



## Flat Slabs in Time and Space

Steven Skinner and Robert Clayton

Division of Geological and Planetary Sciences, Caltech, Pasadena, United States (skinner@caltech.edu)

We investigated the spatial relationships between the subducting anomalies and flat slabs in South America. Using standard plate reconstructions we backtrack conjugates of bathymetric features on the present day Pacific plate to the subduction zone on the western side of South America. This time history of potential impactors is then compared to the flat slab history given by Ramos and Folguera (2009). We have found that in detail the subducting anomalies and the zones of flat or shallow subduction do not correlate very well in time and space. In addition we have also found potential bathymetric features that do not produce shallow slabs. These results are in agreement with the present situation where some instances of flat slab subduction have no bathymetric impactor (such as central Mexico), and some subducted bathymetric features do not produce flat-slab subduction (Skinner and Clayton, 2010).

Ramos, V.A., and Folguera, A., 2009, Andean flat-slab subduction through time: Geological Society, London, Special Publications, v. 327, p. 31-54.

Skinner, S., and Clayton, R., 2010, An Evaluation of Proposed Mechanisms of Slab Flattening in Central Mexico: Pure and Applied Geophysics, p. 1-14.