



Actuarial

# Fighting Climate Change – our responsibility

Gijs Kloek | Convention A | 22 September 2022

# Agenda

- 2015 Paris agreement
- Claim development
- Long-term expectations
- Reinsurance coverage
- Causes of loss
- Flood coverage





# 2015 Paris Agreement

Role for insurers

## THE PARIS AGREEMENT



**United Nations**  
Framework Convention on  
Climate Change



4. Accordingly, areas of cooperation and facilitation to enhance understanding, action and support may include:

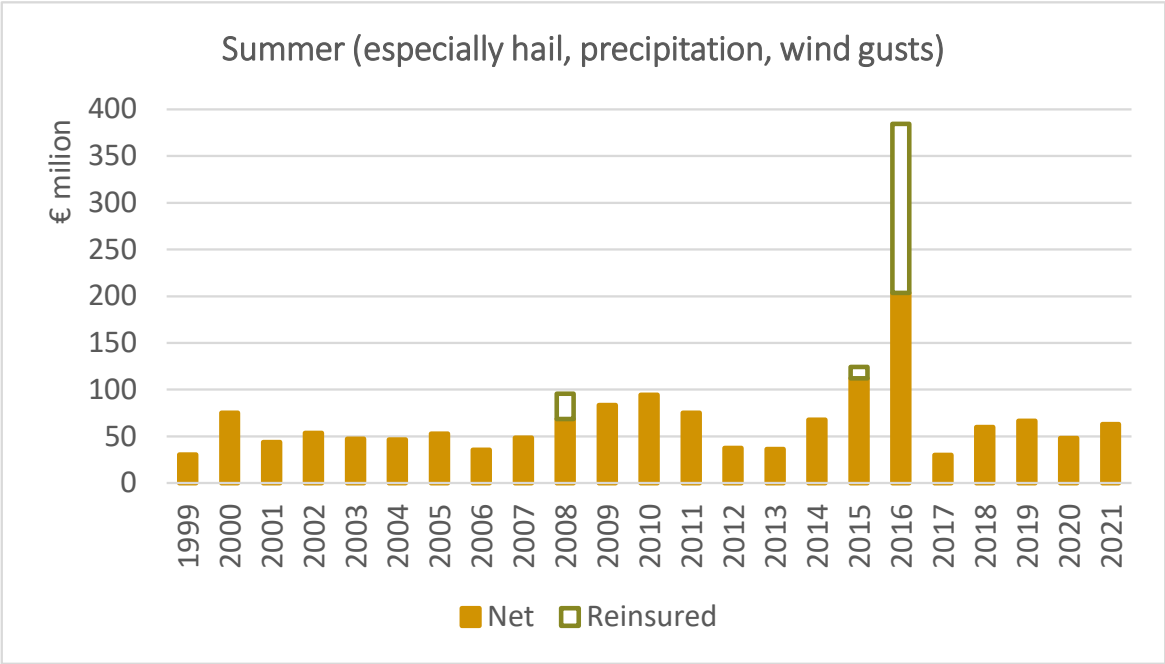
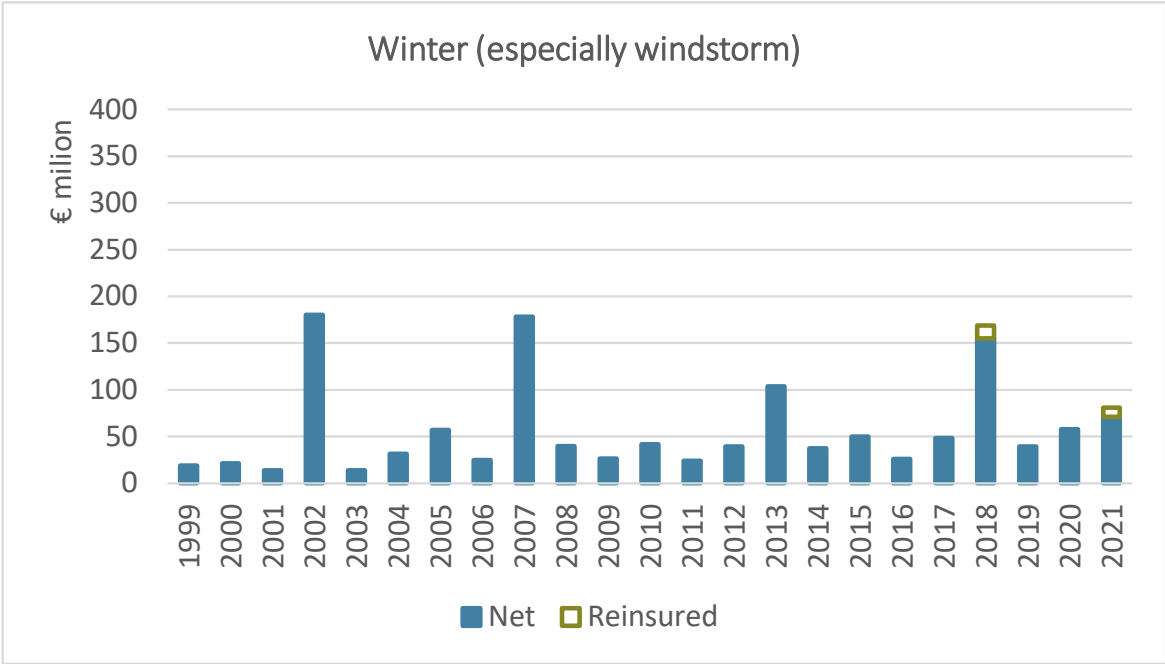
f. Risk insurance facilities, climate risk pooling and other insurance solutions;

Photo: © ANP



# Achmea claims adjusted for portfolio growth

Extreme hail loss in 2016, but after 2016 losses returned to a normal pattern: no clear trend (yet)

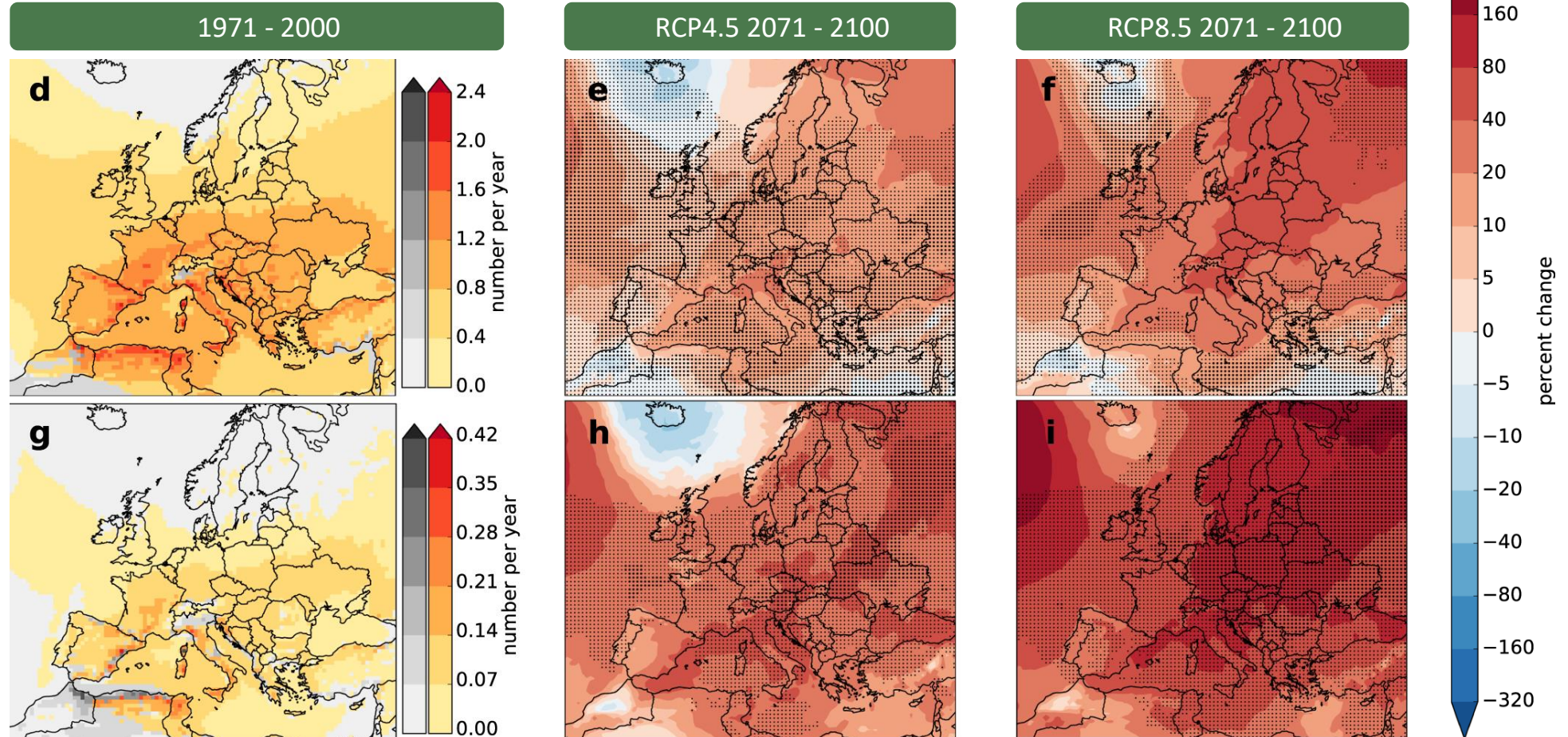


# Hail – long term expectations

Risk will increase, but will not become uninsurable

Wind gusts  $\geq 25$  m/s

Hail  $\geq 5$  cm

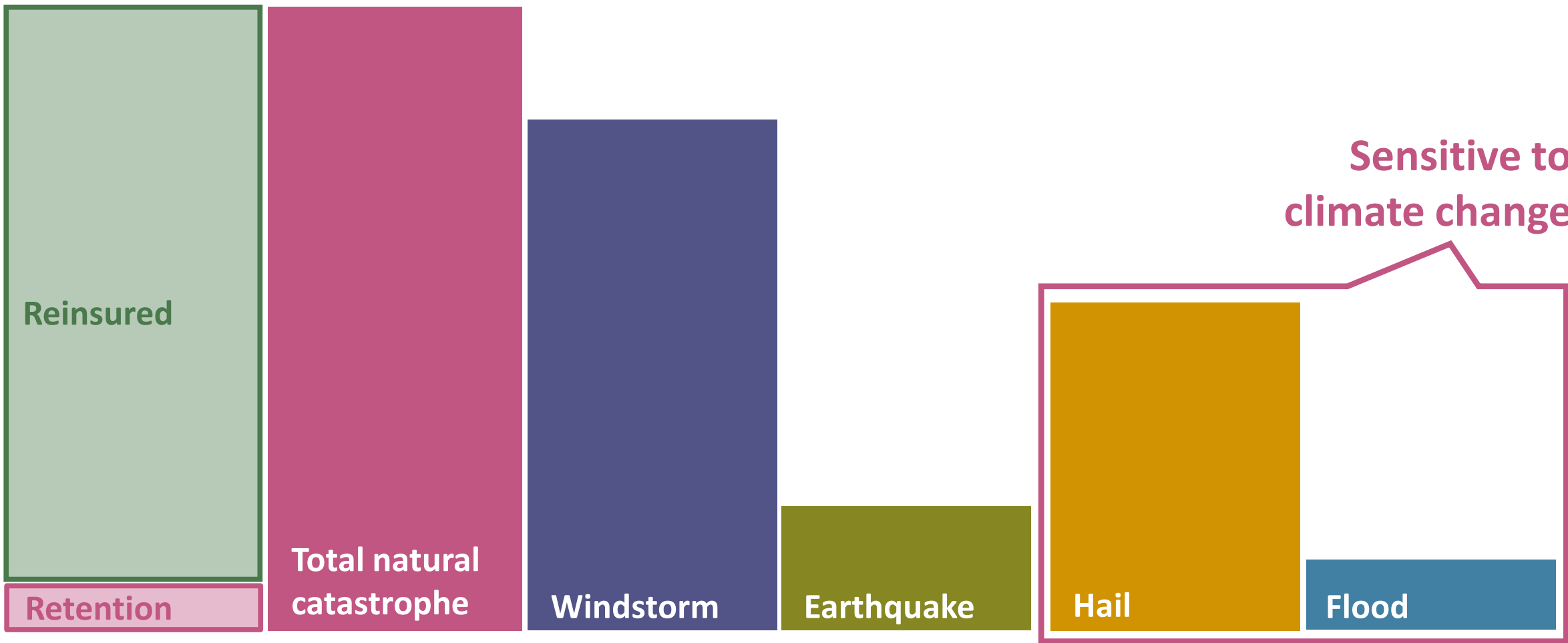


Rädler, A. T. et al. (2019). Frequency of severe thunderstorms across Europe expected to increase in the 21st century due to rising instability. *Npj Climate and Atmospheric Science*, 2(1), 30., <https://www.nature.com/articles/s41612-019-0083-7>



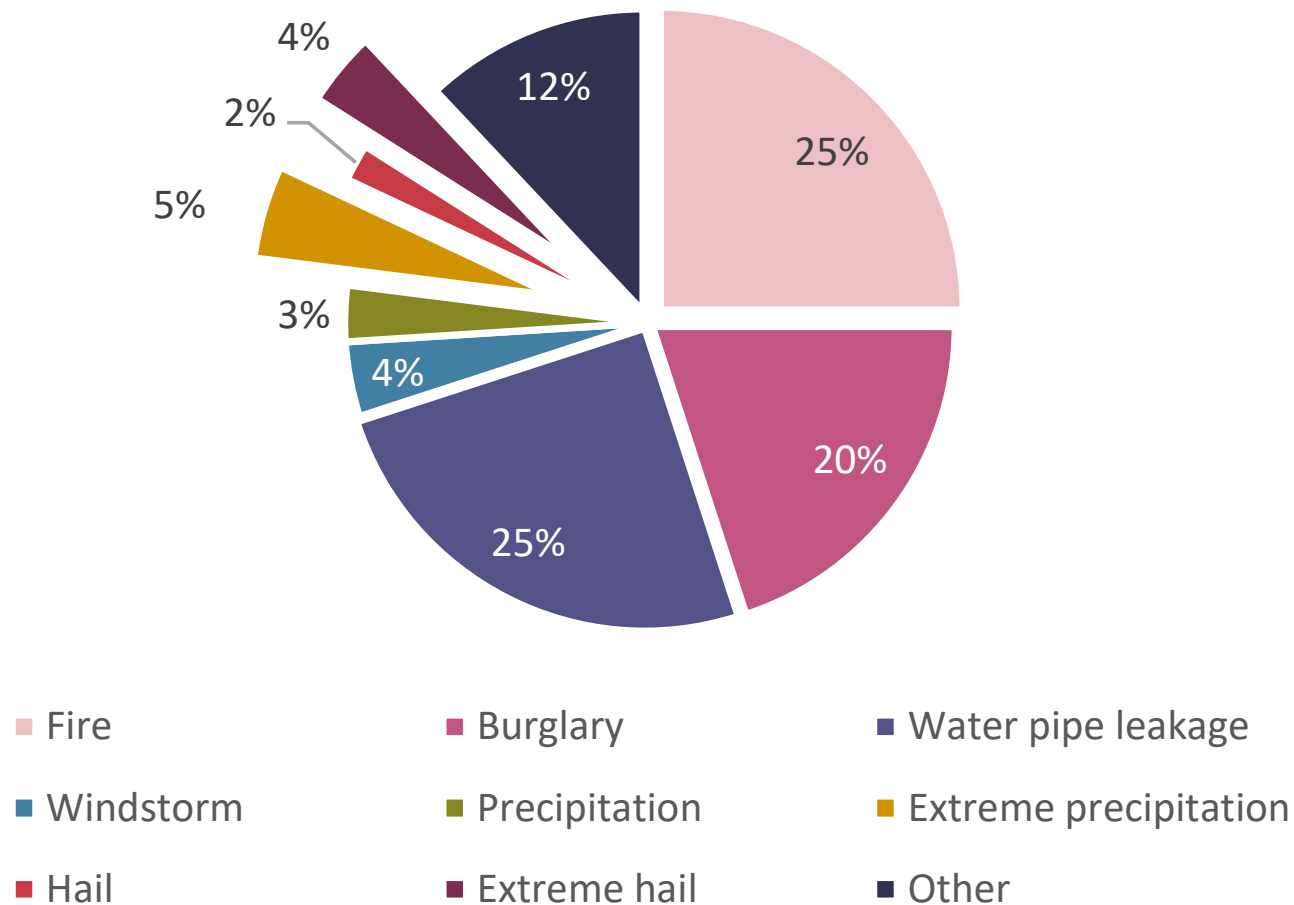
# Secondary perils are well covered by catastrophe reinsurance

Mainly secondary perils are sensitive to climate change



# Cause of loss – residential property

Approximately 10% is sensitive to climate change



Source: Dutch Insurance Association



# Development in flood risk coverage in the Netherlands

## Dutch insurers are extending their flood coverage

- After 1953 flood disaster flood risk was excluded by all insurers.
- After local floods in 1998 Dutch insurers introduced the precipitation clause covering floods caused by local rainfall, but excluding dike breaches.
- Since 2018 Dutch insurers have been extending their flood coverage by including non-primary flood defence failure.
- Currently the Dutch Insurance Association is talking with ministries and politicians about a public-private partnership for primary flood defence failure.

Photo: © ANP, Spaarnestad Photo

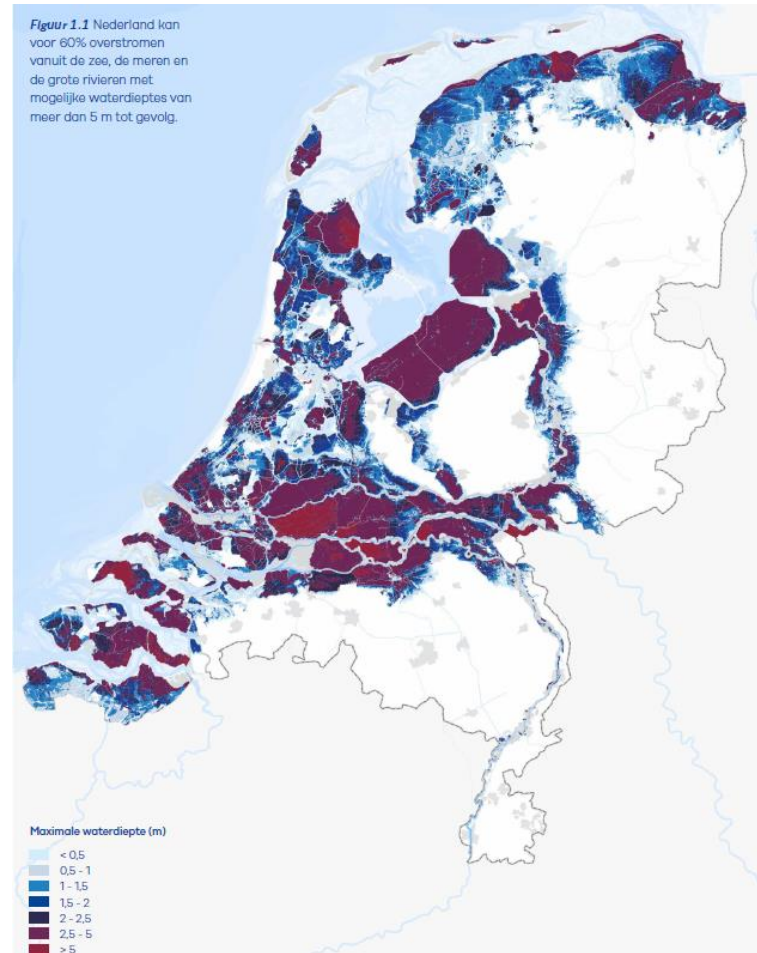




# Flood risk in the Netherlands

The Netherlands is well protected. Flood risk is extreme example of low frequency – high severity

- Primary dikes defend against flood from the sea, large lakes and large rivers.
- Water depth can exceed 5 meters after a dike breach.

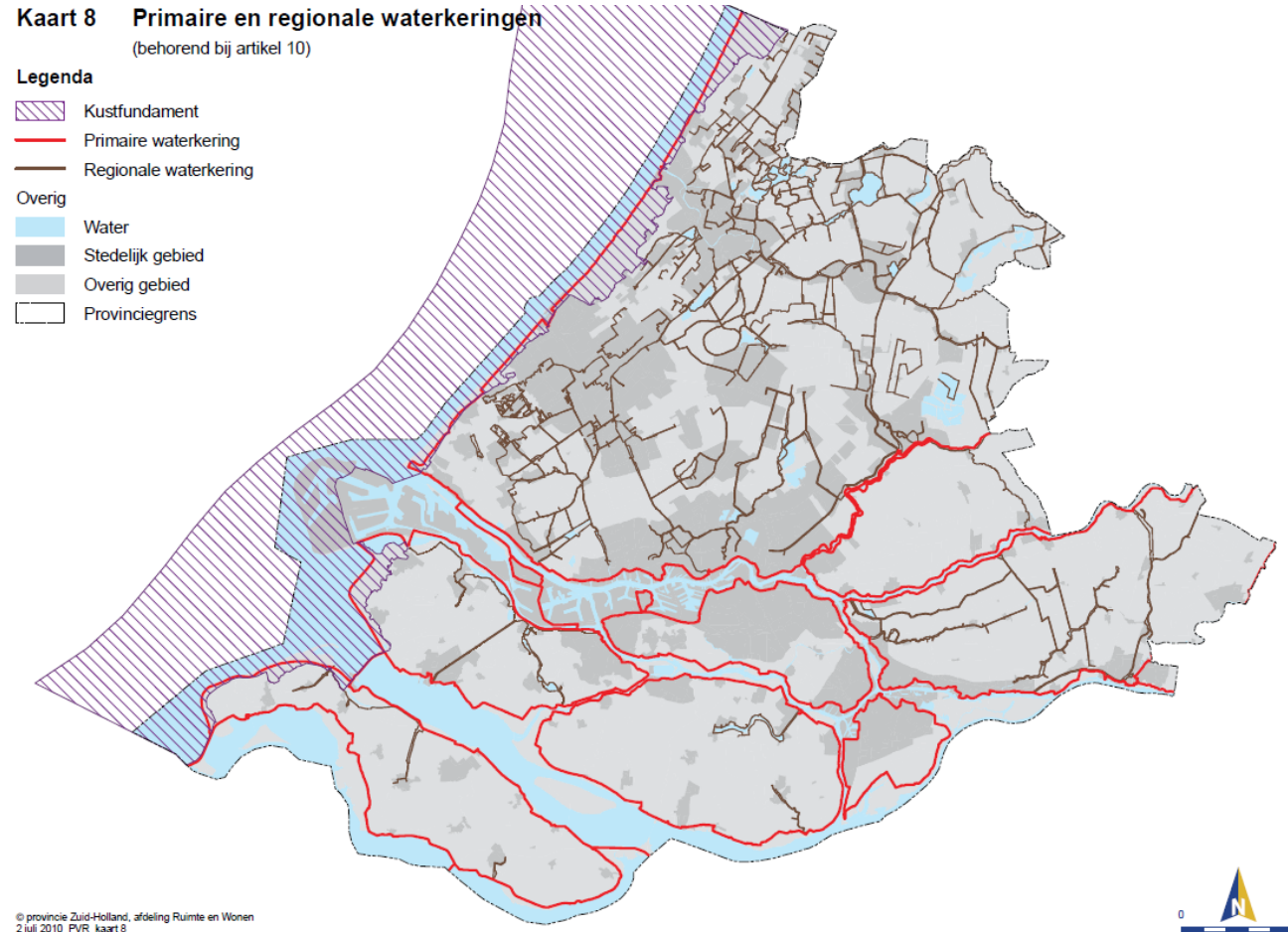


Source: Expertisenetwerk Waterveiligheid, Grondslagen voor hoogwaterbescherming 2016,  
[https://puc.overheid.nl/rijkswaterstaat/doc/PUC\\_151040\\_31/](https://puc.overheid.nl/rijkswaterstaat/doc/PUC_151040_31/)

# Primary and non-primary dikes

Dike breach of non-primary dikes causes local floods only and is covered now

- Red lines: primary dikes
- Grey lines: non-primary dikes



Source: Province of South Holland

# Public-private partnership

Primary dike breach is insurable through public-private partnership

- Dutch Insurance Association is trying to set up a flood insurance pool with reinsurance coverage provided by the government.
- An extreme loss could be too large to be covered by insurers and reinsurers without government support.

Loss Compensation Act

Government layer

Reinsured through pool

Insurers' retention



# Conclusion

- Insurance losses are expected to rise, premiums must be increased.
- Increased volatility is dampened through reinsurance.
- Weather-related risk has a relatively small share in the loss total.
- Weather risks are not expected to become uninsurable in the Netherlands.
- Dutch insurers are extending their flood coverage and taking their responsibility by making risk insurable.

