



## Social disruption by flooding: A European perspective

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By order of and in collaboration with  
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### Core of Dutch flood protection policy:

- high safety standards flood defences (prevention)

### In addition:

- avoiding social disruption by flooding

### How?

What causal factors determine social disruption?

→ Lessons learnt from recent floods in Europe

## Definition social disruption?

Physical factors:

- Fatalities
- Damage
- ...

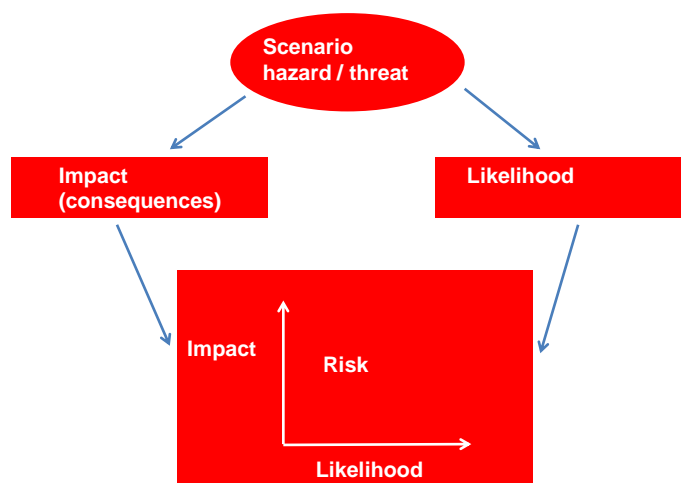
Social factors:

- Disruption to everyday life
- Loss of trust in authorities
- ...

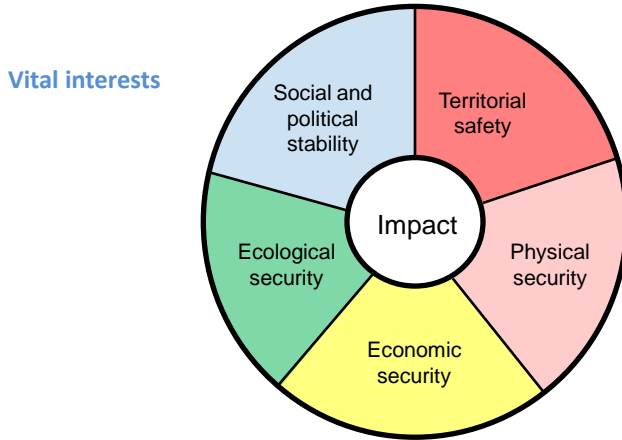
A combination of both

→ already integrated into the Dutch National Risk Assessment

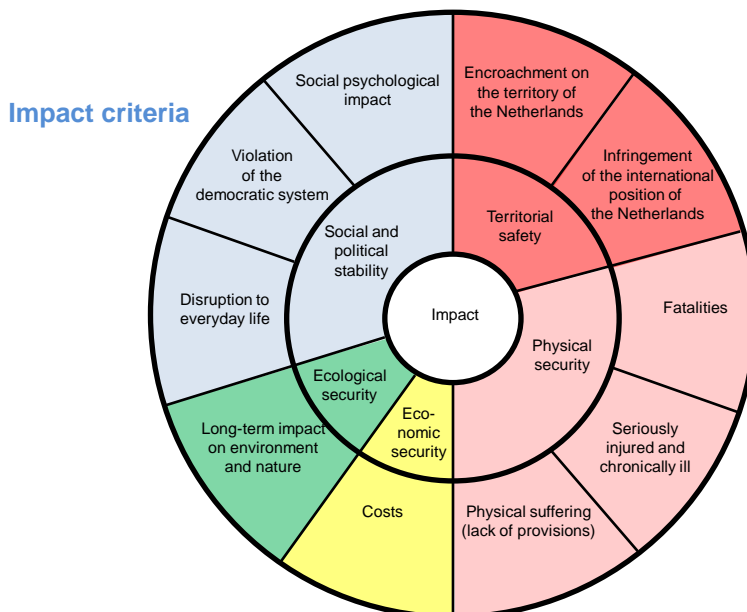
## Method Dutch National Risk Assessment



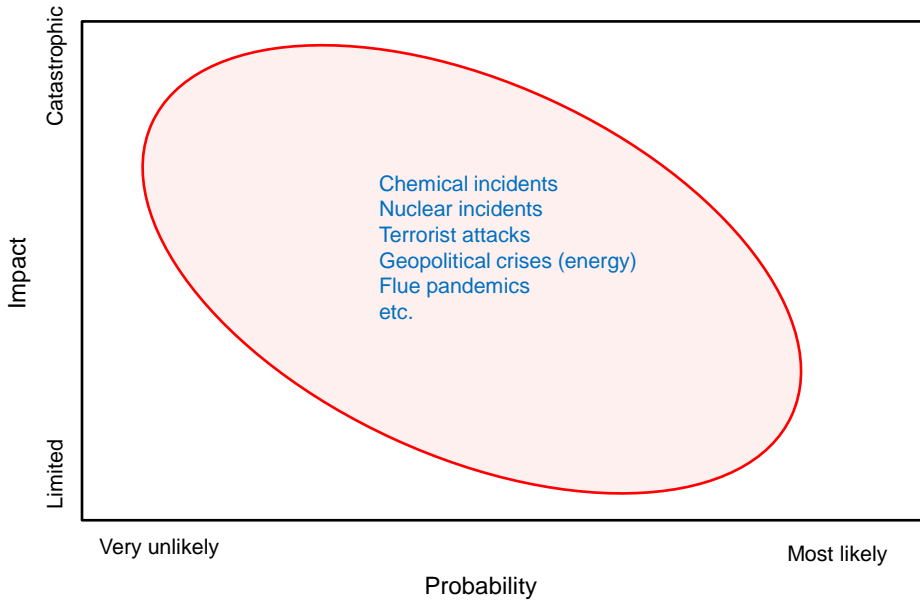
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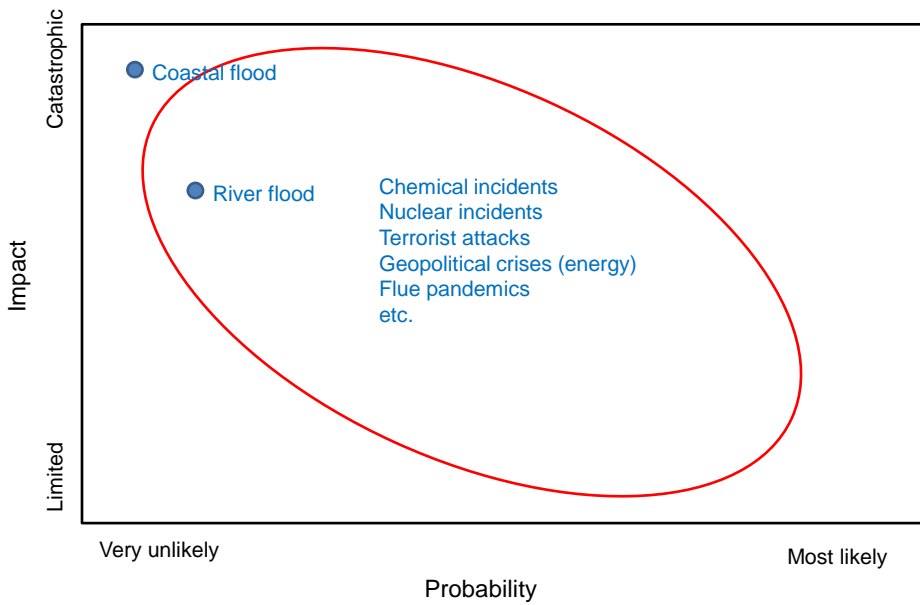
## Method Dutch National Risk Assessment



Calculated for a large number of scenarios



Calculated for a large number of scenarios, including floods



## Two steps to European perspective on social disruption

1. Impact National Risk Assessment = measure for social disruption
2. From Dutch scenarios to actual floods in Europe

## Actual floods in Europe

2002: Central Europe: Czech Republic, Germany (river flood)

2005: The Alps: Switzerland, Austria, Germany (mountain stream flood)

2005: Romania (river flood)

2007: England (river flood)

2010: France (coastal flood)

2013: Central Europe: Austria, Czech Republic, Germany (river flood)

## Impact criteria quantified based on

Damage reports and evaluations

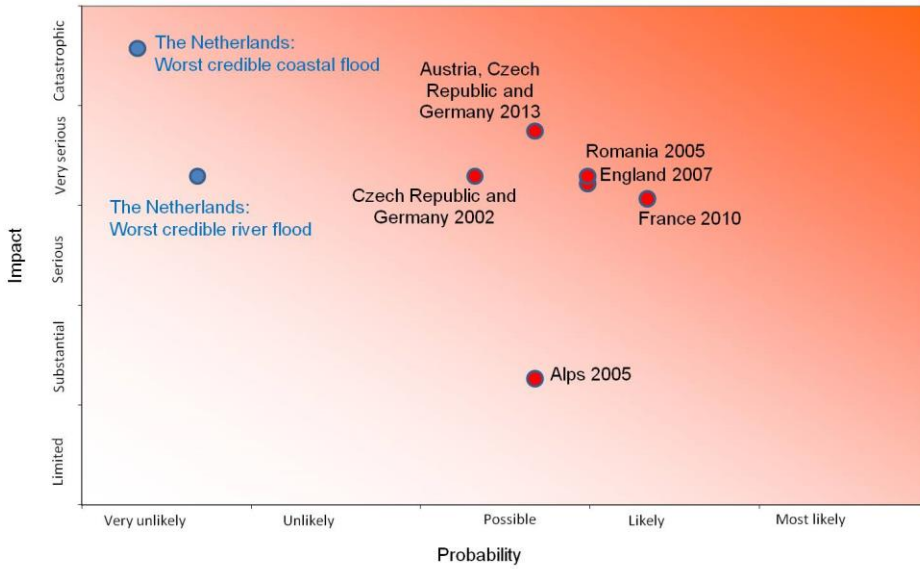
Scientific literature

Disaster data bases

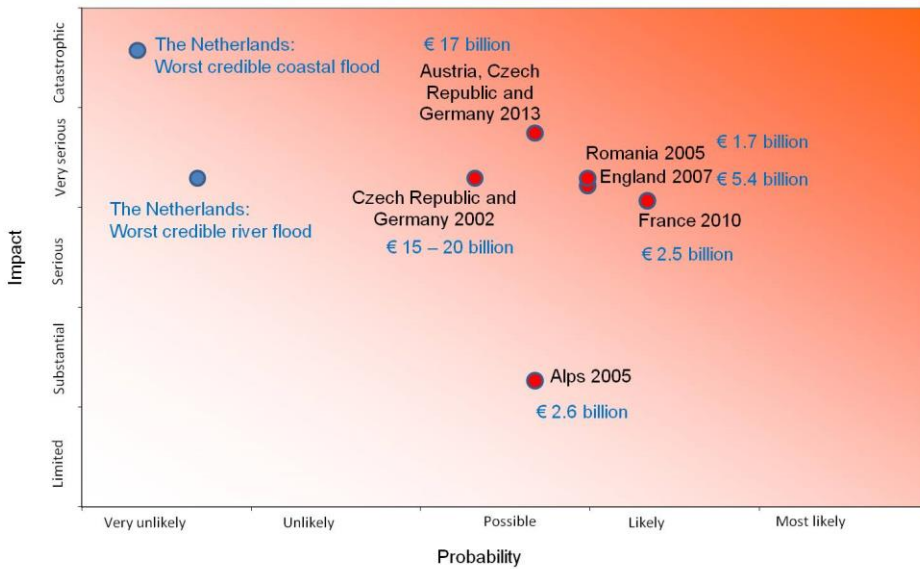
Several internet sources (news papers, etc.)

Expert judgments

## Social disruption European floods



## Damage due to floods: vulnerabilities and impacts are high!



## Conclusions (1 of 4)

- 'Our' worst credible river floods not unusual in a (Western) European context. On a European scale, major floods that are potentially disruptive happen every now and then.
- Impact scores European floods (following terminology Dutch National Risk Assessment): very serious

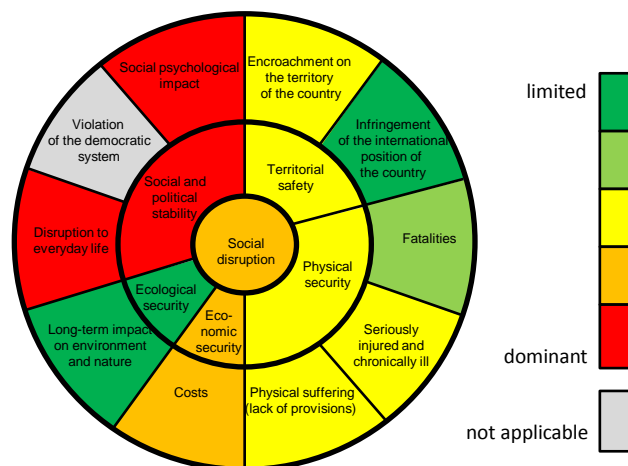
## Conclusions (2 of 4)

### Importance of social factors

f.i. England (2007)

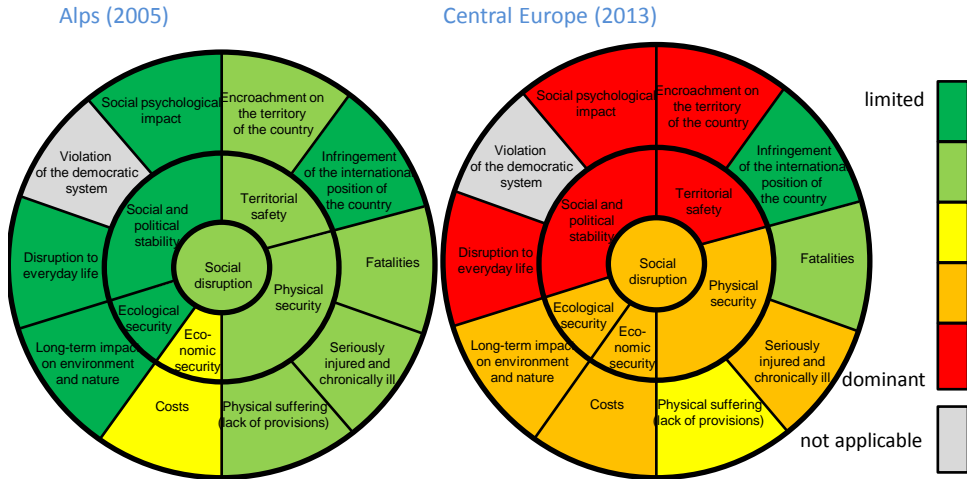
Pitt Review:

- Little flood risk awareness
- Loss of trust in authorities
- Information too little, too late
- Lack of options to act
- ....



## Conclusions (3 of 4)

Important factors: time and spatial scale flooding (mountain stream vs lowland rivers)

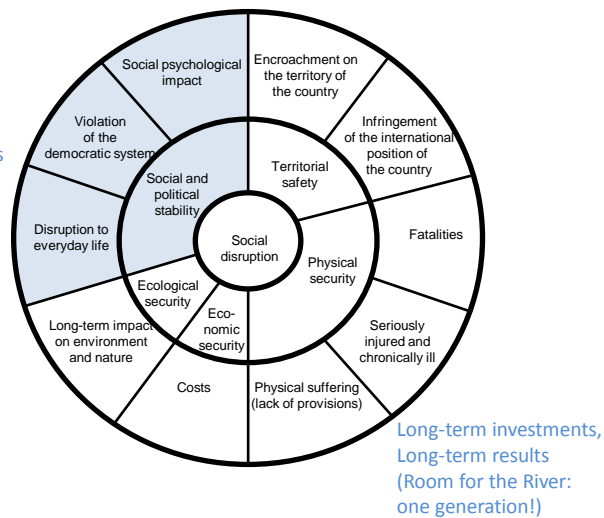


## Conclusions (4)

Interesting for policy makers

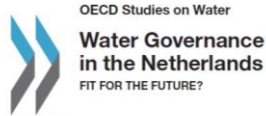
Short-term results possible:

- Raising awareness
- Adequate risk communication
- Correct and early flood warnings
- Be clear on limitations authorities
- ....





## Concluding remark



A preliminary step is to **address the awareness gap**: Dutch citizens take current levels of water security for granted. As a consequence, they tend to be less involved in water policy debates, to **ignore water risks** and functions when they develop property, and to be little concerned with water pollution. Their willingness to pay for a service they take for granted may erode in the future.



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