4.4. Marsden Point

Maps of predicted inundation depth and maximum current speed for Marsden Point are presented in Figures 16-21. The South American tsunami leads to inundation at Marsden bay and Cove extending half a kilometre inshore. Some inundation is also predicted along the west coast of the headland. Inundation increases in depth and extends up to a kilometre inshore when sea level rise is included.

Predicted inundation is more limited for the TKSZ M_w8.5 event, with some incursion at the eastern end of Marsden Cove. The TKSZ M_w9.0 event results in greater inundation at the western end of Marsden Cove, but still less than predicted for the South American tsunami. Maximum velocities for all these events are relatively small, typically of the order of 1 m s^{-1} close to the shore.

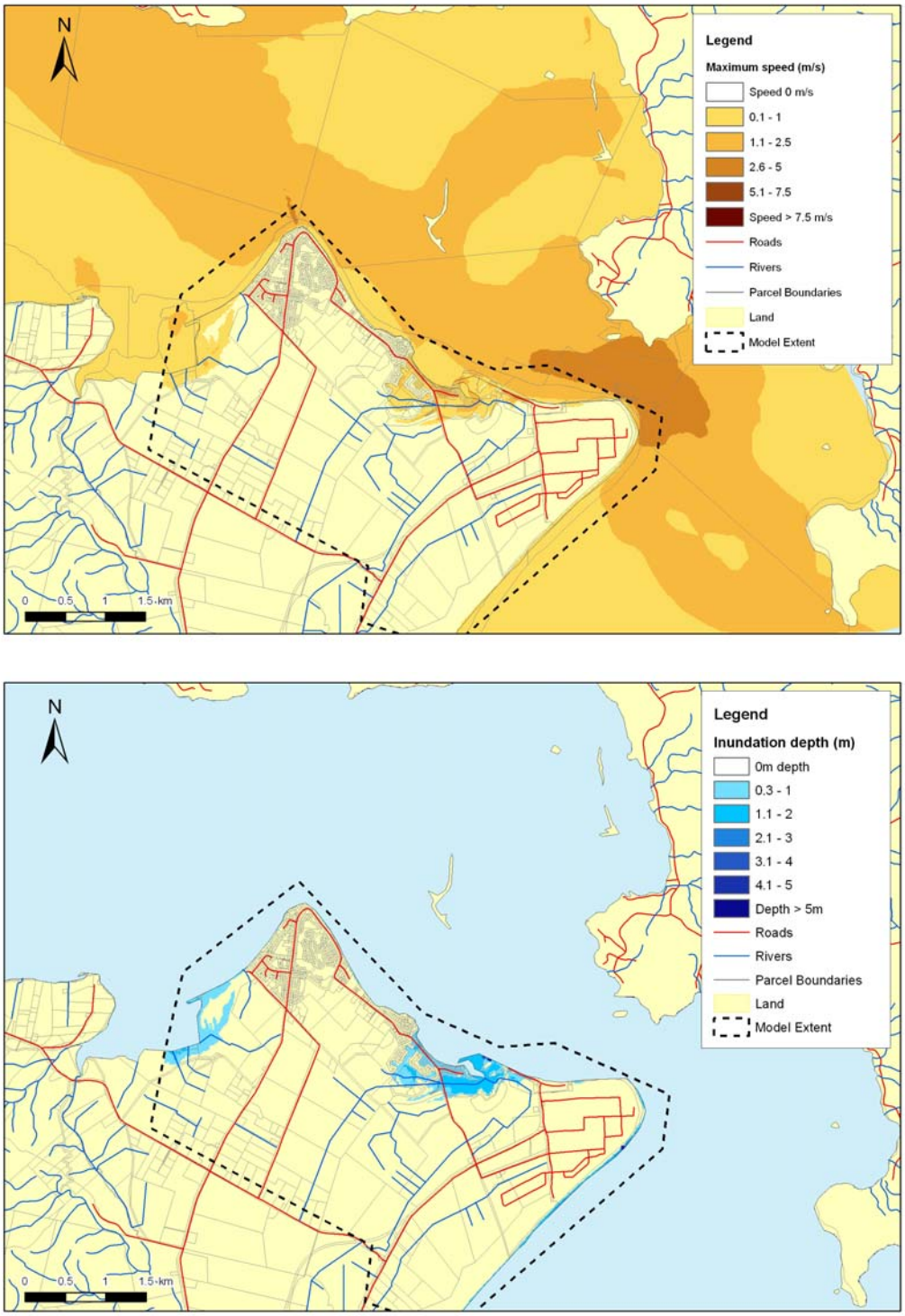

Figure 16: Marsden Point: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS (to extent of LIDAR).

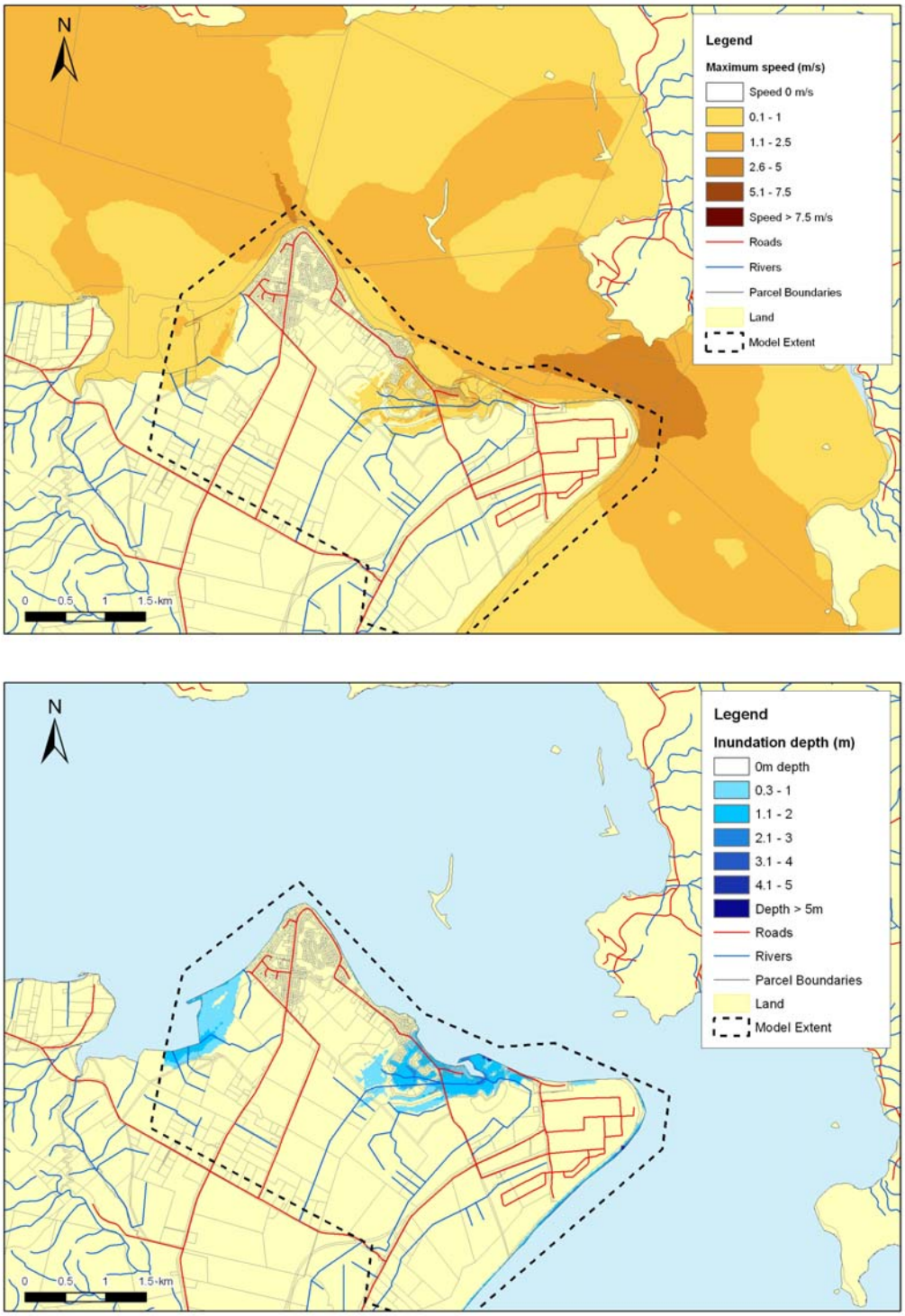

Figure 17: Marsden Point: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS + 50cm (to extent of LIDAR).

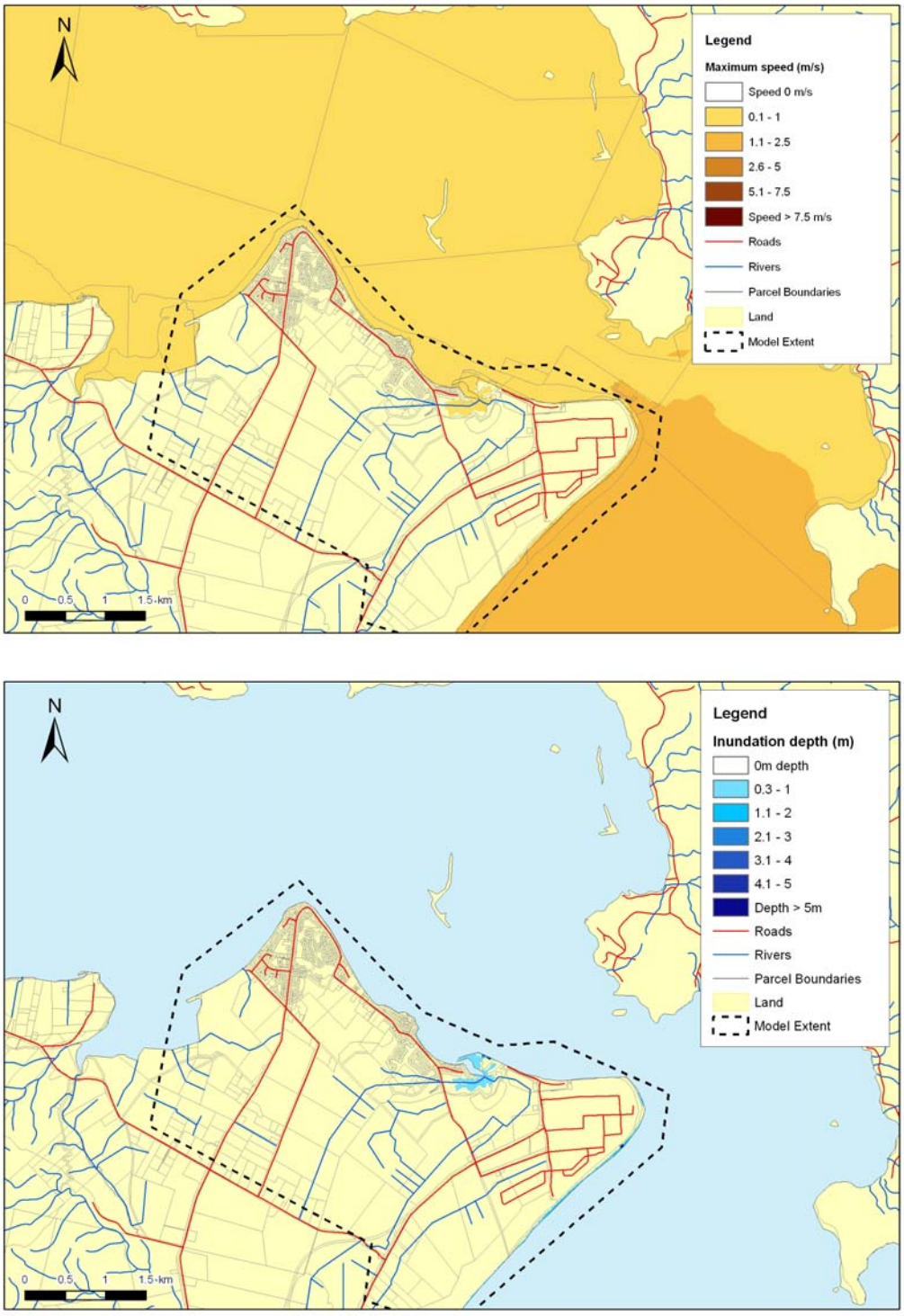

Figure 18: Marsden Point: Maximum inundation speed (upper) and depth (lower) plots for the M_w8.5 Tonga-Kermadec subduction zone scenario at MHWS (to extent of LIDAR).

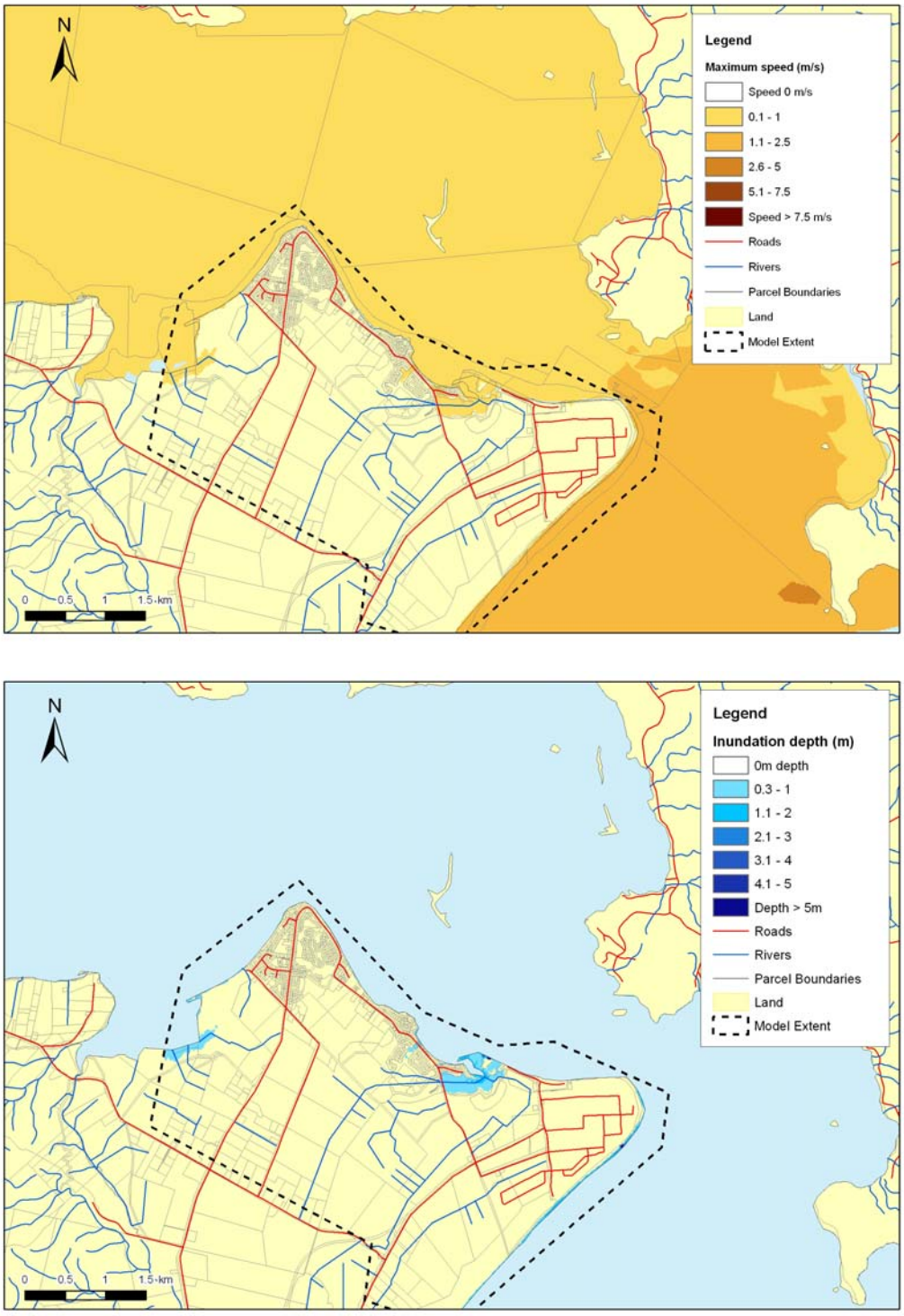

Figure 19: Marsden Point: Maximum inundation speed (upper) and depth (lower) plots for the M_w8.5 Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LIDAR).

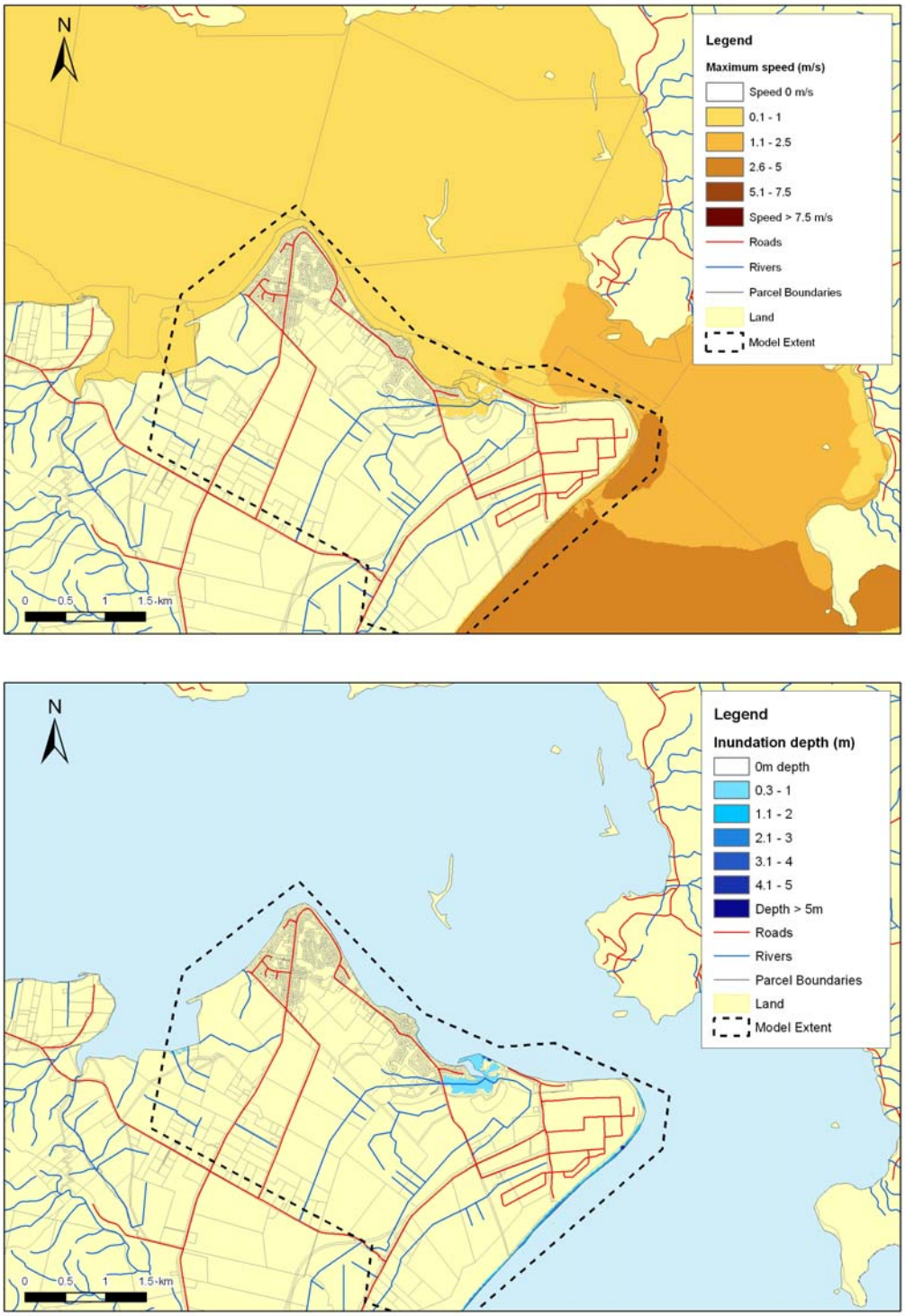

Figure 20: Marsden Point: Maximum inundation speed (upper) and depth (lower) plots for the M_w9.0 Tonga-Kermadec subduction zone scenario at MHWS (to extent of LIDAR).

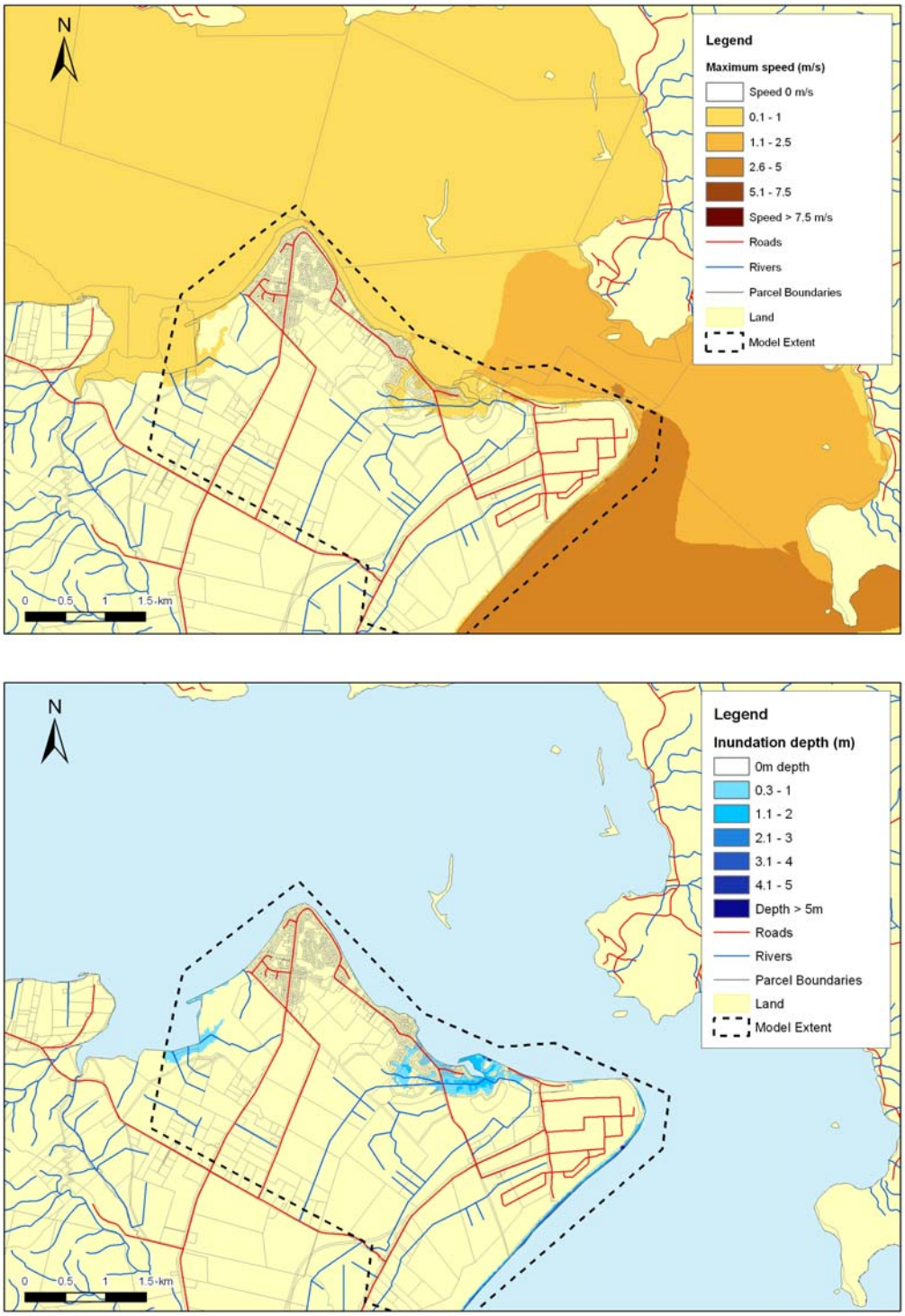

Figure 21: Marsden Point: Maximum inundation speed (upper) and depth (lower) plots for the M_w9.0 Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LIDAR).