

Abstract

On 1 January, 2024, an earthquake of magnitude 7.6 on the Japan Meteorological Agency scale (M_{JMA}) occurred on the Noto Peninsula in central Japan. The earthquake caused serious damage from strong ground motions and tsunamis, especially in the Hokuriku region of Honshu. The tsunami survey group of the Meteorological Research Institute (MRI) of Japan performed field surveys in cooperation with the Japan Meteorological Agency Mobile Observation Team (JMA-MOT) as part of the 2024 Noto Peninsula Tsunami Joint Survey Group (the Joint Group). The tsunami analysis we conducted prior to the field surveys suggested the possibility of a tsunami source in Toyama Bay. To obtain the data needed to ascertain the tsunami source, the MRI field surveys focused on the coast of Ishikawa and Toyama prefectures along Toyama Bay.

The MRI tsunami survey group identified reliable tsunami heights at six locations, three in Ishikawa Prefecture and three in Toyama Prefecture; tsunami inundation heights and runup heights after tide correction ranged from 1.1 to 2.4 m. From these data and the maximum tsunami heights recorded by tide gauges, the tsunami heights along the coast of Toyama Bay were found to be 0.4–2.5 m. This is expected to constrain tsunami sources in Toyama Bay. Another product of the field survey was determining the actual size of objects in live camera footage of the tsunamis at Wajima Port in Ishikawa Prefecture and at the Amaharashi Coast and the Iwasehama in Toyama Prefecture. These data enable the extraction of tsunami waveform data, which contributes to the accurate estimation of the tsunami source.

Tsunami survey data of the MRI group have been shared with the JMA and the Joint Group and are included in the comprehensive datasets, such as the JMA's official report (i.e., "Report on earthquake and tsunami: the 2024 Noto Peninsula earthquake" published in September 2024) and scientific report by the Joint Group (e.g., Yuhi *et al.*, 2024). However, information on each survey site in these reports is limited due to the large size of those datasets. To supplement the previously published information, this report provides detailed data obtained by the MRI group, such as raw survey data, interview data, and photos.