

## PMEL PUBLICATIONS: FISCAL YEARS 2014–2019

FISCAL YEAR	TOTAL # PUBS.	PEER-REVIEWED ARTICLES (#)	HIGHLY CITED PAPERS* (#)	HIGH IMPACT (IF ≥20) JOURNAL PUBS.	NOTES/OTHER
2019	158	144	18	3	26 OceanObs19 Papers
2018	123	111	8	3	
2017	150	140	2	5	
2016	134	105	7	3	
2015	167	139	6	8	
2014	147	112	6	5	

\* Web of Science methodology for selecting Highly Cited Papers:

[https://images.webofknowledge.com/WOKRS534DR1/help/WOS/hp\\_highly\\_cited\\_papers.html](https://images.webofknowledge.com/WOKRS534DR1/help/WOS/hp_highly_cited_papers.html)

### PUBLICATIONS FY 2019

Alin, S., Z. Gao, H. Gurney-Smith, K. Lee, P. Tishchenko, N. Bednaršek, R. Feely, M. Fujii, D. Ianson, M. Ishii, L. Miller, G. Reid, T. Ross, and S. Takao (2019): *Ocean Acidification and Deoxygenation in the North Pacific Ocean*. PICES Special Publication 5, Christian, J.R., and T. Ono (eds.), North Pacific Marine Science Organization, Sidney, BC, 101 pp.

Angove, M., D. Arcas, R. Bailey, P. Carrasco, D. Coetzee, B. Fry, K. Gledhill, S. Harada, C. von Hillebrandt-Andrade, L. Kong, C. McCreery, S.-J. McCurrach, A.E. Sakya, Y. Miao, and F. Schindele (2019): Ocean observations required to minimize uncertainty in global tsunami forecasts, warnings, and emergency response. *Front. Mar. Sci.*, 6, 350, *OceanObs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00350>.

Baker, E.T., S.L. Walker, W.W. Chadwick, Jr., D.A. Butterfield, N.J. Buck, and J.A. Resing (2019): Post-eruption enhancement of hydrothermal activity: A 33-year, multi-eruption time series at Axial Seamount (Juan de Fuca Ridge). *Geochem. Geophys. Geosyst.*, 20(2), 814–828, <https://doi.org/10.1029/2018GC007802>.

Baker, E.T., S.L. Walker, G.J. Massoth, and J.A. Resing (2019): The NE Lau Basin: Widespread and abundant hydrothermal venting in the back-arc region behind a superfast subduction zone. *Front. Mar. Sci.*, 6, 382, *Pacific Deep-Sea Discoveries: Geological and Biological Exploration, Patterns, and Processes*, <https://doi.org/10.3389/fmars.2019.00382>.

Ballinger, T.J., C.C. Lee, S.C. Sheridan, A.D. Crawford, J.E. Overland, and M. Wang (2018): Subseasonal atmospheric regimes and ocean background forcing of Pacific Arctic sea ice melt onset. *Clim. Dyn.*, 52, 5657–5672, <https://doi.org/10.1007/s00382-018-4467-x>.

Balsamo, G., A. Agusti-Panareda, C. Albergel, G. Arduini, A. Beljaars, J. Bidlot, N. Bousserez, S. Boussetta, A. Brown, R. Buizza, C. Buontempo, F. Chevallier, M. Choulga, H. Cloke, M.F. Cronin,

- M. Dahoui, P. De Rosnay, P.A. Dirmeyer, M. Drusch, E. Dutra, M.B. Ek, P. Gentine, H. Hewitt, S.P.E. Keeley, Y. Kerr, S. Kumar, C. Lupu, J.-F. Mahfouf, J. McNorton, S. Mecklenburg, K. Mogensen, J. Muñoz-Sabater, R. Orth, F. Rabier, R. Reichle, B. Ruston, F. Pappenberger, I. Sandu, S.I. Seneviratne, S. Tietsche, I.F. Trigo, R. Uijlenhoet, N. Wedi, R.I. Woolway, and X. Zeng (2018): Satellite and in-situ observations for advancing global Earth surface modelling: A review. *Remote Sens.*, 10(12), 2038, <https://doi.org/10.3390/rs10122038>.
- Barrett, P.M., J.A. Resing, M.M. Grand, C.I. Measures, P.L. Morton, and W.M. Landing (2018): Trace element composition of suspended particulate matter along three meridional CLIVAR sections in the South Indian Ocean: Impact of scavenging on Al distributions. *Chem. Geol.*, 502, 15–28, <https://doi.org/10.1016/j.chemgeo.2018.06.015>.
- Barth, J.A., S.E. Allen, E.P. Dever, R.K. Dewey, W. Evans, R.A. Feely, J.L. Fisher, J.P. Fram, B.R. Hales, D. Ianson, J. Jackson, S.K. Juniper, O. Kawka, D. Kelley, J.M. Klymak, J. Konovsky, M. Kosro, A. Kurapov, E. Mayorga, P. MacCready, J.A. Newton, R.I. Perry, C.M. Risien, M. Robert, T. Ross, R.K. Shearman, J. Schumacker, S. Siedlecki, V.L. Trainer, S. Waterman, and C.E. Wingard (2019): Better regional ocean observing through cross-national cooperation: A case study from the northeast Pacific. *Front. Mar. Sci.*, 6, 93, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00093>.
- Baumberger, T., R.W. Embley, S.G. Merle, M.D. Lilley, N.A. Raineault, and J.E. Lupton (2018): Mantle-derived helium and multiple methane sources in gas bubbles of cold seeps along the Cascadia Continental Margin. *Geochem. Geophys. Geosyst.*, 19(11), 4476–4486, <https://doi.org/10.1029/2018GC007859>.
- Bednaršek, N., R.A. Feely, M.W. Beck, O. Glippa, M. Kanerva, and J. Engström-Öst (2018): El Niño-related thermal stress coupled with upwelling-related ocean acidification negatively impacts cellular to population-level responses in pteropods along the California Current System with implications for increased bioenergetic costs. *Front. Mar. Sci.*, 5, 486, <https://doi.org/10.3389/fmars.2018.00486>.
- Bednaršek, N., R.A. Feely, E.L. Howes, B.P.V. Hunt, F. Kessouri, P. León, S. Lischka, A.E. Maas, K. McLaughlin, N.P. Nezlin, M. Sutula, and S.B. Weisberg (2019): Systematic review and meta-analysis towards synthesis of thresholds of ocean acidification impacts on calcifying pteropods and interactions with warming. *Front. Mar. Sci.*, 6, 227, <https://doi.org/10.3389/fmars.2019.00227>.
- Behrenfeld, M.J., R.H. Moore, C.A. Hostetler, J. Graff, P. Gaube, L. Russell, G. Chen, S.C. Doney, S. Giovannoni, H. Liu, C. Proctor, L. Bolaños, N. Huynh, C. Davie-Martin, T. Westberry, T.S. Bates, T.G. Bell, K.D. Bidle, E.S. Boss, S.D. Brooks, B. Cairns, C. Carlson, K. Halsey, E.L. Harvey, C. Hu, L. Karp-Boss, M. Kleb, S. Menden-Deuer, P.K. Quinn, A.J. Scarino, B. Anderson, J. Chowdhary, E. Crosbie, R. Ferrare, J.W. Hair, Y. Hu, S. Janz, J. Redemann, E. Saltzman, M. Shook, D.A. Siegel, and L. Ziemba (2019): The North Atlantic Aerosol and Marine Ecosystem Study (NAAMES): Science motive and mission overview. *Front. Mar. Sci.*, 6, 122, <https://doi.org/10.3389/fmars.2019.00122>. [HIGHLY CITED PAPER]
- Bourlès, B., M. Araujo, M.J. McPhaden, P. Brandt, G. Foltz, R. Lumpkin, H. Giordani, F. Hernandez, N. Lefèvre, P. Nobre, E. Campos, R. Saravanan, J. Trotte-Duhà, M. Dengler, J. Hahn, R. Hummels, J. Lübbecke, M. Rouault, L. Cotrim, A.J. Sutton, M. Jochum, and R. Perez (2019): PIRATA: A

sustained observing system for tropical Atlantic climate research and forecasting. *Earth Space Sci.*, 6, <https://doi.org/10.1029/2018EA000428>.

- Box, J.E., W.T. Colgan, T.R. Christensen, N.M. Schmidt, M. Lund, F.-J.W. Parmentier, R. Brown, U.S. Bhatt, E.S. Euskirchen, V.E. Romanovsky, J.E. Walsh, J.E. Overland, M. Wang, R.W. Corell, W.N. Meier, B. Wouters, S. Mernild, J. Mård, J. Pawlak, and M.S. Olsen (2019): Key indicators of Arctic climate change: 1971-2017. *Environ. Res. Lett.*, 14(4), 045010, <https://doi.org/10.1088/1748-9326/aafc1b>.
- Buck, J.J.H., S.J. Bainbridge, E.F. Burger, A.C. Kraberg, M. Casari, K.S. Casey, L. Darroch, J. Del Rio, K. Metfies, E. Delory, P.F. Fischer, T. Gardner, R. Heffernan, S. Jirka, A. Kokkinaki, M. Loeb, P.L. Buttigieg, J.S. Pearlman, and I. Schewe (2019): Ocean data product integration through innovation—The next level of data interoperability. *Front. Mar. Sci.*, 6, 32, *OceanObs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00032>. [HIGHLY CITED PAPER]
- Bushinsky, S.M., Y. Takeshita, and N.L. Williams (2019): Observing changes in ocean carbonate chemistry: Our autonomous future. *Curr. Clim. Change Rep.*, <https://doi.org/10.1007/s40641-019-00129-8>.
- Bushnell, M., R. Heitsenrether, J. Thomas, C. Galvarino, E. Burger, J. Dorton, and L. Leonard (2018): Status and near-term plans for the U.S. IOOS Quality Assurance / Quality Control of Real-time Oceanographic Data (QARTOD) Project. *Oceans 2018 MTS/IEEE*, Charleston, SC, October 22-25, 2018.
- Cai, W., G. Wang, B. Dewitte, L. Wu, A. Santoso, K. Takahashi, Y. Yang, A. Carréric, and M.J. McPhaden (2018): Increased variability of eastern Pacific El Niño under greenhouse warming. *Nature*, 564, 201–206, <https://doi.org/10.1038/s41586-018-0776-9>. [HIGHLY CITED PAPER]
- Cai, W., L. Wu, M. Lengaigne, T. Li, S. McGregor, J.-S. Kug, J.-Y. Yu, M.F. Stuecker, A. Santoso, X. Li, Y.-G. Ham, Y. Chikamoto, B. Ng, M.J. McPhaden, Y. Du, D. Dommenges, F. Jia, J.B. Kajtar, N. Keenlyside, X. Lin, J.-J. Luo, M. Martin-Rey, Y. Ruprich-Robert, G. Wang, S.-P. Xie, Y. Yang, S.M. Kang, J.-Y. Choi, B. Gan, G.-I. Kim, C.-E. Kim, S. Kim, J.-H. Kim, and P. Chang (2019): Pantropical climate interactions. *Science*, 363(6430), eaav4236, <https://doi.org/10.1126/science.aav4236>. [HIGHLY CITED PAPER]
- Canonica, G., P.L. Buttigieg, E. Montes, C.A. Stepien, D. Wright, A. Benson, B. Helmuth, M.J. Costello, F.E. Muller-Karger, I. Sousa Pinto, H. Saeedi, J.A. Newton, W. Appeltans, N. Bednaršek, L. Bodrossy, B.D. Best, A. Brandt, K. Goodwin, K. Iken, A. Marques, P. Miloslavich, M. Ostrowski, W. Turner, E.P. Achterberg, T. Barry, O. Defeo, G. Bigatti, L.-A. Henry, B. Ramiro Sanchez, P. Durán Muñoz, M. Mar Sacau Cuadrado, T. Morato, M. Roberts, A. Garralda Garcia-Alegre, and B.J. Murton (2019): Global observational needs and resources for marine biodiversity. *Front. Mar. Sci.*, 6, 367, *OceanObs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00367>.
- Carter, B.R., R.A. Feely, R. Wanninkhof, S. Kouketsu, R.E. Sonnerup, P.C. Pardo, C.L. Sabine, G.C. Johnson, B.M. Sloyan, A. Murata, S. Mecking, B. Tillbrook, K. Speer, L.D. Talley, F.J. Millero, S.E. Wijffels, A.M. Macdonald, N. Gruber, and J.L. Bullister (2019): Pacific anthropogenic carbon

between 1991 and 2017. *Global Biogeochem. Cycles*, 33(5), 597–617, <https://doi.org/10.1029/2018GB006154>.

- Carter, B.R., N.L. Williams, W. Evans, A.J. Fassbender, L. Barbero, C. Hauri, R.A. Feely, and A.J. Sutton (2019): Time-of-detection as a metric for prioritizing between climate observation quality, frequency, and duration. *Geophys. Res. Lett.*, 46(7), 3853–3861, <https://doi.org/10.1029/2018GL080773>.
- Casciotti, K.L., M. Forbes, J. Vedamati, B. Peters, T. Martin, and C. Mordy (2018): Nitrous oxide cycling in the Eastern Tropical South Pacific as inferred from isotopic and isotopomeric data. *Deep-Sea Res. II*, 156, 155–167, <https://doi.org/10.1016/j.dsr2.2018.07.014>.
- Chadwick, Jr., W.W., S.G. Merle, E.T. Baker, S.L. Walker, J.A. Resing, D.A. Butterfield, M.O. Anderson, T. Baumberger, and A.M. Bobbitt (2018): A recent volcanic eruption discovered on the central Mariana back-arc spreading center. *Front. Earth Sci.*, 6, 172, <https://doi.org/10.3389/feart.2018.00172>.
- Chadwick, Jr., W.W., K.H. Rubin, S.G. Merle, A.M. Bobbitt, T. Kwasnitschka, and R.W. Embley (2019): Recent eruptions between 2012 and 2018 discovered at West Mata submarine volcano (NE Lau Basin, SW Pacific) and characterized by new ship, AUV, and ROV data. *Front. Mar. Sci.*, 6, 495, Pacific Deep-Sea Discoveries: Geological and Biological Exploration, Patterns, and Processes, <https://doi.org/10.3389/fmars.2019.00495>.
- Chang, B.X., A. Jayakumar, B. Widner, P. Bernhardt, C.W. Mordy, M.R. Mulholland, and B.B. Ward (2019): Low rates of dinitrogen fixation in the eastern tropical South Pacific. *Limnol. Oceanogr.*, 64(5), 1913–1923, <https://doi.org/10.1002/lno.11159>.
- Chiodi, A.M., J.P. Dunne, and D.E. Harrison (2019): Estimating air-sea carbon flux uncertainty over the tropical Pacific: Importance of winds and wind analysis uncertainty. *Global Biogeochem. Cycles*, 33(3), 370–390, <https://doi.org/10.1029/2018GB006047>.
- Chiodi, A.M., N.K. Larkin, J.M. Varner, and J.K. Hiers (2019): Sensitivity of prescribed burn weather windows to atmospheric dispersion parameters over southeastern USA. *Int. J. Wildland Fire*, 28(8), 589–600, <https://doi.org/10.1071/WF18209>.
- Cooley, S.R., D.J.P. Moore, S.R. Alin, D. Butman, D.W. Clow, N.H.F. French, R.A. Feely, Z.I. Johnson, G. Keppel-Aleks, S.E. Lohrenz, I.B. Ocko, E.H. Shadwick, A.J. Sutton, C.S. Potter, Y. Takatsuka, A.P. Walker, and R.M.S. Yu (2018): Biogeochemical effects of rising atmospheric carbon dioxide. Chapter 17 in *Second State of the Carbon Cycle Report (SOCCR2): A Sustained Assessment Report*, Cavallaro, N., G. Shrestha, R. Birdsey, M.A. Mayes, R.G. Najjar, S.C. Reed, P. Romero-Lankao, and Z. Zhu (eds.), U.S. Global Change Research Program, Washington, DC, 690–727, <https://carbon2018.globalchange.gov/>, <https://doi.org/10.7930/SOCCR2.2018.Ch17>.
- Coyle, K.O., A.J. Hermann, and R.R. Hopcroft (2019): Modeled spatial-temporal distribution of productivity, chlorophyll, iron and nitrate on the northern Gulf of Alaska shelf relative to field observations. *Deep-Sea Res. II*, 165, 163–191, <https://doi.org/10.1016/j.dsr2.2019.05.006>.

- Creamean, J.M., J.N. Cross, R. Pickart, L. McRaven, P. Lin, A. Pacini, R. Hanlon, D.G. Schmale, J. Cenicerros, T. Aydell, N. Colombi, E. Bolger, and P.J. DeMott (2019): Ice nucleating particles carried from below a phytoplankton bloom to the Arctic atmosphere. *Geophys. Res. Lett.*, 46(14), 8572–8581, <https://doi.org/10.1029/2019GL083039>.
- Cronin, M.F., C.L. Gentemann, J. Edson, I. Ueki, K. Ando, M. Bourassa, S. Brown, C.A. Clayson, C. Fairall, T. Farrar, S. Gille, S. Gulev, S. Josey, S. Kato, M. Katsumata, E. Kent, M. Krug, P. Minnett, R. Parfitt, R.T. Pinker, P. Stackhouse, S. Swart, H. Tomita, D. Vandemark, R.A. Weller, K. Yoneyama, L. Yu, and D. Zhang (2019): Air-sea fluxes with a focus on heat and momentum. *Front. Mar. Sci.*, 6, 430, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00430>. [HIGHLY CITED PAPER]
- Cross, J.N., J. Turner, S.R. Cooley, J. Newton, K. Azetsu-Scott, C. Chambers, D. Dugan, K. Goldsmith, H. Gurney-Smith, A. Harper, E.J. Jewett, D. Joy, T. King, T. Klinger, M. Kurz, J. Morrison, J. Motyka, E. Ombres, G. Saba, E. Silva, E. Smits, J. Vreeland-Dawson, and L. Wickes (2019): The knowledge-to-action pipeline: Connecting ocean acidification research and actionable decision support. *Front. Mar. Sci.*, 6, 356, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00356>.
- Cyriac, A., M.J. McPhaden, H.E. Phillips, N.L. Bindoff, and M. Feng (2019): Seasonal evolution of the surface layer heat balance in the subtropical Indian Ocean. *J. Geophys. Res.*, 124(9), 6459–6477, <https://doi.org/10.1029/2018JC014559>.
- Diogoua, N., D.M. Palacios, S.L. Nieu Kirk, J.A. Nystuene, E. Papathanassiou, S. Katsanevakis, and H. Klinck (2019): Sperm whale (*Physeter macrocephalus*) acoustic ecology at Ocean Station PAPA (Gulf of Alaska) – Part 1: detectability and seasonality. *Deep-Sea Res. I*, 150, 103047, <https://doi.org/10.1016/j.dsr.2019.05.007>.
- Downes, S.M., B.M. Sloyan, S.R. Rintoul, and J.E. Lupton (2019): Hydrothermal heat enhances abyssal mixing in the Antarctic Circumpolar Current. *Geophys. Res. Lett.*, 46, 812–821, <https://doi.org/10.1029/2018GL080410>.
- Doyle, M., S.L. Strom, K.O. Coyle, A.J. Hermann, C. Ladd, A.C. Matarese, S.K. Shotwell, and R.R. Hopcroft (2019): Early life history phenology among Gulf of Alaska fish species: Strategies, synchronies, and sensitivities. *Deep-Sea Res. II*, 165, 41–73, <https://doi.org/10.1016/j.dsr2.2019.06.005>.
- Duffy-Anderson, J.T., P. Staben, A.G. Andrews, K. Cieciel, A. Deary, E. Farley, C. Fugate, C. Harpold, R. Heintz, D. Kimmel, K. Kuletz, J. Lamb, M. Paquin, S. Porter, L. Rogers, A. Spear, and E. Yasumiishi (2019): Responses of the northern Bering Sea and southeastern Bering Sea pelagic ecosystems following record-breaking low winter sea-ice. *Geophys. Res. Lett.*, 46(16), 9833–9842, <https://doi.org/10.1029/2019GL083396>.
- Dziak, R.P., W.S. Lee, J.H. Haxel, H. Matsumoto, G. Tepp, T.-K. Lau, L. Roche, S. Yun, C.-K. Lee, J. Lee, and S.-T. Yoon (2019): Hydroacoustic, meteorologic and seismic observations of the 2016 Nansen ice shelf calving event and iceberg formation. *Front. Earth Sci.*, 7, 183, <https://doi.org/10.3389/feart.2019.00183>.

- Dziak, R.P., W.S. Lee, S. Yun, C.-K. Lee, J.H. Haxel, T.-K. Lau, H. Matsumoto, L. Roche, and G. Tepp (2018): The 2016 Nansen Ice Shelf calving event: Hydroacoustic and meteorological observations of ice shelf fracture and iceberg formation. In *2018 OCEANS MTS/IEEE Kobe Techno-Ocean (OTO)*, Kobe, Japan, 28–31 May 2018.
- Emerson, S., B. Yang, M. White, and M. Cronin (2019): Air-sea gas transfer: Determining bubble fluxes with in situ N<sub>2</sub> observations. *J. Geophys. Res.*, *124*(4), 2716–2727, <https://doi.org/10.1029/2018JC014786>.
- Engström-Öst, J., O. Glippa, R.A. Feely, M. Kanerva, J.E. Keister, S.R. Alin, B.R. Carter, A.K. McLaskey, K.A. Vuori, and N. Bednaršek (2019): Eco-physiological responses of copepods and pteropods to ocean warming and acidification. *Sci. Rep.*, *9*, 4748, <https://doi.org/10.1038/s41598-019-41213-1>.
- Evans, W., K. Pocock, A. Hare, C. Weekes, B. Hales, J. Jackson, H. Gurney-Smith, J.T. Mathis, S.R. Alin, and R.A. Feely (2019): Marine CO<sub>2</sub> patterns in the northern Salish Sea. *Front. Mar. Sci.*, *5*, 536, <https://doi.org/10.3389/fmars.2018.00536>.
- Fassbender, A.J., K.B. Rodgers, H.I. Palevsky, and C.L. Sabine (2018): Seasonal asymmetry in the evolution of surface ocean pCO<sub>2</sub> and pH thermodynamic drivers and the influence on sea-air CO<sub>2</sub> flux. *Global Biogeochem. Cycles*, *32*(10), 1476–1497, <https://doi.org/10.1029/2017GB005855>.
- Feely, R.A., R. Wanninkhof, B.R. Carter, P. Landschützer, A.J. Sutton, C. Cosca, and J.A. Triñanes (2019): Global ocean carbon cycle. In *State of the Climate in 2018*, Global Oceans. *Bull. Am. Meteorol. Soc.*, *100*(9), S94–S99, <https://doi.org/10.1175/2019BAMSStateoftheClimate.1>.
- Fennel, K., S. Alin, L. Barbero, W. Evans, T. Bourgeois, S. Cooley, J. Dunne, R.A. Feely, J.M. Hernandez-Ayon, X. Hu, S. Lohrenz, F. Muller-Karger, R. Najjar, L. Robbins, E. Shadwick, S. Siedlecki, N. Steiner, A. Sutton, D. Turk, P. Vlahos, and Z.A. Wang (2019): Carbon cycling in the North American coastal ocean: A synthesis. *Biogeosciences*, *16*, 1281–1304, <https://doi.org/10.5194/bg-16-1281-2019>.
- Fennel, K., S.R. Alin, L. Barbero, W. Evans, T. Bourgeois, S.R. Cooley, J. Dunne, R.A. Feely, J.M. Hernandez-Ayon, C. Hu, X. Hu, S.E. Lohrenz, F. Muller-Karger, R.G. Najjar, L. Robbins, J. Russell, E.H. Shadwick, S. Siedlecki, N. Steiner, D. Turk, P. Vlahos, and Z.A. Wang (2018): Coastal ocean and continental shelves. Chapter 16 in *Second State of the Carbon Cycle Report (SOCCR2): A Sustained Assessment Report*, Cavallaro, N., G. Shrestha, R. Birdsey, M.A. Mayes, R.G. Najjar, S.C. Reed, P. Romero-Lankao, and Z. Zhu (eds.), U.S. Global Change Research Program, Washington, DC, 649–688, <https://carbon2018.globalchange.gov/>, <https://doi.org/10.7930/SOCCR2.2018.Ch16>.
- Foltz, G.R., P. Brandt, I. Richter, B. Rodriguez-Fonseca, F. Hernandez, M. Dengler, R.R. Rodrigues, J.O. Schmidt, L. Yu, N. Lefevre, L. Cotrim Da Cunha, M.J. McPhaden, M. Cunha de Araujo Filho, J. Karstensen, J. Hahn, M. Martín-Rey, C.M. Patricola, P. Poli, P. Zuidema, R. Hummels, R.C. Perez, V. Hatje, J. Lübbecke, I. Polo, R. Lumpkin, B. Bourlès, F.E. Asuquo, P. Lehodey, A. Conchon, P. Chang, P. Dandin, C. Schmid, A.J. Sutton, H. Giordani, Y. Xue, S. Illig, T. Losada, S. Grodsky, F. Gasparin, T. Lee, E. Mohino, P. Nobre, R. Wanninkhof, N.S. Keenlyside, V. Garçon, E. Sanchez-

- Gomez, H.C. Nnamchi, M. Drevillon, A. Storto, E. Remy, A. Lazar, S. Speich, M. Pereira Goes, T. Dorrington, W.E. Johns, J.N. Moum, C. Robinson, C. Perruche, R.B. de Souza, A. Gaye, M. Lopez-Parages, P.-A. Monerie, P. Castellanos, N.U. Benson, M.N. Hounkonnou, and Janice Trotte Duha (2019): The Tropical Atlantic Observing System. *Front. Mar. Sci.*, 6, 206, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00206>. [HIGHLY CITED PAPER]
- Fournet, M.E.H., L.P. Matthews, C.M. Gabriele, S. Haver, D.K. Mellinger, and H. Klinck (2018): Humpback whales (*Megaptera novaeangliae*) alter calling behavior in response to natural sounds and vessel noise. *Mar. Ecol. Prog. Ser.*, 607, 251–268, <https://doi.org/10.3354/meps12784>.
- Fuchsman, C.A., A.H. Devol, K.L. Casciotti, C. Buchwald, B.X. Chang, and R.E.A. Horak (2018): An N isotopic mass balance of the Eastern Tropical North Pacific Oxygen Minimum Zone. *Deep-Sea Res. II*, 156, 137–147, <https://doi.org/10.1016/j.dsr2.2017.12.013>.
- Gibson, G.A., W.T. Stockhausen, K.O. Coyle, S. Hinckley, C. Parada, A.J. Hermann, M. Doyle, and C. Ladd (2019): An individual-based model for sablefish: Exploring the connectivity between potential spawning and nursery grounds in the Gulf of Alaska. *Deep-Sea Res. II*, 165, 89–112, <https://doi.org/10.1016/j.dsr2.2018.05.015>.
- Giusti, M., J. Perrot, R.P. Dziak, A. Sukhovich, and M. Maia (2018): The August 2010 earthquake swarm at North FAMOUS–FAMOUS segments, Mid-Atlantic Ridge: Geophysical evidence of dike intrusion. *Geophys. J. Int.*, 215(1), 181–195, <https://doi.org/10.1093/gji/ggy239>.
- González-Vida, J.M., J. Macías, M.J. Castro, C. Sánchez-Linares, M. de la Asunción, S. Ortega-Acosta, and D. Arcas (2019): The Lituya Bay landslide-generated mega-tsunami—Numerical simulation and sensitivity analysis. *Nat. Hazards Earth Syst. Sci.*, 19, 369–388, <https://doi.org/10.5194/nhess-19-369-2019>.
- Gordon, A.L., A. Napitu, B.A. Huber, L.K. Gruenburg, K. Pujiana, T. Agustiadi, A. Kuswardani, N. Mbay, and A. Setiawan (2019): Makassar Strait throughflow seasonal and interannual variability, an overview. *J. Geophys. Res.*, 124(6), 3724–3736, <https://doi.org/10.1029/2018JC014502>.
- Grand, M.M., A. Laes-Huon, S. Fietz, J.A. Resing, H. Obata, G.W. Luther III, A. Tagliabue, E.P. Achterberg, R. Middag, A. Tovar-Sánchez, and A.R. Bowie (2019): Developing autonomous observing systems for micronutrient trace metals. *Front. Mar. Sci.*, 6, 35, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00035>.
- Gregg, P.M., H. Le Mével, Y. Zhan, J. Dufek, D. Geist, and W.W. Chadwick, Jr. (2018): Stress triggering of the 2005 eruption of Sierra Negra volcano, Galápagos. *Geophys. Res. Lett.*, 45, 13,288–13,297, <https://doi.org/10.1029/2018GL080393>.
- Gruber, N., D. Clement, B.R. Carter, R.A. Feely, S. van Heuven, M. Hoppema, M. Ishii, R.M. Key, A. Kozyr, S. Lauvset, C. Le Monaco, J.T. Mathis, A. Murata, A. Olsen, F.F. Perez, C.L. Sabine, T. Tanhua, and R. Wanninkhof (2019): The oceanic sink for anthropogenic CO<sub>2</sub> from 1994 to 2007. *Science*, 363(6432), 1193–1199, <https://doi.org/10.1126/science.aau5153>. [HIGHLY CITED PAPER]

- Guan, C., M.J. McPhaden, F. Wang, and S. Hu (2019): Quantifying the role of oceanic feedbacks on ENSO asymmetry. *Geophys. Res. Lett.*, 46(4), 2140–2148, <https://doi.org/10.1029/2018GL081332>.
- Hagos, S., C. Zhang, L.R. Leung, C.D. Burleyson, and K. Balaguru (2019): A zonal migration of monsoon moisture flux convergence and the strength of Madden-Julian Oscillation events. *Geophys. Res. Lett.*, 46, 8554–8562, <https://doi.org/10.1029/2019GL083468>.
- Haver, S.M., M.E.H. Fournet, R.P. Dziak, C. Gabriele, J. Gedamke, L.T. Hatch, J. Haxel, S.A. Heppell, M.F. McKenna, D.K. Mellinger, and S.M. Van Parijs (2019): Comparing the underwater soundscapes of four U.S. national parks and marine sanctuaries. *Front. Mar. Sci.*, 6, 500, <https://doi.org/10.3389/fmars.2019.00500>.
- Hayes, D.J., R. Vargas, S.R. Alin, R.T. Conant, L.R. Hutyra, A.R. Jacobson, W.A. Kurz, S. Liu, A.D. McGuire, B. Poulter, and C.W. Woodall (2018): The North American carbon budget. Chapter 2 in *Second State of the Carbon Cycle Report (SOCCR2): A Sustained Assessment Report*, Cavallaro, N., G. Shrestha, R. Birdsey, M.A. Mayes, R.G. Najjar, S.C. Reed, P. Romero-Lankao, and Z. Zhu (eds.), U.S. Global Change Research Program, Washington, DC, 71–108, <https://carbon2018.globalchange.gov/>, <https://doi.org/10.7930/SOCCR2.2018.Ch2>.
- Hermann, A., G. Gibson, W. Cheng, I. Ortiz, K. Aydin, M. Wang, A. Hollowed, and K. Holmann (2019): Projected biophysical conditions of the Bering Sea to 2100 under multiple emission scenarios. *ICES J. Mar. Sci.*, 76(5), 1280–1304, <https://doi.org/10.1093/icesjms/fsz043>.
- Hermes, J.C., Y. Masumoto, L. Beal, M. Roxy, J. Vialard, M. Andres, H. Annamalai, S. Behera, N. d'Adamo, T. Doi, M. Feng, W. Han, H. Hendon, R.R. Hood, S. Kido, C. Lee, T. Lee, M. Lengaigne, R. Lumpkin, K. Navaneeth, B. Milligan, M.J. McPhaden, M. Ravichandra, T. Shinoda, A. Singh, B.M. Sloyan, P. Strutto, A. Subramanian, S. Thurston, T. Tozuka, C. Ummenhofer, S. Unnikrishnan Alakkat, R. Venkatesan, D. Wang, J. Wiggert, L. Yu, and W. Yu (2019): A sustained ocean observing system in the Indian Ocean for climate related scientific knowledge and societal needs. *Front. Mar. Sci.*, 6, 355, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00355>.
- Hinckley, S., W. Stockhausen, K.O. Coyle, B. Laurel, G.A. Gibson, C. Parada, A.J. Hermann, M. Doyle, T. Hurst, A.E. Punt, and C. Ladd (2019): Connectivity between spawning and nursery areas for Pacific cod (*Gadus macrocephalus*) in the Gulf of Alaska. *Deep-Sea Res. II*, 165, 113–126, <https://doi.org/10.1016/j.dsr2.2019.05.007>.
- Ho, P., J.A. Resing, and A.M. Shiller (2019): Processes controlling the distribution of dissolved Al and Ga along the U.S. GEOTRACES East Pacific Zonal Transect (GP16). *Deep-Sea Res. I*, 147, 128–145, <https://doi.org/10.1016/j.dsr.2019.04.009>.
- Holdman, A.K., J.H. Haxel, H. Klinck, and L.G. Torres (2019): Acoustic monitoring reveals the times and tides of harbor porpoise (*Phocoena phocoena*) distribution off central Oregon, U.S.A. *Mar. Ecol. Prog. Ser.*, 35(1), 164–186, <https://doi.org/10.1111/mms.12537>.
- Howe, B.M., B. Arbic, J. Aucan, C. Barnes, N. Baylif, N. Becker, R. Butler, L. Doyle, S. Elipot, G.C. Johnson, F. Landerer, S. Lentz, D. Luther, J. Mariano, K. Panayotou, C. Rowe, R. Scholl, Y.T.



- Song, M. Thomas, P. Thomas, F. Tillman, T. Weber, S. Weinstein, and Joint Task Force for SMART Cables (2019): SMART cables for observing the global ocean: Science and Implementation. *Front. Mar. Sci.*, 6, 424, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00424>.
- Hristova, H.G., C. Ladd, and P.J. Stabeno (2019): Variability and trends of the Alaska Gyre from Argo and satellite altimetry. *J. Geophys. Res.*, 124(8), 5870-5887, <https://doi.org/10.1029/2019JC015231>.
- Huang, K., M.J. McPhaden, W. Wang, Q. Xie, J. Chen, Y. Shu, Q. Wang, J. Li, J. Yao, L. Chen, and D. Wang (2018): Vertical propagation of mid-depth zonal currents associated with surface wind forcing in the equatorial Indian Ocean. *J. Geophys. Res.*, 123(10), 7290–7307, <https://doi.org/10.1029/2018JC013977>.
- Johnson, G.C., J.M. Lyman, T. Boyer, L. Cheng, C.M. Domingues, J. Gilson, M. Ishii, R.E. Killick, D. Monselesan, S.G. Purkey, and S.E. Wijffels (2019): Ocean heat content. In *State of the Climate in 2018*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 100(9), S74–S77, <https://doi.org/10.1175/2019BAMSSStateoftheClimate.1>.
- Johnson, G.C., S.G. Purkey, N.V. Zilbermann, and D. Roemmich (2019): Deep Argo quantifies bottom water warming rates in the southwest Pacific Basin. *Geophys. Res. Lett.*, 46(5), 2662-2669, <https://doi.org/10.1029/2018GL081685>.
- Johnson, G.C., J. Reagan, J.M. Lyman, T. Boyer, C. Schmid, and R. Locarnini (2019): Salinity. In *State of the Climate in 2018*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 100(9), S77–S81, <https://doi.org/10.1175/2019BAMSSStateoftheClimate.1>.
- Johnson, H.P., S. Merle, M. Salmi, R. Embley, E. Sampaga, and M. Lee (2019): Anomalous concentration of methane emissions at the continental shelf edge of the Northern Cascadia Margin. *J. Geophys. Res.*, 124(3), 2829-2843, <https://doi.org/10.1029/2018JB016453>.
- Kessler, W.S., H.G. Hristova, R.E. Davis, and J.T. Sherman (2019): Equatorward western boundary transport from the South Pacific: Glider observations, dynamics and consequences. *Prog. Oceanogr.*, 175, 208–225, <https://doi.org/10.1016/j.pcean.2019.04.005>.
- Kessler, W.S., S.E. Wijffels, S. Cravatte, N. Smith, A. Kumar, Y. Takaya, Y. Fujii, H. Hendon, A. Sutton, P. Strutton, Y. Serra, B. Dewitte, C.A. Clayson, M.F. Cronin, J.T. Farrar, J. Sprintall, X. Song, K. O'Brien, K. Ando, K. Takahashi, L. Moreno, D. Roemmich, S. McGregor, A. Wittenberg, T. Lee, S.G. Penny, W. Large, S. de Szoeki, I. Ueki, L. O'Neill, E.R. Kursinski, F. Gasparin, W. Yu, D. Chen, Y. Xue, I. Montes, D. Legler, L. Upchurch, and S. Brunner (2019): *Second Report of TPOS 2020*. GOOS-234, TPOS 2020. Available at [TPOS2020.org](https://TPOS2020.org).
- Khapalova, E.A., V.K. Jandhyala, S.B. Fotopoulos, and J.E. Overland (2018): Assessing change-points in surface air temperature over Alaska. *Front. Environ. Sci.*, 6, 121, <https://doi.org/10.3389/fenvs.2018.00121>.

- Ladd, C., L.B. Eisner, S.A. Salo, C.W. Mordy, and M.D. Iglesias-Rodriguez (2018): Spatial and temporal variability of coccolithophore blooms in the eastern Bering Sea. *J. Geophys. Res.*, *123*, 9119–9136, <https://doi.org/10.1029/2018JC014302>.
- Langis, D., P.J. Stabeno, C. Meinig, C.W. Mordy, S.W. Bell, and H.M. Tabisola (2018): Low-cost expendable buoys for under-ice data collection. In *Oceans 2018 MTS/IEEE Charleston*, Marine Technology Society and IEEE Oceanic Engineering Society, IEEE, Charleston, SC, 22–25 October 2018, doi:10.1109/OCEANS.2018.8604752.
- Le Quéré, C., R.M. Andrew, P. Friedlingstein, S. Sitch, J. Hauck, J. Pongratz, P. Pickers, J.I. Korsbakken, G.P. Peters, J.G. Canadell, A. Arneeth, V.K. Arora, L. Barbero, A. Bastos, L. Bopp, F. Chevallier, L.P. Chini, P. Ciais, S.C. Doney, T. Gkritzalis, D.S. Goll, I. Harris, V. Haverd, F.M. Hoffman, M. Hoppema, R.A. Houghton, T. Ilyina, A.K. Jain, T. Johannesen, C.D. Jones, E. Kato, R.F. Keeling, K. Klein Goldewijk, P. Landschützer, N. Lefèvre, S. Lienert, D. Lombardozzi, N. Metzl, D.R. Munro, J.E.M.S. Nabel, S.-I. Nakaoka, C. Neill, A. Olsen, T. Ono, P. Patra, A. Peregon, W. Peters, P. Peylin, B. Pfeil, D. Pierrot, B. Poulter, G. Rehder, L. Resplandy, E. Robertson, M. Rocher, C. Rödenbeck, U. Schuster, J. Schwinger, R. Séférian, I. Skjelvan, T. Steinhoff, A.J. Sutton, P.P. Tans, H. Tian, B. Tilbrook, F.N. Tubiello, I.T. van der Laan-Luijkx, G.R. van der Werf, N. Viovy, A.P. Walker, A.J. Wiltshire, R. Wright, and S. Zaehle (2018): Global Carbon Budget 2018. *Earth Sys. Sci. Data*, *10*, 2141–2194, <https://doi.org/10.5194/essd-10-2141-2018>. [HIGHLY CITED PAPER]
- Leung, S., L. Thompson, M.J. McPhaden, and K.A.S. Mislan (2019): ENSO drives near-surface oxygen and vertical habitat variability in the tropical Pacific. *Environ. Res. Lett.*, *14*, 064020, <https://doi.org/10.1088/1748-9326/ab1c13>.
- Levin, L.A., B.J. Bett, A.R. Gates, P. Heimbach, B.M. Howe, F. Janssen, A. McCurdy, H.A. Ruhl, P. Snelgrove, K.I. Stocks, D. Bailey, S. Baumann-Pickering, C. Beaverson, M.C. Benfield, D.J. Booth, M. Carreiro-Silva, A. Colaço, M.C. Eblé, A.M. Fowler, K.M. Gjerde, D.O.B. Jones, K. Katsumata, D. Kelley, N. Le Bris, A.P. Leonardi, F. Lejzerowicz, P. Macreadie, D. McLean, F. Meitz, T. Morato, A.N. Netburn, J. Pawlowski, C.R. Smith, S. Sun, H. Uchida, M.F. Vardaro, R. Venkatesan, and R.A. Weller (2019): Global observing needs in the deep ocean. *Front. Mar. Sci.*, *6*, 241, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00241>. [HIGHLY CITED PAPER]
- Levy, R.H., G.B. Dunbar, M.J. Vandergoes, J.D. Howarth, T. Kingan, A.R. Pyne, G. Brotherston, M. Clarke, B. Dagg, M. Hill, E. Kenton, S. Little, D. Mandeno, C. Moy, P. Muldoon, P. Doyle, C. Raines, P. Rutland, D. Strong, M. Terezow, L. Cochrane, R. Cossu, S. Fitzsimons, F. Florindo, A.L. Forrest, A.R. Gorman, D.S. Kaufman, M.K. Lee, X. Li, P. Lurcock, N. McKay, F. Nelson, J. Purdie, H.A. Roop, S.G. Schladow, A. Sood, P. Upton, S.L. Walker, and G.S. Wilson (2018): A high-resolution climate record spanning the past 17,000 years recovered from Lake Ohau, South Island, New Zealand. *Sci. Drill.*, *24*, 41–50, <https://doi.org/10.5194/sd-24-41-2018>.
- Li, L., A.B. Hollowed, E.D. Cokelet, S.J. Barbeaux, N.A. Bond, A.A. Keller, J.R. King, M. McClure, W.A. Palsson, P.J. Stabeno, and Q. Yang (2019): Sub-regional differences in groundfish distributional responses to anomalous ocean bottom temperatures in the northeast Pacific. *Global Change Biol.*, *25*(8), 2560–2575, <https://doi.org/10.1111/gcb.14676>.

- Li, S., M. Wang, N.A. Bond, W. Huang, Y. Wang, S. Xu, J. Liu, B. Wang, and Y. Bai (2018): Precursors of September Arctic sea-ice extent based on causal effect networks. *Atmosphere*, 9(11), 437, <https://doi.org/10.3390/atmos9110437>.
- Lin, P., R.S. Pickart, L.T. McRaven, K.R. Arrigo, K.E. Lowry, D.A. Stockwell, and C.W. Mordy (2019): Water mass evolution and circulation of the northeastern Chukchi Sea in summer: Implications for nutrient distributions. *J. Geophys. Res.*, 124(7), 4416–4432, <https://doi.org/10.1029/2019JC015185>.
- Lindquist, A., A. Sutton, A. Devol, A. Winans, A. Coyne, B. Bodenstein, B. Curry, B. Herrmann, B. Sackmann, B. Tyler, C. Maloy, C. Greengrove, C. Fanshier, C. Krembs, C. Sabine, C. Cook, C. Hard, C. Greene, D. Lowry, D. Harvell, E. McPhee-Shaw, E. Haphey, G. Hannach, H. Bohlmann, H. Burgess, I. Smith, I. Kemp, J. Newton, J. Borchert, J. Mickett, J. Apple, J. Bos, J. Parrish, J. Ruffner, J. Keister, J. Masura, K. Devitt, K. Bumbaco, K. Stark, L. Hermanson, L. Claassen, L. Swanson, M. Burger, M. Schmidt, M. McCartha, M. Peacock, M. Eisenlord, M. Keyzers, N. Christman, N. Hamel, N. Burnett, N. Bond, O. Graham, P. Biondo, P. Hodum, R. Wilborn, R.A. Feely, S. Pearson, S. Alin, S. Albertson, S. Moore, S. Jaeger, S. Pool, S. Musielwicz, T. King, T. Good, T. Jones, T. Ross, T. Sandell, T. Burks, V. Trainer, V. Bowes, W. Ruef, and W. Eash-Loucks (2018): *Puget Sound Marine Waters: 2017 Overview*. S. Moore, R. Wold, K. Stark, J. Bos, P. Williams, N. Hamel, A. Edwards, C. Krembs, and J. Newton (eds.), NOAA Northwest Fisheries Science Center for the Puget Sound Ecosystem Monitoring Program's (PSEMP) Marine Waters Workgroup.
- Ling, J., C. Zhang, R. Joyce, P.-P. Xie, and G. Chen (2019): Possible role of the diurnal cycle of land convection in the barrier effect on the MJO by the Maritime Continent. *Geophys. Res. Lett.*, 46(5), 3001–3011, <https://doi.org/10.1029/2019GL081962>.
- Loewen, M.W., D.W. Graham, I.N. Bindeman, J.E. Lupton, and M.O. Garcia (2019): Hydrogen isotopes in high  $^3\text{He}/^4\text{He}$  submarine basalts: Primordial vs. recycled water and the veil of mantle enrichment. *Earth Planet. Sci. Lett.*, 508, 62–73, <https://doi.org/10.1016/j.epsl.2018.12.012>.
- Luo, D., X. Chen, J. Overland, I. Simmonds, Y. Wu, and P. Zhang (2019): Weakened potential vorticity barrier linked to Arctic sea-ice loss and increased mid-latitude cold extremes. *J. Climate*, 32(14), 4235–4261, <https://doi.org/10.1175/JCLI-D-18-0449.1>.
- Marshall, N., and C.A. Stepien (2019): Dreissenidae. Chapter 42 in *Freshwater Mollusks of the World: A Distribution Atlas*, C. Lydeard and K.S. Cummings (eds.), Johns Hopkins University Press.
- Marshall, N.T., and C.A. Stepien (2019): Invasion genetics from eDNA and thousands of larvae: A targeted metabarcoding assay that distinguishes species and population variation of zebra and quagga mussels. *Ecol. Evol.*, 9, 3515–3538, <https://doi.org/10.1002/ece3.4985>.
- Meinig, C., E.F. Burger, N. Cohen, E.D. Cokelet, M.F. Cronin, J.N. Cross, S. de Halleux, R. Jenkins, A.T. Jessup, C.W. Mordy, N. Lawrence-Slavas, A.J. Sutton, D. Zhang, and C. Zhang (2019): Public private partnerships to advance regional ocean observing capabilities: A Sailability and NOAA-PMEL case study and future considerations to expand to global scale observing. *Front. Mar. Sci.*, 6, 448, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00448>.

- Meyssignac, B., T. Boyer, Z. Zhao, M.Z. Hakuba, F. Landerer, D. Stammer, A. Köhl, S. Kato, T. L'Ecuyer, M. Ablain, J.P. Abraham, A. Blazquez, A. Cazenave, J. Church, R. Cowley, L.G. Cheng, C. Domingues, D. Giglio, V. Gouretski, M. Ishii, G.C. Johnson, R. Killick, D. Legler, W. Llovel, J. Lyman, M. Palmer, S. Piotrowicz, S.G. Purkey, D. Roemmich, R. Roca, A. Savita, K. von Schuckmann, S. Speich, G. Stephens, G.J. Wang, S. Wijffels, and N. Zilberman (2019): Measuring global ocean heat content to estimate the Earth energy imbalance. *Front. Mar. Sci.*, 6, 432, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00432>.
- Miksis-Olds, J.L., S.L. Nieuwkerk, and D.V. Harris (2018): Two unit analysis of Sri Lankan pygmy blue whale song over a decade. *J. Acoust. Soc. Am.*, 144(6), 3618, <https://doi.org/10.1121/1.5084269>.
- Mioduszewski, J., S. Vavrus, and M. Wang (2018): Diminishing Arctic sea ice promotes stronger surface winds. *J. Climate*, 31(19), 8101–8119, <https://doi.org/10.1175/JCLI-D-18-0109.1>.
- Moltmann, T., H.-M. Zhang, J.D. Turton, G. Nolan, C.C. Gouldman, L. Griesbauer, Z. Willis, Á. Muñiz Piniella, E. Charpentier, P. Poli, E.F. Burger, R. Lumpkin, C. Meinig, K. O'Brien, A.J. Sutton, D. Zhang, and Y. Zhang (2019): A Global Ocean Observing System (GOOS), delivered through enhanced collaboration across regions, communities, and new technologies. *Front. Mar. Sci.*, 6, 291, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00291>.
- Mordy, C.W., P.J. Stabenro, N.B. Kachel, D. Kachel, C. Ladd, M. Zimmerman, A.J. Hermann, K. Coyle, and M.J. Doyle (2019): Patterns of flow in the canyons of the northern Gulf of Alaska. *Deep-Sea Res. II*, 165, 203–220, <https://doi.org/10.1016/j.dsr2.2019.03.009>.
- Napitu, A.M., K. Pujiana, and A.L. Gordon (2019): The Madden-Julian Oscillation's Impact on the Makassar Strait surface layer transport. *J. Geophys. Res.*, 124(6), 3538–3550, <https://doi.org/10.1029/2018JC014729>.
- Nebel, O., P.A. Sossi, J. Foden, A. Bénard, P.A. Brandl, J.A. Stammeier, J. Lupton, M. Richter, and R.J. Arculus (2018): Iron isotope variability in ocean floor lavas and mantle sources in the Lau back-arc basin. *Geochim. Cosmochim. Acta*, 241, 150–163, <https://doi.org/10.1016/j.gca.2018.08.046>.
- Ohishi, S., H. Aiki, T. Tozuka, and M.F. Cronin (2019): Frontolysis by surface heat flux in the eastern Japan Sea: Importance of mixed layer depth. *J. Oceanogr.*, 75, 283–297, <https://doi.org/10.1007/s10872-018-0502-0>.
- Olsen, A., N. Lange, R.M. Key, T. Tanhua, M. Álvarez, S. Becker, H.C. Bittig, B.R. Carter, L. Cotrim da Cunha, R.A. Feely, S. van Heuven, M. Hoppema, M. Ishii, E. Jeansson, S.D. Jones, S. Jutterström, M.K. Karlson, A. Kozyr, S.K. Lauvset, C. Lo Monaco, A. Murata, F.F. Pérez, B. Pfeil, C. Schirnack, R. Steinfeldt, T. Suzuki, M. Telszewski, B. Tilbrook, A. Velo, and R. Wanninkhof (2019): GLODAPv2.2019 – an update of GLODAPv2. *Earth Syst. Sci. Data*, 11, 1437–1461, <https://doi.org/10.5194/essd-11-1437-2019>.
- Ormseth, O.A., M.M. Baker, R.R. Hopcroft, C. Ladd, C.W. Mordy, J.H. Moss, F.J. Mueter, S.K. Shotwell, and S.L. Strom (2019): Introduction to understanding ecosystem processes in the Gulf of Alaska, Volume 2. *Deep-Sea Res. II*, 165, 1–6, <https://doi.org/10.1016/j.dsr2.2019.06.019>.

- Osse, T.J., C.W. Mordy, C. Meinig, S. Stalin, C. Ladd, N. Delich, F. Stahr, and J. Bennett (2018): Oculus Coastal Glider: A new shallow-water oceanographic glider. In *OCEANS 2018 MTS/IEEE Charleston*, Marine Technology Society and IEEE Oceanic Engineering Society, Charleston, SC, 22–25 October 2018.
- Overland, J.E., E. Dunlea, J.E. Box, R. Corell, M. Forsius, V. Kattsov, M. Skovgård Olsen, J. Pawlak, L.-O. Reiersen, and M. Wang (2019): The urgency of Arctic change. *Polar Sci.*, *21*, 6–13, <https://doi.org/10.1016/j.polar.2018.11.008>.
- Overland, J.E., E. Hanna, I. Hanssen-Bauer, S.-J. Kim, J.E. Walsh, M. Wang, and U.S. Bhatt (2019): Surface air temperature, in *State of the Climate in 2018*, The Arctic. *Bull. Am. Meteorol. Soc.*, *100*(9), S144–S146, <https://doi.org/10.1175/2019BAMSStateoftheClimate.1>.
- Overland, J.E., M. Wang, and J.E. Box (2019): An integrated index of recent pan-Arctic climate change. *Environ. Res. Lett.*, *14*(3), 035006, <https://doi.org/10.1088/1748-9326/aaf665>.
- Paduan, J.B., R. Zierenberg, D.A. Clague, R.M. Spelz, D.W. Caress, G. Troni, H. Thomas, J. Glessner, M.D. Lilley, T. Lorenson, J. Lupton, F. Neumann, M.A. Santa Rosa-del Rio, and C.G. Wheat (2018): Discovery of hydrothermal vent fields on Alarcón Rise and in Southern Pescadero basin, Gulf of California. *Geochem. Geophys. Geosyst.*, *19*, 4788–4819, <https://doi.org/10.1029/2018GC007771>.
- Pardo, P.C., B. Tilbrook, E. van Ooijen, A. Passmore, C. Neill, P. Jansen, A.J. Sutton, and T.W. Trull (2019): Surface ocean carbon dioxide variability in South Pacific boundary currents and Subantarctic waters. *Sci. Rep.*, *9*, 7592, <https://doi.org/10.1038/s41598-019-44109-2>.
- Pearlman, J.S., M. Bushnell, L. Coppola, P.L. Buttigieg, F. Pearlman, P. Simpson, M. Barbier, J. Karstensen, F.E. Muller-Karger, C. Munoz-Maas, P. Pissiersens, C.L. Chandler, J. Hermes, E. Heslop, R. Jenkyns, E.P. Achterberg, M. Bensi, H. Bittig, J. Blandin, J.A. Bosch, B. Bourlès, R. Bozzano, J.J.H. Buck, E.F. Burger, D. Cano, V. Cardin, M. Charcos Llorens, A. Cianca, C. Hua, C. Cusack, E. Delory, R. Garello, G. Giovanetti, V. Harscoat, R. Heitsenrether, S. Jirka, A. Lara-Lopez, N. Lanteri, A.M. Leadbetter, G.M.R. Manzella, J. Masó, A. McCurdy, E. Moussat, M. Ntomas, S. Pensieri, G. Petihakis, N. Pinardi, S. Pouliquen, R. Przeslawski, N. Roden, J. Silke, M. Tamburri, H. Tang, T. Tanhua, P. Testor, J.O. Thomas, C. Waldmann, and F. Whoriskey (2019): Evolving and sustaining ocean observing best practices and standards fostering interoperability for the next decade of science and policy. *Front. Mar. Sci.*, *6*, 277, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00277>. [HIGHLY CITED PAPER]
- Penn, J.L., T. Weber, B.X. Chang, and C. Deutsch (2019): Microbial ecosystem dynamics drive fluctuating nitrogen loss in marine anoxic zones. *Proc. Nat. Acad. Sci.*, *116*(15), 7220–7225, <https://doi.org/10.1073/pnas.1818014116>.
- Peters, B., R. Horak, A. Devol, C. Fuchsman, M. Forbes, C.W. Mordy, and K.L. Casciotti (2018): Estimating fixed nitrogen loss and associated isotope effects using concentration and isotope measurements of  $\text{NO}_3^-$ ,  $\text{NO}_2^-$ , and  $\text{N}_2$  from the Eastern Tropical South Pacific oxygen deficient zone. *Deep-Sea Res. II*, *156*, 121–136, <https://doi.org/10.1016/j.dsr2.2018.02.011>.

- Pilcher, D.J., D.M. Naiman, J.N. Cross, A.J. Hermann, S.A. Siedlecki, G.A. Gibson, and J.T. Mathis (2019): Modeled effect of coastal biogeochemical processes, climate variability, and ocean acidification on aragonite saturation state in the Bering Sea. *Front. Mar. Sci.*, 5, 508, <https://doi.org/10.3389/fmars.2018.00508>.
- Pinardi, N., J. Stander, D. Legler, K. O'Brien, T. Boyer, T. Cuff, P. Bahurel, M. Belbeoch, S. Belov, S. Brunner, E.F. Burger, T. Carval, D. Chang-Seng, E. Charpentier, G. Coppini, A. Fischer, C. Gallage, J. Hermes, E. Heslop, S. Grimes, K. Hill, K. Horsburgh, S. Mancini, N. Moodie, M. Ouellet, P. Pissierssens, P. Poli, R. Proctor, N. Smith, V. Swail, and J. Turton (2019): The Joint IOC (of UNESCO) and WMO collaborative effort for met-ocean services. *Front. Mar. Sci.*, 6, 410, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00410>. [HIGHLY CITED PAPER]
- Pujiana, K., M.J. McPhaden, A.L. Gordon, and A.M. Napitu (2019): Unprecedented response of Indonesian throughflow to anomalous Indo-Pacific climatic forcing in 2016. *J. Geophys. Res.*, 124(6), 3737–3754, <https://doi.org/10.1029/2018JC014574>.
- Purkey, S.G., G.C. Johnson, L.D. Talley, B.M. Sloyan, S.E. Wijffels, W. Smethie, S. Mecking, and K. Katsumata (2019): Unabated bottom water warming and freshening in the South Pacific Ocean. *J. Geophys. Res.*, 124(3), 1778-1794, <https://doi.org/10.1029/2018JC014775>.
- Roemmich, D., M. Alford, H. Claustre, K. Johnson, B. King, J. Moum, P. Oke, W.B. Owens, S. Pouliquen, S. Purkey, M. Scanderbeg, T. Suga, S. Wijffels, N. Zilberman, D. Bakker, M. Baringe, M. Belbeoch, H. Bittig, E. Boss, P. Calil, F. Carse, T. Carval, F. Chai, E. D'Asaro, F. d'Ortenzio, G. Dall'Olmo, D. Desbruyeres, K. Fennel, I. Fer, R. Ferrari, H. Freeland, T. Fujiki, M. Gehlen, F. Grant, B. Greenan, R. Hallberg, S. Hosoda, S. Jayne, M. Jochum, G.C. Johnson, K.-R. Kang, J. Klymak, A. Körtzinger, P.-Y. Le Traon, Y.-D. Lenn, G. Maze, K.A. Mork, T. Morris, T. Nagai, J. Nash, A. Naveira Garabato, A. Olsen, R.R. Pattabhi, S. Prakash, S. Riser, C. Schmechtig, C. Schmid, E. Shroyer, A. Sterl, P. Sutton, L. Talley, T. Tanhua, V. Thierry, S. Thomalla, J. Toole, A. Troisi, T.W. Trull, J. Turton, P.J. Velez-Belchi, W. Walczowski, H. Wang, R. Wanninkhof, A. Waterhouse, S. Waterman, A. Watson, C. Wilson, A.P.S. Wong, J. Xu, and I. Yasuda (2019): On the future of Argo: A global, full-depth, multi-disciplinary array. *Front. Mar. Sci.*, 6, 439, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00439>. [HIGHLY CITED PAPER]
- Saliba, G., C.-L. Chen, S. Lewis, L.M. Russell, L.-H. Rivellini, A.K.Y. Leeb, P.K. Quinn, T.S. Bates, N. Haentjens, E.S. Boss, L. Karp-Boss, N. Baetge, C.A. Carlson, and M.J. Behrenfeld (2019): Factors driving the seasonal and hourly variability of sea-spray aerosol number in the North Atlantic. *Proc. Nat. Acad. Sci.*, 116(41), 20,309-20,314, 201907574, <https://doi.org/10.1073/pnas.1907574116>.
- Schmid, F., M. Peters, M. Walter, C. Devey, S. Petersen, I. Yeo, J. Köhler, J.W. Jamieson, S. Walker, and J. Sültenfauß (2019): Physico-chemical properties of newly discovered hydrothermal plumes above the Southern Mid-Atlantic Ridge (13°–33°S). *Deep-Sea Res. I*, 148, 34–52, <https://doi.org/10.1016/j.dsr.2019.04.010>.

- Schubert, R., A. Biastoch, M.F. Cronin, and R.J. Greatbatch (2018): Instability-driven benthic storms below the separated Gulf Stream and the North Atlantic Current in a high-resolution ocean model. *J. Phys. Oceanogr.*, 48(10), 2283–2303, <https://doi.org/10.1175/JPO-D-17-0261.1>.
- Singh, D., S. Ghosh, M.K. Roxy, and S. McDermid (2019): Indian Summer Monsoon: Extreme events, historical changes and role of anthropogenic forcings. *WIREs Climate Change*, e571, <https://doi.org/10.1002/wcc.571>.
- Siwicke, K.A., J.H. Moss, B.R. Beckman, and C. Ladd (2019): Effects of the Sitka Eddy on juvenile pink salmon in the eastern Gulf of Alaska. *Deep-Sea Res. II*, 165, 348–363, <https://doi.org/10.1016/j.dsr2.2018.06.001>.
- Sloyan, B., R. Wanninkhof, M. Kramp, G.C. Johnson, L. Talley, T. Tanhua, E. McDonagh, C. Cusack, E. O'Rourke, E. McGovern, K. Katsumata, S. Diggs, J. Hummon, M. Ishii, K. Azetsu-Scott, E. Boss, I. Anson, F. Perez, H. Mercier, M. Williams, L. Anderson, and J.H. Lee (2019): The Global Ocean Ship-Based Hydrographic Investigations Program (GO-SHIP): A platform for integrated multidisciplinary ocean science. *Front. Mar. Sci.*, 6, 445, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00445>. [HIGHLY CITED PAPER]
- Sloyan, B.M., J. Wilkin, K.L. Hill, M.P. Chidichimo, M.F. Cronin, J.A. Johannessen, J. Karstensen, M. Krug, T. Lee, E. Oka, M.D. Palmer, B. Rabe, S. Speich, K. Von Schuckmann, R.A. Weller, and W. Yu (2019): Evolving the physical global ocean observing system for research and application services through international coordination. *Front. Mar. Sci.*, 6, 449, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00449>.
- Smith, N., W.S. Kessler, S. Cravatte, J. Sprintall, S. Wijffels, M.F. Cronin, A. Sutton, Y.L. Serra, B. Dewitte, P.G. Strutton, K.L. Hill, A. Sen Gupta, X. Lin, K. Takahashi, D. Chen, and S. Brunner (2019): Tropical Pacific Observing System. *Front. Mar. Sci.*, 6, 31, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00031>. [HIGHLY CITED PAPER]
- Sonnerup, R.E., B.X. Chang, M.J. Warner, and C.W. Mordy (2019): Timescales of ventilation and consumption of oxygen and fixed nitrogen in the eastern tropical South Pacific oxygen deficient zone from transient tracers. *Deep-Sea Res. I*, 151, 103080, <https://doi.org/10.1016/j.dsr.2019.103080>.
- Spear, A., J. Duffy-Anderson, D. Kimmel, J. Napp, J. Randal, and P. Stabeno (2019): Physical and biological drivers of zooplankton communities in the U.S. Chukchi Sea. *Polar Biol.*, 42, 1107–1124, <https://doi.org/10.1007/s00300-019-02498-0>.
- Spencer, P.D., A.B. Hollowed, M.F. Sigler, A.J. Hermann, and M.W. Nelson (2019): Trait-based climate vulnerability assessments in data-rich systems: An application to eastern Bering Sea fish and invertebrate stocks. *Global Change Biol.*, 25(11), 3954–3971, <https://doi.org/10.1111/gcb.14763>.
- Sprintall, J., M.F. Cronin, and J.T. Farrar (2019): Upper ocean vertical structure. In *Encyclopedia of Ocean Sciences, 3rd edition*, J.K. Cochran, J.H. Bokuniewicz, and L.P. Yager (eds.), Vol. 1, Academic Press/Elsevier, 97–104.

- Stabeno, P.J. (2019): The Eastern Bering Sea: Declining ice, warming seas, and a changing ecosystem, in *State of the Climate in 2018. Bull. Am. Meteorol. Soc.*, 100(9), S148–S149, <https://doi.org/10.1175/2019BAMSSStateoftheClimate.1>.
- Stabeno, P.J., and S.W. Bell (2019): Extreme conditions in the Bering Sea (2017-2018): Record breaking low sea-ice extent. *Geophys. Res. Lett.*, 46(15), 8952–8959, <https://doi.org/10.1029/2019GL083816>.
- Stabeno, P.J., S.W. Bell, N.A. Bond, D.G. Kimmel, C.W. Mordy, and M.E. Sullivan (2019): Distributed Biological Observatory Region 1: Physics, chemistry and plankton in the northern Bering Sea. *Deep-Sea Res. II*, 162, 8–21, <https://doi.org/10.1016/j.dsr2.2018.11.006>.
- Stensland, A., T. Baumberger, M.D. Lilley, I.E. Okland, S.H. Dundas, D.L. Roerdink, I.H. Thorseth, and R.B. Pedersen (2019): Transport of carbon dioxide and heavy metals from hydrothermal vents to shallow water by hydrate-coated gas bubbles. *Chem. Geol.*, 513, 120–132, <https://doi.org/10.1016/j.chemgeo.2018.12.021>.
- Stensland, A., T. Baumberger, K.A. Mork, M.D. Lilley, I.H. Thorseth, and R.B. Pedersen (2019): 3He along the ultraslow spreading AMOR in the Norwegian-Greenland Seas. *Deep-Sea Res. II*, 147, 1–11, <https://doi.org/10.1016/j.dsr.2019.04.004>.
- Stepien, C.A., D.J. Eddins, M.R. Snyder, and N.J. Marshall (2018): Genetic change versus stasis over the time course of invasions: Trajectories of two concurrent, allopatric introductions of the Eurasian ruffe. *Aquat. Invasions*, 13(4), 537–552, <https://doi.org/10.3391/ai.2018.13.4.11>.
- Stepien, C.A., M.R. Snyder, and A.E. Elz (2019): Invasion genetics of the silver carp *Hypophthalmichthys molitrix* across North America: Differentiation of fronts, introgression, and eDNA metabarcoding detection. *PLoS One*, 14(3), e0203012, <https://doi.org/10.1371/journal.pone.0203012>.
- Stockhausen, W.T., K.O. Coyle, A.J. Hermann, D.M. Blood, M. Doyle, G. Gibson, S. Hinckley, C. Ladd, and C. Parada (2019): Running the gauntlet: Connectivity between spawning and nursery areas for arrowtooth flounder (*Atheresthes stomias*) in the Gulf of Alaska, as inferred from a biophysical individual-based model. *Deep-Sea Res. II*, 165, 127–139, <https://doi.org/10.1016/j.dsr2.2018.05.017>.
- Stockhausen, W.T., K.O. Coyle, A.J. Hermann, M. Doyle, G. Gibson, S. Hinckley, C. Ladd, and C. Parada (2019): Running the gauntlet: Connectivity between natal and nursery areas for Pacific Ocean perch (*Sebastes alutus*) in the Gulf of Alaska, as inferred from a biophysical individual-based model. *Deep-Sea Res. II*, 165, 74–88, <https://doi.org/10.1016/j.dsr2.2018.05.016>.
- Subramanian, A.C., M.A. Balmaseda, L. Centurioni, R. Chattopadhyay, B.D. Cornuelle, C. DeMott, M. Flatau, Y. Fujii, D. Giglio, S.T. Gille, T.M. Hamill, H. Hendon, I. Hoteit, A. Kumar, J.-H. Lee, A.J. Lucas, A. Mahadevan, M. Matsueda, S. Nam, S. Paturi, S.G. Penny, A. Rydbeck, R. Sun, Y. Takaya, A. Tandon, R.E. Todd, F. Vitart, D. Yuan, and C. Zhang (2019): Ocean observations to improve our understanding, modeling, and forecasting of subseasonal-to-seasonal variability. *Front. Mar. Sci.*, 6, 427, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00427>.



- Sutton, A.J., R.A. Feely, S. Maenner-Jones, S. Musielewicz, J. Osborne, C. Dietrich, N. Monacci, J. Cross, R. Bott, A. Kozyr, A.J. Andersson, N.R. Bates, W.-J. Cai, M.F. Cronin, E.H. De Carlo, B. Hales, S.D. Howden, C.M. Lee, D.P. Manzello, M.J. McPhaden, M. Meléndez, J.B. Mickett, J.A. Newton, S.E. Noakes, J.H. Noh, S.R. Olafsdottir, J.E. Salisbury, U. Send, T.W. Trull, D.C. Vandemark, and R.A. Weller (2019): Autonomous seawater  $p\text{CO}_2$  and pH time series from 40 surface buoys and the emergence of anthropogenic trends. *Earth Syst. Sci. Data*, *11*, 421–439, <https://doi.org/10.5194/essd-11-421-2019>. [HIGHLY CITED PAPER]
- Tanhua, T., S. Pouliquen, J. Hausma, K. O'Brien, P. Bricher, T. de Bruin, J. Buck, E.F. Burger, T. Carval, K.S. Casey, S. Diggs, A. Giorgetti, H. Graves, V. Harscoat, D. Kinkade, J.H. Muelbert, A. Novellino, B. Pfeil, P.L. Pulsifer, A. Van de Putte, E. Robinson, D. Schaap, A. Smirnov, N. Smith, D. Snowden, T. Spears, S. Stall, M. Tacoma, P. Thijsse, S. Tronstad, T. Vandenberghe, M. Wengren, L. Wyborn, and Z. Zhao (2019): Ocean FAIR Data Services. *Front. Mar. Sci.*, *6*, 440, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00440>. [HIGHLY CITED PAPER]
- Tepp, G., W.W. Chadwick, Jr., M.M. Haney, J.J. Lyons, R.P. Dziak, S.G. Merle, D.A. Butterfield, and C.W. Young III (2019): Hydroacoustic, seismic, and bathymetric observations of the 2014 submarine eruption at Ahyi Seamount, Mariana Arc. *Geochem. Geophys. Geosyst.*, *20*, 3608–3627, <https://doi.org/10.1029/2019GC008311>.
- Terlouw, G.J., L.A.C.M. Knor, E.H. De Carlo, P.S. Drupp, F.T. Mackenzie, Y.H. Li, A.J. Sutton, A.J. Plueddemann, and C.L. Sabine (2019): Hawaii coastal seawater  $\text{CO}_2$  network: A statistical evaluation of a decade of observations on tropical coral reefs. *Front. Mar. Sci.*, *6*, 226, <https://doi.org/10.3389/fmars.2019.00226>.
- Tilbrook, B., E.B. Jewett, M.D. DeGrandpre, J.M. Hernandez-Ayon, R.A. Feely, D.K. Gledhil, L. Hansson, K. Isensee, M.L. Kurz, J.A. Newton, S.A. Siedlecki, S. Dupont, M. Graco, E. Calvo, D. Greeley, L. Kapsenberg, M. Lebec, C. Pelejero, K. Schoo, and M. Telszewski (2019): Towards an enhanced ocean acidification observing network: From people to technology to data synthesis and information exchange. *Front. Mar. Sci.*, *6*, 337, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00337>.
- Timmermans, M.-L., and C. Ladd (2019): Sea surface temperature, in *State of the Climate in 2018*, The Arctic. *Bull. Am. Meteorol. Soc.*, *100*(9), S144–S146, <https://doi.org/10.1175/2019BAMSSStateoftheClimate.1>.
- Todd, R.E., F.P. Chavez, S. Clayton, S. Cravatte, M. Goes, M. Graco, X. Lin, J. Sprintall, N.V. Zilberman, M. Archer, J. Arístegui, M. Balmaseda, J.M. Bane, M.O. Baringer, J.A. Barth, L.M. Beal, P. Brandt, P.H.R. Calil, E. Campos, L.R. Centurioni, M.P. Chidichimo, M. Cirano, M.F. Cronin, E.N. Curchitser, R.E. Davis, M. Dengler, B. deYoung, S. Dong, R. Escribano, A.J. Fassbender, S.E. Fawcett, M. Feng, G.J. Goni, A.R. Gray, D. Gutiérrez, D. Hebert, R. Hummels, S.-I. Ito, M. Krug, F. Lacan, L. Laurindo, A. Lazar, C.M. Lee, M. Lengaigne, N.M. Levine, J. Middleton, I. Montes, M. Muglia, T. Nagai, H.I. Palevsky, J.B. Palter, H.E. Phillips, A. Piola, A.J. Plueddemann, B. Qiu, R.R. Rodrigues, M. Roughan, D.L. Rudnick, R.R. Rykaczewski, M. Seraceno, H. Seim, A. Sen Gupta, L. Shannon, B.M. Sloyan, A.J. Sutton, L. Thompson, A.K. van der Plas, D. Volkov, J. Wilkin, D. Zhang, and L. Zhang (2019): Global perspectives on observing

ocean boundary current systems. *Front. Mar. Sci.*, 6, 423, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00423>. [HIGHLY CITED PAPER]

- Trembath-Reichert, E., D.A. Butterfield, and J.A. Huber (2019): Active subseafloor microbial communities from Mariana backarc venting fluids share metabolic strategies across different thermal niches and taxa. *ISME J.*, 13, 2264–2279, <https://doi.org/10.1038/s41396-019-0431-y>.
- Vance, T.C., M. Wengren, E.F. Burger, D. Hernandez, T. Kearns, N. Merati, K.M. O'Brien, J. O'Neil, J. Potemra, R.P. Signell, and K. Wilcox (2019): From the oceans to the cloud: Opportunities and challenges for data, models, computation and workflows. *Front. Mar. Sci.*, 6, 211, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00211>.
- Vihma, T., R. Graversen, L. Chen, D. Handorf, N. Skific, J.A. Francis, N. Tyrrell, R. Hall, E. Hanna, P. Uotila, K. Dethloff, A.Y. Karpechko, H. Björnsson, and J.E. Overland (2019): Effects of the tropospheric large-scale circulation on European winter temperatures during the period of amplified Arctic warming. *Int. J. Climatol.*, 40(1), 509-529, <https://doi.org/10.1002/joc.6225>.
- Walker, S.L., E.T. Baker, J.E. Lupton, and J.A. Resing (2019): Patterns of fine ash dispersal related to volcanic activity at West Mata volcano, NE Lau basin. *Front. Mar. Sci.*, 6, 593, <https://doi.org/10.3389/fmars.2019.00593>.
- Walsh, J.E., D.H. Bromwich, J.E. Overland, M.C. Serreze, and K.R. Wood (2018): 100 years of progress in polar meteorology. Chapter 21 in *A Century of Progress in Atmospheric and Related Sciences: Celebrating the American Meteorological Society Centennial*, AMS Meteorological Monographs, Vol. 59, 21.1–21.36.
- Wanninkhof, R., P. Pickers, A.M. Omar, A. Sutton, A. Murata, A. Olsen, B.B. Stephens, B. Tilbrook, D. Munro, D. Pierrot, G. Rehder, J.M. Santana-Casiano, J. Müller, J. Trinanes, K. Tedesco, K. O'Brien, K. Currie, L. Barbero, M. Telszewski, M. Hoppema, M. Ishii, M. González-Dávila, N.R. Bates, N. Metzl, P. Suntharalingam, R.A. Feely, S.-I. Nakaoka, S.K. Lauvset, T. Takakahshi, T. Steinhoff, and U. Schuster (2019): A surface ocean CO<sub>2</sub> reference network, SOCONET and associated marine boundary layer CO<sub>2</sub> measurements. *Front. Mar. Sci.*, 6, 400, *Oceanobs19: An Ocean of Opportunity*, <https://doi.org/10.3389/fmars.2019.00400>. [HIGHLY CITED PAPER]
- Weijer, W., W. Cheng, S.S. Drijfhout, A.V. Fedorov, A. Hu, L.C. Jackson, W. Liu, E.L. McDonagh, J.V. Mecking, and J. Zhang (2019): Stability of the Atlantic Meridional Overturning Circulation: A review and synthesis. *J. Geophys. Res.*, 124(8), 5336–5375, <https://doi.org/10.1029/2019JC015083>.
- Widner, B., C.A. Fuchsman, B.X. Chang, G. Rocap, and M.R. Mulholland (2018): Utilization of urea and cyanate in waters overlying and within the eastern tropical North Pacific Oxygen Deficient Zone. *FEMS Microbiol. Ecol.*, 94(10), fiy138, <https://doi.org/10.1093/femsec/fiy138>.
- Windham-Myers, L., W.-J. Cai, S. Alin, A. Andersson, J. Crosswell, K. Dunton, J.M. Hernandez-Ayon, M. Herrmann, A.L. Hinson, C.S. Hopkinson, J. Howard, X. Hu, S.H. Knox, K. Kroeger, D. Lagomasino, P. Megonigal, R. Najjar, M.-L. Paulsen, D. Peteet, E. Pidgeon, K.V.R. Schäfer, M. Tzortziou, Z.A. Wang, and E.B. Watson (2018): Tidal wetlands and estuaries. Chapter 15 in *Second State of the Carbon Cycle Report (SOCCR2): A Sustained Assessment Report*, Cavallaro, N., G.

Shrestha, R. Birdsey, M.A. Mayes, R.G. Najjar, S.C. Reed, P. Romero-Lankao, and Z. Zhu (eds.), U.S. Global Change Research Program, Washington, DC, 596–648, <https://carbon2018.globalchange.gov/>, <https://doi.org/10.7930/SOCCR2.2018.Ch15>.

Womack, C.C., E.E. McDuffie, P.M. Edwards, R. Bares, J.A. de Gouw, K.S. Docherty, W.P. Dube, D.L. Fibiger, A. Franchin, J.B. Gilman, L. Goldberger, B.H. Lee, J.C. Lin, R. Long, A.M. Middlebrook, D.B. Millet, A. Moravek, J.G. Murphy, P.K. Quinn, T.P. Riedel, J.M. Roberts, J.A. Thornton, L.C. Valin, P.R. Veres, A.R. Whitehill, R.J. Wild, C. Warneke, B. Yuan, M. Baasandorj, and S.S. Brown (2019): An odd oxygen framework for wintertime ammonium nitrate aerosol pollution in urban areas: NO<sub>x</sub> and VOC control as mitigation strategies. *Geophys. Res. Lett.*, 46(9), 4971–4979, <https://doi.org/10.1029/2019GL082028>.

Yang, Q., E.D. Cokelet, P.J. Stabeno, L. Li, A.B. Hollowed, W.A. Palsson, N.A. Bond, and S.J. Barbeaux (2019): How "The Blob" affected groundfish distributions in the Gulf of Alaska. *Fish. Oceanogr.*, 28(4), 434–453, <https://doi.org/10.1111/fog.12422>.

Zelinsky, R.C., C. Zhang, and C. Liu (2019): The relationship between the ITCZ and MJO initiation over the Indian Ocean. *J. Atmos. Sci.*, 76(8), 2275–2294, <https://doi.org/10.1175/JAS-D-18-0327.1>.

Zhang, D., M. Cronin, C. Meinig, T. Farrar, R. Jenkins, D. Peacock, J. Keene, and A. Sutton (2019): Air-sea flux measurements from a new unmanned surface vehicle compared to proven platforms during SPURS-2 field campaign. *Oceanography*, 32(2), 122–133, <https://doi.org/10.5670/oceanog.2019.220>.

## PUBLICATIONS FY 2018

Andrews, K.R., M. De Barba, and L.P. Waits (2018): Techniques for using non-invasive, archival, and environmental samples in population genomic studies. In *Population Genomics: Wildlife*.

Baker, C.S., D. Steel, S.L. Nieu Kirk, and H. Klinck (2018): Environmental DNA (eDNA) from the wake of the whales: Droplet digital PCR for detection and species identification. *Front. Mar. Sci.*, 5, 133, <https://doi.org/10.3389/fmars.2018.00133>.

Baker, E.T., S.L. Walker, J.A. Resing, W.W. Chadwick, Jr., S.G. Merle, M.O. Anderson, D.A. Butterfield, N.J. Buck, and S. Michael (2017): The effect of arc proximity on hydrothermal activity along spreading centers: New evidence from the Mariana back-arc (12.7°–18.3°N). *Geochem. Geophys. Geosyst.*, 18(11), 4211–4228, <https://doi.org/10.1002/2017GC007234>.

Ballinger, T.J., E. Hanna, R.J. Hall, T.E. Cropper, J. Miller, M.H. Ribergaard, J.E. Overland, and J.L. Høyer (2018): Anomalous blocking over Greenland preceded the 2013 extreme early melt of local sea ice. *Ann. Glaciol.*, 59(76.2), 181–190, <https://doi.org/10.1017/aog.2017.30>.

Benedetti, A., J.S. Reid, A. Baklanov, S. Basart, O. Boucher, I.M. Brooks, M. Brooks, P.R. Colarco, E. Cuevas, A. da Silva, F. di Giuseppe, J. Escribano, J. Flemming, N. Huneus, O. Jorba, S. Kazadzis, S. Kinne, P. Knippertz, P. Laj, J.H. Marsham, L. Menut, L. Mona, T. Popp, P.K. Quinn, S. Rémy, T.S. Sekiyama, T. Tanaka, E. Terradellas, and A. Wiedensohler (2018): Status and future of

numerical atmospheric aerosol prediction with a focus on data requirements. *Atmos. Chem. Phys.*, *18*, 10615–10643, <https://doi.org/10.5194/acp-18-10615-2018>.

Bond, N.A., P.J. Stabeno, and J. Napp (2018): Flow patterns in the Chukchi Sea based on an ocean reanalysis, June through October 1979–2014. *Deep-Sea Res. II*, *152*, 35–47, SOAR II, <https://doi.org/10.1016/j.dsr2.2018.02.009>.

Brainard, R.E., T. Oliver, M.J. McPhaden, A. Cohen, R. Venegas, A. Heenan, B. Vargas-Ángel, R. Rotjan, S. Mangubhai, E. Flint, and S.A. Hunter (2018): Ecological impacts of the 2015/16 El Niño in the central equatorial Pacific. *Bull. Am. Meteorol. Soc.*, *99*(1), S21–S26, Explaining Extreme Events of 2016 from a Climate Perspective, <https://doi.org/10.1175/BAMS-D-17-0128.1>.

Bronselaer, B., M. Winton, J. Russell, C.L. Sabine, and S. Khatiwala (2017): Agreement of CMIP5 simulated and observed ocean anthropogenic CO<sub>2</sub> uptake. *Geophys. Res. Lett.*, *44*(24), 12,298–12,305, <https://doi.org/10.1002/2017GL074435>.

Buck, N.J., J.A. Resing, E.T. Baker, and J.E. Lupton (2018): Chemical fluxes from a recently erupted shallow submarine volcano on the Mariana Arc. *Geochem. Geophys. Geosyst.*, *19*(5), 1660–1673, <https://doi.org/10.1029/2018GC007470>.

Carey, R., K. Orth, and W. Chadwick (2017): Meeting report: New frontiers and technologies in submarine volcanism research. *Eos. Trans. AGU*, *98*, AGU Chapman Conference on Submarine Volcanism: New Approaches and Research Frontier; Hobart, Tasmania, Australia, 29 January to 3 February 2017, <https://doi.org/10.1029/2017EO084205>.

Carter, B.R., R.A. Feely, N.L. Williams, A.G. Dickson, M.B. Fong, and Y. Takeshita (2018): Updated methods for global locally interpolated estimation of alkalinity, pH, and nitrate. *Limnol. Oceanogr. Methods*, *16*(2), 119–131, <https://doi.org/10.1002/lom3.10232>.

Cazenave, A., and The WCRP Global Sea Level Budget Group (2018): Global sea level budget 1993–present. *Earth Syst. Sci. Data*, *10*, 1551–1590, <https://doi.org/10.5194/essd-10-1551-2018>.  
**[HIGHLY CITED PAPER]**

Chatterjee, A., M.M. Gierach, A.J. Sutton, R.A. Feely, D. Crisp, A. Eldering, M.R. Gunson, C.W. O'Dell, B.B. Stephens, and D.S. Schimel (2017): Influence of El Niño on atmospheric CO<sub>2</sub> over the tropical Pacific Ocean: Findings from NASA's OCO-2 mission. *Science*, *358*(6360), eaam5776, <https://doi.org/10.1126/science.aam5776>.

Cheng, W., W. Weijer, W.M. Kim, G. Danabasoglu, S.G. Yeager, P.R. Gent, D. Zhang, J.C.H. Chiang, and J. Zhang (2018): Can the salt-advection feedback be detected in internal variability of the Atlantic meridional overturning circulation? *J. Climate*, *31*(16), 6649–6667, <https://doi.org/10.1175/JCLI-D-17-0825.1>.

Chiodi, A.M., N.S. Larkin, and J.M. Varner (2018): An analysis of southeastern U.S. prescribed burn weather windows: Seasonal variability and El Niño associations. *Int. J. Wildland Fire*, *27*(3), <https://doi.org/10.1071/WF17132>.

- Chock, G.Y.K., L. Carden, I. Robertson, Y. Wei, R. Wilson, and J. Hooper (2018): Tsunami resilient building design considerations for coastal communities of Washington, Oregon, and California. *J. Struct. Eng.*, 144(8), 04018116, [https://doi.org/10.1061/\(ASCE\)ST.1943-541X.0002068](https://doi.org/10.1061/(ASCE)ST.1943-541X.0002068).
- Clague, D.A., J.B. Paduan, D.W. Caress, W.W. Chadwick, M. Le Saout, B. Dreyer, and R. Portner (2017): High-resolution AUV mapping and targeted ROV observations of three historical lava flows at Axial Seamount. *Oceanography*, 30(4), 82–99, <https://doi.org/10.5670/oceanog.2017.426>.
- Clague, D.A., J.B. Paduan, B.M. Dreyer, W.W. Chadwick, Jr., K.R. Rubin, M.R. Perfit, and A.T. Fundis (2018): Chemical variations in the 1998, 2011, and 2015 lava flows from Axial Seamount, Juan de Fuca Ridge: Cooling during ascent, lateral transport, and flow. *Geochem. Geophys. Geosyst.*, 19(9), 2915–2933, <https://doi.org/10.1029/2018GC007708>.
- Cohen, J., X. Zhang, J. Francis, T. Jung, R. Kwok, J. Overland, P.C. Tayler, S. Lee, F. Laliberte, S. Feldstein, W. Maslowski, G. Henderson, J. Stroeve, D. Coumou, D. Handorf, T. Semmler, T. Ballinger, M. Hell, M. Kretschmer, S. Vavrus, M. Wang, S. Wang, Y. Wu, T. Vihma, U. Bhatt, M. Ionita, H. Linderholm, I. Rigor, C. Routson, D. Singh, M. Wendisch, D. Smith, J. Screen, J. Yoon, Y. Peings, H. Chen, and R. Blackport (2018): Arctic change and possible influence on mid-latitude climate and weather. US CLIVAR White Paper, US CLIVAR Report 2018-1, K. Uhlenbrock (ed.), US CLIVAR Project Office, 41 pp, <https://doi.org/10.5065/D6TH8KGW>.
- Constantine, R., T. Iwata, S.L. Nieukirk, and G. Penry (2018): Future directions in research on Bryde's whales. *Front. Mar. Sci.*, 5, 333, <https://doi.org/10.3389/fmars.2018.00333>.
- Courtney, T.A., M. Lebrato, N.R. Bates, A. Collins, S.J. de Putron, R. Garley, R. Johnson, J.C. Molinero, T.J. Noyes, C.L. Sabine, and A.J. Andersson (2017): Environmental controls on modern scleractinian coral and reef-scale calcification. *Sci. Adv.*, 3(11), e1701356, <https://doi.org/10.1126/sciadv.1701356>.
- Cross, J.N., J.T. Mathis, R.S. Pickart, and N.R. Bates (2018): Formation and transport of corrosive water in the Pacific Arctic region. *Deep-Sea Res. II*, 152, 67–81, SOAR II, <https://doi.org/10.1016/j.dsr2.2018.05.020>.
- Dahle, H., S.L. Bauer, T. Baumberger, R. Stokke, R.B. Pedersen, I.H. Thorseth, and I.H. Steen (2018): Energy landscapes in hydrothermal chimneys shape distributions of primary producers. *Front. Microbiol.*, 9, 1570, <https://doi.org/10.3389/fmicb.2018.01570>.
- Davis, G.E., M.F. Baumgartner, J.M. Bonnell, J. Bell, C. Berchok, J. Bort Thornton, S. Brault, G. Buchanan, R.A. Charif, D. Cholewiak, C.W. Clark, P. Corkeron, J. Delarue, K. Dudzinski, L. Hatch, J. Hildebrand, L. Hodge, H. Klinck, S. Kraus, B. Martin, D.K. Mellinger, H. Moors-Murphy, S. Nieukirk, D. Nowacek, S. Parks, A. Read, A.N. Rice, D. Risch, A. Širović, M. Soldevilla, K. Stafford, J. Stanistreet, E. Summers, S. Todd, A. Warde, and S.M. Van Parijs (2017): Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (*Eubalaena glacialis*) from 2004 to 2014. *Sci. Rep.*, 7, 13460, <https://doi.org/10.1038/s41598-017-13359-3>.

- Dilmen, D.I., G.H. Roe, Y. Wei, and V.V. Titov (2018): The role of near-shore bathymetry during tsunami inundation in a reef island setting: A case study of Tutuila Island. *Pure Appl. Geophys.*, 175(4), 1239–1256, <https://doi.org/10.1007/s00024-018-1769-1>.
- Dong, L., and M.J. McPhaden (2017): The effects of external forcing and internal variability on the formation of interhemispheric sea surface temperature gradient trends in the Indian Ocean. *J. Climate*, 30(22), 9077–9095, <https://doi.org/10.1175/JCLI-D-17-0138.1>.
- Dong, L., and M.J. McPhaden (2018): Unusually warm Indian Ocean sea surface temperatures help to arrest development of El Niño in 2014. *Sci. Rep.*, 8, 2249, <https://doi.org/10.1038/s41598-018-20294-4>.
- Durack, P.J., P.J. Gleckler, S.G. Purkey, G.C. Johnson, and J.M. Lyman (2018): Ocean warming: From the surface to the deep in observations and models. *Oceanography*, 31(2), 41–51, <https://doi.org/10.5670/oceanog.2018.227>.
- Dziak, R.P., H. Matsumoto, R.W. Embley, S.G. Merle, T.-K. Lau, T. Baumberger, S.R. Hammond, and N. Raineault (2018): Passive acoustic records of seafloor methane bubble streams on the Oregon continental margin. *Deep-Sea Res. II*, 150, 210–217, <https://doi.org/10.1016/j.dsr2.2018.04.001>.
- Embley, R.W., and K.H. Rubin (2018): Extensive young silicic volcanism produces large deep submarine lava flows in the NE Lau Basin. *Bull. Volcanol.*, 80, 36, <https://doi.org/10.1007/s00445-018-1211-7>.
- Eungard, D.W., C. Forson, T.J. Walsh, E. Gica, and D. Arcas (2018): Tsunami hazard maps of southwest Washington—Model results from a ~2,500-year Cascadia subduction zone earthquake scenario. Washington Geological Survey Map Series 2018-01, Washington State Department of Natural Resources, Washington Geological Survey, Olympia, WA, 11 pp., [http://www.dnr.wa.gov/publications/ger\\_ms2018-01\\_tsunami\\_hazard\\_southwest\\_washington.zip](http://www.dnr.wa.gov/publications/ger_ms2018-01_tsunami_hazard_southwest_washington.zip), 4 sheets, scale 1:48,000.
- Fassbender, A.J., S.R. Alin, R.A. Feely, A.J. Sutton, J.A. Newton, C. Krembs, J. Bos, M. Keyzers, A. Devol, W. Ruef, and G. Pelletier (2018): Seasonal carbonate chemistry variability in marine surface waters of the Pacific Northwest. *Earth Syst. Sci. Data*, 10, 1367–1401, <https://doi.org/10.5194/essd-10-1367-2018>.
- Feely, R.A., R.R. Okazaki, W.-J. Cai, N. Bednaršek, S.R. Alin, R.H. Byrne, and A. Fassbender (2018): The combined effects of acidification and hypoxia on pH and aragonite saturation in the coastal waters of the Californian Current Ecosystem and the northern Gulf of Mexico. *Cont. Shelf Res.*, 152, 50–60, <https://doi.org/10.1016/j.csr.2017.11.002>.
- Feely, R.A., R. Wanninkhof, B.R. Carter, P. Landschützer, A.J. Sutton, and J.A. Triñanes (2018): Global ocean carbon cycle. In *State of the Climate in 2017*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 99(8), S96–S100, <https://doi.org/10.1175/2018BAMSStateoftheClimate.1>.
- Fortunato, C.S., B. Larson, D.A. Butterfield, and J.A. Huber (2018): Spatially distinct, temporally stable microbial populations mediate biogeochemical cycling at and below the seafloor in hydrothermal vent fluids. *Environ. Microbiol.*, 20, 769–784, <https://doi.org/10.1111/1462-2920.14011>.

- Fournet, M.E.H., C.M. Gabriele, D.C. Culp, F. Sharpe, D.K. Mellinger, R. Payne, and H. Klinck (2018): Some things never change: Multi-decadal stability of humpback whale calling repertoire on Southeast Alaskan foraging grounds. *Sci. Rep.*, 8, 13186, <https://doi.org/10.1038/s41598-018-31527-x>.
- Fournet, M.E.H., L. Jacobsen, C.M. Gabriele, D.K. Mellinger, and H. Klinck (2018): More of the same: Allopatric humpback whale populations share acoustic repertoire. *PeerJ*, 6, e5365, <https://doi.org/10.7717/peerj.5365>.
- Fournet, M.E.H., L. Matthews, C.M. Gabriele, D.K. Mellinger, and H. Klinck (2018): Source levels of foraging humpback whale calls. *J. Acoust. Soc. Am.*, 143(2), EL105–EL111, <https://doi.org/10.1121/1.5023599>.
- Freitag, H.P., M.J. McPhaden, and K.J. Connell (2018): Comparison of ATLAS and T-Flex Mooring Data. NOAA Tech. Memo. OAR PMEL-149, NOAA/Pacific Marine Environmental Laboratory, Seattle, WA, <https://doi.org/10.25923/h4vn-a328>.
- Fu, Q., M. Smith, and Q. Yang (2018): The impact of cloud radiative effects on the tropical tropopause layer temperatures. *Atmosphere*, 9(10), 377, <https://doi.org/10.3390/atmos9100377>.
- Girishkumar, M.S., J. Joseph, V.P. Thangaprakash, V. Pottapinjara, and M.J. McPhaden (2017): Mixed layer temperature budget for northward propagating summer monsoon intraseasonal oscillation (MISO) in the central Bay of Bengal. *J. Geophys. Res.*, 122(11), 8841–8854, <https://doi.org/10.1002/2017JC013073>.
- Gourdeau, L., J. Verron, A. Chaigneau, S. Cravatte, and W.S. Kessler (2017): Complementary use of glider data, altimetry, and model for exploring mesoscale eddies in the tropical Pacific Solomon Sea. *J. Geophys. Res.*, 122(11), 9209–9229, <https://doi.org/10.1002/2017JC013116>.
- Hanna, E., R.J. Hall, and J.E. Overland (2017): Can Arctic warming influence UK extreme weather? *Weather*, 72, 346–352, <https://doi.org/10.1002/wea.2981>.
- Haver, S.M., J. Gedamke, L.T. Hatch, R.P. Dziak, S. Van Parijs, M.F. McKenna, J.P. Barlow, C. Berchok, E. DiDonato, B. Hanson, J. Haxel, M. Holt, D. Lipski, H. Matsumoto, C. Meinig, D.K. Mellinger, S.E. Moore, E.M. Oleson, M.S. Soldevilla, and H. Klinck (2018): Monitoring long-term soundscape trends in U.S. waters: The NOAA/NPS Ocean Noise Reference Station Network. *Mar. Policy*, 90, 6–13, <https://doi.org/10.1016/j.marpol.2018.01.023>.
- Hodgson, E.E., I.C. Kaplan, K.N. Marshall, J. Leonard, T.E. Essington, D.S. Busch, E.A. Fulton, C.J. Harvey, A. Hermann, and P. McElhany (2018): Consequences of spatially variable ocean acidification in the California Current: Lower pH drives strongest declines in benthic species in southern regions while greatest economic impacts occur in northern regions. *Ecol. Model.*, 383, 106–117, <https://doi.org/10.1016/j.ecolmodel.2018.05.018>.
- Honda, M.C., Y. Sasai, E. Siswanto, A. Kuwano-Yoshida, H. Aiki, and M.F. Cronin (2018): Impact of cyclonic eddies and typhoons on biogeochemistry in the oligotrophic ocean based on

- biogeochemical/physical/meteorological time-series at station KEO. *Prog. Earth Planet. Sci.*, 5, 42, <https://doi.org/10.1186/s40645-018-0196-3>.
- Hu, Z.-Z., B. Huang, J. Zhu, A. Kumar, and M.J. McPhaden (2018): On the variety of coastal El Niño events. *Clim. Dyn.*, 52, 7537–7552, <https://doi.org/10.1007/s00382-018-4290-4>.
- Hunt, Jr., G.L., M. Renner, K.J. Kuletz, S. Salo, L. Eisner, P. Ressler, C. Ladd, and J.A. Santora (2018): Timing of sea-ice-retreat affects the distribution of seabirds and their prey in the southeastern Bering Sea. *Mar. Ecol. Prog. Ser.*, 593, 209–230, <https://doi.org/10.3354/meps12383>.
- Jackson, J.M., G.C. Johnson, H.V. Dosser, and T. Ross (2018): Warming from recent marine heat wave lingers deep in British Columbia fjord. *Geophys. Res. Lett.*, 45(18), 9757–9764, <https://doi.org/10.1029/2018GL078971>.
- Jayakumar, A., B.X. Chang, B. Widner, P. Bernhardt, M.R. Mullholland, and B.B. Ward (2017): Biological nitrogen fixation in the oxygen-minimum region of the eastern tropical North Pacific Ocean. *ISME J.*, 11(10), 2356–2367, <https://doi.org/10.1038/ismej.2017.97>.
- Johnson, G.C. (2018): Overview. In *State of the Climate in 2017*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 99(8), S69, <https://doi.org/10.1175/2018BAMSStateoftheClimate.1>.
- Johnson, G.C., J.M. Lyman, T. Boyer, C.M. Domingues, J. Gilson, M. Ishii, R. Killick, D. Monselan, and S. Wijffels (2018): Ocean heat content. In *State of the Climate in 2017*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 99(8), S72–S77, <https://doi.org/10.1175/2018BAMSStateoftheClimate.1>.
- Johnson, G.C., J. Reagan, J.M. Lyman, T. Boyer, C. Schmid, and R. Locarnini (2018): Salinity. In *State of the Climate in 2017*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 99(8), S77–S81, <https://doi.org/10.1175/2018BAMSStateoftheClimate.1>.
- Johnson, G.C., and P.J. Stabeno (2017): Deep Bering Sea circulation and variability, 2001–2016, from Argo data. *J. Geophys. Res.*, 122(12), 9765–9779, <https://doi.org/10.1002/2017JC013425>.
- Kawamura, K., M.M.M. Hoque, T.S. Bates, and P.K. Quinn (2017): Molecular distributions and isotopic compositions of organic aerosols over the western North Atlantic: Dicarboxylic acids, related compounds, sugars, and secondary organic aerosol tracers. *Org. Geochem.*, 113, 229–238, <https://doi.org/10.1016/j.orggeochem.2017.08.007>.
- Ke, Q., W. Weaver, A. Pore, B. Gorgoglione, J. Halo Wildschutte, P. Xiao, B.S. Shepherd, A. Spear, K. Malathi, C.A. Stepien, V.N. Vakharia, and D.W. Leaman (2017): Role of Viral Hemorrhagic Septicemia Virus Matrix (M) protein in suppressing host transcription. *J. Virol.*, 91(19), e00279-17, <https://doi.org/10.1128/JVI.00279-17>.
- Keene, W.C., M.S. Long, J.S. Reid, A.A. Frossard, D.J. Kieber, J.R. Maben, L.M. Russell, J.D. Kinsey, P.K. Quinn, and T.S. Bates (2017): Factors that modulate properties of primary marine aerosol generated from ambient seawater on ships at sea. *J. Geophys. Res.*, 122(21), 11,961–11,990, <https://doi.org/10.1002/2017JD026872>.



- Khodri, M., T. Izumo, J. Vialard, S. Janicot, C. Cassou, M. Lengaigne, J. Mignot, G. Gastineau, E. Guilyardi, N. Lebas, A. Robock, and M.J. McPhaden (2017): Tropical explosive volcanic eruptions can trigger El Niño events by cooling tropical Africa. *Nature Commun.*, 8, 778, <https://doi.org/10.1038/s41467-017-00755-6>.
- Kim, J.-E., C. Zhang, G.N. Kiladis, and P. Bechtold (2018): Heating and moistening of the MJO during DYNAMO in ECMWF reforecasts. *J. Atmos. Sci.*, 75(5), 1429–1452, <https://doi.org/10.1175/JAS-D-17-0170.1>.
- Kumar, V., A. Melet, B. Meyssignac, A. Ganachaud, W.S. Kessler, A. Singh, and J. Aucan (2018): Reconstruction of local sea levels at southwest Pacific islands—A multiple linear regression approach (1988–2014). *J. Geophys. Res.*, 123(2), 1502–1518, <https://doi.org/10.1002/2017JC013053>.
- Le Quéré, C., R.M. Andrew, P. Friedlingstein, S. Sitch, J. Pongratz, A.C. Manning, J.I. Korsbakken, G.P. Peters, J.G. Canadell, R.B. Jackson, T.A. Boden, P.P. Tans, O.D. Andrews, V.K. Arora, D.C.E. Bakker, L. Barbero, M. Becker, R.A. Betts, L. Bopp, F. Chevallier, L.P. Chini, P. Ciais, C.E. Cosca, J. Cross, K. Currie, T. Gasser, I. Harris, J. Hauck, V. Haverd, R.A. Houghton, C.W. Hunt, G. Hurtt, T. Ilyina, A.K. Jain, E. Kato, M. Kautz, R.F. Keeling, K. Klein Goldewijk, A. Körtzinger, P. Landschützer, N. Lefèvre, A. Lenton, S. Lienert, I. Lima, D. Lombardozi, N. Metzl, F. Millero, P.M.S. Monteiro, D.R. Munro, J.E.M.S. Nabel, S.-I. Nakaoka, Y. Nojiri, X.A. Padn, A. Pregon, B. Pfeil, D. Pierrot, B. Poulter, G. Rehder, J. Reimer, C. Rödenbeck, J. Schwinger, R. Séférian, I. Skjelvan, B.D. Stocker, H. Tian, B. Tilbrook, I.T. van der Laan-Luijkx, G.R. van der Werf, S. van Heuven, N. Viovy, N. Vuichard, A.P. Walker, A.J. Watson, A.J. Wiltshire, S. Zaehle, and D. Zhu (2018): Global Carbon Budget 2017. *Earth Sys. Sci. Data*, 10, 405–448, <https://doi.org/10.5194/essd-10-405-2018>. [HIGHLY CITED PAPER]
- Levine, A.F.Z., D.M.W. Frierson, and M.J. McPhaden (2018): AMO forcing of multidecadal Pacific ITCZ variability. *J. Climate*, 31(14), 5749–5764, <https://doi.org/10.1175/JCLI-D-17-0810.1>.
- Li, T., L. Wang, M. Peng, B. Wang, C. Zhang, W. Lau, and H.-C. Kuo (2018): A paper on the tropical intraseasonal oscillation published in 1963 in a Chinese journal. *Bull. Am. Meteorol. Soc.*, 99(9), 1765–1779, <https://doi.org/10.1175/BAMS-D-17-0216.1>.
- Li, X., M.A. Janiga, S. Wang, W.-K. Tao, A. Rowe, W. Xu, C. Liu, T. Matsui, and C. Zhang (2018): Evolution of precipitation structure during November DYNAMO MJO event: Cloud-resolving model intercomparison and cross-validation using radar observations. *J. Geophys. Res.*, 123(7), 3530–3555, <https://doi.org/10.1002/2017JD027775>.
- Lindquist, A., A. Sutton, A. Devol, A. Winans, A. Coyne, B. Bodenstein, B. Curry, B. Herrmann, B. Sackmann, B. Tyler, C. Maloy, C. Greengrove, C. Fanshier, C. Krembs, C. Sabine, C. Cook, C. Hard, C. Greene, D. Lowry, D. Harvell, E. McPhee-Shaw, E. Haphey, G. Hannach, H. Bohlmann, H. Burgess, I. Smith, I. Kemp, J. Newton, J. Borchert, J. Mickett, J. Apple, J. Bos, J. Parrish, J. Ruffner, J. Keister, J. Masura, K. Devitt, K. Bumbaco, K. Stark, L. Hermanson, L. Claassen, L. Swanson, M. Burger, M. Schmidt, M. McCartha, M. Peacock, M. Eisenlord, M. Keyzers, N. Christman, N. Hamel, N. Burnett, N. Bond, O. Graham, P. Biondo, P. Hodum, R. Wilborn, R.A. Feely, S. Pearson, S. Alin, S. Albertson, S. Moore, S. Jaeger, S. Pool, S. Musielwicz, T. King, T.

- Good, T. Jones, T. Ross, T. Sandell, T. Burks, V. Trainer, V. Bowes, W. Ruef, and W. Eash-Loucks (2017): *Puget Sound Marine Waters: 2016 Overview*. S. Moore, R. Wold, K. Stark, J. Bos, P. Williams, N. Hamel, A. Edwards, C. Krembs, and J. Newton (eds.), NOAA Northwest Fisheries Science Center for the Puget Sound Ecosystem Monitoring Program's (PSEMP) Marine Waters Workgroup.
- Meléndez, M., J. Salisbury, D. Gledhill, C. Langdon, J.M. Morell, D. Manzello, S. Musielewicz, and A.J. Sutton (2018): Seasonal net ecosystem metabolism of the near-shore reef system in La Parguera, Puerto Rico. *Biogeosciences Disc.*, <https://doi.org/10.5194/bg-2018-408>.
- Moore, S.E., P.J. Stabeno, J.M. Grebmeier, and S.R. Okkonen (2018): The Arctic Marine Pulses Model: Linking annual oceanographic processes to contiguous ecological domains in the Pacific Arctic. *Deep-Sea Res. II*, 152, 8–21, SOAR II, <https://doi.org/10.1016/j.dsr2.2016.10.011>.
- Moore, S.E., P.J. Stabeno, and T.I. Van Pelt (2018): The Synthesis of Arctic Research (SOAR) project. *Deep-Sea Res. II*, 152, 1–7, SOAR II, <https://doi.org/10.1016/j.dsr2.2018.05.013>.
- Nagura, M., and M.J. McPhaden (2018): The shallow overturning circulation in the Indian Ocean. *J. Phys. Oceanogr.*, 48(2), 413–434, <https://doi.org/10.1175/JPO-D-17-0127.1>.
- Newton, J., T. Klinger, and R.A. Feely (2017): Invest in Washington's Ability to Monitor and Investigate the Causes and Effects of Ocean Acidification. Chapter 7 in *2017 Addendum to Ocean Acidification: From Knowledge to Action, Washington State's Strategic Response*, EnviroIssues (ed.), Seattle, Washington. Available at [www.OAinWA.org](http://www.OAinWA.org).
- Newton, J., T. Klinger, and R.A. Feely (2017): Ocean Acidification in Washington Marine Waters. Chapter 2 in *2017 Addendum to Ocean Acidification: From Knowledge to Action, Washington State's Strategic Response*, EnviroIssues (ed.), Seattle, Washington. Available at [www.OAinWA.org](http://www.OAinWA.org).
- Ohishi, S., T. Tozuka, and M.F. Cronin (2017): Frontogenesis in the Agulhas Return Current region simulated by a high-resolution CGCM. *J. Phys. Oceanogr.*, 47(11), 2691–2710, <https://doi.org/10.1175/JPO-D-17-0038.1>.
- Oliver, E.C.J., M.G. Donat, M.T. Burrows, P.J. Moore, D.A. Smale, L.V. Alexander, J.A. Benthuisen, M. Feng, A. Sen Gupta, A.J. Hobday, N.J. Holbrook, S.E. Perkins-Kirkpatrick, H.A. Scannell, S.C. Straub, and T. Wernberg (2018): Longer and more frequent marine heatwaves over the past century. *Nature Commun.*, 9, 1324, <https://doi.org/10.1038/s41467-018-03732-9>. [HIGHLY CITED PAPER]
- Overland, J., E. Hanna, I. Hanssen-Bauer, S.-J. Kim, J.E. Walsh, M. Wang, U.S. Bhatt, and R.L. Thoman (2018): Surface air temperature, in *State of the Climate in 2017*, The Arctic. *Bull. Am. Meteorol. Soc.*, 99(8), S144–S146, <https://doi.org/10.1175/2018BAMSStateoftheClimate.1>.
- Overland, J.E., and M. Wang (2017): Potential Arctic connections to eastern North American cold winters. *Czech Polar Reports*, 7(2), *Proceedings of the Arctic Science Summit Week 2017*, Prague, Czech Republic, 31 March–7 April 2017.

- Overland, J.E., and M. Wang (2018): Arctic-midlatitude weather linkages in North America. *Polar Sci.*, 16, 1–9, <https://doi.org/10.1016/j.polar.2018.02.001>.
- Overland, J.E., and M. Wang (2018): Resolving future Arctic/midlatitude weather connections. *Earth's Future*, 6(8), 1146–1152, <https://doi.org/10.1029/2018EF000901>.
- Overland, J.E., M. Wang, and T.J. Ballinger (2018): Recent increased warming of the Alaskan marine Arctic due to midlatitude linkages. *Adv. Atmos. Sci.*, 35(1), 75–84, <https://doi.org/10.1007/s00376-017-7026-1>.
- Pelland, N.A., C.C. Eriksen, S.R. Emerson, and M.F. Cronin (2018): Seaglider surveys at Ocean Station Papa: Oxygen kinematics and upper-ocean metabolism. *J. Geophys. Res.*, 123(9), 6408–6427, <https://doi.org/10.1029/2018JC014091>.
- Pelletier, G., M. Roberts, M. Keyzers, and S.R. Alin (2018): Seasonal variation in aragonite saturation in surface waters of Puget Sound—A pilot study. *Elementa*, 6(1), 5, <https://doi.org/10.1525/elementa.270>.
- Percival, D.B., D.W. Denbo, E. Gica, P.Y. Huang, H.O. Mofjeld, M.C. Spillane, and V.V. Titov (2018): Evaluating the effectiveness of DART<sup>®</sup> buoy networks based on forecast accuracy. *Pure Appl. Geophys.*, 175(4), 1445–1471, <https://doi.org/10.1007/s00024-018-1824-y>.
- Pilcher, D.J., S.A. Siedlecki, A.J. Hermann, K.O. Coyle, J.T. Mathis, and W. Evans (2018): Simulated impact of glacial runoff on CO<sub>2</sub> uptake in the coastal Gulf of Alaska. *Geophys. Res. Lett.*, 45(2), 880–890, <https://doi.org/10.1002/2017GL075910>.
- Pujiana, K., and M.J. McPhaden (2018): Ocean's response to the convectively coupled Kelvin waves in the eastern equatorial Indian Ocean. *J. Geophys. Res.*, 123(8), 5727–5741, <https://doi.org/10.1029/2018JC013858>.
- Purkey, S.G., W.M. Smethie, Jr., G. Gebbie, A.L. Gordon, R.E. Sonnerup, M.J. Warner, and J.L. Bullister (2018): A synoptic view of the ventilation and circulation of Antarctic Bottom Water from chlorofluorocarbons and natural tracers. *Annu. Rev. Mar. Sci.*, 10, 503–527, <https://doi.org/10.1146/annurev-marine-121916-063414>.
- Puy, M., J. Vialard, M. Lengaigne, E. Guilyardi, P.N. DiNezio, A. Voltaire, M. Balmaseda, G. Madec, C. Menkes, and M.J. McPhaden (2017): Influence of Westerly Wind Events stochasticity on El Niño amplitude: the case of 2014 vs. 2015. *Clim. Dyn.*, 52, 7435–7454, <https://doi.org/10.1007/s00382-017-3938-9>. [HIGHLY CITED PAPER]
- Rabinovich, A.B., V.V. Titov, C.W. Moore, and M.C. Eblé (2017): The 2004 Sumatra tsunami in the southeastern Pacific Ocean: New global insight from observations and modeling. *J. Geophys. Res.*, 122, 7992–8019, <https://doi.org/10.1002/2017JC013078>.
- Sabine, C.L. (2017): Hot and sour in the deep ocean. *Nature Clim. Change*, 7(12), 854–855, <https://doi.org/10.1038/s41558-017-0018-4>.

- Sanchez, K.J., C.-L. Chen, L.M. Russell, R. Betha, J. Liu, D.J. Price, P. Massoli, L.D. Ziemba, E.C. Crosbie, R.H. Moore, M. Müller, S.A. Schiller, A. Wisthaler, A.K.Y. Lee, P.K. Quinn, T.S. Bates, J. Porter, T.G. Bell, E.S. Saltzman, R.D. Vaillancourt, and M.J. Behrenfeld (2018): Substantial seasonal contribution of observed biogenic sulfate particles to cloud condensation nuclei. *Sci. Rep.*, 8, 3235, <https://doi.org/10.1038/s41598-018-21590-9>.
- Sanial, V., L.E. Kipp, P.B. Henderson, P. van Beek, J.-L. Reyss, D.E. Hammond, N.J. Hawco, M.A. Saito, J.A. Resing, P. Sedwick, W.S. Moore, and M.A. Charette (2018): Radium-228 as a tracer of dissolved trace element inputs from the Peruvian continental margin. *Mar. Chem.*, 201, 20–34, <https://doi.org/10.1016/j.marchem.2017.05.008>.
- Santora, J.A., L.B. Eisner, K.J. Kuletz, C. Ladd, M. Renner, and G.L. Hunt, Jr. (2018): Biogeography of seabirds within a high-latitude ecosystem: Use of a data-assimilative ocean model to assess impacts of mesoscale oceanography. *J. Mar. Syst.*, 178, 38–51, <https://doi.org/10.1016/j.jmarsys.2017.10.006>.
- Santoso, A., M.J. McPhaden, and W. Cai (2017): The defining characteristics of ENSO extremes and the strong 2015/2016 El Niño. *Rev. Geophys.*, 55(4), 1079–1129, <https://doi.org/10.1002/2017RG000560>. [HIGHLY CITED PAPER]
- Scannell, H., and M.J. McPhaden (2018): Seasonal mixed layer temperature balance in the southeastern tropical Atlantic. *J. Geophys. Res.*, 123(8), 5557–5570, <https://doi.org/10.1029/2018JC014099>.
- Schlitzer, R., R.F. Anderson, E. Masferrer Dodas, M. Lohan, W. Geibert, A. Tagliabue, A. Bowie, C. Jeandel, M.T. Maldonado, W. Landing, D. Cockwell, C. Abadie, W. Abouchami, E.P. Achterberg, A. Agather, A. Aguliar-Islas, H.M. van Aken, M. Andersen, C. Archer, M. Auro, H.J. de Baar, O. Baars, A.R. Baker, K. Bakker, C. Basak, M. Baskaran, N.R. Bates, D. Bauch, P. van Beek, M.K. Behrens, E. Black, K. Bluhm, L. Bopp, H. Bouman, K. Bowman, J. Bown, P. Boyd, M. Boye, E.A. Boyle, P. Branell, L. Bridgestock, G. Brissebrat, T. Browning, K.W. Bruland, H.-J. Brumsack, M. Brzezinski, C.S. Buck, K.N. Buck, K. Buesseler, A. Bull, E. Butler, P. Cai, P. Cámara Mor, C. Carlson, G. Carrasco, N. Casacuberta, K.L. Casciotti, M. Castrillejo, E. Chamizo, R. Chance, M.A. Charette, J.E. Chaves, H. Cheng, F. Chever, M. Christl, T.M. Church, A. Colman, T. Conway, D. Cossa, P. Croot, J.T. Cullen, C. Daniels, F. Dehairs, F. Deng, H.T. Dieu, G. Dulaquais, Y. Echegoyen-Sanz, R.L. Edwards, E. Fahrbach, J.N. Fitzsimmons, A.R. Flegal, M.Q. Fleisher, T. van de Flierdt, M. Frank, J. Friedrich, F. Fripiat, H. Fröllje, S.J.G. Galer, T. Gamo, R. Ganeshram, J. Garcia-Orellana, E. Garcia-Solsona, M. Gault-Ringold, E. George, L.J.A. Gerringa, M. Gilbert, J.M. Godoy, S.L. Goldstein, S.R. Gonzalez, K. Grissom, C. Hammerschmidt, A. Hartman, C.S. Hassler, E.C. Hathorne, M. Hatta, N. Hawco, C.T. Hayes, L.-E. Heimbürger, J. Helgoe, M. Heller, G.M. Henderson, P.B. Henderson, S. van Heuven, P. Ho, T.J. Horner, Y.-T. Hsieh, K.-F. Huang, K. Isshiki, J.E. Jacquot, D.J. Janssen, W.J. Jenkins, S. John, D.C. Kadko, T.C. Kenna, R. Khondoker, T. Kim, L. Kipp, J.K. Klar, M. Klunder, S. Kretschmer, Y. Kumamoto, P. Laan, M. Labatut, F. Lacan, P.J. Lam, M. Lambelet, C.H. Lamborg, F.A.C. Le Moigne, E. Le Roy, O. Lechtenfeld, J.-M. Lee, P. Lherminier, S. Little, M. López-Lora, Y. Lu, P. Masque, E. Mawji, C.R. McClain, C. Measures, S. Mehic, J.-L. Menzel Barraqueta, P. van der Merwe, R. Middag, S. Mieruch, A. Milne, T. Minami, J.W. Moffett, G. Moncoiffe, W.S. Moore, P. Morris, P.L. Morton, Y. Nakaguchi, N. Nakayama, J. Niedermiller, J. Nishioka, A. Nishiuchi, A. Noble, H. Obata, D.C. Ohnemus, J. van Ooijen, S. Owens, K. Pahnke, M. Paul, F. Pavia, L.D. Pena, B. Peters, F. Planchon, H. Planquette,

C. Pradoux, V. Puigcorbé, P. Quay, F. Queroue, A. Radic, S. Rauschenberg, M. Rehkamper, R. Rember, T. Remenyi, J.A. Resing, S. Rigaud, M.J.A. Rijkenberg, S. Rintoul, L.F. Robinson, M. Roca-Martí, V. Rodellas, T. Roeske, J.M. Rolison, M. Rosenberg, S. Roshan, M.M. Rutgers van der Loeff, E. Ryabenko, L.A. Salt, V. Sanial, G. Sarthou, C. Schallenberg, U. Schauer, H. Scher, C. Schlosser, B. Schnetger, P. Scott, P.N. Sedwick, I. Semiletov, R. Shelley, R. Sherrell, A.M. Shiller, D. Sigman, S.K. Singh, H.A. Slagter, E. Slater, W.M. Smethie, H. Snaith, Y. Sohrin, B. Sohst, J.E. Sonke, S. Speich, R. Steinfeldt, G. Stewart, T. Stichel, C.H. Stirling, J. Stutsman, J.H. Swift, A. Thomas, K. Thorne, C.P. Till, R. Till, A.T. Townsend, E. Townsend, R. Tuerena, B.S. Twining, D. Vance, C. Venchiarutti, M. Villa-Alfageme, S.M. Vivancos, A.H.L. Voelker, B. Wake, M.J. Warner, R. Watson, E. van Weerlee, A. Weigand, D. Weiss, A. Wisotzki, M.S. Woodward, J. Wu, Y. Wu, K. Wuttig, N. Wyatt, Y. Xiang, R.C. Xie, Z. Xue, H. Yoshikawa, J. Zhang, P. Zhang, L. Zheng, X.-Y. Zheng, M. Zieringer, L.A. Zimmer, P. Ziveri, P. Zunino, and C. Zurbrick (2018): The GEOTRACES Intermediate Data Product 2017. *Chem. Geol.*, 493, 210–223, <https://doi.org/10.1016/j.chemgeo.2018.05.040>. [HIGHLY CITED PAPER]

Seabrook, S., F.C. De Leo, T. Baumberger, N. Raineault, and A.R. Thurber (2018): Heterogeneity of methane seep biomes in the northeast Pacific. *Deep-Sea Res. II*, 150, 195–209, <https://doi.org/10.1016/j.dsr2.2017.10.016>.

Shepherd, B.S., A.R. Spear, A.M. Phillip, D.W. Leaman, C.A. Stepien, O.J. Sepulveda-Villet, D.E. Palmquist, and M.M. Vijayan (2018): Effects of cortisol and lipopolysaccharide on expression of select growth-, stress- and immune-related genes in rainbow trout liver. *Fish Shellfish Immunol.*, 74, 410–418, <https://doi.org/10.1016/j.fsi.2018.01.003>.

Siedlecki, S.A., D.J. Pilcher, A.J. Hermann, K. Coyle, and J. Mathis (2017): The importance of freshwater to spatial variability of aragonite saturation state in the Gulf of Alaska. *J. Geophys. Res.*, 122(11), 8482–8502, <https://doi.org/10.1002/2017JC012791>.

Spietz, R.L., D.A. Butterfield, N.J. Buck, B.I. Larson, W.W. Chadwick, Jr., S.L. Walker, D.S. Kelley, and R.M. Morris (2018): Deep-sea volcanic eruptions create unique chemical and biological linkages between the subsurface lithosphere and oceanic hydrosphere. *Oceanography*, 31(1), 128–135, <https://doi.org/10.5670/oceanog.2018.120>.

Stabeno, P., N. Kachel, C. Ladd, and R. Woodgate (2018): Flow patterns in the eastern Chukchi Sea: 2010–2015. *J. Geophys. Res.*, 123(2), 1177–1195, <https://doi.org/10.1002/2017JC013135>.

Stepien, C.A., M.R. Snyder, and C.T. Knight (2018): Genetic divergence of nearby walleye spawning groups in central Lake Erie: Implications for management. *N. Am. J. Fish. Manage.*, 38(4), 783–793, <https://doi.org/10.1002/nafm.10176>.

Stucker, V.K., S.L. Walker, C.E.J. de Ronde, F. Caratori Tontini, and S. Tsuchida (2017): Hydrothermal venting at Hinepuia submarine volcano, Kermadec arc: Understanding magmatic hydrothermal fluid chemistry. *Geochem. Geophys. Geosyst.*, 18(10), 3646–3661, <https://doi.org/10.1002/2016GC006713>.

- Tabisola, H.M., P.J. Stabeno, and C.W. Mordy (2017): Using a biophysical mooring as a sentinel for ecosystem change: The story of M2. In *MTS/IEEE Oceans 17 Anchorage*, Anchorage, Alaska, 18–21 September 2017.
- Tajbakhsk, F., C.A. Stepien, A. Abdoli, N. Tabatabaei, and B.H. Kiabi (2018): Geometric morphometric and meristic analysis of the deepwater goby, *Ponticola bathybius* (Kessler, 1877) (Teleostei: Gobiidae) in the Iranian waters of the Caspian Sea. *Iranian Journal of Ichthyology*, 5(1), 64–73.
- Timmermann, A., S.-I. An, J.-S. Kug, F.-F. Jin, W. Cai, A. Capotondi, K. Cobb, M. Lengaigne, M.J. McPhaden, M. Stuecker, K. Stein, A. Wittenberg, K.-S. Yun, T. Bayr, H.-C. Chen, Y. Chikamoto, B. Dewitte, D. Dommenges, P. Grothe, E. Guilyardi, Y.-G. Ham, M. Hayashi, S. Ineson, D. Kang, S. Kim, W. Kim, J.-Y. Lee, T. Li, J.-J. Luo, S. McGregor, Y. Planton, S. Power, H. Rashid, H. Ren, A. Santoso, K. Takahashi, A. Todd, G. Wang, G. Wang, R. Xie, W.-H. Yang, S.-W. Yeh, J. Yoon, E. Zeller, and X. Zhang (2018): El Niño/Southern Oscillation complexity. *Nature*, 559(535–545), <https://doi.org/10.1038/s41586-018-0252-6>. [HIGHLY CITED PAPER]
- Timmermans, M.-L., C. Ladd, and K. Wood (2018): Sea Surface Temperature, in *State of the Climate in 2017*, The Arctic. *Bull. Am. Meteorol. Soc.*, 99(8), S146–S147, <https://doi.org/10.1175/2018BAMSStateoftheClimate.1>.
- Torres, L.G., S.L. Niekirk, L. Lemos, and T.E. Chandler (2018): Drone up! Quantifying whale behavior from a new perspective improves observational capacity. *Front. Mar. Sci.*, 5, 319, <https://doi.org/10.3389/fmars.2018.00319>.
- Tozuka, T., S. Ohishi, and M.F. Cronin (2018): A metric for surface heat flux effect on horizontal sea surface temperature gradients. *Clim. Dyn.*, 51(1–2), 547–561, <https://doi.org/10.1007/s00382-017-3940-2>.
- Trebitz, A., J. Hoffman, J. Darling, E. Pilgrim, J. Kelly, E. Brown, W. Chadderton, S. Egan, E. Grey, S. Hashsham, K. Klymus, A. Mahon, J. Ram, M. Schjultz, C.A. Stepien, and J. Schardt (2017): Early detection monitoring for aquatic non-indigenous species: Optimizing surveillance, incorporating advanced technologies, and identifying research needs. *J. Environ. Manage.*, 202(1), 299–310, <https://doi.org/10.1016/j.jenvman.2017.07.045>.
- Tsai, C., M. Spolaor, S. Fedele Colosimo, O. Pikelnaya, R. Cheung, E. Williams, J.B. Gilman, B.M. Lerner, R.J. Zamora, C. Warneke, J.M. Roberts, R. Ahmadov, J. de Gouw, T. Bates, P.K. Quinn, and J. Stutz (2018): Nitrous acid formation in a snow-free wintertime polluted rural area. *Atmos. Chem. Phys.*, 18, 1977–1996, <https://doi.org/10.5194/acp-18-1977-2018>.
- Wang, B., S.-S. Lee, D.E. Waliser, C. Zhang, A. Sobel, E. Maloney, T. Li, X. Jiang, and K.-J. Ha (2018): Dynamics-oriented diagnostics for the Madden-Julian Oscillation. *J. Climate*, 31(8), 3117–3135, <https://doi.org/10.1175/JCLI-D-17-0332.1>.
- Wang, M., Q. Yang, J.E. Overland, and P.J. Stabeno (2018): Sea-ice cover timing in the Pacific Arctic: The present and projections to mid-century by selected CMIP5 models. *Deep-Sea Res. II*, 152, 22–34, SOAR II, <https://doi.org/10.1016/j.dsr2.2017.11.017>.

- Weirathmueller, M.J., K.M. Stafford, W.S.D. Wilcock, R.P. Dziak, and A.M. Tréhu (2017): Spatial and temporal trends in fin whale vocalizations recorded in the NE Pacific Ocean between 2003-2013. *PLoS ONE*, 12(10), e0186127, <https://doi.org/10.1371/journal.pone.0186127>.
- Widner, B., C.W. Mordy, and M.R. Mulholland (2018): Cyanate distribution and uptake above and within the eastern tropical South Pacific oxygen deficient zone. *Limnol. Oceanogr.*, 63(S1), S177–S192, <https://doi.org/10.1002/lno.10730>.
- Wilcock, W.S.D., R.P. Dziak, M. Tolstoy, W.W. Chadwick, Jr., S.L. Nooner, D.R. Bohnenstiehl, J. Caplan-Auerbach, F. Waldhauser, A.F. Arnulf, C. Baillard, T.-K. Lau, J.H. Haxel, Y.J. Tan, C. Garcia, S. Levy, and M.E. Mann (2018): The recent volcanic history of Axial Seamount: Geophysical insights into past eruption dynamics with an eye toward enhanced observations of future eruptions. *Oceanography*, 31(1), 114–123, <https://doi.org/10.5670/oceanog.2018.117>.
- Williams, N.L., L.W. Juranek, R.A. Feely, J.L. Russell, K.S. Johnson, and B. Hales (2018): Assessment of the carbonate chemistry seasonal cycles in the Southern Ocean from persistent observational platforms. *J. Geophys. Res.*, 123(7), 4833–4852, <https://doi.org/10.1029/2017JC012917>.
- Williams, P.D., M.J. Alexander, E.A. Barnes, A.H. Butler, H.C. Davies, C.I. Garfinkel, Y. Kushnir, T.P. Lane, J.K. Lundquist, O. Martius, R.N. Maue, W.R. Peltier, K. Sato, A.A. Scaife, and C. Zhang (2017): A census of atmospheric variability from seconds to decades. *Geophys. Res. Lett.*, 44(21), 11,201–11,211, <https://doi.org/10.1002/2017GL075483>.
- Wood, K.R., S.R. Jayne, C.W. Mordy, N. Bond, J.E. Overland, C. Ladd, P.J. Staben, A.K. Ekholm, P.E. Robbins, M.-B. Schreck, R. Heim, and J. Intrieri (2018): Results of the first Arctic Heat Open Science Experiment. *Bull. Am. Meteorol. Soc.*, 99(3), 513–520, <https://doi.org/10.1175/BAMS-D-16-0323.1>.
- Xu, G., W.W. Chadwick, Jr., W.S.D. Wilcock, K.G. Bemis, and J. Delaney (2018): Observation and modeling of hydrothermal response to the 2015 eruption at Axial Seamount, northeast Pacific. *Geochem. Geophys. Geosyst.*, 19(8), 2780–2797, <https://doi.org/10.1029/2018GC007607>.
- Xue, L., W.-J. Cai, A.J. Sutton, and C.L. Sabine (2017): Sea surface aragonite saturation state variations and control mechanisms at the Gray's Reef time-series site off Georgia, USA (2006–2007). *Mar. Chem.*, 195, 27–40, <https://doi.org/10.1016/j.marchem.2017.05.009>.
- Yeh, S.-W., W. Cai, S.-K. Min, M.J. McPhaden, D. Dommenges, B. Dewitte, M. Collins, K. Ashok, S.-I. An, B.-Y. Yim, and J.-S. Kug (2018): ENSO atmospheric teleconnections and their response to greenhouse gas forcing. *Rev. Geophys.*, 56, 185–206, <https://doi.org/10.1002/2017RG000568>.  
**[HIGHLY CITED PAPER]**
- Zhang, C., and B.S. Zhang (2018): QBO-MJO Connection. *J. Geophys. Res.*, 123(6), 2957–2967, <https://doi.org/10.1002/2017JD028171>.
- Zhang, D., M.F. Cronin, X. Lin, R. Inoue, A. Fassbender, S. Bishop, and A. Sutton (2017): Observing air-sea interaction in the western boundary currents and their extension regions: Considerations for OceanObs 2019. *CLIVAR Variations*, 15(4), 23–30.

Zhang, Y., M. Feng, Y. Du, H.E. Philips, N.L. Bindoff, and M.J. McPhaden (2018): Strengthened Indonesian Throughflow drives decadal warming in the Southern Indian Ocean. *Geophys. Res. Lett.*, 45(12), 6167–6175, <https://doi.org/10.1029/2018GL078265>.

## PUBLICATIONS FY 2017

Aguilar-Islas, A.M., M.J.M. Séguret, R. Rember, K. Buck, P. Proctor, C.W. Mordy, and N.B. Kachel (2016): Temporal variability of reactive iron over the Gulf of Alaska Shelf. *Deep-Sea Res. II*, 132, 90–106, Understanding Ecosystem Processes in the Gulf of Alaska: Volume 1, <https://doi.org/10.1016/j.dsr2.2015.05.004>.

Aller, J.Y., J.C. Radway, W.P. Kilthau, D.W. Bothe, T.W. Wilson, R.D. Vaillancourt, P.K. Quinn, D.J. Coffman, B.J. Murray, and D.A. Knopf (2017): Size-resolved characterization of the polysaccharidic and proteinaceous components of sea spray aerosol. *Atmos. Environ.*, 154, 331–347, <https://doi.org/10.1016/j.atmosenv.2017.01.053>.

Anderson, M.O., W.W. Chadwick, Jr., M.D. Hannington, S.G. Merle, J.A. Resing, E.T. Baker, D.A. Butterfield, S.L. Walker, and N. Augustin (2017): Geological interpretation of volcanism and segmentation of the Mariana back-arc spreading center between 12.7°N and 18.3°N. *Geochem. Geophys. Geosyst.*, 18(6), 2240–2274, <https://doi.org/10.1002/2017GC006813>.

Atwater, B.F., U.S. ten Brink, A.L. Cescon, N. Feuillet, Z. Fuentes, R.B. Halley, C. Nuñez, E.G. Reinhardt, J.H. Roger, Y. Sawai, M. Spiske, M.P. Tuttle, Y. Wei, and J. Weil-Accardo (2017): Extreme waves in the British Virgin Islands during the last centuries before 1500 CE. *Geosphere*, 13(2), 301–368, <https://doi.org/10.1130/GES01356.1>.

Babbin, A.R., B.D. Peters, C.W. Mordy, B. Widner, K.L. Casciotti, and B.B. Ward (2017): Multiple metabolisms constrain the anaerobic nitrite budget in the Eastern Tropical South Pacific. *Global Biogeochem. Cycles*, 31(2), 258–271, <https://doi.org/10.1002/2016GB005407>.

Baker, E.T. (2017): Exploring the ocean for hydrothermal venting: New techniques, new discoveries, new insights. *Ore Geol. Rev.*, 86, 55–69, <https://doi.org/10.1016/j.oregeorev.2017.02.006>.

Balcazar, N.E., H. Klinck, S.L. Nieukirk, D.K. Mellinger, K. Klinck, R.P. Dziak, and T.L. Rogers (2017): Using calls as an indicator for Antarctic blue whale distribution and occurrence across the southwest Pacific and southeast Indian oceans. *Mar. Mamm. Sci.*, 33(1), 172–186, <https://doi.org/10.1111/mms.12373>.

Bednaršek, N., R.A. Feely, N. Tolimieri, A.J. Hermann, S.A. Siedlecki, G.G. Waldbusser, P. McElhany, S.R. Alin, T. Klinger, B. Moore-Maley, and H.O. Pörtner (2017): Exposure history determines pteropod vulnerability to ocean acidification along the US West Coast. *Sci. Rep.*, 7, 4526, <https://doi.org/10.1038/s41598-017-03934-z>.

Bednaršek, N., T. Klinger, C.J. Harvey, S. Weisberg, R.M. McCabe, R.A. Feely, J. Newton, and N. Tolimieri (2017): New ocean, new needs: Application of pteropod shell dissolution as a biological



indicator for marine resource management. *Ecol. Indic.*, 76, 240–244, <https://doi.org/10.1016/j.ecolind.2017.01.025>.

Bhattacharya, T., J.C.H. Chiang, and W. Cheng (2017): Ocean-atmosphere dynamics linked to 800-1050 CE drying in Mesoamerica. *Quaternary Sci. Rev.*, 169, 263–277, <https://doi.org/10.1016/j.quascirev.2017.06.005>.

Blanchard-Wrigglesworth, E., A. Barthelemy, M. Chevallier, R. Cullather, N. Fučkar, F. Massonnet, P. Posey, W. Wang, J. Zhang, C. Ardilouze, C.M. Bitz, G. Vernieres, A. Wallcraft, and M. Wang (2017): Multi-model seasonal forecast of Arctic sea-ice: Forecast uncertainty at pan-Arctic and regional scales. *Clim. Dyn.*, 49(4), 1399–1410, <https://doi.org/10.1007/s00382-016-3388-9>.

Bromirski, P.D., Z. Chen, R.A. Stephen, P. Gerstoft, D. Arcas, A. Diez, R. Aster, D.A. Wiens, and A. Nyblade (2017): Tsunami and infragravity waves impacting ice shelves. *J. Geophys. Res.*, 122, <https://doi.org/10.1002/2017JC012913>.

Bullister, J.L., D.P. Wisegarver, and S.T. Wilson (2017): The production of methane and nitrous oxide gas standards for SCOR Working Group #143. Technical Report, International Council for Science, Scientific Committee on Oceanic Research, 9 pp.

Caplan-Auerbach, J., R.P. Dziak, J. Haxel, D.R. Bohnenstiehl, and C. Garcia (2017): Explosive processes during the 2015 eruption of Axial Seamount, as recorded by seafloor hydrophones. *Geochem. Geophys. Geosyst.*, 18(4), 1761–1774, <https://doi.org/10.1002/2016GC006734>.

Carter, B.R., R.A. Feely, S. Mecking, J.N. Cross, A.M. Macdonald, S.A. Siedlecki, L.D. Talley, C.L. Sabine, F.J. Millero, J.H. Swift, and A.G. Dickson (2017): Two decades of Pacific anthropogenic carbon storage and ocean acidification along Global Ocean Ship-based Hydrographic Investigations Program sections P16 and P02. *Global Biogeochem. Cycles*, 31(2), 306–327, <https://doi.org/10.1002/2016GB005485>.

Chadwick, Jr., W.W., B.P. Paduan, D.A. Clague, B.M. Dreyer, S.G. Merle, A.M. Bobbitt, D.W. Caress, B.T. Philip, D.S. Kelley, and S.L. Nooner (2016): Voluminous eruption from a zoned magma body after an increase in supply rate at Axial Seamount. *Geophys. Res. Lett.*, 43(23), 12,063–12,070, <https://doi.org/10.1002/2016GL071327>.

Chan, F., J.A. Barth, C.A. Blanchette, R.H. Byrne, F. Chavez, O. Cheriton, R.A. Feely, G. Friederich, B. Gaylord, T. Gouhier, S. Hacker, T. Hill, G. Hofmann, M.A. McManus, B.A. Menge, K.J. Nielsen, A. Russell, E. Sanford, J. Sevajian, and L. Washburn (2017): Persistent spatial structuring of coastal ocean acidification in the California Current System. *Sci. Rep.*, 7, 2526, <https://doi.org/10.1038/s41598-017-02777-y>.

Chen, G., W. Han, Y. Li, M.J. McPhaden, J. Chen, W. Wang, and D. Wang (2017): Strong intraseasonal variability of meridional currents near 5°N in the eastern Indian Ocean: Characteristics and causes. *J. Phys. Oceanogr.*, 47(5), 979–998, <https://doi.org/10.1175/JPO-D-16-0250.1>.

- Cheng, W., E. Blanchard-Wrigglesworth, C.M. Bitz, C. Ladd, and P.J. Stabeno (2016): Diagnostic sea ice predictability in the pan-Arctic and U.S. Arctic regional seas. *Geophys. Res. Lett.*, 43, 11688–11696, <https://doi.org/10.1002/2016GL070735>.
- Cheng, W., E. Curchitser, C Stock, A. Hermann, E.D. Cokelet, C. Mordy, P.J. Stabeno, G. Hervieux, and F. Castruccio (2016): What processes contribute to the spring and fall bloom co-variability on the eastern Bering Sea shelf? *Deep-Sea Res. II*, 134, 128–140, Understanding Ecosystem Processes in the Eastern Bering Sea IV, <https://doi.org/10.1016/j.dsr2.2015.07.009>.
- Chiodi, A.M., N.A. Bond, N.K. Larkin, and J. Barbour (2016): Summertime rainfall events in eastern Washington and Oregon. *Weather Forecast.*, 31(5), 1465–1480, <https://doi.org/10.1175/WAF-D-16-0024.1>.
- Chiodi, A.M., and D.E. Harrison (2017): 2015-16 El Niño seasonal weather impacts from the OLR event perspective. In *41st NOAA Climate and Diagnostics Prediction Workshop Special Issue, NWS Science & Technology Infusion Climate Bulletin Supplement*, National Weather Service, Office of Science and Technology Integration, Orono, ME, 3–6 October 2016, 16–20.
- Chiodi, A.M., and D.E. Harrison (2017): Observed El Niño SSTA development and the effects of Easterly and Westerly Wind events in 2014–2015. *J. Climate*, 30(4), 1505–1519, <https://doi.org/10.1175/JCLI-D-16-0385.1>.
- Chiodi, A.M., and D.E. Harrison (2017): Simulating ENSO SSTA from TAO/Triton winds: The impacts of 20 years of buoy observations in the Pacific waveguide and comparison with reanalysis products. *J. Climate*, 30(3), 1041–1059, <https://doi.org/10.1175/JCLI-D-15-0865.1>.
- Cokelet, E.D. (2016): 3-D water properties and geostrophic circulation on the eastern Bering Sea shelf. *Deep-Sea Res. II*, 134, 65–85, Understanding Ecosystem Processes in the Eastern Bering Sea IV, <https://doi.org/10.1016/j.dsr2.2016.08.009>.
- Cravatte, S., W.S. Kessler, N. Smith, S.E. Wijffels, K. Ando, M. Cronin, T. Farrar, E. Guilyardi, A. Kumar, T. Lee, D. Roemmich, Y. Serra, J. Sprintall, P. Strutton, A. Sutton, K. Takahashi, and A. Wittenberg (2016): *First Report of TPOS 2020*. GOOS-215, TPOS 2020, 200 pp, Available online at [TPOS2020.org/first-report/](http://TPOS2020.org/first-report/).
- Crusius, J., A.W. Schroth, J.A. Resing, J. Cullen, and R.W. Campbell (2017): Seasonal and spatial variability in northern Gulf of Alaska surface water iron concentrations driven by shelf sediment resuspension, glacial meltwater, a Yakutat eddy, and dust. *Global Biogeochem. Cycles*, 31(5), 942–960, <https://doi.org/10.1002/2016GB005493>.
- Cuyper, Y., P. Bouruet-Aubertot, J. Vialard, and M.J. McPhaden (2017): Focusing of internal tides by near-inertial waves. *Geophys. Res. Lett.*, 44(5), 2398–2406, <https://doi.org/10.1002/2017GL072625>.
- Danielson, S.L., L. Eisner, C. Ladd, C. Mordy, L. Sousa, and T.J. Weingartner (2017): A comparison between late summer 2012 and 2013 water masses, macronutrients, and phytoplankton standing crops in the northern Bering and Chukchi seas. *Deep-Sea Res. II*, 135, 7–26, Arctic Ecosystem

Integrated Survey (Arctic EIS): Marine ecosystem dynamics in the rapidly changing Pacific Arctic Gateway, <https://doi.org/10.1016/j.dsr2.2016.05.024>.

Desbruyères, D.G., S.G. Purkey, E.L. McDonagh, G.C. Johnson, and B.A. King (2016): Deep and abyssal ocean warming from 35 years of repeat hydrography. *Geophys. Res. Lett.*, 43(19), 10,356–10,365, <https://doi.org/10.1002/2016GL070413>.

Dong, L., and M.J. McPhaden (2016): Interhemispheric SST gradient trends in the Indian Ocean prior to and during the recent global warming hiatus. *J. Climate*, 29(24), 9077–9095, <https://doi.org/10.1175/JCLI-D-16-0130.1>.

Dong, L., and M.J. McPhaden (2017): The role of external forcing and internal variability in regulating global mean surface temperatures on decadal timescales. *Environ. Res. Lett.*, 12(3), 034011, <https://doi.org/10.1088/1748-9326/aa5dd8>.

Dong, L., and M.J. McPhaden (2017): Why has the relationship between Indian and Pacific Ocean decadal variability changed in recent decades? *J. Climate*, 30(6), 1971–1983, <https://doi.org/10.1175/JCLI-D-16-0313.1>.

Duffy-Anderson, J.T., P.J. Staben, E.C. Siddon, A.G. Andrews, D.W. Cooper, L.B. Eisner, E.V. Farley, C.E. Harpold, R.A. Heintz, D.G. Kimmel, F.F. Sewall, A.H. Spear, and E.C. Yasumishii (2017): Return of warm conditions in the southeastern Bering Sea: Phytoplankton–fish. *PLoS ONE*, 12(6), e0178955, <https://doi.org/10.1371/journal.pone.0178955>.

Dziak, R.P., J.H. Haxel, T.-K. Lau, S. Heimlich, J. Caplan-Auerbach, D.K. Mellinger, H. Matsumoto, and B. Mate (2017): A pulsed-air model of blue whale B call vocalizations. *Sci. Rep.*, 7, 9122, <https://doi.org/10.1038/s41598-017-09423-7>.

Dziak, R.P., J.H. Haxel, H. Matsumoto, T.-K. Lau, S. Heimlich, S. Nieuwkerk, D.K. Mellinger, J. Osse, C. Meinig, N. Delich, and S. Stalin (2017): Ambient sound at Challenger Deep, Mariana Trench. *Oceanography*, 30(2), 186–197, <https://doi.org/10.5670/oceanog.2017.240>.

Dziak, R.P., J. Hong, S.-G. Kang, T.-K. Lau, J.H. Haxel, and H. Matsumoto (2017): The Balleny Island hydrophone array: Hydro-acoustic records of sea-ice dynamics, seafloor volcano-tectonic activity, and marine mammal vocalizations off Antarctica. In *OCEANS'17 MTS/IEEE*, Aberdeen, 19–22 June 2017.

Eisner, L.B., J.C. Gann, C. Ladd, K. Cieciel, and C.W. Mordy (2016): Late summer/early fall phytoplankton biomass (chlorophyll *a*) in the eastern Bering Sea: Spatial and temporal variations and factors affecting chlorophyll *a* concentrations. *Deep-Sea Res. II*, 134, 100–114, Understanding Ecosystem Processes in the Eastern Bering Sea IV, <https://doi.org/10.1016/j.dsr2.2015.07.012>.

Embley, R., N. Raineault, S. Merle, T. Baumberger, S. Seabrook, and S. Hammond (2017): Water column and cold seep exploration of the Cascadia Margin. *Oceanography*, 30(1), supplement, 28–30, New Frontiers in Ocean Exploration: The E/V *Nautilus*, NOAA Ship *Okeanos Explorer*, and R/V *Falkor* 2016 Field Season, <https://doi.org/10.5670/oceanog.2017.supplement.01>.

- Engel, A., H.W. Bange, M. Cunliffe, S.M. Burrows, G. Friedrichs, L. Galgani, H. Herrmann, N. Hertkorn, M. Johnson, P. Liss, P.K. Quinn, M. Schartau, A. Soloviev, C. Stolle, R. Upstill-Goddard, M. van Pinxteren, and B. Zäencker (2017): The ocean's vital skin: Towards an integrated understanding of the ocean surface microlayer. *Front. Mar. Sci.*, 4, 165, <https://doi.org/10.3389/fmars.2017.00165>.
- Fassbender, A.J., S.R. Alin, R.A. Feely, A.J. Sutton, J. Newton, and R.H. Byrne (2017): Estimating total alkalinity in the Washington State coastal zone: Complexities and surprising utility for ocean acidification research. *Estuar. Coast.*, 40(2), 404–418, <https://doi.org/10.1007/s12237-016-0168-z>.
- Fassbender, A.J., C.L. Sabine, M.F. Cronin, and A.J. Sutton (2017): Mixed-layer carbon cycling at the Kuroshio Extension Observatory. *Global Biogeochem. Cycles*, 31(2), 272–288, <https://doi.org/10.1002/2016GB005547>.
- Fassbender, A.J., C.L. Sabine, and H.I. Palevsky (2017): Nonuniform ocean acidification and attenuation of the ocean carbon sink. *Geophys. Res. Lett.*, 44(16), 8404–8413, <https://doi.org/10.1002/2017GL074389>.
- Feely, R.A., S. Alin, B. Carter, N. Bednaršek, B. Hales, F. Chan, T.M. Hill, B. Gaylord, E. Sanford, R.H. Byrne, C.L. Sabine, D. Greeley, and L. Juranek (2016): Chemical and biological impacts of ocean acidification along the west coast of North America. *Estuar. Coast. Shelf Sci.*, 183(A), 260–270, <https://doi.org/10.1016/j.ecss.2016.08.043>.
- Feely, R.A., R. Wanninkhof, P. Landschützer, B.R. Carter, and J.A. Triñanes (2017): Ocean carbon. In *State of the Climate in 2016*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 98(8), S89–S92, <https://doi.org/10.1175/2017BAMSSStateoftheClimate.1>.
- Ganachaud, A., S. Cravatte, J. Sprintall, C. Germaineaud, M. Albery, C. Jeandel, G. Eldin, N. Metzl, S. Bonnet, M. Benavides, L.-E. Heimbürger, J. Lefèvre, S. Michael, J. Resing, F. Quéroué, G. Sarthou, M. Rodier, H. Berthelot, F. Baurand, J. Grelet, T. Hasegawa, W. Kessler, M. Kilepak, F. Lacan, E. Privat, U. Send, P. Van Beek, M. Souhaut, and J.E. Sonke (2017): The Solomon Sea: Its circulation, chemistry, geochemistry and biology explored during two oceanographic cruises. *Elementa*, 5, 33, <https://doi.org/10.1525/elementa.221>.
- Gann, J.C., L.B. Eisner, S. Porter, J.T. Watson, K.D. Cieciel, C.W. Mordy, E.M. Yasumiishi, P.J. Stabeno, C. Ladd, R.A. Heintz, and E.V. Farley (2016): Possible mechanism linking ocean conditions to low body weight and poor recruitment of age-0 walleye pollock (*Gadus chalcogrammus*) in the southeast Bering Sea during 2007. *Deep-Sea Res. II*, 134, 115–127, *Understanding Ecosystem Processes in the Eastern Bering Sea IV*, <https://doi.org/10.1016/j.dsr2.2015.07.010>.
- Gattuso, J.-P., and R.A. Feely (2016): Ocean acidification. In *Future of the Ocean and its Seas: A non-governmental scientific perspective on seven marine research issues of G7 interest*, P. Williamson, D. Smythe-Wright, and P. Burkill (eds.), ICSU-IAPSO-IUGG-SCOR, Paris, 24-28.
- Giglio, D., and G.C. Johnson (2017): Middepth decadal warming and freshening in the South Atlantic. *J. Geophys. Res.*, 122(2), 973–979, <https://doi.org/10.1002/2016JC012246>.

- Guan, C., and M.J. McPhaden (2016): Ocean processes affecting the twenty-first century shift in ENSO SST variability. *J. Climate*, 29(19), 6861–6879, <https://doi.org/10.1175/JCLI-D-15-0870.1>.
- Hager, K.W., H. Fullerton, D.A. Butterfield, and C.L. Moyer (2017): Community structure of lithotrophically driven microbial mats from the Mariana arc and back-arc. *Front. Microbiol.*, 8, 1578, <https://doi.org/10.3389/fmicb.2017.01578>.
- Hales, B., A. Suhrbier, G.G. Waldbusser, R.A. Feely, and J. Newton (2017): The carbonate chemistry of the 'fattening line', Willapa Bay, 2011–2014. *Estuar. Coast.*, 40(1), 173–186, <https://doi.org/10.1007/s12237-016-0136-7>.
- Harrison, D.E., and A.M. Chiodi (2017): Comment on 'Characterizing ENSO coupled variability and its impact on North American seasonal precipitation and temperature' by L'Heureux, Tippet, and Barnston. *J. Climate*, 30(1), 427–436, <https://doi.org/10.1175/JCLI-D-15-0678.1>.
- Haver, S.M., H. Klinck, S.L. Niekirk, H. Matsumoto, R.P. Dziak, and J.L. Miksis-Olds (2017): The not-so-silent world: Measuring Arctic, equatorial, and Antarctic soundscapes in the Atlantic Ocean. *Deep-Sea Res. I*, 122, 95–104, <https://doi.org/10.1016/j.dsr.2017.03.002>.
- Hawco, N.J., D.C. Ohnemus, J.A. Resing, B.S. Twining, and M.A. Saito (2016): A dissolved cobalt plume in the oxygen minimum zone of the eastern tropical South Pacific. *Biogeosciences*, 13, 5697–5717, <https://doi.org/10.5194/bg-13-5697-2016>.
- Hermann, A.J., G.A. Gibson, N.A. Bond, E.N. Curchitser, K. Hedstrom, W. Cheng, M. Wang, E.D. Cokolet, and P.J. Stabeno (2016): Projected future biophysical states of the Bering Sea. *Deep-Sea Res. II*, 134, 30–47, Understanding Ecosystem Processes in the Eastern Bering Sea IV, <https://doi.org/10.1016/j.dsr2.2015.11.001>.
- Hermann, A.J., C. Ladd, W. Cheng, E.N. Curchitser, and K. Hedstrom (2016): A model-based examination of multivariate physical modes in the Gulf of Alaska. *Deep-Sea Res. II*, 132, 68–89, Understanding Ecosystem Processes in the Gulf of Alaska: Volume 1, <https://doi.org/10.1016/j.dsr2.2016.04.005>.
- Hood, R.R., E.R. Urban, M.J. McPhaden, D. Su, and E. Raes (2016): The 2nd International Indian Ocean Expedition (IIOE-2): Motivating new research and capacity development in a poorly understood basin. *Limnol. Oceanogr. Bull.*, 25(4), 117–124, <https://doi.org/10.1002/lob.10149>.
- Jayne, S.R., D. Roemmich, N. Zilberman, S.C. Riser, K.S. Johnson, G.C. Johnson, and S.R. Piotrowicz (2017): Argo Program: Present and Future. *Oceanography*, 30(2), 18–28, <https://doi.org/10.5670/oceanog.2017.213>.
- Johnson, G.C. (2017): Overview. In *State of the Climate in 2016*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 98(8), S63, <https://doi.org/10.1175/2017BAMSStateoftheClimate.1>.
- Johnson, G.C., and A.N. Birnbaum (2016): Equatorial Pacific thermostad response to El Niño. *J. Geophys. Res.*, 121(11), 8368–8378, <https://doi.org/10.1002/2016JC012304>.

- Johnson, G.C., and A.N. Birnbaum (2017): As El Niño builds, Pacific Warm Pool expands, ocean gains more heat. *Geophys. Res. Lett.*, 44(1), 438–445, <https://doi.org/10.1002/2016GL071767>.
- Johnson, G.C., J.M. Lyman, T. Boyer, C.M. Domingues, J. Gilson, M. Ishii, R. Killick, D. Monselan, and S. Wijffels (2017): Ocean heat content. In *State of the Climate in 2016*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 98(8), S66–S69, <https://doi.org/10.1175/2017BAMSStateoftheClimate.1>.
- Johnson, G.C., J. Reagan, J.M. Lyman, T. Boyer, C. Schmid, and R. Locarnini (2017): Salinity. In *State of the Climate in 2016*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 98(8), S69–S75, <https://doi.org/10.1175/2017BAMSStateoftheClimate.1>.
- Johnson, G.C., and M. Winton (2017): Roles of the deep ocean in climate. *CLIVAR Variations*, 15(2), 1–7.
- Karnauskas, K.B., G.C. Johnson, and R. Murtugudde (2017): On the climate impacts of atolls in the central equatorial Pacific. *Int. J. Climatol.*, 37(1), 197–203, <https://doi.org/10.1002/joc.4697>.
- Kealoha, A.K., F.T. Mackenzie, S.E. Kahng, R.K. Kosaki, S.R. Alin, and C.D. Winn (2017): Spatiotemporal assessment of CO<sub>2</sub>-carbonic acid system dynamics in a pristine coral reef ecosystem, French Frigate Shoals, Northwestern Hawaiian Islands. *Aquat. Geochem.*, 23(2), 75–88, <https://doi.org/10.1007/s10498-017-9310-1>.
- Klymus, K.E., N.T. Marshall, and C.A. Stepien (2017): Environmental DNA (eDNA) metabarcoding assays to detect invasive invertebrate species in the Great Lakes. *PLoS ONE*, 12(5), e0177643, <https://doi.org/10.1371/journal.pone.0177643>.
- Konn, C., E. Fourné, P. Jean-Baptiste, J.P. Donval, V. Guyader, D. Birot, A.S. Alix, A. Gaillot, F. Perez, A. Dapoigny, E. Pelleter, J.A. Resing, J.L. Charlou, Y. Fouquet, and Scientific Party (2016): Extensive hydrothermal activity revealed by multi-tracer survey in the Wallis and Futuna region (SW Pacific). *Deep-Sea Res. I*, 116, 127–144, <https://doi.org/10.1016/j.dsr.2016.07.012>.
- Küsel, E.T., T. Munoz, M. Siderius, D.K. Mellinger, and S. Heimlich (2017): Marine mammal tracks from two-hydrophone acoustic recordings made with a glider. *Ocean Sci.*, 13, 273–288, <https://doi.org/10.5194/os-13-273-2017>.
- Ladd, C., and W. Cheng (2016): Gap winds and their effects on regional oceanography Part I: Cross Sound, Alaska. *Deep-Sea Res. II*, 132, 41–53, Understanding Ecosystem Processes in the Gulf of Alaska: Volume 1, <https://doi.org/10.1016/j.dsr2.2015.08.006>.
- Ladd, C., W. Cheng, and S. Salo (2016): Gap winds and their effects on regional oceanography Part II: Kodiak Island, Alaska. *Deep-Sea Res. II*, 132, 54–67, Understanding Ecosystem Processes in the Gulf of Alaska: Volume 1, <https://doi.org/10.1016/j.dsr2.2015.08.005>.
- Le Quéré, C., R.M. Andrew, J.G. Canadell, S. Sitch, J.I. Korsbakken, G.P. Peters, A.C. Manning, T.A. Boden, P.P. Tans, R.A. Houghton, R.F. Keeling, S. Alin, O.D. Andrews, P. Anthoni, L. Barbero, L. Bopp, F. Chevallier, L.P. Chini, P. Ciais, K. Currie, C. Delire, S.C. Doney, P. Friedlingstein, T. Gkritzalis, I. Harris, J. Hauck, V. Haverd, M. Hoppema, K. Klein Goldewijk, A.K. Jain, E. Kato, A.

- Körtzinger, P. Landschützer, N. Lefèvre, A. Lenton, S. Lienert, D. Lombardozzi, J.R. Melton, N. Metzl, F. Millero, P.M.S. Monteiro, D.R. Munro, J.E.M.S. Nabel, S.-I. Nakaoka, K. O'Brien, A. Olsen, A.M. Omar, T. Ono, D. Pierrot, B. Poulter, C. Rödenbeck, J. Salisbury, U. Schuster, J. Schwinger, R. Séférian, I. Skjelvan, B.D. Stocker, A.J. Sutton, T. Takahashi, H. Tian, B. Tilbrook, I.T. van der Laan-Luijkx, G.R. van der Werf, N. Viovy, A.P. Walker, A. Wiltshire, and S. Zaehle (2016): Global Carbon Budget 2016. *Earth Sys. Sci. Data*, 8, 605–649, <https://doi.org/10.5194/essd-8-605-2016>. [HIGHLY CITED PAPER]
- Levine, A.F.Z., F.F. Jin, and M.F. Stuecker (2017): A simple approach to quantifying the noise–ENSO interaction. Part II: the role of coupling between the warm pool and equatorial zonal wind anomalies. *Clim. Dyn.*, 48(1), 19–37, <https://doi.org/10.1007/s00382-016-3268-3>.
- Levine, A.F.Z., M.J. McPhaden, and D.M.W. Frierson (2017): The impact of the AMO on multidecadal ENSO variability. *Geophys. Res. Lett.*, 44(8), 3877–3886, <https://doi.org/10.1002/2017GL072524>.
- Liang, J.-H., S.R. Emerson, E.A. D'Asaro, C.L. McNeil, R.R. Harcourt, P.P. Sullivan, B. Yang, and M.F. Cronin (2017): On the role of sea-state in bubble-mediated air-sea gas flux during a winter storm. *J. Geophys. Res.*, 122(4), 2671–2685, <https://doi.org/10.1002/2016JC012408>.
- Lindstrom, E.J., A.Y. Shcherbina, L. Rainville, J.T. Farrar, L.R. Centurioni, S. Dong, E.A. D'Asaro, C. Eriksen, D.M. Fratantoni, B.A. Hodges, V. Hormann, W.S. Kessler, C.M. Lee, S.C. Riser, L. St. Laurent, and D.L. Volkov (2017): Autonomous multi-platform observations during the Salinity Processes in the Upper-ocean Regional Study. *Oceanography*, 30(2), 38–48, <https://doi.org/10.5670/oceanog.2017.218>.
- Ling, J., C. Zhang, S. Wang, and C. Li (2017): A new interpretation of the ability of global models to simulate the MJO. *Geophys. Res. Lett.*, 44(11), 5798–5806, <https://doi.org/10.1002/2017GL073891>.
- Liu, C.L., L. Zhai, S.I. Zeeman, L.B. Eisner, J.C. Gann, C.W. Mordy, S.B. Moran, and M.W. Lomas (2016): Seasonal and geographic variations in modeled primary production and phytoplankton losses from the mixed layer between warm and cold years on the eastern Bering Sea shelf. *Deep-Sea Res. II*, 134, 141–156, Understanding Ecosystem Processes in the Eastern Bering Sea IV, <https://doi.org/10.1016/j.dsr2.2016.07.008>.
- Logan, P.D., and G.C. Johnson (2017): Zonal evolution of Alaskan stream structure and transport quantified with Argo data. *J. Geophys. Res.*, 122(2), 821–833, <https://doi.org/10.1002/2016JC012302>.
- Love, B., M. Lilley, D. Butterfield, E. Olson, and B. Larson (2017): Rapid variations in fluid chemistry constrain hydrothermal phase separation at the Main Endeavour Field. *Geochem. Geophys. Geosyst.*, 18(2), 531–543, <https://doi.org/10.1002/2016GC006550>.
- Lübbecke, J.F., and M.J. McPhaden (2017): Symmetry of the Atlantic Niño mode. *Geophys. Res. Lett.*, 44(2), 965–973, <https://doi.org/10.1002/2016GL071829>.
- Lupton, J.E., and W.J. Jenkins (2017): Evolution of the South Pacific helium plume over the past 3 decades. *Geochem. Geophys. Geosyst.*, 18(5), 1810–1823, <https://doi.org/10.1002/2017GC006848>.

- Lynett, P., Y. Wei, and D. Arcas (2016): *Tsunami Hazard Assessment: Best Modeling Practices and State-of-the-Art Technology*. NUREG/CR-7223, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC.
- Lynett, P.J., K. Gately, R. Wilson, L. Montoya, D. Arcas, B. Aytore, Y. Bai, J.D. Bricker, M.J. Castro, K.F. Cheung, C.G. David, G.G. Doğan, C. Escalante, J.M. González-Vida, S.T. Grilli, T.W. Heitmann, J.J. Horrillo, U. Kânoglu, R. Kian, J.T. Kirby, W. Li, J. Macías, D.J. Nicolsky, S. Ortega, A. Pampell-Manis, Y.S. Park, V. Roeber, N. Sharghivand, M. Shelby, F. Shi, B. Tehranirad, E. Tolkova, H.K. Thio, D. Velioglu, A.C. Yalçiner, Y. Yamazaki, A. Zaytsev, and Y..J. Zhang (2017): Inter-model analysis of tsunami-induced coastal currents. *Ocean Model.*, 114, 14–32, <https://doi.org/10.1016/j.ocemod.2017.04.003>.
- Marsay, C.M., P.M. Barrett, D.J. McGillicuddy, Jr., and P.N. Sedwick (2017): Distributions, sources and transformations of dissolved and particulate iron on the Ross Sea continental shelf during summer. *J. Geophys. Res.*, 122(8), 6371–6393, <https://doi.org/10.1002/2017JC013068>.
- Marshall, K.N., I.C. Kaplan, E.E. Hodgson, A.J. Hermann, D.S. Busch, P. McElhany, T.E. Essington, C.J. Harvey, and E.A. Fulton (2017): Risks of ocean acidification in the California Current food web and fisheries: Ecosystem model projections. *Global Change Biol.*, 23(4), 1525–1539, <https://doi.org/10.1111/gcb.13594>.
- Matsumoto, H., A. Turpin, J. Haxel, C. Meinig, M. Craig, D. Tagawa, H. Klinck, and B. Hanson (2016): A real-time acoustic observing system (RAOS) for killer whales. In *Oceans '16 MTS/IEEE*, Marine Technology Society and Institute of Electrical and Electronics Engineers, IEEE, Monterey, Calif., 19–23 September 2016.
- Matthews, L.P., S.E. Parks, M.E.H. Fournet, C.M. Gabriele, J.N. Womble, and H. Klinck (2017): Source levels and call parameters of harbor seal breeding vocalizations near a terrestrial haulout site in Glacier Bay National Park and Preserve. *J. Acoust. Soc. Am.*, 141, EL274, <https://doi.org/10.1121/1.4978299>.
- McGregor, S., A. Sen Gupta, D. Dommenget, T. Lee, M.J. McPhaden, and W.S. Kessler (2017): Factors influencing the skill of synthesized satellite wind products in the tropical Pacific. *J. Geophys. Res.*, 122(2), 1072–1089, <https://doi.org/10.1002/2016JC012340>.
- McKinley, G.A., A.R. Fay, N.S. Lovenduski, and D.J. Pilcher (2017): Natural variability and anthropogenic trends in the ocean carbon sink. *Annu. Rev. Mar. Sci.*, 9, 125-150, <https://doi.org/10.1146/annurev-marine-010816-060529>.
- Mordy, C.W., E.D. Cokelet, A. DeRobertis, R. Jenkins, C.E. Kuhn, N. Lawrence-Slavas, C.L. Berchok, J.L. Crance, J.T. Sterling, J.N. Cross, P.J. Stabeno, C. Meinig, H.M. Tabisola, W. Burgess, and I. Wangen (2017): Advances in ecosystem research: Saildrone surveys of oceanography, fish, and marine mammals in the Bering Sea. *Oceanography*, 30(2), 113–115, <https://doi.org/10.5670/oceanog.2017.230>.
- Mordy, C.W., A. Devol, L.B. Eisner, N. Kachel, C. Ladd, M.W. Lomas, P. Proctor, R.N. Sambrotto, D.H. Shull, P.J. Stabeno, and E. Wisegarver (2017): Nutrient and phytoplankton dynamics on the inner



- shelf of the eastern Bering Sea. *J. Geophys. Res.*, *122*(3), 2422–2440, <https://doi.org/10.1002/2016JC012071>.
- Mouw, C.B., A. Barnett, G.A. McKinley, L. Gloege, and D. Pilcher (2016): Global ocean particulate organic carbon flux merged with satellite parameters. *Earth Syst. Sci. Data*, *8*, 531–541, <https://doi.org/10.5194/essd-8-531-2016>.
- Mouw, C.B., A. Barnett, G.A. McKinley, L. Gloege, and D. Pilcher (2016): Phytoplankton size impact on export flux in the global ocean. *Global Biogeochem. Cycles*, *30*(10), 1542–1562, <https://doi.org/10.1002/2015GB005355>.
- Nagura, M., and M.J. McPhaden (2016): Zonal propagation of near surface zonal currents in relation to surface wind forcing in the equatorial Indian Ocean. *J. Phys. Oceanogr.*, *46*(12), 3623–3638, <https://doi.org/10.1175/JPO-D-16-0157.1>.
- Nelson, D.V., H. Klinck, A. Carbaugh-Rutland, C.L. Mathis, A.T. Morzillo, and T.S. Garcia (2017): Calling at the highway: The spatiotemporal constraint of road noise on Pacific chorus frog communication. *Ecol. Evol.*, *7*(1), 429–440, <https://doi.org/10.1002/ece3.2622>.
- Nooner, S.L., and W.W. Chadwick, Jr. (2016): Inflation-predictable behavior and co-eruption deformation at Axial Seamount. *Science*, *354*(6318), 1399–1403, <https://doi.org/10.1126/science.aah4666>.
- Okazaki, R.R., A.J. Sutton, R.A. Feely, A.G. Dickson, S.R. Alin, C.L. Sabine, P.M.E. Bunje, and J.I. Virmani (2017): Evaluation of marine pH sensors under controlled and natural conditions for the Wendy Schmidt Ocean Health XPRIZE. *Limnol. Oceanogr. Methods*, *15*, 586–600, <https://doi.org/10.1002/lom3.10189>.
- Okazaki, R.R., E.K. Towle, R. van Hooidek, C. Mor, R.N. Winter, A.M. Piggot, R. Cunning, A.C. Baker, J.S. Klaus, P.K. Swart, and C. Langdon (2017): Species-specific responses to climate change and community composition determine future calcification rates of Florida Keys reefs. *Global Change Biol.*, *23*(3), 1023–1035, <https://doi.org/10.1111/gcb.13481>.
- Orr, J.C., R.G. Najjar, O. Aumont, L. Bopp, J.L. Bullister, G. Danabasoglu, S.C. Doney, J.P. Dunne, J.-C. Dutay, H. Graven, S.M. Griffies, J.G. John, F. Joos, I. Levin, K. Lindsay, R.J. Matear, G.A. McKinley, A. Mouchet, A. Oschlies, A. Romanou, R. Schlitzer, A. Tagliabue, T. Tanhua, and A. Yool (2017): Biogeochemical protocols and diagnostics for the CMIP6 Ocean Model Intercomparison Project (OMIP). *Geosci. Model Dev.*, *10*, 2169–2199, <https://doi.org/10.5194/gmd-10-2169-2017>.
- Ortiz, I., K. Aydin, A.J. Hermann, G.A. Gibson, A.E. Punt, F.K. Wiese, L.B. Eisner, N. Ferm, T.W. Buckley, E.A. Moffitt, J.N. Ianelli, J. Murphy, M. Dalton, W. Cheng, M. Wang, K. Hedstrom, N.A. Bond, E.N. Curchitser, and C. Boyd (2016): Climate to fish: Synthesizing field work, data and models in a 39-year retrospective analysis of seasonal processes in the eastern Bering Sea shelf and slope. *Deep-Sea Res. II*, *134*, 390–412, Understanding Ecosystem Processes in the Eastern Bering Sea IV, <https://doi.org/10.1016/j.dsr2.2016.07.009>.

- Ouyang, Z., C. Shah, H. Chu, R. Becker, T. Bridgeman, C. Stepien, R. John, and J. Chen (2017): The effect of algal blooms on carbon emission in western Lake Erie: an integration of remote sensing and eddy covariance measurements. *Remote Sens.*, 9(1), 44, <https://doi.org/10.3390/rs9010044>.
- Overland, J., E. Hanna, I. Hanssen-Bauer, S.-J. Kim, J.E. Walsh, M. Wang, U.S. Bhatt, and R.L. Thoman (2017): Arctic air temperature. In *State of the Climate in 2016*, The Arctic. *Bull. Am. Meteorol. Soc.*, 98(8), S130–S131, <https://doi.org/10.1175/2017BAMSStateoftheClimate.1>.
- Overland, J.E., K. Dethloff, J.A. Francis, R.J. Hall, E. Hanna, S.-J. Kim, J.A. Screen, T.G. Shepherd, and T. Vihma (2016): Nonlinear response of mid-latitude weather to the changing Arctic. *Nature Clim. Change*, 6, 992–999, <https://doi.org/10.1038/nclimate3121>. [HIGHLY CITED PAPER]
- Pak, S.-J., J.-W. Moon, J. Kim, M.T. Chandler, H.-S. Kim, J. Son, S.-K. Son, S.K. Choi, and E.T. Baker (2017): Widespread tectonic extension at the Central Indian Ridge between 8°S and 18°S. *Gondwana Res.*, 45, 163–179, <https://doi.org/10.1016/j.gr.2016.12.015>.
- Parada, C., S. Hinckley, J. Horne, M. Mazur, A.J. Hermann, and E. Curchister (2016): Modeling connectivity of walleye pollock in the Gulf of Alaska: Are there any linkages to Bering Sea and Aleutian Islands? *Deep-Sea Res. II*, 132, 227–239, *Understanding Ecosystem Processes in the Gulf of Alaska: Volume 1*, <https://doi.org/10.1016/j.dsr2.2015.12.010>.
- Pelland, N.A., C.C. Eriksen, and M.F. Cronin (2017): Seaglider surveys at Ocean Station Papa: Diagnosis of upper-ocean heat and salt balances using least-squares with inequality constraints. *J. Geophys. Res.*, 122(6), 5140–5168, <https://doi.org/10.1002/2017JC012821>.
- Peters, B.D., A.R. Babbin, K.A. Lettmann, C.W. Mordy, O. Ulloa, B.B. Ward, and K.L. Casciotti (2016): Vertical modeling of the nitrogen cycle in the eastern tropical South Pacific oxygen deficient zone using high-resolution concentration and isotope measurements. *Global Biogeochem. Cycles*, 30(11), 1661–1681, <https://doi.org/10.1002/2016GB005415>.
- Pilcher, D.J., G.A. McKinley, J. Kralj, H.A. Bootsma, and E. Reavie (2017): Modeled sensitivity of Lake Michigan productivity and zooplankton to changing nutrient concentrations and quagga mussels. *J. Geophys. Res.*, 122(8), 2017–2032, <https://doi.org/10.1002/2017JG003818>.
- Praveen Kumar, B., M.F. Cronin, S. Joseph, M. Ravichandran, and N. Sureshkumar (2016): Latent heat flux sensitivity to sea surface temperature: Regional perspectives. *J. Climate*, 30(1), 129–143, <https://doi.org/10.1175/JCLI-D-16-0285.1>.
- Qi, D., L. Chen, B. Chen, Z. Gao, W. Zhong, R.A. Feely, L.G. Anderson, H. Sun, J. Chen, M. Chen, L. Zhan, Y. Zhang, and W.-J. Cai (2017): Increase in acidifying water in the western Arctic Ocean. *Nature Clim. Change*, 7, 195–199, <https://doi.org/10.1038/nclimate3228>.
- Quay, P., R. Sonnerup, D. Munro, and C. Sweeney (2017): Anthropogenic CO<sub>2</sub> accumulation and uptake rates in the Pacific Ocean based on changes in the <sup>13</sup>C/<sup>12</sup>C of dissolved inorganic carbon. *Global Biogeochem. Cycles*, 31(1), 59–80, <https://doi.org/10.1002/2016GB005460>.

- Quinn, P.K., D.J. Coffman, J.E. Johnson, L.M. Upchurch, and T.S. Bates (2017): Small fraction of marine cloud condensation nuclei made up of sea spray aerosol. *Nature Geosci.*, *10*, 674–679, <https://doi.org/10.1038/ngeo3003>.
- Reddington, C.L., K.S. Carslaw, P. Stier, N. Schutgens, H. Coe, D. Liu, J. Allan, J. Browse, K.J. Pringle, L.A. Lee, M. Yoshioka, J.S. Johnson, L.A. Regayre, D.V. Spracklen, G.W. Mann, A. Clarke, M. Hermann, S. Henning, H. Wex, T.B. Kristensen, W.R. Leitch, U. Pöschl, D. Rose, M.O. Andreae, J. Schmale, Y. Kondo, N. Oshima, J.P. Schwarz, A. Nenes, B. Anderson, G.C. Roberts, J.R. Snider, C. Leck, P.K. Quinn, X. Chi, A. Ding, J.L. Jimenez, and Q. Zhang (2017): The Global Aerosol Synthesis and Science Project (GASSP): Measurements and modelling to reduce uncertainty. *Bull. Am. Meteorol. Soc.*, *98*(9), 1857–1877, <https://doi.org/10.1175/BAMS-D-15-00317.1>.
- Reimer, J.J., W.-J. Cai, L. Xue, R. Vargas, S. Noakes, X. Hu, S.R. Signorini, J.T. Mathis, R.A. Feely, A.J. Sutton, C.L. Sabine, S. Musielewicz, B. Chen, and R. Wanninkhof (2017): Time series  $p\text{CO}_2$  at a coastal mooring: internal consistency, seasonal cycles, and interannual variability. *Cont. Shelf Res.*, *145*, 95–108, <https://doi.org/10.1016/j.csr.2017.06.022>.
- Savastano, G., A. Komjathy, O. Verkhoglyadova, O. Yang, A. Mazzoni, M. Crespi, Y. Wei, and A.J. Mannucci (2017): Real-time detection of tsunami ionospheric disturbances with a stand-alone GNSS receiver: A preliminary feasibility demonstration. *Sci. Rep.*, *7*, 46607, <https://doi.org/10.1038/srep46607>.
- Schmidt, K., D. Garbe-Schönberg, M.D. Hannington, M.O. Anderson, B. Bühring, K. Haase, C. Haruel, J. Lupton, and A. Koschinsky (2017): Boiling vapour-type fluids from the Nifonea vent field (New Hebrides Back-Arc, Vanuatu, SW Pacific): Geochemistry of an early-stage, post-eruptive hydrothermal system. *Geochim. Cosmochim. Acta*, *207*, 185–209, <https://doi.org/10.1016/j.gca.2017.03.016>.
- Schnur, S.R., W.W. Chadwick, Jr., R.W. Embley, V.L. Ferrini, C.E.J. de Ronde, K.V. Cashman, N. Deardorff, S.G. Merle, R.P. Dziak, J. Haxel, and H. Matsumoto (2017): A decade of volcanic construction and destruction at the summit of NW-Rota-1 Seamount: 2004–2014. *J. Geophys. Res.*, *122*(3), 1558–1584, <https://doi.org/10.1002/2016JB013742>.
- Schroth, A.W., J. Crusius, R.W. Campbell, S. Gasso, C.M. Moy, N. Buck, and J.A. Resing (2017): Atmospheric deposition of glacial iron in the Gulf of Alaska impacted by the position of the Aleutian Low. *Geophys. Res. Lett.*, *44*(10), 5053–5061, <https://doi.org/10.1002/2017GL073565>.
- Sharp, J.D., R.H. Byrne, X. Liu, R.A. Feely, E.E. Cuyler, R. Wanninkhof, and S.R. Alin (2017): Spectrophotometric determination of carbonate ion concentrations: Elimination of instrument-dependent offsets and calculation of in situ saturation states. *Environ. Sci. Tech.*, *51*(16), 9127–9136, <https://doi.org/10.1021/acs.est.7b02266>.
- Sigler, M.F., F.J. Mueter, B.A. Bluhm, M.S. Busby, E.D. Cokelet, S.L. Danielson, A. De Robertis, L.B. Eisner, E.V. Farley, K. Iken, K.J. Kuletz, R.R. Lauth, E.A. Logerwell, and A.I. Pinchuk (2017): Late summer zoogeography of the northern Bering and Chukchi seas. *Deep-Sea Res. II*, *135*, 168–189, Arctic Ecosystem Integrated Survey (Arctic EIS): Marine ecosystem dynamics in the rapidly changing Pacific Arctic Gateway, <https://doi.org/10.1016/j.dsr2.2016.03.005>.

- Sigler, M.F., J.M. Napp, P.J. Stabeno, R.A. Heintz, M.W. Lomas, and G.L. Hunt, Jr. (2016): Variation in annual production of copepods, euphausiids, and juvenile walleye pollock in the southeastern Bering Sea. *Deep-Sea Res. II*, 134, 223–234, Understanding Ecosystem Processes in the Eastern Bering Sea IV, <https://doi.org/10.1016/j.dsr2.2016.01.003>.
- Sinha, P.R., Y. Kondo, M. Koike, J.A. Ogren, A. Jefferson, T.E. Barrett, R.J. Sheesley, S. Ohata, N. Moteki, H. Coe, D. Liu, M. Irwin, P. Tunved, P.K. Quinn, and Y. Zhao (2017): Evaluation of ground-based black carbon measurements by filter-based photometers at two Arctic sites. *J. Geophys. Res.*, 122(6), 3544–3572, <https://doi.org/10.1002/2016JD025843>.
- Snyder, M.R., and C.A. Stepien (2017): Genetic patterns across an invasion's history: A test of change versus stasis for the Eurasian round goby in North America. *Mol. Ecol.*, 26(4), 1075–1090, <https://doi.org/10.1111/mec.13997>.
- Srinivasan, K., J.C. McWilliams, L. Renault, H.G. Hristova, J. Molemaker, and W.S. Kessler (2017): Topographic and mixed-layer submesoscale currents in the near-surface southwestern Tropical Pacific. *J. Phys. Oceanogr.*, 47(6), 1221–1242, <https://doi.org/10.1175/JPO-D-16-0216.1>.
- Stabeno, P.J., S. Bell, W. Cheng, S. Danielson, N.B. Kachel, and C.W. Mordy (2016): Long-term observations of Alaska Coastal Current in the northern Gulf of Alaska. *Deep-Sea Res. II*, 132, 24–40, Understanding Ecosystem Processes in the Gulf of Alaska: Volume 1, <https://doi.org/10.1016/j.dsr2.2015.12.016>.
- Stabeno, P.J., N.A. Bond, N.B. Kachel, C. Ladd, C.W. Mordy, and S.L. Strom (2016): Southeast Alaskan shelf from the southern tip of Baranof Island to Kayak Island: Currents, mixing and chlorophyll-a. *Deep-Sea Res. II*, 132, 6–23, Understanding Ecosystem Processes in the Gulf of Alaska: Volume 1, <https://doi.org/10.1016/j.dsr2.2015.06.018>.
- Stabeno, P.J., S. Danielson, D. Kachel, N.B. Kachel, and C.W. Mordy (2016): Currents and transport on the eastern Bering Sea shelf: An integration of over 20 years of data. *Deep-Sea Res. II*, 134, 13–29, Understanding Ecosystem Processes in the Eastern Bering Sea IV, <https://doi.org/10.1016/j.dsr2.2016.05.010>.
- Stabeno, P.J., J.T. Duffy-Anderson, L.B. Eisner, E.V. Farley, R.A. Heintz, and C.W. Mordy (2017): Return of warm conditions in the southeastern Bering Sea: Physics to fluorescence. *PLoS ONE*, 12(9), e0185464, <https://doi.org/10.1371/journal.pone.0185464>.
- Stepien, C.A., S.I. Karsiotis, T.J. Sullivan, and K.E. Klymus (2017): Population genetic structure and comparative diversity of smallmouth bass *Micropterus dolomieu*: Congruent patterns from two genomes. *J. Fish Biol.*, 90(5), 2125–2147, <https://doi.org/10.1111/jfb.13296>.
- Sutton, A.J., R. Wanninkhof, C.L. Sabine, R.A. Feely, M.F. Cronin, and R.A. Weller (2017): Variability and trends in surface seawater  $p\text{CO}_2$  and  $\text{CO}_2$  flux in the Pacific Ocean. *Geophys. Res. Lett.*, 44(11), 5627–5636, <https://doi.org/10.1002/2017GL073814>.

- Tagliabue, A., and J. Resing (2016): Impact of hydrothermalism on the ocean iron cycle. *Philos. Trans. R. Soc. Lond. A*, 374(2081), 20150291, Special issue: Biological and climatic impacts of ocean trace element chemistry, <https://doi.org/10.1098/rsta.2015.0291>.
- Talley, L.D., G.C. Johnson, S.G. Purkey, R.A. Feely, and R. Wanninkhof (2017): Global Ocean Ship-based Hydrographic Investigations Program (GO-SHIP) provides key climate-relevant deep ocean observations. *CLIVAR Variations*, 15(2), 8–14.
- Tao, C., S. Chen, E.T. Baker, H. Li, J. Liang, S. Liao, Y.J. Chen, X. Deng, G. Zhang, C. Gu, and J. Wu (2017): Hydrothermal plume mapping as a prospecting tool for seafloor sulfide deposits: A case study at the Zouyu-1 and Zouyu-2 hydrothermal fields in the southern Mid-Atlantic Ridge. *Mar. Geophys. Res.*, 38(1), 3–16, <https://doi.org/10.1007/s11001-016-9275-2>.
- Telg, H., D.M. Murphy, T.S. Bates, J.E. Johnson, P.K. Quinn, F. Giardi, and R.-S. Gao (2017): A practical set of miniaturized instruments for vertical profiling of aerosol physical properties. *Aerosol Sci. Tech.*, 51(6), 715–723, <https://doi.org/10.1080/02786826.2017.1296103>.
- Titov, V., Y.T. Song, L. Tang, E.N. Bernard, Y. Bar-Sever, and Y. Wei (2016): Consistent estimates of tsunami energy show promise for improved early warning. *Pure Appl. Geophys.*, 173(12), 3863–3880, <https://doi.org/10.1007/s00024-016-1312-1>.
- Titov, V.V., U. Kânoğlu, and C. Synolakis (2016): Development of MOST for real-time tsunami forecasting. *J. Waterw. Port Coast. Ocean Eng.*, 142(6), 03116004, [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000357](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000357).
- Tozuka, T., M.F. Cronin, and H. Tomita (2017): Surface frontogenesis by surface heat fluxes in the Upstream Kuroshio Extension region. *Sci. Rep.*, 7, 10258, <https://doi.org/10.1038/s41598-017-10268-3>.
- Van Pelt, T.I., J.M. Napp, C.J. Ashjan, H.R. Harvey, M.W. Lomas, M.F. Sigler, and P.J. Stabeno (2016): An introduction and overview of the Bering Sea Project: Volume IV. *Deep-Sea Res. II*, 134, 3–12, Understanding Ecosystem Processes in the Eastern Bering Sea IV, <https://doi.org/10.1016/j.dsr2.2016.09.002>.
- Walsh, T.J., E. Gica, D. Arcas, V.V. Titov, and D.W. Eungard (2016): Tsunami Hazard Maps of the San Juan Islands, Washington—Model Results from a Cascadia Subduction Zone Earthquake Scenario. Washington Division of Geology and Earth Resources Map Series 2016-01, Division of Geology and Earth Resources, Washington State Department of Natural Resources, Olympia, WA, 9 pp., [http://www.dnr.wa.gov/publications/ger\\_ms2016-01\\_tsunami\\_hazard\\_san\\_juan\\_islands.zip](http://www.dnr.wa.gov/publications/ger_ms2016-01_tsunami_hazard_san_juan_islands.zip), 4 sheets, scale 1:24,000 and 1:48,000.
- Wang, G., W. Cai, B. Gan, A. Santoso, X. Lin, Z. Chen, and M.J. McPhaden (2017): Continued increase of extreme El Niño frequency long after 1.5 °C warming stabilization. *Nature Clim. Change*, 7, 568–572, <https://doi.org/10.1038/nclimate3351>.
- Wang, Y., and M.J. McPhaden (2017): Seasonal cycle of cross-equatorial flow in the central Indian Ocean. *J. Geophys. Res.*, 122(5), 3817–3827, <https://doi.org/10.1002/2016JC012537>.

- Wilcock, W.S.D., M. Tolstoy, F. Waldhauser, C. Garcia, Y.J. Tan, D.R. Bohnenstiehl, J. Caplan-Auerback, R.P. Dziak, A.F. Arnulf, and M.E. Mann (2016): Seismic constraints on caldera dynamics from the 2015 Axial Seamount eruption. *Science*, 354(6318), 1395–1399, <https://doi.org/10.1126/science.aah5563>.
- Williams, N.L., L.W. Juranek, R.A. Feely, K.S. Johnson, J.L. Sarmiento, L.D. Talley, A.G. Dickson, A.R. Gray, R. Wanninkhof, J.L. Russell, S.C. Riser, and Y. Takeshita (2017): Calculating surface ocean  $p\text{CO}_2$  from biogeochemical Argo floats: An uncertainty analysis. *Global Biogeochem. Cycles*, 31(3), 591–604, <https://doi.org/10.1002/2016GB005541>.
- Xu, G., B.I. Larson, K.G. Bemis, and M.D. Lilley (2017): A preliminary 1-D model investigation of tidal variations of temperature and chlorinity at the Grotto mound, Endeavour Segment. *Geochem. Geophys. Geosyst.*, 18(1), 75–92, <https://doi.org/10.1002/2016GC006537>.
- Xu, G., and J.W. Lavelle (2017): Circulation, hydrography, and transport over the summit of Axial Seamount, a deep volcano in the northeast Pacific. *J. Geophys. Res.*, 122(7), 5404–5422, <https://doi.org/10.1002/2016JC012464>.
- Yang, Q., M. Wang, J.E. Overland, W. Wang, and T.W. Collow (2017): Impact of model physics on seasonal forecasts of surface air temperature in the Arctic. *Mon. Weather Rev.*, 145(3), 773–782, <https://doi.org/10.1175/MWR-D-16-0272.1>.
- Zatko, M., J. Erbland, J. Savarino, L. Geng, L. Easley, A. Schauer, T. Bates, P.K. Quinn, B. Light, D. Morison, H.D. Osthoff, S. Lyman, W. Neff, B. Yuan, and B. Alexander (2016): The magnitude of the snow-sourced reactive nitrogen flux to the boundary layer in the Uintah Basin, Utah, USA. *Atmos. Chem. Phys.*, 16, 13837–13851, <https://doi.org/10.5194/acp-16-13837-2016>.
- Zhang, C., and J. Ling (2017): Barrier effect of the Indo-Pacific maritime continent on the MJO: Perspectives from tracking MJO precipitation. *J. Climate*, 30(9), 3439–3459, <https://doi.org/10.1175/JCLI-D-16-0614.1>.

## PUBLICATIONS FY 2016

- Amaya, D.J., S.-P. Xie, A.J. Miller, and M.J. McPhaden (2015): Seasonality of tropical Pacific decadal trends associated with the 21st century global warming hiatus. *J. Geophys. Res.*, 120(10), 6782–6798, <https://doi.org/10.1002/2015JC010906>.
- Asch, R.G., D.J. Pilcher, S. Rivero-Calle, and J.M. Holding (2016): Demystifying models: Answers to ten common questions that ecologists have about Earth system models. *Limnol. Oceanogr. Bulletin*, 25(3), 65–70, <https://doi.org/10.1002/lob.10113>.
- Baker, E.T. (2016): Hydrothermal plumes. In *Encyclopedia of Marine Geosciences*, J. Harff, M. Meschede, S. Petersen, and J. Thiede (eds.), Springer Netherlands, 335–339.
- Baker, E.T., J.A. Resing, R.M. Haymon, V. Tunnicliffe, J.W. Lavelle, F. Martinez, V. Ferrini, S.L. Walker, and K. Nakamura (2016): How many vent fields? New estimates of vent field populations

on ocean ridges from precise mapping of hydrothermal discharge locations. *Earth Planet. Sci. Lett.*, 449, 186–196, <https://doi.org/10.1016/j.epsl.2016.05.031>.

- Bakker, D.C.E., B. Pfeil, C.S. Landa, N. Metzl, K.M. O'Brien, A. Olsen, K. Smith, C. Cosca, S. Harasawa, S.D. Jones, S.-I. Nakaoka, Y. Nojiri, U. Schuster, T. Steinhoff, C. Sweeney, T. Takahashi, B. Tilbrook, C. Wada, R. Wanninkhof, S.R. Alin, C.F. Balestrini, L. Barbero, N.R. Bates, A.A. Bianchi, F. Bonou, J. Boutin, Y. Bozec, E.F. Burger, W.-J. Cai, R.D. Castle, L. Chen, M. Chierici, K. Currie, W. Evans, C. Featherstone, R.A. Feely, A. Fransson, C. Goyet, N. Greenwood, L. Gregor, S. Hankin, N.J. Hardman-Mountford, J. Harlay, J. Hauck, M. Hoppema, M.P. Humphreys, C.W. Hunt, B. Huss, J.S.P. Ibáñez, T. Johannessen, R. Keeling, V. Kitidis, A. Körtzinger, A. Kozyr, E. Krasakopolou, A. Kuwata, P. Landschützer, S.K. Lauvset, N. Lefèvre, C. Lo Monaco, A. Manke, J.T. Mathis, L. Merlivat, F.J. Millero, P.M.S. Monteiro, D.R. Munro, A. Murata, T. Newberger, A.M. Omar, T. Ono, K. Paterson, D. Pearce, D. Pierrot, L.L. Robbins, S. Saito, J. Salisbury, R. Schlitzer, B. Schneider, R. Schweitzer, R. Sieger, I. Skjelvan, K.F. Sullivan, S.C. Sutherland, A.J. Sutton, K. Tadokoro, M. Telszewski, M. Tuma, S.M.A.C. van Heuven, D. Vandemark, B. Ward, A.J. Watson, and S. Xu (2016): A multi-decade record of high quality  $f\text{CO}_2$  data in version 3 of the Surface Ocean  $\text{CO}_2$  Atlas (SOCAT). *Earth Syst. Sci. Data*, 8, 383–413, <https://doi.org/10.5194/essd-8-383-2016>. [HIGHLY CITED PAPER]
- Balcazar, N.E., J.S. Tripovich, H. Klinck, S.L. Nieukirk, D.K. Mellinger, R.P. Dziak, and T.L. Rogers (2015): Calls reveal population structure of blue whales across the southeast Indian Ocean and southwest Pacific Ocean. *J. Mammal.*, 96(6), 1184–1193, <https://doi.org/10.1093/jmammal/gyv126>.
- Barberopoulou, A., M.R. Legg, and E. Gica (2015): Time evolution of man-made harbour modifications in San Diego: Effects on tsunamis. *J. Mar. Sci. Eng.*, 3(4), 1382–1403, <https://doi.org/10.3390/jmse3041382>.
- Barrett, P.M., J.A. Resing, N.J. Buck, W.M. Landing, P.L. Morton, and R.U. Shelley (2015): Changes in the distribution of Al and particulate Fe along A16N in the eastern North Atlantic Ocean between 2003 and 2013: Implications for changes in aerosol dust deposition. *Mar. Chem.*, 177(1), 57–68, <https://doi.org/10.1016/j.marchem.2015.02.009>.
- Beaulieu, S.E., E.T. Baker, and C.R. German (2015): Where are the undiscovered hydrothermal vents on oceanic spreading ridges? *Deep-Sea Res. II*, 121, 202–212, <https://doi.org/10.1016/j.dsr2.2015.05.001>.
- Bednaršek, N., C.J. Harvey, I.C. Kaplan, R.A. Feely, and J. Mozina (2016): Pteropods on the edge: Cumulative effects of ocean acidification, warming, and deoxygenation. *Prog. Oceanogr.*, 145, 1–24, <https://doi.org/10.1016/j.pocean.2016.04.002>.
- Bednaršek, N., J. Johnson, and R.A. Feely (2016): Comment on Peck et al.: Vulnerability of pteropod (*Limacina helicina*) to ocean acidification: Shell dissolution occurs despite an intact organic layer. *Deep-Sea Res. II*, 127, 53–56, <https://doi.org/10.1016/j.dsr2.2016.03.006>.
- Benway, H., S. Alin, E. Boyer, W.-J. Cai, P. Coble, J. Cross, M. Friedrichs, M. Goñi, P. Griffith, M. Herrmann, S. Lohrenz, J. Mathis, G. McKinley, R. Najjar, C. Pilskalns, S. Siedlecki, and R. Smith (2016): A Science Plan for Carbon Cycle Research in North American Coastal Waters. In *Report of*

*the Coastal CARbon Synthesis (CCARS) community workshop*, Ocean Carbon and Biogeochemistry Program and North American Carbon Program, 19–21 August 2014, 84 pp, <https://doi.org/10.1575/1912/7777>.

- Bernard, E., and V.V. Titov (2015): Evolution of tsunami warning systems and products. *Philos. Trans. R. Soc. Lond. A*, 373(2053), 20140371, <https://doi.org/10.1098/rsta.2014.0371>.
- Boyer, T., C.M. Domingues, S.A. Good, G.C. Johnson, J.M. Lyman, M. Ishii, V. Gouretski, J.K. Willis, J. Antonov, S. Wijffels, J.A. Church, R. Cowley, and N.L. Bindoff (2016): Sensitivity of global upper-ocean heat content estimates to mapping methods, XBT bias corrections, and baseline climatologies. *J. Climate*, 29(13), 4817–4842, <https://doi.org/10.1175/JCLI-D-15-0801.1>.
- Brévière, E.H.G., D.C.E. Bakker, H.W. Bange, T.S. Bates, T.G. Bell, P.W. Boyd, R.A. Duce, V. Garçon, M.T. Johnson, C.S. Law, C.A. Marandino, A. Olsen, B. Quack, P.K. Quinn, C.L. Sabine, and E.S. Saltzman (2015): Surface ocean-lower atmosphere study: Scientific synthesis and contribution to Earth system science. *Anthropocene*, 121, 54–68, <https://doi.org/10.1016/j.ancene.2015.11.001>.
- Butler, J.H., S.A. Yvon-Lewis, J.M. Lobert, D.B. King, S.A. Montzka, J.L. Bullister, V. Koropalov, J.W. Elkins, B.D. Hall, L. Hu, and Y. Liu (2016): A comprehensive estimate for loss of atmospheric carbon tetrachloride (CCl<sub>4</sub>) to the ocean. *Atmos. Chem. Phys.*, 16, 10899–10910, <https://doi.org/10.5194/acp-16-10899-2016>.
- Carey, S., R. Olsen, K.L.C. Bell, R. Ballard, F. Dondin, C. Roman, C. Smart, M. Lilley, J. Lupton, B. Seibel, W. Cornell, and C. Moyer (2016): Hydrothermal venting and mineralization in the crater of Kick'em Jenny submarine volcano, Grenada (Lesser Antilles). *Geochem. Geophys. Geosyst.*, 17, 1000–1019, <https://doi.org/10.1002/2015GC006060>.
- Carter, B.R., T.L. Frölicher, J.P. Dunne, K.B. Rodgers, R.D. Slater, and J.L. Sarmiento (2016): When can ocean acidification impacts be detected from decadal alkalinity measurements? *Global Biogeochem. Cycles*, 30(4), 595–612, <https://doi.org/10.1002/2015GB005308>.
- Carter, B.R., N.L. Williams, A.R. Gray, and R.A. Feely (2016): Locally interpolated alkalinity regression for global alkalinity estimation. *Limnol. Oceanogr. Methods*, 14(4), 268–277, <https://doi.org/10.1002/lom3.10087>.
- Chan, F., A.B. Boehm, J.A. Barth, E.A. Chornesky, A.G. Dickson, R.A. Feely, B. Hales, T.M. Hill, G. Hofmann, D. Ianson, T. Klinger, J. Largier, J. Newton, T.F. Pedersen, G.N. Somero, M. Sutula, W.W. Wakefield, G.G. Waldbusser, S.B. Weisberg, and E.A. Whiteman (2016): *The West Coast Ocean Acidification and Hypoxia Science Panel: Major Findings, Recommendations, and Actions*. West Coast Ocean Acidification and Hypoxia Panel, California Ocean Science Trust, Oakland, California.
- Chapa-Balcorta, C., J.M. Hernandez-Ayon, R. Durazo, E. Beier, S.R. Alin, and A. López-Pérez (2015): Influence of post-Tehuano oceanographic processes in the dynamics of the CO<sub>2</sub> system in the Gulf of Tehuantepec, Mexico. *J. Geophys. Res.*, 120(12), 7752–7770, <https://doi.org/10.1002/2015JC011249>.



- Cokelet, E.D., R. Jenkins, C. Meinig, N. Lawrence-Slavas, C.W. Mordy, P.J. Stabeno, H. Tabisola, and J.N. Cross (2015): The use of Saldrones to examine spring conditions in the Bering Sea: Instrument comparisons, sea ice meltwater and Yukon River plume studies. In *Oceans 2015 MTS/IEEE*, Marine Technology Society and Institute of Electrical and Electronics Engineers, Washington, DC, 19–22 October 2015.
- Courtney, T.A., A.J. Andersson, N.R. Bates, A. Collins, T. Cyronak, S.J. de Putron, B.D. Eyre, R. Garley, E.J. Hochberg, R. Johnson, S. Musielewicz, T.J. Noyes, C.L. Sabine, A.J. Sutton, J. Toncin, and A. Tribollet (2016): Comparing chemistry and census-based estimates of net ecosystem calcification on a rim reef in Bermuda. *Front. Mar. Sci.*, 3, 181, <https://doi.org/10.3389/fmars.2016.00181>.
- Cronin, M.F. (2016): Where's the data? *CLIVAR Exchanges*, 69, 20(1), 31.
- Cronin, M.F., N.A. Pelland, S.R. Emerson, and W.R. Crawford (2015): Estimating diffusivity from the mixed layer heat and salt balances in the North Pacific. *J. Geophys. Res.*, 120(11), 7346–7362, <https://doi.org/10.1002/2015JC011010>.
- Cronin, M.F., and T. Tozuka (2016): Steady state ocean response to wind forcing in extratropical frontal regions. *Sci. Rep.*, 6, 28842, <https://doi.org/10.1038/srep28842>.
- Cross, J.N., C.W. Mordy, H. Tabisola, C. Meinig, E.D. Cokelet, and P.J. Stabeno (2015): Innovative technology development for Arctic exploration. In *Oceans 2015 MTS/IEEE*, Marine Technology Society and Institute of Electrical and Electronics Engineers, Washington, DC, 19–22 October 2015.
- de Ronde, C.E.J., D.J. Fornari, V.L. Ferrini, S.L. Walker, B.W. Davy, C. LeBlanc, F. Caratori Tontini, A.L. Kukulya, and R.H. Littlefield (2016): The pink and white terraces of Lake Rotomahana: What was their fate after the 1886 Tarawera eruption? *J. Volcanol. Geoth. Res.*, 314, 126–141, Special issue: The Lake Rotomahana Geothermal System and Effects of the 1886 Mt. Tarawera Eruption, <https://doi.org/10.1016/j.jvolgeores.2016.02.003>.
- de Ronde, C.E.J., S.L. Walker, C. LeBlanc, B.W. Davy, D.J. Fornari, F. Caratori Tontini, B.J. Scott, F.H. Seebeck, T.J. Stewart, A. Mazot, A. Nicol, and M.A. Tivey (2016): Reconstruction of the geology and structure of Lake Rotomahana and its hydrothermal systems from high-resolution multibeam mapping and seismic surveys: Effects of the 1886 Mt. Tarawera eruption.. *J. Volcanol. Geoth. Res.*, 314, 57–83, Special issue: The Lake Rotomahana Geothermal System and Effects of the 1886 Mt. Tarawera Eruption, <https://doi.org/10.1016/j.jvolgeores.2016.02.002>.
- Dilmen, D.I., V.V. Titov, and G.H. Roe (2015): Evaluation of the relationship between coral damage and tsunami dynamics; case study: 2009 Samoa tsunami. *Pure Appl. Geophys.*, 172(12), 3557–3572, <https://doi.org/10.1007/s00024-015-1158-y>.
- Doherty, S.J., D.A. Hegg, J.E. Johnson, P.K. Quinn, J.P. Schwarz, C. Dang, and S.G. Warren (2016): Causes of variability in light absorption by particles in snow at sites in Idaho and Utah. *J. Geophys. Res.*, 121(9), 4751–4768, <https://doi.org/10.1002/2015JD024375>.

- Dziak, R.P., J.H. Haxel, H. Matsumoto, C. Meinig, N. Delich, J. Osse, and M. Wetzler (2015): Deployment and recovery of a full-ocean depth mooring at Challenger Deep, Mariana Trench. In *Oceans 2015 MTS/IEEE*, Marine Technology Society and Institute of Electrical and Electronics Engineers, Washington, DC, 19–22 October 2015.
- Dziak, R.P., and S.G. Merle (2016): Growth, demise, and recent eruption history of the eastern Cobb-Eickelberg Seamounts at the intersection with the Juan de Fuca Ridge. In *Plate Boundaries and Natural Hazards*, J. Duarte and W. Schellart (eds.), AGU Monograph, American Geophysical Union, ISBN: 978-1-119-05397-2.
- Eblé, M.C., G.T. Mungov, and A.B. Rabinovich (2015): On the leading negative phase of major 2010–2014 tsunamis. *Pure Appl. Geophys.*, 172(12), 3493–3508, <https://doi.org/10.1007/s00024-015-1127-5>.
- Fassbender, A.J., C.L. Sabine, and M.F. Cronin (2016): Net community production and calcification from 7 years of NOAA Station Papa Mooring measurements. *Global Biogeochem. Cycles*, 30, 250–267, <https://doi.org/10.1002/2015GB005205>.
- Fassbender, A.J., C.L. Sabine, and K.M. Feifel (2016): Consideration of coastal carbonate chemistry in understanding biological calcification. *Geophys. Res. Lett.*, 43, 4467–4476, <https://doi.org/10.1002/2016GL068860>.
- Feely, R.A., R. Wanninkhof, B.R. Carter, J.N. Cross, J.T. Mathis, C.L. Sabine, C.E. Cosca, and J.A. Tirnanes (2016): Global ocean carbon cycle. In *State of the Climate in 2015*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 97(8), S89–S92, <https://doi.org/10.1175/2016BAMSStateoftheClimate.1>.  
**[HIGHLY CITED PAPER]**
- Fregosi, S., H. Klinck, M. Horning, D.P. Costa, D. Mann, K. Sexton, L.A. Hückstädt, D.K. Mellinger, and B.L. Southall (2016): An animal-borne active acoustic tag for minimally invasive behavioral response studies on marine mammals. *Animal Biotelemetry*, 4, 9, <https://doi.org/10.1186/s40317-016-0101-z>.
- Freitag, H.P., C. Ning, P. Berk, D. Dougherty, R. Marshall, J.M. Strick, and D. Zimmerman (2016): ATLAS, T-Flex, BaiLong meteorological sensor comparison test report. NOAA Tech. Memo. OAR PMEL-148, NOAA/Pacific Marine Environmental Laboratory, Seattle WA, 40 pp, <https://doi.org/10.7289/V57942PP>.
- Gao, R.S., H. Telg, R.J. McLaughlin, S.J. Ciciora, L.A. Watts, M.S. Richardson, J.P. Schwarz, A.E. Perring, T.D. Thornberry, A.W. Rollins, M.Z. Markovic, T.S. Bates, J.E. Johnson, and D.W. Fahey (2016): A light-weight, high-sensitivity particle spectrometer for PM<sub>2.5</sub> aerosol measurements. *Aerosol Sci. Tech.*, 50(1), 88–99, <https://doi.org/10.1080/02786826.2015.1131809>.
- Giglio, D., and G.C. Johnson (2016): Subantarctic and Polar fronts of the Antarctic Circumpolar Current and Southern Ocean heat and freshwater variability: A view from Argo. *J. Phys. Oceanogr.*, 46(3), 749–768, <https://doi.org/10.1175/JPO-D-15-0131.1>.

- Gleckler, P.J., P.J. Durack, R.J. Stouffer, G.C. Johnson, and C.E. Forest (2016): Industrial-era global ocean heat uptake doubles in recent decades. *Nature Clim. Change*, 6(4), 394–398, <https://doi.org/10.1038/nclimate2915>.
- Grand, M.M., C.I. Measures, M. Hatta, P.L. Morton, P.M. Barrett, A. Milne, J.A. Resing, and W.M. Landing (2015): The impact of circulation and dust deposition in controlling the distributions of dissolved Fe and Al in the South Indian subtropical gyre. *Mar. Chem.*, 176, 110–125, <https://doi.org/10.1016/j.marchem.2015.08.002>.
- Guilyardi, E., A. Wittenberg, M. Balmaseda, W. Cai, M. Collins, M.J. McPhaden, M. Watanabe, and S.-W. Yeh (2016): [Meeting summary:] Fourth CLIVAR Workshop on the Evaluation of ENSO Processes in Climate Models: ENSO in a changing climate. *Bull. Am. Meteorol. Soc.*, 97(5), 817–820, <https://doi.org/10.1175/BAMS-D-15-00287.1>.
- Sheffield Guy, L., S.E. Moore, and P.J. Stabeno (2016): What does the Pacific Arctic’s new normal mean for marine life? *Eos Trans. AGU*, 97, <https://doi.org/10.1029/2016EO051731>.
- Hales, B., F. Chan, A.B. Boehm, J.A. Barth, E.A. Chornesky, A.G. Dickson, R.A. Feely, T.M. Hill, G. Hofmann, D. Ianson, T. Klinger, J. Largier, J. Newton, T.F. Pedersen, G.N. Somero, M. Sutula, W.W. Wakefield, G.G. Waldbusser, S.B. Weisberg, and E.A. Whiteman (2016): *Multiple Stressor Considerations: Ocean Acidification in a Deoxygenating Ocean and Warming Climate*. West Coast Ocean Acidification and Hypoxia Panel, California Ocean Science Trust, Oakland, California.
- Hawkes, J.A., P.E. Rossel, A. Stubbins, D.A. Butterfield, D.P. Connelly, E.P. Achterberg, A. Koschinsky, V. Chavagnac, C.T. Hansen, W. Bach, and T. Dittmar (2015): Efficient removal of recalcitrant deep-ocean dissolved organic matter during hydrothermal circulation. *Nature Geosci.*, 8, 856–860, <https://doi.org/10.1038/ngeo2543>.
- Haxel, J., A. Turpin, H. Matsumoto, H. Klinck, D. Hellin, and S. Henkel (2016): A portable, real-time passive acoustic system and autonomous hydrophone array for noise monitoring of offshore wave energy projects. In *Proceedings of the 4th Annual Marine Energy Technology Symposium 2016, National Hydropower Association Water Week*, National Hydropower Association, Washington, DC, 25–27 April 2016.
- Hobday, A.J., L.V. Alexander, S.E. Perkins, D.A. Smale, S.C. Straub, E.C.J. Oliver, J. Benthuyssen, M.T. Burrows, M.G. Donat, M. Feng, N.J. Holbrook, P.J. Moore, H.A. Scannell, A. Sen Gupta, and T. Wernberg (2016): A hierarchical approach to defining marine heatwaves. *Prog. Oceanogr.*, 141, 227–238, <https://doi.org/10.1016/j.poccean.2015.12.014>. [HIGHLY CITED PAPER]
- Hood, R.R., E.R. Urban, M.J. McPhaden, and N. D’Adamo (2015): Status and plans for the 2nd International Indian Ocean Expedition (IIOE-2). *CLIVAR Exchanges*, 68–19(3), 21–25.
- Hurst, T.P., B.J. Laurel, J.T. Mathis, and L.R. Tabosa (2016): Effects of elevated CO<sub>2</sub> levels on eggs and larvae of a North Pacific flatfish. *ICES J. Mar. Sci.*, 73, 981–990, <https://doi.org/10.1093/icesjms/fsv050>, Published online.

- Jamieson, J.W., M.D. Hannington, M.K. Tivey, T. Hansteen, N.M.-B. Williamson, M. Stewart, J. Fietzke, D.A. Butterfield, M. Frische, L. Allen, B. Cousens, and J. Langer (2016): Precipitation and growth of barite within hydrothermal vent deposits from the Endeavour Segment, Juan de Fuca Ridge. *Geochim. Cosmochim. Acta*, 173, 64–85, <https://doi.org/10.1016/j.gca.2015.10.021>.
- Jiang, L.-Q., R.A. Feely, B.R. Carter, D.J. Greeley, D.K. Gledhill, and K.M. Arzayus (2015): Climatological distribution of aragonite saturation state in the global oceans. *Global Biogeochem. Cycles*, 29(10), 1656–1673, <https://doi.org/10.1002/2015GB005198>.
- Johnson, G.C. (2016): Overview. In *State of the Climate in 2015*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 97(8), S63, <https://doi.org/10.1175/2016BAMSStateoftheClimate.1>. [HIGHLY CITED PAPER]
- Johnson, G.C., J.M. Lyman, T. Boyer, C.M. Domingues, M. Ishii, R. Killick, and D. Monselan (2016): Ocean heat content. In *State of the Climate in 2015*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 97(8), S66–S70, <https://doi.org/10.1175/2016BAMSStateoftheClimate.1>. [HIGHLY CITED PAPER]
- Johnson, G.C., J.M. Lyman, and N.G. Loeb (2016): Improving estimates of Earth’s energy imbalance. *Nature Clim. Change*, 6, 639–640, <https://doi.org/10.1038/nclimate3043>.
- Johnson, G.C., J.M. Lyman, and S.G. Purkey (2015): Informing Deep Argo array design using Argo and full-depth hydrographic section data. *J. Atmos. Oceanic Tech.*, 32(11), 2187–2198, <https://doi.org/10.1175/JTECH-D-15-0139.1>.
- Johnson, G.C., J. Reagan, J.M. Lyman, T. Boyer, C. Schmid, and R. Locarnini (2016): Salinity. In *State of the Climate in 2015*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 97(8), S70–S74, <https://doi.org/10.1175/2016BAMSStateoftheClimate.1>. [HIGHLY CITED PAPER]
- Jung, T., F. Doblas-Reyes, H. Goessling, V. Guemas, C. Bitz, C. Buontempo, R. Caballero, E. Jakobson, J. Jungclaus, M. Karcher, T. Koenigk, D. Matei, J. Overland, T. Spengler, and S. Yang (2015): Polar-lower latitude linkages and their role in weather and climate prediction. *Bull. Am. Meteorol. Soc.*, 96(11), 197–200, International Workshop on Polar-lower Latitude Linkages in Weather and Climate Prediction, Barcelona, Spain, 10–12 December 2014, <https://doi.org/10.1175/BAMS-D-15-00121.1>.
- Kânoğlu, U., V.V. Titov, E. Bernard, and C. Synolakis (2015): Tsunamis: Bridging science, engineering and society. *Philos. Trans. R. Soc. Lond. A*, 373(2053), 20140369, <https://doi.org/10.1098/rsta.2014.0369>.
- Kaplan, I.C., G.D. Williams, N.A. Bond, A.J. Hermann, and S.A. Siedlecki (2016): Cloudy with a chance of sardines: Forecasting sardine distributions using regional climate models. *Fish. Oceanogr.*, 25(1), 15–27, <https://doi.org/10.1111/fog.12131>.
- Kealoha, A.K., S.E. Kahng, F.T. Mackenzie, S.R. Alin, R.K. Kosaki, R.E. Brainerd, and C.D. Winn (2015): Latitudinal trends and drivers in the CO<sub>2</sub>-carbonic acid system of Papahānaumokuākea Marine National Monument. *Aquat. Geochem.*, 21(6), 535–553, <https://doi.org/10.1007/s10498-015-9273-z>.

- Kemeny, P.C., M.A. Weigand, R. Zhang, B.R. Carter, K.L. Karsh, S.E. Fawcett, and D.M. Sigman (2016): Enzyme-level interconversion of nitrate and nitrite in the fall mixed layer of the Antarctic Ocean. *Global Biogeochem. Cycles*, 30(7), 1069–1085, <https://doi.org/10.1002/2015GB005350>.
- Kieber, D.J., W.C. Keene, A.A. Frossard, M.S. Long, J.R. Maben, L.M. Russell, J.D. Kinsey, I.M.B. Tyssebotn, P.K. Quinn, and T.S. Bates (2016): Coupled ocean-atmospheric cycling of marine refractory dissolved organic carbon. *Geophys. Res. Lett.*, 43, 2765–2772, <https://doi.org/10.1002/2016GL068273>.
- Klinck, H., L. Kindermann, and O. Boebel (2016): Palaoa: The perennial acoustic observatory in the Antarctic Ocean—Real-time eavesdropping on the Antarctic underwater soundscape. In *Listening in the Ocean*, W.W.L. Au and M.O. Lammers (eds.), Modern Acoustic and Signal Processing, 207–219.
- Klinger, T., S.B. Weisberg, J.A. Barth, A.B. Boehm, F. Chan, E.A. Chornesky, A.G. Dickson, R.A. Feely, B. Hales, T.M. Hill, G. Hofmann, D. Ianson, J. Largier, J. Newton, T.F. Pedersen, G.N. Somero, M. Sutula, W.W. Wakefield, G.G. Waldbusser, and E.A. Whiteman (2016): *Ocean Acidification and Hypoxia Research Priorities to Inform Decisions and Develop Solutions*. West Coast Ocean Acidification and Hypoxia Panel, California Ocean Science Trust, Oakland, California.
- Küsel, E.T., M. Siderius, and D.K. Mellinger (2016): Single-sensor, cue-counting population density estimation: Average probability of detection of broadband clicks. *J. Acoust. Soc. Am.*, 140(3), 1894–1903, <https://doi.org/10.1121/1.4962753>.
- Ladd, C., C.W. Mordy, S.A. Salo, and P.J. Stabeno (2016): Winter water properties and the Chukchi polynya. *J. Geophys. Res.*, 121(8), 5516–5534, <https://doi.org/10.1002/2016JC011918>.
- Larson, B.I., S.Q. Lang, M.D. Lilley, E.J. Olson, J.E. Lupton, K. Nakamura, and N.J. Buck (2015): Stealth export of hydrogen and methane from a low temperature serpentinization system. *Deep-Sea Res. II*, 121, 233–245, <https://doi.org/10.1016/j.dsr2.2015.05.007>.
- Le Quéré, C., R. Moriarty, R.M. Andrew, J.G. Canadell, S. Sitch, J.I. Korsbakken, G.P. Peters, R.J. Andres, T.A. Boden, P. Friedlingstein, R.A. Houghton, J.I. House, R.F. Keeling, G. Marland, P. Tans, A. Arneeth, D.C.E. Bakker, L. Barbero, L. Bopp, J. Chang, F. Chevallier, L.P. Chini, P. Ciais, M. Fader, R.A. Feely, T. Gkritzalis, I. Harris, J. Hauck, T. Ilyana, A.K. Jain, E. Kato, V. Kitidis, K. Klein Goldewijk, C. Koven, P. Landschützer, S.K. Lauvset, N. Lefèvre, A. Lenton, I.D. Lima, N. Metzl, F. Millero, D. Munro, A. Murata, J.E.M.S. Nabel, S. Nakaoka, Y. Nojiri, K. O'Brien, A. Olsen, T. Ono, F.F. Pérez, B. Pfeil, D. Pierrot, B. Poulter, G. Rehder, C. Rödenbeck, S. Saito, U. Schuster, J. Schwinger, R. Séférian, T. Steinhoff, B.D. Stocker, A.J. Sutton, T. Takahashi, B. Tilbrook, I. van der Laan-Luijkx, G.R. van der Werf, S. van Heuven, D. Vandemark, N. Viovy, A. Wiltshire, and S. Zaehle (2015): Global Carbon Budget 2015. *Earth Sys. Sci. Data*, 7, 349–396, <https://doi.org/10.5194/essd-7-349-2015>. [HIGHLY CITED PAPER]
- Legler, D.M., H.J. Freeland, R. Lumpkin, G. Ball, M.J. McPhaden, S. North, R. Cowley, G.J. Goni, U. Send, and M.A. Merrifield (2015): The current status of the real-time in situ Global Ocean Observing System for operational oceanography. *J. Oper. Oceanogr.*, 8(Suppl. 2), S189–S200, <https://doi.org/10.1080/1755876X.2015.1049883>.

- Levine, A.F.Z., F.-F. Jin, and M.J. McPhaden (2016): Extreme noise—extreme El Niño: How state-dependent noise forcing creates El Niño-La Niña asymmetry. *J. Climate*, 29(15), 5483–5499, <https://doi.org/10.1175/JCLI-D-16-0091.1>.
- Levine, A.F.Z., and M.J. McPhaden (2016): How the July 2014 easterly wind burst gave the 2015-6 El Niño a head start. *Geophys. Res. Lett.*, 43(12), 6503–6510, <https://doi.org/10.1002/2016GL069204>.  
[HIGHLY CITED PAPER]
- Lin, T.J., H.C. Ver Eecke, E.A. Breves, M.D. Dyar, J.W. Jamieson, M.D. Hannington, H. Dahle, J.L. Bishop, M.D. Lane, D.A. Butterfield, D.S. Kelley, M.D. Lilley, J.A. Baross, and J.F. Holden (2016): Linkages between mineralogy, fluid chemistry, and microbial communities within hydrothermal chimneys from the Endeavor Segment, Juan de Fuca Ridge. *Geochem. Geophys. Geosyst.*, 17(2), 300–323, <https://doi.org/10.1002/2015GC006091>.
- Martini, K.I., P.J. Stabeno, C. Ladd, P. Winsor, T.J. Weingartner, C.W. Mordy, and L.B. Eisner (2016): Dependence of subsurface chlorophyll on seasonal water masses in the Chukchi Sea. *J. Geophys. Res.*, 121(3), 1755–1770, <https://doi.org/10.1002/2015JC011359>.
- Matsumoto, H., J. Haxel, A. Turpin, S. Fregosi, H. Klinck, K. Klinck, S. Bauman-Pickering, A. Erofeev, J.A. Barth, R.P. Dziak, and C. Jones (2015): Simultaneous operation of mobile acoustic recording systems off the Washington Coast for cetacean studies: System noise level evaluations. In *Oceans 2015 MTS/IEEE*, Marine Technology Society and Institute of Electrical and Electronics Engineers, Washington, DC, 19–22 October 2015.
- May, N.W., P.K. Quinn, S.M. McNamara, and K.A. Pratt (2016): Multiyear study of the dependence of sea salt aerosol on wind speed and sea ice conditions in the coastal Arctic. *J. Geophys. Res.*, 121(15), 9208–9219, <https://doi.org/10.1002/2016JD025273>.
- McClatchie, S., A.R. Thompson, S.R. Alin, S. Siedlecki, W. Watson, and S.J. Bograd (2016): The influence of Pacific Equatorial Water on fish diversity in the southern California Current System. *J. Geophys. Res.*, 121(8), 4407, <https://doi.org/10.1002/2016JC011672>.
- McKinley, G.A., D.J. Pilcher, A.R. Fay, K. Lindsay, M.C. Long, and N.S. Lovenduski (2016): Timescales for detection of trends in the ocean carbon sink. *Nature*, 530, 469–472, <https://doi.org/10.1038/nature16958>.
- McPhaden, M.J., A. Timmermann, M.J. Widlansky, M.A. Balmaseda, and T.N. Stockdale (2015): The curious case of the El Niño that never happened: A perspective from 40 years of progress in climate research and forecasting. *Bull. Am. Meteorol. Soc.*, 96, 1647–1665, <https://doi.org/10.1175/BAMS-D-14-00089.1>.
- Meinig, C., R. Jenkins, N. Lawrence-Slavas, and H. Tabisola (2015): The use of Saildrones to examine spring conditions in the Bering Sea: Vehicle specification and mission performance. In *Oceans 2015 MTS/IEEE*, Marine Technology Society and Institute of Electrical and Electronics Engineers, Washington, DC, 19–22 October 2015.

- Monteiro, P.M.S., L. Gregor, M. Lévy, S. Maenner, C.L. Sabine, and S. Swart (2015): Intraseasonal variability linked to sampling alias in air-sea CO<sub>2</sub> fluxes in the Southern Ocean. *Geophys. Res. Lett.*, 42(20), 8507–8514, <https://doi.org/10.1002/2015GL066009>.
- Murphy, D.M., H. Telg, T.F. Eck, J. Rodriguez, S.E. Stalin, and T.S. Bates (2016): A miniature scanning sun photometer for vertical profiles and mobile platforms. *Aerosol Sci. Tech.*, 50(1), 11–16, <https://doi.org/10.1080/02786826.2015.1121200>.
- Naito, C., H.R. Riggs, Y. Wei, and C. Cercone (2016): Shipping container impact assessment for tsunamis. *J. Waterw. Port Coast. Ocean Eng.*, 142(5), 05016003, [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000348](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000348).
- Newton, J., T.M. Hill, R.A. Feely, J.A. Barth, A.B. Boehm, F. Chan, E.A. Chornesky, A.G. Dickson, B. Hales, G. Hofmann, D. Ianson, T. Klinger, J. Largier, T.F. Pedersen, G.N. Somero, M. Sutula, W.W. Wakefield, G.G. Waldbusser, S.B. Weisberg, and E.A. Whiteman (2016): *Ocean Acidification and Hypoxia Monitoring Network: Tracking the Impacts of Changing Ocean Chemistry to Inform Decisions*. West Coast Ocean Acidification and Hypoxia Panel, California Ocean Science Trust, Oakland, California.
- Nieukirk, S.L., S. Fregosi, D.K. Mellinger, and H. Klinck (2016): A complex baleen whale call recorded in the Mariana Trench Marine National Monument. *J. Acoust. Soc. Am.*, 140(3), EL274, <https://doi.org/10.1121/1.4962377>.
- Osse, J., S. Stalin, C. Meinig, and H. Milburn (2015): The PRAWLER, a vertical profiler: Powered by wave energy. In *Oceans 2015 MTS/IEEE*, Marine Technology Society and Institute of Electrical and Electronics Engineers, Washington, DC, 19–22 October 2015.
- Overland, J., E. Hanna, I. Hanssen-Bauer, S.-J. Kim, J. Walsh, M. Wang, and U.S. Bhatt (2016): Arctic air temperature. In *State of the Climate in 2015*, The Arctic. *Bull. Am. Meteorol. Soc.*, 97(8), S132–S134, <https://doi.org/10.1175/2016BAMSStateoftheClimate.1>. [HIGHLY CITED PAPER]
- Overland, J.E. (2016): A difficult Arctic science issue: Mid-latitude weather linkages. *Polar Sci.*, 10(3), 210–216, <https://doi.org/10.1016/j.polar.2016.04.011>.
- Overland, J.E. (2016): Is the melting Arctic changing mid-latitude weather? *Phys. Today*, 69(3), 38–43, <https://doi.org/10.1063/PT.3.3107>.
- Overland, J.E., J. Francis, R. Hall, E. Hanna, S.-J. Kim, and T. Vihma (2015): The melting Arctic and mid-latitude weather patterns: Are they connected? *J. Climate*, 28(20), 7917–7932, <https://doi.org/10.1175/JCLI-D-14-00822.1>. [HIGHLY CITED PAPER]
- Overland, J.E., and M. Wang (2016): Recent extreme Arctic temperatures are due to a split polar vortex. *J. Climate*, 29(15), 5609–5616, <https://doi.org/10.1175/JCLI-D-16-0320.1>.
- Oxtoby, L.E., J.T. Mathis, L.W. Juranek, and M.J. Wooller (2016): Estimating stable carbon isotope values of microphytobenthos in the Arctic for application to food web studies. *Polar Biol.*, 39(3), 473–483, <https://doi.org/10.1007/s00300-015-1800-2>.

- Pantelev, G., M. Yaremchuk, O. Francis, P.J. Stabeno, T. Weingartner, and J. Zhang (2016): An inverse modeling study of circulation in the Eastern Bering Sea during 2007-2010. *J. Geophys. Res.*, *121*, 3970–3989, <https://doi.org/10.1002/2015JC011287>.
- Patsavas, M.C., R.H. Byrne, R. Wanninkhof, R.A. Feely, and W.-J. Cai (2015): Internal consistency of marine carbonate system measurements and assessments of aragonite saturation state: Insights from two U.S. coastal cruises. *Mar. Chem.*, *176*, 9–20, <https://doi.org/10.1016/j.marchem.2015.06.022>.
- Pelland, N.A., C.C. Eriksen, and M.F. Cronin (2016): Seaglider surveys at Ocean Station Papa: Circulation and water mass properties in a meander of the North Pacific Current. *J. Geophys. Res.*, *121*(9), 6816–6846, <https://doi.org/10.1002/2016JC011920>.
- Quinn, P.K., A. Stohl, S. Arnold, T.K. Bernsten, J.H. Christensen, S. Eckhardt, H. Herber, U. Korsholm, J. Langner, K. Law, M. Flanner, K. Kupiainen, M. Sand, J. Schmale, K. von Salzen, and V. Vestreng (2015): Black Carbon and Ozone as Arctic Climate Forcers. In AMAP Assessment 2015, Arctic Monitoring and Assessment Programme (AMAP), Oslo, Norway, 116 pp.
- Rabinovich, A., and M. Eblé (2015): Deep-ocean measurements of tsunami waves. *Pure Appl. Geophys.*, *172*(12), 3281–3312, <https://doi.org/10.1007/s00024-015-1058-1>.
- Ray, G.C., G.L. Hufford, J.E. Overland, I. Krupnik, J. McCormick-Ray, K. Frey, and E. Labunski (2016): Decadal Bering Sea seascape change: Consequences for Pacific walrus and indigenous hunters. *Ecol. Appl.*, *26*(1), 24–41, <https://doi.org/10.1890/15-0430>.
- Renner, M., S. Salo, L.B. Eisner, P.H. Ressler, C. Ladd, K.J. Kuletz, J.A. Santora, J.F. Piatt, G.S. Drew, and G.L. Hunt, Jr. (2016): Timing of ice retreat alters seabird abundances and distributions in the southeast Bering Sea. *Biol. Lett.*, *12*(9), 20160276, <https://doi.org/10.1098/rsbl.2016.0276>.
- Reum, J.C.P., S.R. Alin, C.J. Harvey, N. Bednaršek, W. Evans, R.A. Feely, B. Hales, N. Lucey, J.T. Mathis, P. McElhany, J. Newton, and C.L. Sabine (2016): Interpretation and design of ocean acidification experiments in upwelling systems in the context of carbonate chemistry co-variation with temperature and oxygen. *ICES J. Mar. Sci.*, *73*, 582–595, <https://doi.org/10.1093/icesjms/fsu231>.
- Richar, J.I., G.H. Kruse, E. Curtchiser, and A.J. Hermann (2015): Patterns in connectivity and retention of simulated Tanner crab (*Chionoecetes bairdi*) larvae in the eastern Bering Sea. *Prog. Oceanogr.*, *138*(B), 475–485, <https://doi.org/10.1016/j.pocean.2014.08.001>.
- Santana-Casiano, J.M., E. Fraile-Nuez, M. González-Dávila, E.T. Baker, J.A. Resing, and S.L. Walker (2016): Significant discharge of CO<sub>2</sub> from hydrothermalism associated with the submarine volcano of El Hierro Island. *Sci. Rep.*, *6*, 25686, <https://doi.org/10.1038/srep25686>.
- Santoso, A., W. Cai, M. Collins, M. McPhaden, F.-F. Jin, E. Guilyardi, G. Vecchi, D. Dommenges, and G. Wang (2015): [Meeting Summary] ENSO extremes and diversity: Dynamics, teleconnections, and impacts. *Bull. Am. Meteorol. Soc.*, *96*, 1969–1972, Sydney, New South Wales, Australia, 4–6 February 2015, <https://doi.org/10.1175/BAMS-D-15-00141.1>.



- Shao, A.E., S. Mecking, L. Thompson, and R.E. Sonnerup (2016): Evaluating the use of 1d transit time distributions to infer the mean state and variability of oceanic ventilation. *J. Geophys. Res.*, 121(9), 6650–6670, <https://doi.org/10.1002/2016JC011900>.
- Siedlecki, S., E. Bjorkstedt, R. Feely, A. Sutton, J. Cross, and J. Newton (2016): Impact of the Blob on the northeast Pacific Ocean biogeochemistry and ecosystems. *CLIVAR Variations*, 14(2), 7–12.
- Siedlecki, S.A., I.C. Kaplan, A.J. Hermann, T.T. Nguyen, N.A. Bond, J.A. Newton, G.D. Williams, W.T. Peterson, S. Alin, and R.A. Feely (2016): Experiments with seasonal forecasts of ocean conditions for the northern region of the California Current upwelling system. *Sci. Rep.*, 6, 27203, <https://doi.org/10.1038/srep27203>.
- Spencer, P.D., K.K. Holsman, S. Zador, N.A. Bond, F.J. Mueter, A.B. Hollowed, and J.N. Ianelli (2016): Modelling spatially dependent predation mortality of eastern Bering Sea walleye pollock, and its implications for stock dynamics under future climate scenarios. *ICES J. Mar. Sci.*, 73, 1330–1342, <https://doi.org/10.1093/icesjms/fsw040>.
- Stewart, L.C., J.G. Llewellyn, D.A. Butterfield, M.D. Lilley, and J.F. Holden (2016): Hydrogen and thiosulfate limits for growth of a thermophilic, autotrophic Desulfurobacterium species from a deep-sea hydrothermal vent. *Environ. Microbiol.*, 8, 196–200, <https://doi.org/10.1111/1758-2229.12368>.
- Strong, A.L., K.E. Lowry, Z.W. Brown, M.M. Mills, G.L. van Dijken, R.S. Pickart, L.W. Cooper, K.E. Frey, R. Benner, C.G. Fichot, J.T. Mathis, N.R. Bates, and K.R. Arrigo (2016): Mass balance estimates of carbon export along flow paths of the Chukchi Sea shelf. *Deep-Sea Res. II*, 130, 88–99, <https://doi.org/10.1016/j.dsr2.2016.05.003>.
- Stucker, V.K., C.E.J. de Ronde, B.J. Scott, N.J. Wilson, S.L. Walker, and J.E. Lupton (2016): Subaerial and sublacustrine hydrothermal activity at Lake Rotomahana. *J. Volcanol. Geoth. Res.*, 314, 156–168, Special issue: The Lake Rotomahana Geothermal System and Effects of the 1886 Mt. Tarawera Eruption, <https://doi.org/10.1016/j.jvolgeores.2015.06.017>.
- Sutton, A., A. Jeffries, A. Devol, A. Cox, B. Tyler, B. Roman, B. Bill, B. Murphie, C. Maloy, C. Rice, C. Greengrove, C. Scholin, C. Preston, C. Krembs, C.L. Sabine, C.R. Elliser, C. Hard, C. Herrmann, C. Greene, D. Mora, D. Sargeant, E. Grossman, G. Hannach, J. Birch, J. Newton, J. Runyan, J. Mathis, J. Borchert, J. Thomson, J. Thompson, J. Mickett, J. Evanson, J. Bos, J. Ruffner, J. Masura, K. Bumbaco, K. Welch, K. Dzinbal, K. Yamahara, K. Stark, L. Friedenber, L. Wigand, L. Robinson, L. Lahner, L. Rhodes, M. Dutch, M. Alford, M. Keyzers, P. Hodum, R.A. Feely, R. Marin, S. Weakland, S. Grossman, S. Jensen, S. Mickelson, S. Pearson, S. Veirs, S.R. Alin, S. Albertson, S. Moore, S. Hallam, S. Thomas, S. Pool, S. Musielwicz, T. King, T. Good, T. Cyra, V. Partridge, V. Trainer, W. Ruef, W. Eash-Loucks, and W. Nilsson (2016): *Puget Sound Marine Waters: 2015 Overview*. S.K. Moore, R. Wold, K. Stark, J. Bos, P. Williams, K. Dzinbal, C. Krembs, and J. Newton (eds.), NOAA Northwest Fisheries Science Center for the Puget Sound Ecosystem Monitoring Program's (PSEMP) Marine Waters Workgroup.
- Sutton, A.J. (2016): Career profiles: Options and insights—Adrienne J. Sutton, Research Scientist, University of Washington Joint Institute for the Study of the Atmosphere and Ocean, NOAA Pacific Marine Environmental Laboratory. *Oceanography*, 29(2), 298–299.

- Sutton, A.J., C.L. Sabine, R.A. Feely, W.-J. Cai, M.F. Cronin, M.J. McPhaden, J.M. Morell, J.A. Newton, J.-H. Noh, S.R. Ólafsdóttir, J.E. Salisbury, U. Send, D. Vandemark, and R.A. Weller (2016): Using present-day observations to detect when anthropogenic change forces surface ocean carbonate chemistry outside preindustrial bounds. *Biogeosciences*, 13(17), 5065–5083, <https://doi.org/10.5194/bg-13-5065-2016>.
- Sutula, M., J.A. Barth, J. Largier, A.B. Boehm, F. Chan, E.A. Chornesky, A.G. Dickson, R.A. Feely, B. Hales, T.M. Hill, G. Hofmann, D. Ianson, T. Klinger, J. Newton, T.F. Pedersen, G.N. Somero, W.W. Wakefield, G.G. Waldbusser, S.B. Weisberg, and E.A. Whiteman (2016): *Modeling Tools: Summary of Needs to Enhance Understanding of Ocean Acidification and Hypoxia in Coastal Oceans*. West Coast Ocean Acidification and Hypoxia Panel, California Ocean Science Trust, Oakland, California.
- Takeshita, Y., C.A. Frieder, T.R. Martz, J.R. Ballard, R.A. Feely, S. Kram, S. Nam, M.O. Navarro, N.N. Price, and J.E. Smith (2015): Including high frequency variability in coastal ocean acidification projections. *Biogeosciences*, 12(19), 5853–5870, <https://doi.org/10.5194/bg-12-5853-2015>.
- Talley, L.D., R.A. Feely, B.M. Sloyan, R. Wanninkhof, M.O. Baringer, J.L. Bullister, C.A. Carlson, S.C. Doney, R.A. Fine, E. Firing, N. Gruber, D.A. Hansell, M. Ishii, G.C. Johnson, K. Katsumata, R.M. Key, M. Kramp, C. Langdon, A.M. Macdonald, J.T. Mathis, E.L. McDonagh, S. Mecking, F.J. Millero, C.W. Mordy, T. Nakano, C.L. Sabine, W.M. Smethie, J.H. Swift, T. Tanhua, A.M. Thurnherr, M.J. Warner, and J.-Z. Zhang (2016): Changes in ocean heat, carbon content, and ventilation: A review of the first decade of GO-SHIP global repeat hydrography. *Annu. Rev. Mar. Sci.*, 8(1), 185–215, <https://doi.org/10.1146/annurev-marine-052915-100829>. [HIGHLY CITED PAPER]
- Tang, L., V.V. Titov, C. Moore, and Y. Wei (2016): Real-time assessment and modeling of the 16 September 2015 Chile tsunami. *Pure Appl. Geophys.*, 173(2), 369–387, <https://doi.org/10.1007/s00024-015-1226-3>.
- Titov, V., C. Moore, M. Spillane, Y. Wei, E. Gica, and H. Zhou (2016): *Tsunami Hazard Assessment Based on Wave Generation, Propagation, and Inundation Modeling for the U.S. East Coast*. NUREG/CR-7222, U.S. Nuclear Regulatory Commission, Washington, D.C.
- Tivey, M.A., C.E.J. de Ronde, F. Caratori Tontini, S.L. Walker, and D. Fornari (2016): A novel heat flux study of a geothermally active lake—Lake Rotomahana, New Zealand. *J. Volcanol. Geoth. Res.*, 314, 95–109, Special issue: The Lake Rotomahana Geothermal System and Effects of the 1886 Mt. Tarawera Eruption, <https://doi.org/10.1016/j.jvolgeores.2015.06.006>.
- Topçuoğlu, B.D., L.C. Stewart, H.G. Morison, D.A. Butterfield, J.A. Huber, and J.F. Holden (2016): Hydrogen limitation and syntrophic growth among natural assemblages of thermophilic methanogens at deep-sea hydrothermal vents. *Front. Microbiol.*, 7, 1240, <https://doi.org/10.3389/fmicb.2016.01240>.
- Vargas, R., S. Alin, and G. Shrestha (2015): Integrating carbon cycle research into decision-making processes—North American Carbon Program Principal Investigators Meeting; Washington, D. C., 26–29 January 2015. *EOS*, 96, <https://doi.org/10.1029/2015EO037893>.

- Walker, S.L., C.E.J. de Ronde, D. Fornari, M.A. Tivey, and V.K. Stucker (2016): High-resolution water column survey to identify active sublacustrine hydrothermal discharge zones within Lake Rotomahana, North Island, New Zealand. *J. Volcanol. Geoth. Res.*, 314, 142–155, Special issue: The Lake Rotomahana Geothermal System and Effects of the 1886 Mt. Tarawera Eruption, <https://doi.org/10.1016/j.jvolgeores.2015.07.037>.
- Wang, F., L. Song, Y. Li, C. Liu, J. Wang, P. Lin, G. Yang, J. Zhao, X. Diao, D. Zhang, and D. Hu (2016): Semiannually alternating exchange of intermediate waters east of the Philippines. *Geophys. Res. Lett.*, 43(13), 7059–7065, <https://doi.org/10.1002/2016GL069323>.
- Wang, F., J. Wang, C. Guan, Q. Ma, and D. Zhang (2016): Mooring observation of equatorial currents over upper 1000 m depth in the western Pacific Ocean in 2014. *J. Geophys. Res.*, 121, 3730–3740, <https://doi.org/10.1002/2015JC011510>.
- Weisberg, S.B., N. Bednaršek, R.A. Feely, F. Chan, A.B. Boehm, M. Sutula, J.L. Ruesink, B. Hales, J.L. Largier, and J.A. Newton (2016): Water quality criteria for an acidifying ocean: Challenges and opportunities. *Ocean Coastal Manage.*, 126, 31–41, <https://doi.org/10.1016/j.ocecoaman.2016.03.010>.
- Wenegrat, J.O., and M.J. McPhaden (2016): A simple analytical model of the diurnal Ekman layer. *J. Phys. Oceanogr.*, 46(9), 2877–2894, <https://doi.org/10.1175/JPO-D-16-0031.1>.
- Wenegrat, J.O., and M.J. McPhaden (2016): Wind, waves, and fronts: Frictional effects in a generalized Ekman model. *J. Phys. Oceanogr.*, 46(2), 371–394, <https://doi.org/10.1175/JPO-D-15-0162.1>.
- Wild, R.J., P.M. Edwards, T.S. Bates, R.C. Cohen, J.A. de Gouw, W.P. Dubé, J.B. Gilman, J. Holloway, J. Kercher, A. Koss, L. Lee, B. Lerner, R. McLaren, P.K. Quinn, J.M. Roberts, J. Stutz, J.A. Thornton, P.R. Veres, C. Warneke, E. Williams, C.J. Young, B. Yuan, and S.S. Brown (2016): Reactive nitrogen partitioning and its relationship to winter ozone events in Utah. *Atmos. Chem. Phys.*, 16(2), 573–583, <https://doi.org/10.5194/acp-16-573-2016>.
- Wilderbuer, T., J.T. Duffy-Anderson, P.J. Stabeno, and A. Hermann (2016): Differential patterns of divergence in ocean drifters: Implications for larval flatfish advection and recruitment. *J. Sea Res.*, 111, 11–24, *Proceedings of the Ninth International Symposium on Flatfish Ecology Part II*, <https://doi.org/10.1016/j.seares.2016.03.003>.
- Williams, N.L., L.W. Juranek, K.S. Johnson, R.A. Feely, S.C. Riser, L.D. Talley, J.L. Russell, J.L. Sarmiento, and R. Wanninkhof (2016): Empirical algorithms to estimate water column pH in the Southern Ocean. *Geophys. Res. Lett.*, 43(7), 3415–3422, <https://doi.org/10.1002/2016GL068539>.
- Wood, S., I.B. Baums, C.B. Paris, A. Ridgwell, W.S. Kessler, and E.J. Hendy (2016): El Niño and coral larval dispersal across the eastern Pacific marine barrier. *Nat. Commun.*, 7, 12571, <https://doi.org/10.1038/ncomms12571>.
- Xue, L., W.-J. Cai, X. Hu, C.L. Sabine, S. Jones, A.J. Sutton, L.-Q. Jiang, and J.J. Reimer (2016): Sea surface carbon dioxide at the Georgia time series site (2006–2007): Air-sea flux and controlling processes. *Prog. Oceanogr.*, 140, 14–26, <https://doi.org/10.1016/j.pocean.2015.09.008>.

Zhang, D., M.F. Cronin, C. Wen, Y. Xue, A. Kumar, and D. McClurg (2016): Assessing surface heat fluxes in atmospheric reanalyses with a decade of data from the NOAA Kuroshio Extension Observatory. *J. Geophys. Res.*, 121(9), 6874–6890, <https://doi.org/10.1002/2016JC011905>.

## PUBLICATIONS FY 2015

Admire, A.R., L.A. Dengler, G.B. Crawford, B.U. Uslu, J.C. Borrero, S.D. Greer, and R.I. Wilson (2014): Observed and modeled currents from the Tohoku-oki, Japan and other recent tsunamis in Northern California. *Pure Appl. Geophys.*, 171(12), 3385–3403, <https://doi.org/10.1007/s00024-014-0797-8>.

Alin, S.R., R.E. Brainard, N.N. Price, J.A. Newton, A. Cohen, W.T. Peterson, E.H. De Carlo, E.H. Shadwick, S. Noakes, and N. Bednaršek (2015): Characterizing the natural system: Toward sustained, integrated coastal ocean acidification observing networks to facilitate resource management and decision support. *Oceanography*, 28(2), 92–107, <https://doi.org/10.5670/oceanog.2015.34>.

Andersson, A.J., D.I. Kline, P.J. Edmunds, S.D. Archer, N. Bednaršek, R.C. Carpenter, M. Chadsey, P. Goldstein, A.G. Grottoli, T.P. Hurst, A.L. King, J.E. Kübler, I.B. Kuffner, K.R.M. Mackey, B.A. Menge, A. Paytan, U. Riebesell, A. Schnetzer, M.E. Warner, and R.C. Zimmerman (2015): Understanding ocean acidification impacts on organismal to ecological scales. *Oceanography*, 28(2), 16–27, <https://doi.org/10.5670/oceanog.2015.27>.

Arcas, D. (2015): A Tsunami Forecast Model for Santa Monica, California. NOAA OAR Special Report, PMEL Tsunami Forecast Series: Vol. 9, 136 pp, <https://doi.org/10.7289/V5D50JX8>.

Barth, J., A. Boehm, F. Chan, L. Chornesky, A. Dickson, R. Feely, B. Hales, T. Hill, G. Hofmann, D. Ianson, T. Klinger, J. Largier, J. Newton, T. Pederson, G. Somero, M. Sutula, W. Wakefield, G. Waldbusser, S. Weisberg, and L. Whiteman (2015): *Ocean Acidification and Hypoxia: Envisioning a Future Science Landscape*. West Coast Ocean Acidification and Hypoxia Science Panel Report, California Ocean Science Trust, Oakland, California, 11 pp, Published online.

Barton, A., G.G. Waldbusser, R.A. Feely, S.B. Weisberg, J.A. Newton, B. Hales, S. Cudd, B. Eudeline, C.J. Langdon, I. Jefferds, T. King, A. Suhrbier, and K. McLaughlin (2015): Impacts of coastal acidification on the Pacific Northwest shellfish industry and adaptation strategies implemented in response. *Oceanography*, 28(2), 146–159, <https://doi.org/10.5670/oceanog.2015.38>.

Bates, N.R., R. Garley, K.E. Frey, K.L. Shake, and J.T. Mathis (2014): Sea-ice melt CO<sub>2</sub>-carbonate chemistry in the western Arctic Ocean: meltwater contributions to air-sea CO<sub>2</sub> gas exchange, mixed layer properties and rates of net community production under sea ice. *Biogeosciences*, 11, 6769–6789, <https://doi.org/10.5194/bg-11-6769-2014>.

Baumberger, T., M.D. Lilley, J.A. Resing, J.E. Lupton, E.T. Baker, D.A. Butterfield, E.J. Olson, and G.L. Früh-Green (2014): Understanding a submarine eruption through time series hydrothermal plume sampling of dissolved and particulate constituents: West Mata, 2008-2012. *Geochem. Geophys. Geosyst.*, 15(12), 4631–4650, <https://doi.org/10.1002/2014GC005460>.

- Bednaršek, N., and M.D. Ohman (2015): Changes in pteropod distributions and shell dissolution across a frontal system in the California Current System. *Mar. Ecol. Prog. Ser.*, 523, 93–103, <https://doi.org/10.3354/meps11199>.
- Bednaršek, N., G.A. Tarling, D.C.E. Bakker, S. Fielding, and R.A. Feely (2014): Dissolution dominating calcification process in polar pteropods close to the point of aragonite undersaturation. *PLoS ONE*, 9(10), e109183, <https://doi.org/10.1371/journal.pone.0109183>.
- Belka, D.J., M. Schwendeman, J. Thomson, and M.F. Cronin (2015): Report on historical wave and wind observations at Ocean Station P. *Flux News*, 7, 18 pp.
- Bernard, E., L. Tang, Y. Wei, and V. Titov (2014): Impact of near-field, deep-ocean tsunami observations on forecasting the 7 December 2012 Japanese tsunami. *Pure Appl. Geophys.*, 171(12), 3483–3491, <https://doi.org/10.1007/s00024-013-0720-8>.
- Bernard, E.N. (2015): *Tsunami*. AccessScience, McGraw-Hill Encyclopedia of Science and Technology, McGraw-Hill, <https://doi.org/10.1036/1097-8542.713200>.
- Bik, H.M., A.D.M. Dove, M.C. Goldstein, R. Helm, R. MacPherson, K. Martini, A. Warneke, and C. McClain (2015): Ten simple rules for effective online outreach. *PLoS Comput. Biol.*, 11(4), e1003906, <https://doi.org/10.1371/journal.pcbi.1003906>.
- Boles, J.R., G. Garven, H. Camacho, and J.E. Lupton (2015): Mantle helium along the Newport-Inglewood fault zone, Los Angeles basin, California—A leaking paleo-subduction zone. *Geochem. Geophys. Geosyst.*, 16(7), 2364–2381, <https://doi.org/10.1002/2015GC005951>.
- Bond, N.A., and K.A. Bumbaco (2015): Summertime potential evapotranspiration in Eastern Washington State. *J. Appl. Meteorol. Climatol.*, 54(5), 1090–1101, <https://doi.org/10.1175/JAMC-D-14-0228.1>.
- Bond, N.A., M.F. Cronin, and H. Freeland (2015): The Blob: An extreme warm anomaly in the northeast Pacific. In *State of the Climate in 2014*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 96(7), S62–S63, <https://doi.org/10.1175/2015BAMSSStateoftheClimate.1>.
- Bond, N.A., M.F. Cronin, H. Freeland, and N. Mantua (2015): Causes and impacts of the 2014 warm anomaly in the NE Pacific. *Geophys. Res. Lett.*, 42(9), 3414–3420, <https://doi.org/10.1002/2015GL063306>. [HIGHLY CITED PAPER]
- Bourbonnais, A., S.K. Juniper, D.A. Butterfield, R.E. Anderson, and M.F. Lehmann (2014): Diversity and abundance of Bacteria and nirS-encoding denitrifiers associated with the Juan de Fuca Ridge hydrothermal system. *Ann. Microbiol.*, 64(4), 1691–1705, <https://doi.org/10.1007/s13213-014-0813-3>.
- Cai, W., A. Santoso, G. Wang, S.-W. Yeh, S.-I. An, K.M. Cobb, M. Collins, E. Guilyardi, F.-F. Jin, J.-S. Kug, M. Lengaigne, M.J. McPhaden, K. Takahashi, A. Timmermann, G. Vecchi, M. Watanabe, and L. Wu (2015): ENSO and greenhouse warming. *Nature Clim. Change*, 5, 849–859, <https://doi.org/10.1038/nclimate2743>. [HIGHLY CITED PAPER]

- Cai, W., G. Wang, A. Santoso, M.J. McPhaden, L. Wu, F.-F. Jin, A. Timmermann, M. Collins, G. Vecchi, M. Lengaigne, M.H. England, D. Dommenget, K. Takahashi, and E. Guilyardi (2015): Increased frequency of extreme La Niña events induced by greenhouse warming. *Nature Clim. Change*, *5*, 132–137, <https://doi.org/10.1038/nclimate2492>. [HIGHLY CITED PAPER]
- Cao, Z., M. Dai, W. Evans, J. Gan, and R. Feely (2014): Diagnosing CO<sub>2</sub> fluxes in the upwelling system off the Oregon-California coast. *Biogeosciences*, *11*, 6341–6354, <https://doi.org/10.5194/bg-11-6341-2014>.
- Chadwick, Jr., W.W., S.G. Merle, N.J. Buck, J.W. Lavelle, J.A. Resing, and V. Ferrini (2014): Imaging of CO<sub>2</sub> bubble plumes above an erupting submarine volcano, NW Rota-1, Mariana Arc. *Geochem. Geophys. Geosyst.*, *15*(11), 4325–4342, <https://doi.org/10.1002/2014GC005543>.
- Chamberlin, C., and D. Arcas (2015): Modeling tsunami inundation at Everett, Washington, from the Seattle Fault. NOAA Tech. Memo. OAR PMEL-147, NOAA/Pacific Marine Environmental Laboratory, Seattle, WA, 24 pp, <https://doi.org/10.7289/V59Z92V0>.
- Chen, G., W. Han, Y. Li, D. Wang, and M.J. McPhaden (2015): Seasonal-to-interannual time-scale dynamics of the equatorial undercurrent in the Indian Ocean. *J. Phys. Oceanogr.*, *45*(6), 1532–1553, <https://doi.org/10.1175/JPO-D-14-0225.1>.
- Cheng, W., E. Curchitser, C. Ladd, P.J. Stabeno, and M. Wang (2014): Influences of sea ice on the eastern Bering Sea: NCAR CESM simulations and comparison with observations. *Deep-Sea Res. II*, *109*, 27–38, <https://doi.org/10.1016/j.dsr2.2014.03.002>.
- Chiodi, A.M., and D.E. Harrison (2015): Equatorial Pacific easterly wind surges and the onset of La Niña events. *J. Climate*, *28*(2), 776–792, <https://doi.org/10.1175/JCLI-D-14-00227.1>.
- Chiodi, A.M., and D.E. Harrison (2015): Global seasonal precipitation anomalies robustly associated with El Niño and La Niña events—an OLR perspective. *J. Climate*, *28*(15), 6133–6159, <https://doi.org/10.1175/JCLI-D-14-00387.1>.
- Cronin, M. (2014): Women in oceanography: A decade later—Autobiographical sketches: Meghan Cronin. *Oceanography*, *27*(4), 90.
- Cross, J.N., J.T. Mathis, K.E. Frey, C.E. Cosca, S.L. Danielson, N.R. Bates, R.A. Feely, T. Takahashi, and W. Evans (2014): Annual sea-air CO<sub>2</sub> fluxes in the Bering Sea: Insights from new autumn and winter observations of a seasonally ice-covered continental shelf. *J. Geophys. Res.*, *119*(10), 6693–6708, <https://doi.org/10.1002/2013JC009579>.
- Cross, J.N., J.T. Mathis, M.W. Lomas, S.B. Moran, M.S. Baumann, D.H. Shull, C.W. Mordy, M.L. Ostendorf, N.R. Bates, P.J. Stabeno, and J. Grebmeier (2014): Integrated assessment of the carbon budget in the southeastern Bering Sea. *Deep-Sea Res. II*, *109*, 112–124, <https://doi.org/10.1016/j.dsr2.2014.03.003>.
- Cross, J.N., S.A. Siedlecki, M.E. Johnson, K.E. McTaggart, R.A. Feely, R. Wanninkhof, G. Johnson, L. Talley, M. Baringer, S. Alin, S. Becker, K. Buesseler, J. Bullister, C. Carlson, A. Dickson, E.

- Druffel, E. Firing, W. Gardner, J. Hummon, W. Jenkins, R. Key, C. Langdon, A. McDonnel, A. McNichol, C. Mordy, J. Nash, N. Nelson, J. Swift, and A. Thurnherr (2015): US GO-SHIP CLIVAR / Carbon P16N Leg 1 Preliminary Project Report. ORNL/CDIAC, Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, TN, Cruise report (preliminary) at CDIAC.
- Dall’Osso, F., D. Dominey-Howes, C. Moore, S. Summerhayes, and G. Withycombe (2014): The exposure of Sydney (Australia) to earthquake-generated tsunamis, storms and sea level rise: a probabilistic multi-hazard approach. *Sci. Rep.*, *4*, 7401, <https://doi.org/10.1038/srep07401>.
- de Ronde, C.E.J., J.R. Hein, and D.A. Butterfield (2014): Metallogeneses and Mineralization of Intraoceanic Arcs II: The Aeolian, Izu-Bonin, Mariana, and Kermadec Arcs, and the Manus Backarc Basin—Introduction. *Econ. Geol.*, *109*, 2073–2077, <https://doi.org/10.2113/econgeo.109.8.2073>.
- de Ronde, C.E.J., S.L. Walker, R.G. Ditchburn, F. Caratori Tontini, M.D. Hannington, S.G. Merle, C. Timm, M.R. Handler, R.J. Wysoczanski, V.M. Dekov, G.D. Kamenov, E.T. Baker, R.W. Embley, J.E. Lupton, and P. Stoffers (2014): The anatomy of a veiled submarine hydrothermal system, Clark volcano, Kermadec arc, New Zealand. *Econ. Geol.*, *109*, 2261–2292, <https://doi.org/10.2113/econgeo.109.8.2261>.
- de Ronde, C.E.J., W.W. Chadwick, Jr., R.G. Ditchburn, R.W. Embley, V. Tunnicliffe, E.T. Baker, S.L. Walker, V.L. Ferrini, and S.M. Merle (2015): Molten sulfur lakes of intraoceanic arc volcanoes. In *Volcanic Lakes (Advances in Volcanology)*, D. Rouwet, F. Tassi, and J. Vandemeulebrouck (eds.), Springer.
- Dong, S., J. Gao, X. Li, Y. Wei, and L. Wang (2015): A storm surge intensity classification based on extreme water level and concomitant wave height. *J. Ocean Univ. China*, *14*(2), 237–244, <https://doi.org/10.1007/s11802-015-2342-5>.
- Dong, S., N. Wang, H. Lu, and L. Tang (2015): Bivariate distributions of group height and length for ocean waves using Copula methods. *Coastal Eng.*, *96*, 49–61, <https://doi.org/10.1016/j.coastaleng.2014.11.005>.
- Dziak, R.P., D.R. Bohnenstiehl, E.T. Baker, H. Matsumoto, J. Caplan-Auerbach, R.W. Embley, S.G. Merle, S.L. Walker, T.-K. Lau, and W.W. Chadwick, Jr. (2015): Long-term explosive degassing and debris flow activity at West Mata submarine volcano. *Geophys. Res. Lett.*, *42*(5), 1480–1487, <https://doi.org/10.1002/2014GL062603>.
- Dziak, R.P., D.R. Bohnenstiehl, K.M. Stafford, H. Matsumoto, M. Park, W.S. Lee, M.J. Fowler, T.-K. Lau, J.H. Haxel, and D.K. Mellinger (2015): Sources and levels of ambient ocean sound near the Antarctic Peninsula. *PLoS ONE*, *10*(4), e0123425, <https://doi.org/10.1371/journal.pone.0123425>.
- Eblé, M., and NCTR Staff (2014): A Tsunami Forecast Model for Newport, Oregon. NOAA OAR Special Report, PMEL Tsunami Forecast Series: Vol. 5, 2nd Ed., 146 pp, <https://doi.org/10.7289/V5125QK9>.

- Eckhardt, S., B. Quennehen, D.J.L. Olivié, T.K. Berntsen, R. Cherian, J.H. Christensen, W. Collins, S. Crepinsek, N. Daskalakis, M. Flanner, A. Herber, C. Heyes, Ø. Hodnebrog, L. Huang, M. Kanakidou, Z. Klimont, J. Langer, K.S. Law, M.T. Lund, R. Mahmood, A. Massling, S. Myriokefalitakis, I.E. Nielsen, J.K. Nøjgaard, J. Quaas, P.K. Quinn, J.-C. Raut, S.T. Rumbold, M. Schulz, S. Sharma, R.B. Skeie, H. Skov, T. Uttal, K. von Salzen, and A. Stohl (2015): Current model capabilities for simulating black carbon and sulfate concentrations in the Arctic atmosphere: A multi-model evaluation using a comprehensive measurement data set. *Atmos. Chem. Phys.*, *15*, 9413–9433, <https://doi.org/10.5194/acp-15-9413-2015>.
- Embley, R.W., S.G. Merle, E.T. Baker, K.H. Rubin, J.E. Lupton, J.A. Resing, R.P. Dziak, M.D. Lilley, W.W. Chadwick, Jr., T. Shank, R. Greene, S.L. Walker, J. Haxel, E. Olson, and T. Baumberger (2014): Eruptive modes and hiatus of volcanism at West Mata seamount, NE Lau basin: 1996–2012. *Geochem. Geophys. Geosyst.*, *15*(10), 4093–4115, <https://doi.org/10.1002/2014GC005387>.
- Etnoyer, P.J., M.L. Brennan, D. Finamore, S. Hammond, M. Vargas, X. Janson, S. Tüzün, J. Wagner, D. Ferraro, and W. Snyder (2015): Exploration and mapping of the deep Mesoamerican reef. *Oceanography*, *28*(1), S34–S35, <https://doi.org/10.5670/oceanog.2015.supplement.01>.
- Evans, W., B. Hales, P.G. Strutton, R.K. Shearman, and J.A. Barth (2015): Failure to bloom: Intense upwelling results in negligible phytoplankton response and prolonged CO<sub>2</sub> outgassing over the Oregon shelf. *J. Geophys. Res.*, *120*(3), 1446–1461, <https://doi.org/10.1002/2014JC010580>.
- Evans, W., J.T. Mathis, J. Ramsay, and J. Hetrick (2015): On the frontline: Tracking CaCO<sub>3</sub> corrosivity in an Alaskan shellfish hatchery. *PLoS ONE*, *10*(7), e0130384, <https://doi.org/10.1371/journal.pone.0130384>.
- Evans, W., J.T. Mathis, J.N. Cross, N.R. Bates, K.E. Frey, B.G.T. Else, T.N. Papkyriakou, M.D. DeGrandpre, F. Islam, W.-J. Cai, B. Chen, M. Yamamoto-Kawai, E. Carmack, W.J. Williams, and T. Takahashi (2015): Sea-air CO<sub>2</sub> exchange in the western Arctic coastal ocean. *Global Biogeochem. Cycles*, *29*(8), 1190–1209, <https://doi.org/10.1002/2015GB005153>.
- Farrar, J.T., L. Rainville, A.J. Plueddemann, W.S. Kessler, C. Lee, B.A. Hodges, R.W. Schmitt, J.B. Edson, S.C. Riser, C.C. Eriksen, and D.M. Fratantoni (2015): Salinity and temperature balances at the SPURS central mooring during fall and winter. *Oceanography*, *28*(1), 56–65, <https://doi.org/10.5670/oceanog.2015.06>.
- Fassbender, A.J., and C.L. Sabine (2015): Observing changes in the surface ocean carbon inventory, autonomously. *IMBER Update*, *28*, 15–18.
- Fassbender, A.J., C.L. Sabine, N. Lawrence-Slavas, E.H. De Carlo, C. Meinig, and S. Maenner Jones (2015): Robust sensor for extended autonomous measurements of surface ocean dissolved inorganic carbon. *Environ. Sci. Tech.*, <https://doi.org/10.1021/es5047183>.
- Feely, R.A., R. Wanninkhof, B. Carter, J.T. Mathis, and C.L. Sabine (2015): Global ocean carbon cycle. In *State of the Climate in 2014*, Global Oceans. *Bull. Am. Meteorol. Soc.*, *96*(7), S87–S90, <https://doi.org/10.1175/2015BAMSStateoftheClimate.1>.



- Fournet, M.E., D.K. Mellinger, and A. Szabo (2015): Repertoire and classification of non-song calls in Southeast Alaskan humpback whales (*Megaptera novaeangliae*). *J. Acoust. Soc. Am.*, 137(1), <https://doi.org/10.1121/1.4904504>.
- Frisch, L.C., J.T. Mathis, N.P. Kettle, and S. Trainor (2014): Gauging perceptions of ocean acidification in Alaska. *Mar. Policy*, 53, 101–110, <https://doi.org/10.1016/j.marpol.2014.11.022>.
- Frossard, A.A., L.M. Russell, S.M. Burrows, S.M. Elliott, T.S. Bates, and P.K. Quinn (2014): Sources and composition of submicron organic mass in marine aerosol particles. *J. Geophys. Res.*, 119(22), 12,977–13,003, <https://doi.org/10.1002/2014JD021913>.
- Ganachaud, A., S. Cravatte, A. Melet, A. Schiller, N.J. Holbrook, B.M. Sloyan, M.J. Widlansky, M. Bowen, J. Verron, P. Wiles, K. Ridgway, P. Sutton, J. Sprintall, C. Steinberg, G. Brassington, W. Cai, R. Davis, F. Gasparin, L. Gourdeau, T. Hasegawa, W. Kessler, C. Maes, K. Takahashi, K.J. Richards, and U. Send (2014): The Southwest Pacific Ocean and Climate Experiment (SPICE). *J. Geophys. Res.*, 119(11), 7660–7686, <https://doi.org/10.1002/2013JC009678>.
- Garcia, H.E., C. Cosca, A. Kozyr, E. Mayorga, C. Chandler, R.W. Thomas, K. O'Brien, W. Appeltans, S. Hankin, J.A. Newton, A. Gutierrez, J.-P. Gattuso, L. Hansson, M. Zweng, and B. Pfeil (2015): Data management strategy to improve global use of ocean acidification data and information. *Oceanography*, 28(2), 226–228, <https://doi.org/10.5670/oceanog.2015.45>.
- Geist, D., G. Bergantz, and W.W. Chadwick, Jr. (2014): Galápagos magma chambers. In *The Galápagos: A Natural Laboratory for the Earth Sciences*, K.S. Harpp, E. Mittelstaedt, N. d'Ozouville and D.W. Graham (eds.), *Geophysical Monograph 204*, American Geophysical Union, Washington, D.C., 55–70.
- Gica, E. (2015): A Tsunami Forecast Model for Kihei, Hawai'i. NOAA OAR Special Report, PMEL Tsunami Forecast Series: Vol. 11, 138 pp, <https://doi.org/10.7289/V5C24TD1>.
- Gica, E. (2015): A Tsunami Forecast Model for Midway Atoll. NOAA OAR Special Report, PMEL Tsunami Forecast Series: Vol. 7, 132 pp, <https://doi.org/10.7289/V5RJ4GCP>.
- Gica, E. (2015): A Tsunami Forecast Model for Santa Barbara, California. NOAA OAR Special Report, PMEL Tsunami Forecast Series: Vol. 12, 124 pp, <https://doi.org/10.7289/V508639D>.
- Gica, E., V.V. Titov, C. Moore, and Y. Wei (2015): Tsunami simulation using sources inferred from various measurement data: Implications for the model forecast. *Pure Appl. Geophys.*, 172(3–4), 773–789, <https://doi.org/10.1007/s00024-014-0979-4>.
- Goes, J.I., H. do Rosario Gomes, E. Haugen, K. McKee, E. D'Sa, A.M. Chekalyuk, D. Stoecker, P.J. Stabeno, S. Saitoh, and R. Sambrotto (2014): Fluorescence, pigment and microscopic characterization of Bering Sea phytoplankton community structure and photosynthetic competency in the presence of a Cold Pool during summer. *Deep-Sea Res. II*, 109, 84–99, <https://doi.org/10.1016/j.dsr2.2013.12.004>.

- Grand, M.M., C.I. Measures, M. Hatta, W.T. Hiscock, W.M. Landing, P.L. Morton, C.S. Buck, P.M. Barrett, and J.A. Resing (2015): Dissolved Fe and Al in the upper 1000 m of the eastern Indian Ocean: A high-resolution transect along 95°E from the Antarctic margin to the Bay of Bengal. *Global Biogeochem. Cycles*, 29(3), 375–396, <https://doi.org/10.1002/2014GB004920>.
- Hahm, D., E.T. Baker, T.S. Rhee, Y.-J. Won, J.A. Resing, J.E. Lupton, W.-K. Lee, M. Kim, and S.-H. Park (2015): First hydrothermal discoveries on the Australian-Antarctic Ridge: Discharge sites, plume chemistry, and vent organisms. *Geochem. Geophys. Geosyst.*, 16(9), 3061–3075, <https://doi.org/10.1002/2015GC005926>.
- Hammond, S.R., R.E. Embley, and E.T. Baker (2015): The NOAA Vents Program 1983 to 2013: Thirty years of ocean exploration and research. *Oceanography*, 28(1), 160–173, <https://doi.org/10.5670/oceanog.2015.17>.
- Han, W., J. Vialard, M.J. McPhaden, T. Lee, Y. Masumoto, M. Feng, and W.P.M. de Ruijter (2014): Indian Ocean decadal variability: A review. *Bull. Am. Meteorol. Soc.*, 95, 1679–1703, <https://doi.org/10.1175/BAMS-D-13-00028.1>.
- Harrison, D.E., and A.M. Chiodi (2015): Multi-decadal variability and trends in the El Niño-Southern Oscillation and tropical Pacific fisheries implications. *Deep-Sea Res. II*, 113, 9–21, <https://doi.org/10.1016/j.dsr2.2013.12.020>.
- Hu, D., L. Wu, W. Cai, A. Sen Gupta, A. Ganachaud, B. Qiu, A.L. Gordon, X. Lin, Z. Chen, S. Hu, G. Wang, Q. Wang, J. Sprintall, T. Qu, Y. Kashino, F. Wang, and W.S. Kessler (2015): Pacific western boundary currents and their roles in climate. *Nature*, 522, 299–308, <https://doi.org/10.1038/nature14504>. [HIGHLY CITED PAPER]
- Itoh, M., R.S. Pickart, T. Kikuchi, Y. Fukamachi, K.I. Ohshima, D. Simizu, K.R. Arrigo, S. Vagle, J. He, C. Ashjian, J.T. Mathis, S. Nishino, and C. Nobre (2015): Water properties, heat and volume fluxes of Pacific water in Barrow Canyon during summer 2010. *Deep-Sea Res. I*, 102, 43–54, <https://doi.org/10.1016/j.dsr.2015.04.004>.
- Johnson, G.C., and A.R. Parsons (2015): Overview. In *State of the Climate in 2014*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 96(7), S59, <https://doi.org/10.1175/2015BAMSSStateoftheClimate.1>.
- Johnson, G.C., and J.M. Lyman (2014): Where's the heat? *Nature Clim. Change*, 4, 956–957, <https://doi.org/10.1038/nclimate2409>.
- Johnson, G.C., J.M. Lyman, G.S.E. Lagerloef, and H.-Y. Kao (2015): Sea surface salinity. In *State of the Climate in 2014*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 96(7), S71–S74, <https://doi.org/10.1175/2015BAMSSStateoftheClimate.1>.
- Johnson, G.C., J.M. Lyman, J. Antonov, N. Bindoff, T. Boyer, C.M. Domingues, S.A. Good, M. Ishii, and J.K. Willis (2015): Ocean heat content. In *State of the Climate in 2014*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 96(7), S64–S66, S68, <https://doi.org/10.1175/2015BAMSSStateoftheClimate.1>.

- Johnson, G.C., K.E. McTaggart, and R. Wanninkhof (2014): Antarctic Bottom Water temperature changes in the western South Atlantic from 1989–2014. *J. Geophys. Res.*, *119*(12), 8567–8577, <https://doi.org/10.1002/2014JC010367>.
- Kaku, K.C., J.S. Reid, N.T. O'Neill, P.K. Quinn, D.J. Coffman, and T.F. Eck (2014): Verification and application of the extended spectral deconvolution algorithm (SDA+) methodology to estimate aerosol fine and coarse mode extinction coefficients in the marine boundary layer. *Atmos. Meas. Tech.*, *7*, 3399–3412, <https://doi.org/10.5194/amt-7-3399-2014>.
- Kim, I.-N., K. Lee, N. Gruber, D.M. Karl, J.L. Bullister, S. Yang, and T.-W. Kim (2014): Increasing anthropogenic nitrogen in the North Pacific Ocean. *Science*, *346*(6213), 1102–1106, <https://doi.org/10.1126/science.1258396>.
- Kim, T.-W., G.-H. Park, D. Kim, K. Lee, R.A. Feely, and F.J. Millero (2015): Seasonal variation in the aragonite saturation state in the upper-open waters of the North Pacific Ocean. *Geophys. Res. Lett.*, *42*, 4498–4506, <https://doi.org/10.1002/2015GL063602>.
- Klinck, H., S. Fregosi, H. Matsumoto, A. Turpin, D.K. Mellinger, A. Erofeev, J.A. Barth, R.K. Shearman, K. Jafarmadar, and R. Stelzer (2015): Mobile autonomous platforms for passive-acoustic monitoring of high-frequency cetaceans. In *Robotic Sailing 2015: Proceedings of the 8th International Robotic Sailing Conference*, A. Friebe and F. Haug (eds.), Springer International Publishing, 29–37.
- Koss, A.R., J. de Gouw, C. Warneke, J.B. Gilman, B.M. Lerner, M. Graus, B. Yuan, P. Edwards, S.S. Brown, R. Wild, J.M. Roberts, T.S. Bates, and P.K. Quinn (2015): Photochemical aging of volatile organic compounds associated with oil and natural gas extraction in the Uintah Basin, UT, during a wintertime ozone formation event. *Atmos. Chem. Phys.*, *15*, 5727–5741, <https://doi.org/10.5194/acp-15-5727-2015>.
- Ladd, C. (2014): Seasonal and interannual variability of the Bering Slope Current. *Deep-Sea Res. II*, *109*, 5–13, <https://doi.org/10.1016/j.dsr2.2013.12.005>.
- Lam, P.J., B.S. Twining, C. Jeandel, A. Roychoudhury, J. Resing, P.H. Santschi, and R.F. Anderson (2015): Methods for analyzing the concentration and speciation of major and trace elements in marine particles. *Prog. Oceanogr.*, *133*, 32–42, <https://doi.org/10.1016/j.pocean.2015.01.005>.
- Larson, B.I., J.L. Houghton, R.P. Lowell, A. Farough, and C.D. Meile (2015): Subsurface conditions in hydrothermal vents inferred from diffuse flow composition, and models of reaction and transport. *Earth Planet. Sci. Lett.*, *424*, 245–255, <https://doi.org/10.1016/j.epsl.2015.05.033>.
- Law, K.S., A. Stohl, P.K. Quinn, C. Brock, J. Burkhart, J.-D. Paris, G. Ancellet, H.B. Singh, A. Roiger, H. Schlager, J. Dibb, D.J. Jacob, S.R. Arnold, J. Pelon, and J.L. Thomas (2014): Arctic air pollution: New insights from POLARCAT-I PY. *Bull. Am. Meteorol. Soc.*, *95*(12), 1873–1895, <https://doi.org/10.1175/BAMS-D-13-00017.1>.
- Le Quéré, C., R. Moriarty, R.M. Andrew, G.P. Peters, P. Ciais, P. Friedlingstein, S.D. Jones, S. Sitch, P. Tans, R.J. Andres, A. Arneeth, T.A. Boden, A. Bondeau, L. Bopp, Y. Bozec, J.G. Canadell, F.

- Chevallier, C.E. Cosca, I. Harris, M. Hoppema, R.A. Houghton, J.I. House, A.K. Jain, T. Johannessen, E. Kato, R.F. Keeling, V. Kitidis, K. Klein Goldewijk, C. Koven, C. Landa, P. Landschützer, A. Lenton, I. Lima, G. Marland, J.T. Mathis, N. Metzler, Y. Nojiri, A. Olsen, W. Peters, B. Pfeil, B. Poulter, M.R. Raupach, P. Regnier, C. Rödenbeck, S. Saito, J.E. Salisbury, U. Schuster, J. Schwinger, R. Séférian, J. Segsneider, T. Steinhoff, B.D. Stocker, A.J. Sutton, T. Takahashi, B. Tilbrook, N. Viovy, Y.-P. Wang, R. Wanninkhof, G. van der Werf, A. Wiltshire, S. Zaehle, and N. Zeng (2015): Global Carbon Budget 2014. *Earth Sys. Sci. Data*, 7, 47–85, <https://doi.org/10.5194/essd-7-47-2015>. [HIGHLY CITED PAPER]
- Lee, L., P.J. Wooldridge, J. deGouw, S.S. Brown, T.S. Bates, P.K. Quinn, and R.C. Cohen (2015): Particulate organic nitrates observed in an oil and natural gas production region during wintertime. *Atmos. Chem. Phys.*, 15, 9313–9325, <https://doi.org/10.5194/acp-15-9313-2015>.
- Lee, T., G. Lagerloef, H.-Y. Kao, M.J. McPhaden, J. Willis, and M.M. Gierach (2014): The influence of salinity on tropical Atlantic instability waves. *J. Geophys. Res.*, 119(12), 8375–8394, <https://doi.org/10.1002/2014JC010100>.
- Levine, A.F.Z., and M.J. McPhaden (2015): The annual cycle in ENSO growth rate as a cause of the spring predictability barrier. *Geophys. Res. Lett.*, 42(12), 5034–5041, <https://doi.org/10.1002/2015GL064309>.
- Liu, X., R.H. Byrne, M. Lindemuth, R. Easley, and J.T. Mathis (2015): An automated procedure for laboratory and shipboard spectrophotometric measurements of seawater alkalinity: Continuously monitored single-step acid additions. *Mar. Chem.*, 174, 141–146, <https://doi.org/10.1016/j.marchem.2015.06.008>.
- Lomas, M.W., and P.J. Stabenro (2014): An Introduction to the Bering Sea Project; Volume III. *Deep-Sea Res. II*, 109, 1–4, <https://doi.org/10.1016/j.dsr2.2014.09.004>.
- Lu, K., T. Weingartner, S. Danielson, P. Winsor, E. Dobbins, K. Martini, and H. Statscewich (2015): Lateral mixing across ice meltwater fronts of the Chukchi Sea shelf. *Geophys. Res. Lett.*, 42(16), 6754–6761, <https://doi.org/10.1002/2015GL064967>.
- Lübbecke, J.F., N.J. Burls, C.J.C. Reason, and M.J. McPhaden (2014): Variability in the South Atlantic Anticyclone and the Atlantic Niño mode. *J. Climate*, 27, 8135–8150, <https://doi.org/10.1175/JCLI-D-14-00202.1>.
- Lupton, J., K.H. Rubin, R. Arculus, M. Lilley, D. Butterfield, J. Resing, E. Baker, and R. Embley (2015): Helium isotope,  $C^{13}He$ , and Ba-Nb-Ti signatures in the northern Lau Basin: Distinguishing arc, back-arc, and hotspot affinities. *Geochem. Geophys. Geosyst.*, 16(4), 1133–1155, <https://doi.org/10.1002/2014GC005625>.
- Lyman, J.M., and G.C. Johnson (2015): Anomalous eddy heat and freshwater transport in the Gulf of Alaska. *J. Geophys. Res.*, 120(2), 1397–1408, <https://doi.org/10.1002/2014JC010252>.

- Marsay, C.M., P.N. Sedwick, M.S. Dinniman, P.M. Barrett, S.L. Mack, and D.J. McGillicuddy, Jr. (2014): Estimating the benthic efflux of dissolved iron on the Ross Sea continental shelf. *Geophys. Res. Lett.*, 41(21), 7576–7583, <https://doi.org/10.1002/2014GL061684>.
- Massoli, P., T.B. Onasch, C.D. Cappa, I. Nuumaan, J. Hakala, K. Hayden, S.-M. Li, D.T. Sueper, T.S. Bates, P.K. Quinn, J.T. Jayne, and D.R. Worsnop (2015): Characterization of black carbon-containing particles from soot particle aerosol mass spectrometer measurements on the R/V Atlantis during CalNex 2010. *J. Geophys. Res.*, 120(6), 2575–2593, <https://doi.org/10.1002/2014JD022834>.
- Mathis, J.T., J.N. Cross, N. Monacci, R.A. Feely, and P.J. Stabeno (2014): Evidence of prolonged aragonite undersaturations in the bottom waters of the southern Bering Sea shelf from autonomous sensors. *Deep-Sea Res. II*, 109, 125–133, <https://doi.org/10.1016/j.dsr2.2013.07.019>.
- Mathis, J.T., J.N. Cross, W. Evans, and S.C. Doney (2015): Ocean acidification in the surface waters of the Pacific-Arctic boundary regions. *Oceanography*, 28(2), 122–135, <https://doi.org/10.5670/oceanog.2015.36>.
- Mathis, J.T., S.R. Cooley, K.K. Yates, and P. Williamson (2015): Introduction to this special issue on ocean acidification: The pathway from science to policy. *Oceanography*, 28(2), 10–15, <https://doi.org/10.5670/oceanog.2015.26>.
- Mathis, J.T., S.R. Cooley, N. Lucey, S. Colt, J. Ekstrom, T. Hurst, C. Hauri, W. Evans, J.N. Cross, and R.A. Feely (2015): Ocean acidification risk assessment for Alaska’s fishery sector. *Prog. Oceanogr.*, 136, 71–91, <https://doi.org/10.1016/j.pocean.2014.07.001>.
- McLaughlin, K., S.B. Weisberg, A.G. Dickson, G.E. Hofmann, J.A. Newton, D. Aseltine-Neilson, A. Barton, S. Cudd, R.A. Feely, I.W. Jefferds, E.B. Jewett, T. King, C.J. Langdon, S. McAfee, D. Pleschner-Steele, and B. Steele (2015): Core principles of the California Current Acidification Network: Linking chemistry, physics, and ecological effects. *Oceanography*, 28(2), 160–169, <https://doi.org/10.5670/oceanog.2015.39>.
- McLaughlin, K., S.B. Weisberg, S. Alin, A. Barton, T. Capson, A. Dickson, B. Eudeline, D. Gledhill, B. Hales, T. Martz, and J. Salisbury (2014): Guidance Manual for Establishing a Land-Based Station for Measurement of Ocean Acidification Parameters. California Current Acidification Network (C-CAN), 48 pp.
- McPhaden, M.J. (2015): Playing hide and seek with El Niño. *Nature Clim. Change*, 5, 791–795, <https://doi.org/10.1038/nclimate2775>.
- McPhaden, M.J., Y. Wang, and M. Ravichandran (2015): Volume transport of the Wyrтки jets and their relationship to the Indian Ocean dipole. *J. Geophys. Res.*, 120(8), 5302–5317, <https://doi.org/10.1002/2015JC010901>.
- Moore, S.E., and P.J. Stabeno (2015): Synthesis of Arctic Research (SOAR) in marine ecosystems of the Pacific Arctic. *Prog. Oceanogr.*, 136, 1–11, <https://doi.org/10.1016/j.pocean.2015.05.017>.

- Naik, P., M. Wang, E.J. D'Sa, and C.W. Mordy (2015): Bering Sea optical and biological properties from MODIS. *Remote Sens. Environ.*, 163, 240–252, <https://doi.org/10.1016/j.rse.2015.03.020>.
- Nuaaman, I., S.M. Li, K.L. Hayden, T.B. Onasch, P. Massoli, D. Sueper, D.R. Worsnop, T.S. Bates, P.K. Quinn, and R. McLaren (2015): Separating refractory and non-refractory particulate chloride and estimating chloride depletion by aerosol mass spectrometry in a marine environment. *Atmos. Chem. Phys. Discuss.*, 15, 2085–2118, <https://doi.org/10.5194/acpd-15-2085-2015>.
- Nyadjro, E.S., and M.J. McPhaden (2014): Variability of zonal currents in the eastern equatorial Indian Ocean on seasonal to interannual time scales. *J. Geophys. Res.*, 119(11), 7969–7986, <https://doi.org/10.1002/2014JC010380>.
- Overland, J., E. Hanna, I. Hanssen-Bauer, S.-J. Kim, J. Walsh, M. Wang, and U.S. Bhatt (2015): Arctic Air temperature. In *State of the Climate in 2014*, The Arctic. *Bull. Am. Meteorol. Soc.*, 96(7), S128–S129, <https://doi.org/10.1175/2015BAMSStateoftheClimate.1>.
- Overland, J.E., and M. Wang (2015): Increased variability in early winter subarctic North American atmospheric circulation. *J. Climate*, 28(18), 7297–7305, <https://doi.org/10.1175/JCLI-D-15-0395.1>.
- Percival, D.B., D.W. Denbo, M.C. Eblé, E. Gica, P.Y. Huang, H.O. Mofjeld, M.C. Spillane, V.V. Titov, and E.I. Tolkova (2015): Detiding DART<sup>®</sup> buoy data for real-time extraction of source coefficients for operational tsunami forecasting. *Pure Appl. Geophys.*, 172(6), 1653–1678, <https://doi.org/10.1007/s00024-014-0962-0>.
- Praveen Kumar, B., J. Vialard, M. Lengaigne, V.S.N. Murty, G.R. Foltz, M.J. McPhaden, S. Pous, and C. de Boyer Montégut (2014): Processes of interannual mixed layer temperature variability in the thermocline ridge of the Indian Ocean. *Clim. Dyn.*, 43(9–10), 2377–2397, <https://doi.org/10.1007/s00382-014-2059-y>.
- Punt, A.E., T. A'mar, N.A. Bond, D.S. Butterworth, C.L. de Moor, J.A.A. Oliveira, M.A. Haltuch, A.B. Hollowed, and C. Szuwalski (2014): Fisheries management under climate and environmental uncertainty: control rules and performance simulation. *ICES J. Mar. Sci.*, 71(8), 2208–2220, <https://doi.org/10.1093/icesjms/fst057>.
- Purkey, S.G., G.C. Johnson, and D.P. Chambers (2014): Relative contributions of ocean mass and deep steric changes to sea level rise between 1993 and 2013. *J. Geophys. Res.*, 119(11), 7509–7522, <https://doi.org/10.1002/2014JC010180>.
- Quinn, P.K., D.B. Collins, V.H. Grassian, K.A. Prather, and T.S. Bates (2015): Chemistry and related properties of freshly emitted sea spray aerosol. *Chem. Rev.*, 115(10), 4383–4399, <https://doi.org/10.1021/cr500713g>.
- Rasmussen, L., P.D. Bromirski, A.J. Miller, D. Arcas, R.E. Flick, and M.C. Hendershott (2015): Source location impact on relative tsunami strength along the U.S. West Coast. *J. Geophys. Res.*, 120(7), 4945–4961, <https://doi.org/10.1002/2015JC010718>.

- Reisdorph, S.C., and J.T. Mathis (2015): Assessing net community production in a glaciated Alaska fjord. *Biogeosciences*, 12, 5185–5198, <https://doi.org/10.5194/bg-12-5185-2015>.
- Resing, J.A., P.N. Sedwick, C.R. German, W.J. Jenkins, J.W. Moffett, B.M. Sohst, and A. Tagliabue (2015): Basin-scale transport of hydrothermal dissolved metals across the South Pacific Ocean. *Nature*, 523, 200–203, <https://doi.org/10.1038/nature14577>. [HIGHLY CITED PAPER]
- Reum, J.C.P., and S.R. Alin (2015): Carbonate chemistry co-variation with temperature and oxygen in coastal environments and the design of ecologically relevant ocean acidification experiments. *Ocean Carbon and Biogeochemistry News*, 8(1), 3–7.
- Risch, D., M. Castellote, C.W. Clark, G.E. Davis, P.J. Dugan, L.E.W. Hodge, A. Kumar, K. Lucke, D.K. Mellinger, S.L. Niekirk, M. Popescu, C. Ramp, A.J. Read, A.N. Rice, M.A. Silva, U. Siebert, K.M. Stafford, H. Verdaat, and S.M. Van Parijs (2014): Seasonal migrations of North Atlantic minke whales: Novel insights from large-scale passive acoustic monitoring networks. *Movement Ecol.*, 2(24), <https://doi.org/10.1186/s40462-014-0024-3>.
- Roop, H.A., G.B. Dunbar, R. Levy, M.J. Vandergoes, A.L. Forrest, S.L. Walker, J. Purdie, P. Upton, and J. Whinney (2015): Seasonal controls on sediment transport and deposition in Lake Ohau, South Island, New Zealand: Implications for a high-resolution Holocene paleoclimate reconstruction. *Sedimentology*, 62(3), 826–844, <https://doi.org/10.1111/sed.12162>.
- Royer, J.-Y., R. Chateau, R.P. Dziak, and D.R. Bohnenstiehl (2015): Seafloor seismicity, Antarctic ice-sounds, cetacean vocalizations and long-term ambient sound in the Indian Ocean basin. *Geophys. J. Int.*, 202(2), 748–762, <https://doi.org/10.1093/gji/ggv178>.
- Sabine, C.L., and R.A. Feely (2014): Climate and climate change: Carbon dioxide. In *Encyclopedia of Atmospheric Sciences, Second Edition*, North, G.R., J. Pyle, and F. Zhang (eds.), Academic Press, 10–17.
- Salisbury, J., D. Vandemark, B. Jönsson, W. Balch, S. Chakraborty, S. Lohrenz, B. Chapron, B. Hales, A. Mannino, J.T. Mathis, N. Reul, S.R. Signorini, R. Wanninkhof, and K.K. Yates (2015): How can present and future satellite missions support scientific studies that address ocean acidification? *Oceanography*, 28(2), 108–121, <https://doi.org/10.5670/oceanog.2015.35>.
- Schill, S.R., D.B. Collins, C. Lee, H.S. Morris, G.A. Novak, K.A. Prather, P.K. Quinn, C.M. Sultana, A.V. Tivanski, K. Zimmermann, C.D. Cappa, and T.H. Bertram (2015): The impact of aerosol particle mixing state on the hygroscopicity of sea spray aerosol. *ACS Cent. Sci.*, 1(3), 132–141, <https://doi.org/10.1021/acscentsci.5b00174>.
- Schmitt, R.W., W. Asher, F. Bingham, J. Carton, L. Centurioni, J.T. Farrar, A. Gordon, B. Hodges, A. Jessup, W.S. Kessler, L. Rainville, and A. Shcherbina (2015): From salty to fresh—Salinity Processes in the Upper-ocean Regional Study-2 (SPURS-2): Diagnosing the physics of a rainfall-dominated salinity minimum. *Oceanography*, 28(1), 150–159, <https://doi.org/10.5670/oceanog.2015.15>.

- Servain, J., G. Caniaux, Y.K. Kouadio, M.J. McPhaden, and M. Araújo (2014): Recent climatic trends in the tropical Atlantic: A role for ocean dynamics? *Clim. Dyn.*, 43(11), 3071–3089, <https://doi.org/10.1007/s00382-014-2168-7>.
- Shadwick, E.H., T.W. Trull, B. Tilbrook, A.J. Sutton, E. Schulz, and C.L. Sabine (2015): Seasonality of biological and physical controls on surface ocean CO<sub>2</sub> from hourly observations at the Southern Ocean Time Series site south of Australia. *Global Biogeochem. Cycles*, 29(2), 223–238, <https://doi.org/10.1002/2014GB004906>.
- Shcherbina, A.Y., E.A. D'Asaro, S.C. Riser, and W.S. Kessler (2015): Variability and interleaving of upper-ocean water masses surrounding the North Atlantic Salinity Maximum. *Oceanography*, 28(1), 106–113, <https://doi.org/10.5670/oceanog.2015.12>.
- Sheffield Guy, L., J. Duffy-Anderson, A.C. Matarese, C.W. Mordy, J.M. Napp, and P.J. Stabeno (2014): Understanding climate control of fisheries recruitment in the eastern Bering Sea: Long-term measurements and process studies. *Oceanography*, 27(4), 90–103, <https://doi.org/10.5670/oceanog.2014.89>.
- Sigler, M.F., P.J. Stabeno, L.B. Eisner, J.M. Napp, and F.J. Mueter (2014): Spring and fall phytoplankton blooms in a productive subarctic ecosystem, the eastern Bering Sea, during 1995–2011. *Deep-Sea Res. II*, 109, 71–83, <https://doi.org/10.1016/j.dsr2.2013.12.007>.
- Sigler, M.F., T.P. Hurst, M.T. Dalton, R.J. Foy, J.T. Mathis, and R.P. Stone (2015): NOAA's Alaska Ocean Acidification Research Plan for FY15–FY17. AFSC Processed Rep. 2015-02, National Marine Fisheries Service, NOAA Alaska Fisheries Science Center, 59 pp.
- Smith, N.R., A. Kumar, K. Takahashi, H. Hendon, S. Cravatte, D. Chen, T. Farrar, M. Cronin, K. Ando, W. Yu, and W.S. Kessler (2015): The Tropical Pacific Observing System 2020 Project: The role of research and innovation. *CLIVAR Exchanges*, 19(2), No. 67, 12–17.
- Sonnerup, R.E., S. Mecking, J.L. Bullister, and M.J. Warner (2015): Transit time distributions and oxygen utilization rates from chlorofluorocarbons and sulfur hexafluoride in the southeast Pacific Ocean. *J. Geophys. Res.*, 120(5), 3761–3776, <https://doi.org/10.1002/2015JC010781>.
- Spillane, M.C. (2014): A Tsunami Forecast Model for Point Reyes, California. NOAA OAR Special Report, PMEL Tsunami Forecast Series: Vol. 6, 176 pp, <https://doi.org/10.7289/V5W9573D>.
- Spillane, M.C. (2015): A Tsunami Forecast Model for Arena Cove, California. NOAA OAR Special Report, PMEL Tsunami Forecast Series: Vol. 10, 140 pp, <https://doi.org/10.7289/V5000020>.
- Spillane, M.C. (2015): A Tsunami Forecast Model for Elfin Cove, Alaska. NOAA OAR Special Report, PMEL Tsunami Forecast Series: Vol. 13, 172 pp, <https://doi.org/10.7289/V5VH5KTQ>.
- Spillane, M.C. (2015): A Tsunami Forecast Model for Nantucket, Massachusetts. NOAA OAR Special Report, PMEL Tsunami Forecast Series: Vol. 8, 118 pp, <https://doi.org/10.7289/V5MS3QPD>.



- Stauffer, B., J.I. Goes, K. McGee, H. Rosario Gomes, and P.J. Stabeno (2014): Comparison of spring-time phytoplankton community composition in two cold years from the western Gulf of Alaska into the southeastern Bering Sea. *Deep-Sea Res. II*, 109, 57–70, <https://doi.org/10.1016/j.dsr2.2014.03.007>.
- Stock, C.A., K. Pegion, G.A. Vecchi, M.A. Alexander, D. Tommasi, N.A. Bond, P.S. Fratantoni, R.G. Gudgel, T. Kristiansen, T.D. O'Brien, Y. Xue, and X. Yang (2015): Seasonal sea surface temperature anomaly prediction for coastal ecosystems. *Prog. Oceanogr.*, 137A, 219–236, <https://doi.org/10.1016/j.pocean.2015.06.007>.
- Stöven, T., T. Tanhua, M. Hoppema, and J.L. Bullister (2015): Perspectives of transient tracer applications and limiting cases. *Ocean Sci.*, 11, 699–718, <https://doi.org/10.5194/os-11-699-2015>.
- Strutton, P.G., V.J. Coles, R.R. Hood, R.J. Matear, M.J. McPhaden, and H.E. Phillips (2015): Biogeochemical variability in the central equatorial Indian Ocean during the monsoon transition. *Biogeosciences*, 12(8), 2367–2382, <https://doi.org/10.5194/bg-12-2367-2015>.
- Sullivan, M.E., N.B. Kachel, C.W. Mordy, S.A. Salo, and P.J. Stabeno (2014): Sea ice and water column structure on the eastern Bering sea shelf. *Deep-Sea Res. II*, 109, 39–56, <https://doi.org/10.1016/j.dsr2.2014.05.009>.
- Sutton, A., A. Jeffries, A. Devol, A. Cox, B. Tyler, B. Roman, B. Bill, B. Murphie, C. Maloy, C. Rice, C. Greengrove, C. Scholin, C. Preston, C. Krembs, C.L. Sabine, C.R. Elliser, C. Hard, C. Herrmann, C. Greene, D. Mora, D. Sargeant, E. Grossman, G. Hannach, J. Birch, J. Newton, J. Runyan, J. Mathis, J. Borchert, J. Thomson, J. Thompson, J. Mickett, J. Evanson, J. Bos, J. Ruffner, J. Masura, K. Bumbaco, K. Welch, K. Dzinbal, K. Yamahara, K. Stark, L. Friedenber, L. Wigand, L. Robinson, L. Lahner, L. Rhodes, M. Dutch, M. Alford, M. Keyzers, P. Hodum, R.A. Feely, R. Marin, S. Weakland, S. Grossman, S. Jensen, S. Mickelson, S. Pearson, S. Veirs, S.R. Alin, S. Albertson, S. Moore, S. Hallam, S. Thomas, S. Pool, S. Musielwicz, T. King, T. Good, T. Cyra, V. Partridge, V. Trainer, W. Ruef, W. Eash-Loucks, and W. Nilsson (2015): Puget Sound Marine Waters: 2014 Overview. Moore, S.K., K. Stark, J. Bos, P. Williams, J. Newton, and K. Dzinbal (eds.), NOAA Northwest Fisheries Science Center for the Puget Sound Ecosystem Monitoring Program's (PSEMP) Marine Waters Workgroup.
- Sutton, A., D. Manziello, and B. Gintert (2015): Coupling chemical and biological monitoring to understand the impact of ocean acidification on coral reef ecosystems. *Oceanography*, 28(2), 28–29, <https://doi.org/10.5670/oceanog.2015.28>.
- Sutton, A.J., C.L. Sabine, S. Maenner-Jones, N. Lawrence-Slavas, C. Meinig, R.A. Feely, J.T. Mathis, S. Musielewicz, R. Bott, P.D. McLain, J. Fought, and A. Kozyr (2014): A high-frequency atmospheric and seawater  $p\text{CO}_2$  data set from 14 open ocean sites using a moored autonomous system. *Earth Sys. Sci. Data*, 6, 353–366, <https://doi.org/10.5194/essd-6-353-2014>.
- Thomson, J., J. Talbert, A. de Klerk, A. Brown, M. Schwendeman, J. Goldsmith, J. Thomas, C. Olfe, G. Cameron, and C. Meinig (2015): Biofouling effects on the response of a wave measurement buoy in deep water. *J. Atmos. Ocean. Tech.*, 32(6), 1281–1286, <https://doi.org/10.1175/JTECH-D-15-0029.1>.

- Tomita, H., Y. Kawai, M.F. Cronin, T. Hihara, and M. Kubota (2015): Validation of AMSR2 sea surface wind and temperature over the Kuroshio Extension region. *Scientific Online Letters on the Atmosphere*, 11, 43–47, <https://doi.org/10.2151/sola.2015-010>.
- Tripovich, J.S., H. Klinck, S.L. Nieukirk, T. Adams, D.K. Mellinger, N.E. Balcazar, K. Klinck, E.J.S. Hall, and T.L. Rogers (2015): Temporal segregation of the Australian and Antarctic blue whale call types (*Balaenoptera musculus* spp.). *J. Mammal.*, 96(3), 603–610, <https://doi.org/10.1093/jmammal/gyv065>.
- Van Parijs, S.M., M. Baumgartner, D. Cholewiak, G. Davis, J. Gedamke, D. Gerlach, S. Haver, J. Hatch, L. Hatch, C. Hotchkin, A. Izzu, H. Klinck, E. Matzen, D. Risch, G.K. Silber, and M. Thompson (2015): NEPAN: A U.S. Northeast Passive Acoustic sensing Network for monitoring, reducing threats and the conservation of marine animals. *Mar. Technol. Soc. J.*, 49(2), 70–86, <https://doi.org/10.4031/MTSJ.49.2.16>.
- Veres, P.R., J.M. Roberts, R.J. Wild, P.M. Edwards, S.S. Brown, T.S. Bates, P.K. Quinn, J.E. Johnson, R.J. Zamora, and J. de Gouw (2015): Peroxynitric acid (HO<sub>2</sub>NO<sub>2</sub>) measurements during the UBWOS 2013 and 2014 studies using iodide ion chemical ionization mass spectrometry. *Atmos. Chem. Phys.*, 15, 8101–8114, <https://doi.org/10.5194/acp-15-8101-2015>.
- Vestfals, C., L. Ciannelli, J.T. Duffy-Anderson, and C. Ladd (2014): Effects of seasonal and interannual variability in along-shelf and cross-shelf transport on groundfish recruitment in the eastern Bering Sea. *Deep-Sea Res. II*, 109, 190–203, <https://doi.org/10.1016/j.dsr2.2013.09.026>.
- Wang, M., and J.E. Overland (2015): Projected future duration of the sea-ice-free season in the Alaskan Arctic. *Prog. Oceanogr.*, 136, 50–59, <https://doi.org/10.1016/j.pocean.2015.01.001>.
- Wang, Y., M.J. McPhaden, P. Freitag, and C. Fey (2015): Moored Acoustic Doppler Current Profiler time series in the central equatorial Indian Ocean. NOAA Tech. Memo. OAR PMEL-146, NOAA/Pacific Marine Environmental Laboratory, Seattle, WA, 30 pp, <https://doi.org/10.7289/V5HX19NP>.
- Wei, Y., A.V. Newman, G.P. Gavin, V.V. Titov, and L. Tang (2014): Tsunami forecast by joint inversion of real-time tsunami waveforms and seismic or GPS data: Application to the Tohoku 2011 tsunami. *Pure Appl. Geophys.*, 171(12), 3281–3305, <https://doi.org/10.1007/s00024-014-0777-z>.
- Wei, Y., H. Fritz, V. Titov, B. Uslu, C. Chamberlin, and N. Kalligeris (2015): Source models and near-field impact of the April 1, 2007 Solomon Islands tsunami. *Pure Appl. Geophys.*, 172(3), 657–682, <https://doi.org/10.1007/s00024-014-1013-6>.
- Wen, C., A. Kumar, Y. Xue, and M.J. McPhaden (2014): Changes in tropical Pacific thermocline depth and their relationship to ENSO after 1999. *J. Climate*, 27(19), 7230–7249, <https://doi.org/10.1175/JCLI-D-13-00518.1>.
- Wenegrat, J.O., and M.J. McPhaden (2015): Dynamics of the surface layer diurnal cycle in the equatorial Atlantic Ocean (0°N, 23°W). *J. Geophys. Res.*, 120(1), 563–581, <https://doi.org/10.1002/2014JC010504>.

- Wiafe, G., and E.S. Nyadjro (2015): Satellite observations of upwelling in the Gulf of Guinea. *IEEE Trans. Geosci. Remote Sens.*, *12*(5), 1066–1070, <https://doi.org/10.1109/LGRS.2014.2379474>.
- Williams, N.L., R.A. Feely, C.L. Sabine, A.G. Dickson, J.H. Swift, L.D. Talley, and J.L. Russell (2015): Quantifying anthropogenic carbon inventory changes in the Pacific sector of the Southern Ocean. *Mar. Chem.*, *174*, 147–160, <https://doi.org/10.1016/j.marchem.2015.06.015>.
- Wood, K.R., J. Wang, S.A. Salo, and P.J. Stabeno (2015): The climate of the Pacific Arctic during the first RUSALCA decade: 2004–2013. *Oceanography*, *28*(3), 24–35, <https://doi.org/10.5670/oceanog.2015.55>.
- Wood, K.R., N.A. Bond, J.E. Overland, S.A. Salo, P. Stabeno, and J. Whitefield (2015): A decade of environmental change in the Pacific Arctic region. *Prog. Oceanogr.*, *136*, 12–31, <https://doi.org/10.1016/j.pocean.2015.05.005>.
- Yates, K.K., C. Turley, B.M. Hopkinson, A.E. Todgham, J.N. Cross, H. Greening, P. Williamson, R. Van Hoodonk, D.D. Deheyn, and Z. Johnson (2015): Transdisciplinary science: A path to understanding the interactions among ocean acidification, ecosystems, and society. *Oceanography*, *28*(2), 212–225, <https://doi.org/10.5670/oceanog.2015.43>.
- Yim, S.C., Y. Wei, M. Azabakht, S. Nimmala, and T. Potisuk (2015): Case study for tsunami design of coastal infrastructure: Spencer Creek Bridge, Oregon. *Journal of Bridge Engineering*, *20*(1), 05014008, [https://doi.org/10.1061/\(ASCE\)BE.1943-5592.0000631](https://doi.org/10.1061/(ASCE)BE.1943-5592.0000631).
- Youngs, M.K., and G.C. Johnson (2015): Basin-wavelength equatorial deep jet signals across three oceans. *J. Phys. Oceanogr.*, *45*(8), 2134–2148, <https://doi.org/10.1175/JPO-D-14-0181.1>.
- Yuan, B., P.R. Veres, C. Warneke, J.M. Roberts, J.B. Gilman, A. Koss, P.M. Edwards, M. Graus, W.C. Kuster, S.-M. Li, R.J. Wild, S.S. Brown, W.P. Dubé, B.M. Lerner, E.J. Williams, J.E. Johnson, P.K. Quinn, T.S. Bates, B. Lefer, P.L. Hayes, J.L. Jimenez, R.J. Weber, R. Zamora, B. Ervens, D.B. Millet, B. Rappenglück, and J.A. de Gouw (2015): Investigation of secondary formation of formic acid: Urban environment vs. oil and gas producing region. *Atmos. Chem. Phys.*, *15*, 1975–1993, <https://doi.org/10.5194/acp-15-1975-2015>.
- Zhang, D., M.J. McPhaden, and T. Lee (2014): Observed interannual variability of zonal currents in the equatorial Indian Ocean thermocline and their relation to Indian Ocean dipole. *Geophys. Res. Lett.*, *41*(22), 7933–7941, <https://doi.org/10.1002/2014GL061449>.
- Zhou, H., Y. Wei, L. Wright, and V. Titov (2014): Waves and currents in Hawaiian waters induced by the dispersive 2011 Tohoku tsunami. *Pure Appl. Geophys.*, *171*(12), 3365–3384, <https://doi.org/10.1007/s00024-014-0781-3>.

## **PUBLICATIONS FY 2014**

- Aoyama, M., M. Álvarez, C. Anstey, M.P. Ashraf, J. Barwell-Clarke, S. Becker, S. Bell, T. Brand, R. Briggs, M. Blum, M. Carignan, F. Couceiro, M. Crump, S. Curless, M. Dai, C. Engelke, C. Falconi,

- N. Fayed, M. Giani, O. Grosso, P. Henderson, Y. Hu, J. Jennings, D. Jensen, M. Kamata, D.J. Kang, H. Kasai, R. Kerouel, S.H. Kim, M. Knockaert, N. Kress, K. Kroglund, M. Larsen, K.-U. Ludwiczowski, C. Mahaffey, A. Márquez, M. Masry, T. Miyao, D.A. Molina, I. Monteiro, C. Mordy, P. Morin, A. Murata, G. Nausch, E. Norris, S.R. Ólafsdóttir, A. Olsen, J. van Ooijen, R. Paranhos, C. Payne, G. Prove, O. Pierre-Duplessix, G. Paradis, E. Rabiller, P. Raimbault, W. Richardson, H. Saito, E. de Santis Braga, V. Sarma, C. Schmidt, M. Schütt, V. Shulkin, J. Sun, T. Tanhua, A. Taylor, D. Terhell, P. Tishchenko, S. Torres-Valdés, H. Waldron, S. Weigelt-Krenz, E.M.S. Woodward, T. Yoshimura, J.-Z. Zhang, and Z. Zhao (2013): *2012 Inter-laboratory Comparison Study of a Reference Material for Nutrients in Seawater*. Technical Report of the Meteorological Research Institute, Japan Meteorological Agency, Tsukuba-city, Ibaraki, Japan, <https://doi.org/10.13140/RG.2.1.4058.1207>.
- Arrigo, K.R., D.K. Perovich, R.S. Pickart, Z.W. Brown, G.L. van Dijken, K.E. Lowry, M.M. Mills, M.A. Palmer, W.M. Balch, N.R. Bates, C.R. Benitez-Nelson, E. Brownlee, K.E. Frey, S.R. Laney, J. Mathis, A. Matsuoka, B.G. Mitchell, G.W.K. Moore, R.A. Reynolds, H.M. Sosik, and J.H. Swift (2014): Phytoplankton blooms beneath the sea ice in the Chukchi Sea. *Deep-Sea Res. II*, *105*, 1–16, <https://doi.org/10.1016/j.dsr2.2014.03.018>.
- Baker, E.T., C. Hémond, A. Briais, M. Maia, D.S. Scheirer, S.L. Walker, T. Wang, and Y.J. Chen (2014): Correlated patterns in hydrothermal plume distribution and apparent magmatic budget along 2500 km of the Southeast Indian Ridge. *Geochem. Geophys. Geosyst.*, *15*(8), 3198–3211, <https://doi.org/10.1002/2014GC005344>.
- Bakker, D.C.E., B. Pfeil, K. Smith, S. Hankin, A. Olsen, S.R. Alin, C. Cosca, S. Harasawa, A. Kozyr, Y. Nojiri, K.M. O'Brien, U. Schuster, M. Telszewski, B. Tilbrook, C. Wada, J. Akl, L. Barbero, N. Bates, J. Boutin, W.-J. Cai, R.D. Castle, F.P. Chavez, L. Chen, M. Chierici, K. Currie, H.J.W. de Baar, W. Evans, R.A. Feely, A. Fransson, Z. Gao, B. Hales, N. Hardman-Mountford, M. Hoppema, W.-J. Huang, C.W. Hunt, B. Huss, T. Ichikawa, T. Johannessen, E.M. Jones, S.D. Jones, S. Jutterström, V. Kitidis, A. Körtzinger, P. Landschützer, S.K. Lauvset, N. Lefèvre, A.B. Manke, J.T. Mathis, L. Merlivat, N. Metzl, A. Murata, T. Newberger, T. Ono, G.-H. Park, K. Paterson, D. Pierrot, A.F. Ríos, C.L. Sabine, S. Saito, J. Salisbury, V.V.S.S. Sarma, R. Schlitzer, R. Sieger, I. Skjelvan, T. Steinhoff, K. Sullivan, H. Sun, A.J. Sutton, T. Suzuki, C. Sweeney, T. Takahashi, J. Tjiputra, N. Tsurushima, S.M.A.C. van Heuven, D. Vandemark, P. Vlahos, D.W.R. Wallace, R. Wanninkhof, and A.J. Watson (2014): An update to the surface ocean CO<sub>2</sub> atlas (SOCAT version 2). *Earth Syst. Sci. Data*, *6*, 69–90, <https://doi.org/10.5194/essd-6-69-2014>.
- Barberopoulou, A., M.R. Legg, E. Gica, and G. Legg (2014): Multiple wave arrivals contribute to damage and tsunami duration on the US West Coast. In *Tsunami Events and Lessons Learned, Environmental and Societal Significance*, Y.A. Kontar, V. Santiago-Fandiño, T. Takahashi (ed.), Advances in Natural and Technological Hazards Research, Vol. 35, Springer Netherlands, 359–376, ISBN: 978-94-007-7268-7 (Print) 978-94-007-7269-4 (Online).
- Barrett, P.M., J.A. Resing, N.J. Buck, R.A. Feely, J.L. Bullister, C.S. Buck, W.M. Landing, and C.I. Measures (2014): Calcium carbonate dissolution in the upper 1000 m of the eastern North Atlantic. *Global Biogeochem. Cycles*, *28*(4), 386–397, <https://doi.org/10.1002/2013GB004619>.

- Beaulieu, S.E., E.T. Baker, C.R. German, and A. Maffei (2013): An authoritative global database for active submarine hydrothermal vent fields. *Geochem. Geophys. Geosyst.*, 14(11), 4892–4905, <https://doi.org/10.1002/2013GC004998>.
- Bednaršek, N., R.A. Feely, J.C.P. Reum, W. Peterson, J. Menkel, S.R. Alin, and B. Hales (2014): *Limacina helicina* shell dissolution as an indicator of declining habitat suitability due to ocean acidification in the California Current Ecosystem. *Proc. Roy. Soc. Lond. B*, 281, 20140123, <https://doi.org/10.1098/rspb.2014.0123>. [HIGHLY CITED PAPER]
- Belka, D., M. Schwendeman, J. Thomson, and M.F. Cronin (2014): *Historical Wave and Wind Observations at Ocean Station P*. APL-UW Tech Report 1047, University of Washington Applied Physics Laboratory, Seattle, WA.
- Bellerby, R., L. Anderson, K. Azetsu-Scott, P. Croot, R. MacDonald, L. Miller, J. Olafsson, N. Steiner, A. Anersson, C. Carlson, M. Chierici, A. Fransson, E. Jeansson, F. Mackenzie, J. Mathis, A. Olsen, U. Passow, and M. Yamamoto-Kauai (2013): *AMAP Assessment 2013: Arctic Ocean Acidification*. Acidification in the Arctic Ocean, Arctic Monitoring and Assessment Programme (AMAP), Narayana Press, Odder, Denmark, viii + 99 pp, ISBN: 978-82-7971-082-0.
- Bohnenstiehl, D.R., R.P. Dziak, H. Matsumoto, and J. Conder (2014): Acoustic response of submarine volcanoes in the Tofua Arc and northern Lau Basin to two great earthquakes. *Geophys. J. Int.*, 196(3), 1657–1675, <https://doi.org/10.1093/gji/ggt472>.
- Broadgate, W., U. Riebesell, C. Armstrong, P. Brewer, K. Denman, R. Feely, K. Gao, J.-P. Gattuso, K. Isensee, J. Kleypas, D. Laffoley, J. Orr, H.-O. Pörtner, C.E. Rezende, D. Schmidt, E. Urban, A. Waite, and J.L. Valdés (2013): Ocean acidification: Summary for policymakers. *Third Symposium on the Ocean in a High CO<sub>2</sub> World*, IGBP, IOC, SCOR, International Geosphere–Biosphere Program, Stockholm, Sweden.
- Buck, C.S., W.M. Landing, and J.A. Resing (2013): Pacific Ocean aerosols: Deposition and solubility of iron, aluminum, and other trace elements. *Mar. Chem.*, 157, 117–130, <https://doi.org/10.1016/j.marchem.2013.09.005>.
- Buffaloe, G.M., D.A. Lack, E.J. Williams, D. Coffman, K.L. Hayden, B.M. Lerner, S.-M. Li, I. Nuaaman, P. Massoli, T.B. Onasch, P.K. Quinn, and C.D. Cappa (2014): Black carbon emissions from in-use ships: A California regional assessment. *Atmos. Chem. Phys.*, 14, 1881–1896, <https://doi.org/10.5194/acp-14-1881-2014>.
- Bullister, J.L., M. Rhein, and C. Mauritzen (2013): Deep water formation. In *Ocean Circulation and Climate, 2nd Ed. A 21st Century Perspective*, G. Siedler, S. Griffies, J. Gould, and J. Church (eds.), International Geophysics Series, Academic Press, Volume 103, ISBN: 9780123918512.
- Cai, W., S. Borlace, M. Lengaigne, P. van Rensch, M. Collins, G. Vecchi, A. Timmermann, A. Santoso, M.J. McPhaden, L. Wu, M.H. England, G. Wang, E. Guilyardi, and F.-F. Jin (2014): Increasing frequency of extreme El Niño events due to greenhouse warming. *Nature Clim. Change*, 4, 111–116, <https://doi.org/10.1038/nclimate2100>. [HIGHLY CITED PAPER]

- Cai, W.J., N.R. Bates, L. Guo, L.G. Anderson, J.T. Mathis, R. Wanninkhof, and L. Chen (2014): Carbon fluxes across boundaries in the Pacific sector of the Arctic Ocean in a changing environment. In *The Pacific Arctic Region: Ecosystem Status and Trends in a Rapidly Changing Environment*, J.M. Grebmeier and W. Maslowski (eds.), Springer Science+Business Media, Dordrecht, 178–222.
- Caplan-Auerbach, J., R.P. Dziak, D.R. Bohnenstiehl, W.W. Chadwick, and T.-K. Lau (2014): Hydroacoustic investigation of submarine landslides at West Mata volcano, Lau Basin. *Geophys. Res. Lett.*, *41*(16), 5927–5934, <https://doi.org/10.1002/2014GL060964>.
- Cappa, C.D., E.J. Williams, D.A. Lack, G.M. Buffaloe, D. Coffman, K.L. Hayden, S.C. Herndon, B.M. Lerner, S.-M. Li, P. Massoli, R. McLaren, I. Nuaaman, T.B. Onasch, and P.K. Quinn (2014): A case study into the measurement of ship emissions from plume intercepts of the NOAA Ship *Miller Freeman*. *Atmos. Chem. Phys.*, *14*, 1337–1352, <https://doi.org/10.5194/acp-14-1337-2014>.
- Chadwick, J., R. Keller, G. Kamenov, G. Yogodzinski, and J. Lupton (2014): The Cobb hot spot: HIMU-DMM mixing and melting controlled by a progressively thinning lithospheric lid. *Geochem. Geophys. Geosyst.*, *15*(8), 3107–3122, <https://doi.org/10.1002/2014GC005334>.
- Chadwick, Jr., W.W., D.A. Clague, R.W. Embley, M.R. Perfit, D.A. Butterfield, D.W. Caress, J.B. Paduan, J.F. Martin, P. Sasnett, S.G. Merle, and A.M. Bobbitt (2013): The 1998 eruption of Axial Seamount: New insights on submarine lava flow emplacement from high-resolution mapping. *Geochem. Geophys. Geosyst.*, *14*(10), 3939–3968, <https://doi.org/10.1002/ggge.20202>.
- Chen, K., L. Ciannelli, M.B. Decker, C. Ladd, W. Cheng, Z. Zhou, and K.-S. Chan (2014): Reconstructing source-sink dynamics in a population with a pelagic dispersal phase. *PLoS ONE*, *9*(5), e95316, <https://doi.org/10.1371/journal.pone.0095316>.
- Chin, M., T. Diehl, Q. Tan, J.M. Prospero, R.A. Kahn, L.A. Remer, H. Yu, A.M. Sayer, H. Bian, I.V. Geogdzhayev, B.N. Holben, S.G. Howell, B.J. Huebert, N.C. Hsu, D. Kim, T.L. Kucsera, R.C. Levy, M.I. Mishchenko, X. Pan, P.K. Quinn, G.L. Schuster, D.G. Streets, S.A. Strode, O. Torres, and X.-P. Zhao (2014): Multi-decadal aerosol variations from 1980 to 2009: A perspective from observations and a global model. *Atmos. Chem. Phys.*, *14*, 3657–3690, <https://doi.org/10.5194/acp-14-3657-2014>. [HIGHLY CITED PAPER]
- Chiodi, A.M., and D.E. Harrison (2014): Comment on Qian et al. 2008: La Niña and El Niño composites of atmospheric CO<sub>2</sub> change. *Tellus B*, *66*, 20428, <https://doi.org/10.3402/tellusb.v66.20428>.
- Chiodi, A.M., D.E. Harrison, and G.A. Vecchi (2014): Subseasonal atmospheric variability and El Niño waveguide warming: Observed effects of the Madden-Julian Oscillation and Westerly Wind Events. *J. Climate*, *27*(10), 3619–3642, <https://doi.org/10.1175/JCLI-D-13-00547.1>.
- Ciais, P., A.J. Dolman, A. Bombelli, R. Duren, A. Peregon, P.J. Rayner, C. Miller, N. Gobron, G. Kinderman, G. Marland, N. Gruber, F. Chevallier, R.J. Andres, G. Balsamo, L. Bopp, F.-M. Bréon, G. Broquet, R. Dargaville, T.J. Battin, A. Borges, H. Bovensmann, M. Buchwitz, J. Butler, J.G. Canadell, R.B. Cook, R. DeFries, R. Engelen, K.R. Gurney, C. Heinze, M. Heimann, A. Held, M. Henry, B. Law, S. Luyssaert, J. Miller, T. Moriyama, C. Moulin, R.B. Myneni, C. Nussli, M. Obersteiner, D. Ojima, Y. Pan, J.-D. Paris, S. L. Piao, B. Poulter, S. Plummer, S. Quegan, P.

- Raymond, M. Reichstein, L. Rivier, C. Sabine, D. Schimel, O. Tarasova, R. Valentini, G. van der Werf, R. Wang, D. Wickland, M. Williams, and C. Zehner (2014): Current systematic carbon-cycle observations and the need for implementing a policy-relevant carbon observing system. *Biogeosciences*, 11, 3547-3602, <https://doi.org/10.5194/bg-11-3547-2014>.
- Cinquini, L., D. Crichton, C. Mattmann, J. Harney, G. Shipman, F. Wang, R. Ananthakrishnan, N. Miller, S. Denvil, M. Morgan, Z. Pobre, G.M. Bell, C. Doutriaux, R. Drach, D. Williams, P. Kershaw, S. Pascoe, E. Gonzalez, S. Fiore, and R. Schweitzer (2014): The Earth System Grid Federation: An open infrastructure for access to distributed geospatial data. *Future Generation Computer Systems*, 36, 400–417, <https://doi.org/10.1016/j.future.2013.07.002>.
- Clague, D.A., B.M. Dreyer, J.B. Paduan, J.F. Martin, W.W. Chadwick, Jr., D.W. Caress, R.A. Portner, T.P. Guilderson, M.L. McGann, H. Thomas, D.A. Butterfield, and R.W. Embley (2013): Geologic history of the summit of Axial Seamount, Juan de Fuca Ridge. *Geochem. Geophys. Geosyst.*, 14(10), 4403–4443, <https://doi.org/10.1002/ggge.20240>.
- Clarke, J., K. Stafford, S.E. Moore, B. Rone, L. Aerts, and J. Crance (2013): Subarctic cetaceans in the southern Chukchi Sea: Evidence of recovery or response to a changing ecosystem. *Oceanography*, 26(4), 136–149, <https://doi.org/10.5670/oceanog.2013.81>.
- Cohen, J., J.A. Screen, J.C. Furtado, M. Barlow, D. Whittleston, D. Coumou, J. Francis, K. Dethloff, D. Entekhabi, J. Overland, and J. Jones (2014): Recent Arctic amplification and extreme mid-latitude weather. *Nature Geosci.*, 7(9), 627–637, <https://doi.org/10.1038/ngeo2234>. [HIGHLY CITED PAPER]
- Cooley, S., J. Mathis, R. Feely, C. Turley, S. Alin, J. Orr, S. Dupont, and M. Chadsey (2013): *20 Facts About Ocean Acidification*. U.S. Ocean Carbon and Biogeochemistry Program.
- Cooper, D., J. Duffy-Anderson, B. Norcross, B. Holladay, and P. Stabeno (2014): Nursery areas of juvenile northern rock sole (*Lepidopsetta polyxystra*) in the eastern Bering Sea in relation to hydrography and thermal regimes. *ICES J. Mar. Sci.*, 71(7), 1683–1695, <https://doi.org/10.1093/icesjms/fst210>.
- Cooper, D.W., J.T. Duffy-Anderson, W.T. Stockhausen, and W. Cheng (2013): Modeled connectivity between northern rock sole (*Lepidopsetta polyxystra*) spawning and nursery areas in the eastern Bering Sea. *J. Sea Res.*, 84, 2–12, <https://doi.org/10.1016/j.seares.2012.07.001>.
- Cooper, L.W., M. Sexson, J.M. Grebmeier, R. Gradinger, C.W. Mordy, and J.R. Lovvorn (2013): Linkages between sea-ice coverage, pelagic-benthic coupling, and the distribution of spectacled eiders: Observations in March 2008, 2009 and 2010, Northern Bering Sea. *Deep-Sea Res. II*, 94, 31–43, <https://doi.org/10.1016/j.dsr2.2013.03.009>.
- Coyle, K.O., G.A. Gibson, K. Hedstrom, A.J. Hermann, and R.R. Hopcroft (2013): Zooplankton biomass, advection and production on the northern Gulf of Alaska shelf from simulations and field observations. *J. Mar. Syst.*, 128, 185–207, <https://doi.org/10.1016/j.jmarsys.2013.04.018>.

- Crisp, T.A., B.M. Lerner, E.J. Williams, P.K. Quinn, T.S. Bates, and T.H. Bertram (2014): Observations of gas phase hydrochloric acid in the polluted marine boundary layer. *J. Geophys. Res.*, *119*(11), 6897–6915, <https://doi.org/10.1002/2013JD020992>.
- Cronin, M.F., M. Bourassa, C.A. Clayson, J. Edson, C. Fairall, R.A. Feely, D.E. Harrison, S. Josey, M. Kubota, B. Praveen Kumar, K. Kutsuwada, B. Large, J.T. Mathis, M.J. McPhaden, L. O'Neill, R. Pinker, K. Takahashi, H. Tomita, R.A. Weller, L. Yu, and C. Zhang (2014): TPOS White Paper #11: Wind stress and air-sea fluxes observations: status, implementation and gaps. In *Proceedings of the Tropical Pacific Observing System 2020 Workshop, A Future Sustained Tropical Pacific Ocean Observing System for Research and Forecasting*, WMO and Intergovernmental Oceanographic Commission, La Jolla, CA, 27–30 January 2014.
- Cyr, N., R. Feely, E. Jewett, K. Osgood, C. Sabine, J. Howard, K. Arzayus, D. Garrison, M. Boatman, K. Schaaf, J. Grear, C. Moore, P. Bontempi, K. Tedesco, B. Wolfe, L. Robbins, K. Yates, K. Segarra, and M.H. Mayeaux (2014): *Strategic Plan for Federal Research and Monitoring of Ocean Acidification*. Committee on Environment, Natural Resources, and Sustainability, National Science and Technology Council, Interagency Working Group on Ocean Acidification, 86 pp, Available at [https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/NSTC/iwg-oa\\_strategic\\_plan\\_march\\_2014.pdf](https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/NSTC/iwg-oa_strategic_plan_march_2014.pdf).
- Danielson, S.L., T.J. Weingartner, K.S. Hedstrom, K. Aagaard, R. Woodgate, E. Curchitser, and P. Stabeno (2014): Coupled wind-forced controls of the Bering-Chukchi shelf circulation and the Bering Strait throughflow: Ekman transport, continental shelf waves, and variations of the Pacific-Arctic sea surface height gradient. *Prog. Oceanogr.*, *125*, 40–61, <https://doi.org/10.1016/j.pocean.2014.04.006>.
- D'Asaro, E.A., J. Thomson, A.Y. Shcherbina, R.R. Harcourt, M.F. Cronin, M.A. Hemer, and B. Fox-Kemper (2014): Quantifying upper ocean turbulence driven by surface waves. *Geophys. Res. Lett.*, *41*(1), 102–107, <https://doi.org/10.1002/2013GL058193>.
- De Carlo, E.H., R.S. Arvidson, L. Chou, C.L. Sabine, and G.W. Luther (2013): Fred T. Mackenzie: Gentleman, scholar, mountaineer and model colleague. *Aquat. Geochem.*, *19*(5–6), 347–351, <https://doi.org/10.1007/s10498-013-9221-8>.
- Decker, M.B., H. Liu, L. Ciannelli, C. Ladd, W. Cheng, and K.-S. Chan (2013): Linking changes in Eastern Bering Sea jellyfish populations to environmental factors via nonlinear time series models. *Mar. Ecol. Prog. Ser.*, *494*, 179–189, <https://doi.org/10.3354/meps10545>.
- Denes, S.L., J.L. Miksis-Olds, D.K. Mellinger, and J.A. Nystuen (2014): Assessing the cross platform performance of marine mammal indicators between two collocated acoustic recorders. *Ecological Informatics*, *21*, 74–80, <https://doi.org/10.1016/j.ecoinf.2013.10.005>.
- Di Lorenzo, E., D. Mountain, H.P. Batchelder, N. Bond, and E.E. Hofmann (2013): Advances in marine ecosystem dynamics from US GLOBEC: The horizontal-advection bottom-up forcing paradigm. *Oceanography*, *26*(4), 22–33, <https://doi.org/10.5670/oceanog.2013.73>.



- Drupp, P., E.H. De Carlo, F.T. Mackenzie, C.L. Sabine, R.A. Feely, and K.E. Shamberger (2013): Comparison of CO<sub>2</sub> dynamics and air–sea gas exchange in differing tropical reef environments. *Aquat. Geochem.*, 19(5–6), 371–397, <https://doi.org/10.1007/s10498-013-9214-7>.
- Dunbar, P., M. Eblé, G. Mungov, H. McCullough, and E. Harris (2014): NOAA’s historical tsunami event database, raw and processed water level data, and model output relevant to the 11 March 2011 Tohoku, Japan earthquake and tsunami. In *Tsunami Events and Lessons Learned, Environmental and Societal Significance*, Y.A. Kontar, V. Santiago-Fandiño, T. Takahashi (ed.), Advances in Natural and Technological Hazards Research, Vol. 35, Springer Netherlands, 113-127, ISBN: 978-94-007-7268-7 (Print) 978-94-007-7269-4 (Online).
- Dziak, R.P., H. Matsumoto, D.R. Bohnenstiehl, K.M. Stafford, M. Park, W.S. Lee, H. Klinck, M.J. Fowler, T.-K. Lau, J.H. Haxel, and D.K. Mellinger (2014): Sources of long-term ambient ocean sound near the Antarctic Peninsula. In *Proceedings of the 2nd International Conference and Exhibition on Underwater Acoustics (UA2014)*, Island of Rhodes, Greece, 22–27 June 2014, 157–165.
- Embley, R.W., Y. Tamura, S.G. Merle, T. Sato, O. Oshizuka, W.W. Chadwick, Jr., D.A. Wiens, P. Shore, and R.J. Stern (2014): Eruption of South Sarigan Seamount, Northern Mariana Islands: Insights into hazards from submarine volcanic eruptions. *Oceanography*, 27(2), 24–31, <https://doi.org/10.5670/oceanog.2014.37>.
- England, M.H., S. McGregor, P. Spence, G.A. Meehl, A. Timmermann, W. Cai, A.S. Gupta, and M.J. McPhaden (2014): Recent intensification of wind-driven circulation in the Pacific and the ongoing warming hiatus. *Nature Clim. Change*, 4, 222–227, <https://doi.org/10.1038/nclimate2106>.  
[HIGHLY CITED PAPER]
- Evans, W., J.T. Mathis, and J.N. Cross (2014): Calcium carbonate corrosivity in an Alaskan inland sea. *Biogeosciences*, 11, 365–379, <https://doi.org/10.5194/bg-11-365-2014>.
- Feely, R., M. Chadsey, J. Newton, T. Klinger, B. Hales, and J. Mathis (2014): *Ocean Acidification in the Pacific Northwest*. West Coast Ocean Acidification and Hypoxia Science Panel, Institute for Natural Resources, Oregon State University and California Ocean Science Trust, Available at <http://westcoastoah.org/>.
- Feely, R.A., L.D. Talley, J.L. Bullister, C.A. Carlson, S.C. Doney, R.A. Fine, E. Firing, N. Gruber, D.A. Hansell, G.C. Johnson, R.M. Key, C. Langdon, A. Macdonald, J.T. Mathis, S. Mecking, F.J. Millero, C.W. Mordy, C.L. Sabine, W.M. Smethie, J.H. Swift, A.M. Thurnherr, R. Wanninkhof, and M.J. Warner (2014): *The U.S. Repeat Hydrography CO<sub>2</sub>/Tracer Program (GO-SHIP): Accomplishments From The First Decadal Survey*. A US CLIVAR and OCB Report, 2014-5, U.S. CLIVAR Project Office, Washington, DC.
- Feely, R.A., R. Wanninkhof, C.L. Sabine, J.T. Mathis, T. Takahashi, and S. Khatiwala (2014): Global ocean carbon cycle. In *State of the Climate in 2013*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 95(7), S73–S80, <https://doi.org/10.1175/2014BAMSStateoftheClimate.1>.

- Francis, J.A., and J.E. Overland (2014): Implications of rapid Arctic change for weather patterns in northern mid-latitudes. *CLIVAR Variations*, 12(3), 10–13.
- Friday, N.A., A.N. Zerbini, J.M. Waite, S.E. Moore, and P.J. Clapham (2013): Cetacean distribution and abundance in relation to oceanographic domains on the eastern Bering Sea shelf, June and July of 2002, 2008, and 2010. *Deep-Sea Res. II*, 94, 244–256, <https://doi.org/10.1016/j.dsr2.2013.03.011>.
- Frossard, A.A., L.M. Russell, P. Massoli, T.S. Bates, and P.K. Quinn (2014): Side-by-side comparison of four techniques explains the apparent differences in the organic composition of generated and ambient marine aerosol particles. *Aerosol Sci. Tech.*, 48(3), <https://doi.org/10.1080/02786826.2013.879979>.
- Géli, L., J.-M. Piau, R. Dziak, V. Maury, D. Fitzenz, Q. Coutellier, and P. Henry (2014): Seismic precursors linked to super-critical fluids at oceanic transform faults. *Nature Geosci.*, 7, 757–761, <https://doi.org/10.1038/ngeo2244>.
- Gourdeau, L., J. Verron, A. Melet, W.S. Kessler, F. Marin, and B. Djeth (2014): Exploring the mesoscale activity in the Solomon Sea: A complementary approach with a numerical model and altimetric data. *J. Geophys. Res.*, 119(4), 2290–2311, <https://doi.org/10.1002/2013JC009614>.
- Grand, M.M., C.S. Buck, W.M. Landing, C.I. Measures, M. Hatta, W.T. Hiscock, M. Brown, and J.A. Resing (2014): Quantifying the impact of atmospheric deposition on the biogeochemistry of Fe and Al in the upper ocean: A decade of collaboration with the US CLIVAR-CO<sub>2</sub> Repeat Hydrography Program. *Oceanography*, 27(1), 62–65, <https://doi.org/10.5670/oceanog.2014.08>.
- Greenslade, D.J.M., A. Annunziato, A. Babeyko, D. Burbidge, E. Ellguth, N. Horspool, T. Srinivasa Kumar, Ch. Patanjali Kumar, C. Moore, N. Rakowsky, T. Riedlinger, A. Ruangrassamee, P. Srivihok, and V.V. Titov (2014): An assessment of the diversity in scenario-based tsunami forecasts for the Indian Ocean. *Cont. Shelf Res.*, 79, 36–45, <https://doi.org/10.1016/j.csr.2013.06.001>.
- Grythe, H., J. Ström, R. Krejci, P. Quinn, and A. Stohl (2014): A review of sea-spray aerosol source functions using a large global set of sea salt aerosol concentration measurements. *Atmos. Chem. Phys.*, 14, 1277–1297, <https://doi.org/10.5194/acp-14-1277-2014>.
- Harrison, D.E., N. Bond, L. Goddard, R. Martinez, and T. Yamagata (2014): TPOS White Paper #2 - Some Societal Impacts of ENSO. In *Proceedings of the Tropical Pacific Observing System 2020 Workshop, A Future Sustained Tropical Pacific Ocean Observing System for Research and Forecasting*, WMO and Intergovernmental Oceanographic Commission, La Jolla, CA, 27–30 January 2014.
- Hauri, C., P. Winsor, L. Juranek, A.M.P. McDonnell, T. Takahashi, and J.T. Mathis (2013): Wind-driven mixing causes a reduction in the strength of the continental shelf carbon pump in the Chukchi Sea. *Geophys. Res. Lett.*, 40(22), 5932–5936, <https://doi.org/10.1002/2013GL058267>.
- Hermann, A.J., G.A. Gibson, N.A. Bond, E.N. Curchitser, K. Hedstrom, W. Cheng, M. Wang, P.J. Stabeno, L. Eisner, and K.D. Ciciel (2013): A multivariate analysis of observed and modeled

- biophysical variability on the Bering Sea shelf: Multidecadal hindcasts (1970-2009) and forecasts (2010-2040). *Deep-Sea Res. II*, 94, 121–139, <https://doi.org/10.1016/j.dsr2.2013.04.007>.
- Hollowed, A.B., S. Barbeaux, E.D. Cokelet, S. Kotwicki, R. Lauth, P. Ressler, P. Stabeno, and C. Wilson (2013): Fish forage distribution and ocean conditions. *NPRB BSIERP Project B62 Final Report*, North Pacific Research Board, 416 pp, Available at [www.nprb.org](http://www.nprb.org).
- Hood, R.R., M.J. McPhaden, and E. Urban (2014): New Indian Ocean program builds on a scientific legacy. *Eos. Trans. AGU*, 95(39), 349–350, <https://doi.org/10.1002/2014EO390001>.
- Horak, R.E.A., H. Whitney, D. Shull, C. Mordy, and A.H. Devol (2013): The role of sediments on the Bering Sea shelf N cycle: Insights from measurements of benthic denitrification and benthic DIN fluxes. *Deep-Sea Res. II*, 94, 95–105, <https://doi.org/10.1016/j.dsr2.2013.03.014>.
- Howes, E.L., N. Bednaršek, J. Büdenbender, S. Comeau, A. Doubleday, S.M. Gallager, R.R. Hopcroft, S. Lischka, A.E. Maas, J. Bijma, and J.-P. Gattuso (2014): Sink and swim: A status review of thecosome pteropod culture techniques. *J. Plankton Res.*, 36(2), 299–315, <https://doi.org/10.1093/plankt/fbu002>.
- Hristova, H.G., W.S. Kessler, J.C. McWilliams, and M.J. Molemaker (2014): Mesoscale variability and its seasonality in the Solomon and Coral Seas. *J. Geophys. Res.*, 119(7), 4669–4687, <https://doi.org/10.1002/2013JC009741>.
- Huntington, H.P., G. Noongwook, N.A. Bond, B. Benter, J.A. Snyder, and J. Zhang (2013): The influence of wind and ice on spring walrus hunting success on St. Lawrence Island, Alaska. *Deep-Sea Res. II*, 94, 312–322, <https://doi.org/10.1016/j.dsr2.2013.03.016>.
- Ishii, M., R.A. Feely, K.B. Rodgers, G.-H. Park, R. Wanninkhof, D. Sasano, H. Sugimoto, C.E. Cosca, S. Nakaoka, M. Telszewski, Y. Nojiri, S.E. Mikaloff Fletcher, Y. Niwa, P.K. Patra, V. Valsala, H. Nakano, I. Lima, S.C. Doney, E.T. Buitenhuis, O. Aumont, J.P. Dunne, A. Lenton, and T. Takahashi (2014): Air-sea CO<sub>2</sub> flux in the Pacific Ocean for the period 1990-2009. *Biogeosciences*, 11, 709–734, <https://doi.org/10.5194/bg-11-709-2014>.
- Jeffries, M.O., J.E. Overland, and D.K. Perovich (2013): The Arctic shifts to a new normal. *Physics Today*, 66(10), 35–40, <https://doi.org/10.1063/PT.3.2147>.
- Jewett, E., N. Cyr, R. Feely, K. Osgood, C. Sabine, K. Arzayus, S. Gittings, D. Garrison, J. Culbertson, K. Kim, J. Grear, C. Moore, P. Bontempi, K. Tedesco, B. Wolfe, L. Robbins, K. Yates, J. Kimball, and M.H. Mayeaux (2014): *Strategic Plan for Federal Research and Monitoring of Ocean Acidification*. Interagency Working Group on Ocean Acidification, 86 pp.
- Jiang, Z.-P., D.J. Hydes, S.E. Hartman, M.C. Hartman, J.M. Campbell, B.D. Johnson, B. Schofield, D. Turk, D. Wallace, W.J. Burt, H. Thomas, C. Cosca, and R. Feely (2014): Application and assessment of a membrane-based pCO<sub>2</sub> sensor under field and laboratory conditions. *Limnol. Oceanogr. Methods*, 12(4), 264–280, <https://doi.org/10.4319/lom.2014.12.264>.

- Johnson, G.C., J.M. Lyman, G.S.E. Lagerloef, and H.-Y. Kao (2014): Sea surface salinity. In *State of the Climate in 2013*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 95(7), S60–S62, <https://doi.org/10.1175/2014BAMSSStateoftheClimate.1>.
- Johnson, G.C., J.M. Lyman, J.K. Willis, T. Boyer, J. Antonov, S.A. Good, C.M. Domingues, and N. Bindoff (2014): Ocean heat content. In *State of the Climate in 2013*, Global Oceans. *Bull. Am. Meteorol. Soc.*, 95(7), S54–S57, <https://doi.org/10.1175/2014BAMSSStateoftheClimate.1>.
- Kawai, Y., H. Tomita, M.F. Cronin, and N.A. Bond (2014): Atmospheric pressure response to mesoscale sea surface temperature variations in the Kuroshio Extension region: In situ evidence. *J. Geophys. Res.*, 119(13), 8015–8031, <https://doi.org/10.1002/2013JD021126>.
- Kelly, K.A., L. Thompson, and J. Lyman (2014): The coherence and impact of meridional heat transport anomalies in the Atlantic Ocean inferred from observation. *J. Climate*, 27, 1469–1487, <https://doi.org/10.1175/JCLI-D-12-00131.1>.
- Kessler, W.S., and S. Cravatte (2013): Mean circulation of the Coral Sea. *J. Geophys. Res.*, 118(12), 6385–6410, <https://doi.org/10.1002/2013JC009117>.
- Kessler, W.S., T. Lee, M. Collins, E. Guilyardi, D. Chen, A.T. Wittenberg, G. Vecchi, W.G. Large, and D. Anderson (2014): TPOS White Paper #3 – ENSO research: The overarching science drivers and requirements for observations. In *Proceedings of the Tropical Pacific Observing System 2020 Workshop, A Future Sustained Tropical Pacific Ocean Observing System for Research and Forecasting*, WMO and Intergovernmental Oceanographic Commission, La Jolla, CA, 27–30 January 2014.
- Ko, Y.H., K. Lee, P.D. Quay, and R.A. Feely (2014): Decadal (1994–2008) change in the carbon isotope ratio in the eastern South Pacific Ocean. *Global Biogeochem. Cycles*, 28(8), 775–785, <https://doi.org/10.1002/2013GB004786>.
- Lavelle, J.W., D. Di Iorio, and P. Rona (2013): A turbulent convection model with an observational context for a deep-sea hydrothermal plume in a time-variable cross-flow. *J. Geophys. Res.*, 118(11), 6145–6160, <https://doi.org/10.1002/2013JC009165>.
- Long, M.S., W.C. Keene, D.J. Kieber, A.A. Frossard, L.M. Russell, J.R. Maben, J.D. Kinsey, P.K. Quinn, and T.S. Bates (2014): Light-enhanced primary marine aerosol production from biologically productive seawater. *Geophys. Res. Lett.*, 41(7), 2661–2670, <https://doi.org/10.1002/2014GL059436>.
- Lübbecke, J.F., and M.J. McPhaden (2014): Assessing the 21st century shift in ENSO variability in terms of the Bjerknes stability index. *J. Climate*, 27(7), 2577–2587, <https://doi.org/10.1175/JCLI-D-13-00438.1>.
- Lupton, J., and L. Evans (2013): Changes in the atmospheric helium isotope ratio over the past 40 years. *Geophys. Res. Lett.*, 40(23), 6271–6275, <https://doi.org/10.1002/2013GL057681>.

- Lyman, J., and G.C. Johnson (2014): Estimating global ocean heat content changes in the upper 1800 m since 1950 and the influence of climatology choice. *J. Climate*, 27, 1946–1958, <https://doi.org/10.1175/JCLI-D-12-00752.1>.
- Manzello, D., I. Enochs, S. Musielewicz, R. Carlton, and D. Gledhill (2013): Tropical cyclones cause CaCO<sub>3</sub> undersaturation of coral reef seawater in a high-CO<sub>2</sub> world. *J. Geophys. Res.*, 118(10), 5312–5321, <https://doi.org/10.1002/jgrc.20378>.
- Martin, E.E., A.E. Ingalls, J.E. Richey, R.G. Keil, G.M. Santos, L.T. Carlson, S.R. Alin, and E.R.M. Druffel (2013): Age of riverine carbon suggests rapid export of terrestrial primary production in tropics. *Geophys. Res. Lett.*, 40(21), 5687–5691, <https://doi.org/10.1002/2013GL057450>.
- Martini, K.I., H.L. Simmons, C.A. Stoudt, and J.K. Hutchings (2014): Near-inertial internal waves and sea ice in the Beaufort Sea. *J. Phys. Oceanogr.*, 44(8), 2212–2234, <https://doi.org/10.1175/JPO-D-13-0160.1>.
- Mathis, J.T., and R.A. Feely (2013): Building an integrated coastal ocean acidification monitoring network in the U.S. *Elementa: Science of the Anthropocene*, 1, 000007, 6 pp, <https://doi.org/10.12952/journal.elementa.000007>.
- Mathis, J.T., J.G. Grebmeier, D.A. Hansell, R.R. Hopcroft, D.L. Kirchman, S.H. Lee, S.B. Moran, N.R. Bates, S. VanLaningham, J.N. Cross, and W.J. Cai (2014): Carbon biogeochemistry of the western Arctic: Primary production, carbon export and the controls on ocean acidification. In *The Pacific Arctic Region: Ecosystem Status and Trends in a Rapidly Changing Environment*, J.M. Grebmeier and W. Maslowski (eds.), Springer Science+Business Media, Dordrecht, 223–268.
- Mathis, J.T., J.N. Cross, W. Evans, L. Anderson, and M. Yamamoto-Kawai (2014): Ocean acidification. In State of the Climate in 2013, The Arctic. *Bull. Am. Meteorol. Soc.*, 95(7), S130–S131, <https://doi.org/10.1175/2014BAMSSstateoftheClimate.1>.
- Mathis, J.T., R.A. Feely, A. Sutton, C. Carlson, F. Chai, F. Chavez, M. Church, C. Cosca, M. Ishii, C. Mordy, A. Murata, J. Resing, P. Strutton, T. Takahashi, and R. Wanninkhof (2014): TPOS Whitepaper #6. Tropical Pacific biogeochemistry: Status, implementation and gaps. In *Proceedings of the Tropical Pacific Observing System 2020 Workshop, A Future Sustained Tropical Pacific Ocean Observing System for Research and Forecasting*, WMO and Intergovernmental Oceanographic Commission, La Jolla, CA, 27–30 January 2014.
- Matsumoto, H., D.R. Bohnenstiehl, J. Tournadre, R.P. Dziak, J.H. Haxel, T.-K.A. Lau, M. Fowler, and S.A. Salo (2014): Antarctic icebergs: A significant natural ocean sound source in the Southern Hemisphere. *Geochem. Geophys. Geosyst.*, 15(8), 3448–3458, <https://doi.org/10.1002/2014GC005454>.
- Matsumoto, H., R.P. Dziak, D. Bohnenstiehl, J. Tournadre, T.-K. Lau, M. Fowler, J. Haxel, M. Park, and W. Lee (2014): Antarctic's siren call: The sound of icebergs. In *Proceedings of the 2nd International Conference and Exhibition on Underwater Acoustics (UA2014)*, Island of Rhodes, Greece, 22–27 June 2014, 403–410.

- McGregor, S., P. Spence, F.U. Schwartzkopf, M.H. England, A. Santoso, W.S. Kessler, A. Timmermann, and C.W. Böning (2014): ENSO-driven interhemispheric Pacific mass transports. *J. Geophys. Res.*, *119*(9), 6221–6237, <https://doi.org/10.1002/2014JC010286>.
- McPhaden, M.J., and M. Nagura (2014): Indian Ocean Dipole interpreted in terms of recharge oscillator theory. *Clim. Dyn.*, *42*(5-6), 1569-1586, <https://doi.org/10.1007/s00382-013-1765-1>.
- Meinvielle, M., and G.C. Johnson (2013): Decadal water-property trends in the California Undercurrent, with implications for ocean acidification. *J. Geophys. Res.*, *118*(12), 6687–6703, <https://doi.org/10.1002/2013JC009299>.
- Nagano, A., K. Uehara, T. Suga, Y. Kawai, H. Ichikawa, and M.F. Cronin (2014): Origin of near-surface high-salinity water observed in the Kuroshio Extension region. *J. Oceanogr.*, *70*(4), 389-403, <https://doi.org/10.1007/s10872-014-0237-5>.
- Nagura, M., and M.J. McPhaden (2014): Zonal momentum budget along the equator in the Indian Ocean from a high-resolution ocean general circulation model. *J. Geophys. Res.*, *119*(7), 4444–4461, <https://doi.org/10.1002/2014JC009895>.
- Newton, J.A., R.A. Feely, E.B. Jewett, P. Williamson, and J. Mathis (2014): *Global Ocean Acidification Observing Network: Requirements and Governance Plan, First Edition*. 60 pp.
- Nyadjro, E.S., and B. Subrahmanyam (2014): SMOS mission reveals the salinity structure of the Indian Ocean dipole. *IEEE Trans. Geosci. Remote Sens.*, *11*(9), 1564–1568, <https://doi.org/10.1109/LGRS.2014.2301594>.
- Overland, J., J. Key, E. Hanna, I. Hanssen-Bauer, B.-M. Kim, S.-J. Kim, J. Walsh, M. Wang, U. Bhatt, Y. Liu, R. Stone, C. Cox, and V. Walden (2014): The lower atmosphere: Air temperature, clouds and radiation. In *State of the Climate in 2013, The Arctic*. *Bull. Am. Meteorol. Soc.*, *95*(7), S115–S117, S120, <https://doi.org/10.1175/2014BAMSStateoftheClimate.1>.
- Overland, J.E. (2014): Long-range linkage. *Nature Clim. Change*, *4*, 11–12, <https://doi.org/10.1038/nclimate2079>.
- Overland, J.E., J. Wang, R.S. Pickart, and M. Wang (2014): Recent and future changes in the meteorology of the Pacific Arctic. In *The Pacific Arctic Region: Ecosystem Status and Trends in a Rapidly Changing Environment*, J.M. Grebmeier and W. Maslowski (eds.), Springer Science+Business Media, Dordrecht, 17–30.
- Overland, J.E., M. Wang, J.E. Walsh, and J.C. Stroeve (2014): Future Arctic climate changes: Adaptation and mitigation timescales. *Earth's Future*, *2*(2), 68–74, <https://doi.org/10.1002/2013EF000162>.
- Oxtoby, L.E., J.T. Mathis, L.W. Juranek, and M.J. Wooller (2013): Constraining stable carbon isotope values of microphytobenthos ( $C_3$  photosynthesis) in the Arctic for application to food web studies. *Biogeosciences Disc.*, *10*, 18151–18174, <https://doi.org/10.5194/bgd-10-18151-2013>.

- Paredes, R., R.A. Orben, R.M. Suryan, D.B. Irons, D.D. Roby, A.M.A. Harding, R.C. Young, K. Benoit-Bird, C. Ladd, H. Renner, S. Heppell, R.A. Phillips, and A. Kitaysky (2014): Foraging responses of black-legged kittiwakes to prolonged food shortages around colonies in the Bering Sea shelf. *PLoS ONE*, 9(3), e92520, <https://doi.org/10.1371/journal.pone.0092520>.
- Pelland, N.A., J.T. Sterling, M.A. Lea, N.A. Bond, R.R. Ream, C.M. Lee, and C.C. Eriksen (2014): Fortuitous encounters between Seagliders and adult female northern fur seals (*Callorhinus ursinus*) off the Washington (USA) coast: Upper ocean variability and links to top predator behavior. *PLoS ONE*, 9(8), e101268, <https://doi.org/10.1371/journal.pone.0101268>.
- Peng, G., J. Bidlot, H.P. Freitag, and C.J. Schreck III (2014): Directional bias of TAO daily buoy wind vectors in the central equatorial Pacific Ocean from November 2008 to January 2010. *Data Sci. J.*, 13, 79–87.
- Peralta-Ferriz, C., J.H. Morison, S.E. Stalin, and C. Meinig (2014): Measuring ocean bottom pressure at the North Pole. *Mar. Technol. Soc. J.*, 48(5), 52–68, <https://doi.org/10.4031/MTSJ.48.5.11>.
- Percival, D.M., D.B. Percival, D.W. Denbo, E. Gica, P.Y. Huang, H.O. Mofjeld, and M.C. Spillane (2014): Automated tsunami source modeling using the sweeping window positive elastic net. *J. Am. Stat. Assoc.*, 109(506), 491–499, <https://doi.org/10.1080/01621459.2013.879062>.
- Quinn, P.K., A. Stohl, A. Baklanov, M.G. Flanner, A. Herber, K. Kupiainen, K.S. Law, J. Schmale, S. Sharma, V. Vestreng, and K. von Salzen (2014): Radiative forcing by black carbon in the Arctic. In *State of the Climate in 2013, The Arctic. Bull. Am. Meteorol. Soc.*, 95(7), S124–S125, <https://doi.org/10.1175/2014BAMSSStateoftheClimate.1>.
- Quinn, P.K., and T.S. Bates (2014): Ocean-derived aerosol and its climate impacts. In *Treatise on Geochemistry, Volume 4*, R. Keeling (ed.), Elsevier Ltd., Oxford, 317–330.
- Quinn, P.K., T.S. Bates, K.S. Schulz, D.J. Coffman, A.A. Frossard, L.M. Russell, W.C. Keene, and D.J. Kieber (2014): Contribution of sea surface carbon pool to organic matter enrichment in sea spray aerosol. *Nature Geosci.*, 7, 228–232, <https://doi.org/10.1038/ngeo2092>. [HIGHLY CITED PAPER]
- Rainville, L., S.R. Jayne, and M.F. Cronin (2014): Variations of the North Pacific Subtropical Mode Water from direct observations. *J. Climate*, 27(8), 2842–2860, <https://doi.org/10.1175/JCLI-D-13-00227.1>.
- Reisdorph, S.C., and J.T. Mathis (2014): The dynamic controls on carbonate mineral saturation states in a glacially dominated estuary: Glacier Bay, Alaska. *Estuar. Coast. Shelf Sci.*, 144, 8–18, <https://doi.org/10.1016/j.ecss.2014.03.018>.
- Resing, J., and P. Barrett (2014): Fingerprinting the sources of iron to the oceans. *Nature*, 511, 164–165, <https://doi.org/10.1038/nature13513>.
- Reum, J.C.P., S.R. Alin, R.A. Feely, J. Newton, M. Warner, and P. McElhany (2014): Seasonal carbonate chemistry covariation with temperature, oxygen, and salinity in a fjord estuary: Implications for the

- design of ocean acidification experiments. *PLoS ONE*, 9(2), e89619, <https://doi.org/10.1371/journal.pone.0089619>.
- Ribeiro, J.M., R.J. Stern, F. Martinez, O. Ishizuka, S.G. Merle, K. Kelley, E.Y. Anthony, M.H. Ren, Y.H. Ohara, M. Reagan, G. Girard, and S. Bloomer (2013): Geodynamic evolution of a forearc rift in the southernmost Mariana Arc. *Island Arc*, 22(4), 453-476, <https://doi.org/10.1111/iar.12039>.
- Rödenbeck, C., D.C.E. Bakker, N. Metzl, A. Olsen, C. Sabine, N. Cassar, F. Reum, R.F. Keeling, and M. Heimann (2014): Interannual sea-air CO<sub>2</sub> flux variability from an observation-driven ocean mixed-layer scheme. *Biogeosciences*, 11, 4599-4613, <https://doi.org/10.5194/bg-11-4599-2014>.
- Rodrigues, R.R., and M.J. McPhaden (2014): Why did the 2011-2012 La Niña cause a severe drought in the Brazilian Northeast? *Geophys. Res. Lett.*, 41(3), 1012-1018, <https://doi.org/10.1002/2013GL058703>.
- Rooper, C.N., M. Zimmermann, M.M. Prescott, and A.J. Hermann (2014): Predictive models of coral and sponge distribution, abundance and diversity in bottom trawl surveys of the Aleutian Islands, Alaska. *Mar. Ecol. Prog. Ser.*, 503, 157-176, <https://doi.org/10.3354/meps10710>.
- Rudnick, D.L., C. Meinig, K. Ando, S. Riser, U. Send, and T. Suga (2014): TPOS White Paper #12: Emerging technology. In *Proceedings of the Tropical Pacific Observing System 2020 Workshop, A Future Sustained Tropical Pacific Ocean Observing System for Research and Forecasting*, WMO and Intergovernmental Oceanographic Commission, La Jolla, CA, 27-30 January 2014.
- Sabine, C.L. (2014): Global Carbon Cycle. In *Encyclopedia of Life Sciences*, John Wiley & Sons, Ltd, Chichester, doi:10.1002/9780470015902.a0003489.pub2.
- Santoso, A., S. McGregor, F.-F. Jin, W. Cai, M.H. England, S.-I. An, M.J. McPhaden, and E. Guilyardi (2013): Late-twentieth-century emergence of the El Niño propagation asymmetry and future projections. *Nature*, 504, 126-130, <https://doi.org/10.1038/nature12683>.
- Sheffield Guy, L., L.B. Habecker, and G. Oxwang (2014): Giant green anemones consume seabird nestlings on the Oregon Coast. *Mar. Ornithology*, 42, 1-2.
- Smith, N.R., and S. Hankin (2014): TPOS White Paper #13 - Data and information delivery: communication, assembly and uptake. In *Proceedings of the Tropical Pacific Observing System 2020 Workshop, A Future Sustained Tropical Pacific Ocean Observing System for Research and Forecasting*, WMO and Intergovernmental Oceanographic Commission, La Jolla, CA, 27-30 January 2014.
- Son, J., S.-J. Pak, J. Kim, E.T. Baker, O.-R. You, S.-K. Son, and J.-W. Moon (2014): Tectonic and magmatic control of hydrothermal activity along the slow-spreading Central Indian Ridge, 8°-17°S. *Geochem. Geophys. Geosyst.*, 15(5), 2011-2020, <https://doi.org/10.1002/2013GC005206>.
- Stabeno, P.J., and H.G. Hristova (2014): Observations of the Alaskan Stream near Samalga Pass and its connection to the Bering Sea: 2001-2004. *Deep-Sea Res. I*, 88, 30-46, <https://doi.org/10.1016/j.dsr.2014.03.002>.



- Sterling, J.T., A.M. Springer, S.J. Iverson, S.P. Johnson, N.A. Pelland, D.S. Johnson, M.A. Lea, and N.A. Bond (2014): The sun, moon, wind, and biological imperative—Shaping contrasting wintertime migration and foraging strategies of adult male and female northern fur seals (*Callorhinus ursinus*). *PLoS ONE*, 9(4), e93068, <https://doi.org/10.1371/journal.pone.0093068>.
- Sutton, A., A. Jeffries, A. Devol, A. Cox, B. Tyler, B. Roman, B. Bill, B. Murphie, C. Maloy, C. Rice, C. Greengrove, C. Scholin, C. Preston, C. Krembs, C.L. Sabine, C.R. Elliser, C. Hard, C. Herrmann, C. Greene, D. Mora, D. Sargeant, E. Grossman, G. Hannach, J. Birch, J. Newton, J. Runyan, J. Mathis, J. Borchert, J. Thomson, J. Thompson, J. Mickett, J. Evanson, J. Bos, J. Ruffner, J. Masura, K. Bumbaco, K. Welch, K. Dzinbal, K. Yamahara, K. Stark, L. Friedenber, L. Wigand, L. Robinson, L. Lahner, L. Rhodes, M. Dutch, M. Alford, M. Keyzers, P. Hodum, R.A. Feely, R. Marin, S. Weakland, S. Grossman, S. Jensen, S. Mickelson, S. Pearson, S. Veirs, S.R. Alin, S. Albertson, S. Moore, S. Hallam, S. Thomas, S. Pool, S. Musielwicz, T. King, T. Good, T. Cyra, V. Partridge, V. Trainer, W. Ruef, W. Eash-Loucks, and W. Nilsson (2014): *Puget Sound Marine Waters: 2013 Overview*. Moore, S.K., K. Stark, J. Bos, P. Williams, J. Newton, and K. Dzinbal (eds.), NOAA Northwest Fisheries Science Center for the Puget Sound Ecosystem Monitoring Program's (PSEMP) Marine Waters Workgroup, 60 pp.
- Sutton, A.J., R.A. Feely, C.L. Sabine, M.J. McPhaden, T. Takahashi, F.P. Chavez, G.E. Friederich, and J.T. Mathis (2014): Natural variability and anthropogenic change in equatorial Pacific surface ocean  $p\text{CO}_2$  and pH. *Global Biogeochem. Cycles*, 28(2), 131–145, <https://doi.org/10.1002/2013GB004679>.
- Tamura, Y., O. Ishizuka, R.J. Stern, A.R.L. Nichols, H. Kawabata, Y. Hirahara, Q. Chang, T. Miyazaki, J.-I. Kimura, R.W. Embley, and Y. Tatsumi (2014): Mission Immiscible: Distinct Subduction Components Generate Two Primary Magmas at Pagan Volcano, Mariana Arc. *J. Petrology*, 55, 63–101, <https://doi.org/10.1093/petrology/egt061>.
- Thomson, J., E. D'Asaro, M.F. Cronin, W.E. Rogers, R.R. Harcourt, and A. Shcherbina (2013): Waves and the equilibrium range at Ocean Weather Station P. *J. Geophys. Res.*, 118(11), 5951–5962, <https://doi.org/10.1002/2013JC008837>.
- Toomey, D.R., R.M. Allen, A.H. Barclay, S.W. Bell, P.D. Bromirski, R.L. Carlson, X. Chen, J.A. Collins, R.P. Dziak, B. Evers, D.W. Forsyth, P. Gerstoft, E.E.E. Hooft, D. Livelybrooks, J.A. Lodewyk, D.S. Luther, J.J. McGuire, S.Y. Schwartz, M. Tolstoy, A.M. Tréhu, M. Weirathmueller, and W.S.D. Wilcock (2014): The Cascadia Initiative: A sea change in seismological studies of subduction zones. *Oceanography*, 27(2), 138–150, <https://doi.org/10.5670/oceanog.2014.49>.
- Tozuka, T., and M.F. Cronin (2014): Role of mixed layer depth in surface frontogenesis: The Agulhas Return Current front. *Geophys. Res. Lett.*, 41(7), 2447–2453, <https://doi.org/10.1002/2014GL059624>.
- Ver Eecke, H.C., N.H. Akerman, J.A. Huber, D.A. Butterfield, and J.F. Holden (2013): Growth kinetics and energetics of a deep-sea hyperthermophilic methanogen under varying environmental conditions. *Environ. Microbiol. Rep.*, 5(5), 665–671, <https://doi.org/10.1111/1758-2229.12065>.

- Wang, J., H. Eicken, Y. Yu, X. Bai, J. Zhang, H. Hu, D.-R. Wang, M. Ikeda, K. Mizobata, and J.E. Overland (2014): Abrupt climate changes and emerging ice-ocean processes in the Pacific Arctic region and the Bering Sea. In *The Pacific Arctic Region: Ecosystem Status and Trends in a Rapidly Changing Environment*, J.M. Grebmeier and W. Maslowski (eds.), Springer Science+Business Media, Dordrecht, 65–99.
- Wenegrat, J., M.J. McPhaden, and R.-C. Lien (2014): Wind stress and near-surface shear in the equatorial Atlantic Ocean. *Geophys. Res. Lett.*, *41*(4), 1226–1231, <https://doi.org/10.1002/2013GL059149>.
- Wild, R.J., P.M. Edwards, W.P. Dubé, K. Baumann, E.S. Edgerton, P.K. Quinn, J.M. Roberts, A.W. Rollins, P.R. Veres, C. Warneke, E.J. Williams, B. Yuan, and S.S. Brown (2014): A measurement of total reactive nitrogen, NO<sub>y</sub>, together with NO<sub>2</sub>, NO, and O<sub>3</sub> via cavity ring-down spectroscopy. *Environ. Sci. Tech.*, *48*(16), 9609–9615, <https://doi.org/10.1021/es501896w>.
- Wilderbuer, T., W. Stockhausen, and N.A. Bond (2013): Updated analysis of flatfish recruitment response to climate variability and ocean conditions in the Eastern Bering Sea. *Deep-Sea Res. II*, *94*, 157–164, <https://doi.org/10.1016/j.dsr2.2013.03.021>.
- Wood, K.R., J.E. Overland, S.A. Salo, N.A. Bond, W.J. Williams, and X. Dong (2013): Is there a "new normal" climate in the Beaufort Sea? *Polar Res.*, *32*, 19552, <https://doi.org/10.3402/polar.v32i0.19552>.
- Xu, L., L.M. Russell, R.C.J. Somerville, and P.K. Quinn (2013): Frost flower aerosol effects on Arctic wintertime long wave cloud radiative forcing. *J. Geophys. Res.*, *118*(23), 13,282–13,291, <https://doi.org/10.1002/2013JD020554>.
- You, O.-R., S.K. Son, E.T. Baker, J. Son, M.J. Kim, M.J. Barcelona, and M. Kim (2014): Bathymetric influence on dissolved methane in hydrothermal plumes revealed by concentration and stable carbon isotope measurements at newly discovered venting sites on the Central Indian Ridge (11–13°S). *Deep-Sea Res. I*, *91*, 17–26, <https://doi.org/10.1016/j.dsr.2014.05.011>.
- Zhang, X., P. Massoli, P.K. Quinn, T.S. Bates, and C.D. Cappa (2014): Hygroscopic growth of submicron and supermicron aerosols in the marine boundary layer. *J. Geophys. Res.*, *119*(13), 8384–8399, <https://doi.org/10.1002/2013JD021213>.
- Zheleznov, A.M., D.K. Smith, C. Palmiotto, R.E. Parnell-Turner, H. Schouten, J.R. Cann, R.P. Dziak, H.J.B. Dick, and H. Bai (2013): Tectonically active terrains on the Mid-Atlantic Ridge. In *Geology of Seas and Oceans (GEOS): Proceedings of XX International Scientific Conference on Marine Geology. Vol V.*, Moscow, 18–22 November 2013, 286–290, ISBN 978-5-89118-640-8 (In Russian and English).