4.2. Bland Bay, Whangaruru

Maps of predicted inundation depth and maximum water speed for Bland Bay are presented in Figures 4-9. Inundation from the South American tsunami is limited, although some inundation along both sides of the isthmus is evident, in Tuparehuia Bay and Sandy Bay. Current speeds between Whangaruru North and Motukauri Island and on the East and West of the headland reach between 1.1 and 2.5 m s^{-1}. When sea level rise is included in the scenario, there is a small increase in the extent to which the inundation reaches inland on the south side of the isthmus to the south of Whangaruru North Road.

The TKSZ M$_w$8.5 scenario results in inundation along both sides of the isthmus, to depths of 3m. Whangaruru North is flooded to depths of 1m, as is the eastern end of the isthmus, inundating the Whangaruru North Road. Small areas of Sandy Bay are also inundated. Current velocities average 2.5 m s^{-1} in Whangaruru Harbour, but reach up to 5 m s^{-1} in Bland Bay. Sea level rise causes a small increase in the extent and depth of the inundation and increased flooding of roads. The TKSZ M$_w$9.0 scenario sees the flooding of the entire isthmus, up to depths of 5 m. Flooding also follows the river channels and floods Martin Road and the road in Sandy Bay. Current speeds reach up to and in excess of 7.5 m s^{-1}, concentrated around the ends of the isthmus. There is very little change in extent of inundation when sea level rise is included in the scenario, but depths increase.
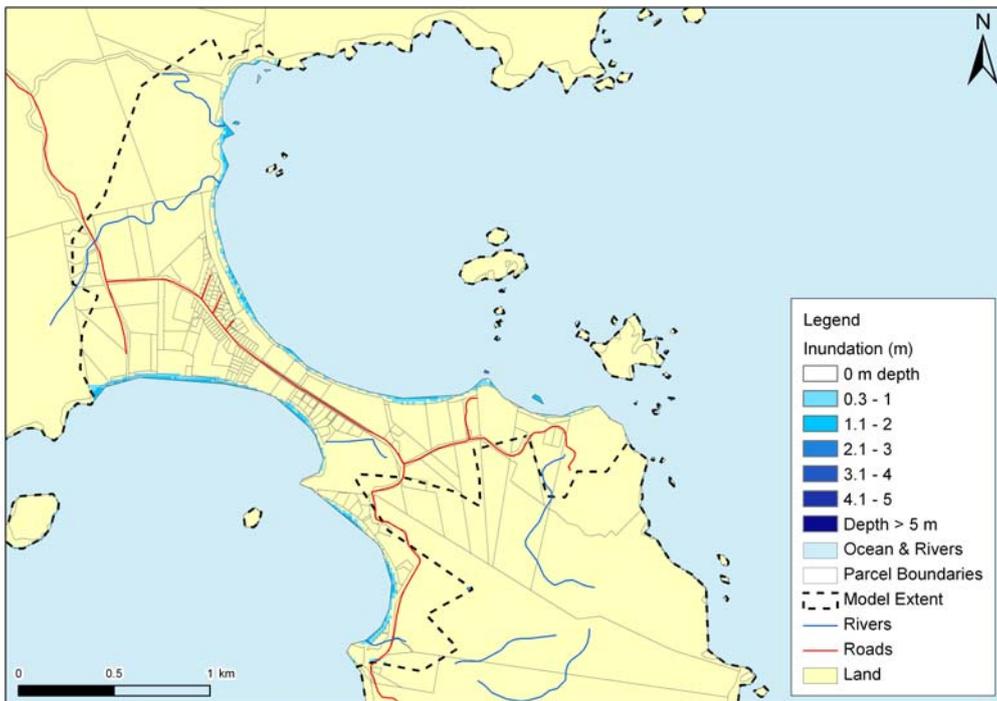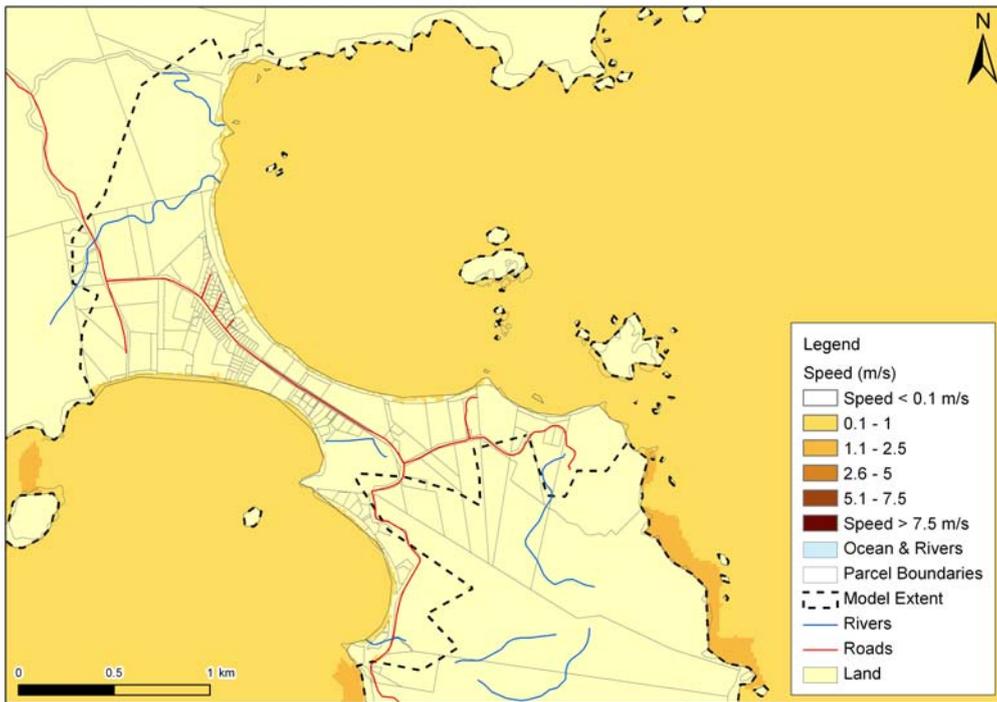
Figure 4: **Bland Bay, Whangaruru: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS (to extent of LiDAR).**
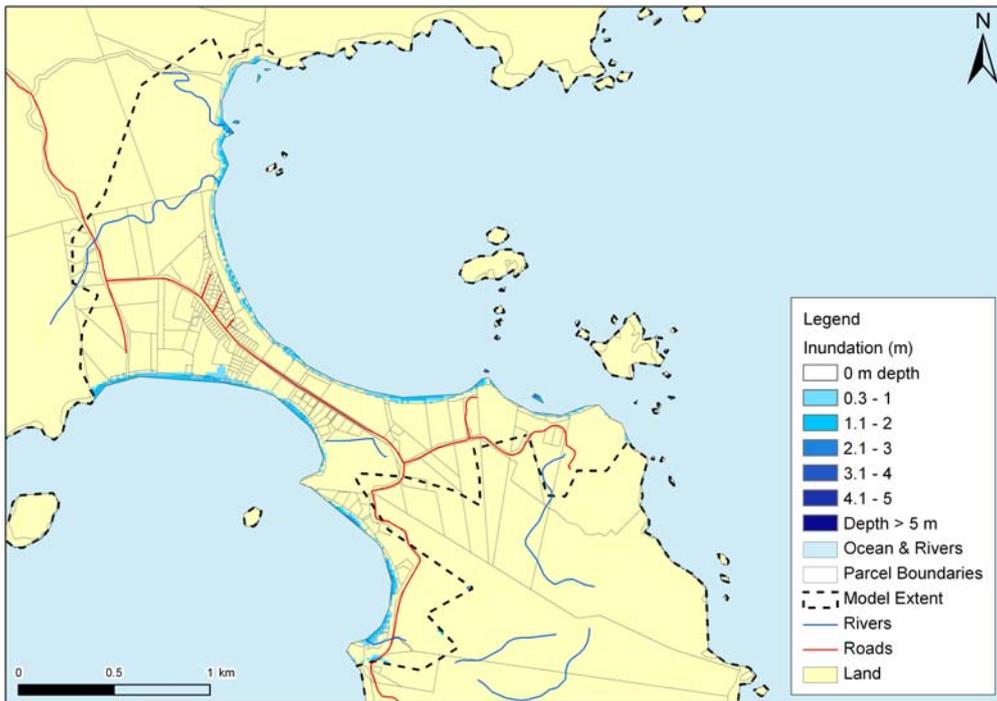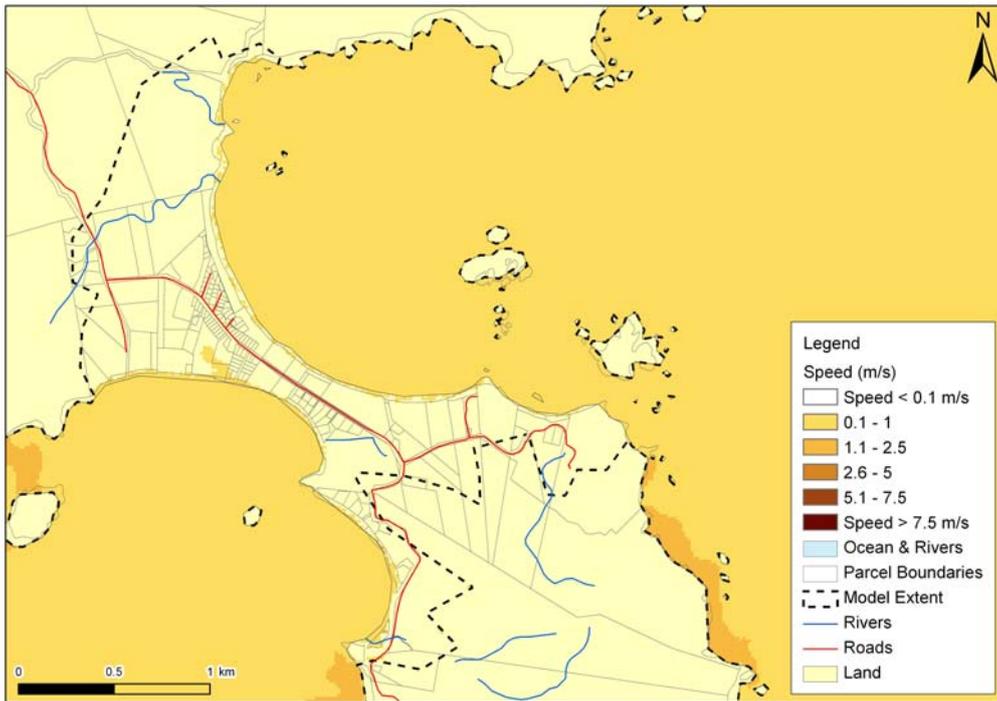
Figure 5: **Bland Bay, Whangaruru: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS + 50cm (to extent of LiDAR).**
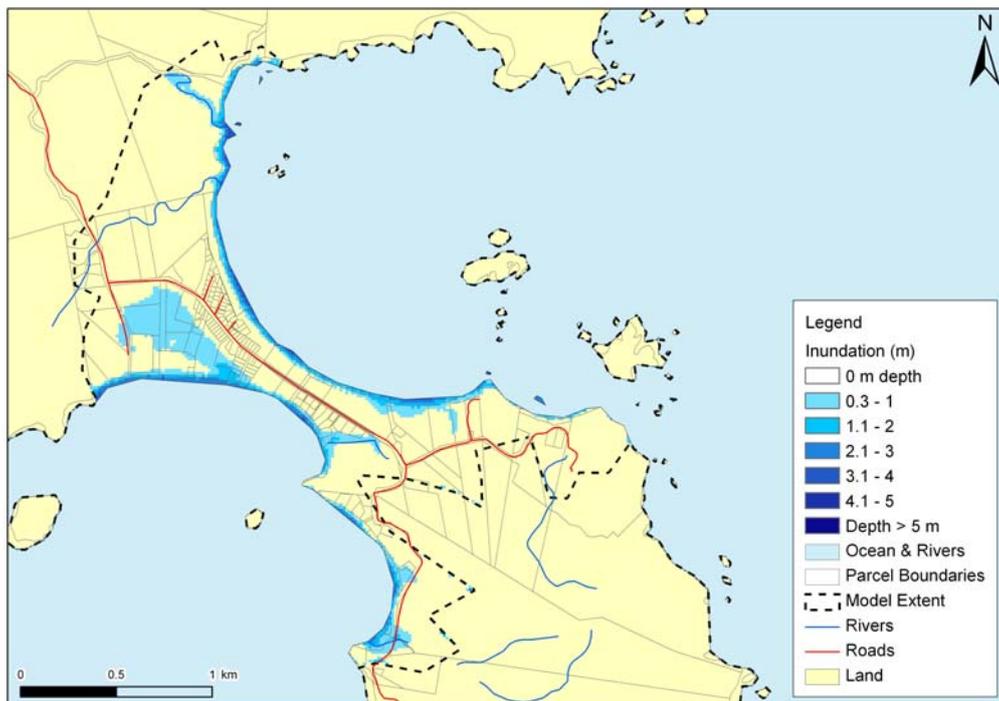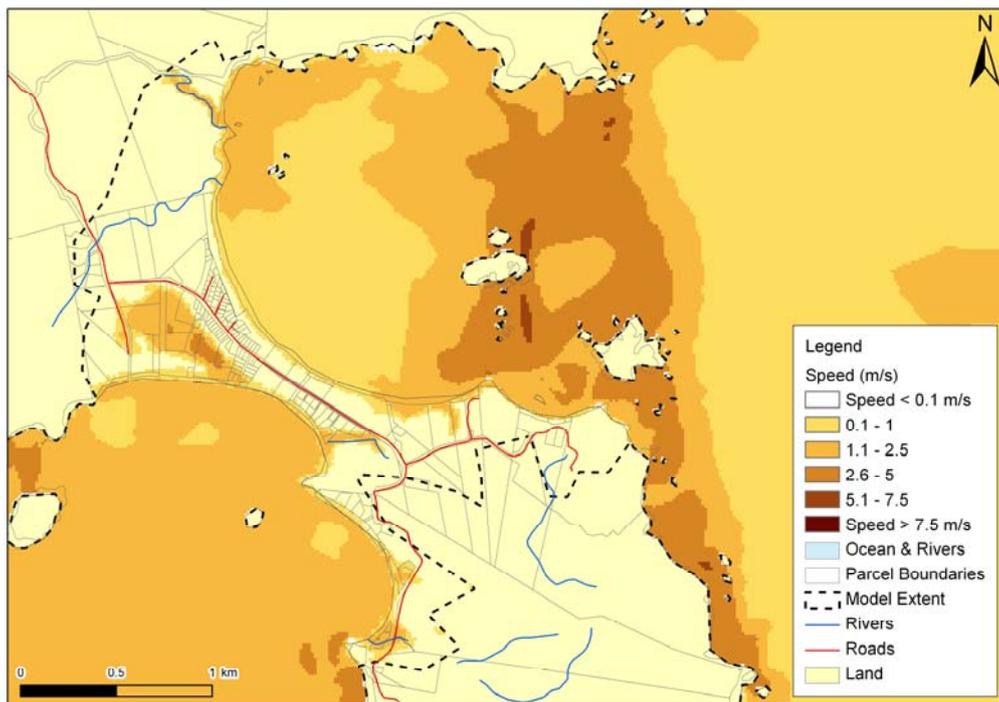
Figure 6: **Bland Bay, Whangaruru: Maximum inundation speed (upper) and depth (lower) plots for the M_w8.5 Tonga-Kermadec subduction zone scenario at MHWS (to extent of LiDAR).**
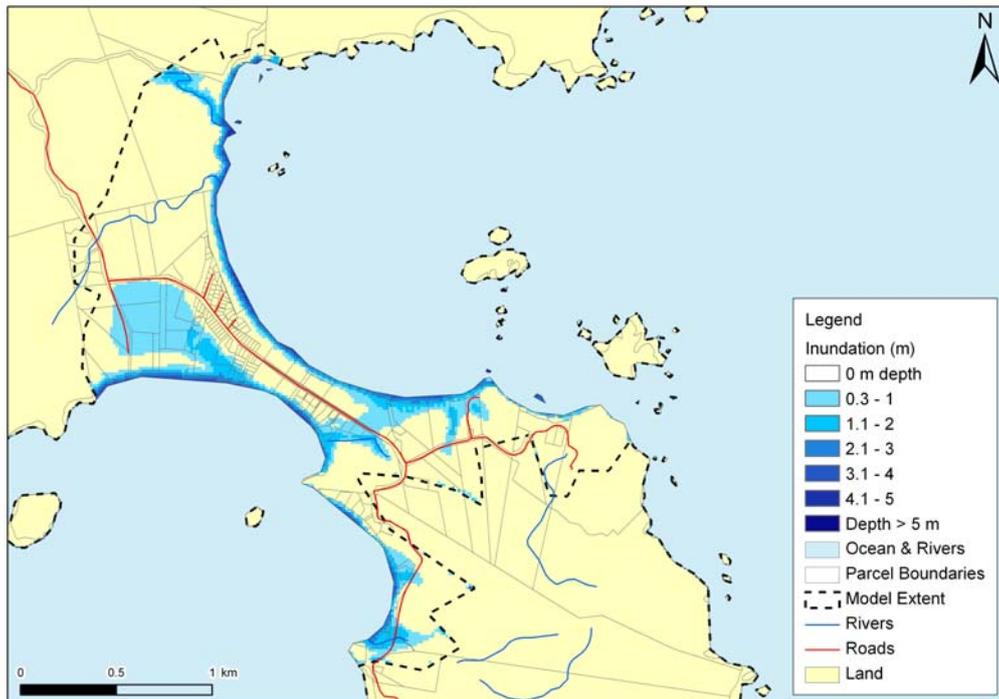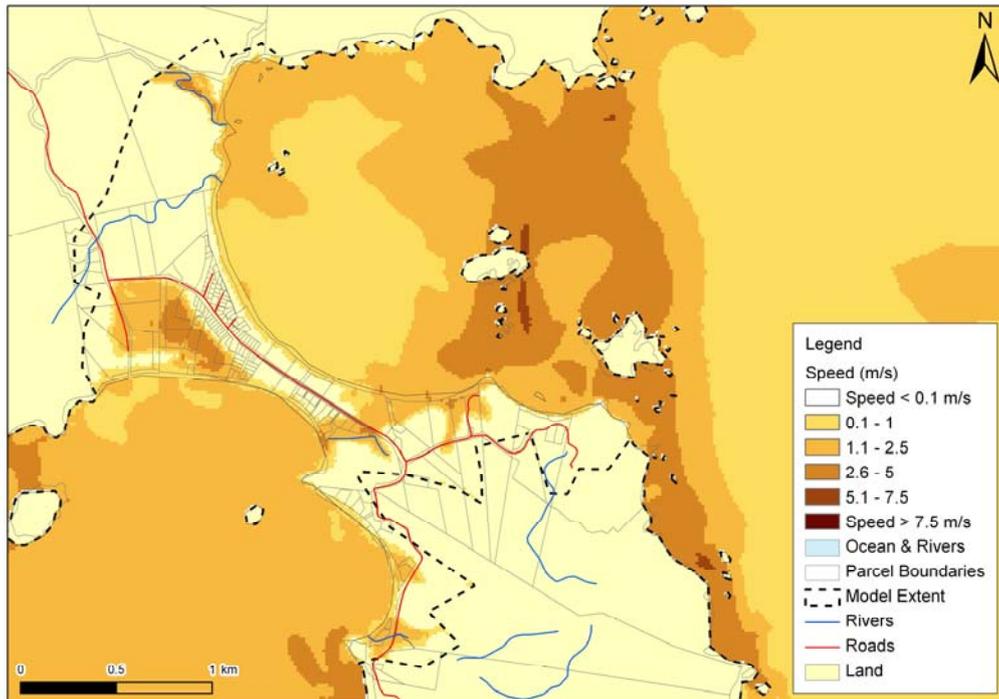
Figure 7: **Bland Bay, Whangaruru: Maximum inundation speed (upper) and depth (lower) plots for the M$_w$8.5 Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LiDAR).**
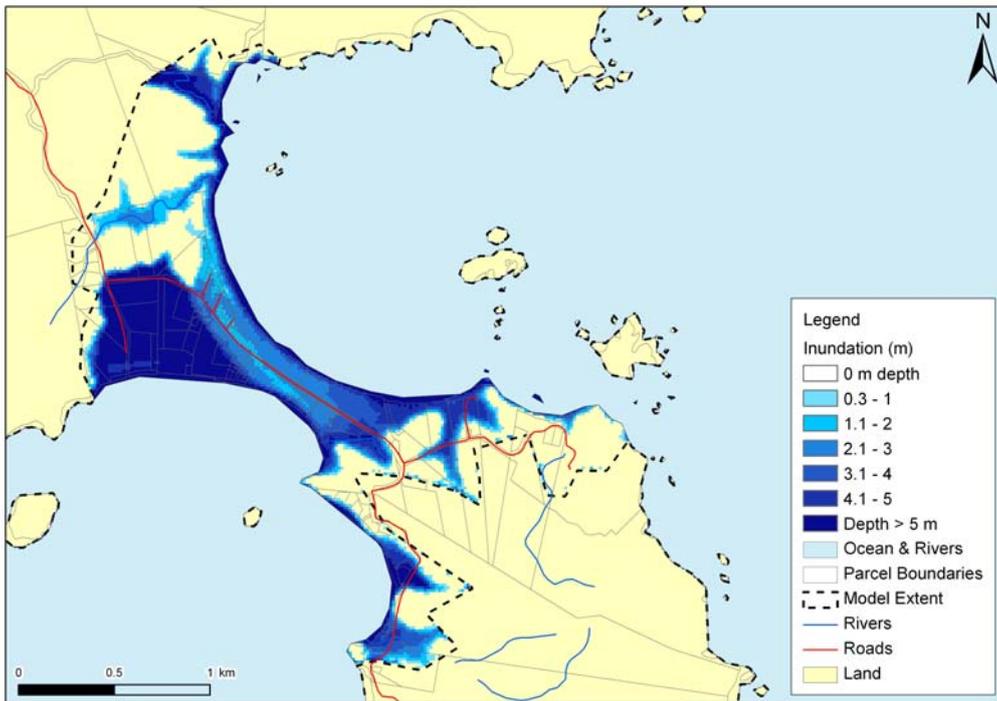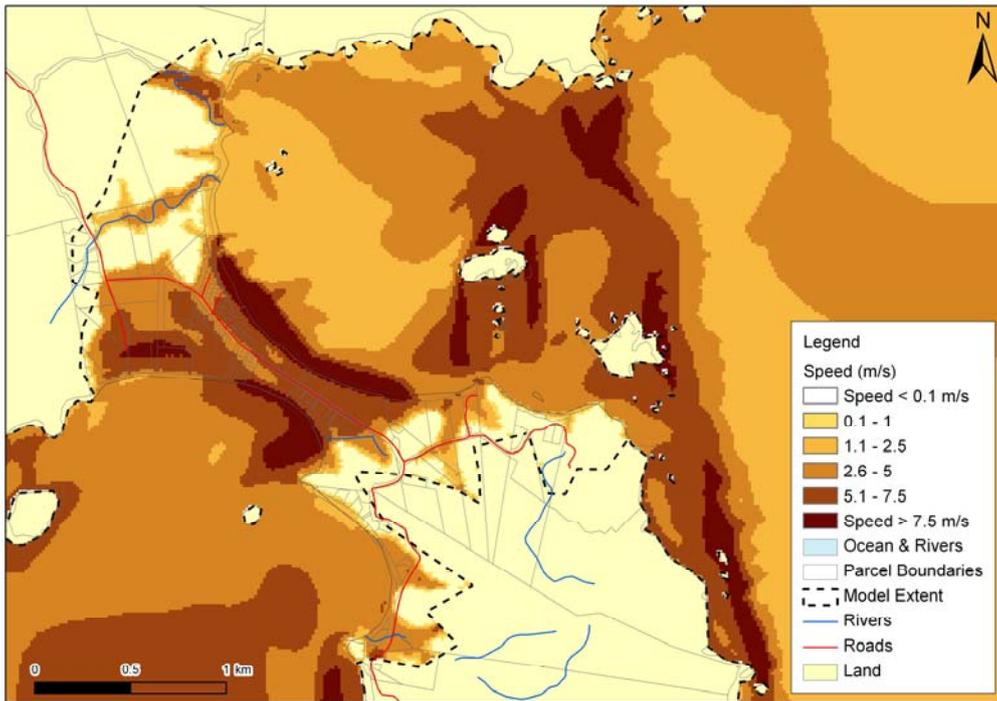
Figure 8: **Bland Bay, Whangaruru: Maximum inundation speed (upper) and depth (lower) plots for the M$_w$9.0 Tonga-Kermadec subduction zone scenario at MHWS (to extent of LiDAR).**
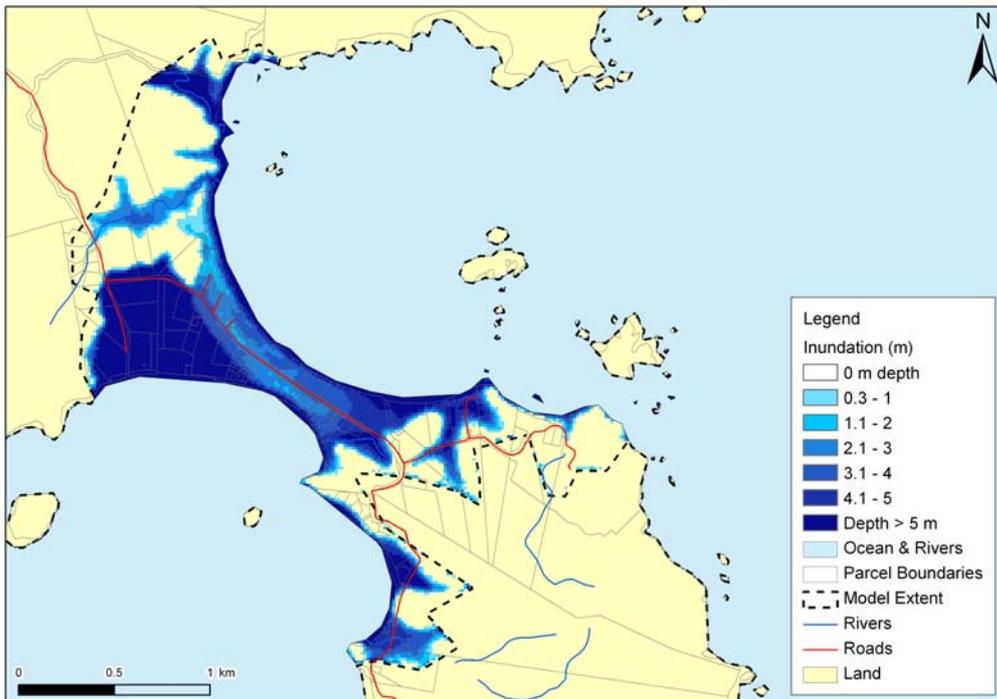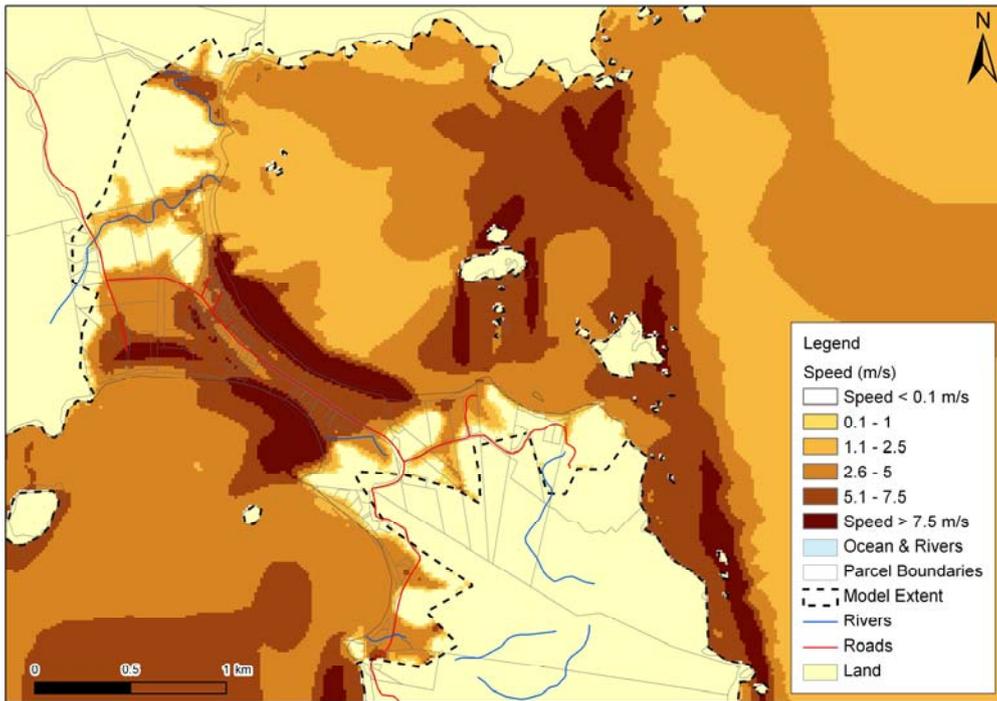
Figure 9: **Bland Bay, Whangaruru: Maximum inundation speed (upper) and depth (lower) plots for the M$_w$9.0 Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LiDAR).**