Predicting future for beaches

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Close watch ... researchers in action at Collaroy Beach

Researchers have begun a project to create the first global tool to forecast how changes in wave patterns and rising sea levels will affect Australian beach erosion.

The three-year project will monitor 10 sites on the NSW coast to build a computer model that will enable prediction of wave and sea level impacts on beaches anywhere in the world.

Surveying has begun at Collaroy-Narrabeen beach, with environmental engineers from the UNSW Water Research Laboratory (WRL) using equipment mounted on quadbikes, jetskis and aircraft, plus cameras and buoys to measure the height, power and impact of waves. Other survey sites are: Lennox Head, Sawtell, Dixon Park at Newcastle, Wamberal, Terrigal, Manly, Wanda Beach at Cronulla, Thirroul and Shoalhaven.

Acting WRL Director, Associate Professor Ian Turner, said it may emerge that for the next few decades, wave activity will be a bigger factor in erosion at many beaches than sea level rise.

"The idea is to be able to make sensible forecasts about beach erosion impacts by the middle of the century," Associate Professor Turner said.

Associate Professor Turner said scientists had no accurate predictions at present of how the combination of changing wave patterns and rising sea levels will affect beach erosion. Planning decisions allowing building in the wrong place, rather than rising sea levels, were more likely to be the cause of erosion occurring in some NSW areas at present, he said.

"There is absolutely no question that on the NSW coast we have experienced rising sea levels because we have a very good network of tide gauges. There's been a rise of 9cm in the past 30 years," he said.

"Over the 35 years that beach monitoring has been done at the one site at Narrabeen there has been a lot of erosion but there is no indication that the sea level rise is changing that yet, because we haven't seen an acceleration in erosion rates. With shifting wave patterns we expect we will see changes and we're now monitoring multiple sites for the first time, to investigate how big those changes will be."

Provided by University of New South Wales