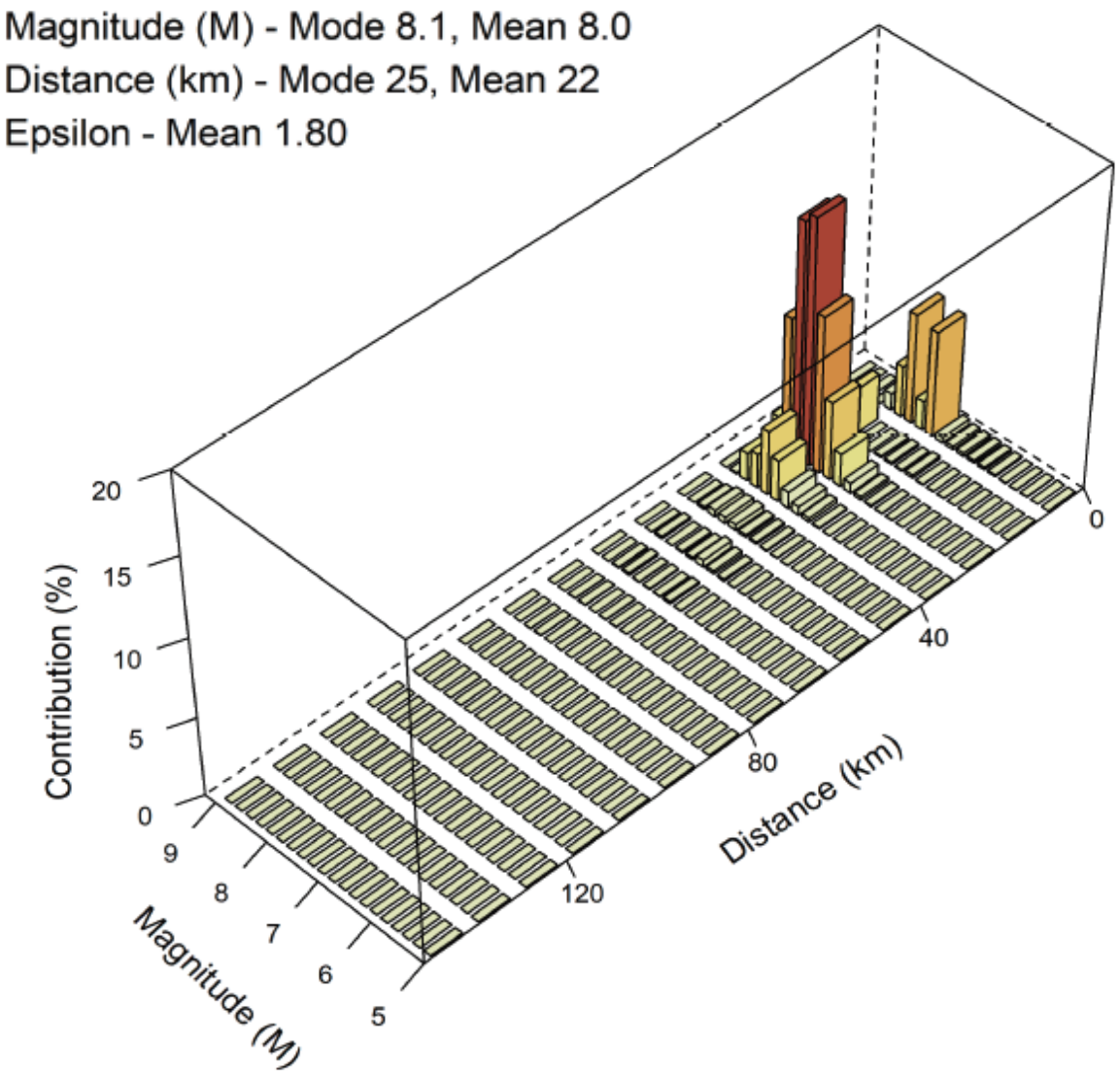
- This is a sample deaggregation from a PSHA for a site in the lower North Island.
- The Hikurangi subduction interface is a dominant source (M8, distance 22 km).
- Ground motion models for interface ground motions are not as well-developed as GMMs for crustal ground motions.
- The lower North Island is an area of NZ with a large demand for PSHA and time histories.
- **There is an opportunity for physics-based ground motions to:**
  - **Fill the interface GMM gap.**
  - **Provide time histories for large magnitude, close distance ruptures.**



The following is needed to validate physics-based ground motions:

1. Historical earthquakes on the specific faults under scrutiny, or
2. Established empirical ground motion models.

We have neither of these for large magnitude, close distance earthquakes.

Could physics-based ground motions be the current best option for estimating ground motions and time histories for large magnitude, close distance earthquakes?