

Sea Level Change in New Zealand – Spatial Impacts from a Surveyor’s Perspective

John Hannah

School of Surveying
University of Otago, Dunedin, New Zealand
Phone: +64 3 479-9010 Fax: +64 3 479-7586
Email: john.hannah@surveying.otago.ac.nz

**Presented at SIRC 2007 – The 19th Annual Colloquium of the Spatial Information Research Centre
University of Otago, Dunedin, New Zealand
December 6th-7th 2007**

ABSTRACT

The first comprehensive analysis of long-term sea level change in New Zealand was completed in 1990. That analysis revealed an average rise in sea levels around the New Zealand coastline of 1.7 mm/yr since 1900. A more recent analysis, completed in 2003, gave a revised figure for the average rate of 1.6 mm/yr – a figure that was neither significantly different from the earlier estimate nor significantly different from the best global estimates of sea level rise. Until now the apparent spatial impacts of this rise, at least as seen by the New Zealand public, have been very limited. For the surveyor, however, rising sea levels create a number of problems some of which are not widely recognised. These include the need to redefine some coastal cadastral boundaries, the need to upgrade and redefine vertical reference systems, and the need to take much greater care in designing coastal subdivisions. This paper discusses these issues. It begins by outlining how the long term estimates in sea level rise are obtained and describing the spatial impacts that result. It discusses the very real problems that exist in defining coastal zone boundaries and then concludes by giving a longer term view of likely future sea level change in New Zealand.

Keywords and phrases: sea level rise, coastal zone management, coastal boundaries