

We thank the reviewer for the positive and constructive assessment of the manuscript, and for raising these important operational questions. The reviewer correctly identifies that the value of station-updated ground-motion parameter maps extends well beyond the technical improvement of shaking estimates, it lies in their capacity to support more timely and better-informed emergency response decisions during the critical golden hours. We address each question below.

1) In what specific ways can updated shaking maps improve post-earthquake response?

A passage has been added describing the operational ways in which station-updated ground-motion parameter maps can improve post-earthquake response: more accurate mapping of high-exceedance damage zones, better-informed search-and-rescue deployment decisions, and the identification of debris accumulation corridors that may obstruct emergency access routes.

Author's changes in manuscript;

Station-updated ground-motion parameter maps can directly improve post-earthquake response at multiple stages of the emergency management process. By correcting the systematic underestimation typical of purely GMPE-based representations, updated maps provide a more accurate spatial distribution of where structural damage is most likely to be concentrated. This, in turn, enables a clearer identification of high-exceedance zones and supports better-informed decisions on search-and-rescue team deployment and emergency resource allocation. Updated maps can also help identify potential debris accumulation corridors, allowing pre-emptive positioning of heavy clearance equipment and the planning of alternative access routes.

2) How could updated shaking maps have contributed operationally to the rapid response on 30 October 2020, beyond immediate first-responder engagement?

The specific operational implications for the 30 October 2020 response have been elaborated. The AFAD strong-motion stations used in this study recorded the event in real time, meaning the data required for an observational update were, in principle, available within minutes. Had such an update been operationally integrated, the {M+E+C} exceedance probability for the Mansuroğlu Neighborhood would have shifted from the 0–10% range to approximately 15–30%, providing earlier evidential support for escalating search-and-rescue deployment and debris clearance prioritization beyond the immediate first-responder phase.

Author's changes in manuscript;

The events of 30 October 2020 illustrate this point directly. The initial ground-motion estimates placed the {M+E+C} exceedance probability for the Mansuroğlu Neighborhood within the 0–10% range. Had observational records been incorporated into the damage-estimation process in the first hours following the event, this figure would have risen to approximately 15–30%, a difference sufficient to alter the operational response category from monitoring to active mobilization. The four AFAD stations recorded the event in real time, and the data were available within minutes of the earthquake. The limiting factor was therefore not data availability but the operational integration of near-real-time observations into rapid damage-estimation frameworks — an operational gap that the analysis presented here brings into clear focus.

3) What data on code compliance is readily available to first responders?

As the reviewer notes, this study identifies code compliance as a key risk mitigation issue: it directly governs the structural behaviour and the resulting damage state of a building, and therefore the reliability of the damage estimate. In this study, code compliance enters the analysis through the assigned seismic design level, which in turn determines the fragility curve applied to each building.

In terms of data availability, the building inventory used in this study was obtained from the national database of the Ministry of Environment, Urbanization and Climate Change. Such a database exists and provides structural attributes for the study area, although it is not always complete at the individual building level.

Realising the full operational value of station-updated maps therefore depends not only on ground-motion data but also on effective inter-institutional coordination during a disaster: building inventory data held by the Ministry, strong-motion data provided by AFAD, and the operational response carried out by all national and local authorities. When these data streams are shared and integrated, rapid damage estimation can support far more effective emergency management. A passage addressing these practical prerequisites has been added to Section 4.3.