

Variability of Sea Level around New Zealand
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New Zealand forms a 1500 km long north/south barrier to the circumpolar westerlies that the old sailors called the “roaring forties”. It is also a barrier to tides sweeping around the Southern Ocean, and is directly in the path of tsunami generated on the Pacific coast of South America. The resulting variability in sea levels observed at the coast is remarkable. A network of 16 open-coast, sea-level recorders has been established and observations from this network, along with hydrodynamic models are being used to develop an understanding of the variability. The ultimate aim of this work is forecasting, both for mitigation of hazards (coastal inundation, oil spills, etc) and for resource assessment for aquaculture (huge mussel farms of > 10,000 ha are being built around the coast). The talk will cover tides, storm surges, seiche, and tsunami, including the response of the ocean around New Zealand to the Peru tsunami of 23-Jun-2001.

Dr Derek Goring is Principal Scientist of the Coastal Hydrodynamics Group at the Christchurch campus of NIWA (National Institute of Water and Atmospheric Research). He graduated BE(Civil) (Hons) from University of Canterbury (NZ) in 1969, and MS(Environmental Engineering Science) in 1975 and PhD (Civil Engineering) in 1978 from California Institute of Technology. His thesis topic was tsunami propagation. Derek has worked in coastal, river and eco hydraulics research since graduation. Present interests include coastal oceanography in NZ and Antarctica, flow-biota interactions in rivers, and application of new time-series analysis techniques to analysis of environmental data.