

4.10. Langs Beach, Bream Bay

Predicted inundation depth and maximum current speed for Langs Beach are presented in Figures 52-57. The South American tsunami causes little inundation along Langs Beach, both at MHWS and at MHWS + 50cm. Current speeds peak at about 1 m s^{-1} to the north-west of the beach.

Inundation from the TKSZ $M_w 8.5$ event in Langs Beach is predicted to be minor, with only small areas along the front of the beach flooding to depths of up to 1 m. Current speeds only exceed 1 m s^{-1} to the north west of the beach. With sea level rise included, the extent of the inundation is only slightly increased, to include the inundation of south areas of the beach. Current speeds exceed 1 m s^{-1} at either end of McKenzie Cove. The TKSZ $M_w 9.0$ scenario sees a much greater extent of inundation along the front of the beach, flooding the main road in the centre of the cove and following the river channels. Depths reach 4 m to the north end of the beach. Maximum water speeds are $1\text{-}2.5 \text{ m s}^{-1}$ across the cove, reaching over 2.5 m s^{-1} to the south. Inundation extent and water speeds are only marginally increased with sea level rise.

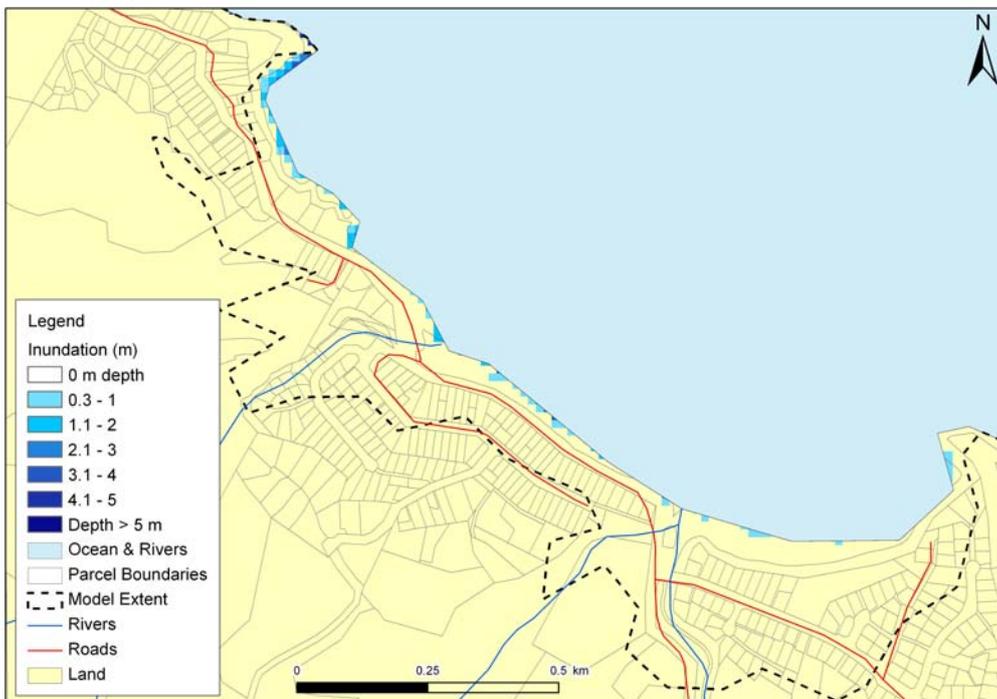
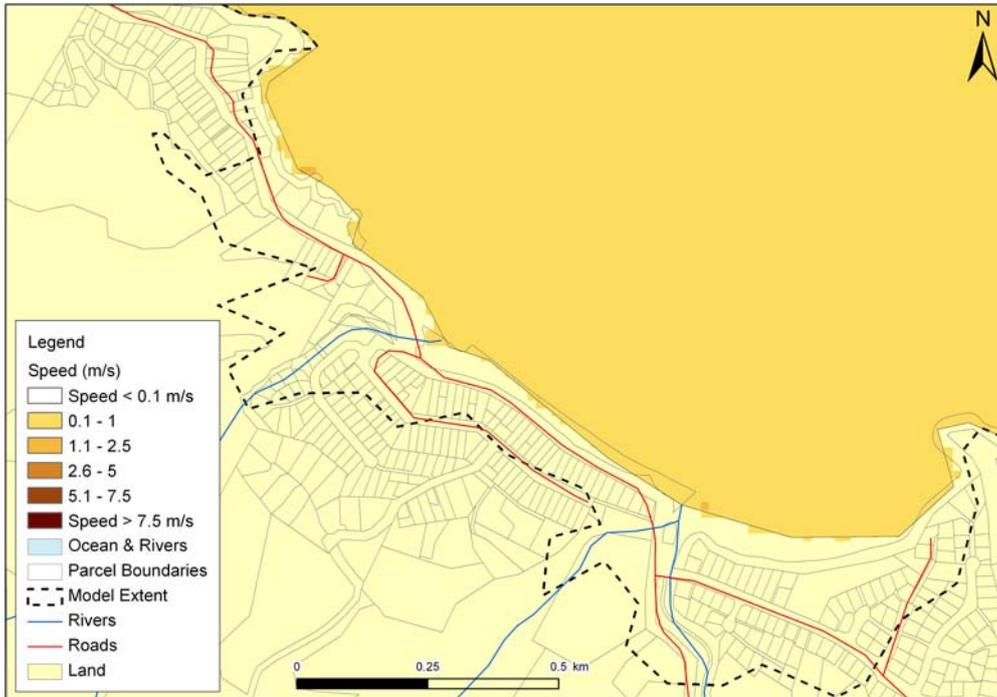


Figure 52: Langs Beach, Bream Bay: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS (to extent of LiDAR).

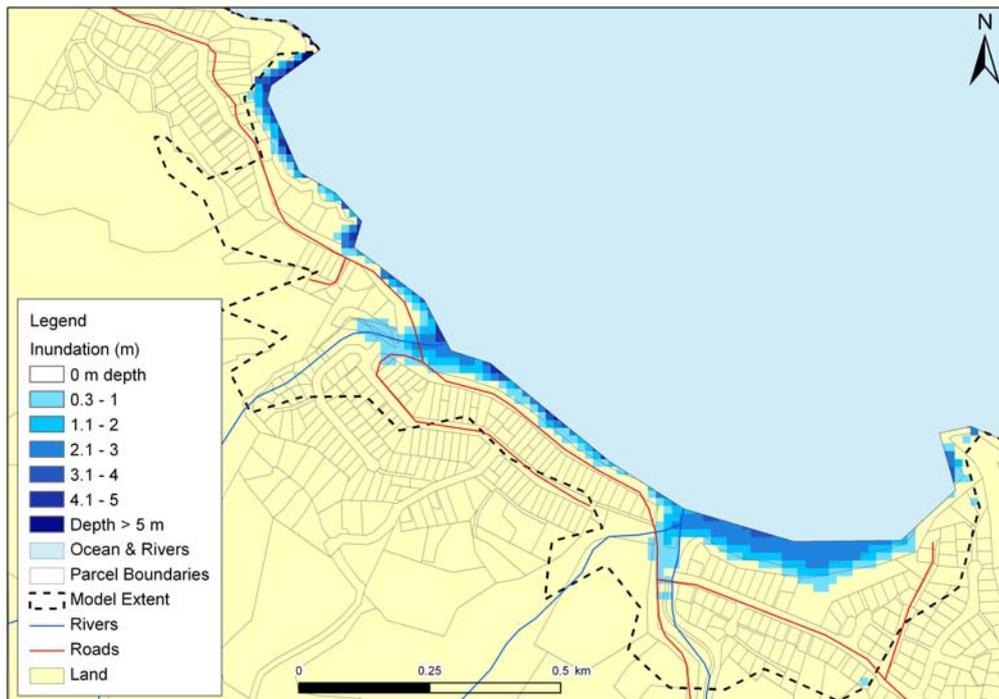
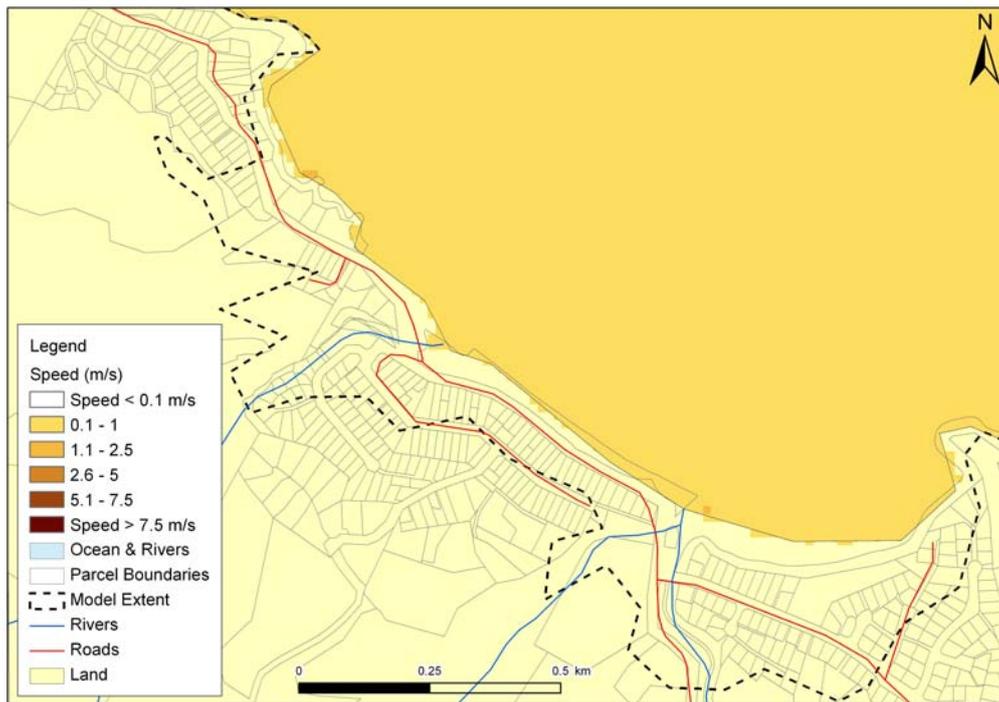


Figure 53: Langs Beach, Bream Bay: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS + 50cm (to extent of LiDAR).

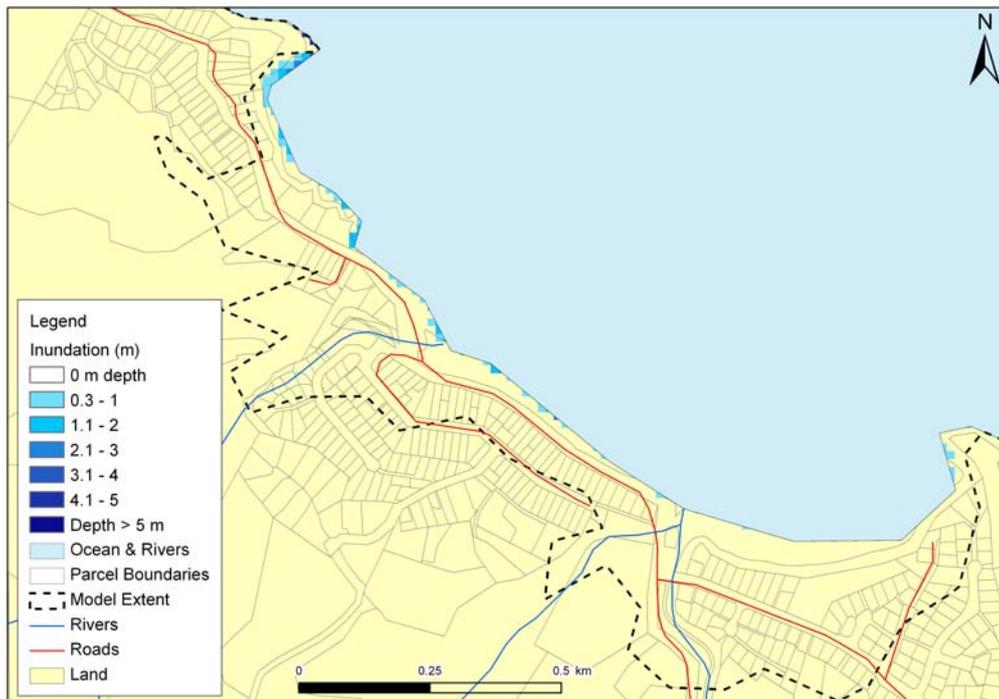
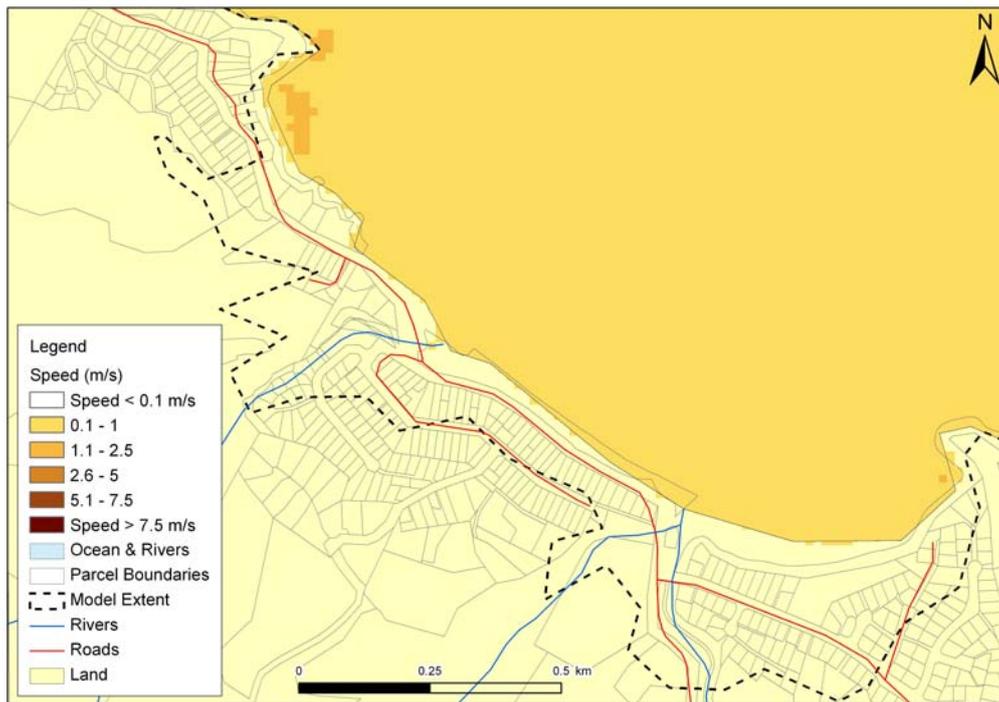


Figure 54: Langs Beach, Bream Bay: Maximum inundation speed (upper) and depth (lower) plots for the Mw8.5 Tonga-Kermadec subduction zone scenario at MHWS (to extent of LiDAR).

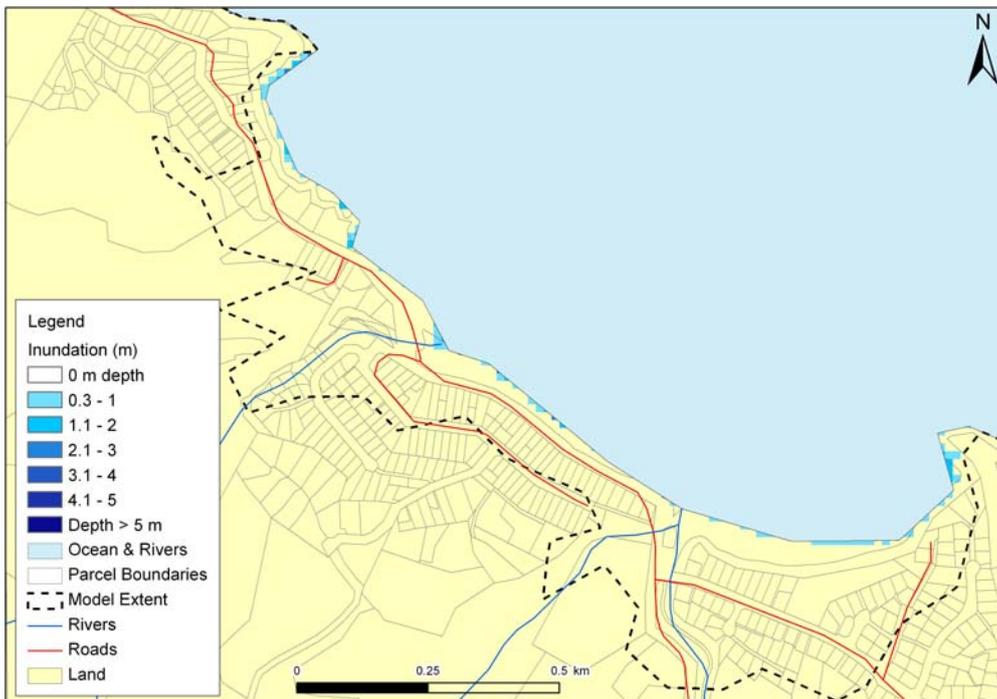
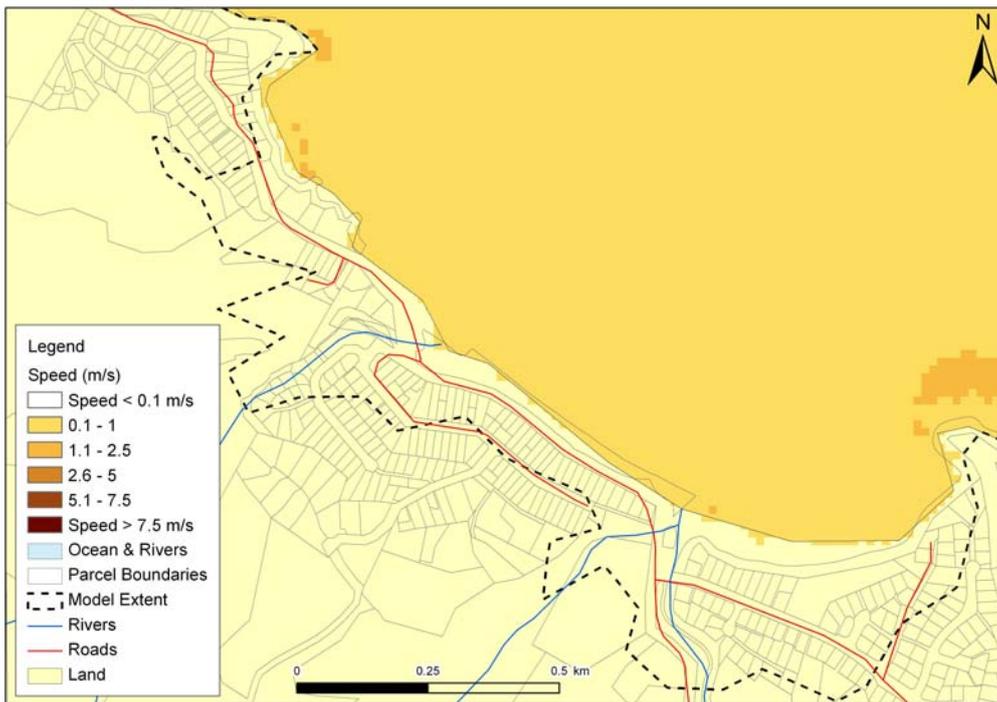


Figure 55: Langs Beach, Bream Bay: Maximum inundation speed (upper) and depth (lower) plots for the Mw8.5 Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LiDAR).

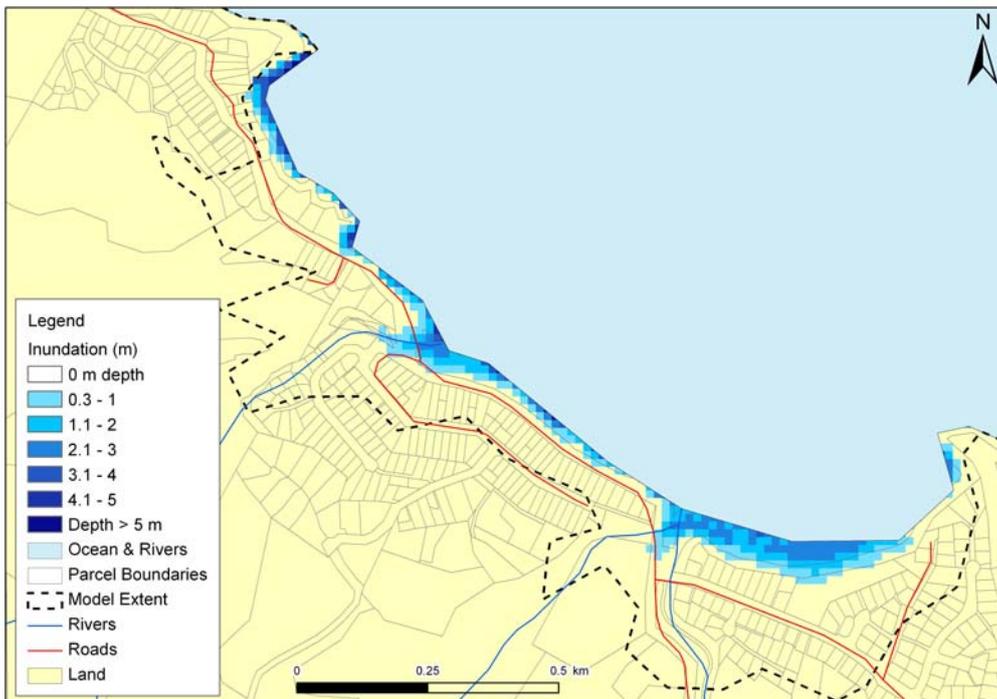
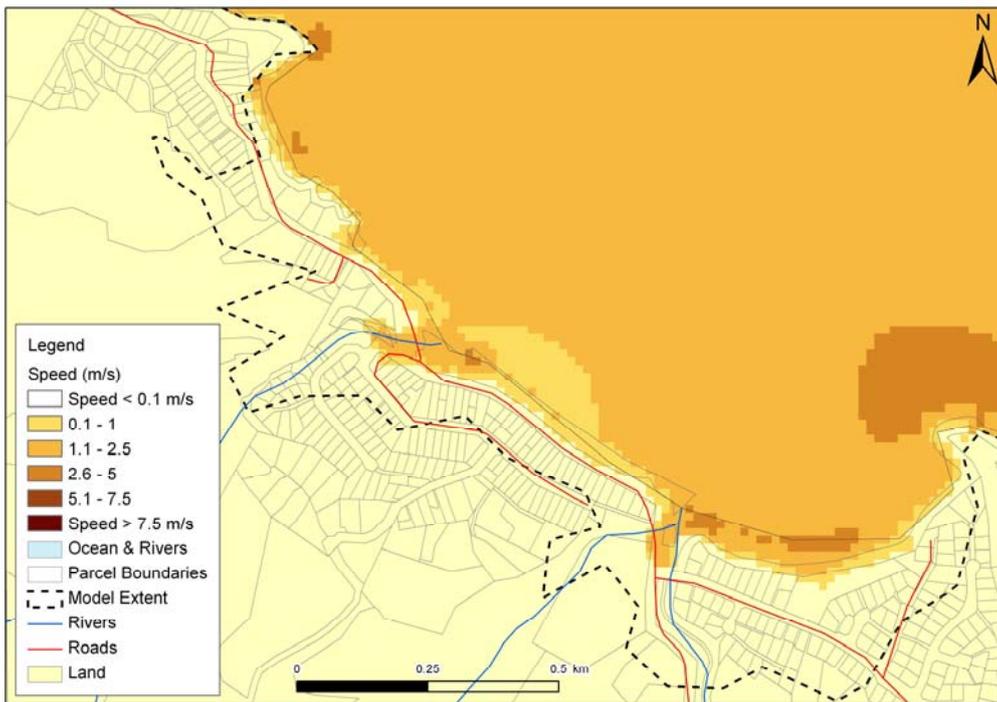


Figure 56: Langs Beach, Bream Bay: Maximum inundation speed (upper) and depth (lower) plots for the Mw9.0 Tonga-Kermadec subduction zone scenario at MHWS (to extent of LiDAR).

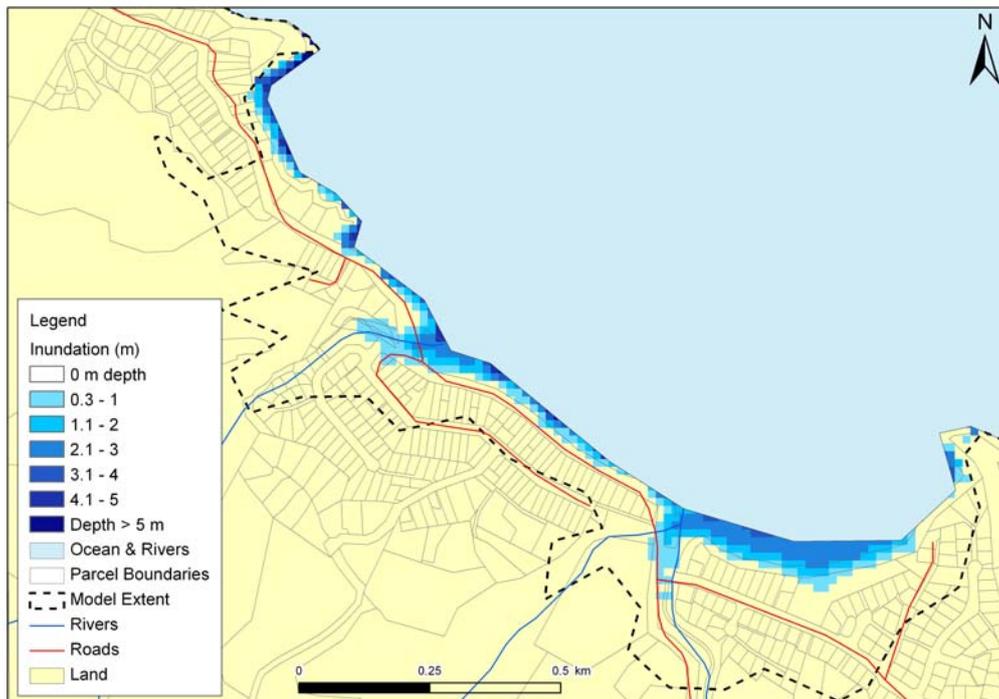
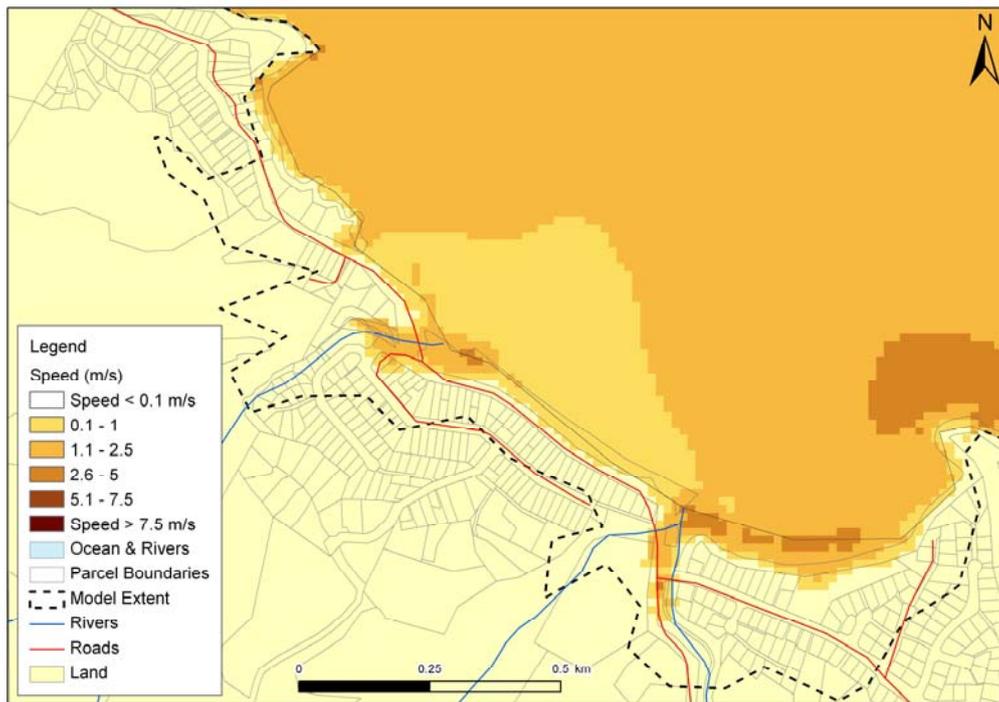


Figure 57: Langs Beach, Bream Bay: Maximum inundation speed (upper) and depth (lower) plots for the Mw9.0 Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LiDAR).