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Present Title and Address: Senior Research Scientist
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Degrees: B.A. w/ High-Distinction (Astronomy-Physics), University of Virginia, 1987
M.S. (Meteorology), University of Maryland, 1996

Research Interests: *Numerical modeling of ocean and ice physical processes in oceanic and coastal regions, modeling of coupling between physical and biological processes in marine environments*

Professional Experience:

<i>June 1987 - June 1988</i>	Research Assistant, Department of Astronomy, University of Arizona
<i>Aug. 1988 - Mar. 1993</i>	Systems Analyst, Hughes Training Incorporated
<i>Mar. 1993 - Aug. 1994</i>	Systems Analyst, Cambridge Research Associates
<i>Sep. 1994 - Aug. 1996</i>	Research Assistant, Department of Meteorology, University of Maryland
<i>Sept. 1996 - Oct. 1998</i>	Senior Scientist, Raytheon STX
<i>Nov. 1998 – Feb. 2020</i>	Research Scientist, Department of Ocean and Earth Sciences, Old Dominion University
<i>Mar. 2020 - present</i>	Senior Research Scientist, Department of Ocean and Earth Sciences, Old Dominion University

Professional and Honorary Societies: American Geophysical Union
American Meteorological Society

Reviewed Publications:

Hudson, K., M.J. Oliver, J. Kohut, M.S. Dinniman, J. Klinck, C. Moffat, H. Statscewich, K. Bernard, and W. Fraser, A recirculating eddy promotes subsurface particle retention in an Antarctic biological hotspot. *Journal of Geophysical Research*, doi:10.1029/2021JC017304, in press.

Castelao, R.M., M.S. Dinniman, C.M. Amos, J.M. Klinck, and P.M. Medeiros, 2021. Eddy-driven transport of particulate organic carbon-rich coastal water off the West Antarctic Peninsula. *Journal of Geophysical Research*, 126, e2020JC016791, doi:10.1029/2020JC016791.

- Salmon, E., E.E. Hofmann, M.S. Dinniman, and W.O. Smith, Jr., 2020. Evaluation of Iron Sources in the Ross Sea. *Journal of Marine Systems*, 212, 103429, doi:10.1016/j.jmarsys.2020.103429.
- Zhang, Z., E.E. Hofmann, M.S. Dinniman, C. Reiss, W.O. Smith, Jr., and M. Zhou, 2020. Linkage of the physical environments in the northern Antarctic Peninsula region to the Southern Annular Mode and the implications for the phytoplankton production. *Progress in Oceanography*, 188, 102416, doi:10.1016/j.pocean.2020.102416.
- Dinniman, M.S., P. St-Laurent, K.R. Arrigo, E.E. Hofmann, and G.L. van Dijken, 2020. Analysis of iron sources in Antarctic continental shelf waters. *Journal of Geophysical Research*, 125, e2019JC015736, doi:10.1029/2019JC015736.
- Huckstadt, L.A., A. Pinones, D.M. Palacios, B.I. McDonald, M.S. Dinniman, E.E. Hofmann, J.M. Burns, D.E. Crocker, and D.P. Costa, 2020. Future shifts in the foraging habitat of crabeater seals along the Antarctic Peninsula. *Nature Climate Change*, 10, 472-477, doi:10.1038/s41558-020-0745-9.
- Parra, S.M., V. Sanial, A.D. Boyette, M.K. Cambazoglu, I.M. Soto, A.T. Greer, L.M. Chiaverano, A. Hoover, and M.S. Dinniman, 2020. Bonnet Carre Spillway freshwater transport and corresponding biochemical properties in the Mississippi Bight. *Continental Shelf Research*, 199, 104114, doi:10.1016/j.csr.2020.104114.
- Gwyther, D.G., K. Kusahara, X.S. Asay-Davis, M.S. Dinniman, and B.K. Galton-Fenzi, 2020. Vertical processes and resolution impact basal melting: a multi-model study. *Ocean Modelling*, 147, 101569, doi:10.1016/j.ocemod.2020.101569.
- Brearley, J.A., C. Moffatt, H.J. Venables, M.P. Meredith, and M.S. Dinniman, 2019. The role of eddies and topography in the export of shelf waters from the West Antarctic Peninsula shelf. *Journal of Geophysical Research*, 124, doi:10.1029/2018JC014679.
- Mack, S.L., M.S. Dinniman, J.M. Klinck, D.J. McGillicuddy, Jr., and L. Padman, 2019. Modeling ocean eddies on Antarctica's cold water continental shelves and their effects on ice shelf basal melting. *Journal of Geophysical Research*, 124, 5067-5084, doi:10.1029/2018JC014688.
- Piñones, A., E.E. Hofmann, D.P. Costa, K. Goetz, J.M. Burns, F. Roquet, M.S. Dinniman and J.M. Klinck, 2019. Hydrographic variability along the inner and mid-shelf region of the western Ross Sea obtained using instrumented seals. *Progress in Oceanography*, 174, 131-142, doi:10.1016/j.pocean.2019.01.003.
- St-Laurent, P., P.L. Yager, R.M. Sherrell, H. Oliver, M.S. Dinniman, and S.E. Stammerjohn, 2019. Modeling the seasonal cycle of iron and carbon fluxes in the Amundsen Sea Polynya, Antarctica. *Journal of Geophysical Research*, 124, 1544-1565, doi:10.1029/2018JC014773.
- Greer, A.T., A.M. Shiller, E.E. Hofmann, J.D. Wiggert, S.J. Warner, S.M. Parra, C. Pan, J.W. Book, D. Joung, S. Dykstra, J.W. Krause, B. Dzwonkowski, I.M. Soto, M.K. Cambazoglu, A.L. Deary, C. Briseno-Avena, A.D. Boyette, J.A. Kastler, V. Sanial, L. Hode, U. Nwankwo, L.M. Chiaverano, S.J. O'Brien, P.J. Fitzpatrick, Y.H. Lau, M.S. Dinniman, K.M. Martin, P. Ho, A.K. Mojziz, S.D. Howden, F.J. Hernandez, I. Church, T.N. Miles, S. Sponaugle, J.N. Moum, R.A. Arnone, R.K. Cowen, G.A. Jacobs, O. Schofield, and W.M. Graham, 2018. Functioning of coastal river-dominated ecosystems and implications for oil spill response: From observations to mechanisms and models. *Oceanography*, 31(3), 90-103, doi:10.5670/oceanog.2018.302.

- Dinniman, M.S., Klinck, J.M., Hofmann, E.E. and Smith, W.O. Jr., 2018. Effects of projected changes in wind, atmospheric temperature, and freshwater inflow on the Ross Sea. *Journal of Climate*, 31, 1619-1635, doi:10.1175/JCLI-D-17-0351.1.
- Davis, L.B., E.E. Hofmann, J.M. Klinck, A. Piñones, and M.S. Dinniman, 2017. Distributions of krill and Antarctic silverfish and correlations with environmental variables in the western Ross Sea, Antarctica. *Marine Ecology Progress Series*, 584, 45-65, doi:10.3354/meps12347.
- Ashford, J., M. Dinniman, and C. Brooks, 2017. Opinion Paper - Physical-biological interactions influencing large toothfish over the Ross Sea shelf. *Antarctic Science*, 29, 487-494, doi:10.1017/S0954102017000359.
- St-Laurent, P., P.L. Yager, R.M. Sherrell, S.E. Stammerjohn, and M.S. Dinniman, 2017. Pathways and supply of dissolved iron in the Amundsen Sea (Antarctica). *Journal of Geophysical Research*, 122, 7135-7162, doi:10.1002/2017JC013162.
- Kaufman, D.E., M.A.M. Friedrichs, W.O. Smith, Jr., E.E. Hofmann, M.S. Dinniman, and J.C.P. Hemmings, 2017. Climate change impacts on southern Ross Sea phytoplankton composition, productivity and export. *Journal of Geophysical Research*, 122, 2339-2359, doi:10.1002/2016JC012514.
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- Mack, S.L., M.S. Dinniman, D.J. McGillicuddy, Jr., P.N. Sedwick and J.M. Klinck, 2017. Dissolved iron transport pathways in the Ross Sea: Influence of tides and mesoscale eddies in a regional ocean model. *Journal of Marine Systems*, 166, 73-86, doi:10.1016/j.jmarsys.2016.10.008.
- Casatagno, P., P. Falco, M.S. Dinniman, G. Spezie and G. Budillon, 2017. Temporal variability of the Circumpolar Deep Water inflow onto the Ross Sea continental shelf. *Journal of Marine Systems*, 166, 37-49, doi:10.1016/j.jmarsys.2016.05.006.
- Dinniman, M.S., X.S. Asay-Davis, B.K. Galton-Fenzi, P.R. Holland, A. Jenkins and R. Timmermann, 2016. Modeling ice shelf/ocean interaction in Antarctica: A review. *Oceanography*, 29(4), 144-153, doi:10.5670/oceanog.2016.106.
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- van Dijken, 2015. Iron supply and demand in an Antarctic shelf ecosystem, *Geophysical Research Letters*, 42, 8088-8097, doi:10.1002/2015GL065727.
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- Dinniman, M.S., J.M. Klinck, L-S Bai, D.H. Bromwich, K.M. Hines and D.M. Holland, 2015. The effect of atmospheric forcing resolution on delivery of ocean heat to the Antarctic floating ice shelves, *Journal of Climate*, 28, 6076-6085, doi:10.1175/JCLI-D-14-00374.1
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- Marsay, C.M., P.N. Sedwick, M.S. Dinniman, P.M. Barrett, S.L. Mack and D.J. McGillicuddy, 2014. Estimating the benthic efflux of dissolved iron on the Ross Sea continental shelf, *Geophysical Research Letters*, 41, 7576-7583, doi:10.1002/2014GL061684.
- Smith, Jr., W.O., K.T. Goetz, D.E. Kaufman, B.Y. Queste, V. Asper, D.P. Costa, M.S. Dinniman, M.A.M. Friedrichs, E.E. Hofmann, K.J. Heywood, J.T. Kohut and C.M. Lee, 2014. Multi-platform, multi-disciplinary investigations of the Ross Sea, Antarctica, *Oceanography*, 27(2), 180-185, doi:10.5670/oceanog.2014.36.
- Smith, Jr., W.O., M.S. Dinniman, E.E. Hoffman and J.M. Klinck, 2014. The effects of changing winds and temperatures on the oceanography of the Ross Sea in the 21st century, *Geophysical Research Letters*, 41, 1624-1631, doi:10.1002/2014gl059311.
- Smith, Jr., W.O., D.G. Ainley, K.R. Arrigo and M.S. Dinniman, 2014. The oceanography and ecology of the Ross Sea, *Annual Review of Marine Science*, 6, 469-487, doi:10.1146/annurev-marine-010213-135114.
- Stern, A.A., M.S. Dinniman, V. Zagorodnov, S.W. Tyler and D.M. Holland, 2013. Intrusion of warm surface water beneath the McMurdo Ice Shelf, Antarctica, *Journal of Geophysical Research*, 118, 7036-7048, doi:10.1002/2013JC008842.
- Piñones, A., E.E. Hofmann, K.L. Daly, M.S. Dinniman and J.M. Klinck, 2013. Modeling environmental controls on the transport and fate of early life stages of Antarctic krill (*Euphausia superba*) on the western Antarctic Peninsula continental shelf, *Deep-Sea Research I*, 82, 17-31, doi:10.1016/j.dsr.2013.08.001.
- Piñones, A., E.E. Hofmann, K.L. Daly, M.S. Dinniman and J.M. Klinck, 2013. Modeling the remote and local connectivity of Antarctic krill populations along the western Antarctic Peninsula, *Marine Ecology Progress Series*, 481, 69-92, doi:10.3354/meps10256.
- St-Laurent, P., J.M. Klinck and M.S. Dinniman, 2013. On the Role of Coastal Troughs in the Circulation of Warm Circumpolar Deep Water on Antarctic Shelves, *Journal of Physical Oceanography*, 43, 51-64, doi:10.1175/JPO-D-11-0237.1.
- Ashford, J., M. Dinniman, C. Brooks, A.H. Andrews, E. Hofmann, G. Cailliet, C. Jones and N. Ramanna, 2012. Does large-scale circulation structure life history connectivity in Antarctic toothfish (*Dissostichus mawsoni*)? *Canadian Journal of Fisheries and Aquatic Sciences*, 69(12), 1903-1919, doi:10.1139/f2012-111.
- Dinniman, M.S., J.M. Klinck and E.E. Hofmann, 2012. Sensitivity of Circumpolar Deep Water transport and ice shelf basal melt along the west Antarctic Peninsula to changes in the winds, *Journal of Climate*, 25, 4799-4816, doi:10.1175/JCLI-D-11-00307.1.

- Mueller, R.D., L. Padman, M.S. Dinniman, S.Y. Erofeeva, H.A. Fricker, M.A. King, 2012. Impact of tide-topography interactions on basal melting of Larsen C Ice Shelf, Antarctica, *Journal of Geophysical Research*, 117, C05005, doi:10.1029/2011JC007263.
- Padman, L., D.P. Costa, M.S. Dinniman, H.A. Fricker, M.E. Goebel, L.A. Huckstadt, A. Humbert, I. Joughin, J.T.M. Lenaerts, S.R.M. Ligtenberg, T. Scambos and M.R. van den Broeke, 2012. Oceanic controls on the mass balance of Wilkins Ice Shelf, Antarctica, *Journal of Geophysical Research*, 117, C01010, doi:10.1029/2011JC007301.
- Dinniman, M.S., J.M. Klinck and W.O. Smith, Jr., 2011. A model study of Circumpolar Deep Water on the West Antarctic Peninsula and Ross Sea continental shelves, *Deep-Sea Research II*, 58, 1508-1523, doi:10.1016/j.dsr2.2010.11.013.
- Piñones, M.A., E.E. Hofmann, M.S. Dinniman and J.M. Klinck, 2011. Lagrangian simulation of transport pathways and residence times along the western Antarctic Peninsula, *Deep-Sea Research II*, 58, 1524-1539, doi:10.1016/j.dsr2.2010.07.001.
- Smith, Jr., W.O., M.S. Dinniman, S. Tozzi, G.R. DiTullio, O. Mangoni, M. Modigh and V. Saggiomo, 2010. Phytoplankton photosynthetic pigments in the Ross Sea: Patterns and relationships among functional groups, *Journal of Marine Systems*, 82, 177-185, doi:10.1016/j.jmarsys.2010.04.014.
- Klinck, J.M. and M.S. Dinniman, 2010. Exchange across the shelf break at high southern latitudes, *Ocean Science*, 6, 513-524, doi:10.5194/os-6-513-2010.
- Costa, D.P., J.M. Klinck, E.E. Hofmann, M.S. Dinniman and J.M. Burns, 2008. Upper ocean variability in west Antarctic Peninsula continental shelf waters as measured using instrumented seals, *Deep-Sea Res. II*, 55, 323-337, doi:10.1016/j.dsr2.2007.11.003.
- Crouch, J.R., Y. Shen, J.A. Austin and M.S. Dinniman, 2008. An educational interactive numerical model of the Chesapeake Bay, *Computers and Geosciences*, 34, doi:10.1016/j.cageo.2007.03.017.
- Dinniman, M.S., J.M. Klinck and W.O. Smith, Jr., 2007. Influence of Sea Ice Cover and Icebergs on Circulation and Water Mass Formation in a Numerical Circulation Model of the Ross Sea, Antarctica, *Journal of Geophysical Research*, 112, C11013, doi:10.1029/2006JC004036.
- Smith, Jr., W.O., A.R. Shields, G. Catalano, J.A. Peloquin, S. Tozzi, M.S. Dinniman and V.A. Asper, 2006. Interannual Variations in Nutrients, Net Community Production, and Biogeochemical Cycles in the Ross Sea, *Deep-Sea Research II*, 53, 815-833.
- Dinniman, M.S. and J.M. Klinck, 2004. A model study of circulation and cross shelf exchange on the west Antarctic Peninsula continental shelf, *Deep-Sea Research II*, 51, 2003-2022.
- Dinniman, M.S., J.M. Klinck and W.O. Smith, Jr., 2003. Cross shelf exchange in a model of the Ross Sea circulation and biogeochemistry, *Deep-Sea Research II*, 50, 3103-3120.
- Smith, W.O., Jr., M.S. Dinniman, J.M. Klinck and E.E. Hofmann, 2003. Biogeochemical climatologies in the Ross Sea, Antarctica: Seasonal patterns of nutrients and biomass, *Deep-Sea Research II*, 50, 3083-3101.
- Allen, S.E., M.S. Dinniman, J.M. Klinck, D.D. Gorby, A.J. Hewett and B.M. Hickey, 2003. On Vertical Advection Truncation Errors in Terrain-Following Numerical Models: Comparison to a Laboratory Model for Upwelling over Submarine Canyons, *Journal of Geophysical Research*, 108, doi:10.1029/2001JC000978.
- Dinniman, M.S. and J.M. Klinck, 2002. The Influence of Open versus Periodic Alongshore Boundaries on Circulation near Submarine Canyons, *Journal of Atmospheric and Oceanic Technology*, 19, 1722-1737.

Dinniman, M.S. and M.M. Rienecker, 1999. Frontogenesis in the North Pacific Oceanic Frontal Zones - A Numerical Simulation, *Journal of Physical Oceanography*, 29, 537-559.

Presentations Last Five Years (*denotes invited):

- Dinniman, M., P. St-Laurent, K. Arrigo, E. Hofmann, and G. van Dijken. Sensitivity of the relationship between Antarctic ice shelves and iron supply to projected changes in the atmospheric forcing. West Antarctic Ice Sheet Workshop 2021, September, 2021.
- Dinniman, M., E. Hofmann, P. St-Laurent, K. Arrigo, and G. van Dijken. Sensitivity of the Relationship Between Antarctic Ice Shelves and Iron Supply to Projected Changes in the Atmospheric Forcing. U.S. Antarctic Science Meeting, July, 2021.
- Dinniman, M., K. Hudson, J. Klinck, J. Kohut, C. Moffat, M. Oliver, M. Passacantando, H. Statscewich, J. Veatch, and X. Wang. From the Mountains to the Penguins in the Deep Blue Sea: Importance of Atmospheric Forcing Resolution to the Simulation of the Ocean for a Biological Hotspot off the Antarctic Peninsula. 16th Workshop on Antarctic Meteorology and Climate, June, 2021.
- Dinniman, M., K. Hudson, J. Klinck, J. Kohut, C. Moffat, M. Oliver, M. Passacantando, H. Statscewich, J. Veatch, and X. Wang. From the Mountains to the Penguins in the Deep Blue Sea: Importance of Atmospheric Forcing Resolution to the Simulation of the Ocean for a Biological Hotspot off the Antarctic Peninsula. AMS 16th Conference on Polar Meteorology and Oceanography, June, 2021.
- Bernard, K., A. Pinones, and M. Dinniman, and M. Pinones. Using Lagrangian simulations to test whether spawning over the WAP shelf can be supported by upward advection. Workshop on using models to improve our understanding of Antarctic krill and their ecological role in the Southern Ocean, May, 2021.
- Dinniman*, M. Impact of ice shelves on micronutrient supply to the surface waters around Antarctica and sensitivity of this to atmospheric changes. Virtual invited seminar, Antarctic Sea Ice and Southern Ocean Seminar Series, University of Texas at San Antonio, April, 2021.
- Dinniman, M.S., P. St-Laurent, K.R. Arrigo, E.E. Hofmann, and G. van Dijken. Sensitivity to Changes in the Winds of Cryosphere Contributions to Micronutrient Supply to the Surface Waters around Antarctica. 2020 Fall AGU Meeting, December, 2020.
- Hudson, K., M.J. Oliver, J.T. Kohut, M.S. Dinniman, J.M. Klinck, H. Statscewich, K.S. Bernard, and W. Fraser. A Recirculating, Subsurface Eddy Increases Deep Resident Times in an Antarctic Biological Hotspot. 2020 Fall AGU Meeting, December, 2020.
- Dinniman, M., P. St-Laurent, K. Arrigo, E. Hofmann, and G. van Dijken. Sensitivity to changes in the winds of cryosphere contributions to micronutrient supply to the surface waters around Antarctica. 2020 West Antarctic Ice Sheet Workshop, September, 2020.
- Hudson, K., M. Oliver, J. Kohut, M. Dinniman, J. Klinck, H. Statscewich, K. Bernard, and W. Fraser. A closed, subsurface eddy increases residence times within Palmer Deep Canyon. SCAR 2020 Online Meeting, August, 2020.
- Ashford, J., M. Dinniman, and C. Brooks. Transport pathways structuring life history distributions of Antarctic toothfish. SCAR 2020 Online Meeting, August, 2020.
- Dinniman, M., P. St-Laurent, K. Arrigo, E. Hofmann, and G. van Dijken. Direct and indirect contributions of ice shelves to micronutrient supply to the surface waters around Antarctica. SCAR 2020 Online Meeting, July, 2020.

- Dinniman*, M. Ocean Melting of Antarctic Ice Shelves: Why do we care (besides sea level rise)? ODU Department of Ocean, Earth, and Atmospheric Science Seminar Series, February, 2020.
- Sedwick, P., S.F. Ackley, M.S. Dinniman, B. Loose, B.M. Sohst, and S.E. Stammerjohn. Unravelling the Seasonal Cycle of Dissolved Iron on the Antarctic Continental Margins: Fall-Winter Observations from the Ross Sea Polynyas. 2020 Ocean Sciences Meeting, February, 2020.
- Dinniman, M.S., P. St-Laurent, K.R. Arrigo, E.E. Hofmann, and G. van Dijken. Direct and indirect Contributions of Ice Shelves to Micronutrient Supply to the Surface Waters around Antarctica. 2020 Ocean Sciences Meeting, February, 2020.
- Moffat, C.F., M.S. Dinniman, X. Wang, B. Aguiar-Gonzalez, J.M. Klinck, and D. Sutherland. The heat budget of the west Antarctic Peninsula Continental Shelf. 2020 Ocean Sciences Meeting, February, 2020.
- Sutherland, D., K.L. Riverman, M.S. Dinniman, C.F. Moffat, B. Aguiar-Gonzalez, R. Obermeyer, and J.M. Klinck. Updating our understanding of oceanic controls on glacier terminus retreat along the west Antarctic Peninsula. 2020 Ocean Sciences Meeting, February, 2020.
- Cambazoglu, M.K., J.D. Wiggert, M.S. Dinniman, and B.N. Armstrong. Spatio-temporal variability of cross-shelf transport in Mississippi Bight. 2020 Ocean Sciences Meeting, February, 2020.
- Wang, X., C.F. Moffat, B. Aguiar-Gonzalez, M.S. Dinniman, J.M. Klinck, and D. Sutherland. Variability and dynamics of along-shelf exchange in the west Antarctic Peninsula (wAP). 2020 Ocean Sciences Meeting, February, 2020.
- Wiggert, J.D., C. Bouchard, M.S. Dinniman, M.K. Cambazoglu, P.J. Fitzpatrick, B.N. Armstrong, and E.E. Hofmann. Influence of River Inputs and Diurnal Sea Breeze on the Tidal Inlet Exchanges that control the Marine Ecosystem and Biogeochemical Processes of the Mississippi Sound and Bight. 2020 Ocean Sciences Meeting, February, 2020.
- Hudson, K., M.J. Oliver, J.T. Kohut, J.M. Klinck, and M.S. Dinniman. Diel Vertical Migration of Krill in a Subsurface Eddy may Promote Retention within Palmer Deep Canyon. 2020 Ocean Sciences Meeting, February, 2020.
- Zhang, Z., E.E. Hofmann, M.S. Dinniman, C. Reiss, W.O. Smith, Jr., and M. Zhou. Linkage of the Physical Environments in the Northern Antarctic Peninsula Region to the Southern Annular Mode and the Implications for Marine Ecosystem Production. 2020 Ocean Sciences Meeting, February, 2020.
- Bouchard, C., M.K. Cambazoglu, M.S. Dinniman, P.J. Fitzpatrick, E.E. Hofmann, and J.D. Wiggert. Influence of Diurnal Sea Breeze on Residence Time and Associated Biogeochemical Processes in the Mississippi Sound and Bight. 2020 Ocean Sciences Meeting, February, 2020.
- Barthel, A., C. Veneziani, M.S. Dinniman, and C. Kittel. Sensitivity of Antarctic Basal Melt Rates to Precipitation. 2020 Ocean Sciences Meeting, February, 2020.
- Springer, S., M.S. Dinniman, and L. Padman. Interaction Between Antarctic Circumpolar Current Eddies and the Sea Ice Edge: Influence on Sea Ice Extent. 2020 Ocean Sciences Meeting, February, 2020.
- Cambazoglu, K., J. Wiggert, B. Armstrong, and M. Dinniman. A Synthesis of Modeling Results to Study Cross-Shelf Transport in Mississippi Bight. 2020 Gulf of Mexico Oil Spill and Ecosystem Science Conference, February 2020.

- Wiggert, J., S. Milroy, M.K. Cambazoglu, C. Bouchard, M. Dinniman, P. Fitzpatrick, and E. Hofmann. Impact of Diurnal Sea Breeze on the Ecological and Biogeochemical Processes in Mississippi Sound. 2020 Gulf of Mexico Oil Spill and Ecosystem Science Conference, February 2020.
- Bouchard, C., M.K. Cambazoglu, M. Dinniman, P. Fitzpatrick, E. Hoffman, and J. Wiggert. Influence of Diurnal Winds on Exchange Through Barrier Island Passes and Associated Biogeochemical Processes in the Mississippi Sound and Bight. 2020 Gulf of Mexico Oil Spill and Ecosystem Science Conference, February 2020.
- Hofmann, E.E., M.S. Dinniman, P. St-Laurent, K.R. Arrigo, and G. van Dijken. Analysis of Iron Sources in Antarctic Continental Shelf Waters. 2019 Fall AGU Meeting, December, 2019.
- Dinniman, M.S., C. Bouchard, M.K. Cambazoglu, and J. Wiggert. The impact of diurnal winds on exchange through barrier island passes into the Mississippi Sound. CERF 2019 25th Biennial Conference, November 2019.
- Wiggert, J., C. Bouchard, M. Dinniman, M.K. Cambazoglu, S. O'Brien, P. Fitzpatrick, S. Milroy, and E. Hofmann. Influence of Tidal Inlet Exchange on the Marine Ecosystem and Biogeochemistry of the Mississippi Bight. CERF 2019 25th Biennial Conference, November 2019.
- Cambazoglu, M.K., S. O'Brien, J. Wiggert, M.S. Dinniman, and T.N. Miles. Seasonal sediment transport in estuarine waters of Mississippi Sound and shelf waters of Mississippi Bight. CERF 2019 25th Biennial Conference, November 2019.
- Kohut, J., H. Statscewich, M. Oliver, E. Fredj, J. Klinck, M. Dinniman, W. Fraser, K. Bernard, and P. Winsor. Project SWARM: The application of an integrated polar ocean observing system to map the physical mechanisms driving food web focusing in an Antarctic biological hotspot. Oceans 2019 Seattle Conference, October 2019.
- Riverman, K., D. Sutherland, R. Obermeyer, B. Aguiar-Gonzalez, C. Moffat, M. Dinniman, and J. Klinck. Grounding zone depth modulates oceanic control on glacier terminus retreat along the west Antarctic Peninsula. FRISP Workshop 2019, September 2019.
- Dinniman, M., P. St-Laurent, K. Arrigo, E. Hofmann, and G. van Dijken. Direct and indirect contributions of ice shelves to micronutrient supply to the surface waters around Antarctica. FRISP Workshop 2019, September 2019.
- Salmon, E., E.E. Hofmann, M.S. Dinniman, W. Smith. Modelling Southern Ocean primary productivity change with climatic change. 2019 IMBER Open Science Conference, June 2019.
- Brearley, J.A., C. Moffat, H.J. Venables, M.P. Meredith, and M.S. Dinniman. Meander-Driven Export of Shelf Water in the West Antarctic. AMS 15th Conference on Polar Meteorology and Oceanography, May 2019.
- Sherrell, R.M., P. Yager, H. Oliver, P. St-Laurent, M. Dinniman, S. Stammerjohn, and M. Lagerstrom. Iron sources to the Amundsen Sea: Glacial ice melt may not be the main input. KOPRI 25th International Symposium on Polar Sciences, May 2019.
- Yager, P.L., P. St-Laurent, H. Oliver, R.M. Sherrell, S.E. Stammerjohn, and M.S. Dinniman. How ice-sheet-ocean interactions impact the Carbon Cycle of an Antarctic coastal polynya. KOPRI 25th International Symposium on Polar Sciences, May 2019.
- Dinniman*, M. Ocean Melting of Antarctic Ice Shelves: Why do we care (besides sea level rise)? Invited seminar, Global Modeling and Assimilation Office, NASA Goddard Space Flight Center, March 2019.

- M.S. Dinniman, J.D. Wiggert, and M.K. Cambazoglu. The impact of diurnal winds on exchange through barrier island passes into the Mississippi Sound. 2019 Gulf of Mexico Oil Spill and Ecosystem Science Conference, February 2019.
- S.J. O'Brien, S.L. Dykstra, S.M. Parra, B. Dzwonkowski, J.W. Book, C. Pan, M.S. Dinniman, P.J. Fitzpatrick, Y.H. Lau, M.K. Cambazoglu, and E. Hofmann. Suspended Sediment Transport in Mississippi Bight During Two Cold Front Events in Spring 2016. 2019 Gulf of Mexico Oil Spill and Ecosystem Science Conference, February 2019.
- Cambazoglu, M.K., J. Wiggert, S. O'Brien, T. Miles, A. Greer, M. Dinniman, and P. Fitzpatrick. Impact of wave forcing on sediment resuspension and transport in the Mississippi Sound and Bight. 2019 Gulf of Mexico Oil Spill and Ecosystem Science Conference, February 2019.
- Howden, S.D., L. Hode, M.K. Cambazoglu, J. Wiggert, K. Martin, M. Dinniman, B. Dzwonkowski, and S. Parra. Connectivity of the Gulf of Mexico to the Mississippi Sound. 2019 Gulf of Mexico Oil Spill and Ecosystem Science Conference, February 2019.
- Hofmann, E.E., M.S. Dinniman, M.K. Cambazoglu, and J.D. Wiggert. Approaches and Challenges to Modeling Transport and Exchanges in the Northern Gulf of Mexico. 2019 Gulf of Mexico Oil Spill and Ecosystem Science Conference, February 2019.
- Wiggert, J.D., C. Pan, M.S. Dinniman, Y. Lau, P.J. Fitzpatrick, S.J. O'Brien, C. Bouchard, M.K. Cambazoglu, and E.E. Hofmann. Impact of Diurnal Sea Breeze on Planktonic Dynamics and Hypoxia Onset in the Mississippi Bight. 2018 Fall AGU Meeting, December 2018.
- Riverman, K.L., D.A. Sutherland, R. Obermeyer, B. Aguiar-González, C.F. Moffat, M.S. Dinniman, and J.M. Klinck. Grounding zone depth modulates oceanic control on glacier terminus retreat along the west Antarctic Peninsula. 2018 Fall AGU Meeting, December 2018.
- Dinniman, M.S., P. St-Laurent, K.R. Arrigo, E.E. Hofmann, and G. van Dijken. Direct and Indirect Contributions to Micronutrient Supply to the Open Surface Waters around Antarctica. 2018 Fall AGU Meeting, December 2018.
- Aguiar-González, B., C.F. Moffat, M.S. Dinniman, J.M. Klinck, D.A. Sutherland, D.P. Costa, E.W. Domack, C. Gordo-Rojas, A. Marrero-Diaz, and A. Rodriguez-Santana. Variability and Pathways of Along-Shelf Exchange in the West Antarctic Peninsula. 2018 Fall AGU Meeting, December 2018.
- Barthel, A., C. Veneziani, N.M. Urban, M.S. Dinniman, and C.M. Little. Towards Quantifying Multi-model Uncertainty in Antarctic Basal Melt Rate using High-resolution Regional Ocean Modeling. 2018 Fall AGU Meeting, December 2018.
- Yager, P.L., P. St-Laurent, H. Oliver, R.M. Sherrell, S.E. Stammerjohn, and M.S. Dinniman. High-resolution numerical ocean model illustrates how ice-sheet ocean interactions impact the biological pump of an Antarctic coastal polynya. 2018 Fall AGU Meeting, December 2018.
- Dinniman*, M. Ocean Melting of Antarctic Ice Shelves: Why do we care (besides sea level rise)? Invited seminar, Division of Oceanography, Istituto Nazionale di Oceanografia e Geofisica Sperimentale, November 2018.
- Barthel A., N. Urban, M. Veneziani, M. Dinniman, and C. Little. Towards quantifying multi-model uncertainty in Antarctic basal melt rate. FRISP workshop 2018, September 2018.
- Corney, S., J. Melbourne-Thomas, R. Trebilco, M. Sumner, A. Constable, and M. Dinniman. Data Management for model output: what are the issues? 2018 SCAR/IASC Open Science Conference, June 2018.

- Sedwick, P., S. Ackley, M. Dinniman, B. Loose, C. O'Hara, B. Sohst, and S. Stammerjohn. PIPERS: Fall-winter observations of dissolved iron in the Ross Sea Polynyas. 2018 SCAR/IASC Open Science Conference, June 2018.
- Brearley, A., M. Meredith, H. Venables, C. Moffat, and M. Dinniman. Meander-driven export of shelf waters in the West Antarctic. 2018 SCAR/IASC Open Science Conference, June 2018.
- Moffat, C., M. Dinniman, J. Klinck, B. Aguiar-González, D. Sutherland, and J. Graham. Variability of ocean properties along the west Antarctic Peninsula shelf. 2018 SCAR/IASC Open Science Conference, June 2018.
- Dinniman, M., P. St-Laurent, K. Arrigo, E. Hofmann, J. Klinck, R. Sherrell, S. Stammerjohn, and P. Yager. Ice shelf meltwater pump contribution to vertical exchange around Antarctica. 2018 SCAR/IASC Open Science Conference. June 2018
- Castelao, R.M., P.M. Medeiros, J. Klinck, and M. Dinniman. Particulate organic carbon export off the Antarctic Peninsula by nonlinear mesoscale eddies. 2018 ASLO Summer Meeting, June 2018.
- Sherrell, R.M., P.L. Yager, P. St-Laurent, M.S. Dinniman, S.E. Stammerjohn, M. Lagerstrom, and K.M. Harazin. High iron in outflow waters from the Dotson Ice Shelf cavity, Amundsen Sea, West Antarctica: is glacial meltwater really the source? 2018 Ocean Sciences Meeting, February 2018.
- Dinniman, M.S., P. St-Laurent, K.R. Arrigo, E.E. Hofmann, J.M. Klinck, R.M. Sherrell, S.E. Stammerjohn, and P.L. Yager. The ice shelf meltwater pump contribution to vertical exchange over the open shelf in the Amundsen Sea and elsewhere around Antarctica. 2018 Ocean Sciences Meeting, February 2018.
- Aguiar-González, B., C.F. Moffat, M.S. Dinniman, J.M. Klinck, D. Sutherland, E.W. Domack, and D.P. Costa. On the warm water pathways and seasonal cycle of subsurface shelf waters forcing glacier retreat in the west Antarctic Peninsula. 2018 Ocean Sciences Meeting, February 2018.
- Riverman, K.L., D. Sutherland, D. Carroll, C.F. Moffat, B. Aguiar-González, M.S. Dinniman, J.M. Klinck, and E.W. Domack. Dipping their toes in the water: ocean controls on glacier terminus and ice shelf locations along the west Antarctic Peninsula. 2018 Ocean Sciences Meeting, February 2018.
- Moffat, C.F., M.S. Dinniman, J.M. Klinck, B. Aguiar-González, D.A. Sutherland, and J.A. Graham. Eddies, submarine troughs, and the heat budget of the West Antarctic Peninsular continental shelf. 2018 Ocean Sciences Meeting, February 2018.
- Kaufman, D.E., M.A.M. Friedrichs, W.O. Smith, E.E. Hofmann, M.S. Dinniman, and J.C.P. Hemmings. Data assimilative biogeochemical modeling with glider observations: Examining future Ross Sea phytoplankton changes. 2018 Ocean Sciences Meeting, February 2018.
- Sedwick, P., S.F. Ackley, M.S. Dinniman, B. Loose, C. O'Hara, B.M. Sohst, and S.E. Stammerjohn. Observations of winter convective processes in the Ross Sea polynyas: Implications for the vertical resupply of dissolved iron. 2018 Ocean Sciences Meeting, February 2018.
- Brearley, J.A., H.J. Venables, M.P. Meredith, C.F. Moffat, and M.S. Dinniman. Meander driven export of Antarctic shelf waters in the West Antarctic. 2018 Ocean Sciences Meeting, February 2018.

- Mack, S.L., M. Dinniman, J.M. Klinck, D.J. McGillicuddy, and L. Padman. Resolving eddies in regional ocean models of Antarctic shelf seas. 2018 Ocean Sciences Meeting, February 2018.
- Wiggert, J.D., C. Pan, M. Dinniman, Y. Lau, P.J. Fitzpatrick, S.J. O'Brien, C. Bouchard, L.M. Quas, T.N. Miles, M.K. Cambazoglu, S.L. Dykstra, B. Dzwonkowski, G.A. Jacobs, I. Church, and E.E. Hofmann. Controls on phytoplankton dynamics in the Mississippi Bight by estuarine-shelf exchange processes. 2018 Ocean Sciences Meeting, February 2018.
- Hofmann, E.E., E. Salmon, M.S. Dinniman, and W. Smith. Evaluation of iron sources and sea ice variability in the Ross Sea and implications for primary production. 2018 Ocean Sciences Meeting, February 2018.
- Pan, C., M. Dinniman, P. Fitzgerald, Y.H. Lau, M.K. Cambazoglu, S.M. Parra, E. Hofmann, B. Dzwonkowski, S. Warner, S. O'Brien, S. Dykstra, and J. Wiggert. Exploring the circulation dynamics of Mississippi Sound and Bight using the CONCORDE synthesis model. Fall AGU, December 2017.
- Wiggert, J., C. Pan, M. Dinniman, Y. Lau, P. Fitzgerald, S. O'Brien, C. Bouchard, L. Quas, T. Miles, M.K. Cambazoglu, S. Dykstra, B. Dzwonkowski, G. Jacobs, I. Church, and E. Hofmann. Impacts of suspended sediment and estuarine-shelf exchange pathways on shelf ecosystem dynamics in the northern Gulf of Mexico. Fall AGU, December 2017.
- Yager, P., P. St-Laurent, R. Sherrell, M. Dinniman, and S. Stammerjohn. "Meltwater pump" mechanism directly links the extreme Amundsen Sea phytoplankton bloom to the melting ice shelf. 24th Annual WAIS Workshop, October 2017.
- Mack, S., M. Dinniman, and J. Klinck. How well do we resolve eddies in regional ocean models? 24th Annual WAIS Workshop, October 2017.
- Kaufman, D.E., M.A.M. Friedrichs, W.O. Smith, E.E. Hofmann, M.S. Dinniman, and J.C.P. Hemmings. Combining bio-optical glider observations and biogeochemical modeling to assess Ross Sea phytoplankton changes in the 21st Century. IMBER IMBIZO 5 meeting, October 2017.
- Willison, J.A., R. He, M.S. Dinniman, and X. Yuan. Developing a Coupled Modeling Framework to Investigate Antarctic Bottom Water Formation in Prydz Bay. 21st Conference on Atmospheric and Oceanic Fluid Dynamics, June 2017.
- Kaufman, D.E., M.A.M. Friedrichs, W.O. Smith Jr., E.E. Hofmann, M.S. Dinniman, and J.C.P. Hemmings. Combining bio-optical glider observations and biogeochemical modeling to examine potential Ross Sea phytoplankton changes in the 21st Century. 2017 OCB Summer Science Workshop, June 2017.
- Wiggert, J.D., C. Pan, M. Dinniman, Y. Lau, P. Fitzpatrick, S.J. O'Brien, T. Miles, M.K. Cambazoglu, S.L. Dykstra, B. Dzwonkowski, G. Jacobs, and E. Hofmann. Impact of circulation, transport, and exchange variability in the Northern Gulf of Mexico on shelf ecosystem dynamics. 2017 OCB Summer Science Workshop, June 2017.
- Dinniman, M., J. Klinck and L. Padman. Transport pathways and consequences for Antarctic ice shelf basal meltwater. 31st Forum for Research into Ice Shelf Processes (FRISP) workshop, June 2017.
- St-Laurent, P. and M.S. Dinniman. Ice shelf melt-driven circulation of the deep layers in the Amundsen Sea, Antarctica. 31st Forum for Research into Ice Shelf Processes (FRISP) workshop, June 2017.
- Moffat, C., M. Dinniman, B. Aguiar-Gonzalez, D. Sutherland, and J. Klinck. The influence of the open ocean on the wAP shelf hydrographic properties: pathways, gradients, and

- unanswered questions. West Antarctic Peninsula Southern Ocean Observing System (SOOS) Working Group Workshop, May 2017.
- Moffat, C., M. Dinniman, B. Aguiar-Gonzalez, D. Sutherland, and J. Klinck. The role of large submarine troughs on the circulation and property balances of the wAP shelf. The Future of Marine Biogeochemistry Research off the West Antarctic Peninsula meeting, May 2017.
- Klinck, J.M., M.S. Dinniman, E.E. Hofmann, and W.O. Smith, Jr. Effects of projected changes in wind, atmospheric temperature and freshwater inflow on the Ross Sea. Southern Ocean Workshop, April 2017.
- Dinniman*, M., E. Hofmann, J. Klinck, S. Mack, and P. St-Laurent. How the cryosphere may affect iron supply to Antarctic phytoplankton blooms. Southern Ocean Workshop, April 2017.
- Yager, P.L., P. St-Laurent, R.M. Sherrell, H. Oliver, M. Dinniman, E. Hofmann, and S.E. Stammerjohn. Melting ice sheet enhances coastal biological productivity. ASLO 2017 Meeting, February 2017.
- Pan, C., M.S. Dinniman, P.J. Fitzpatrick, Y. Lau, E.E. Hofmann, and J.D. Wiggert. Impact of high resolution forcing on circulation variability within a regional model of the Mississippi Sound and Bight. Gulf of Mexico Oil Spill and Ecosystem Science Conference 2017, February 2017.
- Wiggert, J.D., M.S. Dinniman, P.J. Fitzpatrick, Y. Lau, C. Pan, and E.E. Hofmann. Circulation, transport and exchange variability in the northern Gulf of Mexico continental shelf. Gulf of Mexico Oil Spill and Ecosystem Science Conference 2017, February 2017.
- Padman, L., F. Paolo, J. Feldman, M.S. Dinniman, H.A. Fricker, S.L. Howard, A. Levermann, and S. Springer. Sensitivity of Ross Ice Shelf, Antarctica, to Changing Climate. 14th Conference on Polar Meteorology and Oceanography, January 2017.
- Dinniman, M., J. Klinck and L. Padman. Transport pathways and consequences for Antarctic ice shelf basal meltwater. 2016 ROMS Asia-Pacific Workshop, October 2016.

Other Professional Service:

Panel Reviewer for: National Oceanic and Atmospheric Administration
National Science Foundation (x4)

Reviewer for: National Oceanic and Atmospheric Administration
National Science Foundation
Australian Antarctic Division
Chilean National Fund for Scientific and Technological Development
European Research Council
Israeli Ministry of Science
Italian Antarctic Programme
New Zealand Antarctic Research Institute
Royal Society of New Zealand
U.K. Natural Environment Research Council

Journal Reviewer: *Annals of Glaciology*
Antarctic Science
Continental Shelf Research

Deep-Sea Research I
Deep-Sea Research II
Earth and Planetary Science Letters
Estuarine, Coastal and Shelf Science
Geophysical Research Letters
Geoscientific Model Development
Global Biogeochemical Cycles
Journal of Geophysical Research: Biogeosciences
Journal of Geophysical Research: Oceans
Journal of Great Lakes Research
Journal of Marine Systems
Journal of Physical Oceanography
Limnology and Oceanography
Marine and Freshwater Research
Nature
Nature Geosciences
Nature Communications
Oceanography
Ocean Dynamics
Ocean Modelling
Ocean Science
Philosophical Transactions of the Royal Society A
Polar Research
Progress in Oceanography

Other Activities: Development of an educational interactive numerical model of the Chesapeake Bay currently in use at the Virginia Aquarium
Member WCRP Climate and Cryosphere Marine Ice Sheet-Ocean Model Intercomparison Project