ANTICIPATING A TSUNAMI FROM ALASKA INUNDATING THE U.S. WEST COAST

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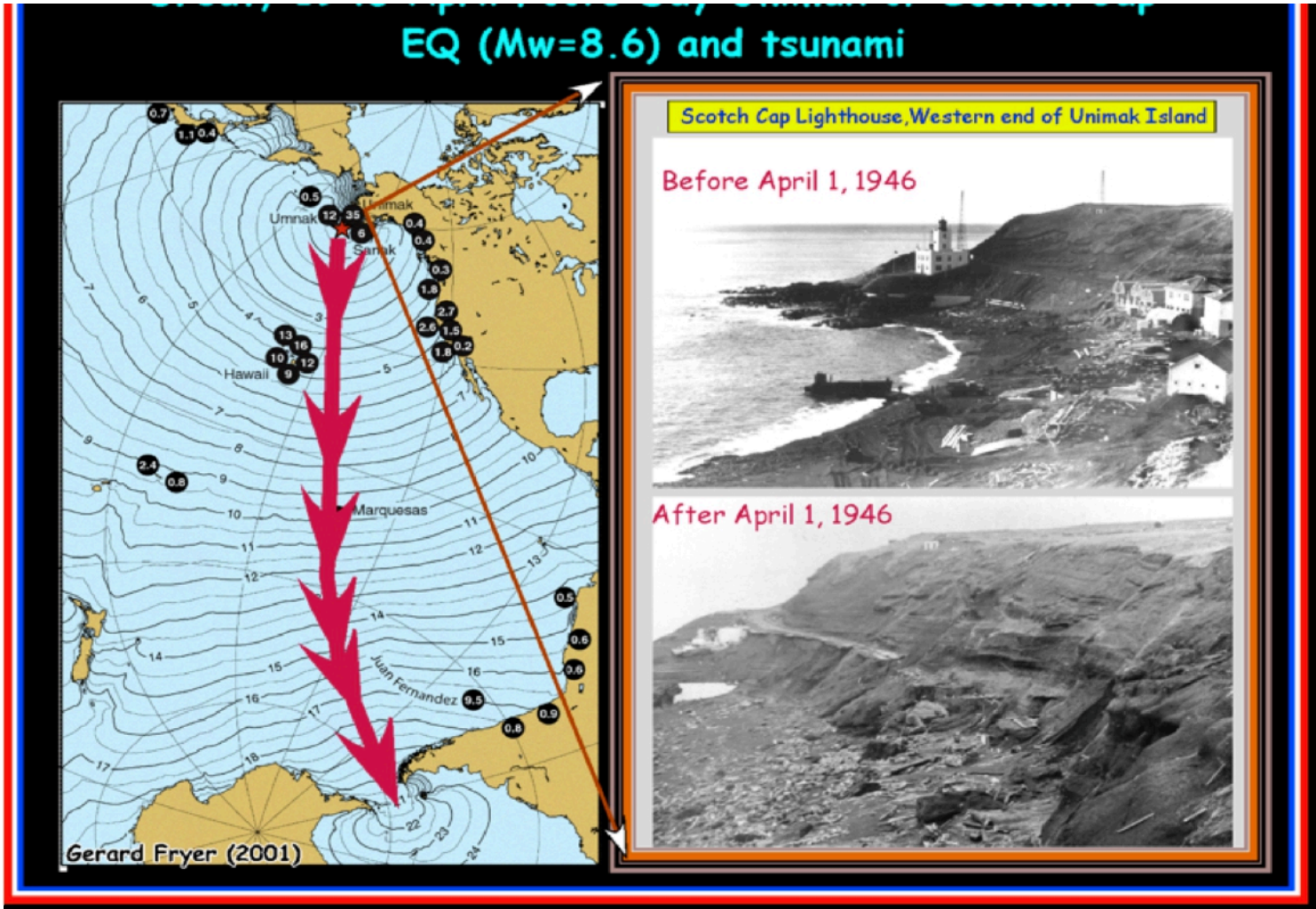
1) The giant 1946 Unimak Island tsunami calls into question if future giant tsunamis will be generated along the Alaska margin. Understanding tsunami generation can answer this question.

2) Legacy geophysical data processed with current technology shows splay faults that may explain the high tsunami magnitude.

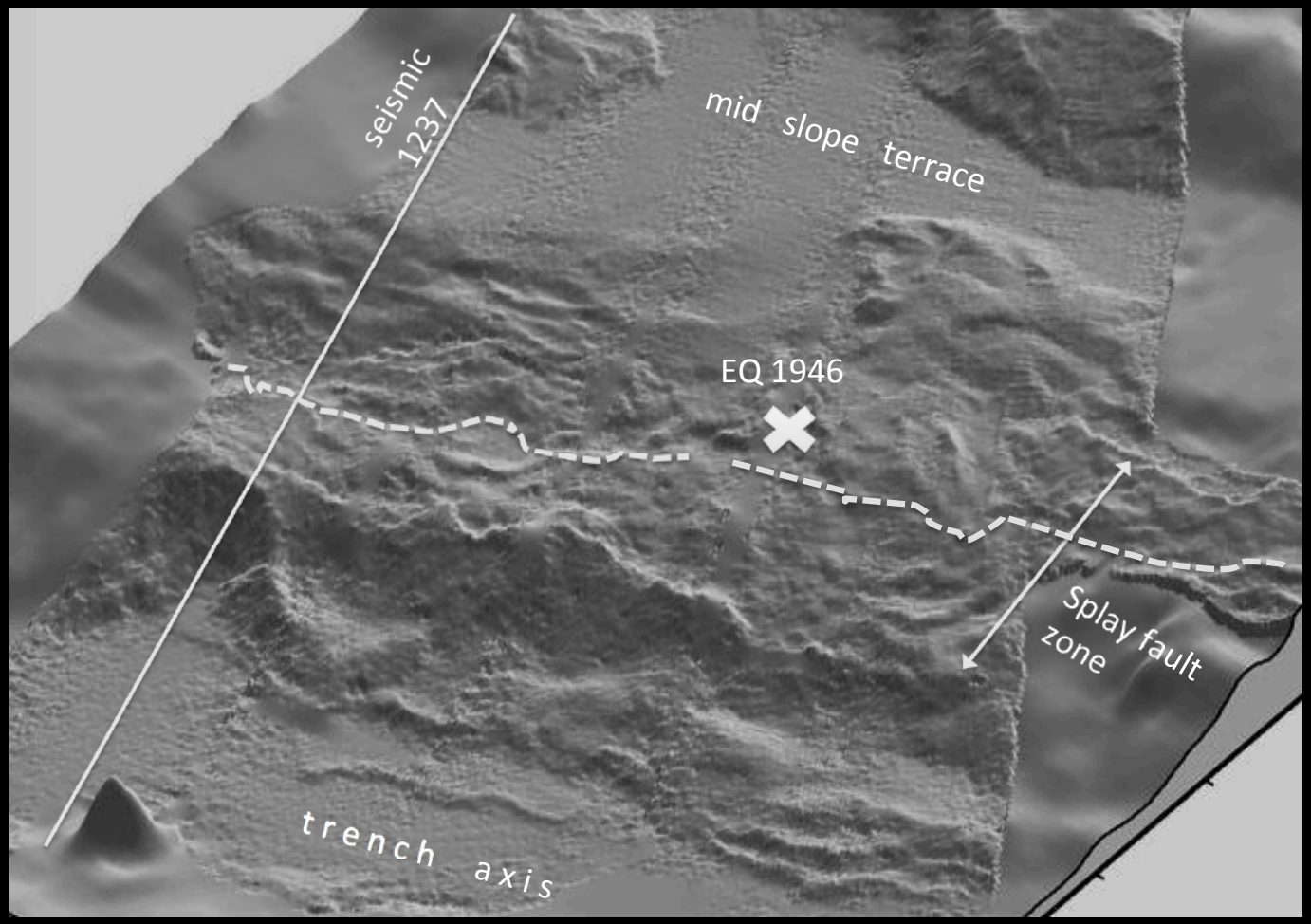
3) Based on our study alone, we cannot know for sure that activation of splay faults in 1946 explain the high tsunami magnitude, but reworked legacy data are consistent with this hypothesis.

4) In Alaska's Semidi segment, splay faulting is more active . The commonly cited signs of an impending EQ, ie: locking, tsunami repeat time, & reduced seismicity, characterize this segment.

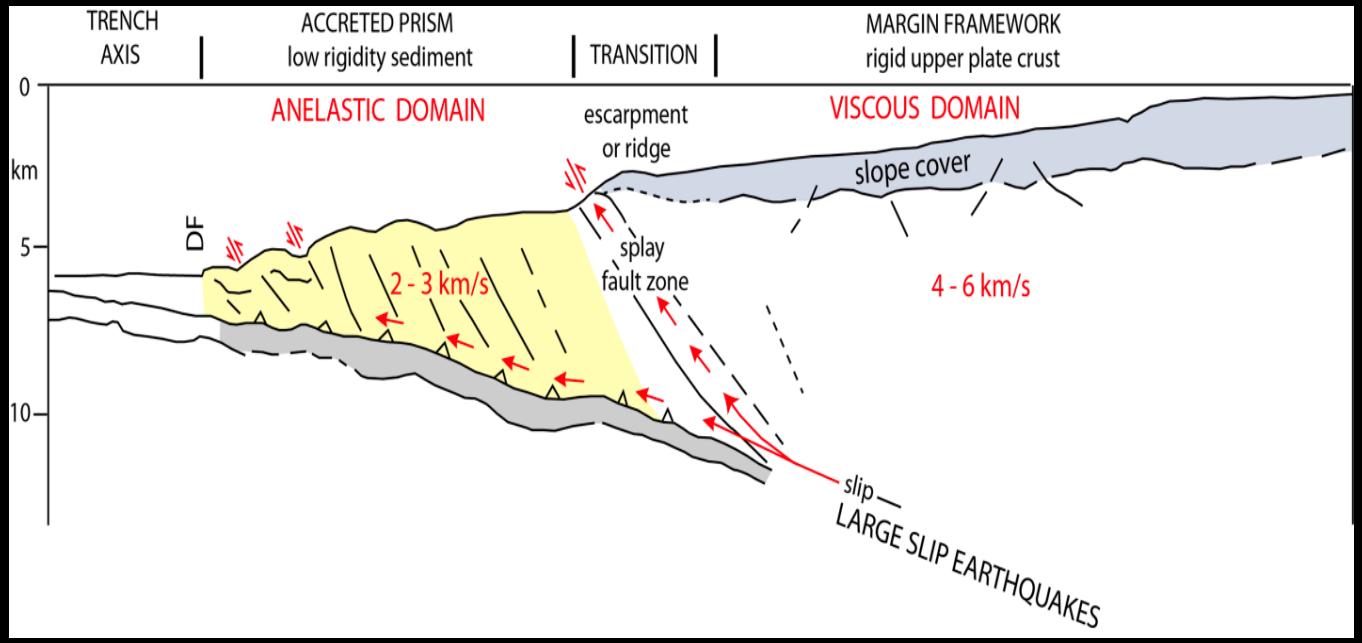
5) Unlike the Unimak segment, tsunamis from the Semidi segment will be directed toward the US west coast.



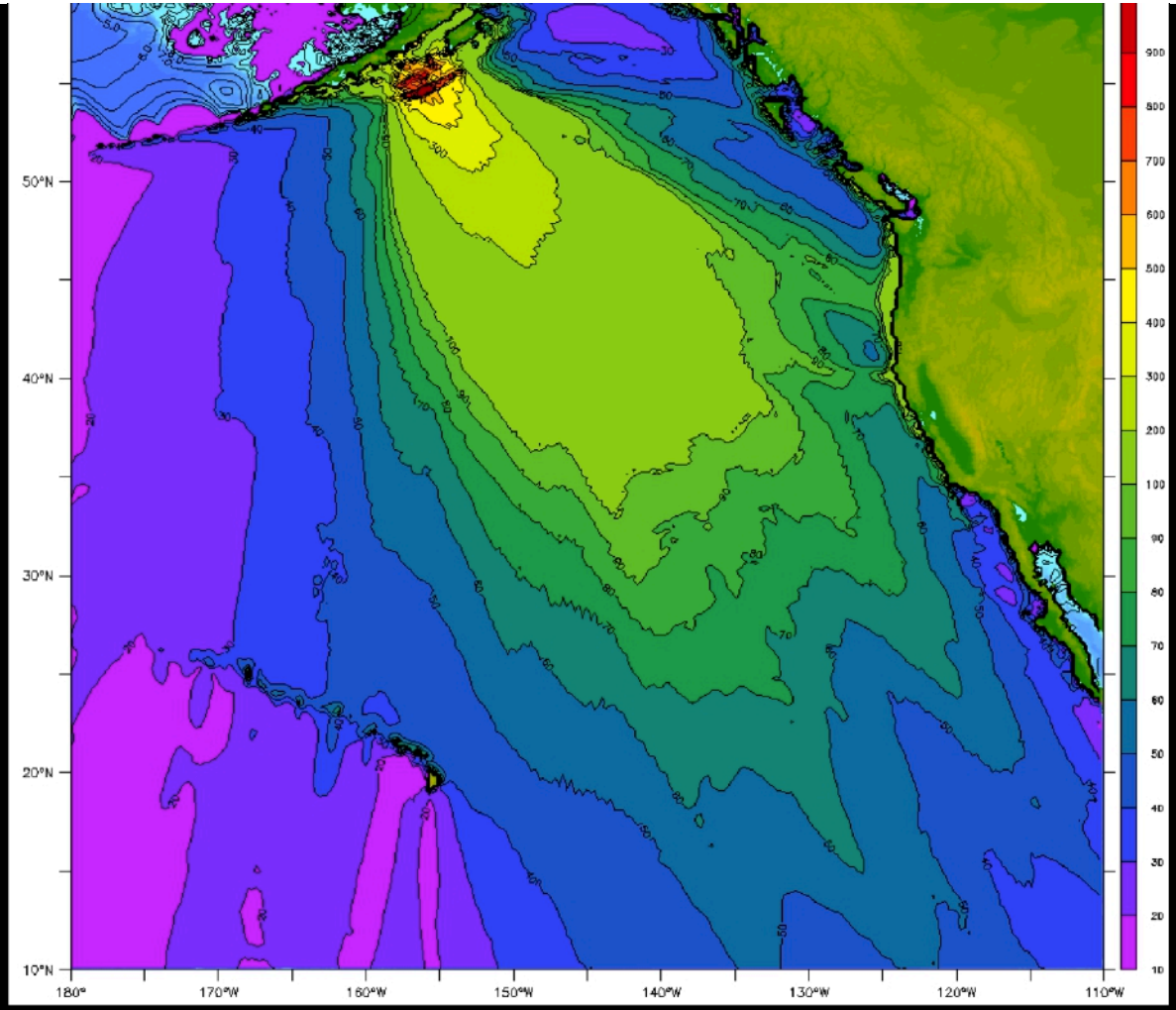
The 1946 tsunami magnitude calls to question if future tsunamis of this magnitude will be generated along the Alaska margin. What tsunamigenic mechanisms occur here?



Legacy geophysical data processed with current technology images a 120 km long splay fault zone that could explain the 1946 tsunami high magnitude.



Active splay faulting in the Semidi segment extends 200 km and the segment is 90% locked, is within the great tsunami repeat time of paleotsunami studies, and microseismicity is currently minimal.



Tsunamis from the Semidi segment will be directed toward the US west coast

THE 1946 UNIMAK TSUNAMI CALLS INTO QUESTION THE MAGNITUDE OF A FUTURE TSUNAMI FROM ALASKA

A TSUNAMI FROM THE SEMIDI SEGMENT DIRECTED TOWARD THE US WEST COAST IS CURRENTLY ANTICIPATED IN THE FORSEEABLE FUTURE

ANTICIPATING A TSUNAMI WOULD BE ADVANCED BY INSTRUMENTING THE SEAFLOOR AT THE CAUSATIVE FAULT ZONE