

# *Cognitive Distances*

*How far away is Hamburg from the sea?*

Prof. Dr. Beate M.W. Ratter  
Institute of Geography, University of Hamburg and  
GKSS Dpt. Human Dimensions of Coastal Areas



HELMHOLTZ  
ASSOCIATION

## **Absolute Distance**

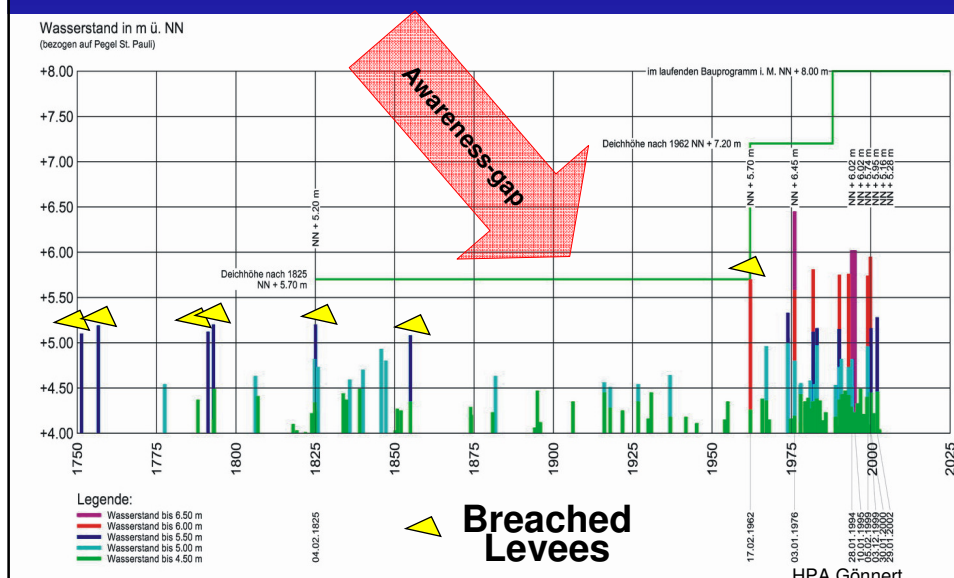


## Relative Distance

- Distance varies according to cognition
- Cognition is the **psychological result of** perception, learning and reasoning
- The example of Hamburg can show: how “distance” to the sea varied according to storm surge events (experiences), memory (concept formation), changing preferences (applying knowledge)
- Cognitive and technical measures – impact the feeling of safeness

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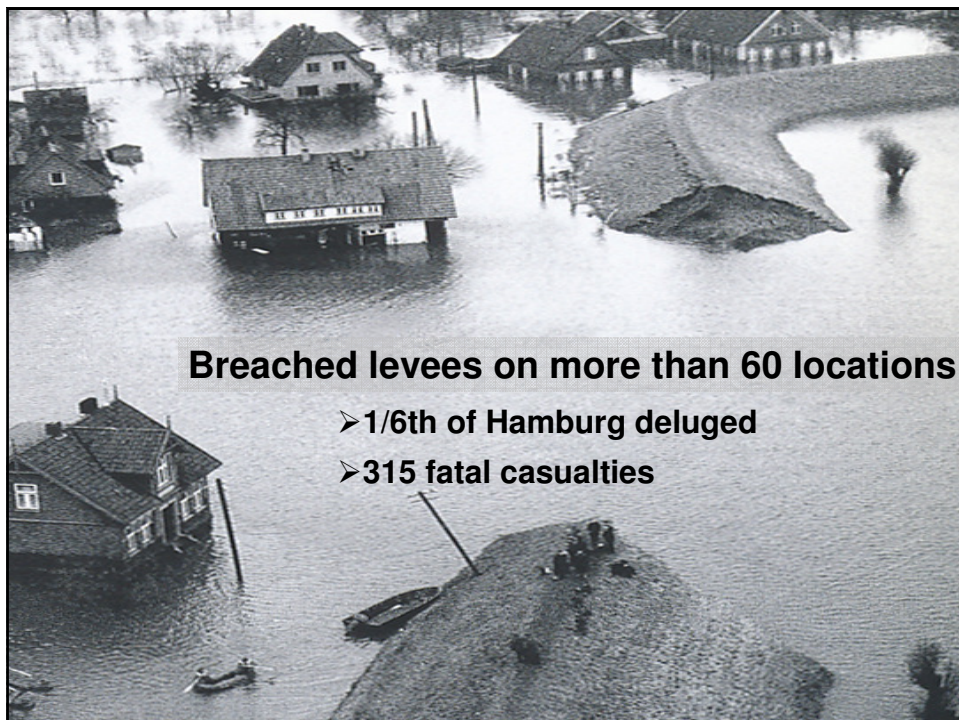
## Storm floods in Hamburg 1750-2005



## 1962: The Sea comes back....

17th February 1962:  
Flood wave 5.70m above mean sea level  
at Hamburg-St. Pauli

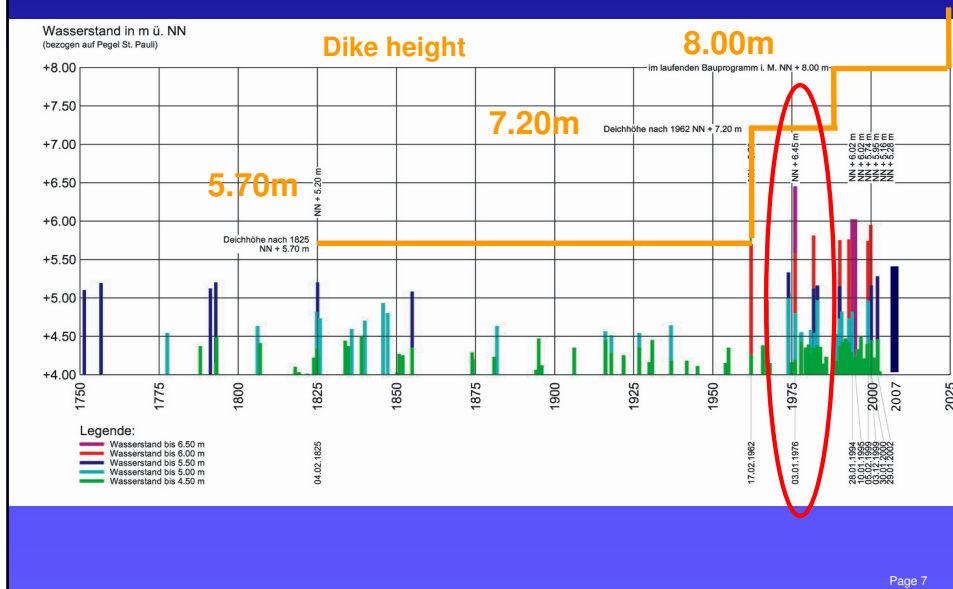
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**Breached levees on more than 60 locations**

- 1/6th of Hamburg deluged
- 315 fatal casualties

# Flood protection in Hamburg since 1962



## 1976: The sea is kept far away...

3rd January 1976:  
Flood wave **6.45m** above mean sea level  
at Hamburg-St. Pauli

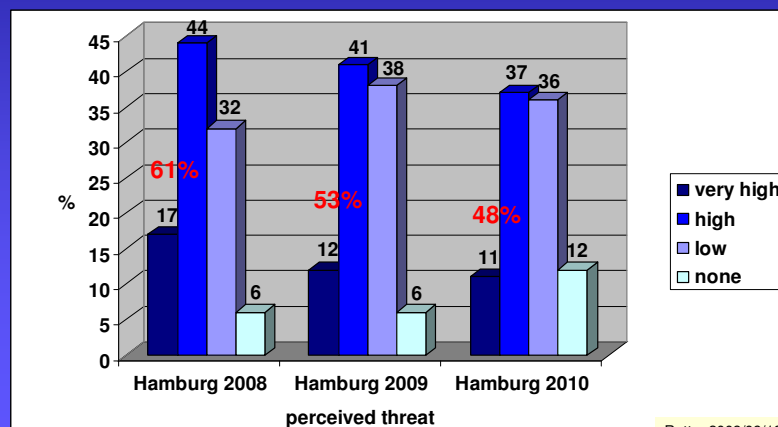


## HafenCity... in the middle of the river



## Awareness change in times of climate change....

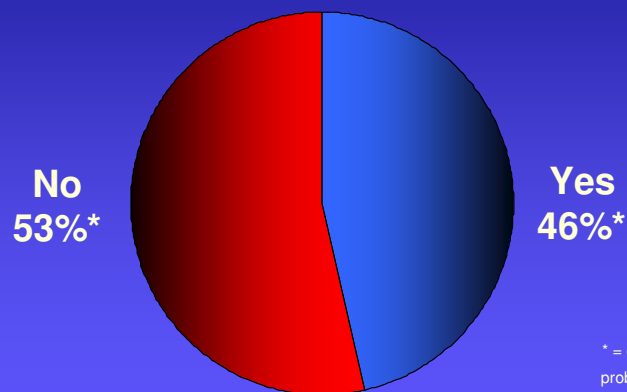
“The threat of climate change for Hamburg is considered....”



Ratter 2008/09/10

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## Do you think you will be personally affected by a natural disaster in Hamburg? (2008)



\* = of those respondents considering the probability of negative effects of climate change as „very high“ or „high“.

For further information see: [www.gkss.de/hamburgrisiko](http://www.gkss.de/hamburgrisiko)

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## Conclusion

- Actual hazard perception among the population of Hamburg can be interpreted as a function of “cognitive distance” between Hamburg and the North Sea.
- The inhabitants of Hamburg feel well protected – including the effects of climate change
- Trust in public flood defense is deep – it came under serious testing successfully - various times
- Relative distance of Hamburg to the coast is determined by the feeling of safeness
- People in Hamburg seem to be able to extrude the sea far away

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## Hamburg indulged is a media event...

