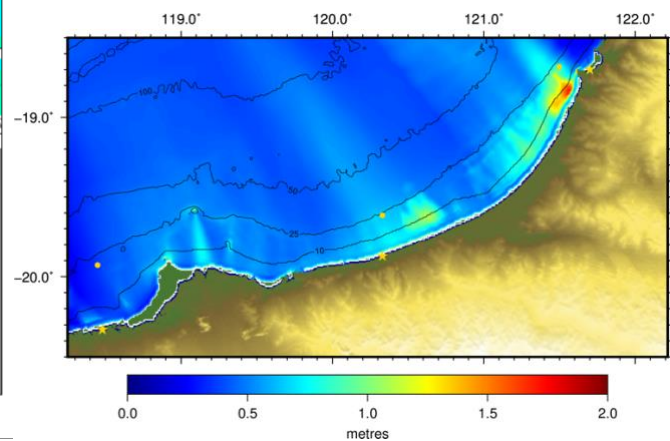
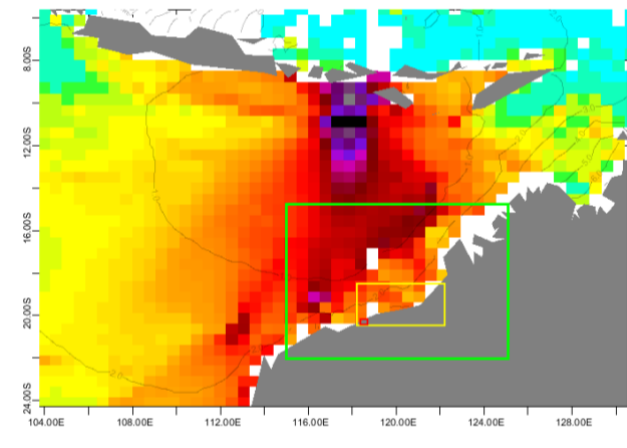
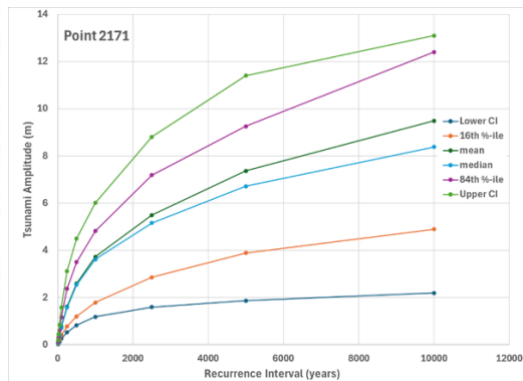
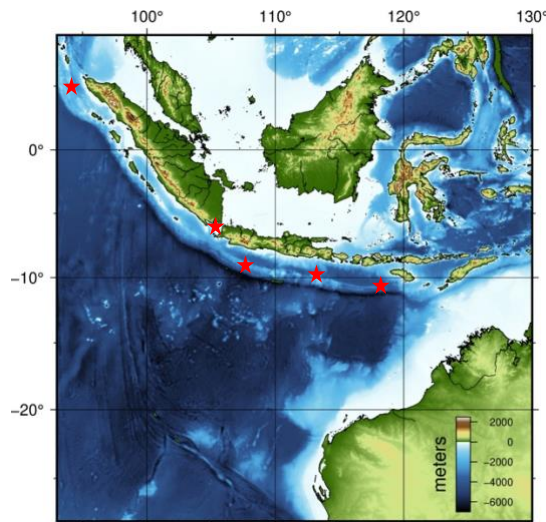


# TSUNAMI HAZARD ASSESSMENT PILBARA COAST, WESTERN AUSTRALIA

AUSTRALIA



(top left) North-western Australia is exposed to tsunami generated from the Sunda Subduction Zone south of Java. (top right) tsunami hazard curves from a probabilistic model. (bottom) Modelled tsunami heights for a hypothetical large magnitude earthquake (right) modelled near shore tsunami amplitudes at the project site.

## PROJECT INFORMATION:

**Location:** Pilbara Coast, Western Australia

**Client:** Arup Australia

**Project Date:** 2024

## SCOPE OF WORK:

- Review of historical tsunami events
- Tsunami source characterization
- Tsunami Hazard Assessment

## PROJECT DESCRIPTION:

We conducted a tsunami hazard assessment for the Pilbara Coast in northern Western Australia. Our study was primarily a desktop review of tsunami history and existing tsunami hazard studies relevant to the region. Based on our review it is clear that the northern coast of Western Australia is one of the more tsunami prone regions in Australia due primarily to its exposure to the Sunda Subduction Zone south of Java, Indonesia. Several historical tsunami events have been generated along this margin. The 1977 Sumbawa earthquake caused 6 m runup at Leveque while the July 2006 earthquake in West Java reportedly generated nearly 8 m runup at Steep Point. Despite these records, tsunamis are still relatively rare and it would require a very large magnitude event located at the eastern reaches of the subduction zone to produce a tsunami with widespread devastating effects along the coastline of the study area.