**CURRICULUM VITAE**

**DR. ANDREW C. THOMAS**

## School of Marine Sciences Telephone: (207) 581-4335

**5706 Aubert Hall, Fax: (207) 581-4388**

**University of Maine,**

**Orono, ME 04469-5706 e-mail: thomas@maine.edu**

**PROFESSIONAL POSITIONS:**

**2003- Professor.** School of Marine Sciences, University of Maine, Orono, Maine.

**2008-2012 Associate Director,** School of Marine Sciences, University of Maine, Orono, ME

**1999-2003 Associate Professor.** School of Marine Sciences, University of Maine, Orono, ME

**1996-1998 Research Associate Professor.** School of Marine Sciences, University of Maine

**1990-1995 Executive Director.** Atlantic Centre for Remote Sensing of the Oceans, Bedford, Nova Scotia, Canada.

**1989-1990 Assistant Professor, Senior Research.** College of Oceanography, Oregon State University, Corvallis, Oregon.

**1988-1989 Post-Doctoral Fellow.** College of Oceanography, Oregon State University, Corvallis, Oregon.

**EDUCATION:**

1. **Ph.D.,** Oceanography, University of British Columbia, Vancouver, B.C., Canada.
2. **M.Sc.,** Oceanography, University of British Columbia, Vancouver, B.C., Canada.

**1979 B.Sc.,** Biology, McGill University, Montreal, Quebec, Canada.

**PUBLICATIONS in Journals (more recent ones):**

King\*\* B.M. and **A.C. Thomas**, ***2019***, Multispectral classification of Gulf of Maine surface waters: seasonal and interannual variability. *Rem. Sens. Env.*, Submitted.

Pershing A.J., N.R. Record, B.S. Franklin, B.T. Kennedy, L. McClenachan, K.E. Mills, J.D. Scott, **A.C. Thomas**, N.H. Wolff. **Challenges to natural and human communities from surprising ocean temperatures. 2019. *PNAS*, Submitted.**

Friedland, K.D., R.E. Morse, J.P. Manning, D.C. Melrose, T. Miles, A.Goode, D.C. Brady, J..Kohut, **A.C. Thomas**, E.N. Powell. Disjunctive Regime Shifts in Surface and Bottom Thermal Environments of a Continental Shelf Ecosystem. 2019, *J. Geophys Res.,* Submitted.

Staudinger, M.D., K.E. Mills, K. Stamieszkin, N.R. Record, C.A. Hudak, A.Allyn, A. Diamond, K. Friedland, W. Golet, M.E. Henderson, C.M. Hernandez, T.G. Huntington, R. Ji, C.L. Johnson, D. S. Johnson, A. Jordaan, J. Kocik, Y. Li, M. Liebman, O.C. Nichols, D. Pendleton, R. A. Richards, T. Robben, **A.C. Thomas**, H.J. Walsh, K. Yakola. ***2019.*** It’s about time: A synthesis of changing phenology in the Gulf of Maine ecosystem. In press, *Fish. Oceanogr.*

Tavora J.B.P., E.H.L. Fernandes, **A.C. Thomas**, R. Weatherbee, C.A.F. Schetinni. ***2019***.The influence of river discharge and wind on Patos Lagoon, Brazil, suspended particulate matter. *Int. J. Rem. Sens.* https://doi.org/10.1080/01431161.2019.1569279

Jaini, M., R.A. Wahle, **A.C. Thomas**. ***2018***. Spatial surface temperature correlates of American lobster (Homarus americanus) settlement in the Gulf of Maine and southern New England shelf. *Bulletin of Marine Science,* https://doi.org/10.5343/bms.2017.1141.

Friedland, K.D., C.B. Mouw, R.G. Asch, A.S.A. Ferreira, S. Henson, K.J.W. Hyde, R.E. Morse, **A.C. Thomas**, D.C. Brady, ***2018***, Phenology and time series trends of the dominant seasonal phytoplankton bloom across global scales. *Global Ecol. and Biogeogr.*, 2018: 1-9, doi:10.1111/geb.12717.

Alexander, M.A., J.D. Scott, K.D. Friedland, K.E. Mills, J.A. Nye, A.J. Pershing, **A.C. Thomas**, ***2018***. Projected sea surface temperatures over the 21st century: changes in the mean, variability and extremes. *Elem. Sci. Anth.,* https://doi.org/10.1525/elementa.191.

**Thomas, A.C.,** A.J. Pershing, K.D. Friedland, J.A. Nye, K.E. Mills, M.A. Alexander, N.R. Record, R. Weatherbee, M.E. Henderson, ***2017,*** Seasonal trends and phenology shifts in sea surface temperature on the North American northeast shelf. *Elem. Sci. Anth.* 5: 48, DOI: https://doi.org/10.1525/elementa.240.

Li, B., K. Tanaka, Y. Chen, D. Brady, and **A.C. Thomas. *2017*.** Assessing the quality of bottom water temperatures from the Finite-Volume Community Ocean Model (FVCOM) in the Northwest Atlantic shelf region. *J. Mar. Systems*, 173, 21-30.

Snyder, J., E. Boss, R. Weatherbee, **A.C. Thomas**, D. Brady, C. Newell, ***2017***, Oyster aquaculture site selection using Landsat 8-derived sea surface temperature, turbidity, and chlorophyll*a*. *Frontiers in Marine Science*, 4:190. doi:10.3389/fmars.2017.00190.

Henderson, E.M., K. Mills, **A.C. Thomas**, A. Pershing and J. Nye. ***2017.*** Effects of temperature phenology on fish species distribution and biomass along the northeast United States continental shelf. *Rev. Fish Biol. and Fisheries*. 27:411-424.

Pershing, A.J., M.A. Alexander, C.M. Hernandez, L.A. Kerr, A. LeBris, K.E. Mills, J.A. Nye, N.R. Record, H.A. Scannell, G.D. Sherwood, **A.C. Thomas. *2016***. Response to Comments on Rapid warming leads to the collapse of Gulf of Maine cod through complex socio-ecological dynamics. *Science* 352 (6284), 423 (10.1126/science.aae0463).

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Pershing, A.J., M.A. Alexander, C.M. Hernandez, L.A. Kerr, A. LeBris, K.E. Mills, J.A. Nye, N.R. Record, H.A. Scannell, G.D. Sherwood, A.C. Thomas. *2015*. Rapid warming leads to the collapse of Gulf of Maine cod through complex socio-ecological dynamics. *Science*. 10.1126/science.aac9819.

Foukal, N.P., and **A.C. Thomas. *2014*.** Biogeography and phenology of satellite-measured phytoplankton seasonality in the California Current. *Deep-Sea Res. 1*,92: 11-25.

Xiu, P., **A.C. Thomas**, F. Chai, ***2014.*** Remote sensing of phytoplankton blooms induced by natural and artificial iron addition in the Gulf of Alaska. *Rem. Sens. Env.,* 145: 38-46.

Di Lorenzo, E., V. Combes, J.E. Keister, T.P. Strub, **A.C. Thomas**, P.J. S. Franks, M.D. Ohman, J. Furtado, A. Bracco, S.J. Bograd, W.T. Peterson, F.B. Schwing, S. Chiba, B. Taguchi, S. Hormazabal and C. Parada, ***2013***. Synthesis of Pacific Ocean Climate & Ecosystems Dynamics. *Oceanography.* 26(4):68–81, http://dx.doi.org/10.5670/oceanog.2013.76.

**Thomas, A.C**., R. Mendelssohn and R. Weatherbee. ***2013.*** Background trends in California Current surface chlorophyll concentrations: a state-space view. *J. Geophys. Res.,* 118, 1-16, doi:10.1002/jgrc.20365.

Mills, K.E., A.J. Pershing, C.J. Brown, Y. Chen, F.-S. Chiang, D.S. Holland, S. Lehuta, J.A. Nye, J.C. Sun, **A.C. Thomas**, and R.A. Wahle. ***2013***. Fisheries Management in a Changing Climate: Lessons From the 2012 Ocean Heat Wave in the Northwest Atlantic *Oceanography* 26(2). http://dx.doi.org/10.5670/oceanog.2013.27.

Horecka, H.H., **A.C. Thomas** and R.A. Weatherbee, ***2013***. Environmental links to interannual variability in shellfish toxicity in Cobscook Bay and eastern Maine, a strongly tidally mixed coastal region. *Deep-Sea Res. II*, http://dx.doi.org/10.1016/j.dsr2.2013.01.013.

Nair, A., **A.C. Thomas** and M.A**.** Borsuk, M. A. ***2013*.** Interannual variability in the timing of New England shellfish toxicity and relationships to environmental forcing. *Science of the Total Environmen*t. 447, 255-266.

**Thomas, A.C.**, P.T. Strub, R. Weatherbee and C. James. ***2012***,Satellite views of Pacific chlorophyll variability: comparisons to physical variability, local versus nonlocal influences and links to climate indices. *Deep-Sea Res. 2.* 77-80, 99-116.

Ruzicka, J.J., R.D. Brodeur, R.L. Emmett, J.H. Steele, J.E. Zamon, C.A. Morgan, **A.C. Thomas**, T.W. Wainwright. ***2012***, Interannual variability in the Northern California Current food web structure: Changes in energy flow pathways and the role of forage fish, euphausiids, and jellyfish. *Prog. in Oceanography,* 102, 19-41.

Runge, J.A., A. Kovach, J. Churchill, L. Kerr, J.R. Morrison, R. Beardsley, D. Berlinsky, C. Chen, S. Cadrin, C. Davis, K. Ford, J.H. Grabowski, W. H. Howell, R.Ji, R. Jones, A. Pershing, N. Record, **A. Thomas,** G. Sherwood, S. Tallack, D. Townsend. ***2010***, Understanding Climate Impacts on Recruitment and Spatial Dynamics of Atlantic Cod in the Gulf of Maine: Integration of Observations and Modeling. *Prog. in Oceanography.* 87, 251-263.

Ji R., M. Edwards, D.L. Mackas, J.A. Runge, **A.C. Thomas**, ***2010***, Marine plankton phenology and life history in a changing climate:Current research and future directions, *J. Plankton Res.* 32, 10, 1355-1368.

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Di Lorenzo E., J. Fiechter, N. Schneider, A.J. Miller, P.J.S. Franks, S.J. Bograd, A.M. Moore, **A.C. Thomas**, W. Crawford, A. Pena and A. Hermann, ***2009***: Nutrient and salinity decadal variations in the central and eastern North Pacific. *Geophys. Res. Lett.* 36, L14601, doi:10.1029/2009GL038261.

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Venegas, R., P.T. Strub, E. Beier, R. Letelier, **A.C. Thomas**, T.Cowles, C. James, L. Soto-Mardones, C. Cabrera. ***2008.*** Satellite-derived variability in chlorophyll, wind stress, sea surface height, and temperature in the northern California Current System. *J. Geophys. Res.* 113, C03015, doi:10.1029/2007JC004481.

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Legaard, K. and **A.C. Thomas. *2007.*** Spatial patterns of intraseasonal variability of chlorophyll and sea surface temperature in the California Current. *J. Geophys. Res*., 112, doi:10.1029/2007JC004097.

Crawford, W.R., P.J. Brickley, and **A.C. Thomas, *2007*.** Eddy Transport into a Cyclonic Gyre: An Example in the Gulf of Alaska, *Prog. in Oceanogr.,* 75, 287-303.

Henson, S.A. and **A.C. Thomas. *2007*.** Phytoplankton scales of variability in the California Current system: Interannual and cross-shelf variability. *J. Geophys. Res.,* 112, C07017, doi:10.1029/ 2006JC004039

Henson, S.A. and **A.C. Thomas. *2007*.** Phytoplankton scales of variability in the California Current system: Latitudinal variability *J. Geophys. Res.*, 112, C07018, doi:10.1029/ 2006JC004040.

Theil, M. et al. ***2007***. The Humboldt Current system of northern-central Chile: Oceanographic processes, ecological interactions and socioeconomic feedback. *Oceanogr. Mar. Biol. Ann Rev.* 45: 195-345.

**Thomas, A.C.** and P. Brickley. ***2006.*** Satellite measurements of chlorophyll distribution during spring 2005 in the California Current. *Geophys. Res. Lett*. 33, doi:10.1029/2006GL026588.

Legaard, K. and **A.C. Thomas. *2006***. Spatial patterns of seasonal and interannual variability in chlorophyll and surface temperature in the California Current. *J. Geophys. Res.* 111, C06032, doi:10.1029/2005JC003282.

Whitehouse, B.G., P.W. Vachon, **A.C. Thomas**, R.J. Quinn and W.M. Renaud, ***2006***, Rapid environmental assessment (REA) of the maritime battlespace, *Can. Mil. J.,* 7(1): 66-69.

**Thomas, A.C.** and R. Weatherbee. ***2006***. Satellite-measured temporal variability of the Columbia River plume. *Rem. Sensing. Env.* 100: 167-178.

Dagg, M.J., H. Liu and **A.C. Thomas**. ***2006***. Effects of mesoscale phytoplankton variability on the copepods *Neocalanus flemingeri* and *N. plumchrus* in the coastal Gulf of Alaska. *Deep-Sea Res.* 53: 321-332.

**Publications in Books:**

Mackas, D., P.T. Strub, **A.C. Thomas,** V. Montecino,  ***2006,*** Eastern Ocean Boundaries Pan-Regional View, In: ***The Sea***. A.R.Robinson and K.H. Brink, Editors. Harvard Press Ltd..

Townsend, D.W., **A.C. Thomas**, L.M. Mayer, M.A.Thomas and J.A. Quinlan, ***2006***, Interdisciplinary oceanography of the northwest Atlantic continental shelf waters. In: ***The Sea***. A.R. Robinson and K.H. Brink, Editors. Harvard Press Ltd..

Montecino, V., P.T. Strub, J. Tarazona, F. Chavez, **A.C. Thomas** and T. Baumgartner. ***2006***, Bio-physical interactions off western South America, In: ***The Sea***. A.R. Robinson and K.H. Brink, Editors. Harvard Press Ltd..

Reddin D.G., J. Helbig, **A. Thomas**, B.G. Whitehouse and K.D. Friedland, ***2000***, Survival of Atlantic Salmon (Salmo salar L.) Related to Marine Climate. in The Ocean Life of Atlantic Salmon - Environmental and Biological Factors Influencing Survival, Derek Mills ED, Blackwell Science Ltd., UK.

Hill, A.E., B.M.Hickey, F.A.Shillington, P.T.Strub, K.H. Brink, E.D.Barton, **A.C. Thomas**, ***1998***. Eastern Boundary Currents: A Pan-Regional Review. In: ***The Sea***. A.R. Robinson and K.H. Brink, Editors. J.Wiley and Sons Inc.

**Thomas, A.C**. and P.T. Strub. ***1998***. Large-scale temporal and spatial variability of phytoplankton pigment concentrations in the California Current. Pg 255-266 In: Remote Sensing of the Pacific Ocean by Satellites. R.A. Brown, Ed., Earth Ocean and Space Pty. Ltd.

**Thomas, A.C.,** P.T. Strub and S. Levesque. ***1994***. Satellite measured ocean colour variability at large spatial and temporal scales. Pg 240-248 In: Proceedings of WMO/IOC Technical Conference on Space-based Ocean Observations, Bergen, Norway, World Meteorological Organization, UNESCO.

**Older (plus other) Publications:**

Mundy, P.R., etal., ***2010.*** Status and trends of the Alaska Current Region, 2003-2008, pp. 142-195 **In,** S.M. McKinnell and M.J. Dagg [Eds.] Marine Ecosystems of the North Pacific Ocean, 2003-2008. PICES Special Publication 4, 393 p.

Bograd, S.J., etal., ***2010.*** Status and trends of the California Current region, 2003-2008, *In:* S.M. McKinnell and M. Dagg. [Eds.] Marine Ecosystems of the North Pacific Ocean, 2003-2008. PICES Special Publication 4.

Pettigrew, N.R., J.H. Churchill, C.D. Janzen, L.J. Mangum, R.P. Signell, **A.C. Thomas**, D.W. Townsend, J.P. Wallinga, and H. Xue, ***2005***, The kinematic and hydrographic structure of the Gulf of Maine Coastal Current. *Deep Sea Res.* Part2, 52: 2369-2391.

Whitehouse, B.G., P.W. Vachon, **A.C. Thomas** and R.J. Quinn. 2005. Developing RADARSAT’s METOC capabilities in support of Project Polar Epsilon. Defence R&D Canada Tech. Mem. DRDC Ottawa TM 2005-119.

Townsend, D.W., N.R. Pettigrew and **A.C. Thomas**, ***2005***. On the nature of offshore *Alexandrium fundyense* blooms in the Gulf of Maine. *Deep-Sea Res*. Part 2. 52: 2603-2630.

Luerssen R.M., A.C. Thomas and J. Hurst, *2005*. Relationships between satellite-measured thermal features and *Alexandrium-*imposed toxicity in the Gulf of Maine, *Deep Sea Res.* Part 2. 52: 2656-2673.

Crawford, W.R., P.J. Brickley, T.D. Peterson, and **A.C. Thomas, *2005***. Impact of Haida Eddies on chlorophyll-a distribution in the eastern Gulf of Alaska, Deep-Sea Res*..* 52: 975-989.

Brickley P., and **A.C. Thomas, *2004*,** Satellite-measured seasonal and interannual chlorophyll variability in the Northeast Pacific and coastal Gulf of Alaska. *Deep-Sea Res*. 51: 229-245.

**Thomas A.C**., P. T. Strub, M.E. Carr and R. Weatherbee, ***2004***. Comparisons of chlorophyll variability between the four major global eastern boundary currents*. Int. J. Rem. Sens.* 25:1443-1447.

Siegel, D. A., **A.C. Thomas** and J. Marra, ***2004*,** Views of ocean processes from the Sea-viewing Wide Field of View Sensor (SeaWiFS) Mission: Introduction to the second special issue. Deep-Sea Res. 51: 911-912.

Siegel, D. A., **A.C. Thomas** and J. Marra, ***2004*,** Views of ocean processes from the Sea-viewing Wide Field of View Sensor Mission: Introduction to the first special issue. Deep-Sea Res. 51: 1-3.

Strub, P.T. and **A.C. Thomas**, *2004*, Anticyclonic eddies in the Alaska gyre (and Cape Horn Current?). Gayana 68(2): 552-555.

**Thomas A.C**., P. T. Strub and P. Brickley, ***2003,*** Anomalous chlorophyll concentrations in the California Current in 2001-2002. *Geophys. Res. Lett*. 30(15): 8022, doi:10.1029/2003GL017409.

**Thomas A.C.**, D.W. Townsend and R. Weatherbee, ***2003***, Satellite-measured phytoplankton variability in the Gulf of Maine. *Cont. Shelf Res*. 23: 971-989.

Carr M-E., P.T. Strub, **A.C. Thomas** and J.L. Blanco, ***2002***, Evolution of 1996-1999 La Nina and El Nino conditions off the western coast of South America: a remote sensing perspective, *J. Geophys. Res*. 107: 3236, doi:10.1029/2001JC001183

Blanco J.L., M-E. Carr, **A.C. Thomas** and P.T. Strub, ***2002***, Hydrographic conditions off northern Chile during the 1996-1998 La Nina and El Nino, *J. Geophys. Res*. 107, doi:10.1029/2001JC001002

**Thomas A.C.,** D. Byrne and R. Weatherbee, ***2002***, Coastal sea surface temperature variability from LANDSAT infrared data. Rem. Sens. Env. 81:262-272.

**Thomas A.C**., M.E. Carr and P. T. Strub, ***2001***, Chlorophyll variability in eastern boundary currents, Geophys. Res. Lett. 28: 3421-3424. ***Chosen as featured cover article.***

Nixon, S.W. and **A.C. Thomas**, ***2001***, On the size of the Peru upwelling ecosystem. Deep Sea Res. I, 48:2521-2528.

Blanco J.L., **A.C. Thomas**, M-E. Carr and P.T. Strub, ***2001***, Seasonal climatology of hydrographic conditions in the upwelling region off northern Chile, J. Geophys. Res. 106:11,451-11,467.

**Thomas A.C**. and P.T. Strub, ***2001***, Cross-shelf phytoplankton pigment variability in the California Current. Cont. Shelf Res. 21: 1157-1190

**Thomas A.C**., J.L. Blanco, M.E. Carr, P.T. Strub and J. Ossus, ***2001***, Satellite-measured chlorophyll and temperature variability off northern Chile during the 1996-1998 La Nina and El Nino, J. Geophys. Res. 106:899-915.

Townsend D.W. and **A.C. Thomas**, ***2001***, Winter-spring transition of phytoplankton chlorophyll and inorganic nutrients on Georges Bank, Deep Sea Res. II, 48:199-214.

Townsend D.W., N.R. Pettigrew and **A.C. Thomas**, ***2001***, Offshore blooms of the red tide dinoflagellate, Alexandrium sp., in the Gulf of Maine. Cont. Shelf Res. 21:347-369.

**Thomas, A**.**C., *2001****.* Measuring the Surface Temperature of the Ocean. Pg 34-36 In: Backscatter, Spring/Summer 2001, Nova Scotia, Canada.

**Thomas, A.C**. ***1999***, Seasonal distributions of satellite-measured phytoplankton pigment concentration along the Chilean coast. J. Geophys. Res. 104:25877-25890.

**Thomas, A.C**., B. Whitehouse and S. Levesque. ***1996.*** Spatial and Temporal Variability of North Atlantic Salmon Habitat: Estimates from Satellite Measured Sea Surface Temperature. Technical Report for the Atlantic Salmon Federation and the Atlantic Salmon Trust.

**Thomas, A.C**., P.T. Strub, F. Huang and C. James. ***1994***. A comparison of the seasonal and interannual variability of phytoplankton pigment concentrations in the Peru and California Current System. J. Geophys. Res. 99:7355-7370.

**Thomas, A.C.** ***1992***. Associations between zooplankton community structure and satellite measured surface thermal patterns on a continental shelf. Cont. Shelf Res. 12:753-777.

Hobbs, R.C., L.W. Botsford and **A.C. Thomas**. ***1992***. Influence of hydrographic conditions and hind forcing on the distribution and abundance of Dungeness crab, C. magister, larvae. Can. J. Fish. Aquat. Sci., 49:1379-1388.

**Thomas, A.C**. and P.T. Strub. ***1990***. Seasonal and interannual variability of pigment concentrations across a California Current frontal zone. J. Geophys. Res. 95:13023-13042.

Strub, P.T., C. James, **A.C. Thomas**, and M.R. Abbott. ***1990***. Seasonal and non‑seasonal variability of satellite derived surface pigment concentration in the California Current. J. Geophys. Res. 95:11501-11530.

**Thomas, A.C**. and P.T. Strub. ***1989***. Interannual variability in phytoplankton pigment distribution during the spring transition off western North America. J. Geophys. Res. 94:18095‑18117.

**Thomas, A.C.** and W.J. Emery. ***1988***. Relationships between near‑surface plankton concentrations, hydrography and satellite measured sea surface temperature. J. Geophys. Res. 93:15733‑15748.

**Thomas, A.C**. and W.J. Emery. ***1986***. Winter hydrography and plankton distributions on the southern British Columbia continental shelf. Can. J. Fish. Aquat. Sci. 43:1249‑1258.

Emery, W.J., **A.C. Thomas**, M. Collins, W.J. Crawford and D.L. Mackas. ***1986***. An objective method for computing advective surface velocities from sequential infrared satellite images. J. Geophys. Res. 91:12865‑12878.

Lewis, A.G. and **A.C. Thomas**. ***1986***. Tidal transport of zooplankton across the sill of a British Columbia fjord. J. Plankton Res. 8:1079‑1089.

Emery, W.J., **A.C. Thomas**, M.J. Collins, W.R. Crawford, and D.L. Mackas. ***1986.*** Comparison between satellite image advective velocities, dynamic topography, and surface drifter trajectories. The Oceanography Report, EOS 67(22).

**MENTORING:**

**Post Docs:** Dr. Guoqi Han (with Moto Ikeda, now at Memorial University, Canada),

Dr. Seunghyun Son (now at NOAA Silver Spring, USA),

Dr. Stephanie Henson (now at NOC, U. Southampton, UK)

**Graduate Students:** Remy Luerssen, Jennifer Bosch, Kasey Legaard, Chris Proctor (with Colin Roessler), Mahima Jaini (with Rick Wahle), Nick Foukal, Kerstin Cullen, Brianna King (current), Andre Bucci (current)

**Undergraduate Students (Honors, Capstones, Independent Studies, Research Assistants):** Elizabeth Cough, Dan Showda, Stuart Goldberg, Madeline Peak, Cameron Jenness, Hannah Horecka, Kenneth Regan, Brian Brodman, Kate McPherson, Sabrina Petri, Emily Farel, Samantha Bond, Juliana Tavora, Deanna Watson, Andrew Goode, Todd Thoman, Antonia Barela, Emma Pontius, Xun Zhang, Ian Hay, Matt Talbot, Faith Hoyle, Emily Miller, Gretchen Spencer, Kevin Clyne, Quinn Carey

**TEACHING:**

SMS 302: Oceanography (every year),

SMS 540: Satellite Oceanography (~ every other year),

SMS 375: Intro to Computer Programming, Data Analysis and MATLAB (every other year),

Plus others courses episodically.

***Guest lecturer, International Graduate Programs:***

Chile: Olmue 1997, IOCCG Ocean Color & Primary Productivity from Space,

USA: Darling Marine Center 2004, NSF Geostatistics & Marine Data,

China: Shanghai 2009, Summer Grad Program, Satellite Oceanography,

Chile: U. Concepcion 2014, ASI XIV Satellite Oceanography

China: Hanzhou 2017, State Key Lab of SOED, Open Course Series, Satellite Oceanography

**OTHER:** Senior scientist 18 oceanographic cruises, participating scientist 20 additional cruises, Guest Editor: Deep Sea Research 2

**Member:** American Geophysical Union

**INTERESTS:** competitive swimming, wilderness backpacking, hiking, skate-skiing, foreign travel, foreign people, open minds, good wine, good beer & good food