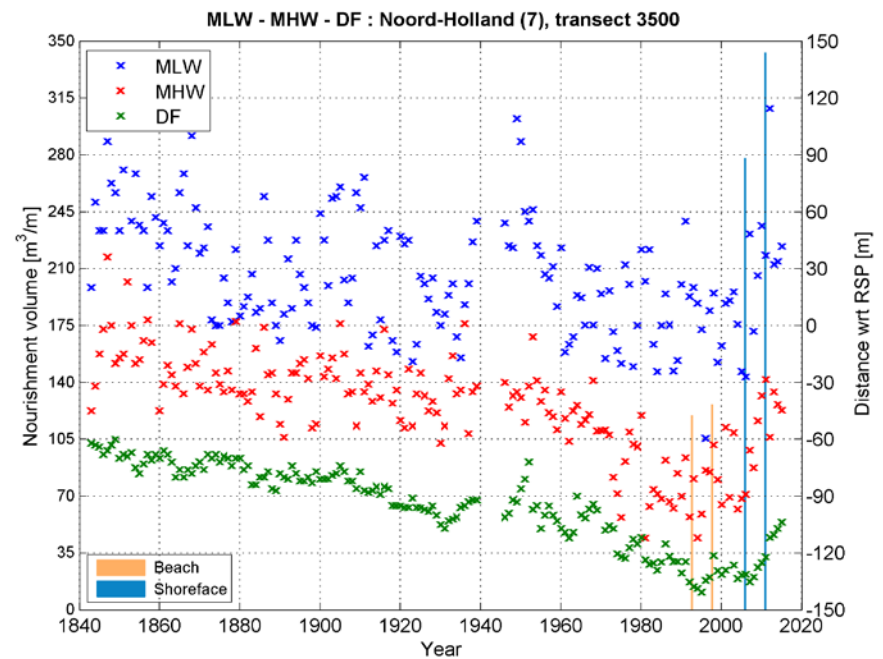
Help to assess the State of the Coast.

170 years of monitoring program for NH and ZH

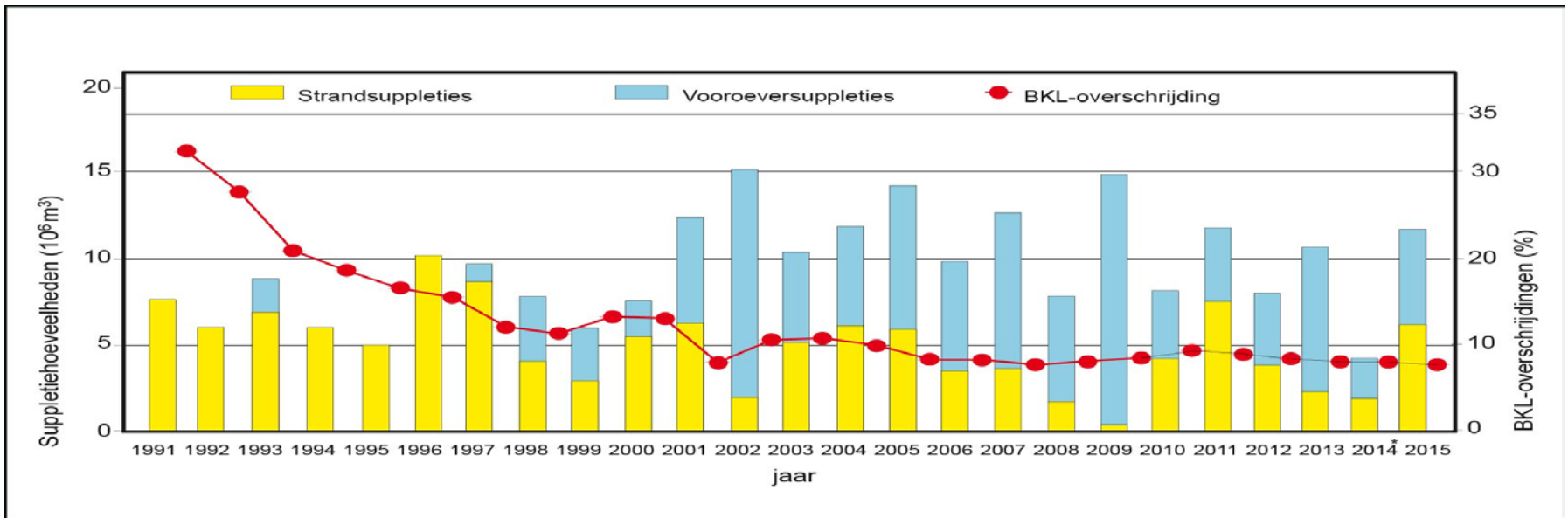
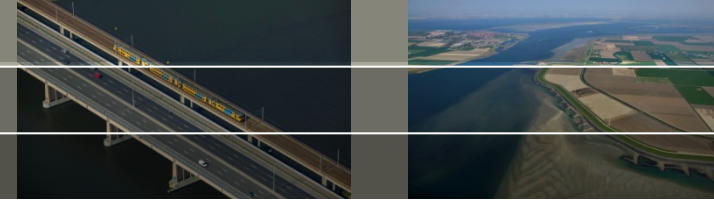
Momentary Coast Line



Mean High/Low Water, Dune Foot



Coastal Policy

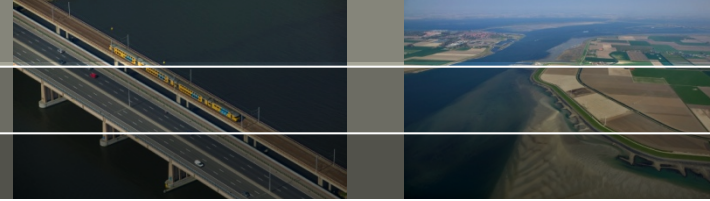


Methods: Pre-design, Morphological and dynamic coastal development in different time and space scales, Model Development, Scale Trials, Implementation itself, Monitoring and Evaluation, Reporting, Modification procedures

Coastal nourishments and the yearly monitoring make part of the policy circle

Participants: Rijkswaterstaat, regionale en lokale overheden, onderzoeksinstituten, privé partijen

Coastal Programs



Nourishment Program 2012-2015

Evaluation

Nourishment Program 2016-2019

- ...
- Maaswerken
- Coastal Maintenance
- Zandmotor
- Room for the rivers
- Delta Programma
- Foreshore defense
- ...

<http://www.rijkswaterstaat.nl/water>

Deltares

Coastal Policy: Zandmotor

