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Pacific Coastal and Marine Science Center and Research Assoc. Western Washington University
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EDUCATION

Ph.D., JUNE 2001 Marine Geology and Geophysics, University of Hawaii
M.S., MAY 1997 Marine Geology and Geophysics, University of Hawaii
B.A., MAY 1989 Geography, University of California, Berkeley

PRINCIPAL RESEARCH

Coastal Processes: Morphodynamics, nearshore processes, sediment transport modeling
Coastal Ecosystems: Benthic habitats/Mapping; Restoration science, monitoring, forecasting
Coastal Climate Change/Impacts: Sea level, climate change, coastal hazard assessments

CURRENT USGS RESEARCH PROJECTS

PI - [USGS Coastal Habitats in Puget Sound Project \(CHIPS\)](#)
Co-PI - [USGS Coastal Change Impacts Project](#)
PI - [USGS Puget Sound Coastal Storm Modeling System \(PS-CoSMoS\)](#)

SELECT SCIENTIFIC PANELS-BRIEFINGS

Whatcom County Climate Advisory Council (2018-2020)
Washington Coastal Hazards and Resilience Network (2012-present)
Skagit Climate Science Consortium (2009-present)
Climate Impacts and Adaptation in Puget Sound (2015 Report contributor)
Skagit Farms, Fish and Floods Hydrodynamic Modeling Advisory Group (2014-present)
Pacific Marine and Estuarine Fish Habitat Partnership Science Committee (2011-present)
US EPA-Environment Canada Transboundary Indicators Project (2009-present)
Washington State's Integrated Climate Response Strategy (2012 Report contributor)
National Research Council West Coast Sea-Level Rise Committee (June 2011)

STUDENTS ADVISED

Post-Doctoral: S. Crosby, A. Hooshmand; D. Finlayson; **Ph.D.:** K. Knee (2008), Stanford Univ. **M.S.** Thesis: C. Little, L. Horner, A. Maverick (ongoing), N. vanArendonk (2019), A. Deuell (2017), C. Stellern (2016), M. Weaver (2013) Western Washington Univ; A. Davenport (2012) San Francisco State Univ; J. Breems, (2009) Univ. of Washington.

SELECT PUBLICATIONS

Grossman, E.E., Stevens, A., Dartnell, P., George, D., Finlayson, D. In Review. Sediment export and impacts associated with river delta channelization compounds estuary vulnerability to sea-level rise, Skagit River Delta, Washington. Submitted to Marine Geology.

Grossman, E.E., Marrack, L., Kramer, L. and Most, R., In Review, Nearshore water properties and coral health indicators along the west Hawaii Island coast (2010-2015): U.S. Geological Survey Open-File Report 2020-XXXX, XX p., <https://doi.org/10.3133/XXXXXXX> (IP-089225).

Grossman, S.K., Grossman, E.E., Barber, J.S., Gamblewood, S.K., and Crosby, S.C. 2020. Distribution and transport of Olympia oyster, *Ostrea lurida*, larvae in Northern Puget Sound, Washington, USA. Journal of Shellfish Research. Vol. 39(2):1-19. DOI: 10.2983/035.039.0200.

Nowacki, D.J. and Grossman, E.E. 2020 Sediment transport in a restored, river-influenced Pacific Northwest estuary. Estuarine, Coastal and Shelf Science 242 (2020). doi:10.1016/j.ecss.2020.106869

Anderson, S.W., Konrad, C.P., Grossman, E.E., and Curran, C.A., 2019, Sediment storage and transport in the Nooksack River basin, northwestern Washington, 2006–15: U.S. Geological Survey Scientific Investigations Report 2019-5008, 43 p.

- Miller, I.M., Yang, Z., VanArendonk, N., Grossman, E., Mauger, G. S., Morgan, H., 2019. Extreme Coastal Water Level in Washington State. Prepared for the Washington Coastal Resilience Project (<http://wacoastalnetwork.com/chrn/research/sea-level-rise>)
- Rubin, S. P., Hayes, M. and Grossman, E.E., 2018. Juvenile Chinook salmon and forage fish use of delta eelgrass influenced by diking and river channelization. *Marine and Coastal Fisheries*. pp. 58.
- Miller, I.M., Morgan, H., Mauger, G., Newton, T., Weldon, R., Schmidt, D., Welch, M., Grossman, E. 2018. Projected Sea Level Rise for Washington State – A 2018 Assessment. Prepared for the Washington Coastal Resilience Project. <http://www.wacoastalnetwork.com/wcrp-documents.html>
- Anderson, S.W., Curran, C.A., and Grossman, E.E., 2017, Suspended-sediment loads in the lower Stillaguamish River, Snohomish County, Washington, 2014–15: U.S. Geological Survey Open-File Report 2017–1066, 10 p., <https://doi.org/10.3133/ofr20171066>.
- Hodgson, S., Ellings, C.S., Rubin, S.P., Hayes, M.C., Duval, W.C., Grossman, E.E. 2017. 2010-2015 Juvenile Fish Ecology in the Nisqually River Delta and Nisqually Reach Aquatic Reserve. [Salmon Recovery Program Technical Report No.2016-1](#). pp. 40.
- Grossman, E.E., Dartnell, P. and Finlayson, D. 2017. High-resolution bathymetry and acoustic-backscatter data collected in 2004, 2005, 2007, and 2010 in Skagit Bay, Washington. U.S. Geological Survey data release, <https://doi.org/10.5066/F7WD3Z2F>
- Curran, C.A., Grossman, E.E., Mastin, M.C., and Huffman, R.L., 2016, Sediment load and distribution in the lower Skagit River, Skagit County, Washington: U.S. Geological Survey Scientific Investigations Report 2016–5106, 24 p., <http://dx.doi.org/10.3133/sir20165106>.
- Ellings, C.S., Davis, M. J., Grossman, E.E., Hodgson, S., Turner, K.L., Woo, I., Nakai, G. and Takekawa, J.Y. 2016. Post-restoration changes in opportunity development for outmigrating salmon (*Oncorhynchus* spp.) in restored estuary habitat. *Restoration Ecology*
- Hamman, J.J., Hamlet, A.F., Fuller, R., Grossman, E. 2016. Effects of Projected 21st Century Sea Level Rise, Storm Surge, and River Flooding on Water Levels in the Skagit River Floodplain. *Northwest Science*. 90(1):57-78.
- Hood, W.G., Grossman, E.E., Veldhuisen, C. 2016. Assessing tidal marsh vulnerability to sea-level rise in the Skagit River Delta. *Northwest Science*. 90(1):79-93
- Lee, Se-Yeun, A. F. Hamlet, E. Grossman. 2016. Impacts of Climate Change on Flood Control, Hydropower Production, Regulated Low Flows, and Sediment Discharge in the Skagit River Basin. *Northwest Science*. 90(1): 23-43
- Donatuto, J., Grossman, E.E., Konovsky, J., Grossman, S.K., and Cambell, L.W. 2014. Indigenous Community Health and Climate Change: Integrating Biophysical and Social Science Indicators, *Coastal Management*, 42:4, 355-373.
- Hubbard, D., Gischler, E., Davies, P., Montaggioni, L., Camoin, G., Dullo, W., Storlazzi, C., Field, M., Fletcher, C., Grossman, E., Sheppard, C., Lescinsky, H., Fenner, D., McManus, J., Scheffers, S. 2014. Islands Outlook: Warm and Swampy, *Science*: 345:6203: 1461-1462.
- Tucker, D.S., Scott, K.M., Grossman, E.E., Linneman, S. 2014. Mount Baker lahars and debris flows, ancient, modern and future. In, Dashtgard, S. and Ward, B., eds., *Geol. Soc. of America Field Guide* 38, p. 33–52.
- McGann, M., Grossman, E.E., Takesue, R.K., Penttila, D., Walsh, J.P., and Corbett R., 2012, Arrival and expansion of the invasive foraminifera *T. hadai* Uchio in Padilla Bay, WA. *NW Science*, v. 86, no. 1, p. 9-26.
- Czuba, J.A., Magirl, C.S., Czuba, C.R., Grossman, E.E., Curran, C.A., Gendaszek, A.S., and Dinicola, R.S. 2011. Sediment load from major rivers into Puget Sound and its adjacent waters: USGS Fact Sheet 2011–3083, 4 p. [<http://pubs.usgs.gov/fs/2011/3083/>].
- Grossman, E.E., George, D.A., Lam, A. 2011. Shallow stratigraphy of the Skagit River Delta, Washington, USA derived from sediment cores. [USGS Open File Report 2011-1194](#), p 123.
- Grossman, E.E., Stevens, A., Gelfenbaum, G., and Curran, C. 2007. Nearshore circulation and water column properties in the Skagit River Delta, Washington - Juvenile Chinook salmon habitat availability in the Swinomish Channel: [USGS Scientific Investigations Report 2007-5120](#), 96 p.
- Grossman, E.E., Eittreim, S.L., Field, M.E. and Wong, F.L. 2006. Shallow stratigraphy and sedimentation history during high-frequency sea-level changes on the central California shelf. *Continental Shelf Research*, 26: 1217-1239.