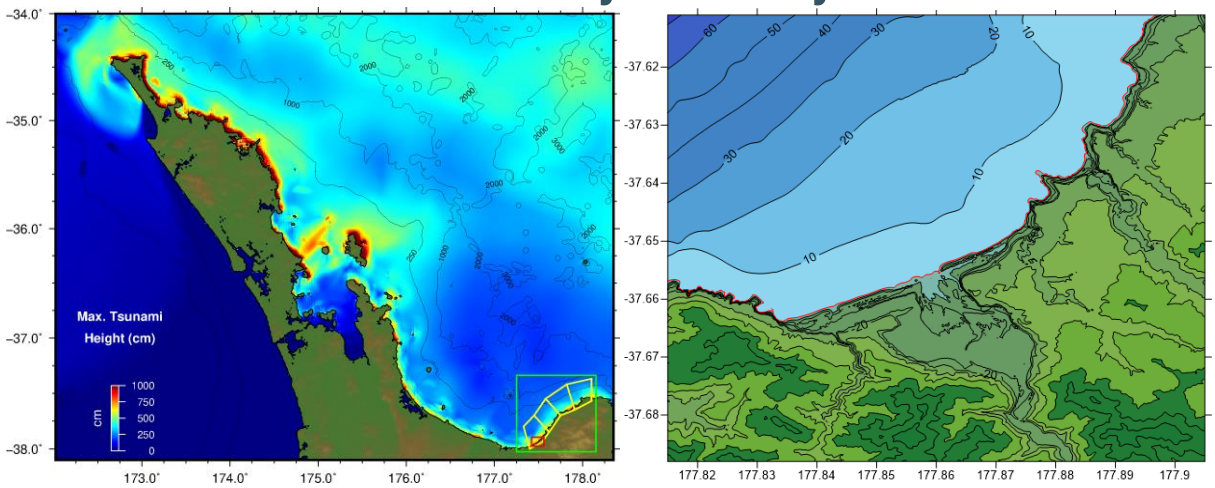
Probabilistic Tsunami Inundation Assessment of Far Eastern Bay of Plenty



Left – Maximum computed Tsunami height in the A grid for a maximum credible tsunami event in the Far Eastern Bay of Plenty. Right-The Papatea Bay model grid at MSL

INFO:

Location: Far Eastern Bay of Plenty, New Zealand

Client: Bay of Plenty Regional Council

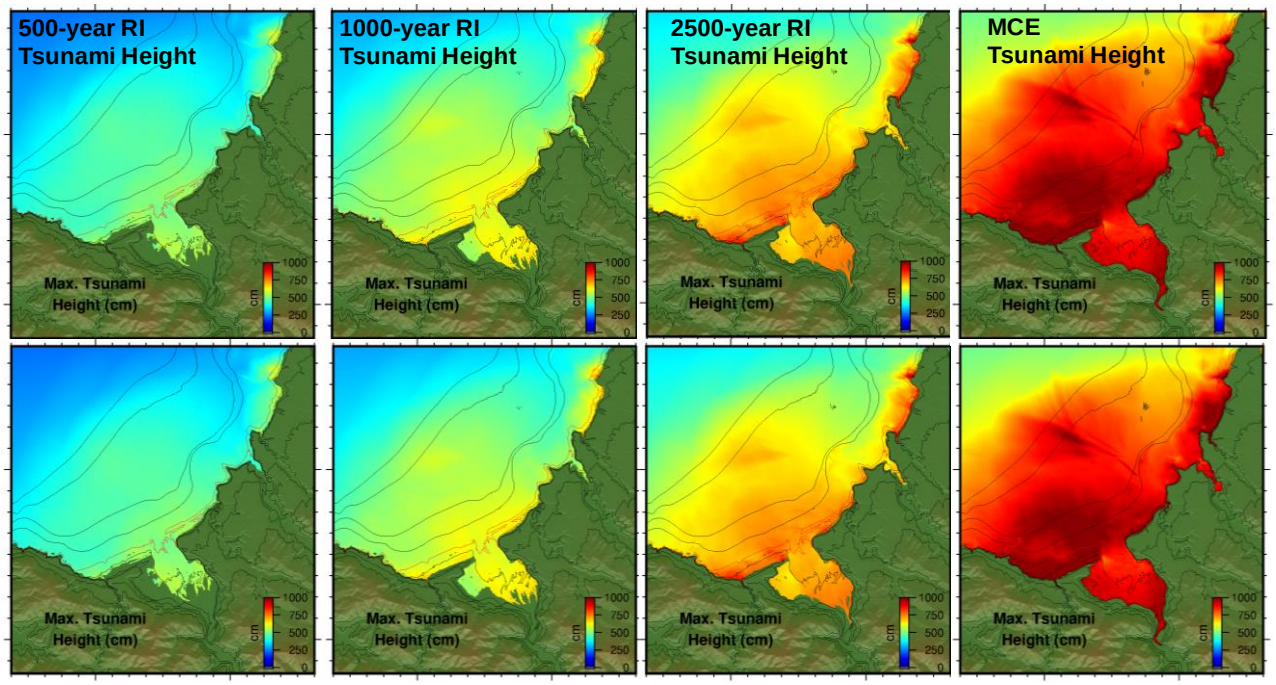
Project Date: 2019

SCOPE OF SERVICES:

- Literature Review, Historical Analysis
- Numerical Modelling
- Validation of comMIT Tsunami Model
- Recurrence Interval Analysis
- Detailed Inundation Assessment

PROJECT DESCRIPTION:

The objective of this study was to identify areas in the Far Eastern Bay of Plenty District susceptible to tsunami inundation hazard. Outputs from this study would be used to set the tsunami hazard context across the Far Eastern Bay of Plenty. This study focuses on seven areas: Torere, Motu, Omaio, Te Kaha, Whanarua Bay, Papatea Bay and Cape Runaway. For each of these areas we determined the inundation extents for four different probability levels based on the National Tsunami Hazard Model of Power (2013). The outputs from this study were mapped overlays of tsunami height, tsunami current speed, overland flow depth and overland flow speed. These layers will be used as input data for future tsunami risk assessments. The model scenarios were assessed at two water levels with allowance for sea level rise. The numerical modelling presented in this study was carried out using the Community Model Interface for Tsunamis (ComMIT) numerical modelling tool.



Model results of Papatea MHWS (top) and MHWS+SLR (right).