NewScientist

Sea levels in Bangladesh could rise twice as much as predicted

ENVIRONMENT 6 January 2020

By **Adam Vaughan**

Sea levels could rise by 140 centimetres in Bangladesh by 2100
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Bangladesh and parts of India could be hit by sea level rise almost twice as high as previously thought due to land subsiding, even if the world takes ambitious action on climate change.

level.

Now an analysis by Mélanie Becker at the University of La Rochelle, France, and her colleagues has found that parts of the Ganges–Brahmaputra–Meghna delta will experience sea level rise of up to 140 centimetres by 2100. This is far more than the rise of 34 to 74 centimetres that the UN's climate science panel predicted for the region in 2014.

The research also assumes that global carbon emissions will be cut drastically, with temperature rise limited to 1.8°C, rather than the 3°C or greater increase that the world is currently on track for – meaning the actual sea level rise could be much higher. "Unfortunately, we can suppose that the sea level rise in Bangladesh by 2100 could be higher than 100 to 140cm under a 3°C scenario," says Becker.

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Kyle Davis at the University of Delaware, who wasn't involved in the research, says the new prediction seems plausible, and climate change adaptation measures in Bangladesh should factor in the most severe impacts from warming. "These findings reinforce the urgency for climate action in order to avoid the worst climate change impacts," he says.

The international team arrived at the projections after examining 101 records for tide and stream gauges across the delta, including some in the Indian state of West Bengal. They found that water levels rose by 3 millimetres a year on average between 1968 and 2012, faster than the global sea level rise of 2 millimetres annually. Factoring in satellite records, they estimated land subsidence was at 1 to 7 millimetres a year between 1993 and 2012.

Those results were used to model a sea level rise of around 100 centimetres by 2100 across the delta, reaching as much as 140 centimetres in some areas. Worryingly, the densely populated east of the delta – which includes Dhaka, the capital of Bangladesh – is expected to be exposed to the worst sea level rise and subsequent flooding.

Journal reference: *PNAS*, DOI: 10.1073/pnas.1912921117

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