

# Sea levels set to rise by up to a metre: report

May 23 2011, by Madeleine Coorey

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A flash flood is seen in the centre of the Australian city of Brisbane. Sea levels are set to rise by up to a metre within a century due to global warming, a new Australian report said Monday as it warned this could make "once-a-century" coastal flooding much more common.

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The government's first Climate Commission report said the evidence that the Earth's surface was warming rapidly was beyond doubt.

Drawn from the most up-to-date [climate science](#) from around the world, the report said greenhouse gas emissions created by human industry was the likely culprit behind rising temperatures, warming oceans, and [rising sea levels](#).

Its author Will Steffen said while the report had been reviewed by climate scientists from Australian science body the [CSIRO](#), the Bureau of Meteorology and academics, some [judgments](#), including on sea levels, were his own.

"I expect the magnitude of global average sea-level rise in 2100 compared to 1990 to be in the range of 0.5 to 1.0 metre," Steffen said in his preface to "The Critical Decade".

He said while this assessment was higher than that of the [Intergovernmental Panel](#) for Climate Change in 2007, which was under 0.8m, it was not inconsistent with the UN body which had said higher values were possible.

"We're five years down the track now, we know more about how those big ice sheets are behaving," Steffen told reporters.

"In part we have some very good information about the Greenland icesheet. We know it's losing mass and we know it's losing mass at an increasing rate.

"So that's telling us that we need to extend that upper range a bit towards a metre. Now there are commentators who say it should be even higher than that."

The report said a sea-level rise of 0.5m would lead to surprisingly large impacts, with the risk of [extreme events](#) such as inundations in [coastal areas](#) around Australia's largest cities of Sydney and Melbourne hugely increased.

Steffen said in some instances, a one-in-a-hundred year event could happen every year.

"The critical point is we have to get emissions turned from the upward trajectory to the downward trajectory by the end of this decade at the very latest," he said.

"We have to make investment decisions this decade to put us on that long-term trajectory that minimises the cost to our economy."

The report found that Australia, prone to bushfires, drought and cyclones, had also likely felt the impact of rising temperatures in recent years.

In the last five decades the number of record hot days in Australia had more than doubled, increasing the risk of heatwaves and bush fire weather, it said.

Chair of the Climate Commission Tim Flannery said the evidence was becoming more convincing year by year that humans were changing the climate.

"In Australia we are seeing the impacts more clearly, we've seen the [sea level rise](#) that was predicted, we've seen the decline in rainfall continue particularly in the southwest of Western Australia, we've seen impacts on the Great Barrier Reef and so forth," he told reporters.

"This is the decade we have to act."

Prime Minister Julia Gillard, who is struggling in the polls as she seeks to introduce a carbon tax to place a price on industry's production of [greenhouse gas emissions](#), seized on the report.

"We don't have time for false claims in this debate. The science is in, [climate change](#) is real," she said.

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