

Uncertainty about sea levels to last 10 more years, experts say

April 16 2014, by Tamara Hunter



A new study published in the international journal *Nature Communications* has revealed how Western Australia's sea levels will rise into the next century, according to a team of researchers including UWA's Research Assistant Professor Ivan Haigh (now at Southampton University) and Winthrop Professor Chari Pattiaratchi.

An international team of scientists from The University of Western Australia, Southampton University, Australian National University, University of Siegen, University of South Florida and Florida International University analysed data from 10 long-term sea level monitoring stations located around the world, including Fremantle.

The study team concluded that sea level rise is one of the most certain consequences of climate change and that there has been a sustained increase in the global mean sea level over the 20th Century and early 21st Century.

At Fremantle, the sea level has been rising at 1.54 millimeters per year over the past 115 years and climate models indicate that this rate could accelerate over time.

"There is some debate whether there is acceleration in the mean sea level rise" said Dr Ivan Haigh. "Some researchers believe that [sea level rise](#) is currently accelerating, some suggest the rate is holding steady, while others say it's decelerating. In this study, we examined historical data to identify the timing at which accelerations might first be recognized in a significant manner".

"The measured sea levels comprise of a variety of processes operating at different time scales," said Professor Pattiaratchi. "These range from periods of a few hours to decades. For example, the longest tidal period is 18.6 years which has a strong influence on the mean sea levels in south-west Australia. However, there is also a strong inter-annual to multi-decadal variability in [sea level](#) records. These processes introduce a lot of 'noise' into the record and detection of the acceleration is obscured."

The study concluded that accelerations in the mean sea levels, significantly different to current values, are unlikely to be detected in individual tide gage records until later this decade or early next decade.

Provided by University of Western Australia

Citation: Uncertainty about sea levels to last 10 more years, experts say (2014, April 16) retrieved 18 April 2024 from <https://phys.org/news/2014-04-uncertainty-sea-years-experts.html>

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