

4.15. Dargaville/Ruawai

LiDAR data were not available for the Dargaville/Ruawai region, and a digital elevation model (DEM) was used to generate the topography for the area. The heights and depths in the DEM were manually corrected to approximate the actual topography; however, the results are less accurate than those for areas with LiDAR coverage, and the modelling results are therefore more uncertain.

The modelling results predicted no inundation of Dargaville. The results presented in this report, therefore, show the extent of inundation at Ruawai.

Maps of inundation for Ruawai are presented in Figures 82-87. The South American tsunami is predicted to flood the settlement of Ruawai and the section of coast south, including Burgess Island, to depths of up to 2 m. Current velocities do not exceed 1 m s^{-1} . Sea level rise has further minor impacts on the extent of the predicted inundation.

The extent of the inundation from the TKSZ $M_w 8.5$ event is slightly less than from the South American tsunami, although current velocities remain similar off the western coast. Inundation from the TKSZ $M_w 9.0$ event is very similar to that from the South American tsunami in terms of extent and depth, but water speeds off the coast of North Head reach over 2.5 m s^{-1} . Sea level rise is predicted to have little further effect on the extent of the inundation.

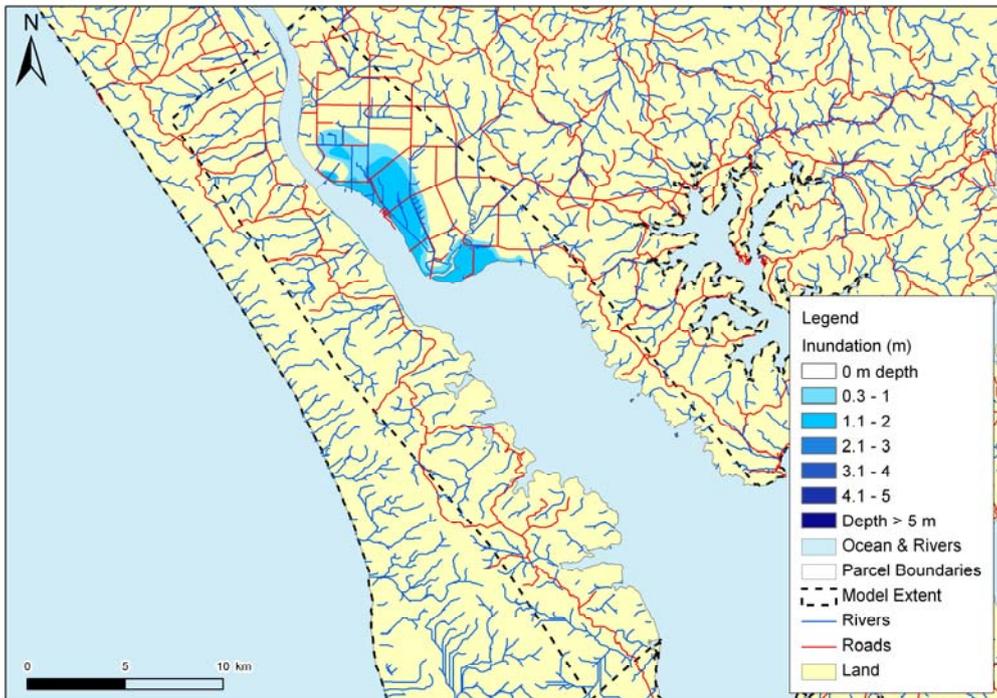
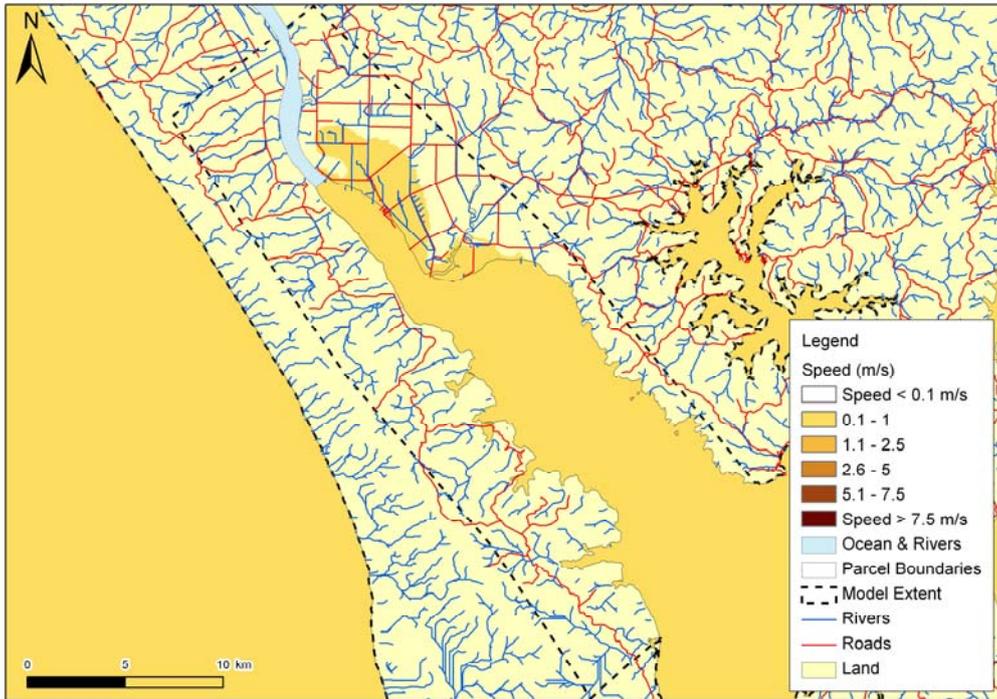


Figure 82: Ruawai: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS (to extent of LiDAR).

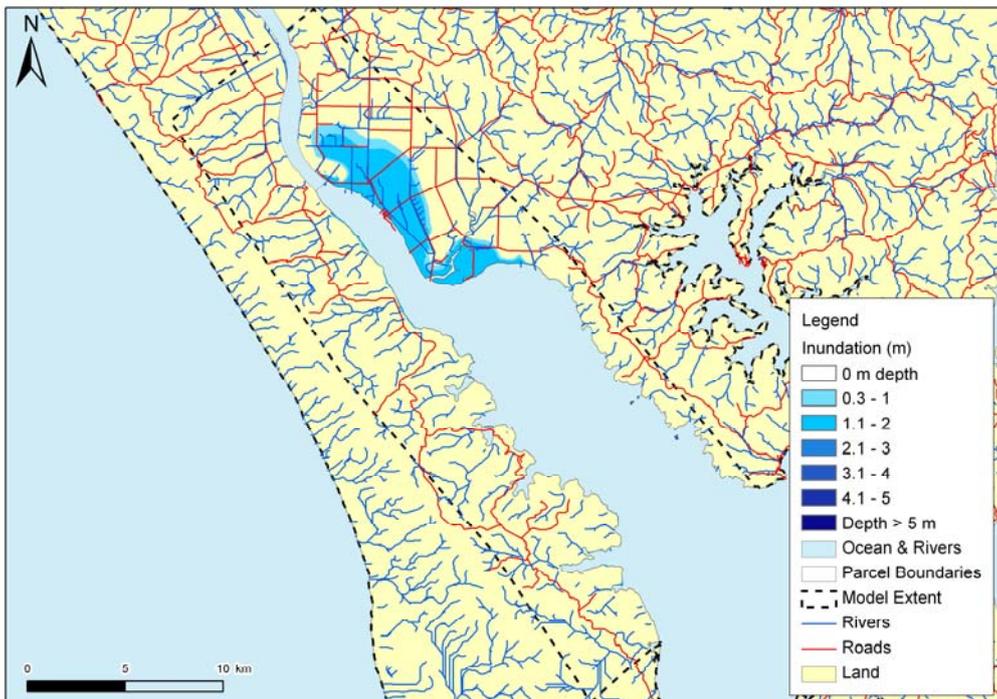
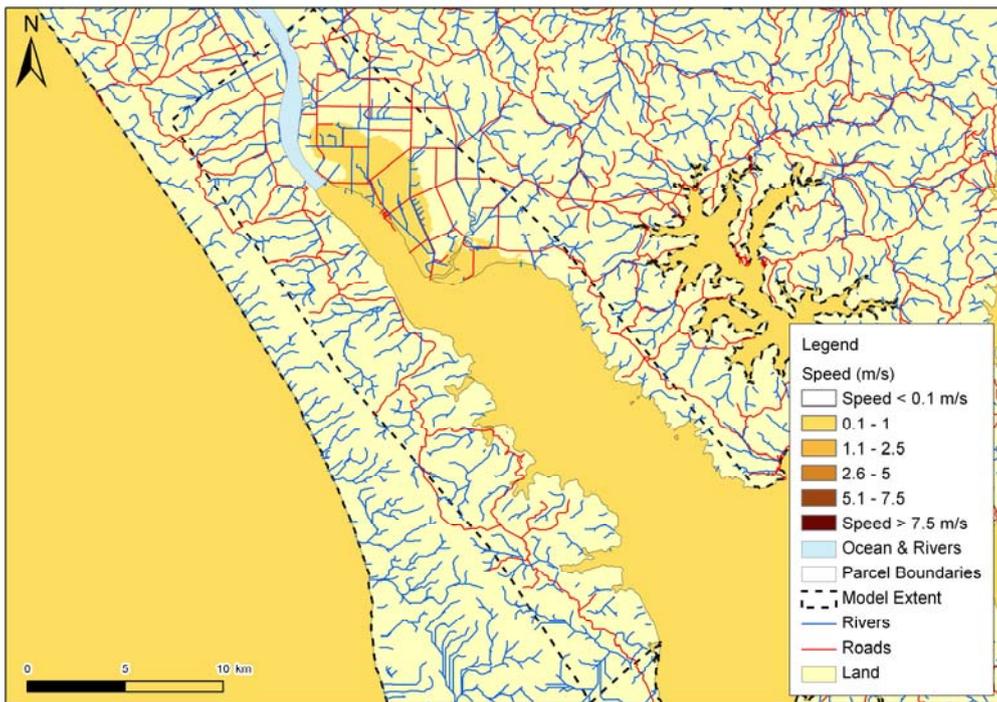


Figure 83: Ruawai: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS + 50cm (to extent of LiDAR).

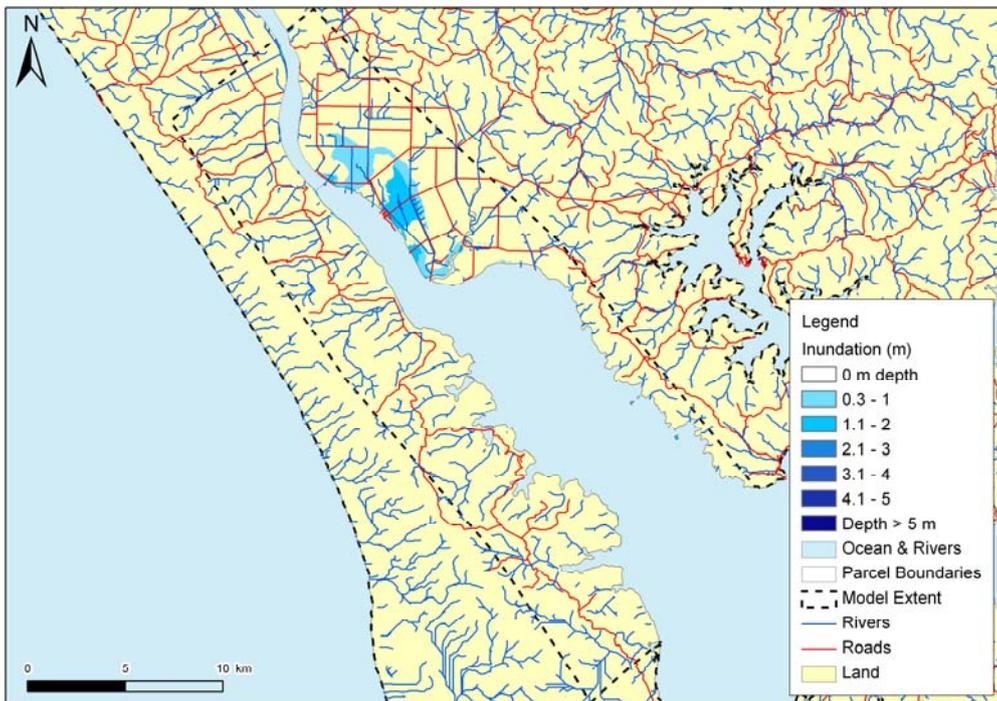
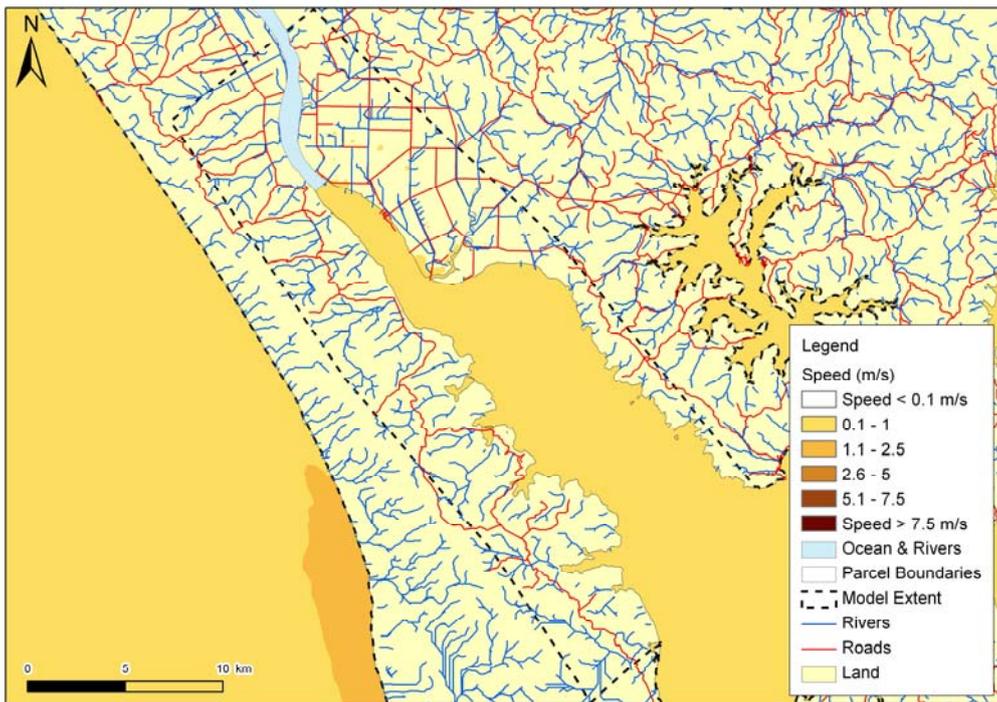


Figure 84: Ruawai: Maximum inundation speed (upper) and depth (lower) plots for the Mw8.5 Tonga-Kermadec subduction zone scenario at MHWS (to extent of LiDAR).

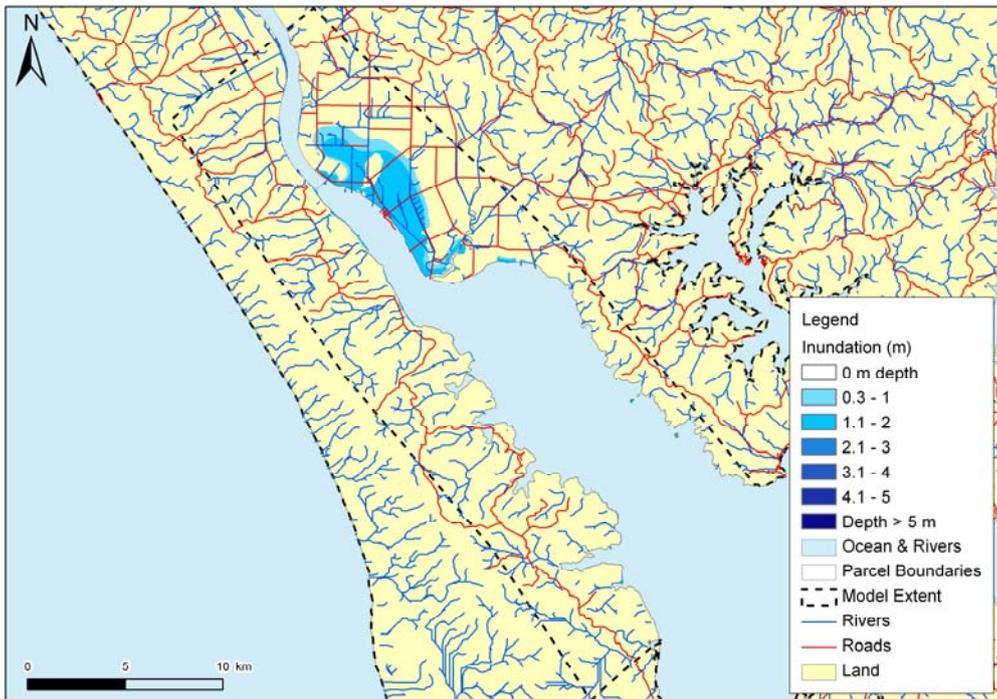
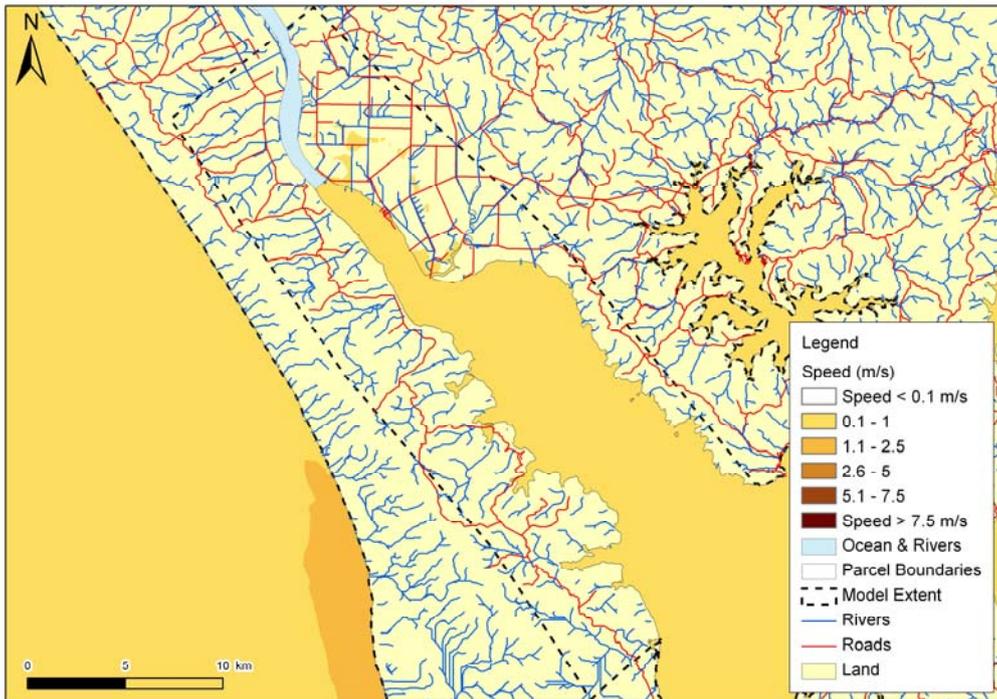


Figure 85: Ruawai: Maximum inundation speed (upper) and depth (lower) plots for the Mw8.5 Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LiDAR).

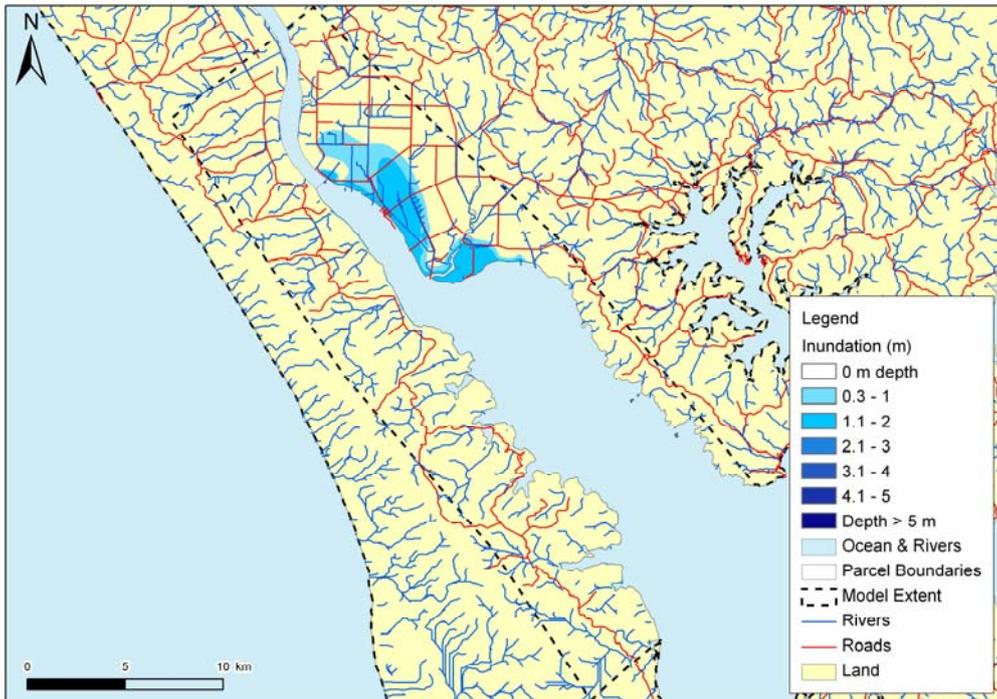
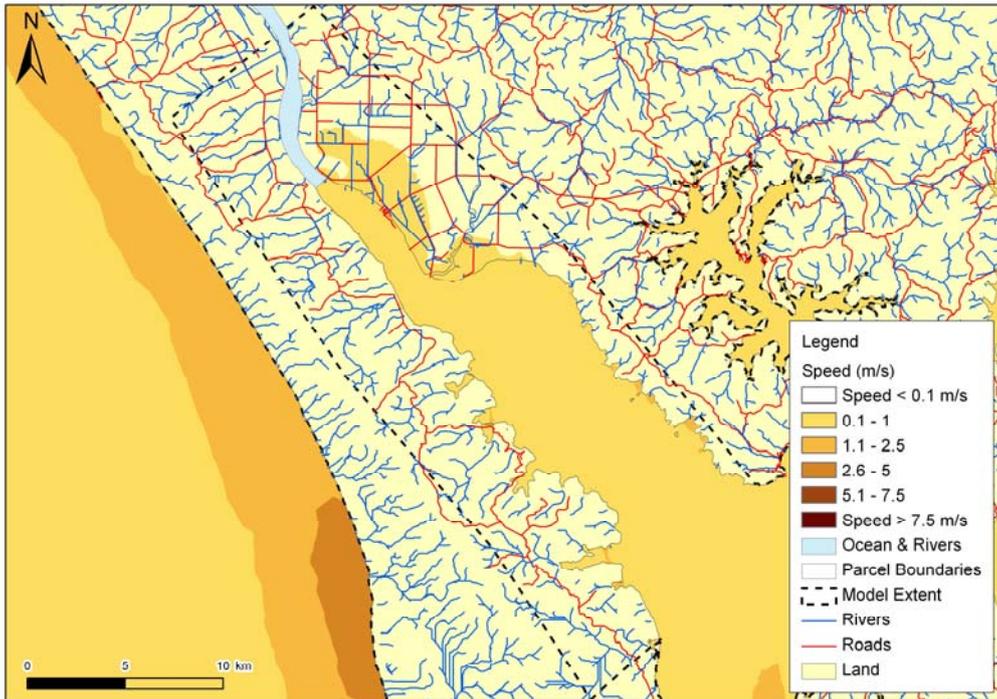


Figure 86: Ruawai: Maximum inundation speed (upper) and depth (lower) plots for the Mw9.0 Tonga-Kermadec subduction zone scenario at MHWS (to extent of LiDAR).

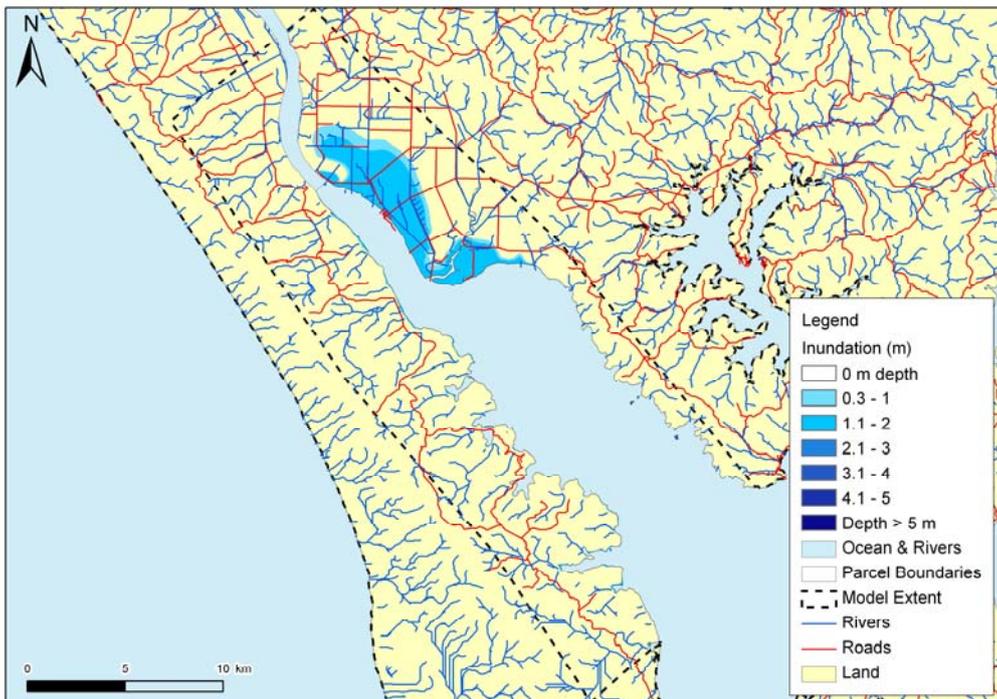
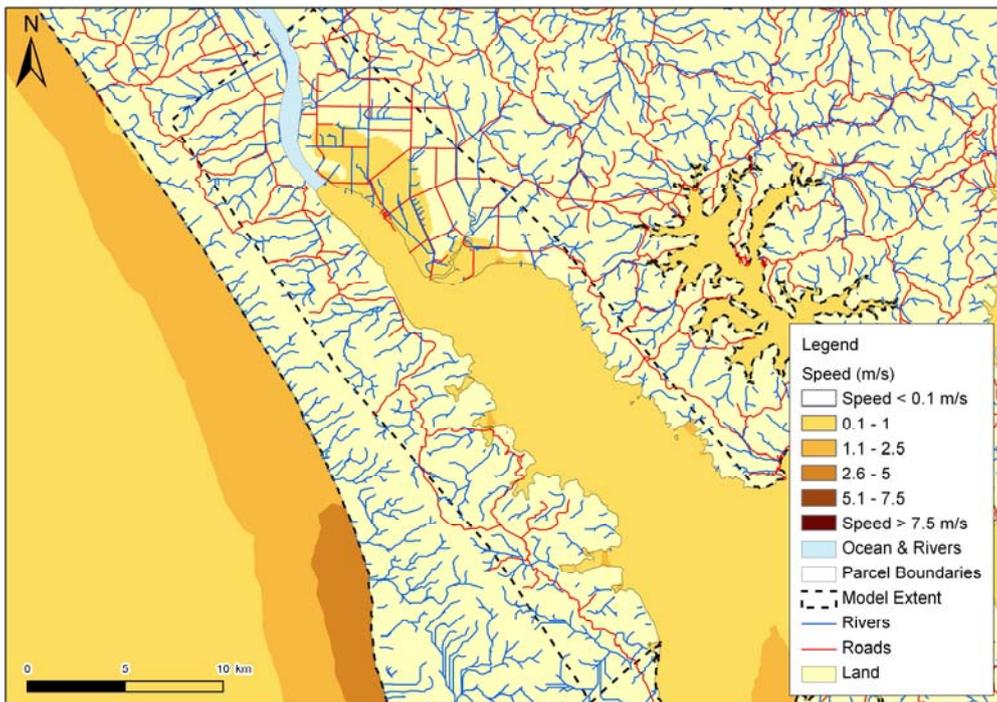


Figure 87: Ruawai: Maximum inundation speed (upper) and depth (lower) plots for the $M_w9.0$ Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LiDAR).