

# Mark A. Merrifield

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## Biographic Information

### Education

1989 Ph.D. University of California, San Diego, Oceanography  
1982 A.B. University of California, Berkeley, Physics

### Professional Experience

2011 - present Director, Joint Institute of Marine and Atmospheric Research  
2004 - present Professor, Oceanography, University of Hawaii  
1999 - 2004 Associate Professor, Oceanography, University of Hawaii  
1997 - 1999 Assistant Professor, Oceanography, University of Hawaii  
1997 - present Director, UH Sea Level Center  
1994 - 1997 Assistant Professor, Ocean Engineering, University of Hawaii  
1993 - 1994 Assistant Researcher, University of California, San Diego  
1991 - 1993 Project Scientist, University of California, San Diego  
1989 - 1991 Research Associate, University of New South Wales

### Professional Society Memberships

American Geophysical Union  
International Associate for the Physical Sciences of the Oceans

## Publications

### Referred publications

- 2016 Thompson, P. R., C. G. Piecuch, **M. A. Merrifield**, J. P. McCreary, and E. Firing, Forcing of recent decadal variability in the Equatorial and North Indian Ocean, *J. Geophys. Res. Oceans*, in press.
- 2016 Hamlington, B. D., S. H. Cheon, P. R. Thompson, **M. A. Merrifield**, R. S. Nerem, R. R. Leben, and K.-Y. Kim, An ongoing shift in Pacific Ocean sea level, *J. Geophys. Res. Oceans*, doi:10.1002/2016JC011815.
- 2016 Becker, J. M., **M. A. Merrifield**, and H. Yoon, Infragravity waves on fringing reefs in the tropical Pacific: Dynamic setup, *J. Geophys. Res. Oceans*,

- doi:10.1002/2015JC011516.
- 2016 Gove, J. M., M. A. McManus, A. B. Neuhemier, J. J. Polovina, J. C. Drazen, C. R. Smith, **M. A. Merrifield**, A. M. Freidlander, J. S. Ehses, C. Young, A. K. Dillon, and G. J. Williams, Near-island biological hotspots in barren ocean basins, *Nature Communications*, 7, doi:10.1038/ncomms10581.
- 2016 Yao, Y., J. M. Becker, M. R. Ford, and **M. A. Merrifield**, Modeling wave processes over fringing reefs with an excavation pit, *Coastal Eng.*, 109, 9-19.
- 2016 Smith, K. A., G. Rocheleau, **M. A. Merrifield**, S. Jaramillo, G. Pawlak, Temperature variability causes by internal tides in the coral reef ecosystem of Hanauama Bay, Hawaii, *Cont. Shelf Res.*, 116, 1-12.
- 2015 Agustin, A. E., **M. A. Merrifield**, J. T. Potemra, and C. Morishige, Temporal variability of marine debris deposition at Tern Island in the Northwestern Hawaiian Islands, *Marine Pollution Bulletin*, 101, 200-207.
- 2015 Stevenson, S., B. Powell, B., **M. Merrifield**, K. Cobb, J. Nusbaumer, and D. Noone Characterizing seawater oxygen isotopic variability in a regional ocean modeling framework: Implications for coral proxy records, *J. Geophys. Res.: Oceans*, 10.1002/2015PA002824.
- 2015 Legler, D., H. J. Freeland, R. Lumpkin, G. Ball, M. J. McPhaden, S. North, R. Cowley, G. Goni, U. Send, and **M. Merrifield**, *Journal of Operational Oceanography*, <http://dx.doi.org/10.1080/1755876X.2015.1049883>.
- 2014 **Merrifield, M. A.**, Becker, J. M., Ford, M., and Yao, Y., Observations and estimates of wave-driven water level extremes at the Marshall Islands. *Geophys. Res. Lett.*, doi:10.1002/2014GL061005.
- 2014 Molina, L., G. Pawlak, J. R. Wells, S. G. Monismith, and **M. A. Merrifield**, Diurnal cross-shore thermal exchange on a tropical fore-reef, *J. Geophys. Res.: Oceans*, 119, 6101-6120, doi:10.1002/2013JC009621.
- 2014 Pequignet, A.-C., J. M. Becker, and **M. A. Merrifield**, Breakpoint transfer of energy between wind waves and low frequency oscillations on a fringing reef, Ipan Guam, *J. Geophys. Res.: Oceans*, 119, 6709-6724, doi:10.1002/2014JC010179.
- 2014 Thompson, P. R., and **M. A. Merrifield**, A unique asymmetry in the pattern of recent sea level change. *Geophys. Res. Lett.*, doi:10.1002/2014GL061263.
- 2014 McGregor, S., A. Timmermann, M. F. Stuecker, M. H. England, **M. Merrifield**, F.-F. Jin, and Y. Chikamoto, Recent Walker circulation strengthening and Pacific cooling amplified by Atlantic warming, *Nature Climate Change*, doi:10.1038/nclimate2330.
- 2014 Thompson, P. R., **M. A. Merrifield**, J. R. Wells, and C. M. Chang, Wave-driven coastal sea level variability in the Northeast Pacific, *J. Climate*, 27, 4733-4751.
- 2014 Becker, J. M., **M. A. Merrifield**, and M. Ford, Water level effects on breaking wave setup for Pacific Island fringing reefs, *J. Geophys. Res.: Oceans*, 119, 914-932, doi:10.1002/2013JC009373.
- 2013 Church, J. A., P. U. Clark, A. Cazenave, J. M. Gregory, S. Jevrejeva, A. Levermann, **M. A. Merrifield**, G. A. Milne, R. S. Nerem, P. D. Nunn, A. J. Payne, W. T. Pfeffer, D. Stammer, A. S. Unnikrishnan, Sea Level Rise by 2100, *Science*, Vol. 342, No. 6165, p.1445, DOI: 10.1126/science.342.6165.1445-a.

- 2013 Ford, M., J. M. Becker, **M. A. Merrifield**, and Y. T. Song, Marshall Islands fringing reef and atoll lagoon observations of the Tohoku tsunami, *Pure and Applied Geophysics*, 10.1007/s00024-013-0757-8.
- 2013 Ford, M. R., J. M. Becker, and **M. A. Merrifield**, Reef flat wave processes and excavations pits: Observations and implications for Majuro Atoll, Marshall Islands, *J. Coastal Res.*, 29, 545-554.
- 2013 **Merrifield, M. A.**, A. S. Genz, C. P. Kontoes, and J. J. Marra, Annual maximum water levels from tide gauges: Contributing factors and geographic patterns, *J. Geophys. Res.*, 118, 2535-2546.
- 2012 Chambers, D. P., **M. A. Merrifield**, and R. S. Nerem, Is there a 60-year oscillation in global mean sea level? *Geophys. Res. Lett.*, 39(18), L18607.
- 2012 Powell, B. S., I. Janekovic, G. S. Carter, and **M. A. Merrifield**, Sensitivity of internal tide generation in Hawaii, *Geophys. Res. Lett.*, 39,10, doi:10.1029/2012GL051724.
- 2012 **Merrifield, M. A.**, P. R. Thompson, and M. Lander, Multidecadal sea level anomalies and trends in the western tropical Pacific, *Geophys. Res. Lett.*, 39, 13, doi:10.1029/2012GL052032.
- 2012 Aucan, J., R. Hoeke, and **M. A. Merrifield**, Wave-driven sea level anomalies at the Midway tide gauge as an index of North Pacific storminess over the past 60 years, *Geophys. Res. Lett.*, 39, 17, doi:10.1029/2012GL052993.
- 2012 Kruk, M. C., J. J. Marra, P. Ruggiero, D. Atkinson, **M. Merrifield**, D. Levinson, and M. Lander, Pacific Storms Climatology Products (PSCP): Understanding extreme events, *Bull. Amer. Met. Soc.*, doi:10.1175/BAMS-D-11-00075.1.
- 2012 Foster, J. H., B. A. Brooks. D. Wang, G. S. Carter, and **M. A. Merrifield**, Improving tsunami warning using commercial ships, *Geophys. Res. Lett.*, 39, L09603.
- 2011 **Merrifield, M. A.**, and M. E. Maltrud, Regional sea-level trends due to a Pacific trade wind intensification, *Geophys. Res. Lett.*, 38, L21605, doi:10.1029/2011GL049576.
- 2011 Zilberman, N. V., **M. A. Merrifield**, G. S. Carter, D. S. Luther, M. D. Levine, and T. J. Boyd, Incoherent nature of  $M_2$  internal tides at the Hawaiian Ridge, *J. Phys. Oceanogr.*, 41, 2021-2036, DOI:10.1175/JPO-D-10-05009.1.
- 2011 **Merrifield, M. A.**, A shift in western tropical Pacific sea level trends during the 1990s, *J. Climate*, 24, 4126-4138, doi:10.1175/2011JCLI3932.1.
- 2011 Pequignet, A. -C., J. M. Becker, **M. A. Merrifield**, and S. J. Boc, The dissipation of wind wave energy across a fringing reef at Ipan, Guam, *Coral Reefs*, 30:70-82, doi:10.1007/s00338-011-0719-5.
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- 2010 Mitchum, G. T., R. S. Nerem, **M. A. Merrifield**, and R. Gehrels, 20th Century Sea Level Change Estimates From Tide Gauges and Altimeters, In: Understanding Sea-level Rise and Variability, Eds. J. A. Church, P.L. Woodworth, T. Aarup and W. S. Wilson. Blackwells Publishing, London.
- 2009 Foster, J. H., G. S. Carter, **M. A. Merrifield**, Ship-based measurements of sea surface topography, *Geophys. Res. Lett.*, *36*, DOI: 10.1029/2009GL038324.
- 2009 **Merrifield, M. A.**, S. T. Merrifield, and G. T. Mitchum, An anomalous recent acceleration of global sea level rise, *J. Clim.*, *22*, doi:10.1175/2009JCLI2985.1.
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- 2009 Zilberman, N. V., J. M. Becker, **M. A. Merrifield**, and G. S. Carter, Model estimates of M<sub>2</sub> internal tide generation over mid-Atlantic ridge topography, *J. Phys. Oceanogr.*, *39*, 2635-2651.
- 2009 Pequignet, A. C. N., J. M. Becker, **M. A. Merrifield**, and J. Aucan, Forcing of resonant modes on a fringing reef during tropical storm Man-Yi, *Geophys. Res. Lett.*, *36*, L03607, doi:10.1029/2008GL036259.
- 2008 Carter, G. S., **M. A. Merrifield**, J. Becker, K. Katsumata, M. C. Gregg, D. S. Luther, M. Levine, T. S. Boyd, and Y. L. Firing, Energetics of M<sub>2</sub> barotropic to baroclinic tidal conversion at the Hawaiian Islands, *J. Phys. Oceanogr.*, *38*, doi:10.1175/2008JPO3860.1.
- 2008 Martini, K. I., M. H. Alford, J. D. Nash, E. Kunze, and **M. A. Merrifield**, Diagnosing a partly standing internal wave in Mamala Bay, Oahu, *Geophys. Res. Lett.*, *34*, L17604, doi:10.1029/2007GL029749.
- 2008 Aucan, J., and **M. A. Merrifield**, Boundary mixing associated with tidal and near-inertial internal waves, *J. Phys. Oceanogr.*, *38*, DOI:10.1175/2007JPO3718.1.
- 2007 Carter, G. S., and **M. A. Merrifield**, Open boundary conditions for regional tidal simulations, *Ocean Modelling*, *18*, 194-209.
- 2007 Brooks, B. A., **M. Merrifield**, J. Foster, C. L. Werner, F. Gomez, M. Bevis, and S. Gill, Space geodetic determination of spatial variability in relative sea level change, Los Angeles basin, *Geophys. Res. Lett.*, *34*, L01611, doi:10.1029/2006GL028171.
- 2007 Becker, J. M., Y. L. Firing, J. Aucan, R. Holman, **M. Merrifield**, and G. Pawlak, Video-based observations of nearshore sand ripples and ripple migration, *J. Geophys. Res.*, *112*, C01007, doi:10.1029/2005JC003451.
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- 2006 Gove, J. M., **M. A. Merrifield**, and R. E. Brainard, Temporal variability of current-driven upwelling at Jarvis Island, *J. Geophys. Res.*, *111*, C12011, doi:10.1029/2005JC003161.
- 2006 Garcés, M., J. Aucan, D. Fee, P. Caron, **M. Merrifield**, R. Gibson, J. Bhattacharyya, and S. Shah, Infrasound from large surf, *Geophys. Res. Lett.*, *33*,

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- 2006 Alford, M. H., M. C. Gregg, and **M. A. Merrifield**, Structure, propagation and mixing of energetic baroclinic tides in Mamala Bay, Oahu, *J. Phys. Oceanogr.*, *36*, No.6, 997-1018.
- 2006 Lee, C. M., E. Kunze, T. B. Sanford, J. D. Nash, **M. A. Merrifield**, and P. E. Holloway, Internal tides and turbulence along the 3000-m isobath of the Hawaiian Ridge, *J. Phys. Oceanogr.*, *36*, No. 6, 1165-1183.
- 2006 Carter, G. S., M. C. Gregg, and **M. A. Merrifield**, Flow and mixing around a small seamount on Kaena Ridge, Hawaii, *J. Phys. Oceanogr.*, *36*, No.6, 1036-1052.
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- 2005 **Merrifield, M. A.**, Y. L. Firing, T. Aarup, W. Agricole, G. Brundrit, D. Chang-seng, R. Farre, B. Kilonsky, W. Knight, L. Kong, C. Magori, P. Manurung, C. McCreery, W. Mitchell, S. Pillay, F. Schindele, F. Shillington, L. Testut, E. M. S. Wijeratne, P. Caldwell, J. Jardin, S. Nakahara, F.-Y. Porter, and N. Turetsky, Tide gauge observations of the Indian Ocean tsunami, December 26, 2004, *Geophys. Res. Lett.*, *32*, L09603, doi:10.1029/2005GL022610.
- 2005 Caccamise, D. J., **M. A. Merrifield**, M. Bevis, J. Foster, Y. L. Firing, M. S. Schenewerk, F. W. Taylor, and D. A. Thomas, Sea level rise at Hawaii: GPS estimates of differential land motion, *Geophys. Res. Lett.*, *32*, L03607, doi:10.1029/2004FL021380.
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- 2004 Falter, J. L., M. J. Atkinson, and **M. A. Merrifield**, Mass transfer limitation of nutrient uptake by a wave-dominated reef flat community, *Limnol. Oceanogr.*, *49*, 1820-1831.
- 2004 Firing, Y. L., **M. A. Merrifield**, T. A. Schroeder, and B. Qiu, Interdecadal sea level fluctuations at Hawaii, *J. Phys. Oceanogr.*, *34*, 2514-2524.
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- 2003 Johnston, T. M. S., and **M. A. Merrifield**, Internal tide scattering at seamounts, ridges, and islands, *J. Geophys. Res.*, *108*, 3180, doi:10.1029/2002JC001528.
- 2003 Holloway, P. E., and **M. A. Merrifield**, On the spring-neap variability and age of the internal tide at the Hawaiian Ridge, *J. Geophys. Res.*, *108*, 3126, doi:10.1029/2002JC001486.
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- Klymak, E. Kunze, C. Lee, M. Levine, D. Luther, J. Martin, **M. Merrifield**, J. Moum, J. Nash, R. Pinkel, T. Sanford, and J. Sherman, From tides to mixing along the Hawaiian ridge, *Science*, *301*, 355-357.
- 2002 Lewis, J. K., **M. A. Merrifield**, and M. Eich, Numerical simulations of internal tides around Oahu, Hawaii, Estuarine and Coastal Modeling Proceedings of the Seventh International Conference, American Society of Civil Engineers, St. Petersburg, Florida.
- 2002 Norcross, Z. M., C. H. Fletcher, and **M. A. Merrifield**, Annual and interannual changes on a reef-fringed pocket beach: Kailua Bay, Hawaii, *Mar. Geology*, *190*, 553-580.
- 2002 **Merrifield, M. A.**, L. Yang, and D. S. Luther, Numerical simulations of a storm generated island-trapped wave event at the Hawaiian Islands, *J. Geophys. Res.*, *107*, 3169, doi:10.1029/2001JC001134.
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- 2002 **Merrifield, M. A.**, and P.E. Holloway, Model estimates of M<sub>2</sub> internal tide energetics at the Hawaiian Ridge, *J. Geophys. Res.*, *107*, 10.1029/2001JC00996.
- 2002 Bevis, M., W. Scherer, and **M. Merrifield**, Technical issues and recommendations related to the installation of continuous GPS stations at tide gauges, *M. Geodesy*, *25*, 87-99.
- 2001 **Merrifield, M. A.**, P. E. Holloway, and T. M. S. Johnston, Internal tide generation at the Hawaiian Ridge, *Geophys. Res. Lett.*, *28*, 559-562.
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- 2000 Dail, H. J., **M. A. Merrifield**, and M. Bevis, Steep beach morphology changes due to energetic wave forcing, *Mar. Geology*, *162*, 443-458.
- 2000 Johnston, T. M. S., and **M. A. Merrifield**, Interannual geostrophic current anomalies in the near-equatorial western Pacific, *J. Phys. Oceanogr.*, *30*, 3-14.
- 1999 **Merrifield, M. A.**, B. Kilonsky, and S. Nakahara, Interannual sea level changes in the tropical Pacific associated with ENSO, *Geophys. Res. Lett.*, *26*, 21, doi:10.1029/1999GL010485.
- 1999 Holloway, P. E., and **M. A. Merrifield**, Internal tide generation by seamounts, ridges, and islands, *J. Geophys. Res.*, *104*, 25937-25951.
- 1998 Feng, M., **M. A. Merrifield**, R. Pinkel, P. Hacker, A. J. Plueddemann, E. Firing, R. Lukas, and C. Eriksen, Semidiurnal tides observed in the western equatorial Pacific during the Tropical Ocean-Global Atmosphere Coupled Ocean-Atmosphere Response Experiment, *J. Geophys. Res.*, *103*, 10253-10272.
- 1997 Pinkel, R., **M. Merrifield**, D. Siegel, and L. Washburn, Solitary waves in the western Equatorial Pacific Ocean, *Geophys. Res. Lett.*, *24*, 1603-1606.
- 1996 **Merrifield, M. A.**, and R. Pinkel, Inertial currents in the Beaufort Sea: Observations of response to wind and shear, *J. Geophys. Res.*, *101*, 6577-6590.
- 1995 Pinkel, R., **M. A. Merrifield**, and H. Ramm, Probing the interior of Arctic leads: Investigations using high frequency sound, *J. Geophys. Res.*, *100*, 4693-

- 4705.
- 1995 Middleton, J. F., and **M. A. Merrifield**, Scattering of long coastal trapped waves in frictional seas, *J. Phys. Oceanogr.*, 25, 502-512.
- 1994 **Merrifield, M. A.**, and J. H. Middleton, The influence of strongly varying topography on coastal-trapped waves at the Southern Great Barrier Reef, *J. Geophys. Res.*, 99, 10193-10205.
- 1994 Middleton, J. H., P. Coutis, D. A. Griffin, A. Macks, A. McTaggart, **M. A. Merrifield**, and G. J. Nippard, Shelf/slope interactions on the Southern Great Barrier Reef, *Aust. J. Mar. Freshw. Res.*, 45, 1-18.
- 1992 Gjevik, B., and **M. A. Merrifield**, Shelf sea response to tropical storms along the west coast of Mexico, *Cont. Shelf Res.*, 13, 25-47.
- 1992 **Merrifield, M. A.**, A comparison of long coastal-trapped wave theory remote storm generated wave events in the Gulf of California, *J. Phys. Oceanogr.*, 22, 5-18.
- 1991 Badan-Dangon, A., C. Dorman, **M. A. Merrifield**, and C. D. Winant, The lower atmosphere over the Gulf of California, *J. Geophys. Res.*, 96 (C9), 16877-16896.
- 1990 **Merrifield M. A.**, and R. T. Guza, Detecting propagating signals with complex empirical orthogonal functions: A cautionary note, *J. Phys. Oceanogr.*, 20, 1628-1633.
- 1989 **Merrifield, M. A.**, and C. D. Winant, Shelf circulation in the Gulf of California: A description of the variability, *J. Geophys. Res.*, 94 (C12), 18133-18160.

#### Selected non-referred publications

- 2013 **Merrifield, M. A.**, P. Thompson, R. S. Nerem, D. P. Chambers, G. T. Mitchum, M. Menéndez, E. Leuliette, L. Miller, J. J. Marra, W. Sweet, and S. Holgate, Sea level variability and change, in "State of the Climate in 2012", *Bull. Amer. Met. Soc.*, 94(8), S68-72.
- 2012 **Merrifield, M. A.**, P. Thompson, D. P. Chambers, G. T. Mitchum, M. Menéndez, R. S. Nerem, E. Leuliette, L. Miller, S. Holgate, J. J. Marra, W. Sweet, Sea level variability and change, in "State of the Climate in 2011", *Bull. Amer. Met. Soc.*, 93(7), S81-84.
- 2011 **Merrifield, M. A.**, G. T. Mitchum, E. Leuliette, D. Chambers, S. Nerem, P. Woodworth, S. Holgate, L. Miller, and S. Gill, Sea level variations, in "State of the Climate in 2010", *Bull. Amer. Met. Soc.*, 92(6), S98-100.
- 2010 **Merrifield, M. A.**, S. Gill, E. Leuliette, L. Miller, G. T. Mitchum, S. Nerem and P. Woodworth, Sea level variations, in "State of the Climate in 2009", *Bull. Amer. Met. Soc.*, 91(7), S69-72.
- 2009 **Merrifield, M. A.** R. S. Nerem, G. T. Mitchum, L. Miller, E. Leuliette, S. Gill and P. Woodworth, Sea level variations, 2008 annual assessment, in "State of the Climate in 2008", *Bull. Amer. Met. Soc.*, 90(8), S62-65.
- 2008 **Merrifield, M. A.**, S. Gill, G. T. Mitchum, and P. L. Woodworth, Sea Level Variations, in State of the Climate in 2007, D.H. Levinson and J.H. Lawrimore, eds., *Bull. Amer. Met. Soc.*, 89, S51-S52, doi:10.1175/bams-89-9-StateoftheClimate.
- 2007 **Merrifield, M.**, G.T. Mitchum, S. Gill and P. Woodworth, Sea Level, in State of

- the Climate in 2006, Arguez, A., ed., *Bull. Amer. Met. Soc.*, 88, S1-S135, doi:10.1175/bams-88-6-929.
- 2006 **Merrifield**, M., S. Gill, and G. T. Mitchum, Sea Level, *in* State of the Climate in 2005, Shein, K.A., ed., *Bull. Amer. Met. Soc.*, 87, S28-S29.
- 2003 Woodworth, P., T. Aarup, **M. Merrifield**, G. T. Mitchum and C. LeProvost, Measuring Progress of the Global Sea Level Observing System. *EOS, Transactions, AGU*, 84 (50), 565-565.

## Extramural Funding

### Grants and Contracts since 2012

- 2016 Reservoir water level monitoring, DLR, \$220,855, PI, 4/5/16.
- 2015 Diagnosing and communicating the effect of climate variability on frequency of coastal inundation, Dept. of Interior, \$118,945, Co-I, 8/17/15.
- 2015 Near-Surface Conversions of Semi-Diurnal Internal Tide Beam Energy, NSF, \$379,921, CO-I, 8/18/15.
- 2015 Sensitivity of Built and Natural Infrastructure to Coastal Flooding Under a Changing Climate, NOAA, \$24,000, PI, 9/1/15.
- 2015 The University of Hawaii Sea Level Center, NOAA, \$1,194,393, PI, 9/3/15.
- 2015 A NASA Web Portal for Sea Level Change, JPL, \$35,000, PI, 6/23/15.
- 2015 Collaborative Research: Fjord Ecosystem Structure and Function on the West Antarctic Peninsula - Hotspots of Productivity and Biodiversity? (FjordEco), NSF, \$796,774, Co-I, 5/7/15.
- 2015 The dynamics of meridional asymmetry in sea surface height trends from altimetry, NASA, \$59,058, Co-I, 3/25/15.
- 2015 Coastal Ocean Data Systems (CODS), UCSD, \$50000, PI, 2/24/15.
- 2015 Reservoir Water Level Monitoring, Hawaii Dept. of Land & Natural Resources, \$85,272, PI, 1/14/15.
- 2014 Pacific ENSO Applications Center (PEAC), NOAA, \$217,000, PI, 10/2/14.
- 2014 The University of Hawaii Sea Level Center, NOAA, \$1,799,316, PI, 9/15/14.
- 2014 RAPID Collaborative Research: Ground Truthing Coral Proxy Reconstructions of ENSO by Observing the 2014-15 El Nino, NSF, \$73012, PI, 6/16/14
- 2014 Surface and Internal Wave Processes in the Coastal Zone of an Atoll Island, ONR, \$ 516,999, PI, 4/30/14.
- 2013 The Climate Data Record of Sea Level Change: Influence of Decadal Variability, University of Colorado, \$108,956, PI, 10/10/13.
- 2013 The University of Hawaii Sea Level Center, NOAA, \$1,185,000, PI, 9/10/13.



- 2013 Formulation of Localized Sea Level Rise / Coastal Inundation 'Extremes' Scenarios for Pacific Islands, NOAA, \$120,122, PI, 8/29/13.
- 2013 Pacific ENSO Applications Center (PEAC), \$217,000, PI, 8/26/13.
- 2012 Pacific ENSO Applications Center (PEAC), \$217 000, PI, 10/3/12.
- 2012 Seasonal Fluctuations in Pacific Island Marine Debris Deposition, NOAA, \$32,999, PI, 10/3/12.
- 2012 The University of Hawaii Sea Level Center, NOAA, \$1,233,000, PI, 10/3/12.
- 2012 Seasonal Forecasts and Extreme Event Projections for Pacific Sea Level, NOAA, \$67,000, PI, 8/27/12.

## Teaching and Mentoring

### Courses taught since 2012

#### *Spring 2016*

Topics in Oceanography (Data Analysis) OCN 760, 3 credit hours, 25% course taught, 5 enrolled.

Directed Reading, OCN 399, 1 credit hour, 100% course taught, 1 enrolled.

Directed Research, OCN 699, 3/9 credit hours, 100% course taught, 3 enrolled.

Dissertation Research, OCN 800, 1 credit hour, 100% course taught, 1 enrolled.

#### *Fall 2015*

Directed Research, OCN 699, 1/5/9/8 credit hours, 100% course taught, 4 enrolled.

Undergraduate thesis, OCN 499, 1 credit hour, 100% course taught, 1 enrolled.

Dissertation Research, OCN 800, 1 credit hour, 100% course taught, 1 enrolled.

Introduction to Physical Oceanography, OCN 620, 3 credit hours, 75% course taught, 7 enrolled.

#### *Spring 2015*

Topics in Oceanography (Data Analysis) OCN 760, 3 credit hours, 50% course taught, 4 enrolled, instructor grade 5.00/5.00.

Directed Research, OCN 699, 3/9 credit hours, 100% course taught, 2 enrolled.

#### *Fall 2014*

Directed Research, OCN 699, 4/6 credit hours, 100% course taught, 2 enrolled.

#### *Spring 2014*

Topics in Oceanography (Data Analysis) OCN 760, 3 credit hours, 50% course taught, 3 enrolled, instructor grade 5.00/5.00.

Directed Research, OCN 699, 8/6 credit hours, 100% course taught, 2 enrolled.

### **Fall 2013**

Directed Research, OCN 699, 6/6 credit hours, 100% course taught, 2 enrolled.

### **Spring 2013**

Topics in Oceanography (Data Analysis) OCN 760, 3 credit hours, 100% course taught, 6 enrolled, instructor grade 5.00/5.00.

Undergraduate thesis, OCN 499, 1 credit hour, 100% course taught, 1 enrolled.

Directed Research, OCN 699, 5/6 credit hours, 100% course taught, 2 enrolled.

Thesis Research, OCN 700, 9 credits, 100% course taught, 1 enrolled.

### **Fall 2012**

Directed Research, OCN 699, 6/6 credit hours, 100% course taught, 2 enrolled.

Undergraduate thesis, OCN 499, 1 credit hour, 100% course taught, 1 enrolled.

Thesis Research, OCN 700, 8 credits, 100% course taught, 1 enrolled.

### **Spring 2012**

Topics in Oceanography (Data Analysis) OCN 760, cross-listed as Probability and statistics for ocean engineers ORE 608, 3 credit hours, 100% course taught, 6 enrolled, instructor grade 5.00/5.00.

Directed Research, OCN 699, 3/4/5 credit hours, 100% course taught, 3 enrolled.

Undergraduate thesis, OCN 499, 3 credit hours, 100% course taught, 1 enrolled.

## **Post-Doctoral, Graduate, and Undergraduate Researchers Supervised**

### **Post-doctoral advisor:**

Yao Yu

Philip Thompson

Glenn Carter

Nathalie Zilberman

Jerome Aucan

### **Graduate dissertation advisor:**

Hyang Yoon, MS, current

Oyvind Lundesgaard, Ph.D., current (joint with B. Powell)

Alyssa Agustin, MS, current

Mika Siegelman, Ph.D. current

Katharine Smith, Ph.D., 2016

Susan Clark, MS, 2013

Tyson Hilmer, MS, 2009

Nathalie Zilberman, Ph.D., 2009

Gregory Rocheleau, MS, 2009

Oliver Vetter, MS, 2007

Jamison Gove, MS, 2005

Jerome Aucan, Ph.D., 2005

Michelle Eich, MS, 2003  
Shaun Johnston, Ph.D., 2003  
Sander Van Stiphout, MS, 1998  
Alexander Zaleski, MS, 1996  
Edward Gallion, MS 1995

***Undergraduate research advisor:***

Katy Christensen, Global Environmental Studies  
Sarah Yasui, Global Environmental Studies  
Shannon Hoban, University of Washington exchange student  
Alyssa Agustin, Global Environmental Studies  
Mika Siegelman, Brown University, co-advisor  
Tyson Hilmer, Global Environmental Studies  
Christopher Kontoes, Global Environmental Studies  
Nathalie Zilberman, Brest University, DEA

## **Select Service Activities**

### **University**

Physical Oceanography Division Head  
SOEST Executive Committee member  
SOEST Research Council  
Lead, Waves & Water Level Component, HiOOS, PacIOOS  
Director, Joint Institute of Marine and Atmospheric Research (JIMAR)  
Principal investigator, Pacific ENSO Applications Climate Center  
Tenure, Promotion, and Contract Renewal Committee  
University Research Council  
Global Environmental Studies Steering Committee

### **National/International**

Chair, Global Sea Level Observing System (GLOSS) Group of Experts  
Member, GLOSS Group of Experts  
JASON/OST Science Team  
Lead Author on Sea Level Section, State of the Climate Report, Bulletin of  
American Meteorological Society, 2010-2015.  
Lead Author, IPCC AR5, Chapter 13.  
Lead Author, GLOSS Implementation Plan 2012.  
Lead Author, Community White Paper, OceanObs09, The Global Sea Level  
Observing System (GLOSS)  
Contributing Author, Pacific Island Region Climate Assessment, 2012  
Member, IAPSO Commission on MSL and Tides  
NASA Sea Level Change Team  
Global Geodetic Observing System Science Panel  
National Climate Assessment, Sea Level Change Scenario contributor  
National Academies of Sciences, Sustaining Ocean Observation Committee