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## Seas could rise much more than we thought

Marian Wilkinson and Wendy Frew  
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RISES in sea levels caused by climate change are likely to be bigger than predicted and more dangerous, but scientists are reluctant to "stick their necks out" on the issue for fear of being labelled alarmist, a leading international expert is warning.

Stefan Rahmstorf, a lead scientific author of the recent United Nations report on climate change, has just published a new way of projecting sea-level rises caused by global warming. His method suggests much higher rises than those published by the UN panel this year, adding to concerns that the panel was too conservative in its last report.

"This isn't just my concern: there's a number of scientists who were not very happy with the impression given in the summary of the report that sea-level rise projections had dropped compared to the previous report," Professor Rahmstorf told the *Herald* when he arrived in Sydney.

The estimates of sea-level rises in the report of the Intergovernmental Panel on Climate Change did not include the full impact of the melting of the polar icecaps because too little is known about the risks it poses over the long term.

"It was the icesheet experts who were most upset," said Professor Rahmstorf, who advises the German Government on climate change. "They felt that those risks were not properly represented".

Professor Rahmstorf's visit coincides with the release of a study by scientists from CSIRO and the NSW Government warning that the state's coastal settlements are likely to be at much higher risk from sea level rise and storm damage than previously thought.

The study, which focuses on the picturesque tourist towns of Woolli on the far North Coast and Batemans Bay in the south, warns that the frequency of storms could increase by between 42 and 50 per cent while sea level rises could be up to 12 centimetres above the global average suggested by the intergovernmental panel's last report. Experts believe that for every metre of sea-level rise there will be between 50 and 100 metres of erosion.

The local study is designed to support efforts by the state and federal governments to help Australia adapt to climate change. It warns that poor coastal planning decisions will result in big losses as the full effects of sea-level rise are felt.

Those include increased flooding resulting in the loss of life and property, the destruction of

coastal infrastructure such as bridges and the loss of beaches and damage to wetlands.

Dr John Church of the CSIRO and his colleagues warned last year that governments will need to examine ways to adapt to sea-level rises ranging from ensuring emergency escape routes are available in floods to building sea walls and even abandoning some vulnerable communities.

Professor Rahmstorf said his latest work, using data from Dr Church, shows projections for sea-level rises ranging from 50 centimetres to 1.4 metres over this century.

The warnings on sea-level rises come as many countries are receiving unusually high levels of rain, linked to climate change, that has caused flooding from Britain to Bangladesh.

The combination of higher rainfall and higher sea-level rises in the Asia-Pacific region will create millions of climate refugees. The UN estimates that some 150 million people live less than one metre above the high-tide level and 250 million live within five metres.

"Rising sea level is a mainstream issue in need of urgent and informed decision making and action," Dr Church wrote in a recent UN paper on ice melts and sea-level change.

Professor Rahmstorf will talk about his latest research on rising sea levels and climate change at the University of NSW tomorrow.

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