

Curriculum vitae

Matthew D. Levey

Principal SeaSpatial Consulting

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Education

Moss Landing Marine Laboratories, Moss Landing, CA

M.S., Marine Science

May 2005

San Diego State University, San Diego, CA

B.S., Biology; B.A., Political Science

May 1995

Professional Experience

- 01/01/09 – Present Principal: SeaSpatial Consulting, Santa Cruz, CA
Python programming; including the use of the Scipy stack (Pandas, Numpy, and Scipy) for data analysis and geoprocessing. Development of web maps using Esri, Leaflet, Mapbox, and Google Maps APIs, along with HTML, CSS, and JavaScript. Create, process, manage, and analyze spatial data sets in GIS for interpretation and display, including the production of charts and maps.
- 02/15/03 – 12/31/08 Project Manager: AOA Geophysics Inc., Moss Landing, CA
Oversee and lead staff scientists in creating, processing, managing, and analyzing marine spatial data sets in GIS for interpretation and display, including the production of charts and maps. Plan and implement seafloor mapping surveys worldwide using multibeam, sidescan sonar, and subbottom profiler systems. At sea, oversee the operation of seafloor mapping surveys to ensure data accuracy and consistency, and to facilitate communication between clients and contractors.
- 01/03/02 – 02/14/03 Research Technician: Center for Habitat Studies, Moss Landing Marine Labs
Use various GIS applications for the interpretation of remote sensing data for the creation of habitat maps. Assist with the planning, implementation, processing, and display of seafloor mapping projects. Digital video editing and production. Deploy and troubleshoot computer systems. Maintain network connectivity and productivity.
- 05/27/02 – 09/30/02 Research Assistant: Habitat Ecology Group, NOAA Fisheries, Santa Cruz, CA
Conducted age and growth study on flag rockfish. Analyzed and interpreted laser-line scan data. Assisted with subtidal collection of juvenile rockfish. Summer only position.

- 06/01/01 – Research Technician: Seafloor Mapping Lab, California State University,
8/31/01 Monterey Bay
Assist in the collection and processing of bathymetric data using multibeam and sidescan sonar systems for the purpose of marine habitat mapping. Troubleshoot computer/seafloor mapping systems at sea. Summer only position.
- 11/12/96 – Fisheries Technician: Pacific States Marine Fisheries Commission, La Jolla /
07/15/01 Monterey, CA
Fishery data collection and analysis. Otolith reading. Report writing. Participation in fisheries research cruises. Database creation and management. Computer upkeep, software and hardware installation.
- 04/15/96 – Scientific Aid: California Department of Fish and Game, Long Beach, CA
11/10/96 Field identification and data collection of marine fish and invertebrates. Otolith extraction and preparation. Fish sex and maturity determination. Data entry and analysis. Present oral and written reports to supervisor.

Presentations and Posters

- Levey, M.D., D. Orange, A. García-García, M. Todd, J. Fabres, and A. Gardner. 2005. “High resolution Seafloor Mapping off the Cap de Creus Canyon Head, West Gulf of Lion”. AAPG 2005 Annual Convention: Exploring Energy Systems, 19-22 June, Calgary, Canada, A81.
- Levey, M.D. November 2006. “Patterns of reef fish distribution and abundance among selected locations in the Gulf of California” at the 87th meeting of the Western Society of Naturalists, November 2006.
- Levey, M.D., A. García-García, D. L. Orange, M. Mulrey, G. Shipton, I. Herbert, and RV Pelican field party. October 2008. “Preliminary results and QC of a shallow-water, high-resolution acoustic survey near Panama City, Florida” Presentation at Shallow Survey 2008, Portsmouth, New Hampshire, USA.
- Orange, D. L., P.A. Teas, J. Decker, P. Baillie, P. Gilleran, and M. D. Levey. December 2008 “The Utilisation of SeaSeep Surveys (a Defense / Hydrography Spin-Off) to Identify and Sample Hydrocarbon Seeps in Offshore Frontier Basins”. Presentation to International Petroleum Technology Conference, Kuala Lumpur, Malaysia.
- Moore, C., A. Colyer, T. O’Donnell, J. Ellis, M. Levey, and D. Greene. February 2009. “ArcGIS and 3D Simulation – Life of Field Planning Tool”. Presentation at the 2009 ESRI Petroleum Users Group Conference. Houston, Texas, USA.
- Levey, M.D., A. García-García, and D. L. Orange. December 2009. “Evidence of hurricane-induced mudflows and their characteristics near the West Delta, Gulf of Mexico”. Poster presented at AGU Fall Meeting, San Francisco, California, USA.

Sandoval, E. and M. Levey. February 2010. “Predicting Marine Species Occurrence Utilizing GIS and Habitat Preference Models”. Poster presented at AGU Ocean Sciences Meeting. Portland, Oregon, USA.

Levey, M.D., A. García-García, and E. B. Watson. December 2011. Mapping Modern and Historical Geological Changes to the Upper Elkhorn Slough Estuary, Moss Landing, California. Poster presented at AGU Fall Meeting, San Francisco, California, USA.

Levey, M.D., and B.B. Hughes. November 2013. Mapping the implications of low oxygen (hypoxia) on available habitat for select species of flatfish in Elkhorn Slough. Presentation at ESRI Ocean GIS Forum. Redlands, California, USA.

Publications

Schoolmeester, T., J. Fabres, M. Canals, A. Orange, E. Grossman, A. Garcia-Garcia, M. Field, and M. Levey. 2005. Shallow sediment structure revealed from high resolution surveys in the upper Cap de Creus Canyon. In Final EuroSTRATAFORM Meeting, pp. 24-27.

García-García, A., T. Schoolmeester, D. Orange, A. Calafat, J. Fabres, E. Grossman, M. Field, T. Lorenson, M. Levey, and M. Sansoucy. 2012. Sediments, Morphology and Sedimentary Processes on Continental Shelves: Advances in technologies, research and applications (Special Publication 44 of the IAS), 109, 71-98.

García-García, A., M.D. Levey, and E.B. Watson. 2013. High resolution seismic study of the Holocene infill of the Elkhorn Slough, central California. *Continental Shelf Research*. 55, 108 – 118.

Hughes, B.B., M. D. Levey,, M.C. Fountain, A.B. Carlisle, F.P. Chavez, Gleason, and M.G. Gleason. 2015. Climate mediates hypoxic stress on fish diversity and nursery function at the land–sea interface. *Proceedings of the National Academy of Sciences*. 112:26, 8025-8030.

Technical Skills

ESRI ArcGIS certified

Python, Numpy, Scipy, Pandas, JavaScript, HTML, and CSS programming

Full-Stack spatial data programming on Linux and Windows platforms

Multibeam acquisition using Simrad Merlin and SIS, and processing using Caris HIPS

Sidescan sonar acquisition/processing using SonarPRO and Triton Imaging’s ISIS

Fledermaus, Adobe Illustrator, and Adobe Photoshop proficient

Non-linear digital video editing using Adobe Premier

SPSS, Canoco, and Systat statistical and multivariate statistical analysis software

NAUI Scientific Diver