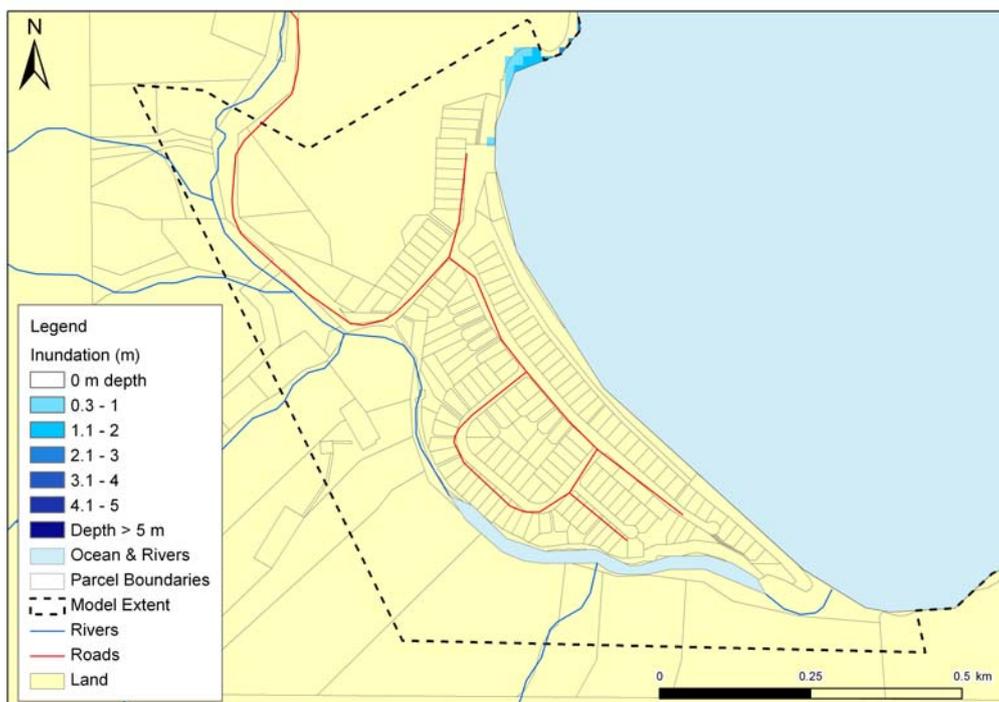
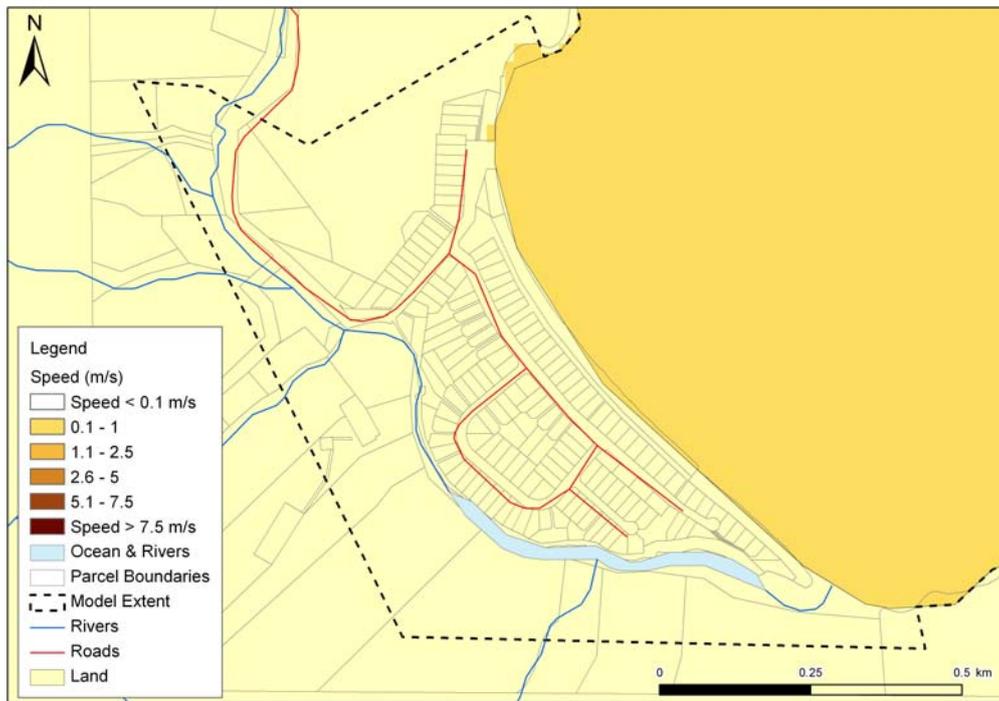


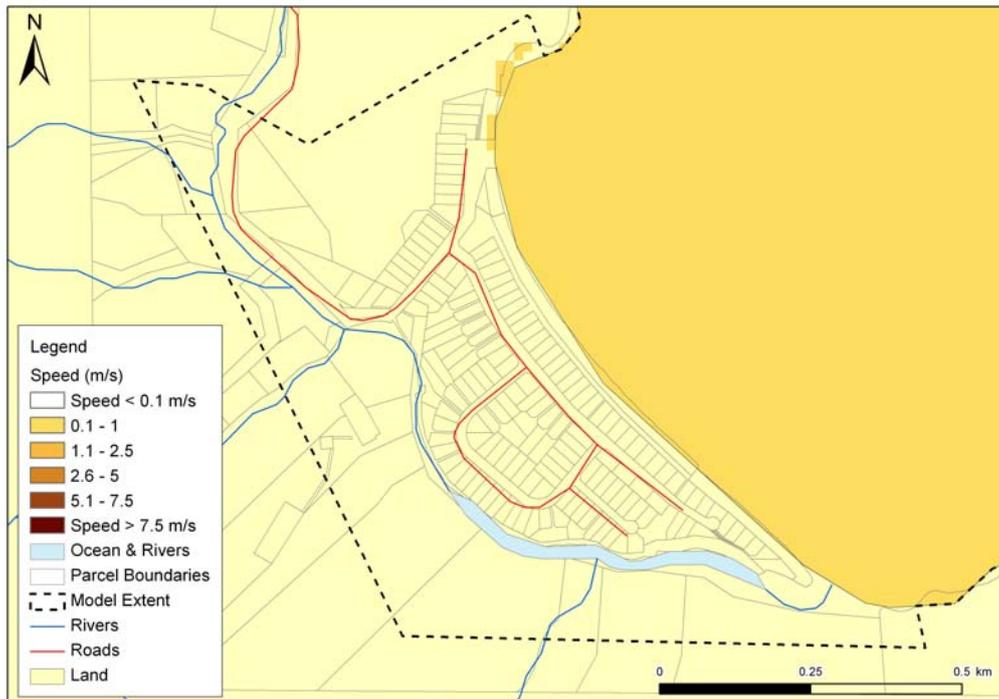
#### 4.8. Taupo Bay, Whangaroa

Maximum inundation depth and water speeds for Taupo Bay are presented in Figures 40-45. The South American tsunami has very little impact on Taupo Bay, even with sea level rise taken into account. The only area predicted to be affected is at the north of the bay, below Okiore Pa, which sees an inundation depth of 1 m. Current speeds in the bay do not exceed  $1 \text{ m s}^{-1}$ .

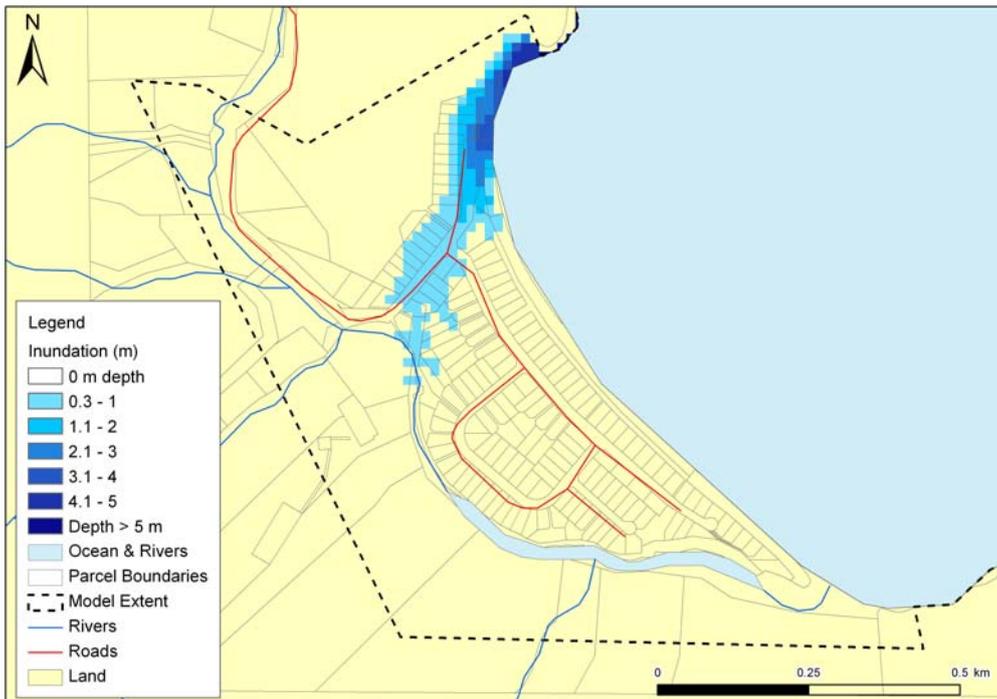
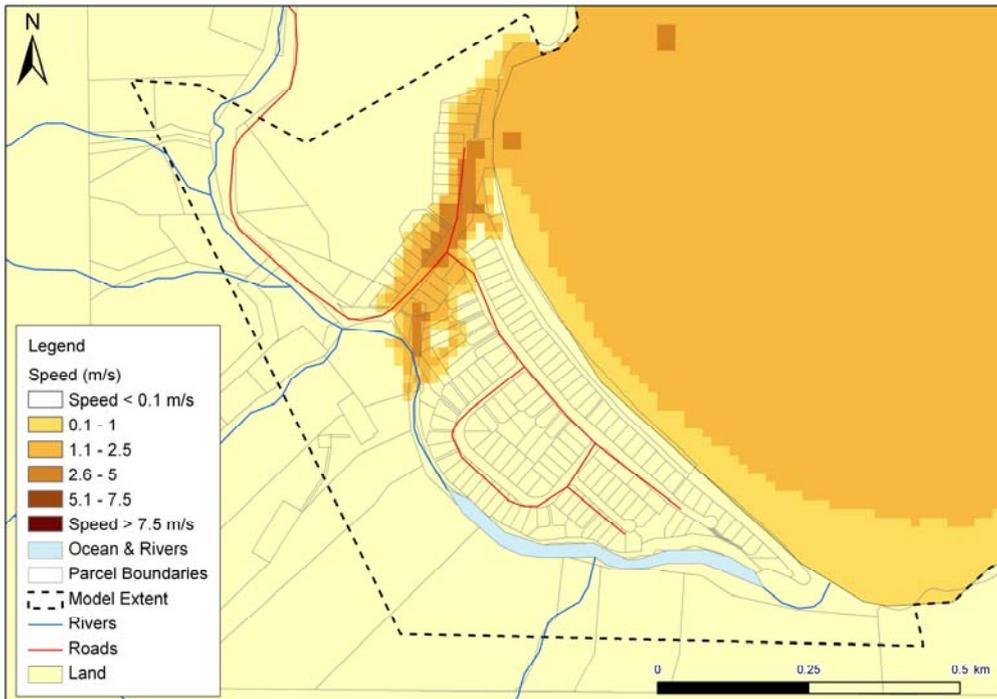
Inundation from the TKSZ  $M_w 8.5$  event is predicted to spread further inland from the north of Taupo Bay, flooding the road to the small township and the motor camp. With the addition of predicted sea level rise, this area of inundation spreads further south to join the head of the Taupo Creek. Water speeds for both scenarios in the bay reach up to  $2.5 \text{ m s}^{-1}$ , with small areas reaching up to  $5 \text{ m s}^{-1}$  in the inundated areas. Inundation from the TKSZ  $M_w 9.0$  event is predicted to cover the entire Taupo Bay township to depths exceeding 5m. Current speeds of up to  $7.5 \text{ m s}^{-1}$  are also predicted. The addition of sea level rise has relatively additional little effect.



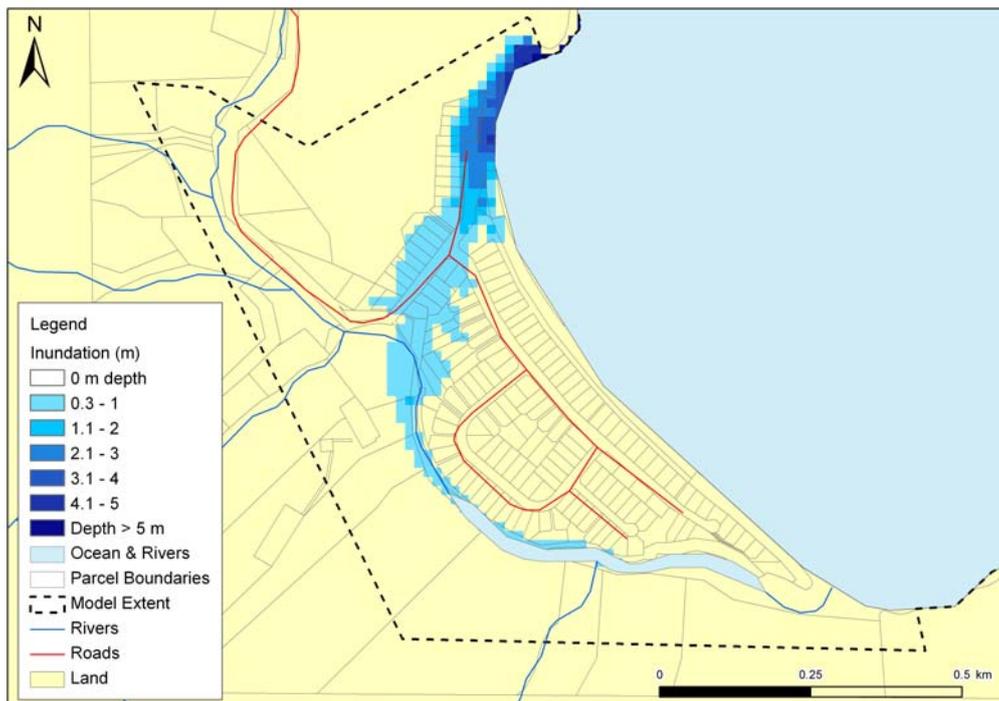
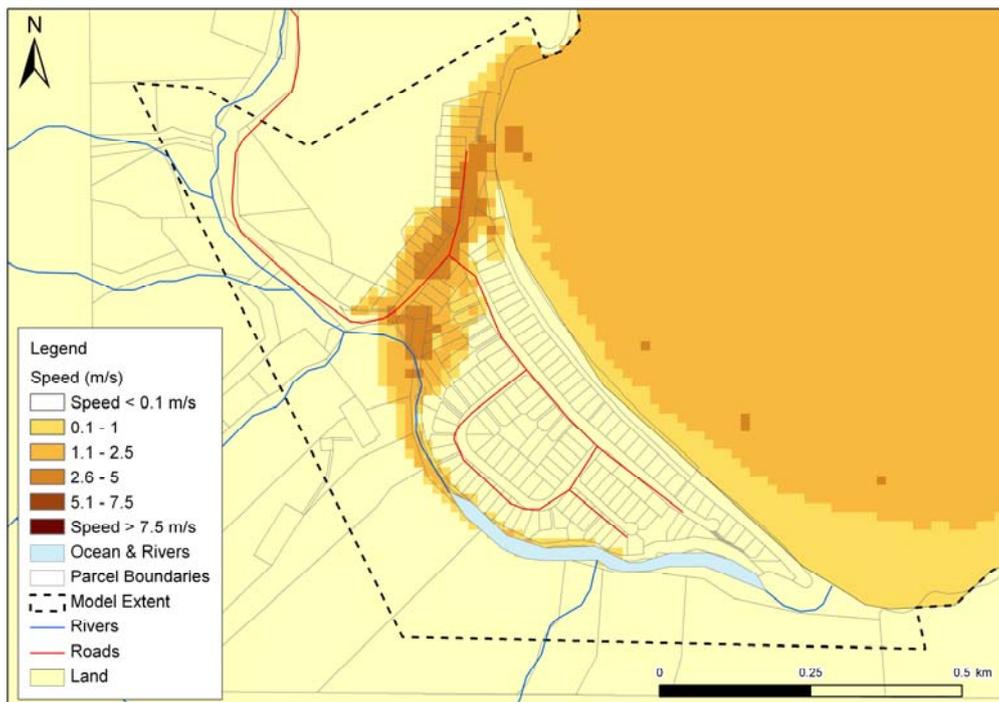
**Figure 40: Taupo Bay, Whangaroa: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS (to extent of LiDAR).**



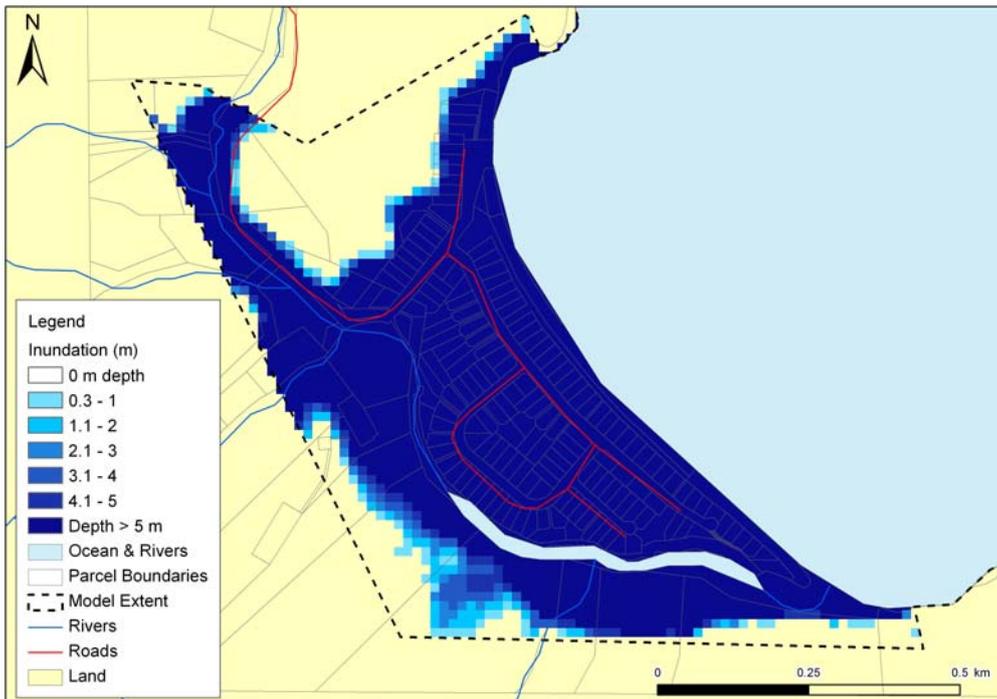
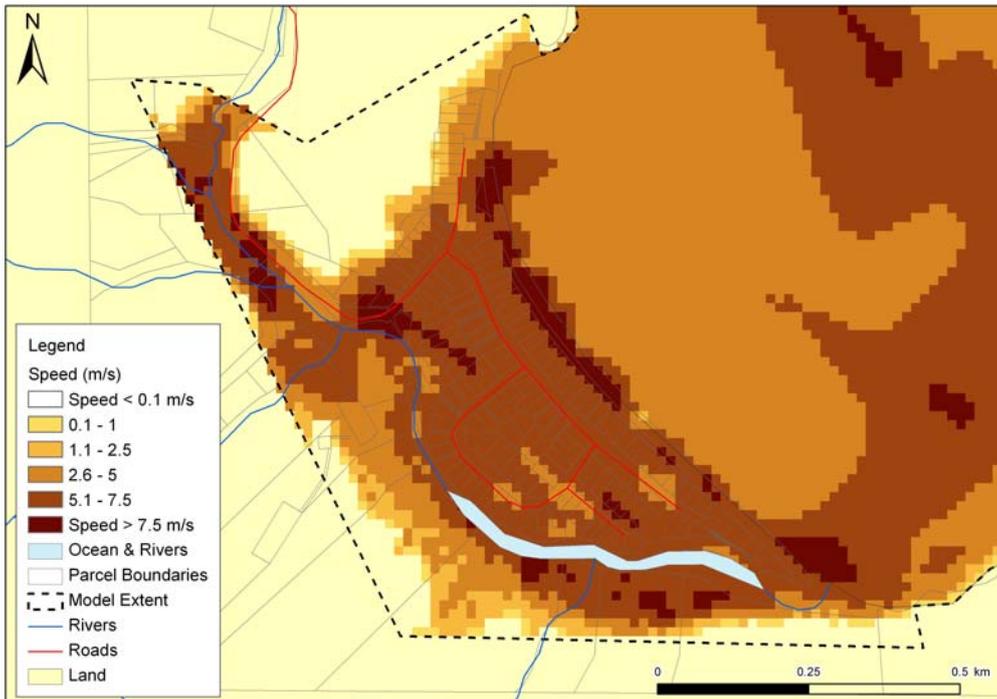
**Figure 41: Taupo Bay, Whangaroa: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS + 50cm (to extent of LiDAR).**



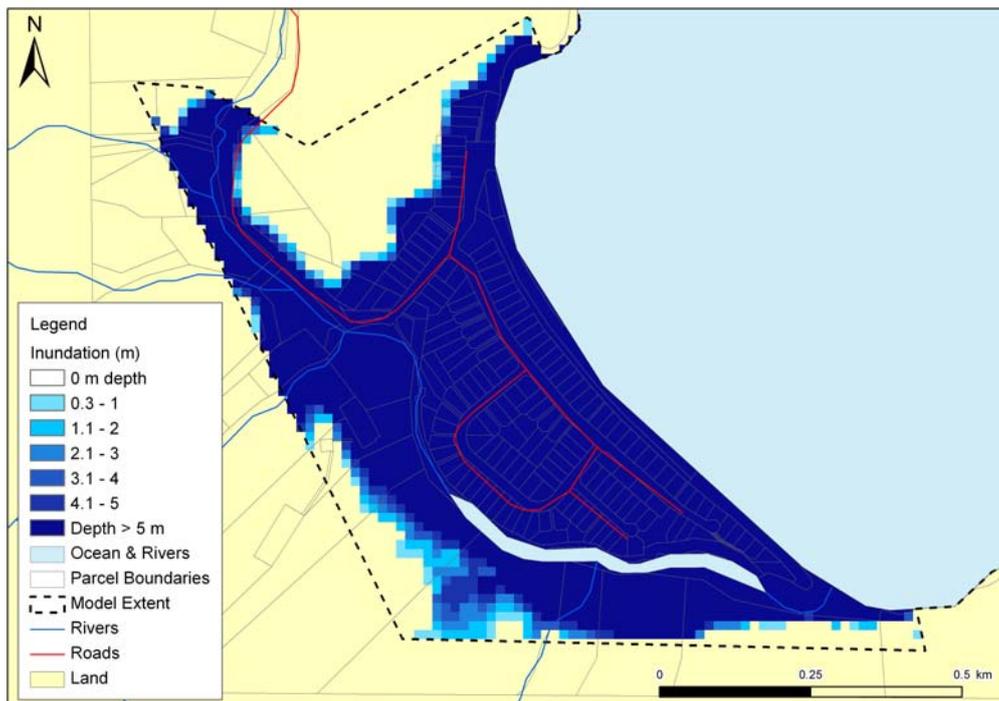
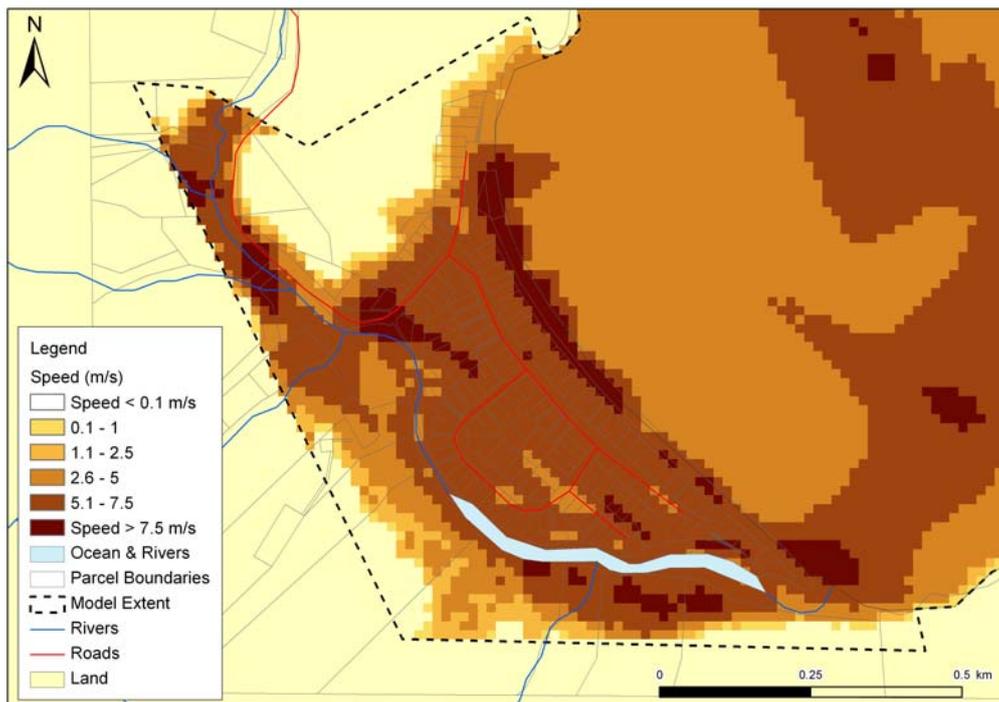
**Figure 42:** Taupo Bay, Whangaroa: Maximum inundation speed (upper) and depth (lower) plots for the  $M_w 8.5$  Tonga-Kermadec subduction zone scenario at MHWS (to extent of LiDAR).



**Figure 43: Taupo Bay, Whangaroa: 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 44:** Taupo Bay, Whangaroa: 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 45:** Taupo Bay, Whangaroa: 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) .