



ShakeMap

ShakeMap, developed by USGS, provides near-real-time maps of shaking intensity following significant earthquakes. As such, it is a useful tool for rapidly evaluating the likely impact of an earthquake in terms of ground-shaking intensity.

ShakeMap has been introduced by Geoscience Australia to support post-earthquake decision-making by Australian emergency management agencies. Geoscience Australia has adapted ShakeMap for Australian earthquake and seismic monitoring conditions, and uses it to model shaking intensity from Australian earthquakes above magnitude $M_L 3.5$.

ShakeMap combines information from “Felt Reports”, submitted by the community through GA’s earthquakes website (<https://earthquakes.ga.gov.au/>), with telemetered seismic data, information about the regional geology, and models that estimate ground shaking for a given magnitude and distance from the earthquake.

For a candidate earthquake, the initial version of ShakeMap will usually be available at around 30 minutes after the earthquake origin time. Updates are subsequently released at time intervals after the origin time (approximately 1 hour, 2 hours, 4 hours, 1 day), and it is these updates that are calibrated by the available “macroseismic intensity” data derived from online Felt Reports.

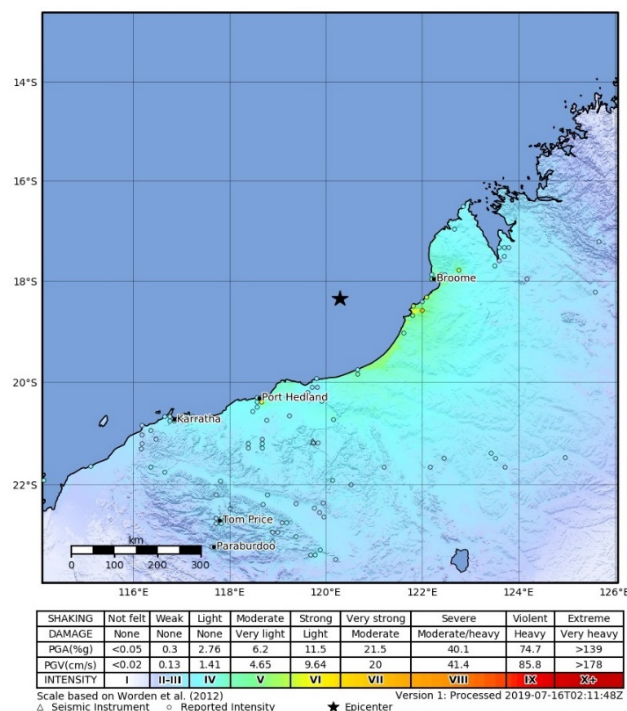


Figure: ShakeMap for the 14 July 2019 M_w 6.6 offshore Broome earthquake. The ShakeMap is calibrated by information from over 1700 felt reports provided by members of the public through Geoscience Australia’s earthquakes website, as well as data from seismic recording instruments.

Further Information

GA’s implementation of ShakeMap including use of felt report data, see:
[eCat 132512](#)

Modified Mercalli Intensity scale, see:
<https://www.ga.gov.au/scientific-topics/community-safety/earthquake#heading-8>

For more information about ShakeMap, generally, see: <http://usgs.github.io/shakemap/>

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