

HOLLY L. LOPEZ

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EDUCATION

Moss Landing Marine Laboratories (MLML) - California State University, Monterey Bay (CSUMB)

Master's of Science Degree: 2007

Major: Geological Oceanography

California State University, Monterey Bay

Bachelor's of Science Degree: 2001

Major: Earth Systems Science and Policy

WORK EXPERIENCE AND SKILLS

- **GIS Analyst/Hydrographer**, (on-call), Fugro Pelagos, Inc., Oakland, 2006 – present
 - Multibeam/singlebeam bathymetric, side-scan, interferometric, backscatter, RADAR and LiDAR processing, ground control support, logistics, base station installation and maintenance, charting, technical report writing, marine benthic habitat interpretations, Alternate Representative, Consortium for Ocean Leadership
- **GIS Specialist/Independent Contractor**, (on-call), Sandoval & Associates Consulting Services, LLC, Inc., Marina, February 2015 – present
 - Using GIS for the identification and QA/QC of surface and sub-surface kelp beds based on aerial imagery collected along the coast of California
- **GIS Analyst/Programmer/Independent Contractor**, (on-call), People Information Earth (PIE) Services, Seaside, 2015 – 2016
 - GIS analysis, data management, mapping and ArcServer work for local Government and NGO projects
- **GIS Specialist /Independent Contractor**, (on-call), Benthic Ecology Lab and Central Coast Wetlands Group, MLML, Moss Landing, 2010 – present
 - Benthic ecology research, seafloor mapping data analysis in Elkhorn Slough, marine meeting facilitation, terrestrial mapping, scientific publications
- **Outreach & Recruitment Coordinator**, Undergraduate Research Opportunities Center, CSUMB, Seaside, 2013 –2014
 - Research class mentoring, supporting undergraduates in graduate school preparation, reviewing undergraduate programs, collaborative efforts among local community colleges, correspondence with department partners, marketing and social media/web site development, leading/facilitating university workshops, design and support/development with Research Experience for Undergraduates (REU) Program, administrative duties including team meeting coordination, agenda planning/facilitation, file maintenance and travel arrangements
- **Lecturer**, CSUMB, Seaside, 2013
 - Marine Biology, traditional lecture, inverted learning implementation, labs, in-class instruction, presentations, and field trips
- **Instructor**, Hartnell College, Salinas, 2005 and 2006
 - Physical Geology; Introduction to Geology; and, Oceanography, lectures, presentations, labs, in-class exercises and experiments
- **Graduate Researcher**, Center for Habitat Studies, Dr. H. Gary Greene, professor, MLML, 2001 – 2006
 - Marine benthic habitat mapping and interpretation, multibeam bathymetric and backscatter data collection and processing, GIS construction and analyses, sediment processing, participation

in offshore geophysical surveys, tsunami modeling, scientific reporting, grant/budget management, logistics including meeting preparation, shipping and ordering scientific equipment/supplies

- **Editor, Writer and Photographer**, *Earth Systems Scientist Newsletter*, CSUMB, 1999 - 2001
- **Photographer and Writer**, *Otter Realm*, 1998 - 2001
- **Inter-Club Council Representative and President**, Photography Club, CSUMB, 1999 – 2001

BIOLOGICAL RESEARCH AND CONSERVATION

- ROV survey, groundtruthing of marine benthic habitats, Dr. H. Gary Greene, professor, MLML and Friday Harbor Laboratories, San Juan Islands, *R/V Centennial* and *R/V Molluscan*, 2001 – 2004
- Seafloor survey, multibeam bathymetric and side-scan data processing and analysis, boat tending and biological data collection on research cruises aboard *R/V MacGinitie*, Seafloor Mapping Lab, Dr. Rikk Kvitek, professor, CSUMB, 2000 - 2001
- Lab Processor, dissection and homogenization of mussels and other marine organisms, Mussel Watch, MLML, 1999 - 2000
- Native plant identification, re-establishment of native plant communities in eroded and degraded habitats and local youth education concerning native plant ecology, Return of the Natives Restoration Education Project, CSUMB, 1998

GEOPHYSICAL AND OCEANOGRAPHIC RESEARCH

- Seafloor survey, seismic reflection profiling, ROV dives, sediment core sampling, CTD casts and otter trawls on Monterey Bay research cruises aboard MBARI's *R/V Western Flyer*, *Point Lobos* and MLML's *Point Sur*, MLML, 2001 - 2006
- Seafloor survey and multibeam bathymetric and backscatter data collecting and processing, Dr. H. Gary Greene, professor, MLML, Canadian Hydrographic Service and Canadian Geological Survey, San Juan Islands and Canada, CCG's *R.B. Young* and *R/V Vector*, 2001 - 2003
- Side-scan sonar survey, data processing, Farallon Islands and offshore Big Sur, Dr. H. Gary Greene, MLML and Dr. Roberto Anima, *R/V MacArthur II*, 2003

VOLUNTEER SERVICE

- Rescuing South-Central California Coast Steelhead, Carmel River Steelhead Association, 2012
- Maintaining parrot trails in El Yunque National Forest in Puerto Rico, Sierra Club, 2010
- Processing multibeam bathymetric backscatter data for *Okeanos Explorer* survey, Menlo Park, Dr. Guy Cochrane and Dr. Pete Dartnell, United States Geological Survey, 2009
- Statistical analysis and data interpretation of the ecology of algae and invertebrates in the Monterey Bay, Ronald Walder, Monterey Bay National Marine Sanctuary, MLML, 1998 - 1999
- Record keeping, aquatic care, Mummichog (*Fundulus heteroclitus*) fish project, Helene Glemet, Hopkins Marine Station, 1998

EDUCATIONAL OUTREACH AND SCIENTIFIC COMMUNICATION

- Co-host, attendance and participation at Explore California Shelf Bathymetry with John Oliver, MLML, Moss Landing, 2013

- **Lopez, Holly**; Greene, H. Gary: Characterizing Bedform Habitat Based on High-Resolution Multibeam Bathymetry, Backscatter and Video Imagery in the San Juan Islands, Washington, USA, and Boundary Pass Region, British Columbia. Poster presented at GeoHab, Institute of Ocean Sciences, Sidney, Canada, 2005
- Greene, H. Gary; **Lopez, Holly**; Barrie, Vaughn; Palsson, Wayne; Gunderson, Don; Tilden, Janet; Endris, Charlie, Marine Benthic Habitat Mapping in the San Juan Islands. Poster presented to Puget Sound Georgia Basin Research Conference, Seattle, WA, Washington State Convention and Trade Center, 2005
- Visual Images of Latin America: A Study at Sea Exhibition. A collection of photographs and written reflections, CSUMB Library, 2001
- Public relations and hands-on activities representing Return of the Natives Restoration and Education Project, National Oceans Fair, Monterey, 1998

SCIENCE AND GOVERNMENTAL MEETINGS

- Consortium for Ocean Leadership, Moss Landing, 2015
- USGS California Seafloor and Coastal Mapping Program, Santa Cruz, 2014
- State of the California Central Coast Symposium, Monterey, 2013
- West Coast Governors' Alliance on Ocean Health (Data Network Action Coordination Team), Portland, 2012
- USGS Pacific Marine Science Center, GIS, Santa Cruz, 2012
- Ocean Protection Council, Sacramento, 2011
- National Ocean Policy, San Francisco, 2011
- West Coast Governors' Alliance on Ocean Health (Action Coordination Team), Oakland, 2011
- California and the World Ocean Conference, San Francisco, 2010
- NOAA Hydrographic Services Review Panel, Vancouver, WA, 2010
- West Coast Governors' Agreement on Ocean Health, San Francisco, 2010
- Marine Life Protection Act Initiative, San Diego, 2008
- Ocean Protection Council, Monterey, 2007

SELECTED REPORTS AND PUBLICATIONS

- John S. Oliver and **Holly L. Lopez**, Geomorphology and Ecology of Extreme Tidal Erosion of Elkhorn Slough, MLML, to be posted on NOAA's Tidal Wetland web site, 2012
- **Lopez, Holly**. Characterizing sedimentary bedforms as habitat for fishes and invertebrates in the San Juan Archipelago, Washington, USA, and the Georgia Basin, British Columbia. Master's of Science thesis project, MLML - CSUMB, 2007
- **Lopez, Holly L.**, and Greene, H. Gary. Characterizing Bedform Habitat Based on High-Resolution Multibeam Bathymetry, Backscatter and Video Imagery in the Georgia Basin, British Columbia and Northwest Straits, Washington, USA, Joint Meeting Pacific Section, AAPG & Cordilleran Section, Geological Society of America *Abstracts with Programs*, Vol. 37, No. 4, 2005
- Greene, H. Gary; Bizzarro, Joseph; Barrie, J. Vaughn; Murai, Lee Y.; Erdey, Mercedes; **Lopez, Holly L.**; Endris, Charlie. Habitats and Hazards - A Circum-Pacific Concern, Geological Society of America *Abstracts with Programs*, Vol. 37, No. 4, 2005
- The Benefits and Pitfalls of GIS in Marine Benthic Habitat Mapping, Greene, H. Gary, Bizzarro, Joseph J., Tilden, Janet E., **Lopez, Holly L.**, and Erdey, Mercedes D., Center for Habitat Studies at Moss Landing Marine Laboratories *in Place matters: geospatial tools for marine science, conservation, and management in the Pacific Northwest*, edited by Dawn J. Wright and Astrid J. Scholz; foreword by Sylvia A. Earle, Corvallis: Oregon State University Press, 2005
- Alliance for Coastal Technologies. Moss Landing, Workshop Proceedings, Indexing No. ACT-07-07, UMCES Technical Report Series: TS- 464-04-CBL/Ref. No. [UMCES] CBL 04-135, 2004

- **Lopez, H. L.** and Greene, H. G., Characterizing dynamic bedforms using multibeam bathymetry in the Haro Strait and San Juan Channel Areas of British Columbia, Canada, and the San Juan Islands, Washington, USA. EOS Trans. AGU, 84 (46), Fall Meeting Suppl. Abstract OS52B- 0910, 2003
- **Lopez, Holly.** How anchoring locations can be changed to minimize damage to sensitive habitats near Monterey Harbor. Senior thesis project, CSUMB, 2001

GRANTS AND AWARDS

- *Graduate assistantship*, NOAA Environmental Entrepreneurship Program, 2004 - 2006
- *Research funding*, NOAA Coastal Services Center, Bathymetric mapping, habitat characterization, and geohazards assessment of the San Juan Archipelago: A U.S.-Canadian cooperative venture, 2002 - 2005
- *Research funding*, SeaDoc Society, (formerly Marine Ecosystem Health Program, MEHP), Using multibeam bathymetry to characterize rockfish habitat in the Haro Strait and San Juan Channel areas of British Columbia, Canada and the San Juan Islands, Washington, USA, 2002- 2004

CERTIFICATIONS AND TRAINING

- CARIS HIPS/SIPS 7.0 training, Ventura, 2011
- McMillan Offshore International training, Ocean Survival/Helicopter Egress, Carpinteria, 2011
- MicroStation V8i for AutoCAD users training, Oakland, 2011
- Airborne RADAR mapping system (GeoSAR) training, classroom and in-flight, Fugro EarthData Inc., Van Nuys, 2009
- USCG Personal Survival and Survival Suit/Survival Craft Course (includes Helicopter Egress Training), Texas A&M University System, Galveston, 2006
- Safety training at California Maritime Academy, Vallejo, 2000

SOFTWARE EXPERIENCE

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| <ul style="list-style-type: none"> • Adobe Illustrator® • AutoCAD® • Bentley gINT® • CARIS HIPS and SIPS® • CARIS Geocoder® • CSUMB Charlotte® content management system (web site design) • ENVI® • ERDAS Imagine® • ESRI's ArcGIS including ArcMap®, ArcGIS Server® and Metadata • Fugro Pelagos Inc. <i>in-house</i> software including GeoTools, Multibeam Survey Tools, Survey Estimator and Geocoder® | <ul style="list-style-type: none"> • GoogleDocs® • IVS Fledermaus® • Microsoft Office Suite including Access®, Excel®, Outlook®, PowerPoint®, Publisher®, and Word® • MicroStation® • Pathfinder Office® • PhotoShop® • SlideRoom® application design system • SonarWiz® • TNT Mips® • WordPress® |
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