

Reviewer comments and responses – round 2

Does episodic tremor and slip influence seismicity in northern Cascadia?
by Madison Bombardier, John F. Cassidy, Stan E. Dosso
submitted for publication to Seismica

To the editor

Reviewer comments are in black and our responses are in red. All changes made in response to comments below have line numbers highlighted in yellow, and reference the manuscript with changes tracked.
Thank you.

Reviewer B:

I have read over the revised manuscript and don't have any significant disagreements with the proposed revisions. I do have 3 comments that could warrant further minor revision that I leave at the authors' discretion.

Lines 62-63: The Cascadia megathrust is "essentially quiescent". I would suggest noting the highly probable and well documented exception of the Oregon Coast by Trehu et al 2008 (<https://doi.org/10.1130/G24145A.1>)

We thank this reviewer for improving the accuracy of this statement. The suggested publication has been included on lines 60-61 of the revised manuscript with tracked changes.

Lines 135-137: Regarding "inter ETS events". It is probably worth noting that most inter-ETS events are confined primarily to downdip portions of ETS zone (e.g. Gulf/San Juan Islands and western Puget Sound in the study area) as noted by many but in particular Wech and Creager, 2011 (doi:10.1038/ngo121.)

The deep centroids of most inter-ETS events do indeed contribute to the difficulty of modelling the slip of these events. This note has been added to line 122 of the revised manuscript with tracked changes.

Lines 354-355: Unfortunately, we recently discovered that variability in the Royer & Bostock mechanisms for LFE templates in Washington were marred by data delivered by IRIS for several stations where N and E component recordings had not been corrected for polarity errors. Hence, it is likely that LFE mechanisms in Washington are actually similar to those of the Vancouver Island regions that are dominated by shallow thrust mechanisms in the direction of plate motion.

We thank this reviewer for this important information. The statement referencing LFE mechanisms from Royer and Bostock at this location has been removed and replaced by the statement: "more analysis is required to determine whether this mechanism is reliable and consistent with subduction at this location." on lines 338-339 of the revised manuscript with tracked changes.

Recommendation: Accept Submission