

4.5. Oakleigh

Maps of predicted inundation depth and maximum water speed for Oakleigh and the Mangapai Estuary are presented in Figures 23 - 28. Inundation from the South American tsunami is evident in the estuary at Tokitoki Creek, Oakleigh, north of Gilbert Rd and state highway 1 near Mata Creek (between Totara Rd (east) and Springfield Rd) (Figure 23). Current speeds in Mangapai Estuary are in the range 0.5-1.5 m s⁻¹. When sea level rise is included in the scenario there is an increase in the depth of inundation. The extent of inundation increases along most of the coastline in Mangapai Estuary (Figure 24).

The TKSZ M_w 8.5 scenario results in inundation at Oakleigh, Mata Creek, Tokitoki Creek (Figure 25). Current velocities are less than 0.5 m s⁻¹ in the Estuary. Sea level rise causes an increase in the depth of inundation in the estuary (Figure 26).

The TKSZ M_w9.0 scenario produces inundation at Oakleigh, Mata Creek, Tokitoki Creek and north of Gilbert Rd (Figure 27). Maximum current speed in the estuary is in the range 0.5 to 1.5 m s⁻¹. Depth of inundation increases when sea level rise is included in the scenario (Figure 28).

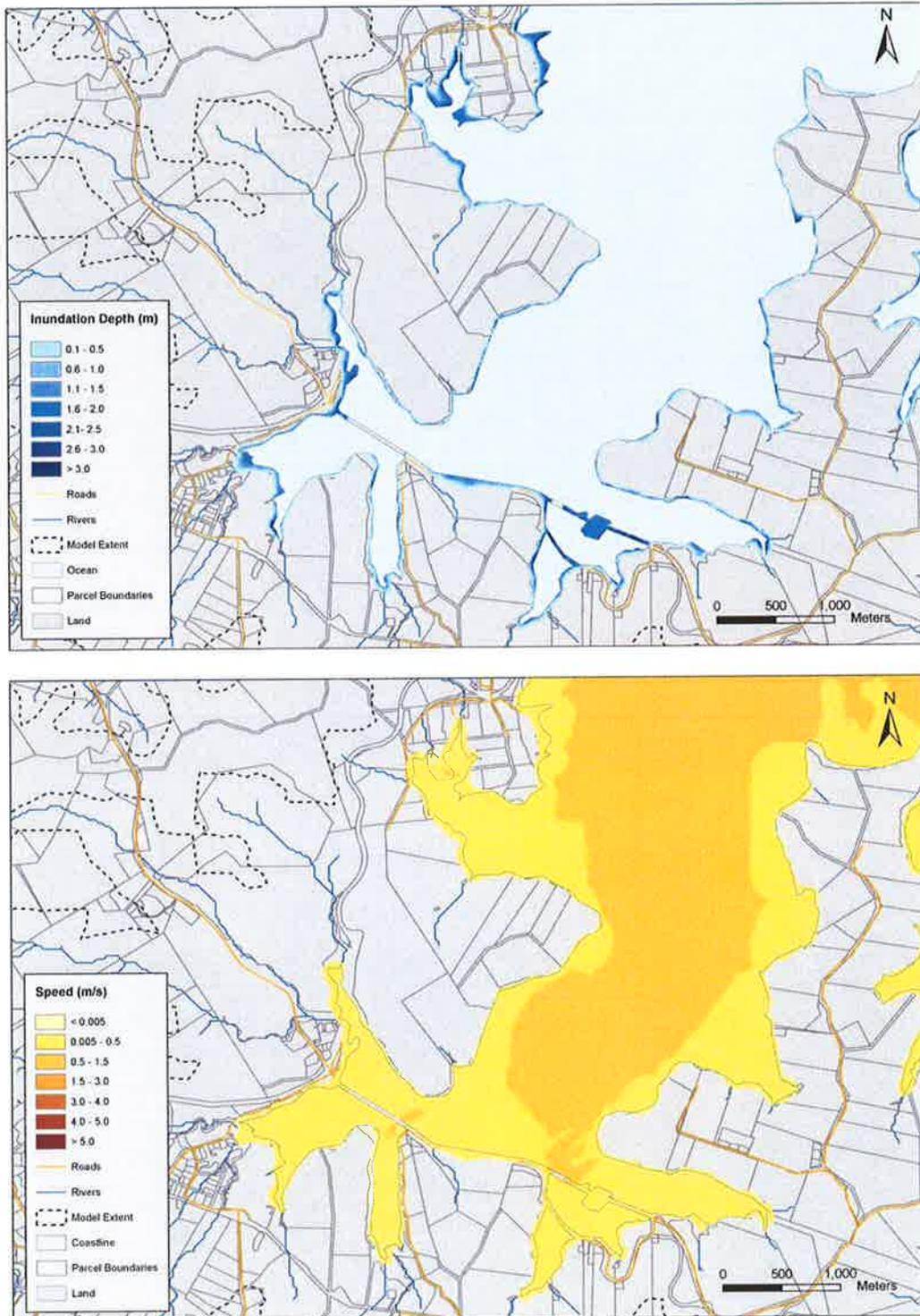


Figure 23: Oakleigh: Maximum inundation depth (upper) and speed (lower) plots for the South American tsunami scenario at MHWS (to extent of LIDAR) in Whangarei Harbour.

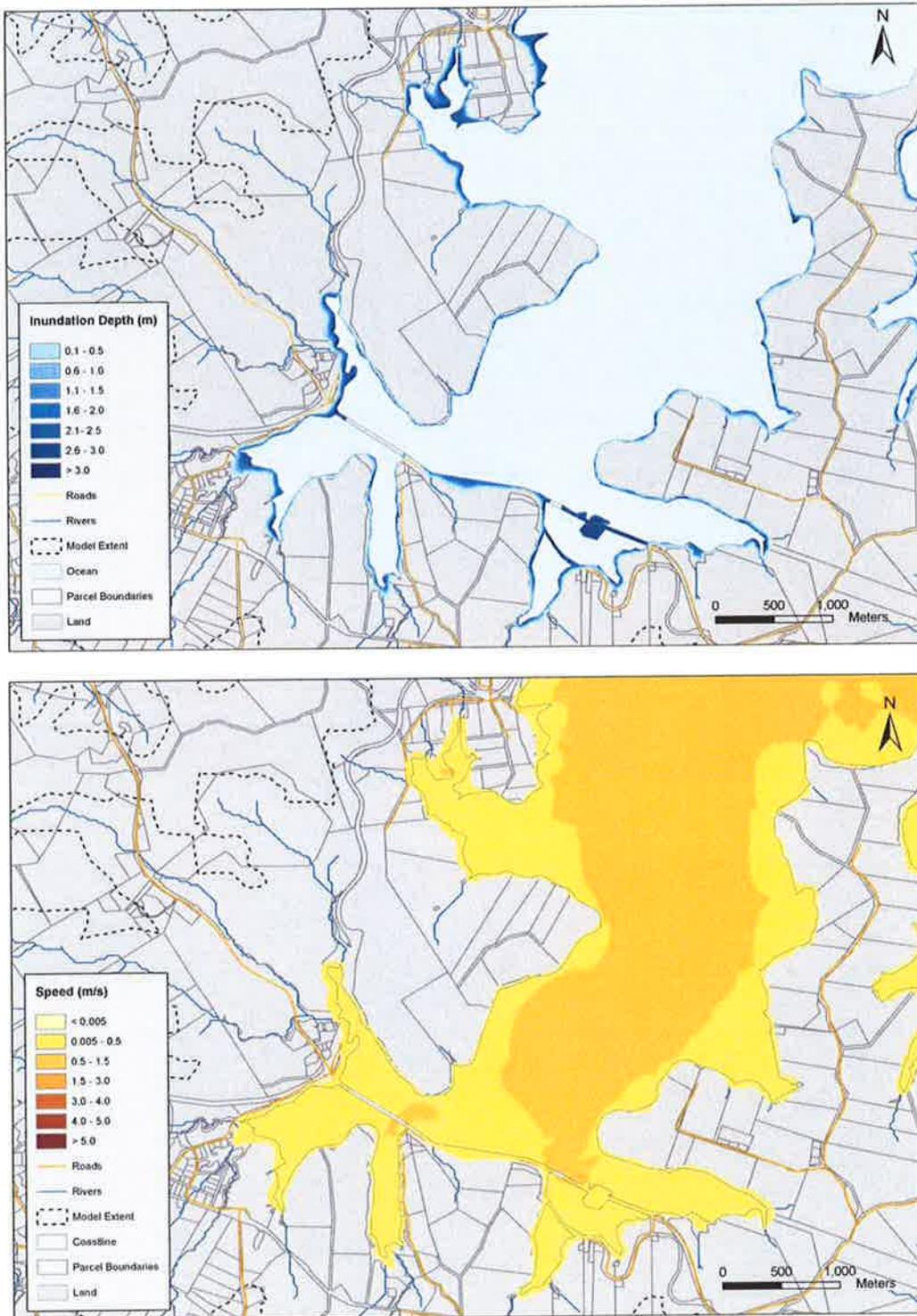


Figure 24: Oakleigh: Maximum inundation depth (upper) and speed (lower) plots for the South American tsunami scenario at MHWS + 50cm (to extent of LIDAR) in Whangarei Harbour.

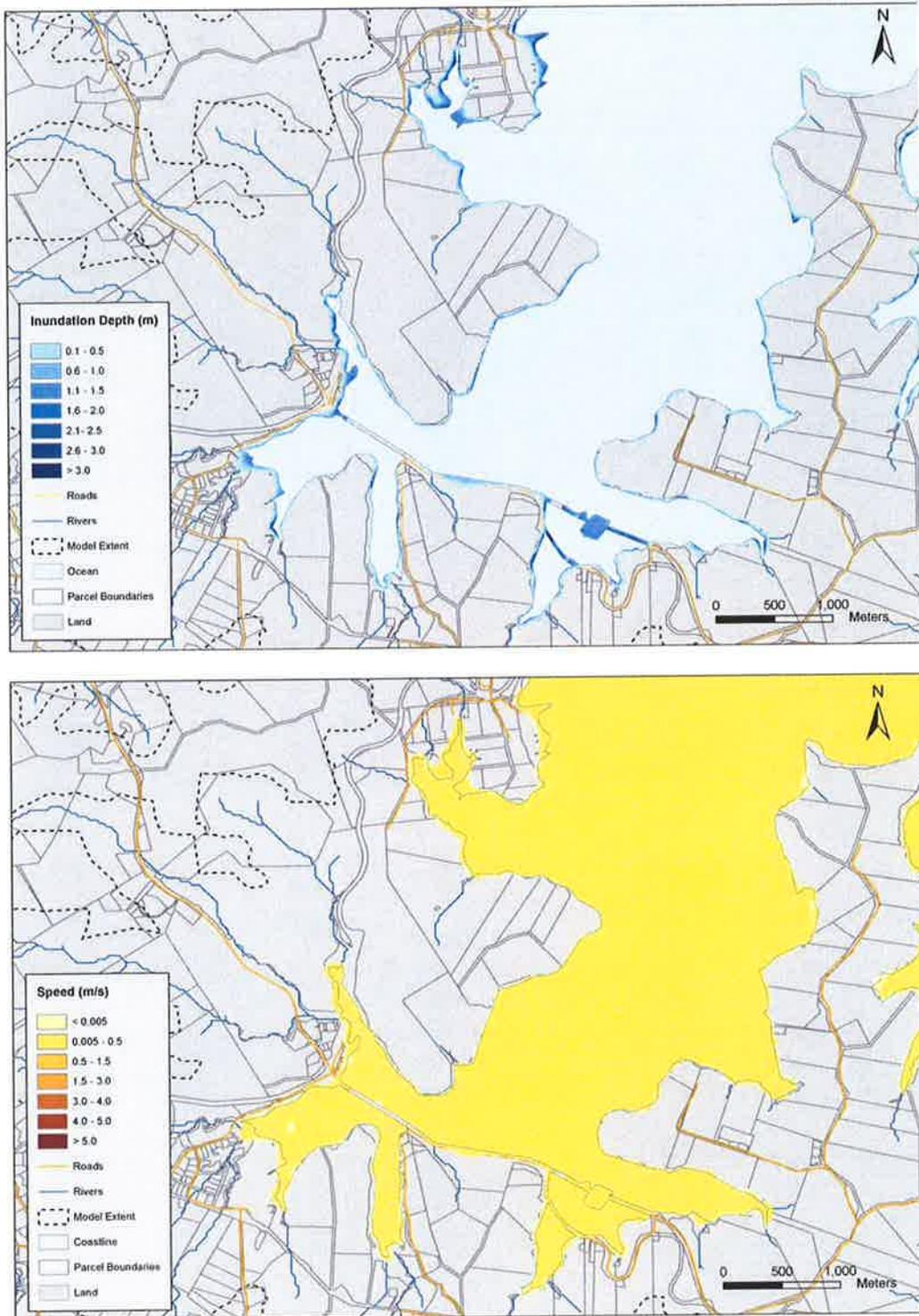


Figure 25: Oakleigh: Maximum inundation depth (upper) and speed (lower) plots for the M_w 8.5 Tonga-Kermadec subduction zone scenario at MHWS (to extent of LIDAR) in Whangarei Harbour.

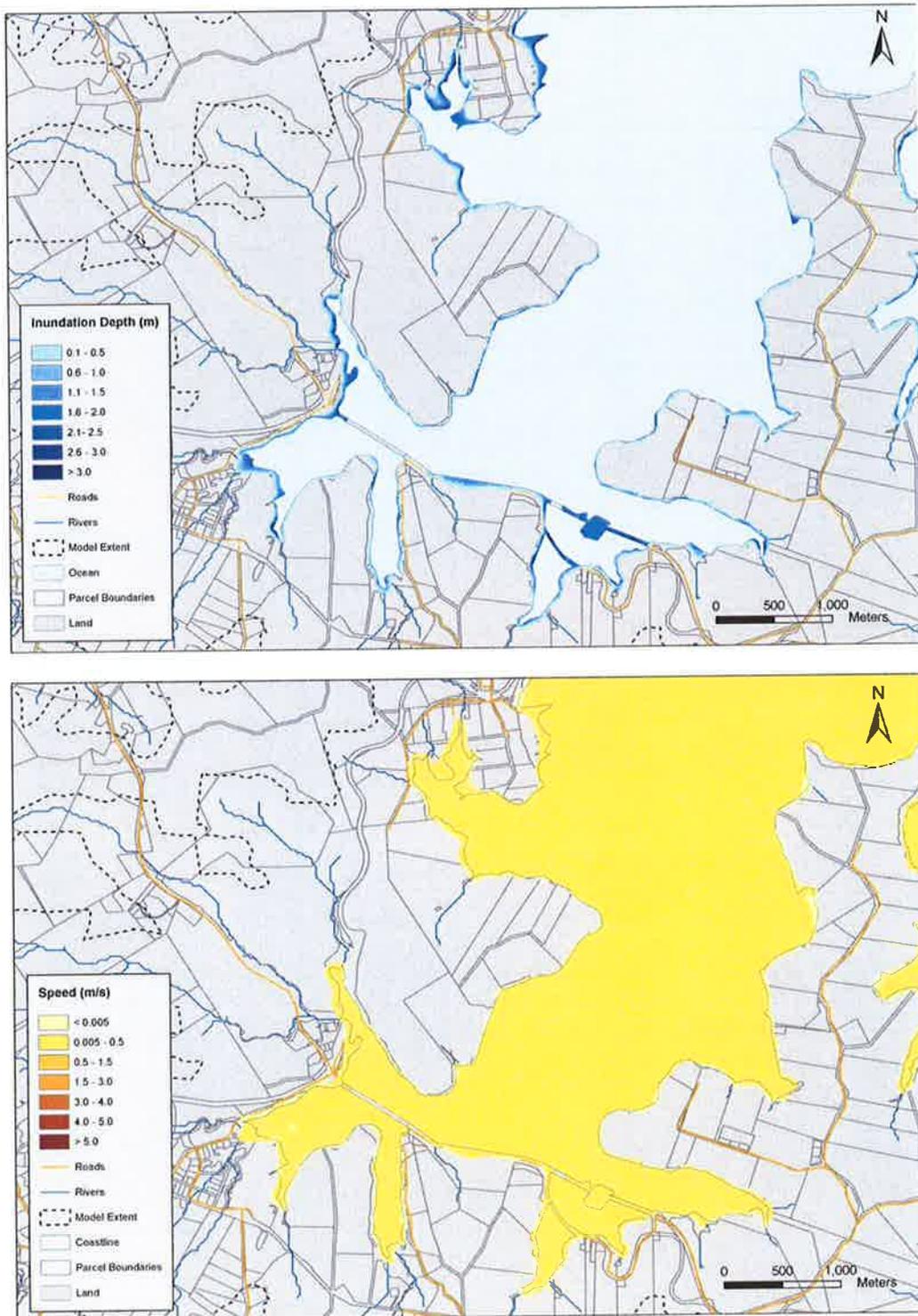


Figure 26: Oakleigh: Maximum inundation depth (upper) and speed (lower) plots for the M_w 8.5 Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LIDAR) in Whangarei Harbour.

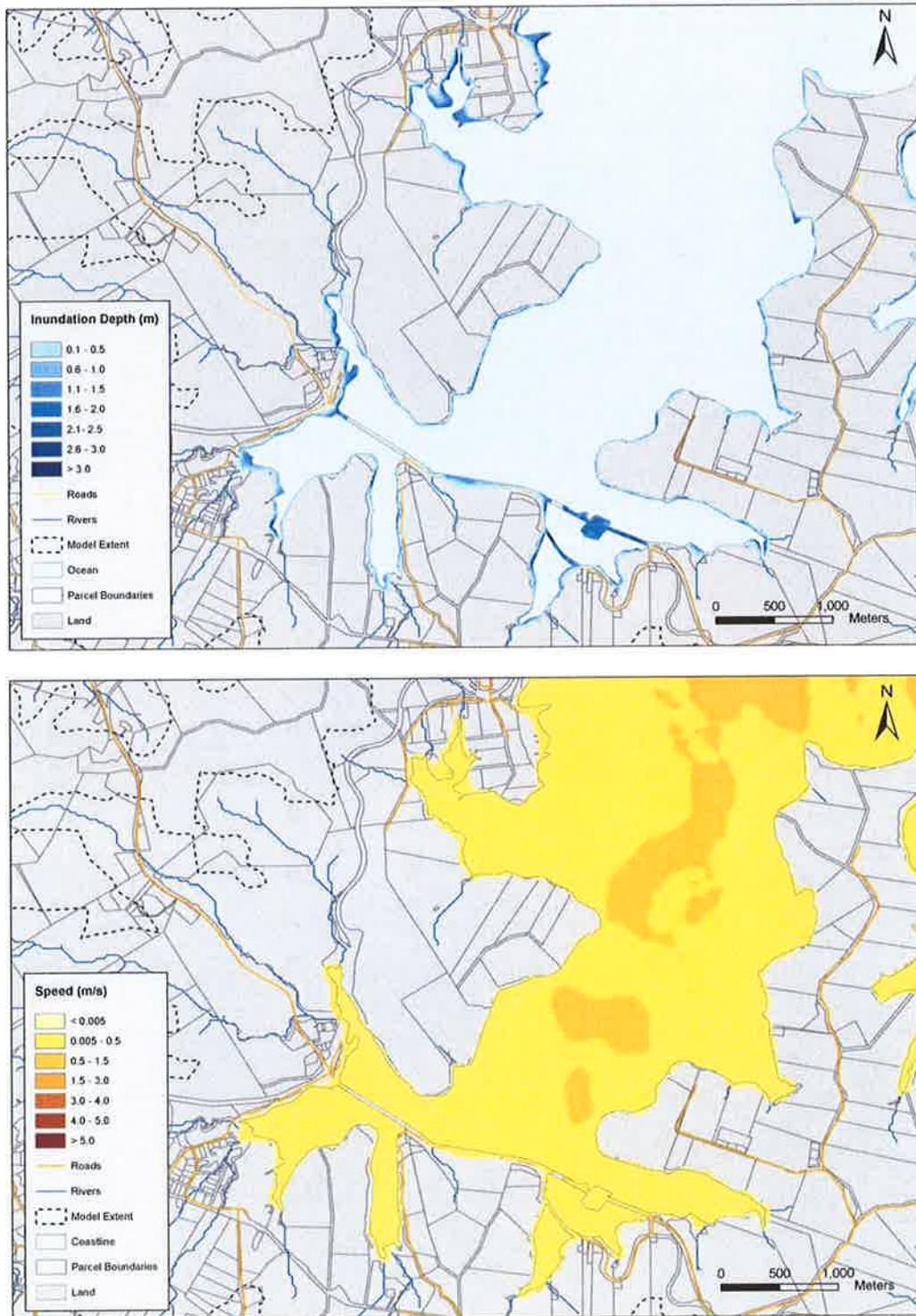


Figure 27: Oakleigh: Maximum inundation depth (upper) and speed (lower) plots for the $M_w 9.0$ Tonga-Kermadec subduction zone scenario at MHWS (to extent of LIDAR) in Whangarei Harbour.

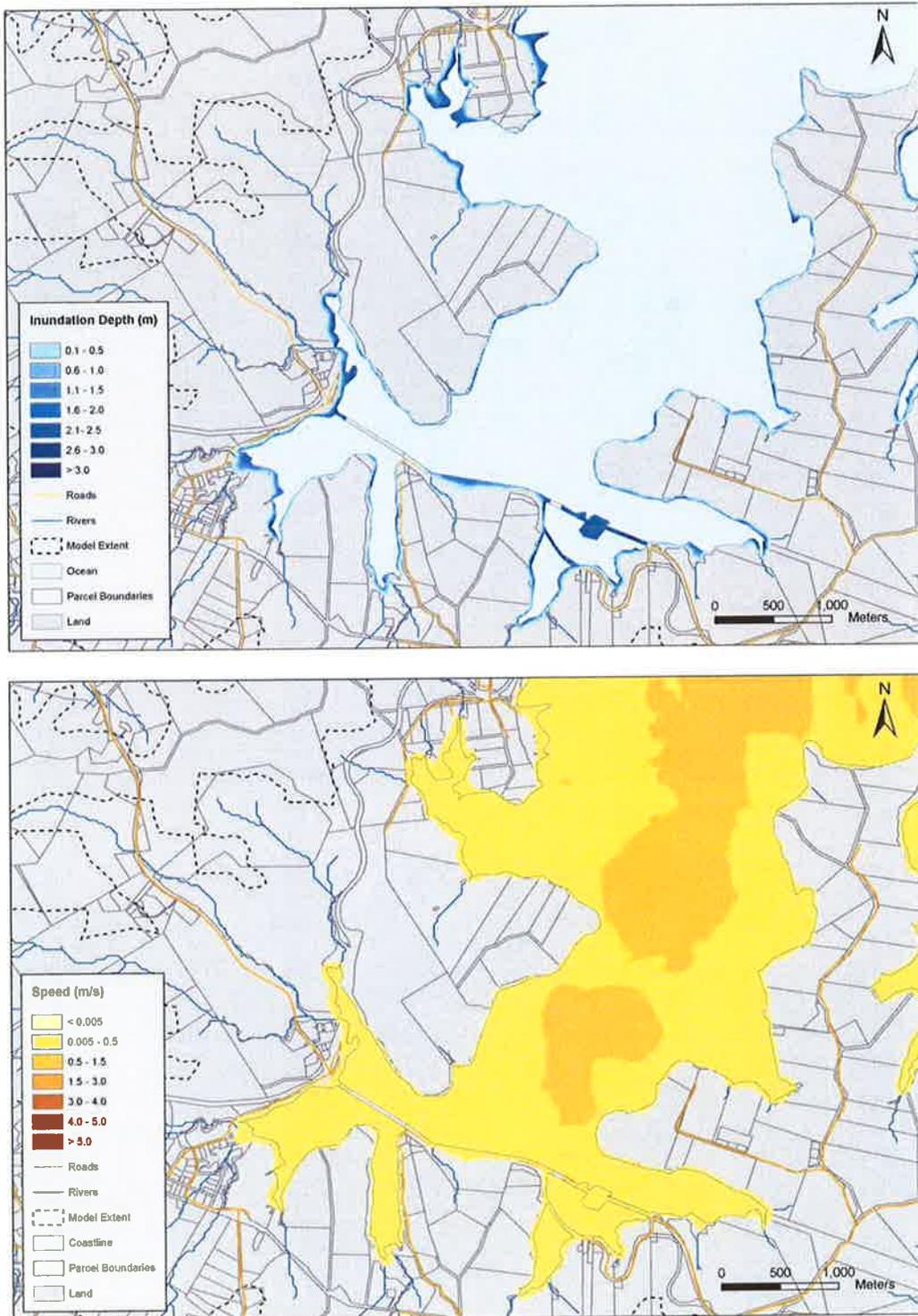


Figure 28: Oakleigh: Maximum inundation depth (upper) and speed (lower) plots for the $M_w 9.0$ Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LIDAR) in Whangarei Harbour.