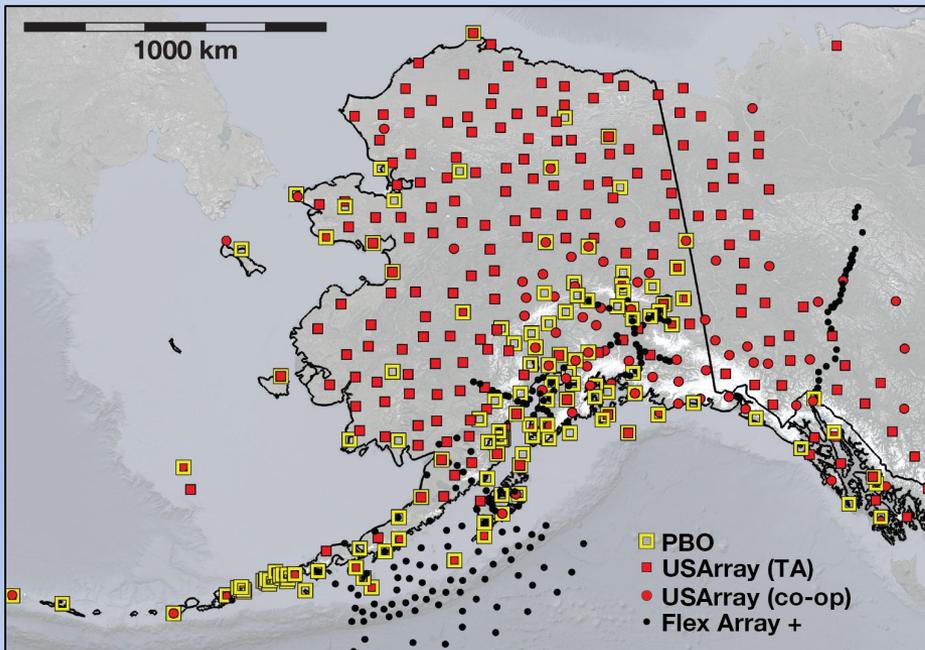


# Geophysical Monograph 290: Tectonics and Seismic Structure of Alaska and Northwestern Canada: EarthScope and Beyond

Editors: Natalia A. Ruppert, Margarete A. Jadamec, and Jeffrey T. Freymueller

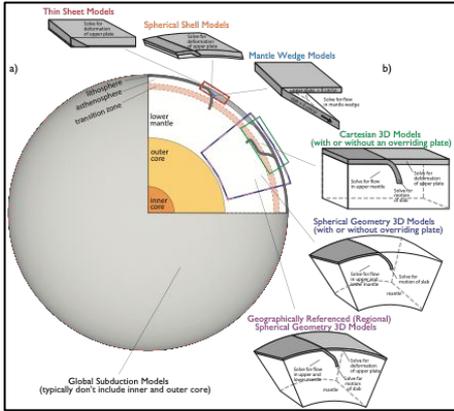
American Geophysical Union. John Wiley & Sons, Inc. (2025, published online 2024)  
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<https://agupubs.onlinelibrary.wiley.com/doi/book/10.1002/9781394195947>



- Part I: An Introduction to the EarthScope Networks (2 papers)
- Part II: Synthesis Studies of Alaska and Northwestern Canada: From the Crust to the Lower Mantle (7 papers)
- Part III: Aleutian-Alaska Subduction: Properties, Interface Structure, and Dynamics (7 papers)
- Part IV: Transform and Oblique Fault Systems: From the Plate Boundary Corner to the Northeastern Brooks Range (6 papers)

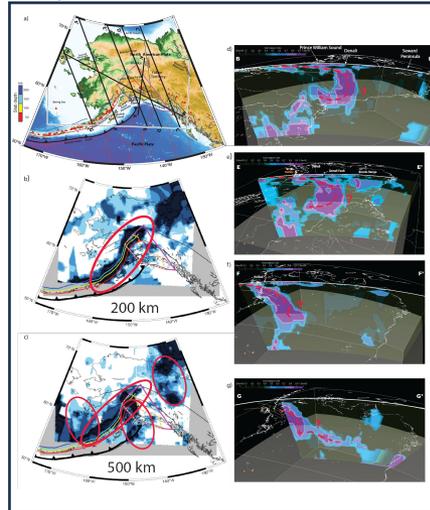
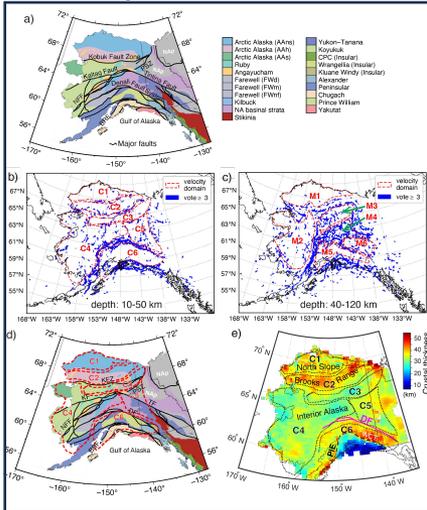
# Review of Geodynamic Models of Alaska & Seismic Syntheses of Crust and Mantle

## Geodynamic Modeling Review



Jadamec, M.A., Pavlis, G., Yang, X., Fischer, K. M., Wei, S. S., Mann, M. E., and Schaeffer, A. Synthesis of the Seismic Structure of the Greater Alaska Region: Geodynamics Implications. In Geophysical Monograph 290. John Wiley & Sons, Inc., 2025. [doi.org/10.1002/9781394195947.ch9](https://doi.org/10.1002/9781394195947.ch9)

## Seismic Syntheses of Crust, Lithosphere, & Mantle Structure

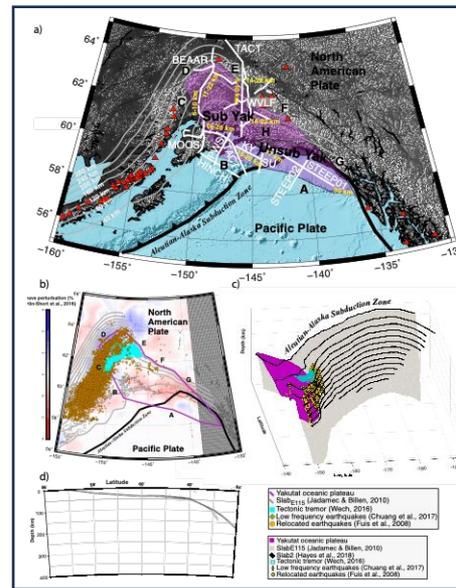


Yang, X., Mann, M. E., Fischer, K. M., Jadamec, M.A., Wei, S. S., Pavlis, G., and Schaeffer, A. Synthesis of the Seismic Structure of the Greater Alaska Region: Continental Lithosphere. In Geophysical Monograph 290. John Wiley & Sons, Inc., 2025. [doi.org/10.1002/9781394195947.ch6](https://doi.org/10.1002/9781394195947.ch6)

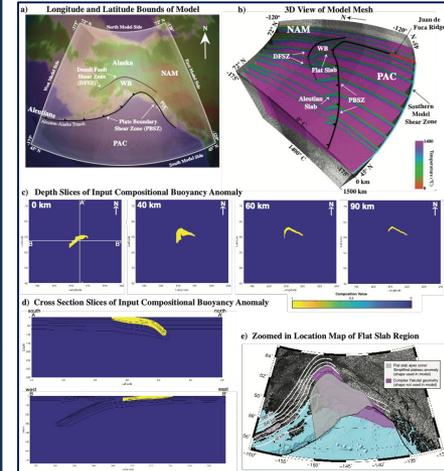
Pavlis, G. L., Jadamec, M.A., Mann, M. E., Yang, X., Schaeffer, A., Wei, S. S., and Fischer, K. M. Synthesis of the seismic structure of the greater Alaska Region: Subducting slab geometry. In Geophysical Monograph 290. John Wiley & Sons, Inc., 2025. [doi.org/10.1002/9781394195947.ch8](https://doi.org/10.1002/9781394195947.ch8)

# Data Synthesis of Yakutat Plateau & 3D Models with Simplified Plateau Anomaly

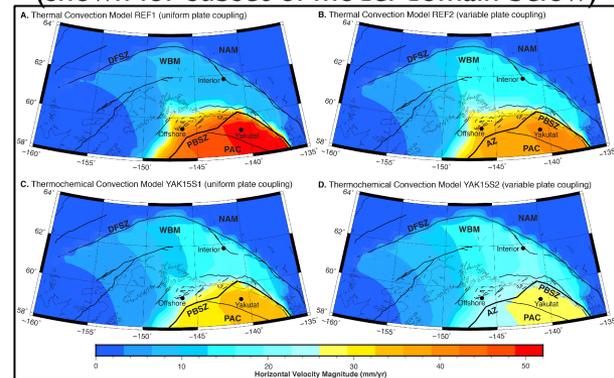
## Synthesis: Yakutat Plateau



## 3D Models of Alaska: Simplified Plateau Anomaly & Variable Plate Coupling



## Surface Motion Predicted by 3D Forward Simulations (shown for subset of model domain below)



Haynie, K. L. and Jadamec, M.A. Implications of variable plate coupling versus plateau buoyancy on subduction dynamics: A case study of the Yakutat plateau in Alaska. In Geophysical Monograph 290. John Wiley & Sons, Inc., 2025. [doi.org/10.1002/9781394195947.ch13](https://doi.org/10.1002/9781394195947.ch13)