

CURRICULUM VITAE

Jillian M. Maloney

I. EDUCATION

Scripps Institution of Oceanography, UCSD 2013 Ph.D. Earth Sciences
Fault segments and step-overs: Implications for geohazards and biohabitats
University of Southern California 2004 B. S. Geological Sciences

II. POSITIONS AND RANKS HELD

San Diego State University	Assistant Professor	2015-present
Louisiana State University	Postdoctoral Researcher	2014-2015
Scripps Institution of Oceanography	Postdoctoral Researcher	2013-2014

III. TEACHING

GEOL305, Water & The Environment

Course description: *Three unit General Education course for upper division undergraduates of all majors. The first half of the semester focuses on scientific concepts and theories related to water systems. We then use our understanding of the science to study local and global water issues. This class begins with the origin, distribution, and properties of water on earth. We cover hydrologic cycling and storage of water including processes of the atmosphere, rivers, lakes, oceans, glaciers, and groundwater. The second half of the semester focuses on human uses of water and problems caused by use of water resources. We cover global and local issues by examining case studies with a particular focus on California water landscape and management.*

GEOL336, Sedimentology & Lithostratigraphy

Course description: *Three unit course for undergraduates in the geological sciences major. Includes lecture, lab period, and field trips. Sedimentologic description and interpretation of the textures and structures of sediments and sedimentary rocks. Stratigraphic analysis of stratal succession, age relationships, and correlation on local and global scales. In this course students learn how to think like a geoscientist by making careful observations of sediments and sedimentary rocks and detailed interpretations about the environment in which they formed. We cover the properties of sediments, how sediment is transported and deposited, the structures and textures of sediment deposits, and the characteristics of sedimentary rocks formed in different environments.*

GEOL580, Seismic Interpretation and 3D Visualization

Course description: *Three unit course for graduate students and advanced undergraduates in the geological sciences major. Includes lecture and lab period. Computer-based seismic interpretation, mapping, and modeling in both 2D and 3D. Overview of basic seismic processing. Emphasis on industrial applications, both petroleum and shallow geotechnical.*
This course covers the basics of seismic reflection data acquisition and processing with a more in depth focus on data interpretation. Students learn the main principals of sequence and seismic stratigraphy and gain hands on experience working with seismic reflection data.

IV. PROFESSIONAL GROWTH

A. Peer-reviewed Journal Articles

Maloney, J.M., S.J. Bentley, K. Xu, J. Obelcz, I.Y. Georgiou, M. Miner, 2018, Subaqueous Mississippi River delta entering stage of decline, Invited Research Article, *Marine Geology*, doi: 10.1016/j.margeo.2018.03.001 (lead for concept development, data gathering, data analysis and interpretation, creation of figures and text, and submission and revisions) IF: 2.364

Obelcz J., K. Xu, I.Y. Georgiou, J. Maloney, S.J. Bentley, and M.D. Miner, 2017, Annual-periodicity submarine landslides on the Mississippi River Delta Front not associated with catastrophic events,

Geology, doi: 10.1130/G38688.1 (assisted in data collection, analysis, and interpretation, editing of figures and text, assisted with revisions) IF: 5.073

Bentley, S.J., M.D. Blum, **J.M. Maloney**, L. Pond, and R. Paulsell, 2016, The Mississippi River Source to Sink System: Perspectives on Tectonic, Climatic, and Anthropogenic Influences, Miocene to Anthropocene, *Earth Science Reviews*, v. 153, p. 139-174, [doi:10.1016/j.earscirev.2015.11.001](https://doi.org/10.1016/j.earscirev.2015.11.001) (assisted in data gathering, figure creation, text editing) IF: 7.491

Keller, G., S.J. Bentley, I.Y. Georgiou, **J. Maloney**, M. Miner, K. Xu, 2016, River-plume sedimentation and $^{210}\text{Pb}/^7\text{Be}$ seabed delivery on the Mississippi River delta front, *Geo-Marine Letters*, in press, doi: 10.1007/s00367-016-0476-0GMLE-D-16-00107.1

Sievers, K.T., R.J. Barr, **J.M. Maloney**, N.W. Driscoll, T.W. Anderson, 2016, Impact of Habitat Structure on Fish Populations in Kelp Forests at a Seascape Scale, *Marine Ecology Progress Series*, in press, doi: 10.3354/meps11885.

Maloney, J.M., Driscoll, N.W., Kent, G.M., Duke, S., Freeman, T., and Bormann, J., 2016, Segmentation and step-overs along strike-slip fault systems in the inner California borderlands: Implications for fault architecture and basin formation, *AEG Special Publication 26: Applied Geology in California*, eds. Anderson, R. and Ferriz, H., p. 655-677.

Kent, G., Schmauder, G., **Maloney, J.**, Driscoll, N., Kell, A., Smith, K. Baskin, R., and Seitz, G., 2016, Reevaluating late-Pleistocene and Holocene active faults in the Tahoe Basin, California-Nevada, *AEG Special Publication 26: Applied Geology in California*, eds. Anderson, R. and Ferriz, H., p. 833-858.

Maloney, J.M., Grupe, B.M., Pasulka, A.L., Frieder, C.A., Levin, L.A., Dawson, K., Case, D., and Driscoll, N.W., 2015, Transpressional segment boundaries in strike-slip fault systems offshore southern California: Implications for fluid expulsion and seep habitats: *Geophysical Research Letters*, v. 42, no. 10, p. 4080-4088, doi: 10.1002/2015GL063778

Grupe, B.M., Krach, M.L., Pasulka, A.L., **Maloney, J.M.**, Levin, L.A., Frieder, C.A., 2015, Methane seeps ecosystem functions and services from a recently discovered California seep, *Marine Ecology*, v. 36, p. 91-108, doi: 10.1111/maec.12243

Noble, P.J., Ball, G.I., Zimmerman, S.H., **Maloney, J.M.**, Smith, S.B., Kent, G., Adams, K.D., Karlin, R.E., Driscoll, N.W., 2015, Holocene paleoclimate history of Fallen Leaf Lake, CA, from geochemistry and sedimentology of well-dated sediment cores, *Quaternary Science Reviews*, v. 131, part A, p. 193-210, doi: 10.1016/j.quascirev.2015.10.037

Maloney, J.M., et al., 2013, Paleoseismic history of the Fallen Leaf Segment of the West-Tahoe Fault reconstructed from slide deposits in the Lake Tahoe Basin, California-Nevada. *Geosphere*, v. 9, no. 4 p. 1065-1090. doi: 10.1130/GES00877.1

Dong, S., Ucar, G., Wesnousky, S.G., **Maloney, J.**, Kent, G., Driscoll, N., and Baskin, R., 2013, Strike-slip faulting along the Wassuk Range of the northern Walker Lane, Nevada. *Geosphere*, v. 10, no. 1, p. 40-48. doi: 10.1130/GES00912.1

B. Publications in Process

Laws, A. *, **J. Maloney**, S. Klotsko, A. Gusick, T. Braje, D. Ball, Submerged marine terraces offshore the Northern Channel Islands, *Quaternary Research*, submitted to *Quaternary Research*, August 2018 (lead for concept development, supervised student researcher for data collection, analysis, and interpretation, edited text and figures for student researcher) IF: 2.329

Singleton, D.M. *, T.K. Rockwell, D. Murbach, M. Murbach, **J.M. Maloney**, T. Freeman, Y. Levy, Late-Holocene Rupture History of the Rose Canyon Fault in Old Town, San Diego: Implications for cascading earthquakes on the Newport-Inglewood-Rose Canyon Fault zone, submitted to the *Bulletin of the Seismological Society of America*, August 2018 (supervised student researcher for data interpretation, edited text and figures for student researcher) IF: 2.343

Marquez, E. *, **J. Maloney**, and T. Rockwell, Rose-Canyon fault zone architecture at releasing step,

San Diego, CA., Geo-Marine Letters, in prep (*lead for concept development, supervised student researcher for data collection, analysis, and interpretation, edited text and figures for student researcher*)

C. Conference Presentations

**Indicates student first author*

Braje, T.J., **J.M. Maloney**, D. Ball, L. Davis, N. Driscoll, J. Dugan, J.M. Erlandson, A. Gusick, M. Page, R. Miller, L.L. Reder-Myers, A. Nyers, and D. Schroeder, 2016, Connecting to Marine Science Across the Santa Barbara Channel, presentation at the 2016 Channel Islands Symposium, October 3-7, Ventura, CA.

Marquez, E.*, **Maloney, J.**, Rockwell, T., Driscoll, N., Rugg, S., Babcock, J., 2016, A paleoseismic investigation of the Rose Canyon fault zone, San Diego, California; *Geological Society of America Annual Meeting*, September 25-28, Denver, CO.

Weidman, L.*, **J. Maloney**, T. Rockwell, 2016, San Diego Earthquake Hazard: Geotechnical Data Synthesis, *SCEC Annual Meeting*, September 11-14, Palm Springs, CA.

Maloney, J.M., Bentley, S.J., Obelcz, J., Xu, K., Georgiou, I., Miner, M., Keller, G., 2016, Decline of the subaqueous Mississippi River delta front: Implications for mudflow hazard, *Geological Society of America – South Central Section Meeting*, Baton Rouge, LA, March 21-23, **Invited Speaker**.

Maloney, J.M., Bentley, S.J., Xu, K., Georgiou, I., Miner, M., 2016, Impacts of declining Mississippi River sediment load on subaqueous delta front sedimentation and geomorphology, *AGU/ASLO Ocean Sciences 2016*, New Orleans, LA, Feb. 21-26.

Maloney, J.M., Driscoll, N.W., and Babcock, J.M., Neotectonics in the San Diego Bay pull-apart basin, Rose Canyon-Descanso fault system, 2015, *SCEC Annual Meeting*, Palm Springs, CA, Sept. 12-16.

Maloney, J.M., Bentley, S.J., Obelcz, J., Xu, K., Miner, M.D., Georgiou, I.Y., Hanegan, K., Keller, G., 2014, Assessing Subaqueous Mudflow Hazard on the Mississippi River Delta Front, Part 1: A Historical Perspective on Mississippi River Delta Front Sedimentation: *AGU Fall Meeting*, San Francisco, CA, 15-19 December.

Obelcz, J., Xu, K., Bentley, S.J., Georgiou, I.Y., **Maloney, J.M.**, Miner, M.D., Hanegan, K., Keller, G., 2014, Assessing Subaqueous Mudslide Hazard on the Mississippi River Delta Front, Part 2: Insights Revealed Through High-Resolution Geophysical Surveying: *AGU Fall Meeting*, San Francisco, CA, 15-19 December.

Maloney, J.M., Driscoll, N.W., Kent, G.M., Brothers, D.S., 2013, Segmentation and step-overs along strike slip fault systems in the inner California borderlands: Implications for fault architecture and basin formation: *SCEC Annual Meeting*, Palm Springs, CA, September.

Maloney, J.M., Noble, P.J., Driscoll, N.W., Kent, G.M., Schmauder, G.C., 2012, Direct and indirect evidence for earthquakes; an example from the Lake Tahoe Basin, California-Nevada: *AGU Fall Meeting*, San Francisco, CA, 3-7 December.

Sato, K., Grupe, B., Takeshita, Y., Nam, S., Navarro, M., Pasulka, A., **Maloney, J.**, Ballard, J., Gallagher, K., Levin, L., Frieder, C., 2012, The San Diego Coastal Expedition: A student-led exploration of local seeps and low oxygen/low pH ecosystems: *2012 Western Society of Naturalists Annual Meeting*, Monterey, CA, 8-11 November.

Maloney, J.M., Driscoll, N.W., Kent, G.M., Brothers, D.S., Baskin, R.L., Babcock, J.M., Noble, P.J., Karlin, R., 2011, Structural Constraints and Earthquake Recurrence Estimates for the West Tahoe-Dollar Point Fault, Lake Tahoe Basin, California: *AGU Fall Meeting*, San Francisco, CA, 5-9 December.

Karlin, R., Noble, P.J., Zimmerman, S.H., Stratton, L., Smith, S.B., Kent, G., **Maloney, J.**, Driscoll, N.W., 2011, BOLLY Project - Preliminary Multi-Proxy Data from Holocene Cores, Fallen Leaf Lake, Tahoe Basin, California, USA: *Geological Society of America Annual Meeting*, Minneapolis,

MN, 9-12 October.

Maloney, J.M., Driscoll, N.W., Brothers, D.S., Babcock, J.M., Kent, G., 2010, Holocene Tectonic and Sedimentary Evolution of Coastal San Diego: *AGU Fall Meeting*, San Francisco, CA, 13-17 December.

D. Funded Research Grants

“Defining the architecture and recurrence interval for the faults in the Sacramento-San Joaquin Delta; Assessing potential geohazards,” PI, California Sea Grant – Delta Science Program, 2017-2019

“Archaeological and Biological Assessment of Submerged Landforms off the Pacific Coast,” Co-PI, Cooperative Agreement with the Bureau of Ocean Energy Management, Award M15AC00012, 2015-2019

“Paleoseismic investigation of the Rose Canyon fault zone, San Diego, CA,” PI, Southern California Earthquake Center (SCEC), 2016.

“Discovering Oregon’s Lost Coast: A proposal to find and study submerged archaeological sites on the Pacific Continental Shelf,” Co-PI (sub-award), NOAA OER, 2016-2018.

“Mass Wasting processes and Products of the Mississippi delta front: Data Synthesis and Observation,” Co-PI, Cooperative Agreement with the Bureau of Ocean Energy Management, 2013-2017.

E. Professional Associations

Member, American Geophysical Union

Member, Geological Society of America

Member, Seismological Society of America

Member, CSU Council on Ocean Affairs, Science and Technology (COAST)

Member, SDSU Coastal and Marine Institute

Member, Joint Geophysical Group (JGG) for Joint Doctoral Program between SDSU and SIO