

Interactive comment on “Tsunami hazard warning and risk prediction based on inaccurate earthquake source parameters” by K. Goda and K. Abilova

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Received and published: 11 February 2016

We appreciate Dr Daniell for positive and constructive comments on the submitted manuscript. Our detailed point-by-point responses are given in the following.

C1 Clarify that the adopted conversion rate between JPY and USD is an average in the recent years. R1 Agreed. In the revised manuscript, the following sentence is added: ‘note that this conversion rate is an average over recent years and is adopted for simplicity’.

C2 Provide additional information on the changes of the magnitude estimates during

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the early phase of the 2011 Tohoku earthquake. R2 Agreed. The descriptions of the history of released magnitude estimates was revised in the revised manuscript.

C3 Provide the reference for the adopted Manning’s coefficients. R3 Agreed. These values are standard values of Manning’s coefficients for different land use/surface coverage. For this purpose, we cite Japan Society of Civil Engineers (2002) in the revised manuscript. We also note that the original study was from Otani et al. (1998), which is only available in Japanese.

C4 The sentence ‘in the database . . . and was-away’ in Section 2.4 is misplaced. R4 Agreed. This sentence is moved to Section 2.5.

C5 Clarify the projection used for Figures 5a, Figure 9, Figure 11, and Figure 12. R5 Agreed. The projection is the plane orthogonal coordinate system. This is the standard projection in Japan and is similar to typical UTM coordinate projection based on WGS84. The Japanese projection system is based on GRS80 and adopts Gauss-Kruger projection. More importantly, it adopts 19 different local reference projection axes. In the revised manuscript, we included the following statement in Section 2.4: ‘Note that the map shown in Figure 5a is based on the Japanese plane orthogonal coordinate system (which uses GRS80 as Earth ellipsoid and Gauss-Kruger map projection)’. In addition, we included brief statements in the figure captions to clarify that the results in Figures 5a, Figure 9, Figure 11, and Figure 12 are based on the Japanese map projection.

C6 Add information on the relative percentages of different building types in Figure 5a. R6 Agreed. As we think that the figure becomes congested if we add a bar graph, we indicate the relative percentages in the figure legend of Figure 5a.

C7 Make corrections for the suggested typos. R7 Agreed. These changes are made in the revised manuscript.