

# Contents

## **Introduction**

*Harvey M. Kelsey and Ralph A. Haugerud* . . . . .

## **Puget Lowland**

- 1. Geology of Seattle, a field trip** . . . . . 1  
*Ralph A. Haugerud, Kathy Goetz Troost, and William T. Laprade*
- 2. Geologic challenges and engineering solutions for major transportation construction projects in Seattle, Washington** . . . . . 25  
*E.A. Barnett, W.T. Laprade, J.N. Butkovich, M.A. Anderson, and R.A. Robinson*
- 3. Grounding line processes of the southern Cordilleran Ice Sheet in the Puget Lowland** . . . . . 53  
*Lauren M. Simkins, John B. Anderson, and Brian P. Demet*
- 4. Tsunamis in the Salish Sea: Recurrence, sources, hazards** . . . . . 67  
*Carrie Garrison-Laney and Ian Miller*

## **Cascade Range and East Slope**

- 5. Mesozoic terranes of the central Cascades: Geology of the Hicks Butte complex, Easton Metamorphic Suite, Peshastin Formation and Ingalls ophiolite complex** . . . . . 79  
*James H. MacDonald Jr., Joe D. Dragovich, Mark E. Pecha, Glenn T. Thompson, Shanna C. Stingu, Alex D. Maruszczak, Kristy M. Zalud, and Scott H. Milliken*
- 6. Incorporation of sedimentary rocks into the deep levels of continental magmatic arcs: Links between the North Cascades arc and surrounding sedimentary terranes** . . . . . 101  
*Stacia M. Gordon, Robert B. Miller, and Kirsten B. Sauer*
- 7. Sedimentary, volcanic, and structural processes during triple-junction migration: Insights from the Paleogene record in central Washington** . . . . . 143  
*Michael P. Eddy, Paul J. Umhoefer, Robert B. Miller, Erin E. Donaghy, Melissa Gundersen, and Francesca I. Senes*

## **Columbia River Basin and Western Idaho**

- 8. Pleistocene glaciers, lakes, and floods in north-central Washington State** . . . . . 175  
*Richard B. Waitt*
- 9. Generation of the Palouse loess: Exploring the linkages between glaciation, outburst megafloods, and eolian deposition in Washington State** . . . . . 207  
*Mark R. Sweeney, Eric V. McDonald, and David R. Gaylord*

<b>10. Exploring the western Idaho shear zone using the StraboSpot data system . . . . .</b>	<b>229</b>
<i>B. Tikoff, M.J. Kahn, R.M. Gaschnig, Z.D. Michaels, K. Davenport, J.A. Hole, A.C. Stanciu, A.K. Fayon, and S.C. Kruckenberg</i>	