## 4.11. Matauri Beach

Maps of inundation depth and maximum current speed for Matauri Beach are presented in Figures 58 – 63. Inundation from the South American event is confined to a narrow strip along Matauri Beach, which increases slightly when sea level rise is included. Maximum current speeds are relatively low, less than 1 m $s^{-1}$.

Predicted inundation from the TKSZ $M_w$8.5 event is much more severe, extending half a kilometre inshore with depths of over 1 m. Maximum current velocities are correspondingly much stronger, exceeding 2.5 m $s^{-1}$ over relatively wide areas. Sea level rise increases the depth and extent of inundation and the current speeds associated with it. The TKSZ $M_w$9.0 event floods most of the modelled area with water depths greater than 5 m. Maximum current speeds exceed 7.5 m $s^{-1}$ over large parts of the bay. Sea level rise has only minor effects on the extent of inundation, but the depth is increased in line with the rise in level.

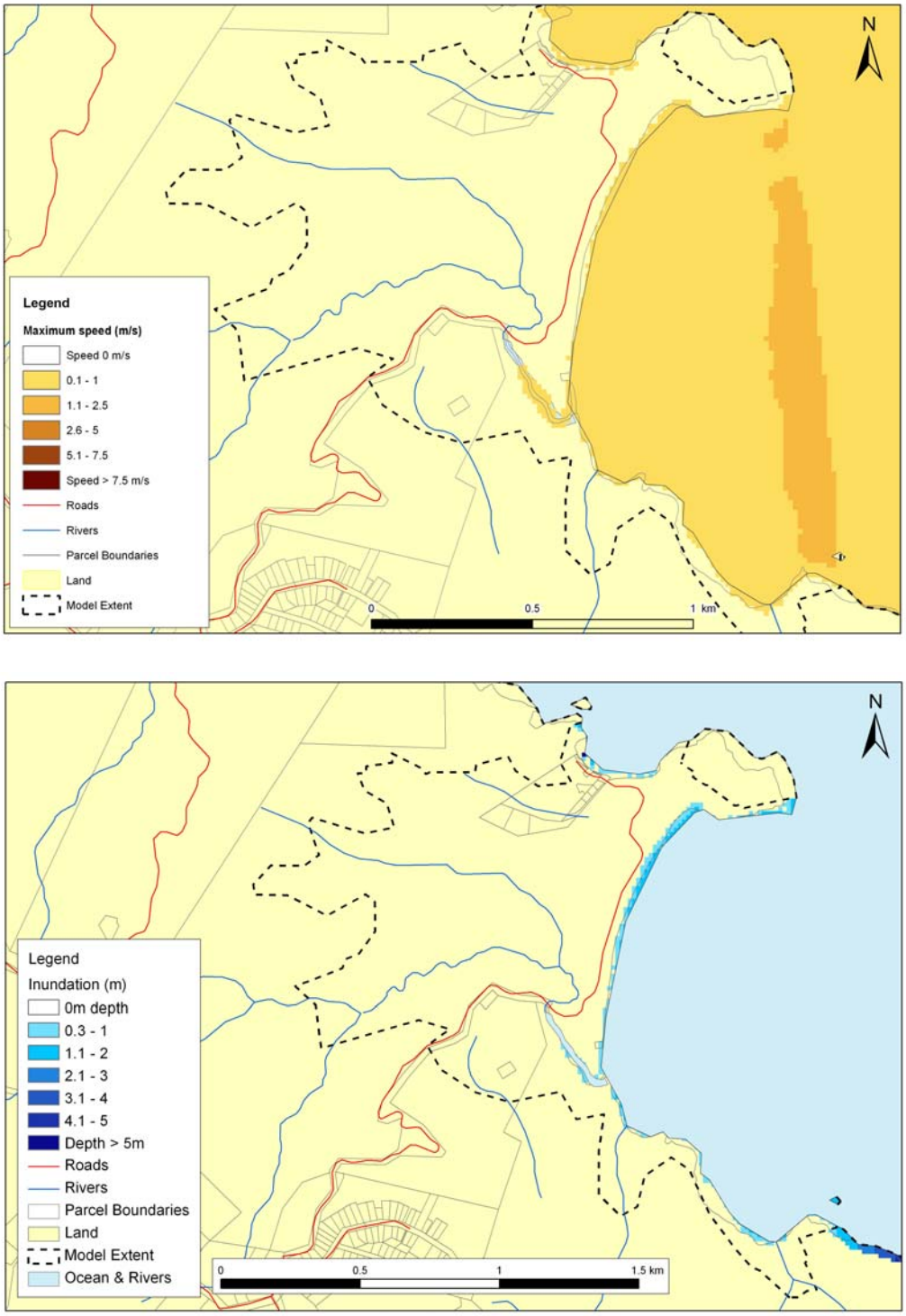


**Figure 58:** Matauri Beach: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS (to extent of LIDAR).

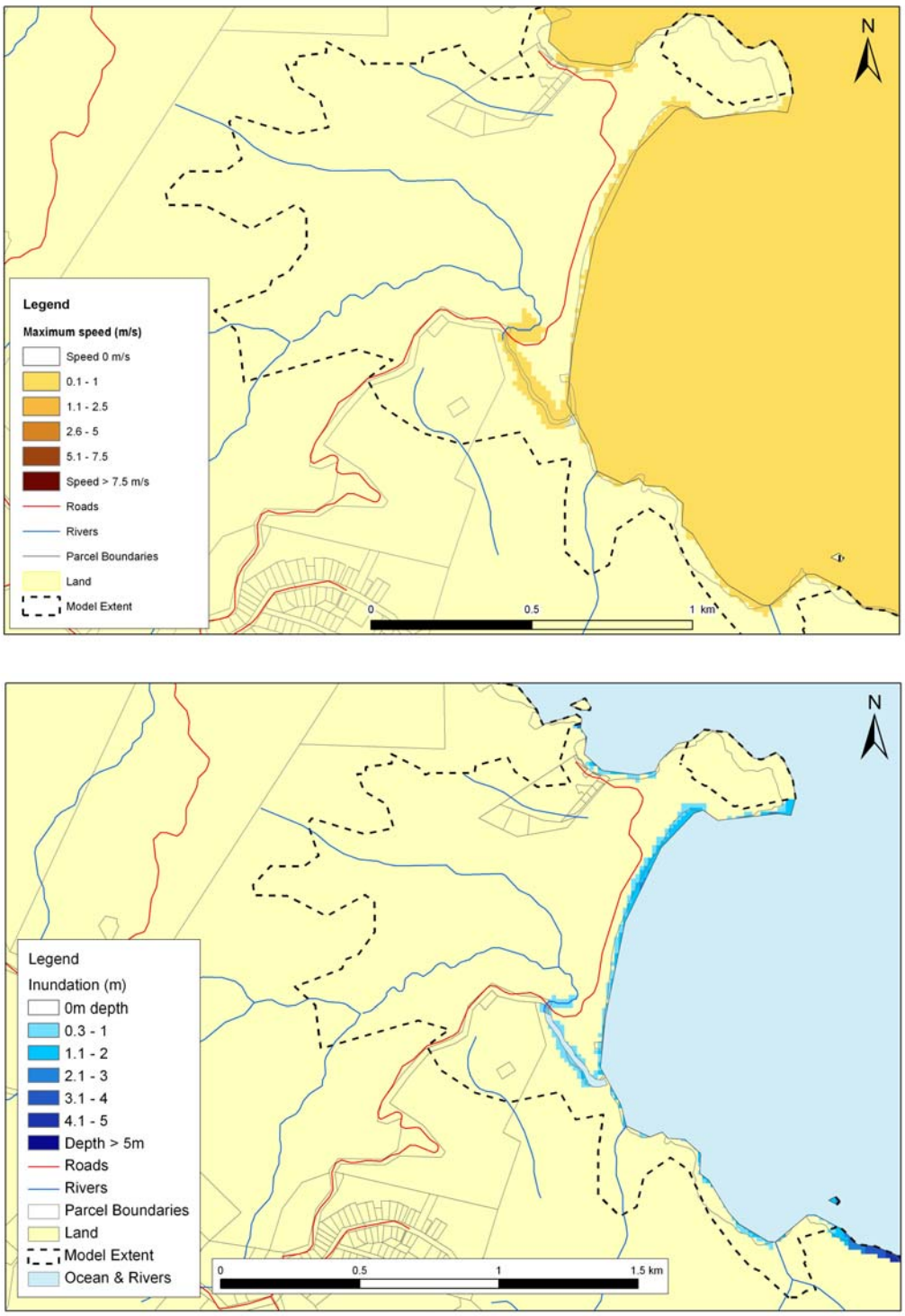


**Figure 59:** Matauri Beach: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS + 50cm (to extent of LIDAR).

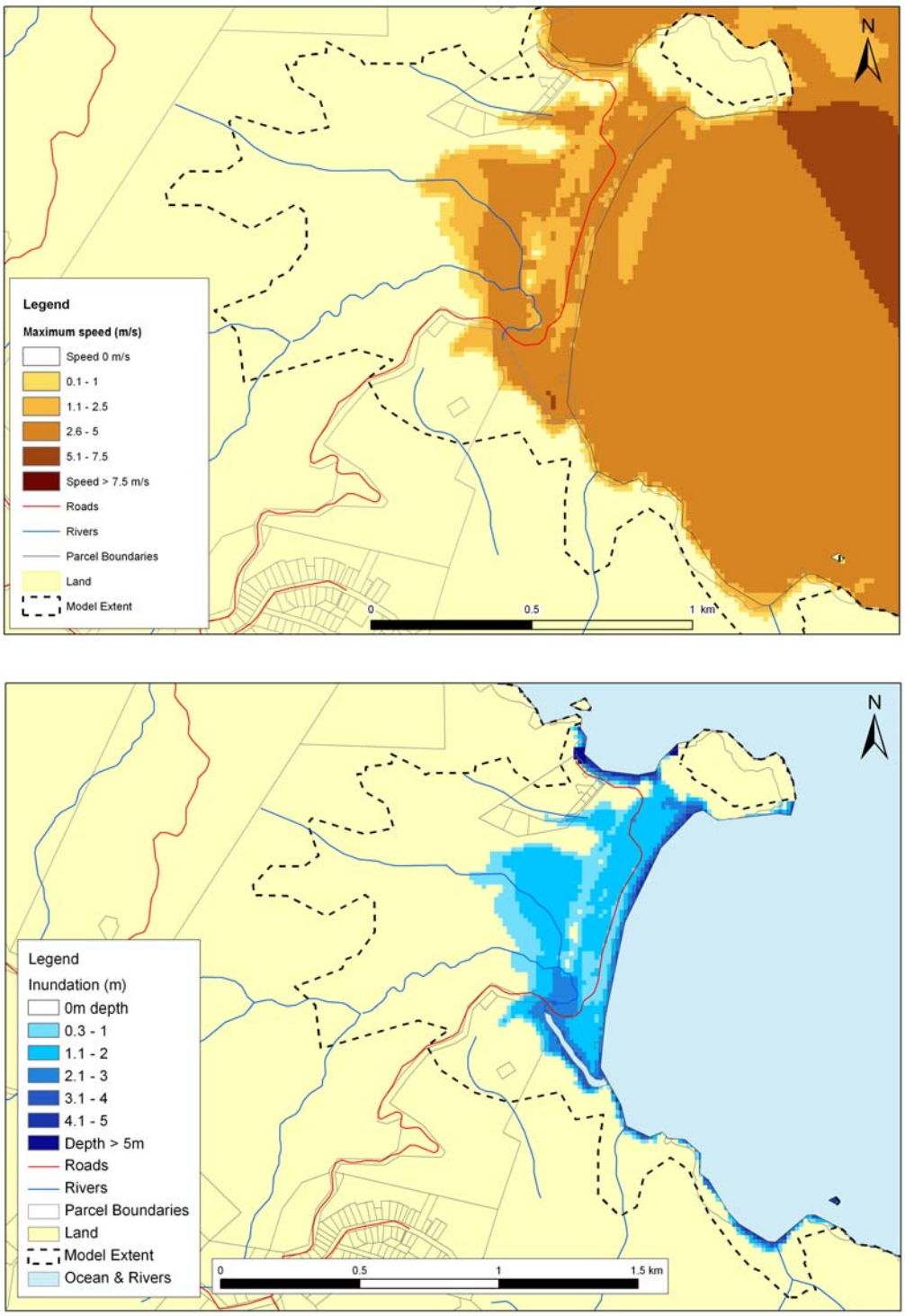


**Figure 60:** Matauri Beach: Maximum inundation speed (upper) and depth (lower) plots for the $M_w$8.5 Tonga-Kermadec subduction zone scenario at MHWS (to extent of LIDAR).

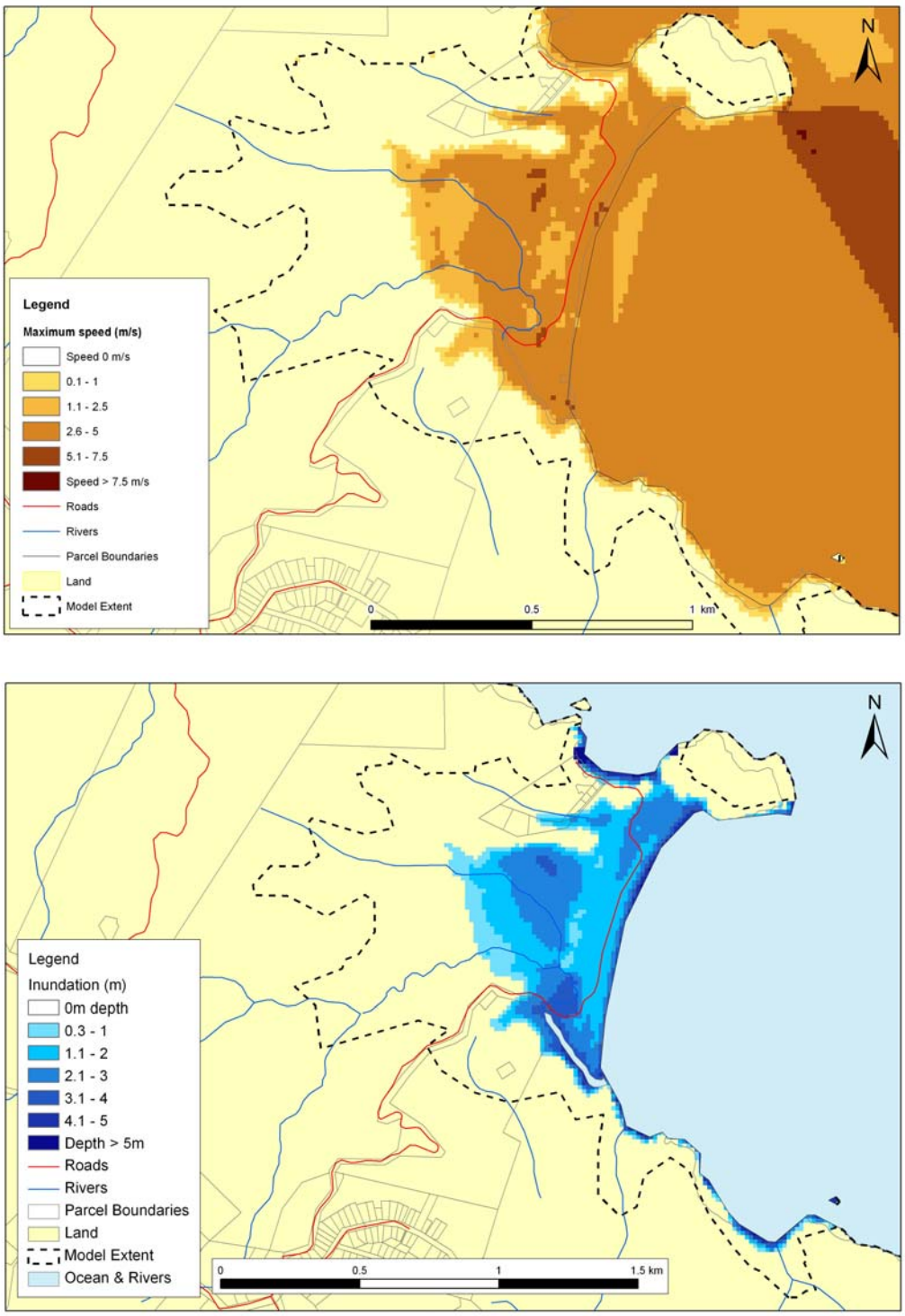


**Figure 61:** Matauri Beach: Maximum inundation speed (upper) and depth (lower) plots for the $M_w$8.5 Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LIDAR).

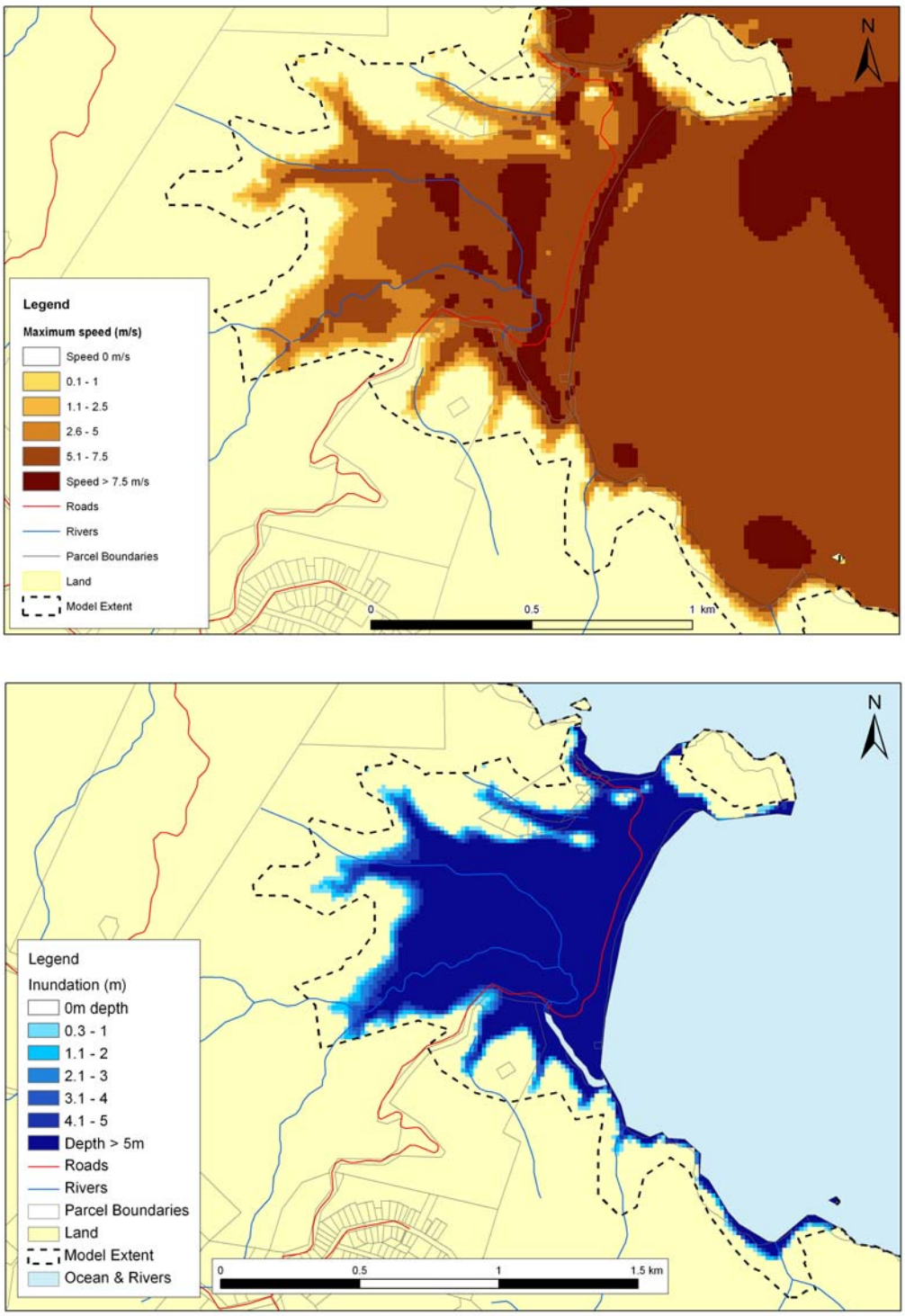


**Figure 62:** Matauri Beach: Maximum inundation speed (upper) and depth (lower) plots for the $M_w$9.0 Tonga-Kermadec subduction zone scenario at MHWS (to extent of LIDAR).

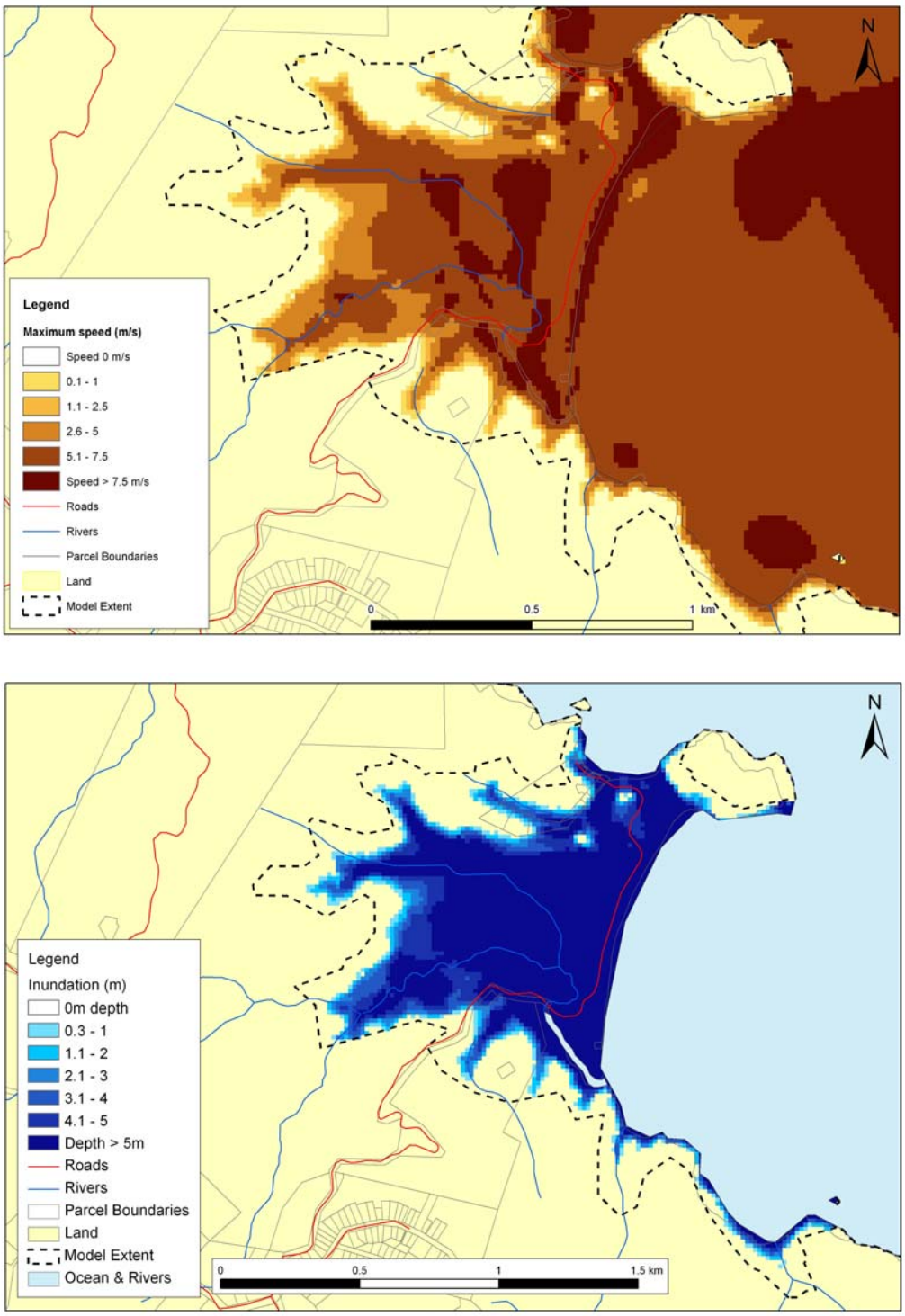


**Figure 63:** Matauri Beach: Maximum inundation speed (upper) and depth (lower) plots for the $M_w$9.0 Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LIDAR).