

BIOGRAPHICAL SKETCH

ERIC P. CHASSIGNET

Director, Center for Ocean-Atmospheric Prediction Studies
 Florida State University
 Tallahassee, Florida

PERSONAL

Citizenship: USA
 Current Academic Rank: Professor
 Department: Earth, Ocean, and Atmospheric Science
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HIGHER EDUCATION

Ph. D. in Physical Oceanography, 1988, University of Miami, Miami, USA.

PROFSSIONAL EXPERIENCE

Florida State University	Distinguished Professor	3/12 - present
	Professor	3/06 - present
	COAPS Director	3/06 - present
	FCI Director	6/10 - present
University of Miami	Adjunct Professor	3/06 - present
	Professor	6/01 - 3/06
	Associate Professor	6/95 - 5/01
Woods Hole Oceanographic Institution (WHOI)	Assistant Professor	9/90 - 5/95
	GFD Faculty	8/00 - present
National Center for Atmospheric Research (NCAR)	ASP Postdoctoral Associate	8/88 - 8/90

SYNERGISTIC ACTIVITIES

2021-present Co-Chair CLIVAR AMOC Task Team

2015-present Member, Association of Public and Land-grant Universities' Board on Oceans, Atmosphere, and Climate

2010-present Fellow, NOAA Cooperative Institute for Marine and Atmospheric Studies (CIMAS)

2006-present Fellow, NOAA Northern Gulf of Mexico Cooperative Institute (NGI)

2004-present SHOM Advisory Panel

2001-present International GODAE OceanView (now OceanPredict) Science Steering Team (co-chair 2017-2022)

1999-present Coordinator, HYCOM Consortium for Data Assimilative Modeling

1999-present WOCE/CLIVAR Ocean Model Development Panel

2015-2021 CLIVAR Atlantic Panel

2020 NSF Physical Oceanography Review Panel

2018-2020 Director, Gulf of Mexico Research Initiative Consortium for Simulation of Oil-Microbial Interactions in the Ocean (CSOMIO)

- 2015-2018 Member, University Corporation for Atmospheric Research Community Advisory Committee for NCEP (UCACN) Model Advisory Committee (UMAC)
- 2015 NSF Physical Oceanography Review Panel
- 2014-2016 National Research Council (NRC) committee member "Developing a U.S. Research Agenda to Advance Subseasonal to Seasonal Forecasting"
- 2011-2015 Director, Deep Sea to Coast Connectivity in the Eastern Gulf of Mexico (Deep-C) Gulf of Mexico Research Initiative Consortium
- 2009-2012 MyOcean Science Advisory Committee
- 2011 DOE Science Focus Area Review Panel
- 2007-2010 TeraGrid Science Advisory Board
- 2007 Host for ONR Southeast Region Progress Review
- 2004-2005 US CLIVAR Atlantic Panel
- 2004 NSF Physical Oceanography Review Panel
- 2003-2004 International Liège Colloquium on Ocean Hydrodynamics Scientific Organizing Committee
- 2002-2006 ESMF Advisory Board
- 2002-2003 NSF Lagrangian/Autonomous Platforms Workshop Steering Committee
- 2001-2002 2002 WOCE Conference Organizing Committee
- 2001 MERCATOR-OCEAN Review Panel
- 2000-2001 International Liège Colloquium on Ocean Hydrodynamics Scientific Organizing Committee
- 1999-2011 National Center for Atmospheric Research Scientific Computing Division Advisory Panel
- 1999-2008 US-GODAE Science Steering Committee
- 1997-1998 NSF APROPOS Workshop Science Steering Committee
- 1995-1997 National Center for Atmospheric Research Scientific Computing Division Advisory Panel
- 1994-1998 ONR/DAMÉE-NAB Steering Committee
- 1993 NSF Physical Oceanography Review Panel
- 1992-1997 WOCE Working Group in Numerical Modeling

UNIVERSITY COMMITTEE AND ADMINISTRATIVE RESPONSABILITIES

- 2018-2019 Chair, Earth, Ocean, and Atmospheric Science chair search committee
- 2017 Director, GODAE OceanView Summer School, "New Frontiers in Operational Oceanography", Majorca, Spain
- 2016-2017 Professeur invité, Université TOULOUSE III - Paul Sabatier
- 2013 Director, Summer GFD Program, "Buoyancy-Driven Flows", Woods Hole, USA.
- 2012-present Director, Florida Climate Institute (FCI) at the Florida State University
- 2011-present Florida State University, Steering Committee, Inter-American Seas Research Consortium (ISRC)
- 2011-present Florida State University, Department of Earth, Ocean and Atmospheric Science Computer Committee

- 2010-present Florida State University, Department Earth, Ocean, and Atmospheric Science Building Committee
- 2010-2012 Co-Founder and Director, Florida Climate Institute (jointly with the University of Florida)
- 2007-present Chair, Florida State University, High Performance Computing Advisory Panel
- 2006-present Director, Florida State University, Center for Ocean-Atmospheric Predictions Studies (COAPS)
- 2010 Director, AOSTA Alpine Summer School, "Buoyancy-Driven Flows", Valsavarenche, Italy.
- 2009-2011 Florida State University, Department of Oceanography Computer Committee
- 2008 Chair, Quality Enhancement Review for the Geophysical Fluid Dynamics Institute at Florida State University
- 2004 Director, GODAE Summer School "Ocean Weather Forecasting: An Integrated View of Oceanography", Lalonde Les Maures, France
- 2003-2005 University of Miami, RSMAS School Council
- 1998-2006 University of Miami, RSMAS Computing and Communications Committee (Chair 1998-2004, Co-Chair 2004-2006).
- 1998 Director, NATO-Advanced Study Institute, "Ocean Modeling and Parameterization", Les Houches, France
- 1992-2006 University of Miami, RSMAS, Meteorology and Physical Oceanography Academic Committee (Chair 1992-1995)
- 1992-2006 University of Miami, RSMAS, Meteorology and Physical Oceanography Space Committee (Chair 1997-2006)

GRADUATE OR POST-GRADUATE ADVISOR (* Main advisor or supervisor)

M.S. or Ph.D.: S. Sun, E. Fillenbaum, Y. Song, A. Roubicek*, T. Özgökmen, D. Fratantoni, H. Kang, J. Jacob*, S. Dutkiewicz, A. Paiva*, D. Zhang, O. Esenkov, J. Hargrove, S. Sofianos, W. Cheng, M. Papadakis*, B. O'Connor, M. Veneziani*, B. Jaimes*, M. Saraceno, X. Xu*, C. Rousset, C.L. Gentemann, F. Yao, G. Athie De Valasco, D. Moroni, M. Magaldi, G. Colantuono, F. Gouillon*, A. Kennedy*, P. Hughes, J. Dong, C. Chien, A. Todd*, D. VanDyke*, H. Winterbottom*, C. Albers, S. Sejas*, P. Lewis*, J.-P. Michael*, M. Williams, G. Castellao, A. Smentek-Duerr, B. Farmer*, G. Vickers*, T. Nguyen*, N. Crock, D. Aktas*, M. Clark*, T. Bhatrasatapongkul*, E. Olvera*, S. Bishnu*, X. Chen*, T. Shropshire*, M. Shaner*, B. Haynes*, Y. Wang*, J. Irving, I. Ma*.

Postdocs: T. Özgökmen*, A. Romanou*, L. Cherubin*, V. Garnier*, J. Olascoaga*, D. Bi*, M. Bentsen*, A. Bozec*, S. Rattan*, C. Edwards*, Li Ren*, R. Laxenaire*, L. Hiron*, N. Ntaganou*.

TEACHING

Geophysical Fluid Dynamics
Advanced Geophysical Fluid Dynamics
Dynamical Oceanography
Computer Models in Fluid Dynamics
Numerical Methods
Oceanography 1001

PROFESSIONAL SOCIETIES

Member American Geophysical Union
Member American Meteorological Society
Member American Association for the Advancement of Science

HONORS AND AWARDS

- 2012 Distinguished Research Professor (Florida State University)
- 2008 NOPP Excellence in Partnering Award (MISST)
- 2007 NOPP Excellence in Partnering Award (HYCOM Consortium)
- 1996 NSF Creativity Award (with R. Bleck)
- 1989 Post-Doctoral Fellowship, Geophysical Fluid Dynamics Program, Woods Hole Oceanographic Institution
- 1988-1990 Post-Doctoral Fellowship, Advanced Study Program of the National Center for Atmospheric Research
- 1987 Koczy Graduate Fellowship for most outstanding doctoral student at the Rosenstiel School of Marine and Atmospheric Sciences, University of Miami

EDITORIAL RESPONSABILITIES

Journal of Physical Oceanography
Journal of Marine Research
National Academy of Science
Journal of Geophysical Research - Oceans
Physics of Fluids
Dynamics of Atmosphere and Oceans (Guest editor for special issue)
Journal of Computational Physics
Deep-Sea Research
Oceanologica Acta
Progress in Oceanography
Geophysical Research Letters
Ocean Modelling
Journal of Atmosphere and Oceanic Technology
Marine Geodesy
Journal of Marine Sciences
Journal of Climate

BOOKS or MONOGRAPHS

- 2018 Chassignet, E.P., A. Pascual, J. Tintoré, and J. Verron (Eds.), 2018. *New Frontiers in Operational Oceanography*. GODAE OceanView, 811 pp, doi:10.17125/gov2018.
- 2017 Chassignet, E.P., J.W. Jones, V. Misra, and J. Obeysekera (Eds.), 2017. *Florida's Climate*. Florida Climate Institute, 622 pp, doi:10.17125/fci2017.
- 2016 National Academies of Sciences, Engineering, and Medicine. 2016. *Next Generation Earth System Prediction: Strategies for Subseasonal to Seasonal Forecasts*. Washington, DC: The National Academies Press, 290 pp, doi:10.17226/21873.
- 2012 Chassignet, E.P., C. Cenedese, and J. Verron (Eds.), 2012: *Buoyancy-Driven Flows*, Cambridge University Press, 436 pp.
- 2006 Chassignet, E.P., and J. Verron (Eds.), 2006: *Ocean Weather Forecasting: An Integrated View of Oceanography*, Springer, 577 pp.
- 2000 Chassignet, E.P., and P. Malanotte-Rizzoli (Eds.), 2000: *Ocean Circulation Model Evaluation Experiments for the North Atlantic Basin*. Special issue of *Dyn. Atmos. Oceans.*, Elsevier Science Ltd., **32**, 155-432

- 1998 Chassignet, E.P., and J. Verron (Eds.), 1998: *Ocean Modeling and Parameterization*. Kluwer Academic Publishers, 451 pp.

JURIED or REFERRED PUBLICATIONS (~200 publications)

- 2024 Wang, H., R.W. Hallberg, A.J. Wallcraft, B.K. Arbic, and E.P. Chassignet, 2024. Improving global barotropic tides with sub-grid scale topography. *J. Adv. Mod. Earth Syst.*, revised.
- 2024 Buijsman, M.C., B.K. Arbic, A.J. Wallcraft, E.P. Chassignet, L. Hiron, J.F. Shriver, M. Solano, and X. Xu, 2024. Variance in baroclinic modes across frequency bands in a global ocean simulation with atmospheric and tidal forcing. *Ocean Modelling*, revised.
- 2024 Schönau, M.C., L. Hiron, J. Ragland, K.J. Raja, J. Siktka, M.S. Solano, X. Xu, B.K. Arbic, M.J. Buijsman, E.P. Chassignet, E. Coelho, R.W. Helber, J.F. Shriver, J.E. Summers, K.L. Verlinden, and A.J. Wallcraft, 2024. An overview to modeling, characterizing, and predicting the effects of internal gravity waves on acoustic propagation at basin to global scales. *Oceanography*, revised.
- 2024 Li, Y., H. Liu, P. Lin, E.P. Chassignet, Z. Yu, and F. Wu, 2024. Quantifying the role of the eddy transfer coefficient in simulating the response of the Southern Ocean Meridional Overturning Circulation to enhanced westerlies in a coarse-resolution model. *Adv. Atmos. Sci.*, in press.
- 2024 Ivanov, L., A. Bozec, E.P. Chassignet, S. Longridge, R. Ramos, A. Srinivasan, and M. Iskandarani, 2024. Process-oriented validation of HYCOM-TSIS reanalysis runs for the northern Gulf of Mexico. *Offshore Technology Conference, Houston, Texas, OTC-35402-MS*, in press.
- 2024 Raja, K.J., M.J. Buijsman, A. Bozec, R.W. Helber, J.F. Shriver, A.J. Wallcraft, E.P. Chassignet, and B.K. Arbic, 2024. Spurious internal wave generation during data assimilation in eddy resolving ocean model simulations. *Ocean Modelling*, **188**, 102340, doi:10.1016/j.ocemod.2024.102340..
- 2024 Olvera-Prado, E.R., S.L. Morey, and E.P. Chassignet, 2024. Contribution of the wind and loop current eddies to the circulation in the western Gulf of Mexico. *Front. Mar. Sci.*, 11:1185849, doi:10.3389/fmars.2024.1185849.
- 2024 Xu, X., E.P. Chassignet, P. Miron, and O. Zavala-Romero, 2024. Seasonality of marine litter hotspots in the wider Caribbean region. *J. Mar. Sci. Eng.*, **12**, 319, doi:10.3390/jmse12020319.
- 2024 Wang, Q., Q. Shu, A. Bozec, E.P. Chassignet, P.G. Fogli, B. Fox-Kemper, A. McC. Hogg, D. Iovino, A. E. Kiss, N. Koldunov, J. Le Sommer, Y. Li, P. Lin, H. Liu, I. Polyakov, P. Scholz, D. Sidorenko, S. Wang, and X. Xu, 2024. Impact of high resolution on Arctic Ocean simulations in Ocean Model Intercomparison Project phase 2 (OMIP-2). *Geosci. Model Dev.*, **17**, 347-379, doi:10.5194/gmd-17-347-2024.
- 2023 Ciliberti, S.A., E. Alvarez Fanjul, J. Pearlman, K. Wilmer-Becker, P. Baharel, F. Arduin, A. Arnaud, M. Bell, S. Berthou, L. Bertino, A. Capet, E.P. Chassignet, S. Ciavatta, M. Cirano, E. Clementi, G. Cossarini, G. Coro, S. Corney, F. Davidson, M. Drevillon, Y. Drillet, R. Dussurget, G. El Serafy, K. Fennel, M. Garcia Sotillo, P. Heimbach, F. Hernandez, P. Hogan, I. Hoteit, S. Joseph, S. Josey, P.-Y. Le Traon, S. Libralato, M. Mancini, P. Matte, A. Melet, Y. Miyazawa, A.M. Moore, A. Novellino, A. Porter, H. Regan, L. Romero, A. Schiller, J. Siddorn, J. Staneva, C. Thomas-Courcoux, M. Tonani, J.M. Garcia-Valdecasas, J. Veitch, K. von Schuckmann, L. Wan, J. Wilkin, and R. Zufic, 2023. Evaluation of operational ocean forecasting systems from the perspective of the users and the experts. In "7th edition of the Copernicus Ocean State Report (OSR7)", K. von Schuckmann, L. Moreira, P.-Y. Le Traon, M. Grégoire, M. Marcos, J. Staneva, P. Brasseur, G. Garric, P. Lionello, J. Karstensen, and G. Neukermans (Eds), Copernicus Publications, *State Planet*, 1-osr7-2-2023, doi:10.5194/sp-1-osr7-2-2023.
- 2023 Xu, X., E.P. Chassignet, and A.J. Wallcraft, 2023. Impact of vertical resolution on representing baroclinic modes and water mass distribution in the North Atlantic circulation. *Ocean Modelling*, 186, 102261, doi:10.1016/j.ocemod.2023.102261. Xu, X., E.P. Chassignet, and A.J. Wallcraft, 2023. Impact of vertical resolution on representing baroclinic modes and water mass distribution

- in the North Atlantic circulation. *Ocean Modelling*, **186**, 102261, doi:10.1016/j.ocemod.2023.102261.
- 2023 Fine, E.C., J.L. McClean, D.P. Ivanova, A.P. Craig, E.P. Chassignet, and E.Z. Hunke, 2023. Arctic ice-ocean interactions in an ultrahigh resolution global model. *Ocean Modelling*, **184**, 102228, doi:10.1016/j.ocemod.2023.102228.
- 2023 Chassignet, E.P., X. Xu, and A. Bozec, 2023. Impact of the New England seamount chain on Gulf Stream pathway and variability. *J. Phys. Oceanogr.*, **53**, 1871-1886, doi:10.1175/JPO-D-23-0008.1.
- 2023 Treguier, A.M, C. de Boyer Montégut, A. Bozec, E.P. Chassignet, B. Fox-Kemper, A. McC. Hogg, D. Iovino, A. E. Kiss, J. Le Sommer, Y. Li, P. Lin, C. Lique, H. Liu, G. Serazin, D. Sidorenko, Q. Wang, X. Xu, and S. Yeager, 2023. The mixed layer depth in the Ocean Model Intercomparison Project (OMIP): Impact of resolving mesoscale eddies. *Geosci. Model Dev.*, **16**, 3849-3872, doi:10.5194/gmd-16-3849-2023.
- 2023 Sandifer, P.A., Brooks, B.W., Canonico, G., E.P. Chassignet, B. Kirkpatrick, D.E. Porter, L.H. Schwacke, and G.I. Scott, 2023. Observing and monitoring the ocean. In “*Oceans and Human Health: Opportunities and Impacts*”, L. Fleming, W.H. Gerwick, M. Gribble, H.C. Goh, H. Solo-Gabriele, B. Maycock, and L.B. Alcantara Creencia (Eds), Elsevier, **19**, 549-596, doi:10.1016/B978-0-323-95227-9.00026-9.
- 2023 Dukhovskoy, D.S., E.P. Chassignet, A. Bozec, and S.L. Morey, 2023. Assessment of predictability of the Loop Current in the Gulf of Mexico from observing system experiments and observing system simulation experiments. *Front. Mar. Sci.*, 10:1153824, doi:10.3389/fmars.2023.1153824.
- 2023 Zhang, Y., P. Wu, R. Xu, X. Wang, L. Lei, A.T. Schartup, Y. Peng, Q. Pang, X. Wang, L. Mai, R. Wang, H. Liu, X. Wang, A. Luijendijk, E.P. Chassignet, X. Xu, H. Shen, S. Zheng, and E.Y. Zeng, 2023. Plastic waste discharge to the global ocean constrained by seawater observations. *Nature Communications*, **14**, 1372, doi:10.1038/s41467-023-37108-5.
- 2023 Morrison, T.J., D.S. Dukhovskoy, J.L. McClean, S.T. Gille, and E.P. Chassignet, 2023. Mechanisms of heat flux across the Southern Greenland continental shelf in 1/10° and 1/12° ocean/sea-ice simulations. *J. Geophys. Res.*, **128**, e2022JC019021, doi:10.1029/2022JC019021.
- 2023 Laxenaire, R., E.P. Chassignet, D. Dukhovskoy, and S.L. Morey, 2023. Impact of upstream variability on the Loop Current dynamics in numerical simulations of the Gulf of Mexico. *Front. Mar. Sci.*, 10:1080779, doi:10.3389/fmars.2023.1080779.
- 2022 Chen, X., W. Dewar, E.P. Chassignet, M. Bourassa, S. Moey, and G. Gopalakrishnan, 2022. On the feedback between air-sea turbulent momentum flux and oceanic submesoscale processes. *J. Geophys. Res.*, **127**, e2022JC018767, doi:10.1029/2022JC018767.
- 2022 Xu, X., E.P. Chassignet, A.J. Wallcraft, B.K. Arbic, M.C. Buijsman, and M. Solano, 2022. On the spatial variability of the sea surface height wavenumber spectra in the Atlantic Ocean. *J. Geophys. Res.*, **127**, e2022JC018769, doi:10.1029/2022JC018769.
- 2022 Hiron, L., P. Miron, L.K. Shay, W.E. Johns, E.P. Chassignet, and A. Bozec, 2022. Lagrangian coherence, source of water, and cross-shelf exchange associated with Loop Current Frontal Eddies in the Gulf of Mexico. *Prog. Oceanogr.*, **208**, 102876, doi:10.1016/j.pocean.2022.102876..
- 2022 Uchida, T., J. Le Sommer, C. Stern, R. Abernathey, C. Holdgraf, A. Albert, L. Brodeau, E.P. Chassignet, X. Xu, J. Gula, G. Roulet, N. Koldunov, S. Danilov, Q. Wang, D. Menemenlis, C. Bricaud, B. Arbic, J. Shriver, F. Qiao, B. Xiao, A. Biastoch, R. Schubert, B. Fox-Kemper, and W. Dewar, 2022. Cloud-based framework for inter-comparing submesoscale-permitting realistic ocean models. *Geosci. Model Dev.*, **15**, 5829-5856, doi:10.5194/gmd-15-5829-2022.
- 2022 Srinivasan, A., T.M. Chin, E.P. Chassignet, M. Iskandarani, and N. Groves, 2022. A statistical interpolation code for ocean analysis and forecasting. *J. Atmos. Oce. Tech.*, **39**(3), 367-386, doi:10.1175/JTECH-D-21-0033.1.

- 2022 Xu, X., E.P. Chassignet, S. Dong and M.O. Baringer, 2022. Transport structure of the South Atlantic Ocean derived from a high-resolution numerical model and observations. *Front. Mar. Sci.*, **9**:811398, doi:10.3389/fmars.2022.811398.
- 2022 Révelard, A., J. Tintoré, J. Verron, P. Bahurel, J.A. Barth, M. Belbéoch, J. Benveniste, P. Bonnefond, E.P. Chassignet, S. Cravatte, F. Davidson, Brad deYoung, M. Heupel, E. Heslop, C. Hörstmann, J. Karstensen, P.-Y. Le Traon, M. Marques, C. McLean, R. Medina, T. Paluszkiwicz, A. Pascual, J. Pearlman, G. Petihakis, N. Pinardi, S. Pouliquen, R. Rayner, L. Shepherd, J. Sprintall, T. Tanhua, P. Testor, J. Seppälä, J. Siddorn, S. Thomsen, L. Valdés, M. Visbeck, A.M. Waite, F. Werner, J. Wilkin, and B. Williams, 2021. Ocean Integration: The needs and challenges of effective integration within the ocean observing system. *Front. Mar. Sci.*, **8**:737671, doi:10.3389/fmars.2021.737671.
- 2021 Dukhovskoy, D.S., I. Yashayaev, E.P. Chassignet, P.G. Myers, G. Platov, and A. Proshutinsky, 2021. Time scales of the Greenland freshwater anomaly in the Subpolar North Atlantic. *J. Climate.*, **34**(22), 8971-8987, doi:10.1175/JCLI-D-20-0610.1.
- 2021 Chassignet, E.P., and X. Xu, 2021. On the importance of high-resolution in large scale ocean models. *Adv. Atmos. Sci.*, **38**(10), 1621-1634, doi:10.1007/s00376-021-0385-7.
- 2021 Shropshire, T.A., S.L. Morey, E.P. Chassignet, V.J. Coles, M. Karnauskas, E. Malca, R. Laiz-Carrion, O. Fiksen, P. Reglero, J.M. Quintanilla Hervas, T. Gerard, J. Lampkin, and M.R. Stukel, 2021. Trade-offs between risks of predation and starvation in larvae make the shelf break an optimal spawning location for Atlantic Bluefin tuna. *J. Plankton. Res.*, fbab041, doi:10.1093/plankt/fbab041.
- 2021 Solo-Gabriele, H., T. Fiddaman, C. Mauritzen, C. Ainsworth, D.M. Abramson, I. Berenshtein, E.P. Chassignet, S.S. Chen, R.N. Comny, C.D. Court, W.K. Dewar, J.W. Farrington, M. Feldman, A.C. Ferguson, W. Fetherston-Resch, D. French-McCay, C. Hale, R. He, V.H. Kourafalou, K. Lee, Y. Liu, M. Masi, E.S. Maung-Douglass, S.L. Morey, S.A. Murawski, C.B. Paris, N. Perlin, E.L. Pulster, A. Quigg, D.J. Reed, J.J. Ruzicka, P.A. Sandifer, J.G. Shepherd, B.H. Singer, M.R. Stukel, T.T. Sutton, R.H. Weisberg, D. Wiesenburg, C. Wilson, M. Wilson, K.M. Wowk, C. Yannoff, and D. Yoskowitz, 2021. Towards integrated modeling of the long-term impacts of oil spills. *Mar. Policy*, **131**, 104554, doi:10.1016/j.marpol.2021.104554.
- 2021 International Altimetry Team, 2021. Altimetry for the future: Building on 25 years of progress. *Adv. Space Res.*, **68**, 319-363, doi:10.1016/j.asr.2021.01.022.
- 2021 Boufadel, M., A. Bracco, E.P. Chassignet, S.S. Chen, E. D'Asaro, W.K. Dewar, O. Garcia-Pineda, D. Justic, J. Katz, V.H. Kourafalou, I.R. MacDonald, T.M. Özgökmen, C.B. Paris-Limouzy, S.S. Socolofsky, D. Halpern, and J.G. Shepherd, 2021. Physical transport processes that affect the distribution of oil in the Gulf of Mexico: Observations and modeling. *Oceanography*, **34**(1), 58-75, doi:10.5670/oceanog.2021.117.
- 2021 Ajayi, A.O., J. Le Sommer, E.P. Chassignet, J.-M. Molines, X. Xu, A. Albert, and W. Dewar, 2021. Diagnosing cross-scale kinetic energy exchanges from two submesoscale permitting ocean models. *J. Adv. Model. Earth Syst.*, **13**, e2019MS001923, doi:10.1029/2019MS001923.
- 2021 Chassignet, E.P., 2021. Ocean modeling. In "*Preparing a Workforce for the New Blue Economy: People, Products, and Policies*", L. Hotaling and R.W. Spinrad (Eds), Elsevier, 47-61, doi:10.1016/B978-0-12-821431-2.00055-X.
- 2021 Ainsworth, C.H., E.P. Chassignet, D. French-McCay, C.J. Beegle-Krause, I. Berenshtein, J. Englehardt, T. Fiddaman, H. Huang, M. Huettel, D. Justic, V.H. Kourafalou, Y. Liu, C. Mauritzen, S.A. Murawski, S. Morey, T. Özgökmen, C.B. Paris, J. Ruzicka, S. Saul, J.G. Shepherd, S. Socolofsky, H. Solo-Gabriele, T.T. Sutton, R.H. Weisberg, C. Wilson, L. Zheng, and Y. Zheng, 2021. Ten years of modeling the Deepwater Horizon oil spill. *Env. Model. Soft.*, **142**, doi:10.1016/j.envsoft.2021.105070.

- 2021 Chassignet, E.P., X. Xu, and O. Zavala-Romero, 2021. Tracking marine litter with a global model: Where does it go? Where does it come from? *Front. Mar. Sci.*, **8**:414, doi:10.3389/fmars.2021.667591.
- 2021 Zeng, L., E.P. Chassignet, X. Xu, and D. Wang, 2021. Multi-decadal changes in the South China Sea mixed layer salinity. *Clim. Dyn.*, doi:10.1007/s00382-021-05711-1.
- 2021 Dukhovskoy, D.S., S.L. Morey, E.P. Chassignet, X. Chen, V.J. Coles, L. Cui, C.K. Harris, R. Hetland, T.-J. Hsu, A.J. Manning, M. Stukel, K. Thyng, and J. Wang, 2021. Development of the CSOMIO coupled ocean-oil-sediment-biology model. *Front. Mar. Sci.*, **8**:629299, doi:10.3389/fmars.2021.629299.
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FUNDED RESEARCH

Influence of Outcropping on Latitude Jet Separation in Multi-Layer Primitive Equation Numerical Model. Co-Principal Investigator with Bleck	NSF	6/15/91- 5/31/94	\$153,500
North Atlantic Modeling with a Multi-Layer Primitive Equation Numerical Model. Principal Investigator	ONR	10/1/92- 9/30/94	\$125,656
Heat Fluxes in a Coupled Atmosphere Atlantic Ocean Model in Response to Variation in Imposed Temperature Gradients. Co-Principal Investigator with O'Brien	DOE	7/1/92- 6/30/96	\$281,647
Isopycnal Modeling Work in the Context of the World Ocean Circulation Experiment	NSF	12/15/92- 11/30/98	\$850,000

Co-Principal Investigator with Bleck

Vortex Interactions with External Effects Co-Principal Investigator with Dewar and Meacham (FSU)	NSF	6/1/94- 5/31/98	\$240,000
Influence of Coastline Orientation and Bottom Topography on Jet Separation/DAMEE-NAB Principal Investigator	ONR	10/1/94- 9/30/96	\$306,706
Satellite Data Assimilation in Miami Ocean Model Co-Principal Investigator with Mariano, Bleck and Halliwell	NASA	4/1/95- 3/31/98	\$308,999
Analysis and Modeling of RAFOS Float Trajectories in the Deep Western Boundary Current off the Bahamas Co-Principal Investigator with Leaman and Griffa	NSF	6/1/95- 5/31/97	\$102,999
Feedback in a Coupled Atlantic Ocean-Global Atmosphere Co-Principal Investigator with O'Brien and Rooth	NOAA	4/1/95- 3/31/97	\$113,674
Modeling the Meridional Overturning Circulation (MOC) in the North Atlantic: Seasonal to Decadal Variability Principal Investigator	NSF	8/15/96- 1/31/02	\$330,000
Numerical Investigation of the Stability in Time and Space of the Gulf Stream Separation Co-Principal Investigator with Özgökmen	NSF	8/1/97- 7/31/00	\$249,000
Basin-Scale Modeling of the North Atlantic Using the Miami Isopycnic Coordinate Ocean Model (MICOM) Principal Investigator	ONR	10/1/96- 9/30/98	\$374,950
Use of Tracers in Classifying Climate Relevant North Atlantic Circulation Transients Co-Principal Investigator with Rooth and Bleck	NOAA	7/1/96 - 6/30/02	\$280,000
Ocean Modeling and Parameterization Principal Investigator	NSF	9/1/97- 9/30/98	\$20,000
Lagrangian Statistics in a High Resolution 1/12 Degree Ocean Numerical Model Co-Principal Investigator with Griffa and Garraffo	NSF	8/1/98- 7/31/02	\$344,000
MICOM-Based Nowcast/Forecast Systems for Coastal/Open Ocean Regions Principal Investigator	ONR	10/1/98- 9/30/02	\$912,899
Vortex Interactions with Abrupt Topography Principal Investigator	NSF	4/15/99- 3/31/02	\$187,000
HYCOM Consortium for Data Assimilative Ocean Modeling Principal Investigator	ONR	10/1/99- 9/30/04	\$1,545,475
Planning for a coupled Physical-Biological Modeling Node Of (Phase A) National Ocean Partnership Program Proposal Principal Investigator	URI	9/1/99- 12/31/99	\$6,226

Analysis and Validation of a Mechanism that Generates Strong Mid-Depth Currents and a Deep Cyclonic Gyre in the Gulf of Mexico Principal Investigator	FSU	11/1/99-9/30/04	\$185,022
Collaborative Research: Observations and Models of Upper Ocean Water Mass Formation and Evolution In the Western North Atlantic Principal Investigator	NSF	4/15/00-3/31/05	\$377,123
HYCOM Data Assimilation and WEB Outreach Principal Investigator	ONR	3/25/02-9/30/04	\$20,000
Further Developments of the HYbrid Coordinate Ocean Model (HYCOM) Principal Investigator	ONR	10/1/02-9/30/04	\$259,273
U.S. GODAE: Global Ocean Prediction with the HYbrid Coordinate Ocean Model (HYCOM) Principal Investigator	NOAA	7/1/03-6/31/06	\$302,100
The Partnership for Advancing Interdisciplinary Global Modeling Principal Investigator	NSF	8/15/04-8/14/05	\$121,967
Collaborative Research: Gravity Current Entrainment Climate Process Team Co-Principal Investigator with Özgökmen and Peters	NSF	10/1/03-9/30/08	\$167,787
Response of the Gulf of Mexico Loop Current to Variability in Remote Forcing Co-Principal Investigator with Cherubin and Johns	NSF	9/1/03-8/31/06	\$388,792
U.S. GODAE: Global Prediction with the Hybrid Coordinate Ocean Model (HYCOM) Principal Investigator	ONR	6/3/04-9/30/08	\$443,089
Production and Assessment of a Multi-Sensor Enhanced Surface Temperature Analysis for GODAE Principal Investigator	NASA	6/1/04-5/31/09	\$9,966
GODAE Summer School Principal Investigator	NSF	8/15/04-8/14/05	\$20,000
A Storage Area Network Principal Investigator	ONR	4/1/05-3/31/07	\$194,622
Ocean Modeling and Prediction Co-Principal Investigator with O'Brien	NRL	4/10/01-4/09/06	\$537,778
Regional Assessment of Climate Impacts Co-Principal Investigator with O'Brien	NOAA	6/01/01-5/31/07	\$3,146,500
Risk Reduction for Agriculture Specialty Crops Co-Principal Investigator with O'Brien	UF	3/01/03-12/31/11	\$361,000

Decision Support System for Reducing Ag Risks Co-Principal Investigator with O'Brien	USDA	9/01/03 – 8/31/08	\$3,371,427
US RV Surface Meteorology Data Center Co-Principal Investigator with Smith and Bourassa	WHOI	6/01/04 – 6/30/09	\$450,000
Satellite Data for Climate Change Analysis Co-Principal Investigator with O'Brien and La Row	U. of Alabama	9/15/04 – 6/14/07	\$100,000
Coastal Climatology Products Co-Principal Investigator with O'Brien	U. of Georgia	9/24/04 – 4/30/07	\$13,112
The Influence of the Mediterranean Outflow Water Principal Investigator	NSF	3/01/06- 5/31/10	\$661,898
Global Ocean Prediction with HYCOM Principal Investigator	ONR	9/30/08- 1/31/10	\$401,105
Multi-Sensor Improved Sea Surface Temperature Principal Investigator	NASA	3/01/06 – 2/28/09	\$114,932
A Storage Area Network for Ocean Prediction Principal Investigator	ONR	4/27/06 – 3/31/07	\$194,622
An Applied NOAA Research Center at COAPS Co-Principal Investigator with O'Brien and Bourassa	NOAA	6/01/06 – 5/31/11	\$4,176,990
Extending the PRIDE-Live Access Server Principal Investigator	PMEL	8/01/06 – 9/30/07	\$12,000
Ocean Modeling and Prediction Co-Principal Investigator with O'Brien	NRL	8/28/06 – 8/27/11	\$995,000
Parameterization of Ocean Overflows Principal Investigator	NSF	8/31/06- 8/31/08	\$51,978
Northern Gulf of Mexico Cooperative Institute Co-Principal Investigator with Dewar	NOAA	11/01/06 – 12/30/11	\$2,457,325
Global Ocean Prediction with HYCOM Principal Investigator	ONR	2/01/07- 1/31/12	\$2,156,665
Wildfire Prediction and Asset Accountability Principal Investigator	Aegis	9/30/07- 1/31/08	\$322,425
Southeast Region Progress Review Principal Investigator	ONR	5/01/07 – 6/15/07	\$2,298
Incorporation of HYCOM into the CCSM Co-Principal Investigator with Yin	DOE	8/15/07 – 08/14/12	\$540,647
Agulhas Rings Pathways Co-Principal Investigator with Nof	NSF	5/01/08 – 04/30/11	\$200,348
Arctic Ocean Model Intercomparison Co-Principal Investigator with Dukhovskoy	NSF	9/01/08 – 8/31/11	\$90,000

Embedding a Forward Model of Tides Co-Principal Investigator with Arbic	U Texas	1/01/09 – 9/30/11	\$39,243
Toward a Global HYCOM Ocean Prediction System Principal Investigator	ONR	1/28/09 – 1/31/14	\$2,156,665
Effects of Small-Scale Bathymetric Roughness Co-Principal Investigator with Arbic	ONR	5/01/09 – 2/31/10	\$81,997
Impact of Moored Turbines on the Florida Current Principal Investigator	FAU	6/01/09 – 6/30/11	\$305,830
Wind Field Reconstruction for Hurricanes Co-Principal Investigator with Powell	ARCADIS	6/08/09 – 8/30/09	\$55,400
Decision Support System for Reducing Ag Risks Co-Principal Investigator with O'Brien	USDA	8/15/09 8/14/11	\$2,334,384
The Death of Agulhas Rings Co-Principal Investigator with Nof	NSF	9/15/09 – 8/31/12	\$417,479
A Land of Flowers in a Latitude of Deserts Co-Principal Investigator with Misra	USGS	2/17/10 – 3/1/12	\$499,950
Resolving Chemical Properties and Extent of Crude Oil in the Deepwater Horizon Spill Principal Investigator	FIO	8/13/10 – 8/12/12	\$220,000
BP Earth System Modeling Principal Investigator	NGI	11/15/10 – 12/31/12	\$168,000
Impact of Bottom Boundary Layer Drag and Topographic Wave Drag on the Eddy General Circulation Co-Principal Investigator with Arbic	NSF	7/1/11 – 8/31/12	\$29,778
Impact of Moored Turbines on the Florida Current Principal Investigator	FAU	8/25/11 – 6/30/12	\$70,000
Ocean Modeling and Prediction Principal Investigator	NRL	7/20/11 – 7/19/16	\$2,499,994
Deep-C: Deep Sea to Coast Connectivity in the Eastern Gulf of Mexico Principal Investigator	GRI	9/1/11 – 12/31/14	\$20,245,000
Incorporating Climate Change Effects into Next Generation Coastal Inundation Decision Support Systems Co-Principal Investigator with LaRow	UF / NOAA	9/1/11 – 8/31/15	\$390,000
Increasing Our Understanding of the Interaction Between Physical and Ecological Processes in the Gulf of Mexico and Caribbean Principal Investigator	MSU	8/1/12 – 7/31/16	\$100,000
Data Assimilative Ocean Hindcast for Oil Spill Risk	BOEM	8/17/12 –	\$149,091

Analysis in the Gulf of Mexico Principal Investigator		2/28/15	
Bias Characterization and Hurricane Initialization Using ATMS, SSMIS and AMSR-2 Co-Principal Investigator with Zou	MSU	11/1/12 – 10/31/15	\$750,680
Multimodel Ensembles for Hurricane Forecasts Principal Investigator	CIMAS	7/1/11 – 12/31/12	\$83,418
A Storage Area Network for HYCOM Ocean Prediction System Principal Investigator	ONR	11/1/11 – 08/31/15	\$512,370
Accelerated Prediction of the Polar Ice and Global Ocean (APPIGO) Principal Investigator	ONR	9/1/13 – 9/30/16	\$222,335
An Integration and Evaluation Framework for ESPC Coupled Models Principal Investigator	ONR	12/1/13 – 11/30/16	\$223,335
Ocean Eddies – Topographic Interactions Along the Brazilian Coast Co-Principal Investigator with Deremble	NSF	9/1/14 – 8/31/18	\$496,752
Increasing Our Understanding of the Interaction Between Physical and Ecological Processes in the Gulf of Mexico and Caribbean Co-Principal Investigator with Morey	MSU	7/1/14 – 6/31/16	\$123,662
Evaluation and Diagnosis of the Atlantic Meridional Overturning Circulation 3D Structure in Climate Models Co-Principal Investigator with Xu	NOAA	8/1/15 – 7/31/19	\$321,201
Ocean and Sea Ice and their Interactions Around Greenland and the West Antarctic Peninsula in Forced Fine-Resolution Global Simulations Principal Investigator	DOE	8/1/15 – 7/31/18	\$224,964
Subpolar-Subtropical Connectivity of the North Atlantic Circulation Co-Principal Investigator with Xu	NSF	9/15/15 – 8/31/19	\$451,170
Variability and Coherence of the Atlantic Meridional Overturning Circulation Co-Principal Investigator with Xu	CIMAS	10/1/15 – 9/30/17	\$116,958
HYCOM Data Server Principal Investigator	ONR	6/1/15 – 08/31/19	\$550,537
Arctic Shelf and Large Rivers Seamless Nesting In Global HYCOM Principal Investigator	ONR	8/1/15 – 08/31/19	\$1,512,370
Extension: Accelerated Prediction of the Polar Ice and	ONR	9/1/16 –	\$110,000

Global Ocean (APPIGO) Principal Investigator		8/31/18	
Extension: An Integration and Evaluation Framework for ESPC Coupled Models Principal Investigator	ONR	1/1/17 – 12/31/18	\$80,000
Ocean Modeling and Prediction Principal Investigator	NRL	7/20/17 – 7/19/22	\$2,537,442
CSOMIO: Consortium for Simulation of Oil-Microbial Interactions in the Ocean Principal Investigator	GRI	8/1/17 – 06/30/20	\$2,769,179
Preliminary Steps toward a National Ocean Modeling Capability In support of ESPC Principal Investigator	NOAA	8/1/17 – 7/31/21	\$117,837
Understanding and Predicting the Gulf of Mexico Loop Current, Topic 8: Numerical Principal Investigator	NAS	1/1/19 – 6/30/21	\$437,275
Arctic Observing System Simulation Experiments (OSSEs) within the ONR/Navy Global Ocean Forecasting System (GOFS) and Earth System Prediction Capability (ESPC) frameworks Principal Investigator	ONR	7/29/19 – 7/28/22	\$1,509,407
Global Multi-Resolution Ocean Prediction/Analysis with Scale Recursive Estimation Principal Investigator	ONR	7/29/19 – 7/28/22	\$371,391
Modeling, Characterizing, And Predicting Effects of Internal Gravity Waves on Acoustic Propagation on Basin to Global Scales Principal Investigator	ONR	10/1/19 – 11/30/22	\$899,037
Machine Learning for Submesoscale Characterization, Ocean Prediction and Exploration (ML-SCOPE) Principal Investigator	ONR	6/1/19 – 5/31/24	\$1,000,000
An Evaluation of the NUMA Framework (GNuME) for Global Ocean Modeling Principal Investigator	ONR	10/1/19 – 9/30/23	\$656,808
Predictability of Stationary and Non-Stationary Internal Tides in the US Navy Global Hydrodynamical Model Principal Investigator	NASA	6/1/20 – 5/31/23	\$105,143
Collaborative Research: Subpolar North Atlantic Processes - Dynamics and Predictability of Variability in Gyre and Overturning (SNAP-DRAGON) Principal Investigator	NSF	6/1/20 – 5/31/23	\$127,342