

# Sydney storm: East coast lows to become fewer but more intense, scientists say

Peter Hannam June 6, 2016, 4:55 p.m.





Events like this weekend's super storm that smashed into eastern Australia are likely to become fewer in frequency in a warming world but pack more intensity when they hit, climate scientists say.

The damaging event came just a month after the NSW government announced increased funds and a new coastal management bill to require councils and residents to prepare for emerging threats.

The source of the wild winds, heavy rain and coastal erosion was an east coast low. Such storms are typical at this time of year, with as many as eight such lows a year.

Karl Braganza, head of climate monitoring at the Bureau of Meteorology, said climate models

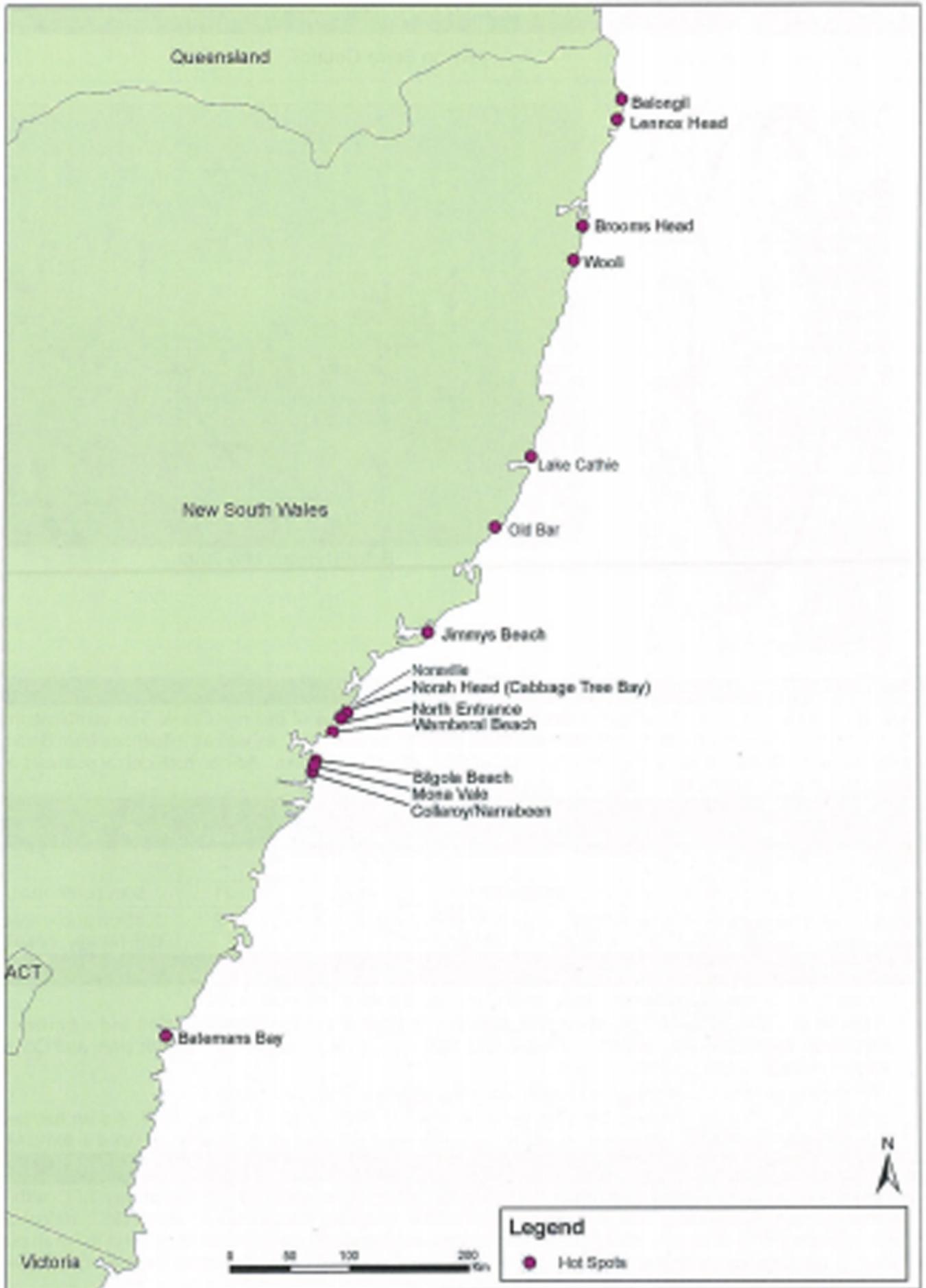
estimate the number of such lows may decrease by 25 per cent or more by the end of the century, particularly in winter.

"You might have more energy for storms from warmer sea-surface temperatures but the atmosphere is becoming a little more stable, so we'll have fewer storms forming," Dr Braganza said.

"The proportion of storms that have heavy rainfall is expected to go up – and that's for all storms, not just east coast lows."

The Baird government last month released details of its second stage of coastal reforms. Planning Minister Rob Stokes, whose Pittwater constituency was hard hit by the weekend storms, had made the changes a priority, bringing them across from his former role as environment minister.

The Office of Environment has identified 15 "hotspots" of coastal erosion risk in the state. (See chart below.)



The new coastal management bill replaces a 1979 act that has been left behind by the science and increasing legal complexity, the government said.

"The problem is that you have to identify risks in order to resolve them - and we've just seen some good examples of why we need to know where they are," Mr Stokes told Fairfax Media.

He said many studies had been conducted over the years but little done to fix "wicked problems" involving people's homes exposed on the coast. "In many cases, we've know what to do do but the debates about funding have not been resolved until now," he said, adding that councils will be given the primary role from now on.

Among the changes are the creation of a NSW Coastal Council to advise the Planning Minister on issues, and a new definition of the coastal zone to identify both the areas where development is appropriate and where it should be avoided, such as in vulnerable wetlands and rainforests or hazardous areas.

In what the government claims is a world leading approach, offshore sand and other sediment buffers will be taken into account so that councils will also have to work together. Councils will be able to tap \$83.6 million over five years of funding to reduce coastal risks but in exchange, their programs will be closely audited.

The impact of the latest storms was made worse by the rising sea levels. Over the past century sea levels have risen about 21cm globally as a warming world has melted glaciers and also swollen the world's oceans, and are likely to continue to rise, Dr Braganza said.

David Rissik, deputy director of the National Climate Change Adaptation Research Facility, said the public had a range of tools to model sea-level rise, but that alone will not be enough.

"You've also got to take into account the wave heights and the winds that drove [the weekend's storms]," Dr Rissik said.

Decision makers had to work with the broader community to determine what risks they needed to bear. "But we also need to stop building in the wrong areas," he said.