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# List of Publications [1](#) [2](#) [3](#)

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### Book Chapters

1. National Academies of Sciences, Engineering, and Medicine. 2017: Sustaining Ocean Observations to Understand Future Changes in Earth's Climate. Washington, DC. *The National Academies Press*. [doi:10.17226/24919](https://doi.org/10.17226/24919) (Member of the NASEM Committee and report co-author).
2. Buehner, M., L. Bertino, A. Caya, P. Heimbach, and G. Smith, 2017: Sea Ice Data Assimilation. In: *Sea Ice Analysis and Forecasting* (T. Carrieres, M. Buehner, J.-F. Lemieux, L.T. Pedersen, eds.), Chapter 4, pp. 109-143, ISBN 9781108417426, Cambridge University Press.

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<sup>1</sup>**BLUE** text in the PDF document contains clickable hyper-links to relevant websites.

<sup>2</sup>**Solid underline** refers to work with (PhD or MSc) Student.

<sup>3</sup>**Dashed underline** refers to work with Postdoc.

3. Wunsch, C. and P. Heimbach, 2013: Dynamically and kinematically consistent global ocean circulation and ice state estimates. In: *Ocean Circulation and Climate: A 21st Century Perspective*, (G. Siedler, J. Church, J. Gould and S. Griffies, eds.), Chapter 21, pp. 553-579, Elsevier, doi:10.1016/B978-0-12-391851-2.00021-0.
4. Heimbach, P. and K. Hasselmann, 2000: Development and application of satellite retrievals of ocean wave spectra. In: *Satellites, Oceanography and Society*, D. Halpern (Ed.), Elsevier Oceanography Series, Vol. 63, Chapter 2, pp. 5-33, Elsevier, doi:10.1016/S0422-9894(00)80003-3.

### Submitted

5. Nguyen, A. T., H. Pillar, V. Ocana, A. Bigdeli, T. A. Smith, and P. Heimbach, 2021: The Arctic Subpolar gyre State Estimate (ASTE): Description and assessment of a data-constrained, dynamically consistent ocean-sea ice estimate for 2002-2017. *J. Adv. Model. Earth Syst.*, in revision. doi:10.1002/essoar.10504669.4
6. Solomon, A., C. Heuzé, B. Rabe, S. Bacon, L. Bertino, P. Heimbach, J. Inoue, D. Iovino, R. Mottram, X. Zhang, Y. Aksenov, R. McAdam, A. Nguyen, R. Raj, and H. Tang, 2021: Freshwater in the Arctic Ocean 2010-2019. *Ocean Science Discussion*, in revision. doi:10.5194/os-2020-113
7. Trossman, D.S., T. Haine, A.F. Waterhouse, A. Bigdeli, M. Mazloff, C.B. Whalen, A.T. Nguyen, P. Heimbach, and R. Kovach, 2020: Tracer and observationally-derived constraints on horizontal and diapycnal diffusivities in ocean models. *J. Adv. Model. Earth Syst.*, submitted, doi:10.1002/essoar.10502123.3

### 2021

8. Kostov, Y., H. Johnson, D. Marshall, P. Heimbach, G. Forget, P. Holliday, S. Lozier, F. Li, H. Pillar, and T.A. Smith, 2021: Contrasting sources of variability in subtropical and subpolar Atlantic overturning. *Nature Geosci.*, accepted.
9. Loose, N. and P. Heimbach, 2021: Leveraging Uncertainty Quantification to Design Ocean Climate Observing Systems. *J. Adv. Model. Earth Syst.*, in press, doi:10.1029/2020MS002386
10. Willcox, K., O. Ghattas, and P. Heimbach, 2021: The imperative of physics-based modeling and inverse theory in the future of computational science. *Nature Computational Science*, accepted.

### 2020

11. Bigdeli, A., A.T. Nguyen, H. Pillar, V. Ocaña, and P. Heimbach, 2020: Enhanced Late-season Arctic Sea-ice Growth Following Early-season Atmospheric Warming: A Key Role for Snow. *Geophys. Res. Lett.*, 47(20), doi:10.1029/2020GL090236.
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14. Loose, N., P. Heimbach, H. Pillar, and K. Nisancioglu, 2020: Quantifying Dynamical Proxy Potential through Shared Adjustment Physics in the North Atlantic. *J. Geophys. Res.*, 125(9), doi:10.1029/2020JC016112.
15. Moon, T., T. Scambos, W. Abdalati, A. Ahlstrom, R. Bindshadler, J. Gambill, P. Heimbach, R. Hock, K. Langley, I. Miller, and M. Truffer, 2020: Ending a sea of confusion: A scientist perspective on lessons and opportunities in sea level change communication. *Environment Magazine*, 62(5), 4-15. doi:10.1080/00139157.2020.1791627.
16. Nguyen, A.T., P. Heimbach, V. Garg, V. Ocaña, C. Lee, and L. Rainville, 2020: Impact of synthetic Arctic Argo-type floats in a coupled ocean-sea ice state estimation framework. *J. Atmos. Ocean Technol.*, 37(8), 1477-1495. doi:10.1175/JTECH-D-19-0159.1.
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