

NICHOLAS P. FOUKAL

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APPOINTMENTS

Assistant Scientist, Woods Hole Oceanographic Institution 2021 – present
Postdoctoral Investigator, Woods Hole Oceanographic Institution 2018 – 2020
Advisor: Robert S. Pickart
Research topics: Storm-driven downwelling at the Beaufort Sea shelfbreak; Pathways of fresh water along the Greenland shelves

EDUCATION

Ph.D. in Earth and Ocean Sciences, Duke University 2018
Advisor: M. Susan Lozier
Thesis: Ocean heat transport from the subtropical gyre to the subpolar gyre in the North Atlantic
M.S. in Oceanography, University of Maine 2013
Advisor: Andrew C. Thomas
Thesis: Biogeography and phenology of satellite-measured phytoplankton seasonality in the California Current
A.B. in Engineering Sciences modified with Economics, Dartmouth College 2010
Advisor: Daniel R. Lynch

FUNDING

- o NSF Ocean Sciences Division, “Transport and fate of the Labrador Coastal Current,” \$1.74 M, PIs: N. P. Foukal, D. J. Torres, A. B. Bower, 2021-2024.
- o NSF Ocean Sciences Division, “Collaborative Research: Pathways and fate of fresh water near the southern tip of Greenland,” \$1.04 M, PIs: N. P. Foukal, R. Gelderloos, R. S. Pickart, 2021-2024.
- o Selected to receive SailDrone Award, providing 30 days of SailDrone time, 2020.
- o NASA Postdoctoral Program Fellowship at NASA GISS, 2018-2020 (declined).
- o NASA Earth and Space Science Graduate Fellowship, 2012-2015.
- o Stifler Family Grant for Undergraduate Research at Dartmouth, 2010.

PUBLICATIONS

Catunda, M. C. A., A. Bahr, S. Kaboth-Bahr, X. Zhang, N. P. Foukal, & O. Friedrich (2021). Subsurface heat channel drove sea surface warming in the high-latitude North Atlantic during the Mid-Pleistocene Transition, *Geophysical Research Letters*, doi:10.1029/2020GL091899.

Foukal, N. P., R. Gelderloos, & R. S. Pickart (2020). A continuous pathway for fresh water along the East Greenland shelf, *Science Advances*, doi:10.1126/sciadv.abc4254.

- Foukal, N. P., R. S. Pickart, G. W. K. Moore, and P. Lin (2019). Shelfbreak downwelling in the Alaskan Beaufort Sea, *Journal of Geophysical Research – Oceans*, doi:10.1029/2019JC015520.
- Bower, A., M. S. Lozier, A. Biastoch, K. Drouin, N. P. Foukal, M. Lankhorst, S. Rühls, and S. Zou (2019). Lagrangian Views of the Pathways of the Atlantic Meridional Overturning Circulation, *Journal of Geophysical Research - Oceans*, doi:10.1029/2019JC015014
- Foukal, N. P. and M. S. Lozier (2018). Examining the origins of ocean heat content variability in the eastern North Atlantic subpolar gyre, *Geophysical Research Letters*, doi:10.1029/2018GL079122
- Foukal, N. P. and M. S. Lozier (2017). Assessing variability in the size and strength of the North Atlantic subpolar gyre. *Journal of Geophysical Research - Oceans*, doi:10.1002/2017JC012798
- Foukal, N. P. and M. S. Lozier (2016). No inter-gyre pathway for sea-surface temperature anomalies in the North Atlantic, *Nature Communications*, doi:10.1038/ncomms11333
- Foukal, N. P. and A. C. Thomas (2014). Biogeography and phenology of satellite-measured phytoplankton seasonality in the California Current. *Deep-Sea Research*, doi:10.1016/j.dsr.2014.06.008

SEMINARS AND CONFERENCE PRESENTATIONS (* INVITED)

- A continuous pathway for fresh water along the East Greenland Shelf
 - OSNAP Early Career Virtual Workshop, Mar. 2021
 - * *Ocean, Earth and Atmospheric Sciences Department*, Old Dominion University, Oct. 2020
 - *Arctic-Subarctic Ocean Fluxes (ASOF) Meeting and Workshop*, Sep. 2020.
 - *Postdoc Symposium*, WHOI, Oct. 2019
- Shelfbreak downwelling in the Alaskan Beaufort Sea
 - * *Physical Oceanography Department*, WHOI, Apr. 2020
 - * *School of Marine and Atmospheric Sciences*, Stony Brook University, Apr. 2020
 - * *Marine Sciences Department*, University of Connecticut, Mar. 2020
 - Poster at the *Ocean Sciences Meeting*, San Diego, CA. Feb. 2020
 - *Postdoc Symposium*, WHOI, Oct. 2018
- Ocean heat transport from the subtropical gyre to the subpolar gyre in the North Atlantic
 - *Coastal Ocean Fluid Dynamics Lectures*, WHOI, Oct. 2019
 - * *Climate, Atmospheric Sciences and Physical Oceanography*, Scripps, May 2019
 - *Earth and Planetary Sciences*, Massachusetts Institute of Technology, Feb. 2019
 - * *Graduate School of Oceanography*, University of Rhode Island, Feb. 2019
 - *Thayer School of Engineering*, Dartmouth College, Jan. 2019
 - *Earth and Ocean Sciences*, Duke University, Mar. 2018
 - Poster at the *Ocean Sciences Meeting*, Portland, OR. Feb. 2018
 - *Physical Oceanography Department*, WHOI, Sept. 2017
 - *Rosentiel School of Marine and Atmospheric Sciences*, University of Miami, Mar. 2017
- Assessing variability in the size and strength of the North Atlantic subpolar gyre
 - Poster at the *EGU General Assembly*, Vienna, AU. Apr. 2017
- No inter-gyre pathway for sea-surface temperature anomalies in the North Atlantic
 - Poster at the *Ocean Sciences Meeting*, New Orleans, LA. Feb. 2016
 - *AMOC meeting*, Bristol, UK. Jul. 2015

- *IUGG meeting, Prague, CZ. Jun. 2015*
- *North Carolina Research Triangle Physical Oceanography seminar series, Apr. 2015*
- *Poster at the AGU fall meeting, San Francisco, CA. Dec. 2014*
- *Biogeography and phenology of phytoplankton seasonality in the California Current*
 - *Ocean Sciences Meeting, Honolulu, HI. Feb. 2014.*
 - *University of Maine School of Marine Sciences Graduate Symposium, Apr. 2013.*
 - *Poster at the Eastern Pacific Ocean Conference, Mount Hood, OR. Sep. 2012*

FIELDWORK

- NSF Ocean Observatories Initiative (OOI) Irminger research cruise deploying surface drifters and profiling floats in summer 2021. Our project added two days of ship time to the OOI cruise. 24 days on R/V Armstrong. Chief Scientist: John Lund.
- NSF Overturning in the Subpolar North Atlantic Program (OSNAP) research cruise conducting CTD casts in summer 2020. 40 days on R/V Armstrong. Chief Scientist: Robert S. Pickart
- NSF Arctic Observing Networks (AON) research cruise in Beaufort Sea deploying a CTD-mounted microrider and aquadrop to analyze fine-scale velocity and temperature variability in Arctic in Fall 2018. 24 days on USCGC Healy. Chief Scientist: Robert S. Pickart
- NSF Overturning in the Subpolar North Atlantic Program (OSNAP) research cruise in Labrador and Irminger Seas deploying moorings, RAFOS floats, CTDs and XBTs in summer 2014. 28 days on R/V Knorr. Chief Scientist: Robert S. Pickart
- Physical oceanography and acoustics research cruise in the Gulf Stream off Cape Hatteras, NC in spring 2012. 18 days on R/V Sharpe. Chief Scientists: James F. Lynch and Glen G. Gawarkiewicz

TEACHING EXPERIENCE

- Instructor of record, WHOI/MIT Joint Program 2021
 - Co-taught 12.808 Introduction to Observational Physical Oceanography with Dr. John Toole
- Certificate in College Teaching, Duke University 2015-2017
 - Coursework in Fundamentals of College Teaching; Teaching to Diverse Learners
 - Taught Atmosphere and Ocean Dynamics undergraduate course for a week with peer observation and feedback
 - Observed and provided feedback to peers in program
- Teaching Assistant, Division of Earth and Ocean Sciences, Duke University 2015-2017
 - Guest lectured, led review sessions and graded in various undergraduate courses (4 semesters)
- Teaching Assistant, Thayer School of Engineering, Dartmouth College 2010
 - Taught review sessions and graded assignments for Sustainable Natural Resource Management

SCIENCE COMMUNICATION

- Volunteer marine science instructor in science museum and middle school classrooms in Durham, NC and Bangor, ME (2013-2015)
- Active contributor to the Overturning in the Subpolar North Atlantic (OSNAP) website blog www.o-snap.org/news-events/blog/ (2015-present)

HONORS AND AWARDS

- Accepted to Physical Oceanography Dissertation Symposium (2018)
- Division of Earth and Ocean Sciences outstanding graduate student award (2017)
- “Best talk” at the University of Maine School of Marine Sciences Graduate Symposium (2013)

PROFESSIONAL SERVICE

- Reviewer for Nature Geoscience, Science Advances, Journal of Geophysical Research, Geophysical Research Letters, Progress in Oceanography, Deep-Sea Research II, Climatic Change, and Geosciences
- Proposal reviewer for the NSF Ocean Sciences Division

LEADERSHIP

- Lead a monthly AMOC reading group of scientific staff, postdocs and students (2020-present)
- Co-organized the WHOI Physical Oceanography Seminar Series (2019-2021)
- Served as President of the WHOI Postdoc Association (2019-2020)
- Founded a weekly reading group of graduate students and postdocs at WHOI (2018-2020)
- Led weekly Journal Club meetings in Earth and Ocean Sciences department at Duke (2016-2018)
- Hosted multiple invited research visits to Duke (2015-2018)
- Elected to the University of Maine Graduate Student Government (2013)
- Awarded the undergraduate who has contributed the most to Dartmouth rowing (2010) and the freshman who has done the most to encourage the highest ideals of rowing at Dartmouth (2007)