NSF BIOGRAPHICAL SKETCH

NAME: Long, Matthew

ORCID: 0000-0003-1273-2957

POSITION TITLE & INSTITUTION: Scientist, National Center for Atmospheric Research

(a) PROFESSIONAL PREPARATION -(see PAPPG Chapter II.C.2.f.(a))

INSTITUTION	LOCATION	MAJOR / AREA OF STUDY	DEGREE (if applicable)	YEAR YYYY
Tufts University	Medford, MA	Environmental Engineering	BS	1998
Tufts University	Medford, MA	Environmental Engineering	MS	2000
Stanford University	Stanford, CA	Oceanography	PHD	2010
NCAR	Boulder, Colorado	ASP Postdoc in Oceanography	Postdoctoral Fellow	2010 - 2012

(b) APPOINTMENTS -(see PAPPG Chapter II.C.2.f.(b))

2014 - present Scientist, National Center for Atmospheric Research, Climate and Global Dynamics Laboratory; Oceanography Section, Boulder, CO

2012 - 2014 Project Scientist, National Center for Atmospheric Research, Climate and Global Dynamics Laboratory; Oceanography Section, Boulder, CO

2005 - 2010 Research Assistant, Stanford University

2004 - 2009 Teaching Assistant, Stanford University

2003 - 2004 Water Resources Engineer, Camp Dresser & McKee Inc., Cambridge, MA

2003 - 2003 Field & Laboratory Technician, Desert Research Institute, Reno, NV

2000 - 2002 High School Physics & Geography Teacher, United States Peace Corps, Ashira Girls Secondary School, Marangu

1999 - 1999 Environmental Analyst, Massachusetts Department of Public Health

(c) PRODUCTS -(see PAPPG Chapter II.C.2.f.(c))

Products Most Closely Related to the Proposed Project

1. Long M, Deutsch C, Ito T. Finding forced trends in oceanic oxygen. Global Biogeochemical Cycles. 2016 February 29; 30(2):381-397. Available from: https://onlinelibrary.wiley.com/doi/10.1002/2015GB005310 DOI: 10.1002/2015GB005310
2. Long M, Moore J, Lindsay K, Levy M, Doney S, Luo J, Krumhardt K, Letscher R, Grover M, Sylvester Z. Simulations With the Marine Biogeochemistry Library (MARBL). Journal of Advances in Modeling Earth Systems. 2021 November 30; 13(12):-. Available from: https://onlinelibrary.wiley.com/doi/10.1029/2021MS002647 DOI: 10.1029/2021MS002647
3. Long M, Stephens B, McKain K, Sweeney C, Keeling R, Kort E, Morgan E, Bent J, Chandra N, Chevallier F, Commane R, Daube B, Krummel P, Loh Z, Luijkx I, Munro D, Patra P, Peters W, Ramonet M, Rödenbeck C, Stavert A, Tans P, Wofsy S. Strong Southern Ocean carbon uptake evident in airborne observations. Science. 2021 December 03; 374(6572):1275-1280. Available from: https://www.science.org/doi/10.1126/science.abi4355 DOI: 10.1126/science.abi4355
4. Lovenduski N, McKinley G, Fay A, Lindsay K, Long M. Partitioning uncertainty in ocean

carbon uptake projections: Internal variability, emission scenario, and model structure. Global Biogeochemical Cycles. 2016 September; 30(9):1276-1287. Available from: https://onlinelibrary.wiley.com/doi/10.1002/2016GB005426 DOI: 10.1002/2016GB005426

5. McKinley G, Pilcher D, Fay A, Lindsay K, Long M, Lovenduski N. Timescales for detection of trends in the ocean carbon sink. Nature. 2016; 530(7591):469-472. Available from: http://www.nature.com/articles/nature16958 DOI: 10.1038/nature16958

Other Significant Products, Whether or Not Related to the Proposed Project

1. Ito T, Minobe S, Long M, Deutsch C. Upper ocean O 2 trends: 1958-2015. Geophysical Research Letters. 2017 May 16; 44(9):4214-4223. Available from: http://doi.wiley.com/10.1002/2017GL073613 DOI: 10.1002/2017GL073613
2. Long M, Lindsay K, Holland M. Modeling photosynthesis in sea ice-covered waters. Journal of Advances in Modeling Earth Systems. 2015 September; 7(3):1189-1206. Available from: http://doi.wiley.com/10.1002/2015MS000436 DOI: 10.1002/2015MS000436
3. Long M, Lindsay K, Peacock S, Moore J, Doney S. Twentieth-Century Oceanic Carbon Uptake and Storage in CESM1(BGC)*. Journal of Climate. 2013 September 15; 26(18):6775-6800. Available from: http://journals.ametsoc.org/doi/10.1175/JCLI-D-12-00184.1 DOI: 10.1175/JCLI-D-12-00184.1
4. Long M, Dunbar R, Tortell P, Smith W, Mucciarone D, DiTullio G. Vertical structure, seasonal drawdown, and net community production in the Ross Sea, Antarctica. Journal of Geophysical Research. 2011 October 21; 116(C10):-. Available from: http://doi.wiley.com/10.1029/2009JC005954 DOI: 10.1029/2009JC005954
5. Yeager S, Danabasoglu G, Rosenbloom N, Strand W, Bates S, Meehl G, Karspeck A, Lindsay K, Long M, Teng H, Lovenduski N. Predicting Near-Term Changes in the Earth System: A Large Ensemble of Initialized Decadal Prediction Simulations Using the Community Earth System Model. Bulletin of the American Meteorological Society. 2018 September; 99(9):1867-1886. Available from: https://journals.ametsoc.org/view/journals/bams/99/9/bams-d-17-0098.1.xml DOI: 10.1175/BAMS-D-17-0098.1

(d) SYNERGISTIC ACTIVITIES -(see PAPPG Chapter II.C.2.f.(d))

1. 2020-present: Co-Chair of the NCAR Scientists' Assembly Executive Committee
2. 2020-2023: Member: NOAA Marine Ecosystem Task Force (https://bit.ly/3mNm6Ee)
3. 2019: Lead organizer of the CLIVAR/OCB CMIP6 Hackathon (cmip6hack.github.io)
4. 2018-2020: Member: Ocean Carbon & Biogeochemistry (OCB) Scientific Steering Committee
5. 2013: Lead organizer of the 2013 NCAR Advanced Study Program Graduate Student Colloquium: Carbon-climate connections in the Earth System http://www2.cgd.ucar.edu/events/asp-colloquium-2013