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# Andrew W. Stevens

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## EDUCATION

### College of Oceanic and Atmospheric Sciences, Oregon State University, Corvallis, OR

- M.S., Oceanography, November 2004
- Thesis entitled, “The impact of physical and biological properties on the erodibility of sediments along the western Adriatic Sea, Italy”

### Humboldt State University, Arcata, CA

- B.S., Oceanography, May 2002
- Thesis entitled, “Surface sediment grain-size distributions of Humboldt Bay, California”

## WORK EXPERIENCE

### Oceanographer, United States Geological Survey, Menlo Park, CA (December 2005-present)

- Primary support scientist for the USGS Coastal Habitats in Puget Sound program
  - Create and validate hydrodynamic and sediment transport models using the Delft3D modeling system
  - Prepare, program, and process data from various instruments used to measure waves, currents, sediment transport and water column properties (ADV, ADCP, ABS, CTD, OBS) in nearshore environments
  - Participate in deployment of instrumented tripods and moorings
  - Design surveys, collect, and process nearshore bathymetric data using GPS and sonar technologies in the Puget Sound and on the outer Washington State coast
  - Develop custom software tools to visualize and analyze diverse data sets
  - Write and contribute to reports and journal articles describing results of field experiments

### Contractor, United States Environmental Protection Agency, Newport, OR (December 2004-December 2005)

- Develop methods to quantify seagrass coverage in turbid Pacific Northwest estuaries
  - Assembly, deployment and maintenance of side-scan sonar and underwater video systems
  - Comparison of various techniques including side-scan sonar, underwater video and aerial photography to standardize seagrass monitoring procedures
  - Development of custom image processing algorithms to quantify seagrass habitat in side-scan sonar images

### Graduate Research Assistant, Oregon State University, Corvallis, OR (July 2002-November 2004)

- Field technician and data analyst for the benthic oceanography lab
  - Collection of sediment samples using box-, kasten-, and piston- coring devices
  - Set-up, deployment, and calibration of electrical resistivity profiler and digital x-ray system to measure sediment properties

### Lab Technician, Telonicher Marine Laboratory, Humboldt State University, Arcata, CA (April 2000-May 2002)

- Responsible for mapping the surface sediment grain size distributions of Humboldt Bay
  - Planning of field work, collection and analysis of sediment samples from Humboldt Bay
  - Conducted grain-size measurements using traditional sieve and pipette techniques

## FIELD PROGRAMS

- Coastal Habitats in Puget Sound
  - Puget Sound and Strait of Juan de Fuca (Various cruises aboard *R/V KARLUK*, December 2005-present)
- Columbia River Littoral Cell Beach and Nearshore Morphological Monitoring
  - Southwest Washington State (Annual surveys performed using Personal Watercraft, August 2005 – present)
- War in the Pacific, Coral Reef Project

- Guam (April, 2012, *R/V Heavy Metal*)
- Tsunami Inundation Survey
  - American Samoa (November, 2009)
- Hurricane Katrina rapid response cruise
  - Gulf of Mexico (October, 2005, *R/V CAPE HATTERAS*)
- OSU Seafloor Sampling System (OSUSSS) test cruises
  - Central Oregon shelf (August 2003, *F/V WATCHMAN*)
- Piston coring and resistivity profiling on the Palos Verdes shelf
  - Palos Verdes shelf, southern California (February and July 2004, *R/V VANTUNA*)
- EuroSTRATAFORM
  - Gulf of Lyon, France (October 2004, *R/V ENDEAVOUR* and May 2005, *R/V OCEANUS*)
  - Adriatic Sea, Italy (October 2002, *R/V GARCIA DEL CID*, February 2003 and June 2003, *R/V SEWARD JOHNSON II*)

## SKILLS

- Expert in the use of MATLAB programming language and software (image processing, statistics, and mapping toolboxes, graphical user interface development)
- Experienced in creating and validating hydrodynamic and sediment transport models using Delft3D
- Proficient with the computer programs ArcGIS, HYPACK, and SURFER
- Experienced in the use of instruments to measure nearshore hydrodynamics and water properties (ADV, ADCP, ABS, CTD, OBS), seafloor mapping (GPS, single-beam sonar, side-scan sonar), and ground-truthing (sediment sampling and underwater video)
- Certified small boat operator (Department of Interior certified, 1/2006) and personal watercraft operator (K38 open-water certified, 3/2008)

## AWARDS

- STAR Awards, awarded by the task leaders of the USGS Coastal Habitats in Puget Sound project, 2007, 2008, 2010, 2011.
- Chipman-Downs Fellowship, awarded by College of Oceanic and Atmospheric Sciences, June, 2004
- Marlinspike Award for seaworthiness, awarded by the Humboldt State University faculty, May, 2002

## JOURNAL PUBLICATIONS

- Stevens, A.W.**, and J.R. Lacy, 2012, The influence of wave energy and sediment transport on seagrass distribution. *Estuaries and Coasts*, v. 35, p. 92-108.
- Warrick, J.A., and **A.W. Stevens**, 2011, A buoyant plume adjacent to a headland- Observations of the Elwha River plume. *Continental Shelf Research*, v. 31, p. 85-97.
- Gelfenbaum, G., Apotsos, A., **Stevens, A.W.**, and B. Jaffe, 2011, Effects of fringing reefs on tsunami inundation: American Samoa. *Earth-Science Reviews*, v. 107, p. 12-22.
- Apotsos, A., Gelfenbaum, G., Jaffe, B., Watt, S., Peck, B., Buckley, M., and **A.W. Stevens**, 2011, Tsunami sediment transport and deposition in a sediment-limited embayment on American Samoa. *Earth-Science Reviews*, v. 107, p. 1-11.
- Depew, D.C., **Stevens, A.W.**, Hecky, R., and R.E.H. Smith, 2009, Detection and characterization of benthic filamentous algal stands (*Cladophora* sp.) on rocky substrata using a high-frequency echosounder. *Limnology and Oceanography: Methods*, v. 7, p. 693-705.
- Wheatcroft, R.A., **Stevens, A.W.**, and R.V. Johnson, 2007, *In Situ* time-series measurements of subseafloor properties: *IEEE Journal of Oceanic Engineering*, v. 32, p. 862-871.
- Walsh, J. P., Corbett, R., Mallinson, D., Goni, M., Dail, M., Loewy, C., Marciniak, K., Ryan, K., Smith, C., **Stevens, A.W.**, Sumners, B., and T. Tesi, 2006, Mississippi Delta Mudflow Activity and 2005 Gulf Hurricanes: *Eos Trans. AGU*, v. 87, p. 477.
- Stevens, A.W.**, Wheatcroft, R.A., and P.L. Wiberg, 2006, Sediment erodibility along the western Adriatic Sea, Italy: *Continental Shelf Research*, v. 27, p. 400-416.

Wheatcroft, R.A., **Stevens, A.W.**, Hunt, L.H. and T. Milligan, 2006, The large-scale distribution and internal geometry of the Fall 2000 Po River flood deposit; evidence from digital x-radiography: *Continental Shelf Research*, v. 26, p. 499-516.

## REPORTS AND CONFERENCE PROCEEDINGS

- Stevens, A.W.**, Gelfenbaum, G., Ruggiero, P., and G.K. Kaminsky, In Press, Southwest Washington littoral drift restoration; Beach and nearshore morphological monitoring: U.S. Geological Survey Open-File Report, 2012-XXXX, XX p.
- Warrick, J.A., **Stevens, A.W.**, Miller, I.M., and G. Gelfenbaum, 2011, Coastal Processes of the Elwha River delta, in Duda, J.J., Warrick, J.A., and Magirl, C.S., eds., 2011, Coastal habitats of the Elwha River, Washington—Biological and physical patterns and processes prior to dam removal: U.S. Geological Survey Scientific Investigations Report 2011–5120, 264 p.
- Jaffe, B.E., Gelfenbaum, Guy, Buckley, M.L., Watt, Steve, Apotsos, Alex, **Stevens, A.W.**, and Richmond, B.M., 2010, The limit of inundation of the September 29, 2009, tsunami on Tutuila, American Samoa: U.S. Geological Survey Open-File Report 2010-1018, 27 p.
- Gelfenbaum, G., **Stevens, A.W.**, Warrick, J.A., and E. Elias, 2009, Modeling sediment transport and delta morphology on the dammed Elwha River, Washington State, USA. 6th International Conference on Coastal Dynamics 2009 Proceedings, Tokyo, Japan.
- Stevens, A.W.**, Gelfenbaum, G., Elias, E., and C. Jones, 2008, Incorporation of fine-grained sediment erodibility measurements into sediment transport modeling, Capitol Lake, Washington: U.S. Geological Survey Open-File Report 2008-1340, 72 p.
- Stevens, A.W.**, Lacy, J.R., Finlayson, D.P., and G. Gelfenbaum, 2008, Evaluation of a single-beam echosounder to map seagrass at two sites in northern Puget Sound, Washington: U.S. Geological Survey Scientific Investigations Report 2008-5009, 45 p.
- Warrick, J.A., George, D.A., **Stevens, A.W.**, Eshleman, J., Gelfenbaum, G., Kaminsky, G.M., Schwartz, A.K., and M. Beirne, 2007, Beach morphology monitoring in the Elwha River littoral cell, 2004–2006: U. S. Geological Survey Data Series 288, 38 p.
- Grossman, E., **Stevens, A.W.**, Curran, C., Smith, C., and A. Schwartz, 2007, Bathymetry, substrate and circulation in Westcott Bay, San Juan Islands, Washington: U.S. Geological Survey Open-File Report 2007-1305, 42 p.
- Grossman, E., **Stevens, A.W.**, Gelfenbaum, G., and C. Curran, 2007, Nearshore circulation and water column properties in the Skagit River Delta, northern Puget Sound, Washington; Juvenile Chinook salmon habitat availability in the Swinomish Channel: U.S. Geological Survey Scientific Investigations Report 2007-5120, 96 p.
- George, D.A., Gelfenbaum, G., Lesser, G., and **A.W. Stevens**, 2006, Deschutes Estuary Feasibility Study; hydrodynamics and sediment transport modeling: U.S. Geological Survey Open-File Report 2006-1318.
- Borgeld, J.C. and **A.W. Stevens**, 2005, Humboldt Bay, California, surface sediments 2000-01, in Schlosser, S.C., and R. Rasmussen, eds., *Proceedings of the Humboldt Bay symposium; Current perspectives on the physical and biological processes of Humboldt Bay*, p. 51-64.

## REFERENCES

- Guy Gelfenbaum, United States Geological Survey, Menlo Park, CA, [ggelfenbaum@usgs.gov](mailto:ggelfenbaum@usgs.gov), (650) 329-5483
- Jessie Lacy, United States Geological Survey, Santa Cruz, CA, [jlacy@usgs.gov](mailto:jlacy@usgs.gov), (831) 427-4720
- Edwin Elias, Deltares, Delft, The Netherlands, [eelias@usgs.gov](mailto:eelias@usgs.gov), (831) 427-4786
- Peter Ruggiero, Department of Geosciences, Oregon State University, [ruggierp@geo.oregonstate.edu](mailto:ruggierp@geo.oregonstate.edu), (541) 737-1239
- Rob Wheatcroft, College of Oceanic and Atmospheric Sciences, Oregon State University, [raw@coas.oregonstate.edu](mailto:raw@coas.oregonstate.edu), (541) 737-3891