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Assessing the impact of rising sea levels in the Southeast Australia

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Rising sea levels pose a major threat to coastal communities particularly with regards to the potential inundation caused during storm surge events. Therefore understanding the present risk of extreme sea level and how this will change in the future is an essential first step to identifying potential impacts at the coast. The first part of this talk describes the method used and modelling undertaken to develop spatially continuous sea level return periods along the coastline of Victoria in southeastern Australia. Combined with recent LIDAR surveys of coastal elevation and various forms of spatial data, this information is used to assess the potential impact of mean sea level rise and changes in the meteorological forcing on extreme sea levels and to identify assets at risk from inundation now and into the future. The second part of the talk will briefly describe progress towards refining extreme sea level estimates to include other processes such as wave setup. This involves incorporating the wave radiation stress forcing from a wave model into the hydrodynamic model to allow the simulation of wave setup along different stretches of coastline in southeast Australia under a range of meteorological forcing conditions.