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CURRICULUM VITAE

Jodi N. Harney, Ph.D.

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SPECIALTIES:

- multidisciplinary approach to coastal and marine research and applications
- coastal and marine habitat mapping and classification
- sediment budgets, sediment dynamics, carbonate and siliciclastic sedimentology
- marine and laboratory instrumentation, image processing and analysis
- technical writing, editing, and preparation of proposals, articles, and presentations
- project management

EDUCATION:

B.Sc. Biology, University of Central Florida, Orlando FL (1993)
M.Sc. Marine Science, University of South Florida, St. Petersburg FL (1996)
Ph.D. Geology and Geophysics, University of Hawaii, Honolulu HI (2000)

WORK EXPERIENCE:

2005-present Coastal and Marine Geologist, Coastal and Ocean Resources, Inc. Sidney BC
2004-2005 Research Geologist, US Geological Survey, Santa Cruz CA
2001-2003 Mendenhall Post-doctoral Fellow, US Geological Survey, Santa Cruz CA
2001 Post-doctoral Researcher, University of Hawaii, Honolulu
2000-2001 Teacher, Punahou School, Honolulu, Hawaii (Course: Honors Chemistry)
1997-2001 Graduate Research and Teaching Assistant, University of Hawaii, Honolulu
1994-1996 Graduate Research and Teaching Assistant, Univ. of South Florida, St. Petersburg

GEOGRAPHIC EXPERIENCE:

Alaska (Southeast, Glacier Bay National Park, Kodiak, Prince William Sound, Bristol Bay)
British Columbia (Vancouver Island, Gulf Islands)
Washington (Puget Sound, San Juan Islands, Elwha River)
California, Hawaii, Florida, Red Sea

RESEARCH EXPERIENCE AND TECHNICAL SKILLS:

Projects: ShoreZone coastal and nearshore habitat mapping; habitat suitability modeling; invasive species habitat research; benthic habitat mapping; sediment dynamics and seafloor stability; eelgrass/sediment interaction; coral reef mapping; carbonate sedimentology and stratigraphy; sediment budgets; radiocarbon dating; coastal geomorphology

Computer skills: PC, Mac, Unix; ArcView, ArcGIS, Adobe Illustrator, Photoshop, Acrobat; Matlab, Statistica; Fugawi, G-Nav, Yo-Nav; MS Access, Word, Excel, PowerPoint, Access; DOS, HTML, SQL

Field skills: design, logistics, and operations for ground, ship, and aerial field programs; small boat handling; beach and ground surveying; habitat mapping and classification; instrumentation (laser, acoustic, optical, and imaging devices including LISST, MTA, ADP, ABS, OBS, sediment cameras); instrument calibration, programming, deployment, development, and maintenance

Laboratory skills: core processing and logging, sediment grain-size analysis, settling tube, LISST, Coulter, SediGraph, thin section petrography; Scanning Electron Microscopy, X-ray Diffraction, $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ analysis, ^{14}C sample preparation, ^{210}Pb sample preparation, image analysis/classification

Project design and management: organization and management of resources for field and office operations, data collection and analysis, data and knowledge transfer, deliverables and receivables, proposal writing, project management, report preparation, research articles and presentations

PUBLICATIONS:

Articles in progress (excluding abstracts)

Warrick, J.A., Rubin, D.M., Ruggiero, P., **Harney**, J., and Draut, A. In review. Cobble Cam: Grain-size measurements of sand to boulder from digital photographs and autocorrelation analyses. Submitted to Earth Surface Processes and Landforms.

Fletcher, C.H., Engels, M.S., Grossman, E.E., **Harney**, J.N. [et al]. Submitted. Reef system of Oahu, Hawaiian Islands: Origin, stratigraphy, and geologic processes. Submitted to Quaternary Science Reviews.

Grossman, E.E., Fletcher, C.H., and **Harney**, J.N. Submitted. Coral plasticity and community zonation of a windward Hawaiian reef, Kailua (Oahu), Hawaii. Submitted to Marine Ecology Progress Series.

Harney, J.N., Etherington, L.L., and Cochrane, G.R. In preparation. Seafloor shaped by glaciers provides diverse benthic habitats in a fjord estuary: Linking geological characteristics and biological patterns. In preparation for Estuarine, Coastal, and Shelf Science.

Harney, J.N., Lacy, J.R., and Rubin, D.M. In revision. Observations of time-varying suspended-sediment concentration and grain size under waves on the inner shelf of Santa Cruz, CA. Submitted to Continental Shelf Research.

Harney, J.N., Ruggiero, P., Lam, A., and Gelfenbaum, G. Submitted. Grain-size analysis of a dynamic, mixed-sediment shoreline: Kachemak Bay, south central Alaska. U.S. Geological Survey Open-File Report (online at pubs.usgs.gov/of/2008).

Harney, J.N., and Rubin, D.M. In preparation. Mapping the spatial and temporal variability of inner-shelf sediments in northern Monterey Bay, California, using digital photographic techniques. In preparation for Marine Geology.

Publications (excluding abstracts, by date)

Cochrane G.R., Warrick, J.A., Sagy, Y., Finlayson, D., and **Harney**, J., 2008. Sea-floor mapping and benthic habitat GIS for the Elwha River Delta nearshore, Washington. U.S. Geological Survey Data Series 320 [online at pubs.usgs.gov/ds/320/].

Fletcher, C.H., Bochicchio, C., Conger, C., Engels, M.S., Feirstein, E.J., Frazer, N., Glenn, C.R., Grigg, R.W., Grossman, E.E., **Harney**, J.N.,

Isoun, E., Murray-Wallace, C.V., Rooney, J.J., Rubin, K.H., Sherman, C.E., and Vitousek, S. 2008. Geology of Hawaii Reefs. Pp 435-487 in Riegl, B.M., and Dodge, R.E. (eds.). Coral Reefs of the World Vol. I. Coral Reefs of the USA. Springer Science + Media B.V. 803 p.

Rubin, D.M., Chezar, H., **Harney**, J.N., Topping, D.J., Melis, T.S., and Sherwood, C.R. 2007. Underwater microscope for measuring spatial and temporal changes in bed-sediment grain size. *Sedimentary Geology* 202:402-408.

Barnard, P.L., Rubin, D.M., **Harney**, J. and Mustain, N., 2007. Field test comparison of an autocorrelation technique for determining grain size using a digital 'beachball' camera versus traditional methods. *Sedimentary Geology* 201:180-195.

Harney, J.N., Cochrane, G.R., Etherington, L.L., Dartnell, P., Golden, N.E., and Chezar, H. 2006. Geologic characteristics of benthic habitats in Glacier Bay, southeast Alaska. U.S. Geological Survey Open-File Report 2006-1081 (pubs.usgs.gov/of/2006/1081).

Rubin, D.M., Chezar, H., **Harney**, J.N., Topping, D.J., Melis, T.S., and Sherwood, C.R. 2006. Underwater microscope for measuring spatial and temporal changes in bed-sediment grain size. U.S. Geological Survey Open-File Report 2006-1360 (online at pubs.usgs.gov/of/2006/1360).

Etherington, L.L., Cochrane, G.R., **Harney**, J.N. [et al]. Glacier Bay seafloor habitat mapping and classification: First look at linkages with biological patterns. 2006. In: Piatt, J.F., and S.M. Gende (eds). Proc. of the Fourth Glacier Bay Science Symposium, Juneau AK, Oct. 2004. U.S. Geological Survey Scientific Investigation Report, 9 p.

Harney, J.N., Cochrane, G.R., Etherington, L.G., Dartnell, P., and Chezar, H., Geologic characteristics of benthic habitats in Glacier Bay, Alaska, derived from geophysical data, videography, and sediment sampling. 2006. In: Piatt, J.F., and S.M. Gende (eds.). Proc. of the Fourth Glacier Bay Science Symposium, Juneau AK, Oct. 2004. U.S. Geological Survey Scientific Investigation Report, 9 p.

Harney, J.N., and Fletcher, C.H. 2003. A budget of carbonate framework and sediment production, Kailua Bay, Oahu, Hawaii. *Journal of Sedimentary Research* 73:856-868.

Calhoun, R.S., Fletcher, C.H., and **Harney**, J.N. 2002. A budget of marine and terrigenous sediments, Hanalei Bay, Kauai, Hawaiian Islands. *Sedimentary Geology* 150:61-87.

Harney, J.N., Grossman, E.E., Richmond, B.R.,

and Fletcher, C.H. 2000. Age and composition of carbonate shoreface sediments, Kailua Bay, Oahu. *Coral Reefs* 19:141-154.

Harney, J.N., Hallock, P., Fletcher, C.H., and Richmond, B. 1999. Standing crop and sediment production of reef-dwelling foraminifera on Oahu, Hawaii. *Pacific Science* 53:61-73.

Hallock, P., Talge, H. K., Williams, D. E., and **Harney, J.N.** 1998. Borings in the foraminifer *Amphistegina*: Evidence of predation. *Historical Biology* 13:73-76.

Harney, J.N., Hallock, P., and Talge, H.K. 1998. Observations on a trimorphic life cycle in *Amphistegina gibbosa* populations from the Florida Keys. *Journal of Foraminiferal Research* 28:141-147.

Williams, D.E., Hallock, P., Talge, H.K., **Harney, J.N., and McRae, G.** 1997. Responses of *Amphistegina gibbosa* populations in the Florida Keys to a multi-year stress event (1991-96). *Journal of Foraminiferal Research* 27:264-269.

Selected reports and abstracts (by date)

Harney, J.N., Lindeberg, M.L., Moffit, S., and Morrow, K. Submitted. Insight into herring spawning habitat using ShoreZone coastal mapping data in Prince William Sound, Alaska. *Marine Science in Alaska Symposium* (Anchorage, AK), Jan. 2009 [abstract].

Harney, J.N. 2008. Modeling habitat suitability for the invasive salt marsh cordgrass *Spartina* using ShoreZone coastal habitat mapping data in Southeast Alaska, British Columbia, and Washington State. Report prepared for Alaska State Department of Fish and Game (Juneau, AK), Nov. 2008. 50 p.

Harney, J.N., Morris, M., and Harper, J.R. 2008. ShoreZone Coastal Habitat Mapping Protocol for the Gulf of Alaska. Report prepared for The Nature Conservancy, NOAA National Marine Fisheries Service, and Alaska State Department of Natural Resources (Juneau, AK), Aug. 2008. 137 p.

Harney, J.N. 2008. Evaluation of a habitat suitability model for the invasive European green crab (*Carcinus maenas*) using species occurrence data from western Vancouver Island, British Columbia. Report prepared for NOAA National Marine Fisheries Service (Juneau, AK), Jul. 2008. 51 p.

Harney, J.N., Lindeberg, M.L., Morris, M., and Harper, J.R. 2008. The ShoreZone Coastal Habitat Mapping Program in Prince William Sound, Alaska. *Marine Science in Alaska Symposium* (Anchorage, AK), Jan. 2008 [abstract].

Harney, J.N., Morris, M., and Harper, J.R. 2007. ShoreZone coastal habitat mapping protocol

for the Gulf of Alaska. Report prepared for NOAA National Marine Fisheries Service and The Nature Conservancy (Juneau, AK), Nov. 2007. 137 p.

Harney, J.N. 2007. Modeling habitat capability for the non-native European green crab (*Carcinus maenas*) using the ShoreZone mapping system in Southeast Alaska, British Columbia, and Washington state. Report prepared for NOAA National Marine Fisheries Service (Juneau, AK), Aug. 2007. 75 p.

Harney, J.N., and Shaw, L. 2007. Modeling habitat capability using the ShoreZone mapping system. *Marine Science in Alaska Symposium* (Anchorage, AK), Jan. 2007 [abstract].

Harper, J.R., **Harney, J.N.** [et al]. 2007. The ShoreZone Coastal Dataset as a Research Tool. *Marine Science in Alaska Symposium* (Anchorage AK), Jan. 2007 [abstract].

Taggart, S.J., Nielsen, J.K., Mondragon, J., Andrews, A., **Harney, J.N.,** Cochrane, G.L., and Etherington, L.L. 2007. How patchy are king and Tanner crab populations in southeastern Alaska? Integrating movement, distribution, and habitat data. *Marine Science in Alaska Symposium* (Anchorage, AK), Jan. 2007 [abstract].

Harney, J.N., Harper, J.R., and Morris, M. 2006. ShoreZone Coastal Habitat Mapping Data Summary Report: Southeast Alaska (2004-2005). Report prepared for The Nature Conservancy and NOAA National Marine Fisheries Service (Juneau, AK), Dec. 2006. 115 p.

Speller, R., and **Harney, J.N.** 2006. Comparison of ShoreZone and ESI coastal classification systems. *Marine Science in Alaska Symposium* (Anchorage, AK), Jan. 2006 [abstract].

Nielsen, J.K., Taggart, S.J., Mondragon, J., Andrews, A., **Harney, J.N.,** Cochrane, G.R., and Etherington, L.L. 2006. Real and arbitrary borders: integrating movement, distribution, and habitat data to determine marine reserve effectiveness in Glacier Bay, Alaska. *Society for Conservation GIS Conf.*, San Jose CA [abstract].

Harney, J., G. Cochrane, P. Dartnell, and L. Etherington. 2005. Benthic habitat mapping in Glacier Bay, southeast Alaska. *GeoHab 2005 Conference* (Sidney, BC), Apr. 2005 [abstract].

Harney, J., Cochrane, G., and Dartnell, P. 2005. Benthic habitat mapping in Glacier Bay, southeast Alaska. *Marine Science in Alaska Symposium 2005* (Anchorage, AK), Jan. 2005 [abstract].

- Lacy, J.R., **Harney**, J.N., Wyllie-Echeverria, S., and Gelfenbaum, G. 2005. Temporal variability in the influence of eelgrass on currents in the bottom boundary layer. Am. Soc. Limnol. Oceanog. summer meeting, Apr. 2005 [abstract].
- Rubin, D.M., Lacy, J.R., Hanes, D.M. Hanes, and **Harney**, J.N. 2005. Ripple morphology and orientation under waves and currents. Coastal Dynamics (Barcelona, Spain), Apr. 2005 [abstract].
- Harney**, J.N., and Rubin, D.M. 2004. Spatial and temporal analysis of heterogeneous bed sediments on the Santa Cruz, CA shelf. Eos Trans. AGU 84: OS41L-04, Ocean Sciences Meeting (Portland, OR) [abstract].
- Harney**, J.N., and Fletcher, C.H. 2003. Modeling biogenic sediment production along carbonate coasts. Proc. of the Fifth Intl. Symposium on Coastal Engineering and Science of Coastal Sediment Processes (Clearwater, FL), May 2003, 14 p.
- Harney**, J.N., Lacy, J.R., and Rubin, D.M. 2002. Time-varying record of sediment resuspension under waves on the inner shelf of Santa Cruz, CA. EOS Trans. American Geophysical Union (AGU) Fall Meeting (San Francisco, CA), Dec. 2002, p F719 [abstract].
- Fletcher, C.H., Grossman, E.E., Sherman, C.E., **Harney**, J.N., Rubin, K., Murray-Wallace, C., and Edwards, L. 2001. Complex origin and structure of the Oahu carbonate shelf: Hawaiian Islands. GSA Annual Mtg. (Boston, MA), Nov. 2001 [abstract].
- Fletcher, C.H., Barbee, M., Conger, C., Eversole, D., Grossman, E.E., **Harney**, J.N., Rooney, J.R., and Sherman, C.E. 2000. Age structure and coral community of an offshore reef platform, Egypt, Red Sea. Proc. 9th Intl. Coral Reef Symposium (Bali, Indonesia), Oct. 2000 [abstract].
- Fletcher, C.H., Sherman, C. E., Grossman, E.E., **Harney**, J.N., Murray-Wallace, C., and Rubin, K. 2000. Aggradation of the Oahu carbonate system in the late Quaternary. Proc. 9th Intl. Coral Reef Symposium (Bali, Indonesia), Oct. 2000 [abstract].
- Harney**, J.N. 2000. Carbonate sedimentology of a windward shoreface: Kailua Bay, Oahu, Hawaiian Islands. Ph.D. Dissertation, Geology and Geophysics Dept., University of Hawaii, Manoa. 232 p [thesis].