



# **Storm Surges - Perception and Reality**

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## **1 Introduction**

Storm surges are rare events and get therefore much more human attention than ordinary ones occurring regularly. Since they also incorporate danger and in some cases create catastrophes storm surges create an urgent need for both explanation and development of protective measures for human beings against their forces.

## **2 Perception**

The lesser the knowledge about the natural processes creating storm surges, the higher the level of spiritual explanation: Catastrophic storm surges have been understood as punishment by God for human sins still beyond the middle ages. This kind of explanation was supported by the types of long-term forecasts reported from those eras: dreams of people with supernatural spirits about bread being hardened like stones or fishes swimming in ovens; both effects being a possible consequence in flooded areas.

Nowadays this kind of explanation is no longer common sense, since human beings know more about natural processes creating storm surges and about the possibility of catastrophic events. But there are still irrational elements with respect to judging storm surges, particularly if their probable increase is debated. In dependence of personal acceptance or non-acceptance of human impacts itself their effects on the expected developments of storm surges are both over- and underestimated with respect to reality, e. g. the effects of waterway deepening or coastal protection.

Furthermore the effects of impacts on storm surges are quantitatively misjudged by only taking the nature of the impact into consideration. This yields particularly for historic events with a high death toll.

## **3 Damages due to Historic Storm Surges**

Damages due to historic storm surges will be shown with respect to the following aspects considering also the possibility of repetition in the actual situation:

- shaping the landscape by flooding and eroding of coastal areas,
- creating a high death toll due to flooding of inhabited areas,
- estimation of their set-up by benchmarks.