

## Mark T. Stacey

### **Work Address**

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### **EDUCATION:**

1991	B.A.S.	Stanford University Dual degree in Physics and Political Science
1993	M.S.	Civil Engineering, Stanford University Environmental Fluid Mechanics and Hydrology
1996	Ph.D.	Civil Engineering, Stanford University Environmental Fluid Mechanics and Hydrology

### **ACADEMIC EXPERIENCE:**

7/09-present **Professor**, Civil & Environmental Engineering, UC-Berkeley

7/04-6/09 **Associate Professor**, Civil & Environmental Engineering, UC-Berkeley

7/99-6/04 **Assistant Professor**, Civil & Environmental Engineering, UC-Berkeley

1/99-6/99 **Assistant Research Engineer and Lecturer**, Civil and Environmental Engineering Department, UC-Berkeley

4/97-12/98 **Post-Doctoral Scholar**, Integrative Biology Dept., UC-Berkeley

### **HONORS AND AWARDS:**

2010 Nicholas P. Fofonoff Award, American Meteorological Society  
2005 Elected Vice Chair/Chair, Gordon Research Conference on Coastal Ocean Circulation  
2006 UPS Visiting Professor, Stanford University  
2002 Distinguished Teaching Award Finalist, UC-Berkeley  
2001 National Science Foundation CAREER Award

### **SELECTED PUBLICATIONS (Limited to 10 Most Relevant):**

- MacVean, L.J. and Stacey, M.T. "Estuarine dispersion from tidal trapping: a new analytical framework" *Estuaries and Coasts*, v.34(1), 2011. doi: 10.1007/s12237-010-9298-x.
- Cousins, M., Stacey, M.T., and Drake, J., "Effects of seasonal stratification on turbulent mixing in a hypereutrophic coastal lagoon," *Limnology and Oceanography*, v.55(1), pp.172-186, January 2010.
- Brand, A., Lacy, J.R., Hsu, K. Hoover, D., Gladding, S. and Stacey, M.T. "Wind-enhanced resuspension in the shallow waters of South San Francisco Bay: Mechanisms and potential implications for cohesive sediment transport." *J. Geophys. Res.*, v.115(C11), Article #C11025, November 2010.
- Rowland, J.C., Stacey, M.T. and Dietrich, W.E. "Turbulent characteristics of a shallow, wall-bounded, plane jet: Experimental implications for river mouth hydrodynamics," *Journal of Fluid Mechanics*, v.627, pp.423-449, May 2009.
- Stacey, M.T., Fram, J.P. and Chow, F.K. "The role of tidally periodic stratification in the creation of estuarine subtidal circulation," *Journal of Geophysical Research*, v.113, Article C08016, 2008.
- Talke, S.A., and Stacey, M.T. "Suspended sediment fluxes at an intertidal flat: The shifting influence of wave, wind, tidal and freshwater forcing," *Continental Shelf Research*, v.28, pp. 710-725, 2008.

- Martin, M., Fram, J.P. and Stacey, M.T. "Seasonal Chlorophyll-a fluxes between the coastal Pacific Ocean and San Francisco Bay," *Marine Ecology Progress Series*, v.337, pp.51-61, 2007.
- Fram, J.P., Martin, M. and Stacey, M. T. "Exchange between the coastal ocean and a semi-enclosed estuarine basin: Dispersive Fluxes," *Journal of Physical Oceanography*, v.37, pp. 1645-1660, 2007.
- Ralston, D.K. and Stacey, M.T. "Tidal and meteorological forcing of sediment transport in tributary mudflat channels (San Francisco Bay, CA)," *Continental Shelf Research*, v.27, pp.1510-1527, 2007.
- Stacey, M.T. and Ralston, D.K., "The Scaling and Structure of the Estuarine Bottom Boundary Layer," *Journal of Physical Oceanography*, V.35(1), pp. 55-71, 2005.

**COLLABORATORS:**

Stephanie Carlson, UC-Berkeley; Stephen Monismith, Stanford University; Thomas Powell, UC Berkeley; Jeffrey Koseff, Stanford University; Hal Batchelder, Oregon State; S. Geoffrey Schladow, UC Davis; Jim Hunt, UC-Berkeley; Mimi Koehl, UC-Berkeley; John Largier, Bodega Marine Labs; Mark Lubell, UC-Davis; Paul Armsworth, University of Tennessee; Margaret McManus, University of Hawaii; John Ryan, MBARI; Toby Garfield, San Francisco State University; Oliver Fringer, Stanford University; Derek Fong, Stanford University; James Hunt, UC-Berkeley; Jessica Lacy, U.S. Geological Survey.

**RELATED RESEARCH ACTIVITY**

I have been involved with research on estuarine and coastal dynamics for the past 20 years, including a number of studies looking at turbulent mixing and estuarine circulation for traditional estuarine systems. Over the past 7-8 years, with two students, Mary Cousins and Megan Williams, I have been pursuing research on coastal lagoons, first in Rodeo Lagoon, a lagoon in the Marin Headlands that is closed almost the entire year, breaching only briefly and then allowing outflow through the breach, and more recently in Pescadero Lagoon along the San Mateo Coast. The connection between this system and traditional estuaries lies in the annual variability of salinity and stratification, which has led me to consider how more moderately sized coastal lagoons, which are more accurately described as intermittent estuaries, function in response to their opening and closing cycle. This new research thread therefore connects to my previous activity in transport and mixing in estuaries, but now extends into a new, relatively unexplored, regime, where the mouth that defines the estuary is not permanently open, but instead cycles between open and closed states.

**ADVISORS:**

Ph.D.: Stephen G. Monismith, Stanford University.  
Postdoctoral: Thomas M. Powell, University of California, Berkeley.

**PH.D. STUDENTS (COMPLETED):**

David Ralston, Stefan Talke, Jon Fram, Seungjin Baek, Maureen Martin, Mary Cousins, Lissa MacVean, Rudi Schuech, Maureen Downing-Kunz, Wayne Wagner, Audric Collignon

**PH.D. STUDENTS (CURRENT):**

Rusty Holleman, Megan Williams, Kevin Hsu, Susan Willis

**POSTDOCTORAL RESEARCHERS (FORMER):**

Matt Brennan, Matt Reidenbach, Andreas Brand