

Sea level

Sea level rise from ocean warming underestimated, scientists say

Thermal expansion of the oceans as they warm is likely to be twice as large as previously thought, according to German researchers

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Sea levels can rise due to melting ice and the expansion of water as it warms. Photograph: Alamy

The amount of sea level rise that comes from the oceans warming and expanding has been underestimated, and could be about twice as much as previously calculated, German researchers have said.

The findings in the Proceedings of the National Academy of Sciences, a peer-reviewed US journal, suggest that increasingly severe storm surges could be anticipated as a result.



World's oceans warming at increasingly faster rate, new study finds

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Sea level can mount due to two factors - [melting ice](#) and the thermal expansion of water as it warms.

Until now, researchers have believed the oceans rose between 0.7 to 1mm per year due to thermal expansion.

But a fresh look at the latest satellite data from 2002 to 2014 shows [the seas are expanding](#) about 1.4mm a year, said the study.

“To date, we have underestimated how much the heat-related expansion of the water mass in the oceans contributes to a global rise in sea level,” said co-author Jurgen Kusche, a professor at the University of Bonn.

The overall sea level rise rate is about 2.74mm per year, combining both thermal expansion and melting ice.

Sea level rise was also found to vary substantially from place to place, with the rate around the Philippines “five times the global rate.”

Meanwhile, sea level on the US west coast is largely stable because there is hardly any ocean warming in that area, said the findings.

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