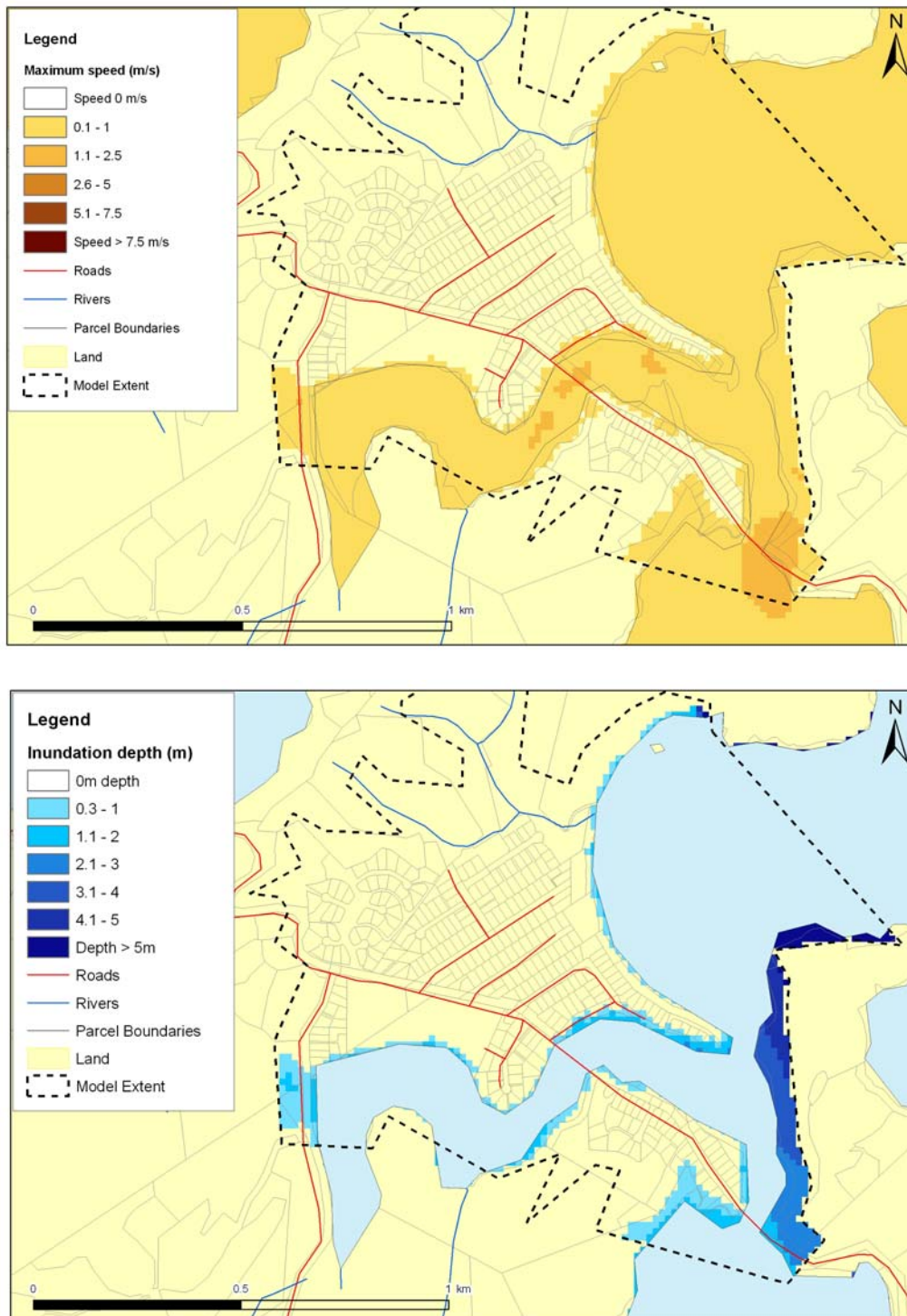


4.14. Matapouri

Maps of inundation depth and maximum current speed for Matapouri are presented in Figures 76 – 81. The South American event results in minor inundation of settlements at the southern edge of Matapouri on the north shore of the river. Maximum current speeds exceed 1 m s^{-1} in the river. When sea level rise is included, inundation depths increase, and the settlements south of the river are more heavily impacted.

The TKSZ $M_w 8.5$ event results in greater inundation south of the river than predicted for the South American event, and maximum water depths north of the river are also greater. Maximum current speeds reach 5 m s^{-1} at the southern end of Matapouri beach, but are typically between $2.5 - 5 \text{ m s}^{-1}$ elsewhere. Predicted inundation is much greater for the $M_w 9.0$ event: the entire Matapouri community is flooded, with maximum water depths reaching 5 m. maximum current speeds exceed 7.5 m s^{-1} , with associated damage and erosion risk. The extent of inundation is not significantly increased with a 50 cm sea level rise, but water depths are correspondingly greater.



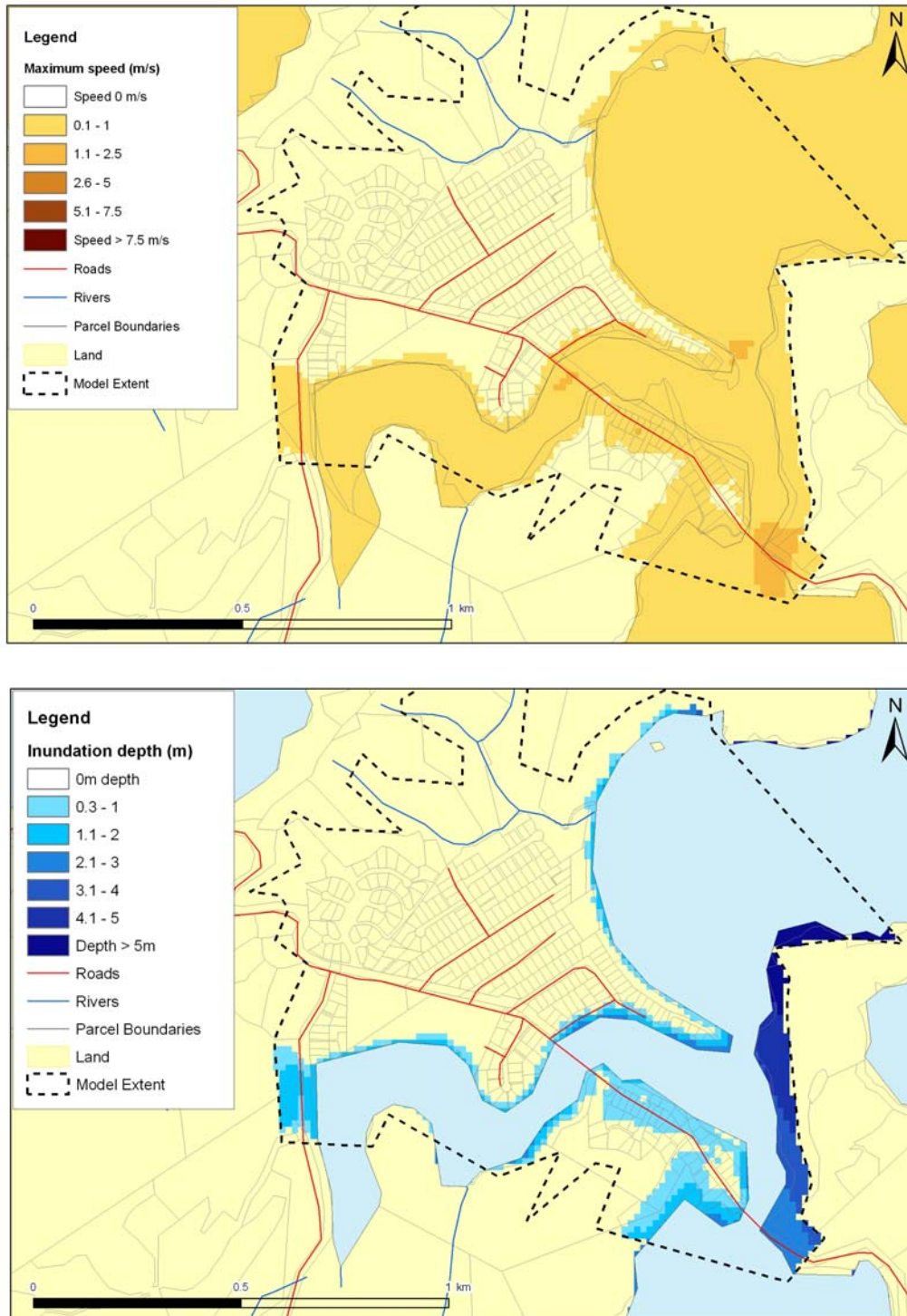


Figure 77: Matapouri: Maximum inundation speed (upper) and depth (lower) plots for the South American tsunami scenario at MHWS + 50cm (to extent of LIDAR).

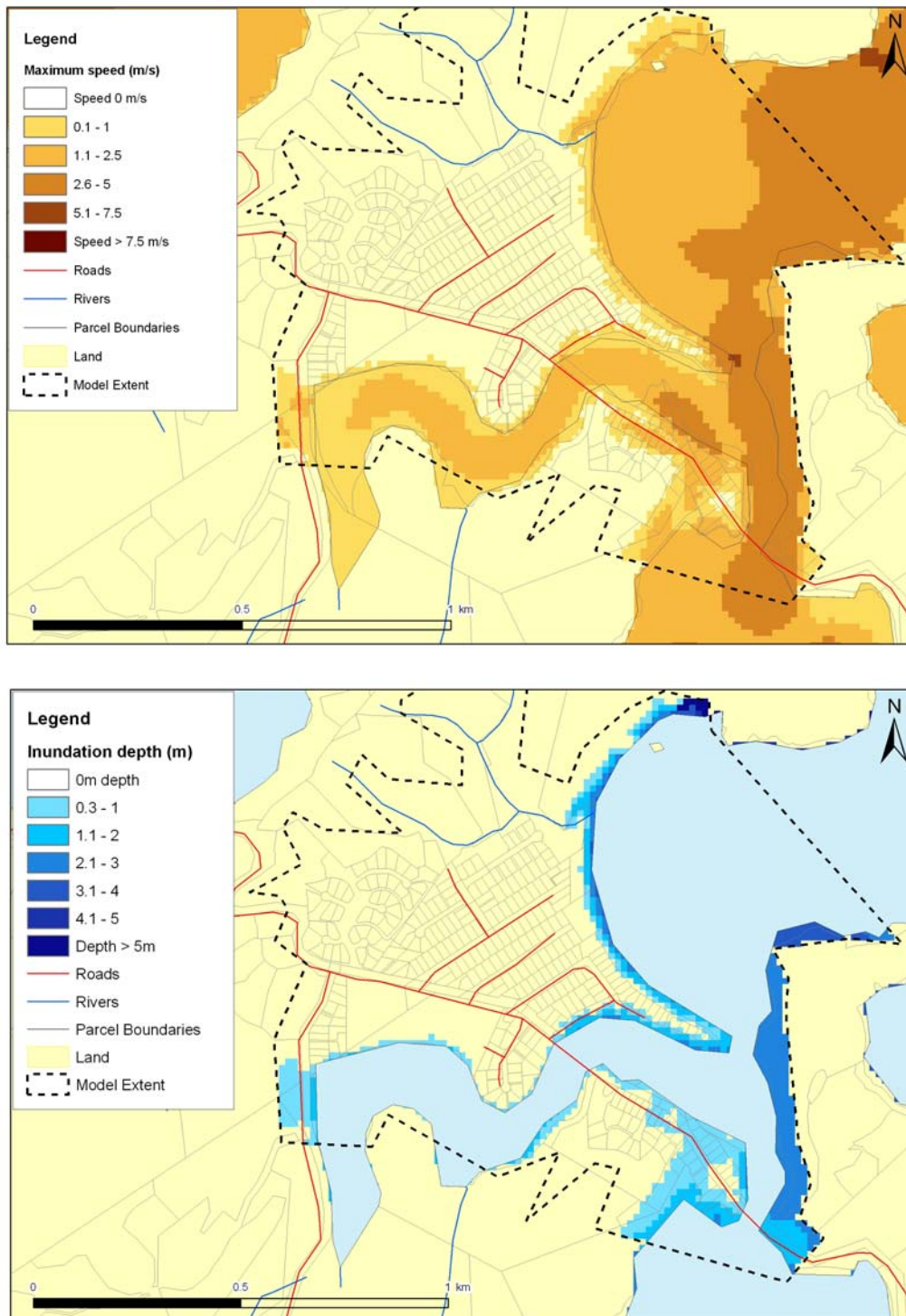


Figure 78: Matapouri: Maximum inundation speed (upper) and depth (lower) plots for the $M_w 8.5$ Tonga-Kermadec subduction zone scenario at MHWS (to extent of LIDAR).

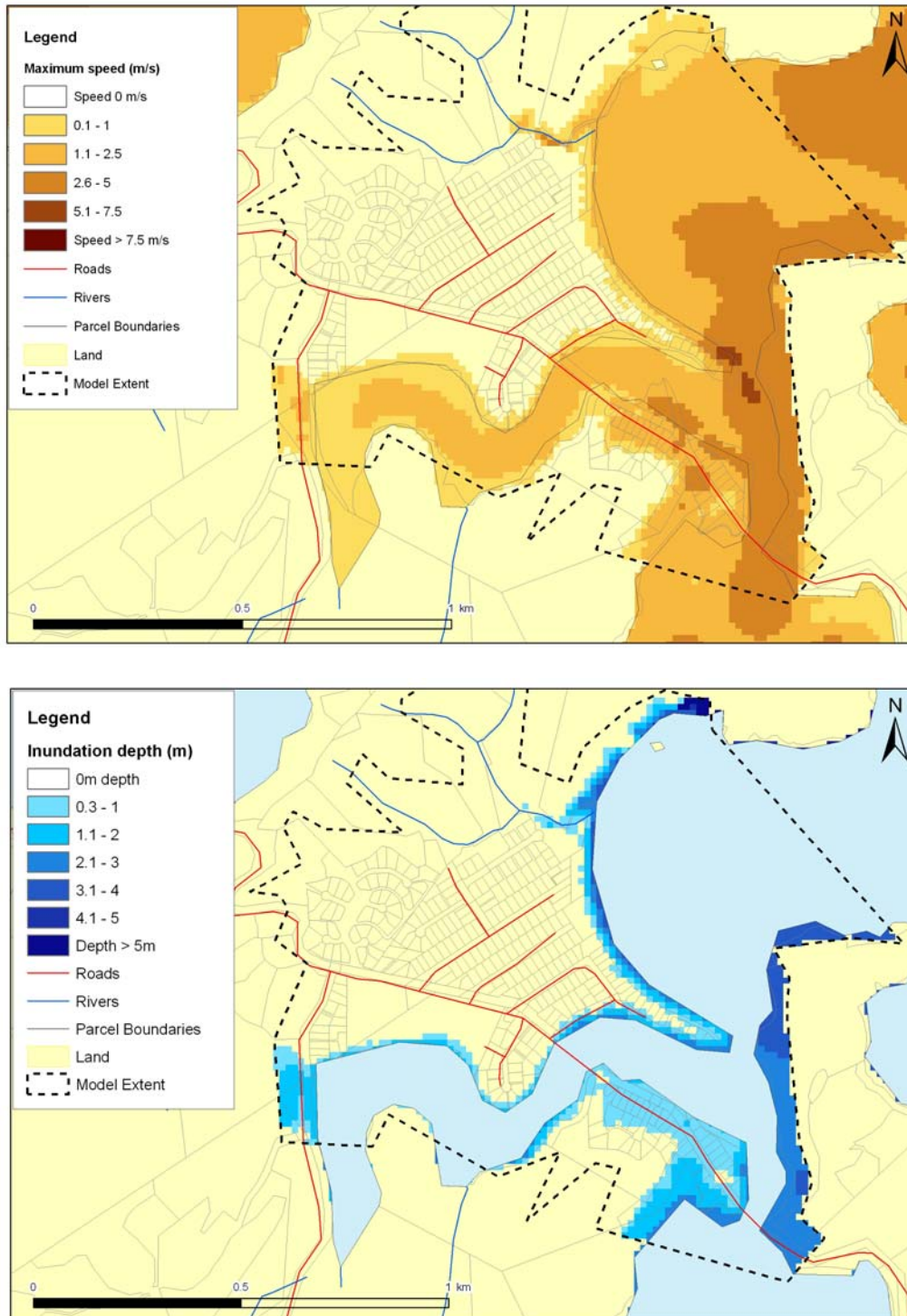


Figure 79: Matapouri: Maximum inundation speed (upper) and depth (lower) plots for the M_w 8.5 Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LIDAR).

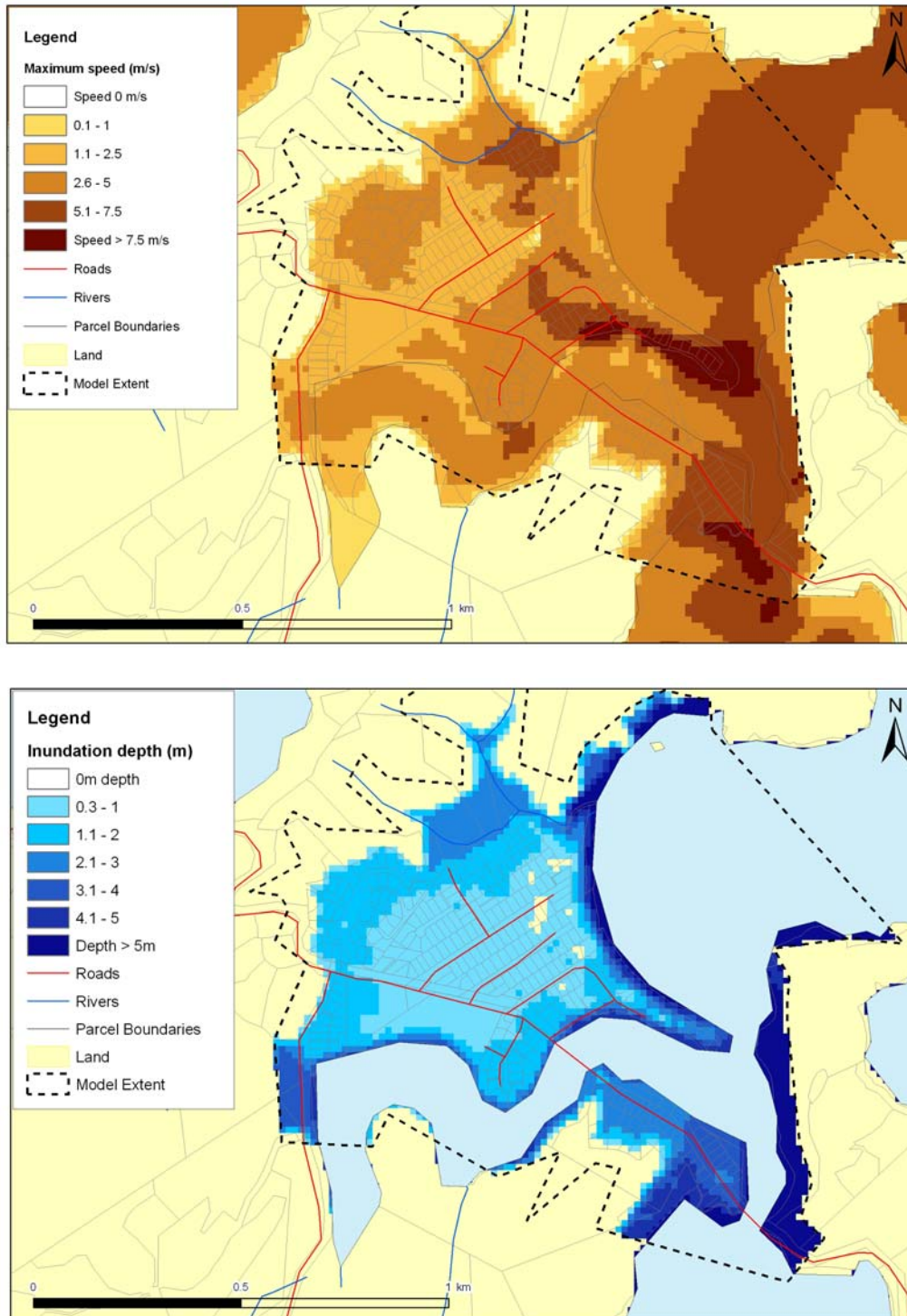


Figure 80: Matapouri: Maximum inundation speed (upper) and depth (lower) plots for the $M_w 9.0$ Tonga-Kermadec subduction zone scenario at MHWS (to extent of LIDAR).

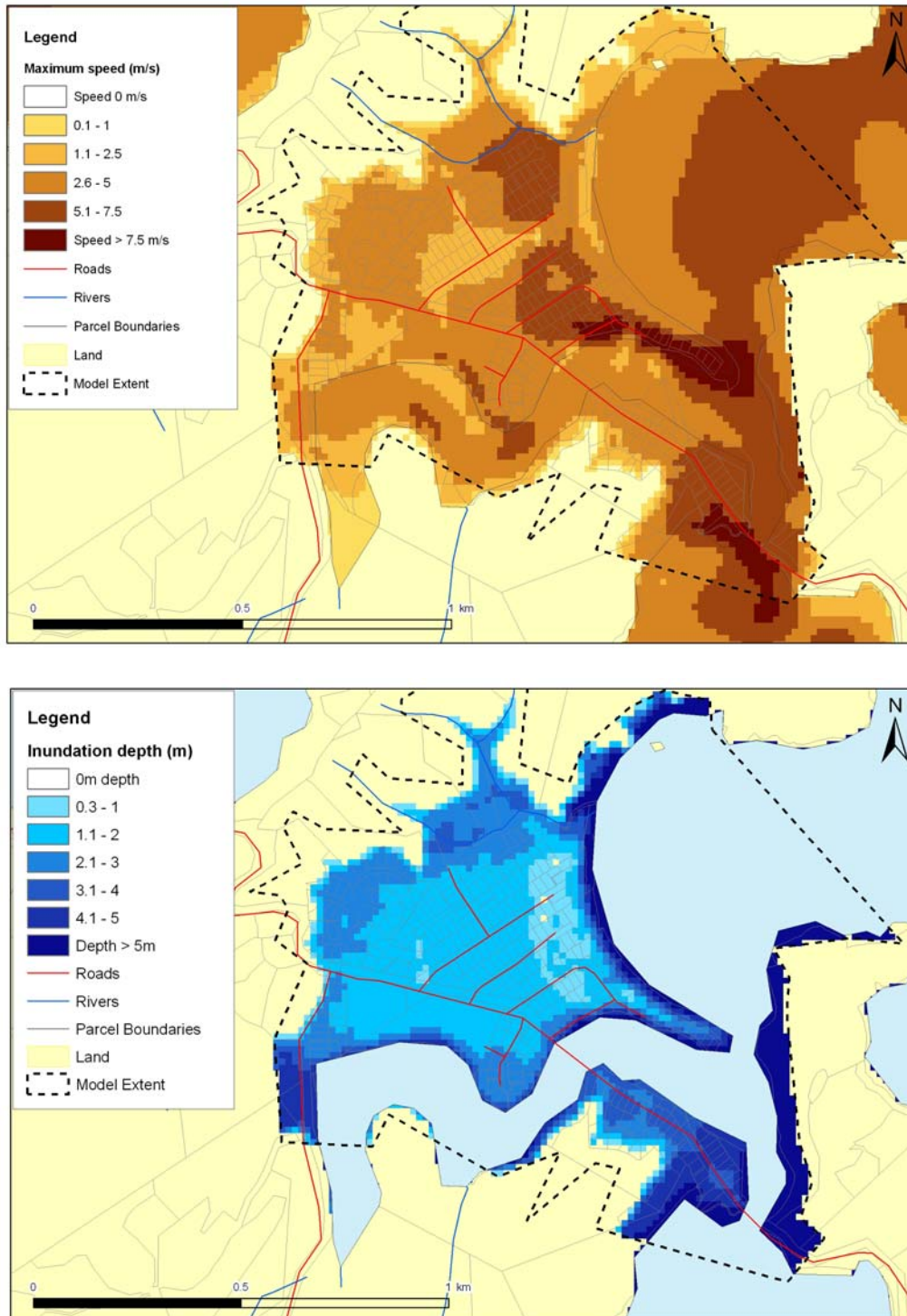


Figure 81: Matapouri: Maximum inundation speed (upper) and depth (lower) plots for the Mw9.0 Tonga-Kermadec subduction zone scenario at MHWS + 50cm (to extent of LIDAR).