

# Cities in region face floods if sea level rises modestly

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Abu Dhabi: Even a modest sea level rise could spell trouble for low-lying cities such as Abu Dhabi, an academician has warned.

"Abu Dhabi is vulnerable to any change in sea level. Even a modest rise in the sea level could potentially lead to perfect storm conditions," Professor David Holland, Director of the Centre for Atmosphere-Ocean Science at New York University, said in an interview with *Gulf News*.

"At present there is, however, no credible projection of the sea level rise that could be expected and when," he added.

He was in the capital last Sunday to deliver a lecture, organised by his university on 'A Tale of Two Cities, and of Climate Change: Future Sea Level Projections in New York and Abu Dhabi'.

The current sea level rise projections need to be perfected by collecting more information, most importantly regarding the melting of the Greenland and Antarctic ice sheets, he said.

The UN's Intergovernmental Panel for Climate Change predicted a sea level rise of 0.37 to 0.59 metre by 2100 in its fourth assessment report in 2007.

But the report was criticised for not having included the impact of these two massive ice sheets.

Predicting the sea level rise could be based on a continuation of weather forecasts (which predicted a 30 cm rise at the turn of the century) on global warming due to increasing greenhouse gases (which predict a 20-60cm rise) or the melting of ice sheets, he explained.

The most plausible cause of rising sea levels could be the melting of the ice sheets, Holland, like most climate scientists, believes.

"It is also the most uncertain number yet," said the expert, who has been researching these ice sheets for a long period.

At least ten years of data collection is required in order to make reliable computer simulation models. While Abu Dhabi is susceptible to flooding, it is no more vulnerable than other cities around the world located at sea level, such as New York, Holland said.

### **Up to 6% of UAE at risk**

**Abu Dhabi:** As much as 6 per cent of the UAE's land area could be flooded by 2100 if the worst-case scenario of a nine-metre rise in the sea level comes true, according to a government study published in January.

The study titled 'Climate Change: Impacts, Vulnerability and Adaptation' was published by the Environment Agency - Abu Dhabi (EAD) with the help of researchers from the US-based Stockholm Environment Institute.

Significant built-up areas in coastal regions will be inundated, even if there is only a small rise of one metre, it says.

Since scientists are not certain of the rise in sea levels caused by continued melting of the glaciers, the study envisages two possible scenarios — a rise of two metres by 2100 if there is no accelerated ice cap melting, and a rise of nine metres if there is.

A two-metre rise would flood 1,155 square km, or 1 per cent of the land, while a nine-metre rise would inundate close to 5,000 square km, which is 6 per cent of the land.