Rijkswaterstaat
Ministerie van Infrastructuur en Milieu

Kustlijnzorg in Nederland

Aanleiding, uitvoering en ontwikkeling

25 september 2017

Harry de Looff RWS-WVL

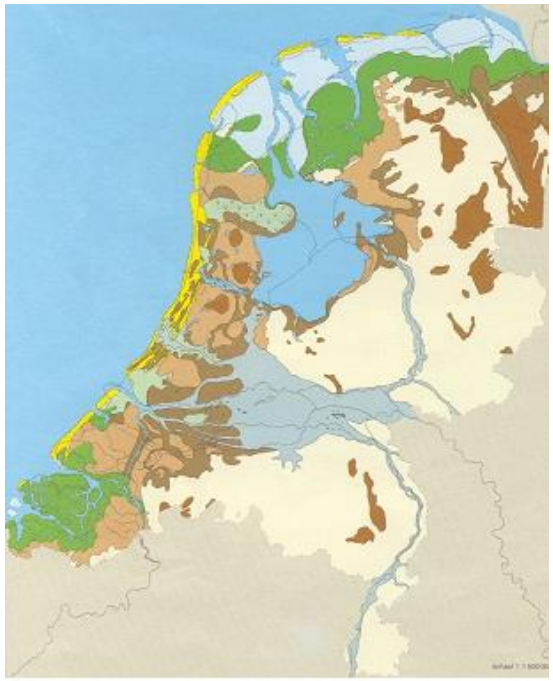
Inhoud

- Waarom Kustlijnzorg?
- Wat en hoe Kustlijnzorg?
- Ontwikkelingen en vragen

Ontwikkeling Nederlandse kust

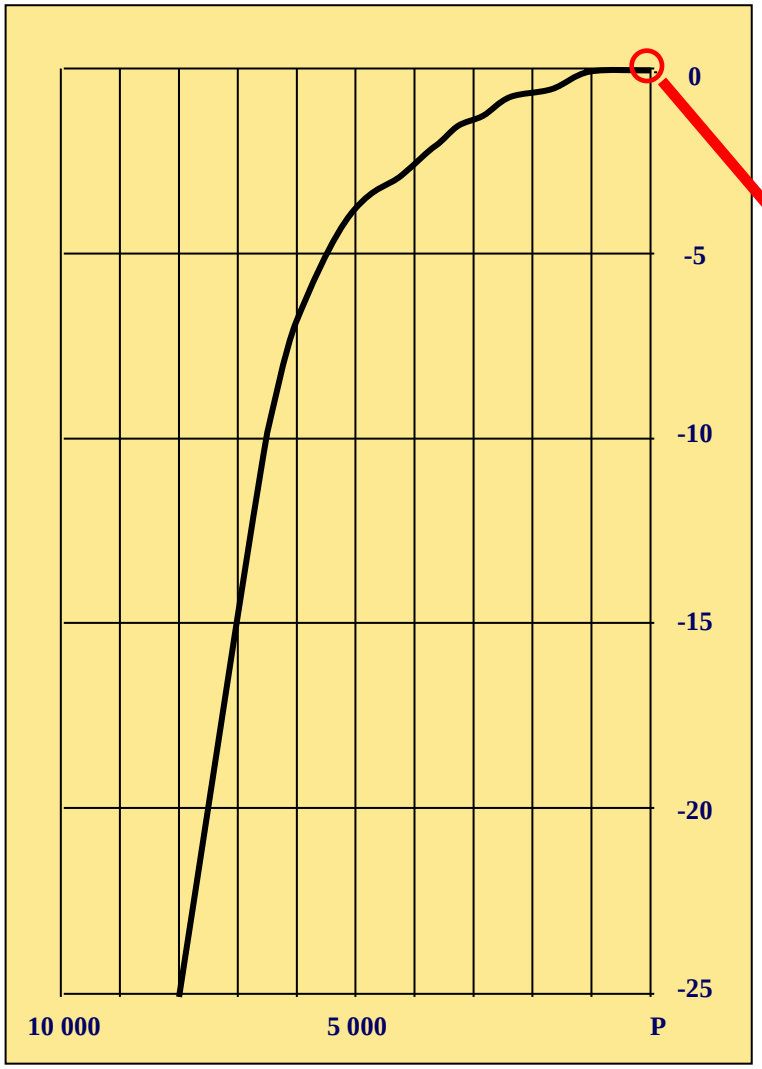
NL in 2100 v. Chr

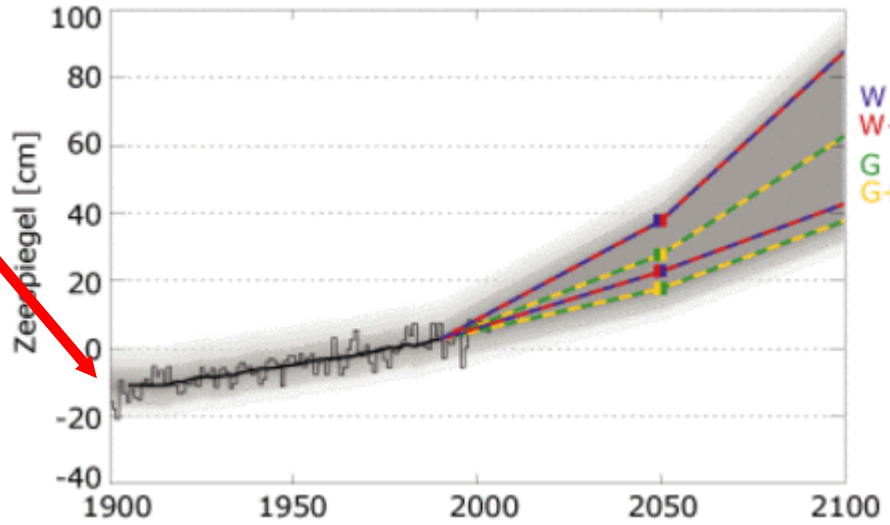
NL in 1900 v. Chr



NL in 1500 v. Chr.

P





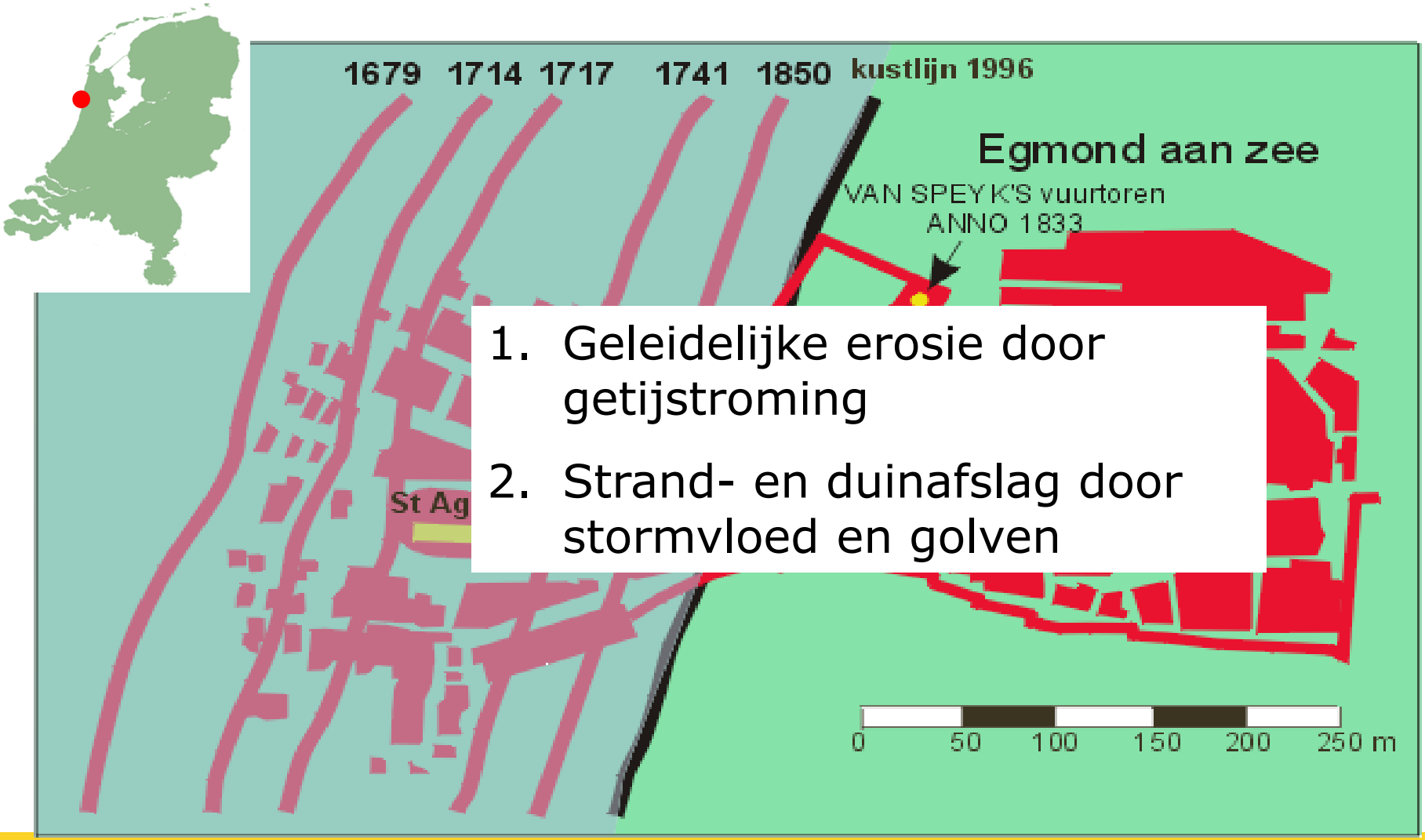
80 cm

30 cm

Gemeten zeespiegelstijging 18 cm/100 jaar

Kust trekt terug

Waarom?



1. Geleidelijke erosie door getijstroming
2. Strand- en duinafslag door stormvloed en golven

1990: keuze in kustbeleid

Three options:

- No intervention/Retreat
- **Holding the coastline position**
- Expand

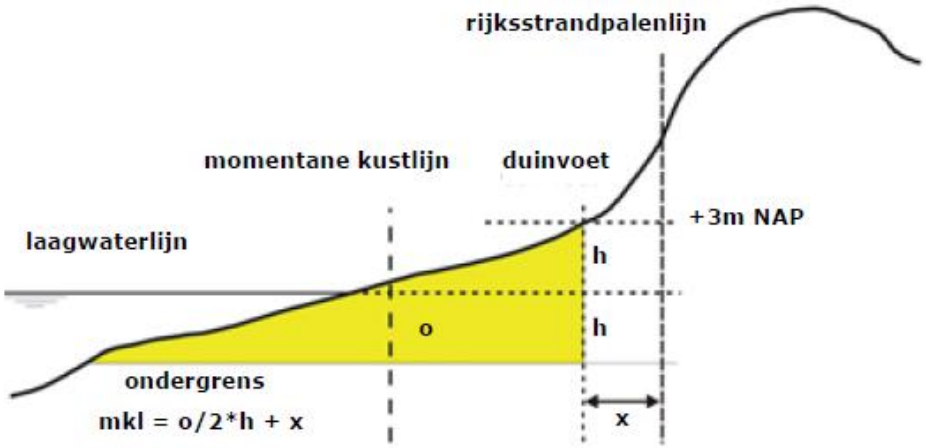
To cater for functions e.g.:

- Safety inside the dikes
- Safety outside the dikes
- Recreation
- Fresh water extraction
- Nature

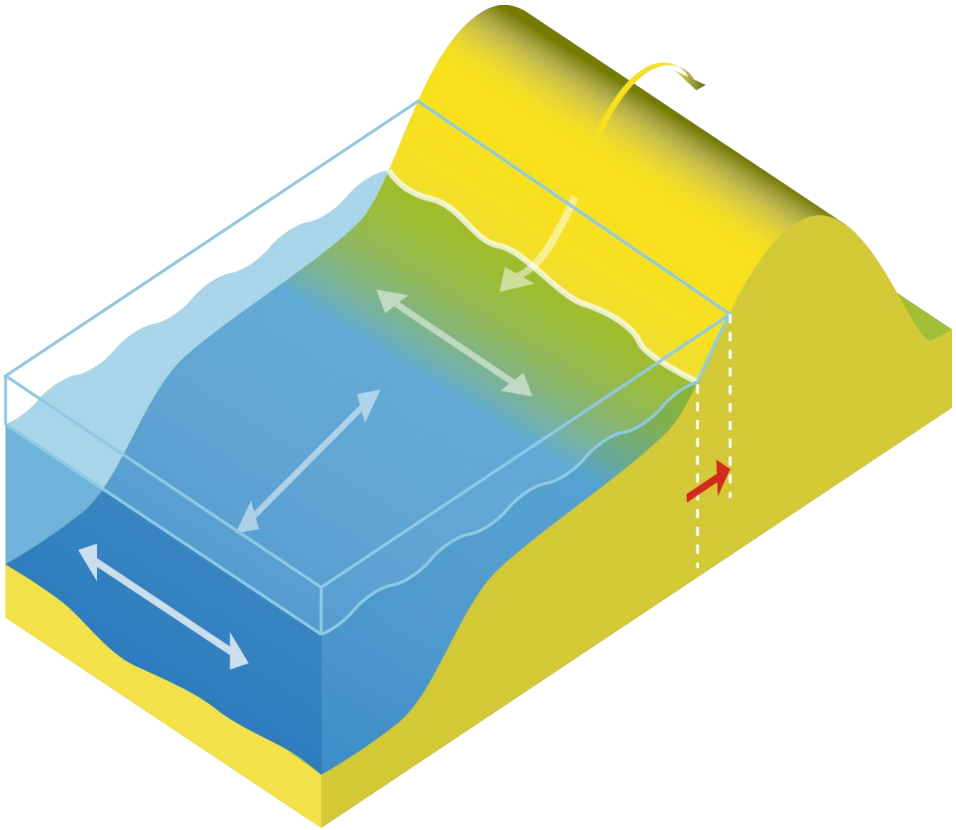
- Storm of February 1989 was decisive.

Handhaven van de kustlijn

- Basiskustlijn als rekenmethode
- Zandsuppleties als uitvoeringsmethode



Wat gebeurt er bij zeespiegelstijging?



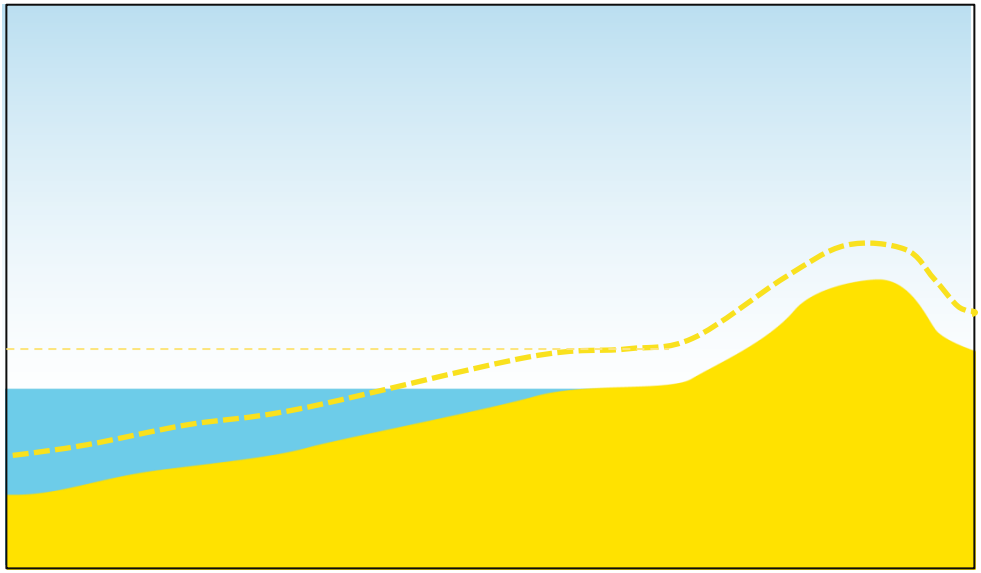
- Relatieve toename hoeveelheid water
- Relatieve afname Zandvolume
- Toename kustachteruitgang

- **Meegroeien met de zeespiegelstijging** (0.18 cm/jr)

2000: meegroeien met zeespiegelstijging

Benodigde hoeveelheid zand =

Oppervlakte Kustfundament x zeespiegelstijging



6931000000 m^2 x 0.18 m/eeuw =

1247 Mm^3 /eeuw=

12.5 Mm^3/jaar

3 traps strategie (2005)

1. Laten stromen

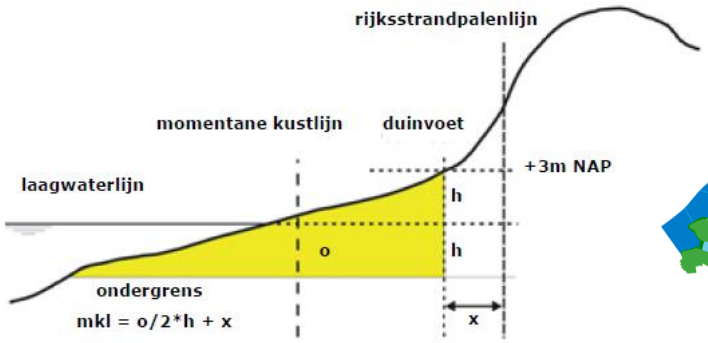
2. Buffer

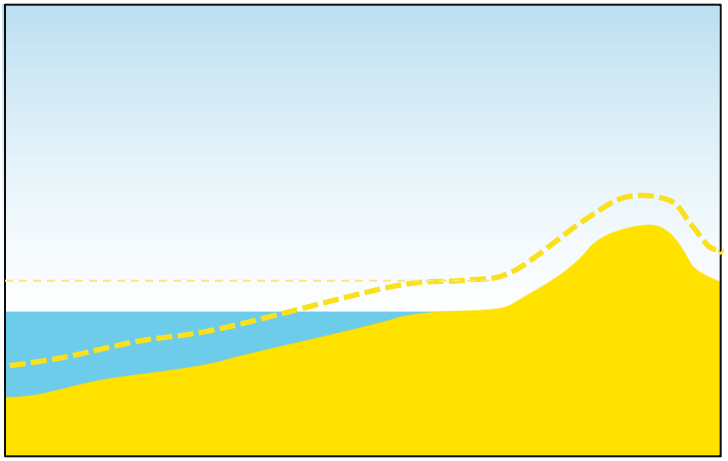
3. Vastleggen

Programma Kustlijnzorg

Operationele doelen Kustlijnzorg

- Basiskustlijn handhaven (wettelijke verplichting)
- Meegroeien kustfundament met zeespiegelstijging

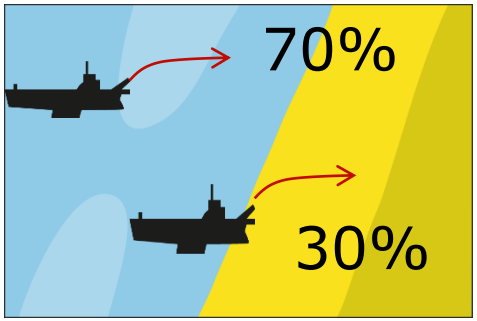




Wat doen we om deze doelen te halen?

48 Mm3/4 year

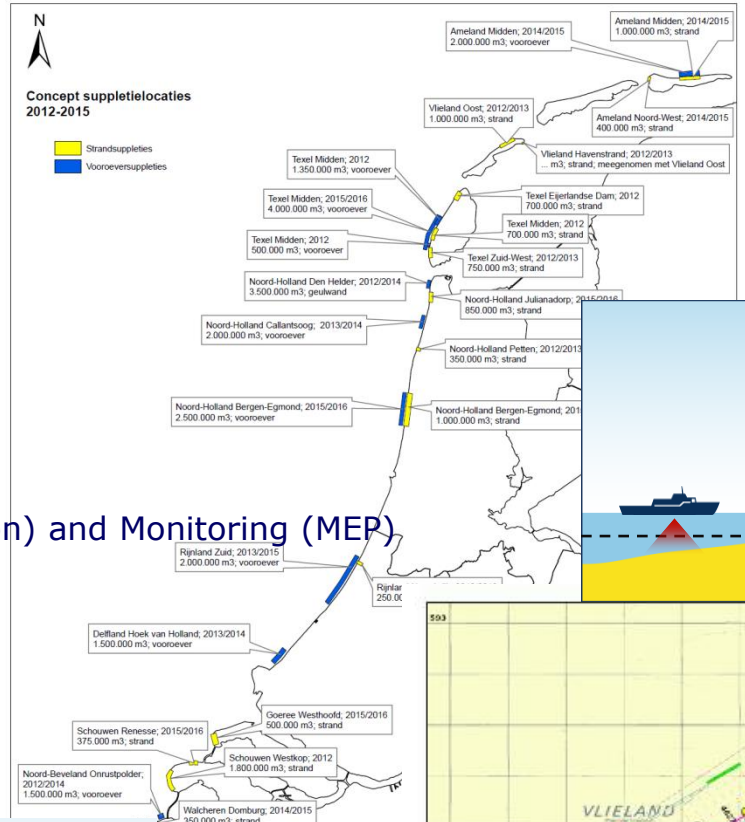
~ 55 M/year (incl.
1.4 M/year research)

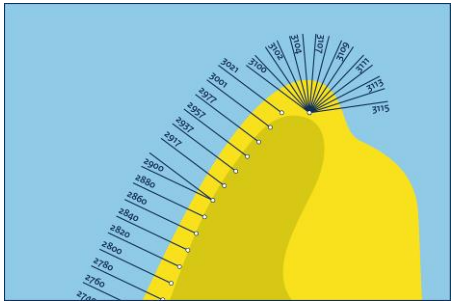


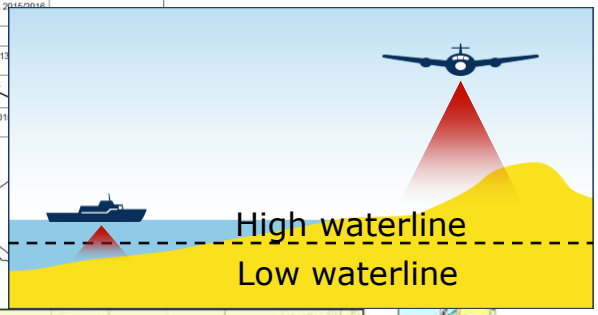
Distribution beach- vs
underwaternourishments

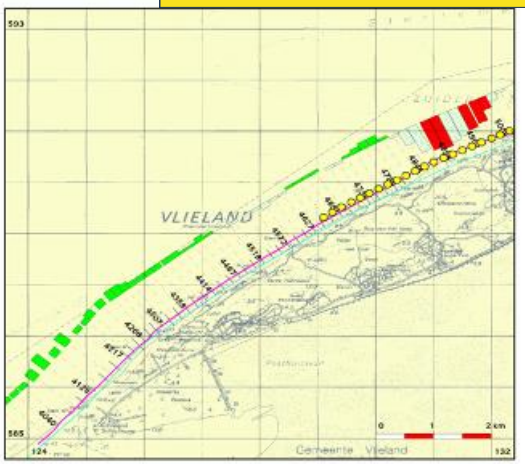
Yearly cycle

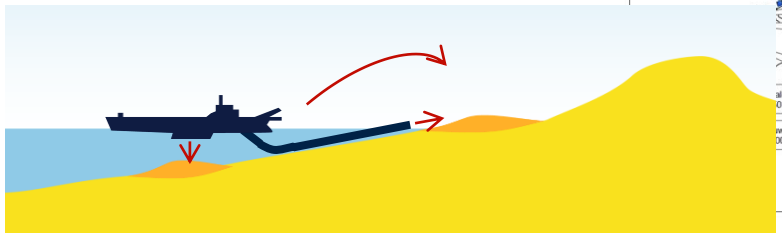
1) Measuring
2) Testing
3) Formation/Actualization program
4) Consultation
5) Formalization program
6) Purchase
7) Permits
8) Execution (2 year & communication) and Monitoring (MEP)
9) Evaluation











Suppletie ontwerp

Afwegingsaspecten – wenselijke suppleties

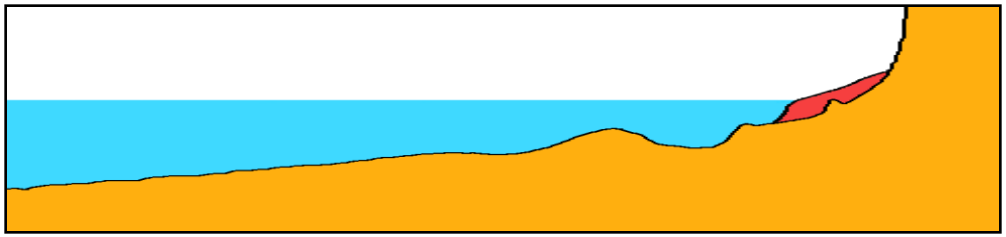
- Morfologie (Is er sprake van structurele erosie, dynamisch en/of stabiliserend systeem, zandgolven, strandhaken?)
- Regionale afspraken
- Functies in het achterland en het te suppleren gebied (veiligheid, natuur, drinkwater- en gaswinning, recreatie)
- Ecologie (onderwater of strand, tijd uitvoering)
- Suppletie geschiedenis
- (geplande) versterkingsmaatregelingen (als zwakke schakels)
- Uitvoerbaarheid en kosten

Suppletie ontwerp

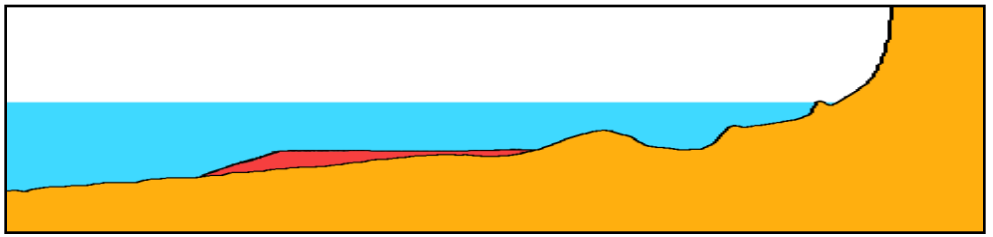
-Onderwater suppletie: heeft de voorkeur vanwege aanleg en kosten

-Strandsuppletie: alleen als het morfologisch of ecologisch gezien niet anders kan

strandsuppletie

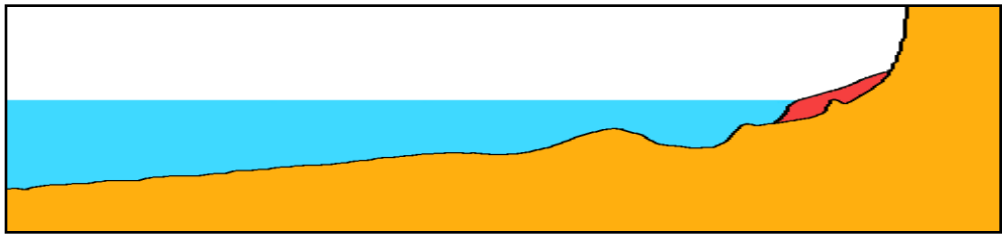


onderwater suppletie



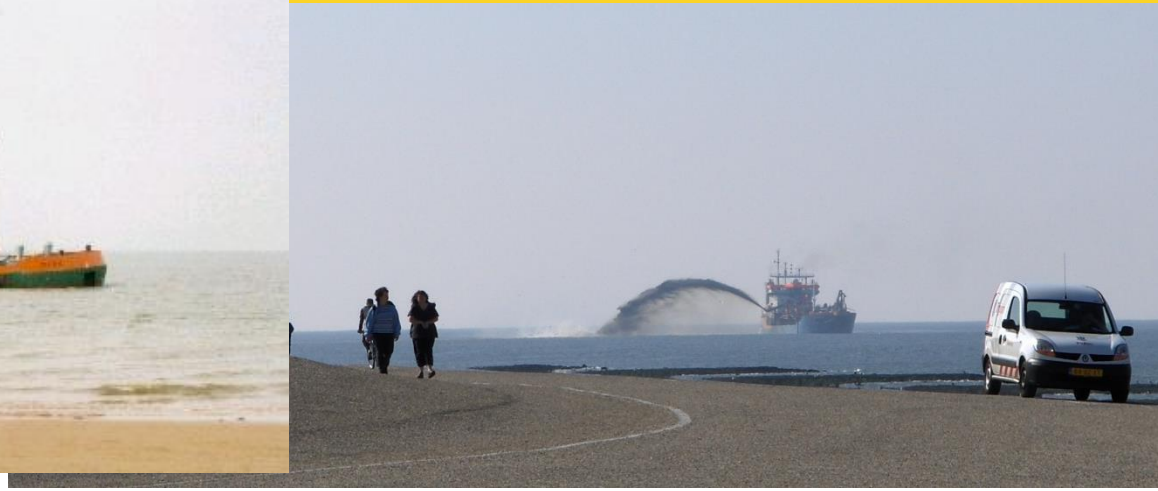
Strand suppleties

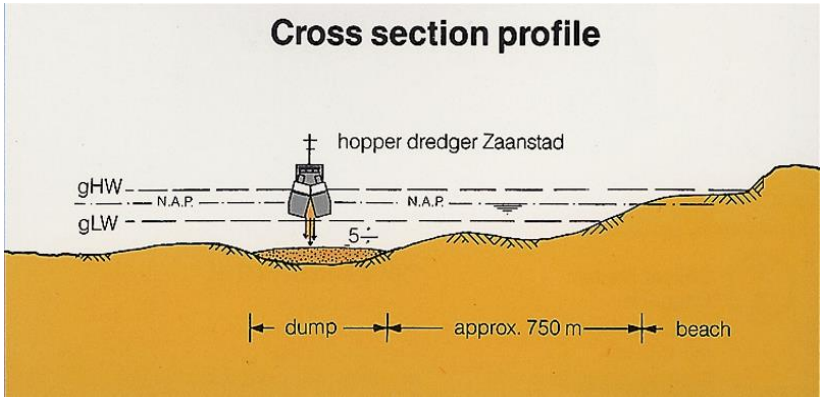
Hoe?

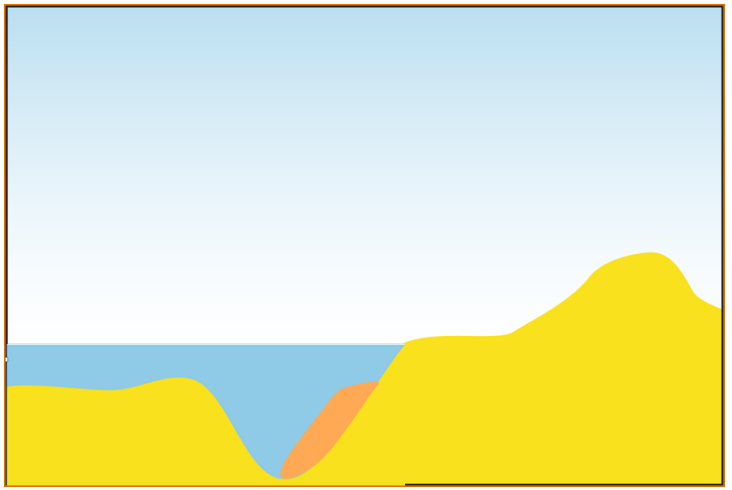


Onderwatersuppleties

Hoe?

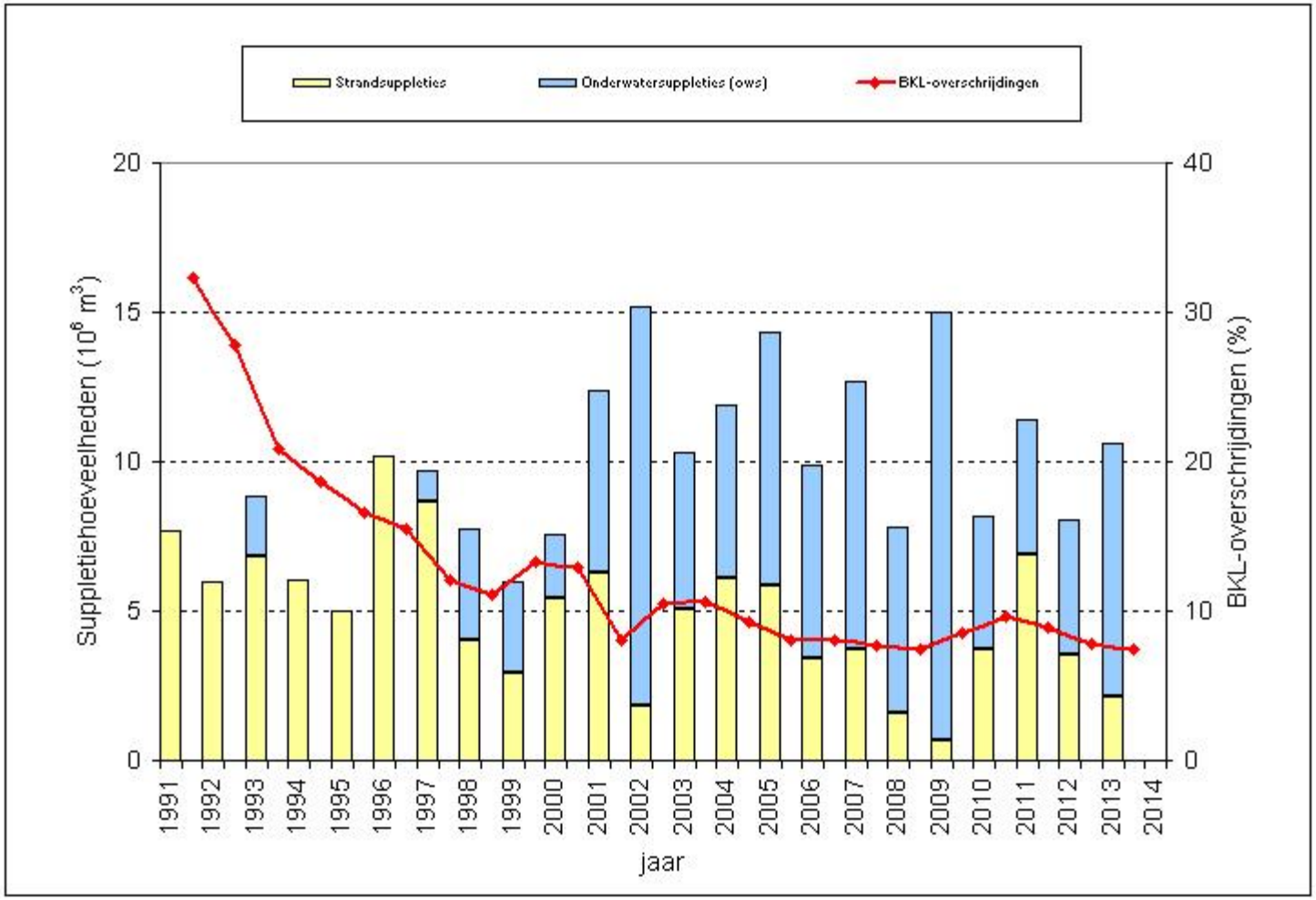




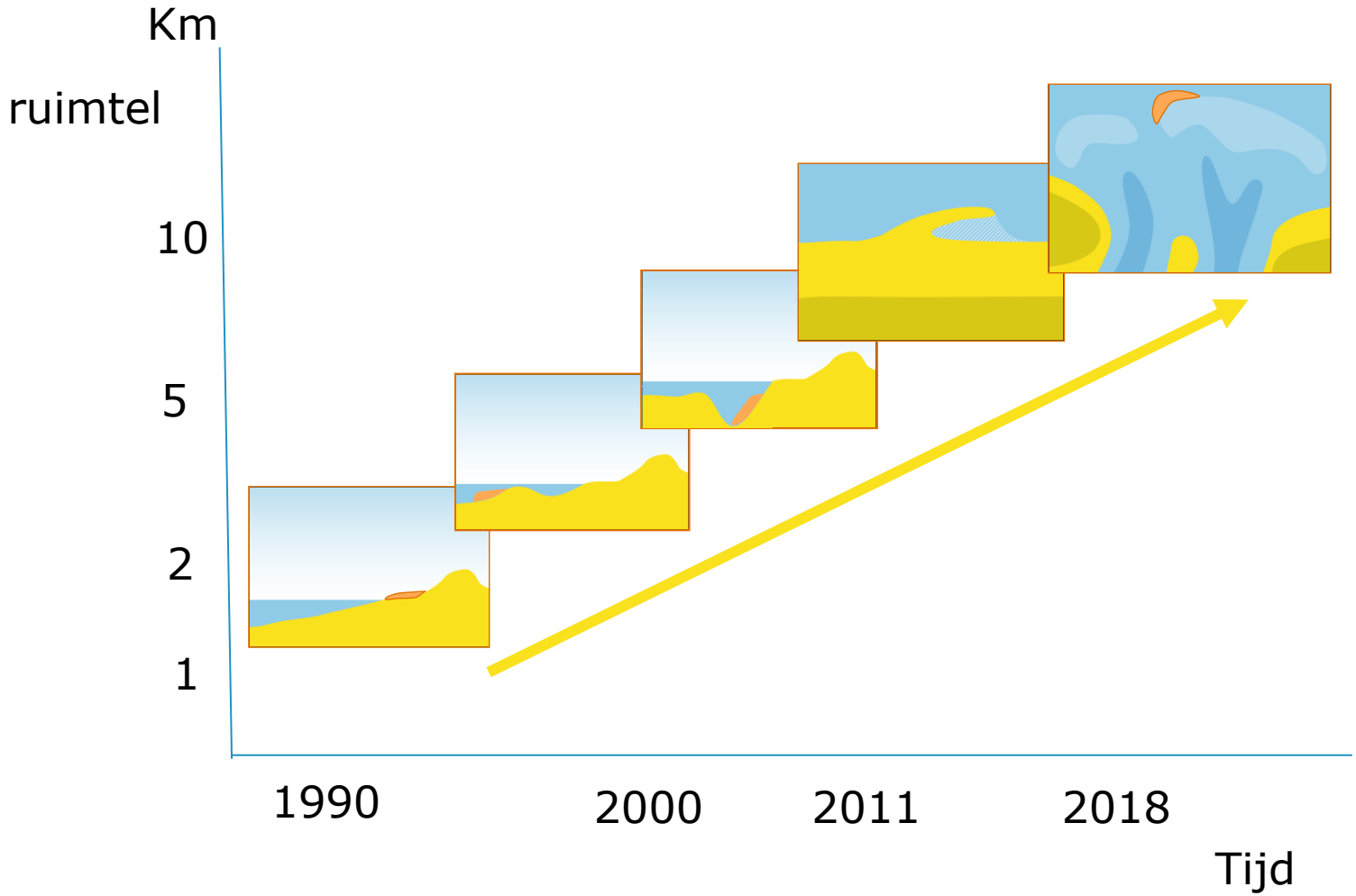


Ook: geulwandsuppleties

Succes van het beleid



Evolutie en innovatie in techniek



Ontwikkelingen en wensen

- Ecologie van het kustsysteem
  - Onderzoeksprogramma's samen met NGO’s
  - Kansen en beperkingen in beeld brengen
- Versnelde zeespiegelstijging
  - Lange termijn onderzoek kustsysteem
  - Werkwijze houdbaar?
  - Omslagpunt?
  - Grootschalige systeemsuppleties
- Klimaat
  - Energiezuinige en CO_2 beperkende technieken

Bedankt voor uw aandacht