

# Episodic Tremor and Slip along the length of Cascadia

## Observations and implications for seismic hazard

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Presentation to National Earthquake Prediction Evaluation Council, May 18<sup>th</sup> 2007.

### Segmentation of ETS characteristics and events

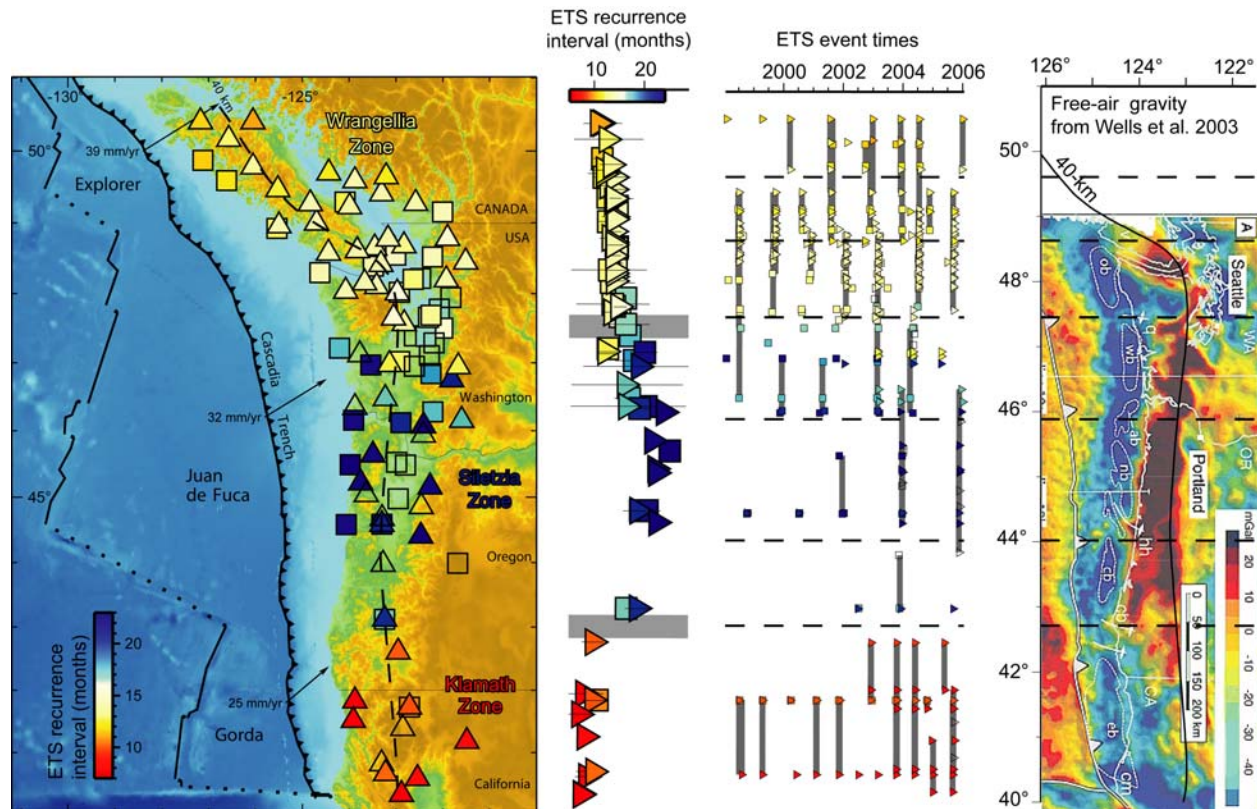
- Three zones with similar recurrence intervals:  $14 \pm 2$  months in the north,  $19 \pm 4$  months in the central region and  $10 \pm 2$  months in the south.
- There are around seven segments which can host distinct ETS events.
- From 2000 to 2006 there were 22 months during which an ETS event occurred, i.e. an average of one event every 3.3 months.

### Structural control of ETS

- The three zones *correlate* with geologic terrain of the continental plate.
- The seven segments *correlate* with forearc basins interpreted as indicators of megathrust structure.

### Implications for seismic hazard

- The slow slip events likely increase stress on the megathrust.
- The correlation between ETS segments and megathrust asperities is consistent with a link between ETS and megathrust processes.
- While this illustrates the importance of future research, public warnings every  $\sim 3$  months would have limited value.



This research will be presented in a forthcoming manuscript: Brudzinski, M.R. and R.M. Allen. Segmentation in episodic tremor and slip all along Cascadia, in press *Geology*.

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