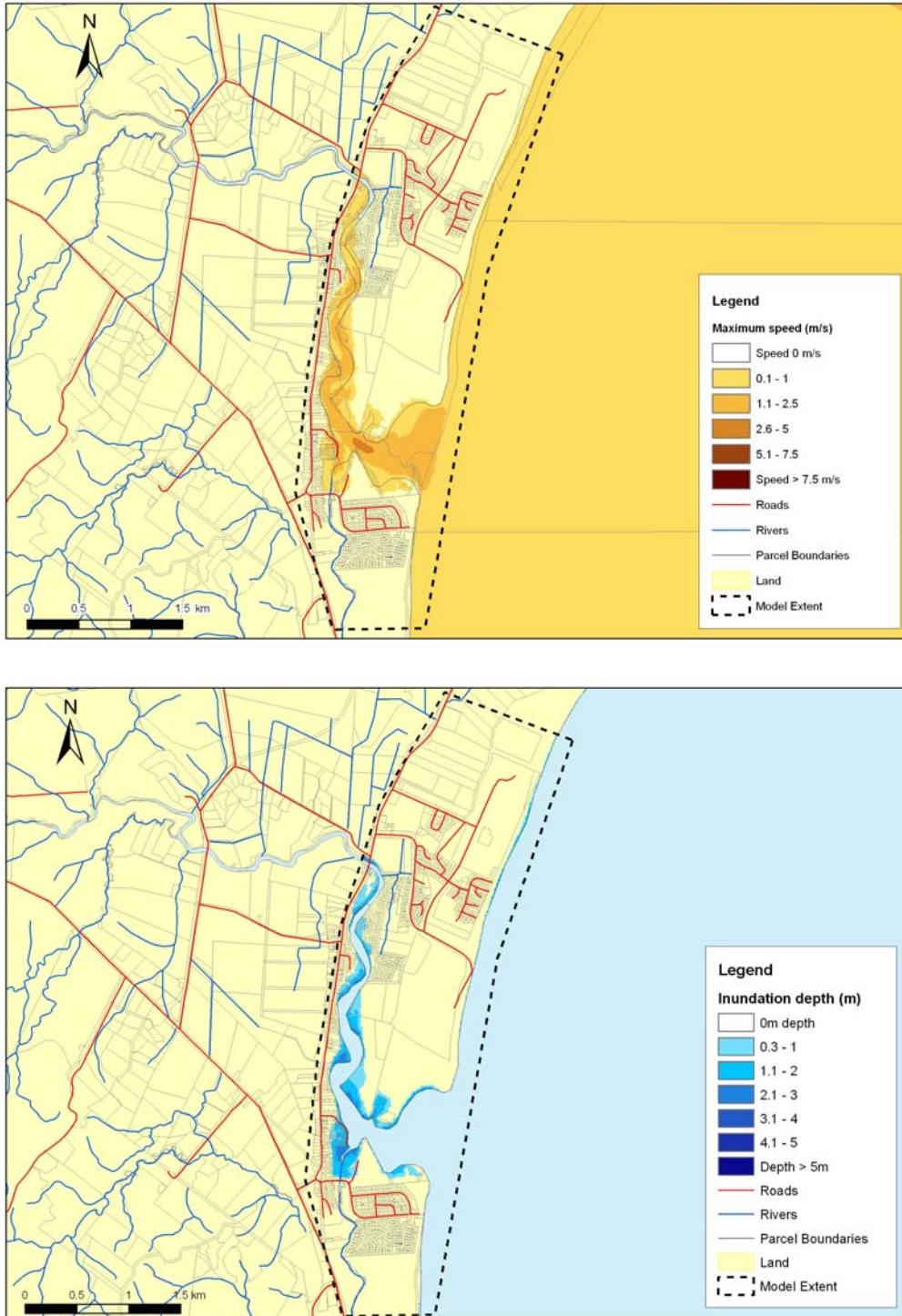


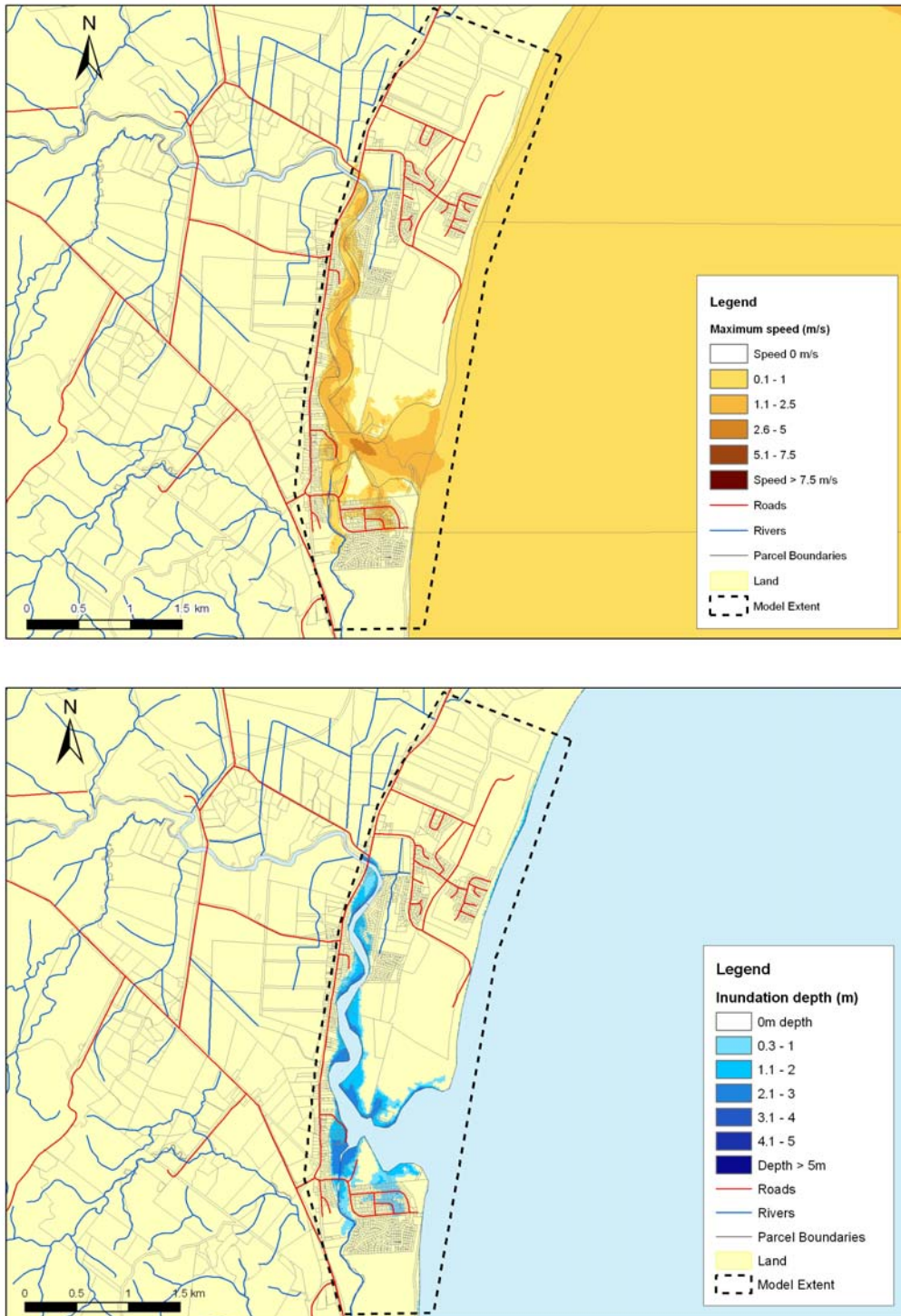
## 4.2. Ruakaka

Maps of maximum inundation depth and water speed for Ruakaka are presented in Figures 4-9. For the South American tsunami at MHWS, inundation is predicted along the banks of the Ruakaka River, and may affect private land seaward of Marsden Point Road. With sea level rise incorporated, inundation depths are greater and more extensive, particularly to the south of the river mouth. Predicted maximum currents are strong in the river, exceeding  $1 \text{ m s}^{-1}$ .

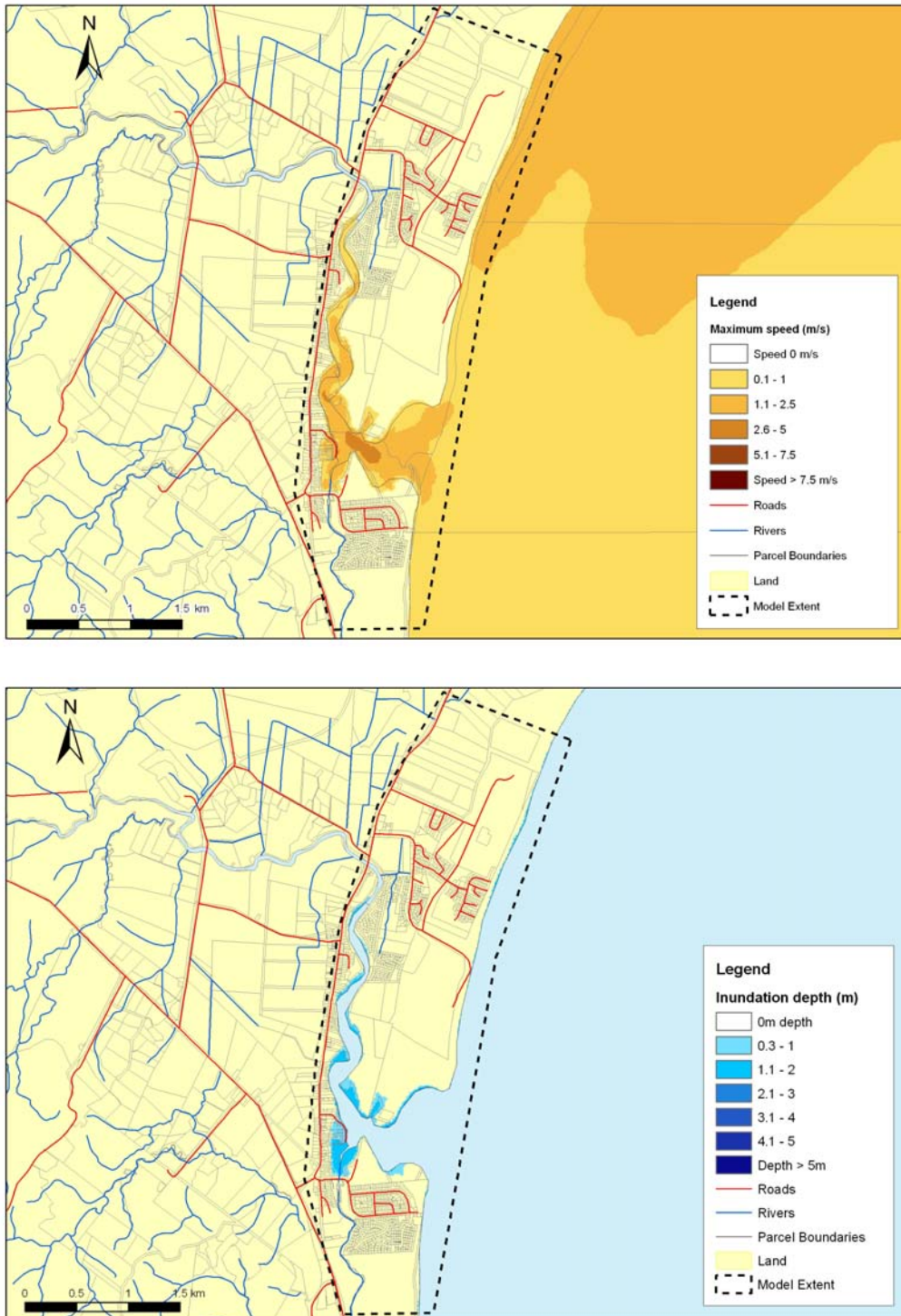
Predicted inundation arising from the Tonga-Kermadec subduction zone  $M_w 8.5$  event is less extensive than that from the South American event. But the  $M_w 9.0$  event causes more extensive inundation, and maximum current velocities in the river in excess of  $5 \text{ m s}^{-1}$ . Inundation is prevalent over the low-lying land to the north and south of the river mouth, along the banks Ruakaka River and also along the stream flowing south. Sea level rise increases the depth and extent of the predicted inundation from this event further still.



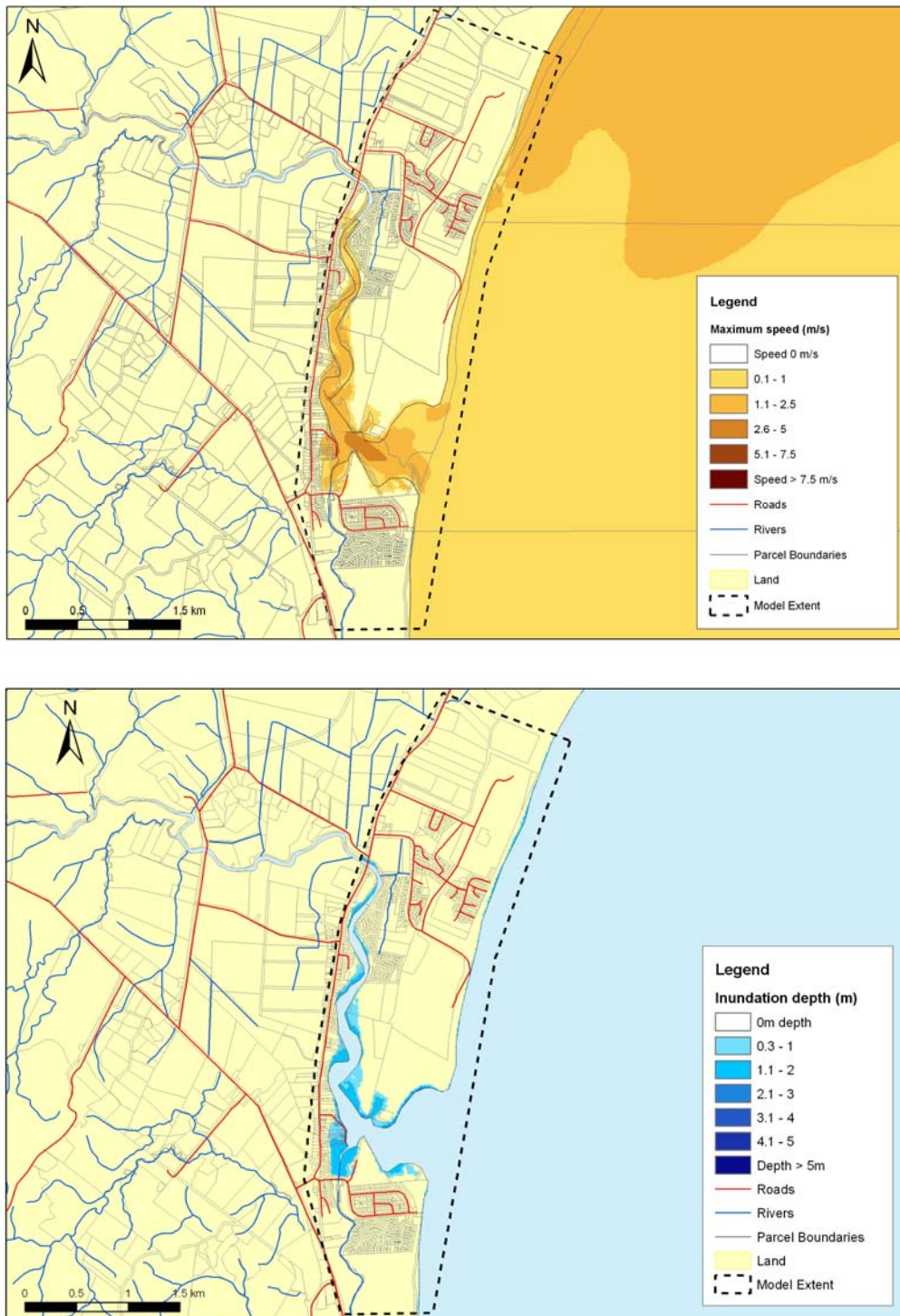
**Figure 4:** Ruakaka: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS (to extent of LIDAR).



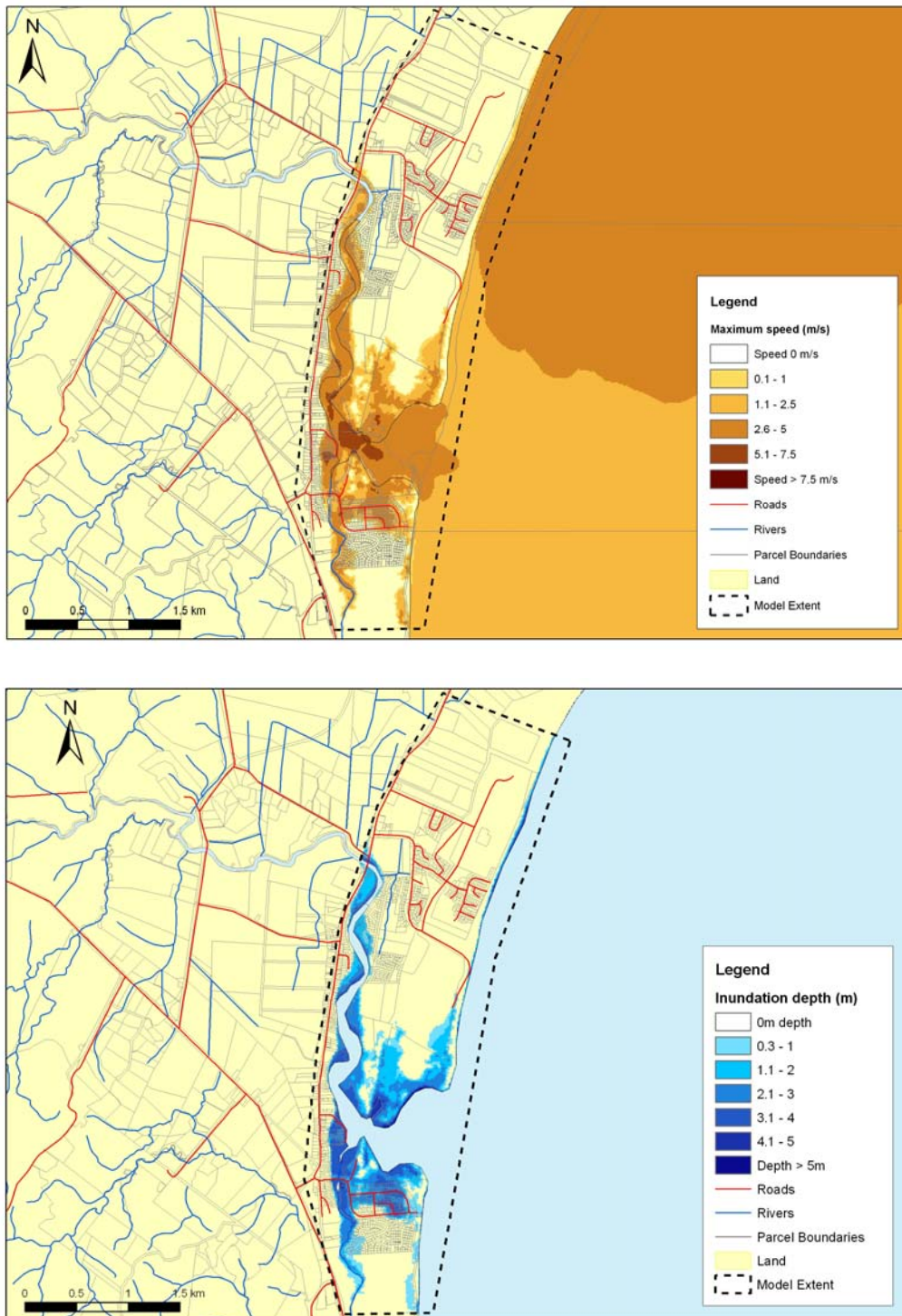
**Figure 5:** Ruakaka: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS + 50cm (to extent of LIDAR).



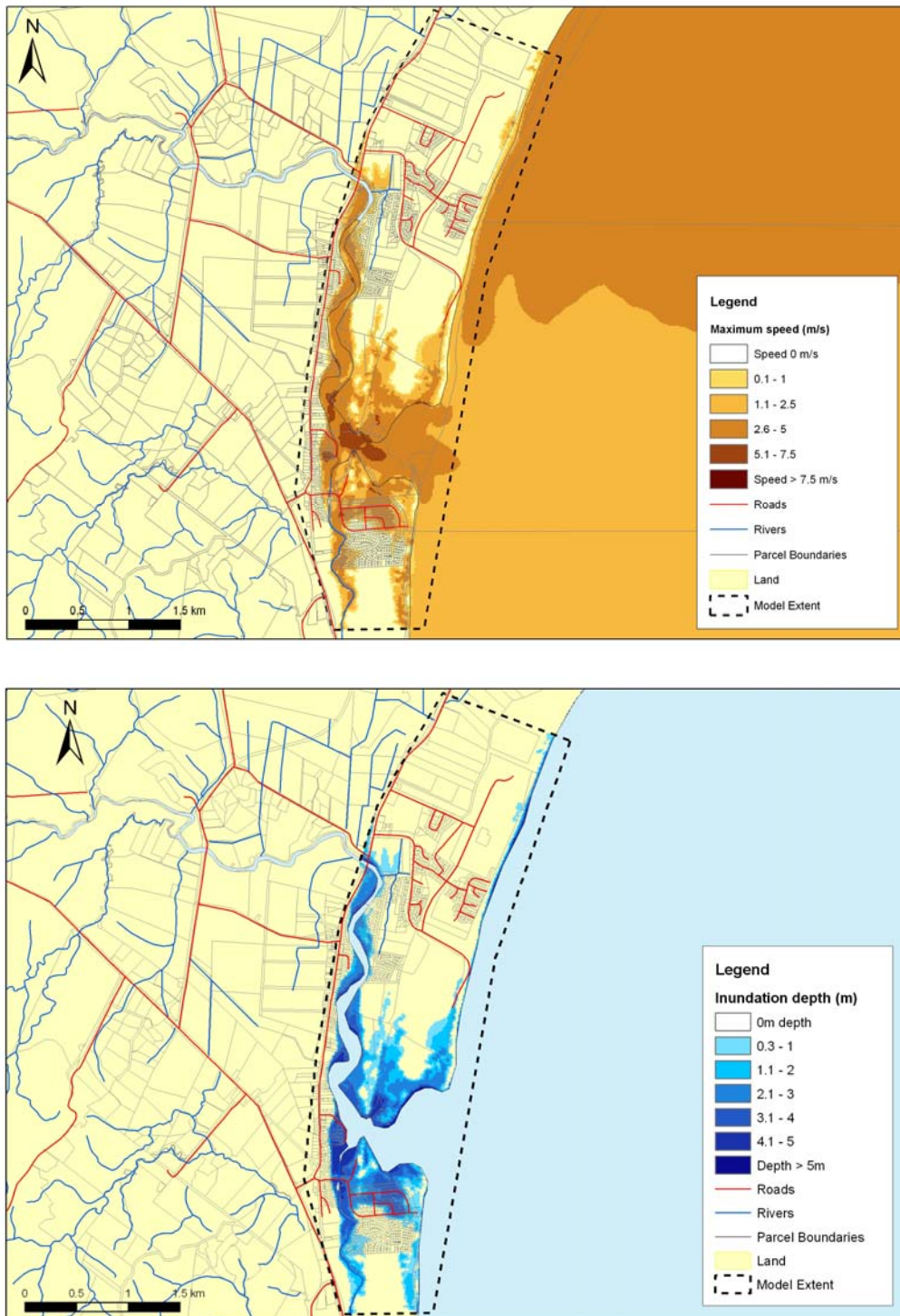
**Figure 6:** Ruakaka: Maximum inundation speed (upper) and depth (lower) plots for the  $M_w 8.5$  Tonga-Kermadec subduction zone scenario at MHWS (to extent of LIDAR).



**Figure 7:** Ruakaka: 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 8:** Ruakaka: 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 9:** Ruakaka: Maximum inundation speed (upper) and depth (lower) plots for the Mw9.0 Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LIDAR).