4.5. Russell

Maps of inundation depth and maximum current speed for Russell are presented in Figures 22-27. Inundation from the South American tsunami is generally confined to a very narrow strip of land around the coast. The most significant incursion occurs in the southern part of the town, flooding Matauwhi Road. Limited inundation also occurs at numerous locations around the headland, and is enhanced when sea level rise is considered. With sea level rise included, settlements between Hope Avenue and Florance Avenue are affected. Current speeds at the coast are generally relatively low, less than 1 m s^{-1}.

Predicted inundation from the TKSZ M_w8.5 event is deeper and more extensive than from the South American event, impacting settlements further along Matauwhi Road and Florance Avenue. Elsewhere, inundation is still largely confined to a narrow coastal margin, although buildings along The Strand may be impacted. The M_w9.0 event causes much more significant flooding, penetrating half a kilometre inshore through the centre of Russell. The settlements further south are also much more heavily impacted, with inundation depths of several meters along Matauwhi Road and Florance and Hope Avenues. Inundation of Tapeka is also predicted and settlements along Long Beach Road are at risk. Maximum current velocities generated during this event exceed 5 m s^{-1}, with potential to do significant damage.

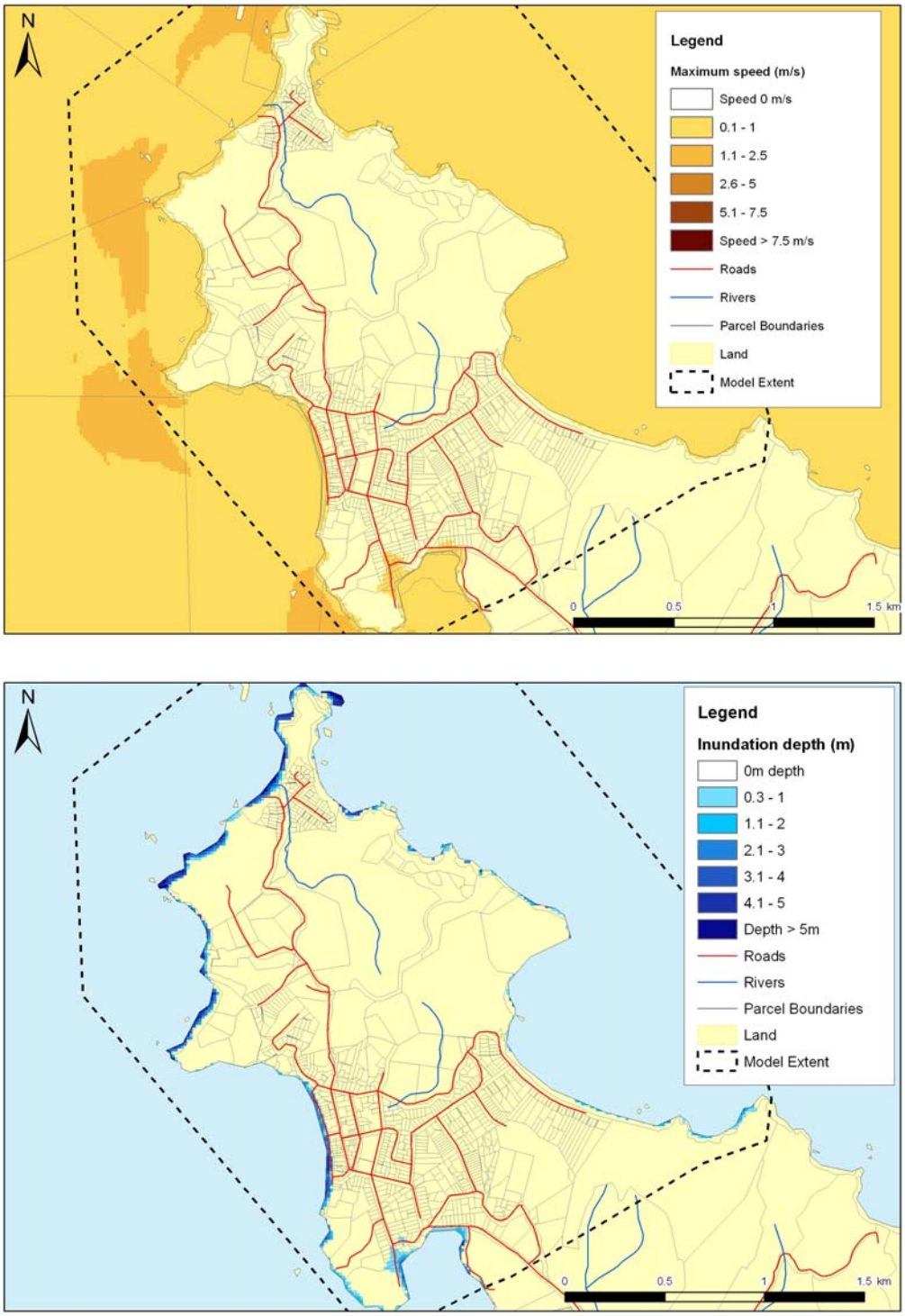

Figure 22: Russell: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS (to extent of LIDAR).

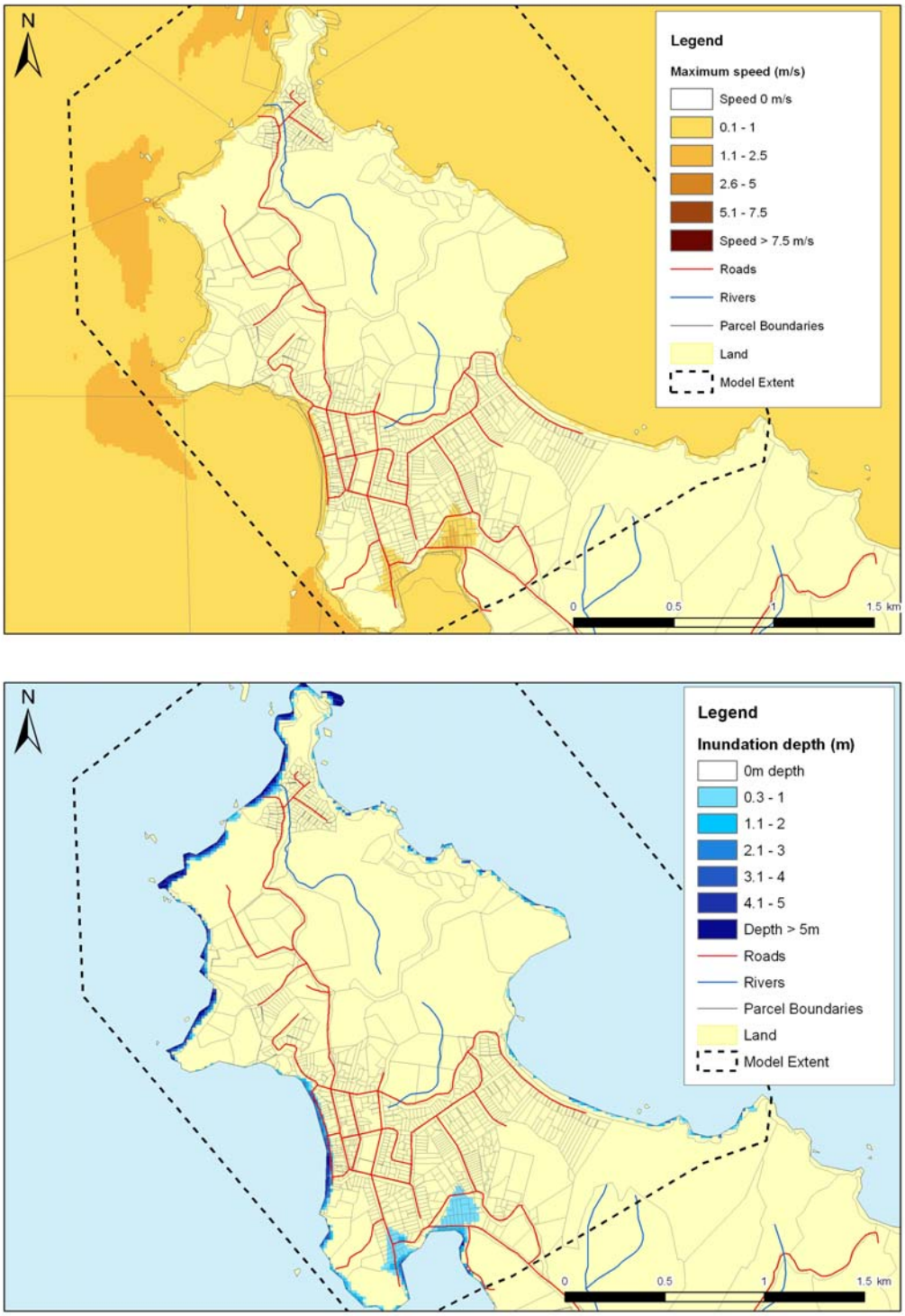

Figure 23: Russell: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS + 50cm (to extent of LIDAR).

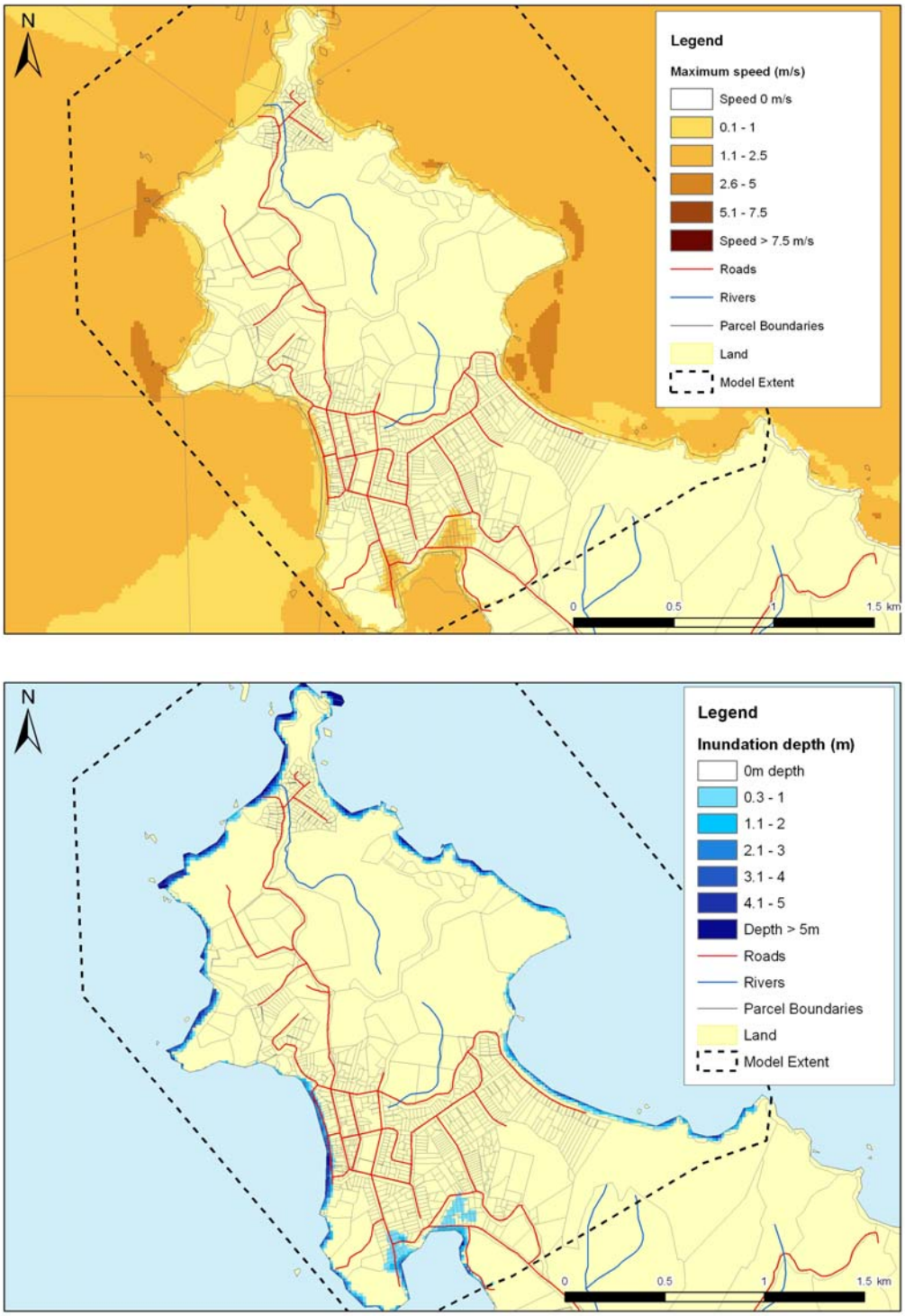

Figure 24: Russell: Maximum inundation speed (upper) and depth (lower) plots for the M_w8.5 Tonga-Kermadec subduction zone scenario at MHWS (to extent of LIDAR).

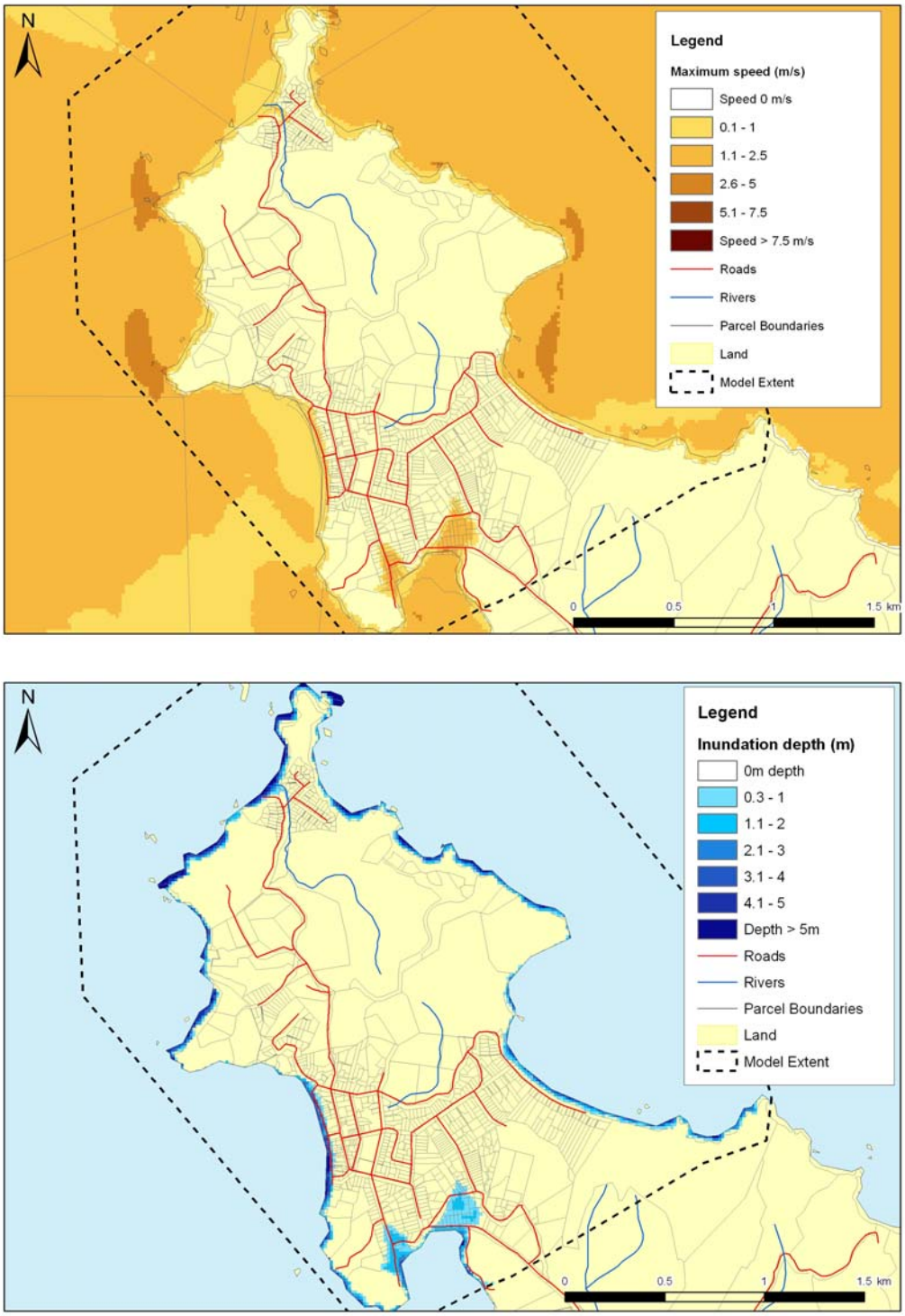

Figure 25: Russell: Maximum inundation speed (upper) and depth (lower) plots for the M_w8.5 Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LIDAR).

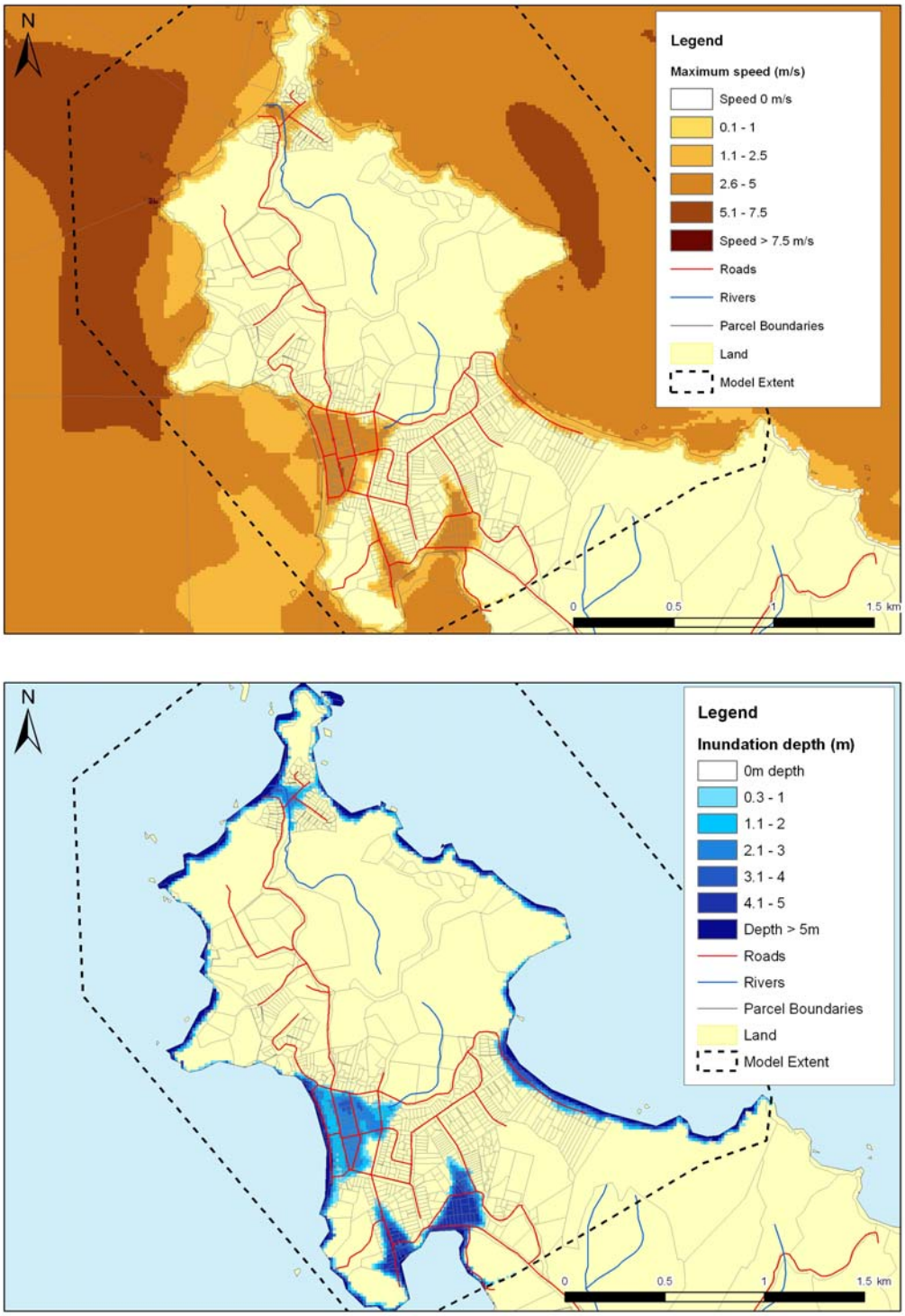

Figure 26: Russell: Maximum inundation speed (upper) and depth (lower) plots for the M_w9.0 Tonga-Kermadec subduction zone scenario at MHWS (to extent of LIDAR).

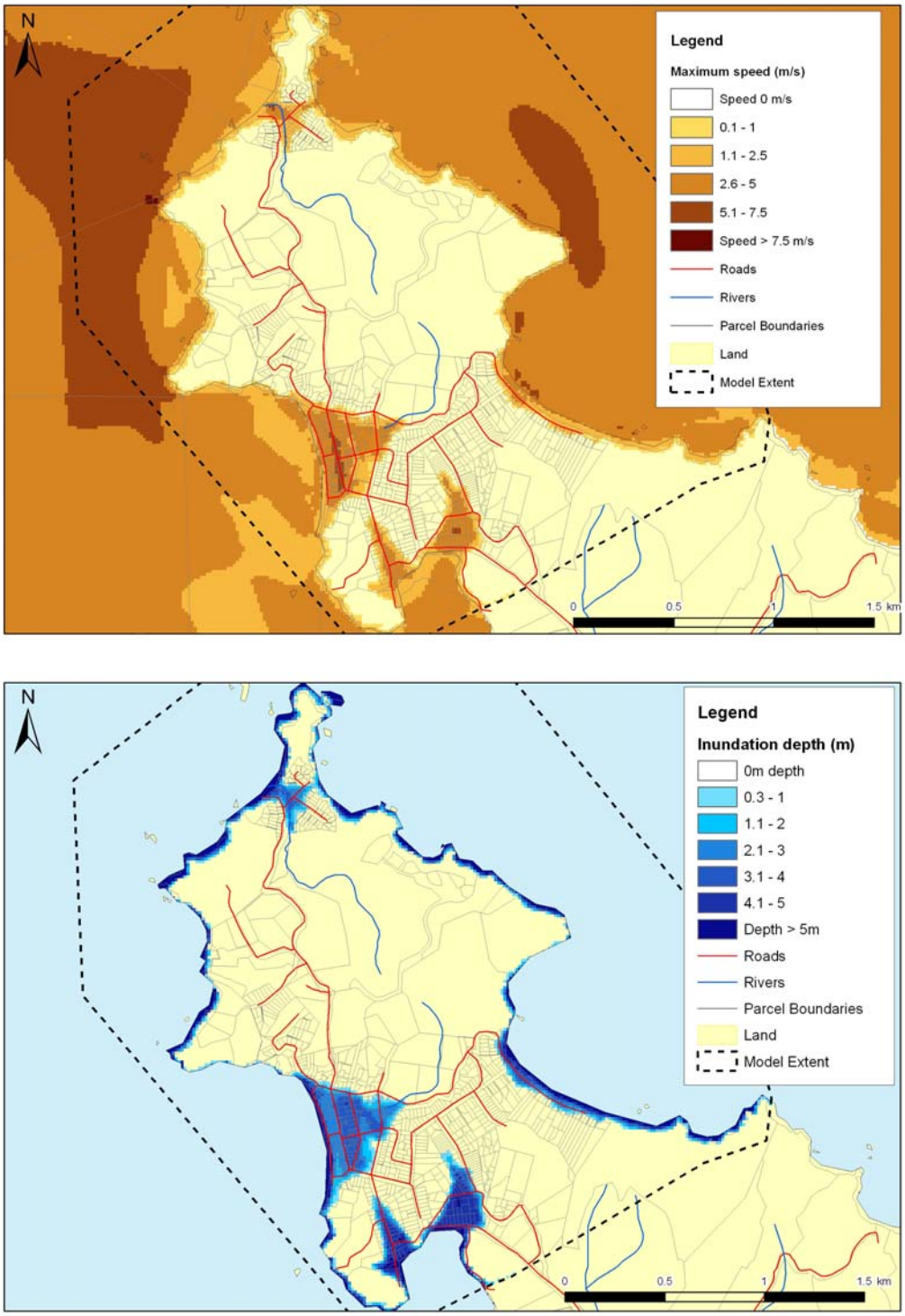

Figure 27: Russell: Maximum inundation speed (upper) and depth (lower) plots for the M_w9.0 Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LIDAR).