**Matthew B Osman**

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**Personal information**

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**Professional appointments**

Jan. 2023 – **University** **Assistant Professor**, *Dept. of Geography, University of Cambridge, UK*

Principal Investigator of the Computational Paleoclimatology research group

Deputy Director, Holocene Climates MPhil (starting 2024 -)

Jan. 2023 – **Affiliated Research**, *Department of Geosciences, University of Arizona*, USA

2019 – 2022 **Postdoctoral Research Fellow**, *Climate Systems Center, University of Arizona*, USA

**Education**

2014 – 2019 **Ph.D. in Climate Science**, *Massachusetts Institute of Technology / Woods Hole Oceanographic Institution (MIT/WHOI) Joint Program*, USA, Supervisor: Sarah Das

2010 – 2014 **B.A. in Geoscience *with Distinction***, *Augustana College*, *USA*, *Summa cum laude* Minors: Mathematics and Environmental Science

**Proposals funded\***

*\*Please see Funding section of proposal for research grants*

**Selected honors and awards**

2022 – 2025 Marie Skłodowska-Curie Actions (MSCA) Fellowship (offer declined; €320,000)

2015 – 2019 National Defense Science & Engineering Graduate (NDSEG) fellowship ($540,000)

2017 – 2018 Ocean Outlook Research Fellowship (US $22,000)

2014 – 2015 Fulbright Research Fellowship to Sweden (offer declined)

**Academic service (selected recent)**

2023 – 2024 Chair and Geography representative on Climate panel of NERC C-CLEAR Doctoral Training Programme, University of Cambridge.

2023 – Academic advisor or co-supervisor for 3 PhD, 3 MPhil, 5 undergraduates (to date)

2022 – Funding proposal reviewer for National Science Foundation (USA) (3 to date)

2021 – 2022 SARSEF STAR Lab mentor to local (Tucson, AZ) minority secondary-ed students (3 female + 1 African American); 1st Place AZ state prize; 2022 Regeneron International Science and Engineering Fair admission; total ~$40,000 in merit scholarships earned

2022 Juneau Icefield Research Program (JIRP) academic faculty (mentor and teaching)

2019 – Peer reviewer for >20 papers for >10 journals (including *Nature*, *Science, Nature Geoscience*, *Science Advances, Geophysical Research Letters, JGR, Climate Past, etc.*)

**International workshops (selected recent)**

\* *denotes attendance under merit-based scholarship, \*\* denotes workshop organizer*

2023 Past Greenland Ice Sheet Dynamics Workshop (Keynote); *Univ. of Bergen, Norway*

2022 \*\*Paleoclimate Data Assimilation Workshop; *University of Arizona, AZ, USA*

2022 \*Ice Core Early Career Researchers Workshop; *University of Utah, UT, USA*

2019 \*CESM Polar Modelling Workshop, NCAR; *Boulder, CO, USA*

*2017 – 2018 \*\** Graduate Climate Conference (GCC) committee member / paleoclimate chair

2015 – 2017 \*\* Northeast Glaciologists Meeting (International Glaciology Society)

**Additional information:**

**1)** Extensive experience with science outreach, including contributions to numerous (>20) podcasts, documentaries, TV interviews, and printed media pieces (including PBS radio, BBC, Popular Science, Scientific American, Nature Podcast, Business Insider, CNN, USA Today, Global News); **2)** ~10 years field experience with expeditions to Greenland, Arctic Sweden, Alaska, Canada; **3)** Delivery of >30 talks (~20 invited seminars) in the last 5 years. **4)** Outdoor training and qualifications including National Outdoor Leadership School (NOLS) Wilderness First Responder, AIARE Avalanche Safety Level 1, glacier travel and crevasse rescue training and 10+ years of mountaineering/climbing know-how.

**Publications** ORCiD ID: [0000-0002-5636-698X](https://orcid.org/0000-0002-5636-698X)

***In preparation***

**Osman, M.B.**, S.B. Das and Madsen, C. (ant. Winter 2023 submission): Rapid Greenland climate changes foreshadow collapse of Norse settlements, *in prep for* *GRL.*

Tierney, J.et al.(ant. Winter 2024 submission): Patterns of Pacific sea-surface temperatures during the Pliocene, *in prep for* *AGU Advances.*

Alder, J. *et al.* (ant. Spring 2024 submission): Benchmarking transient deglacial climate model simulations with sea surface temperature proxies, *in prep for Nature Geoscience*.

***In review / in press***

Koffman, B.\*, **Osman, M.B**.\*, Criscitiello, A., and Guest, S.(ant. Winter 2022/23 submission): Five decades of international partnerships in ice core sciences, *in press* *at Nature Geoscience*

\**Authors contributed equally.*

Abell, J. et al.: Spatial and temporal variability of marine sediment solid-phase iron speciation in the North Pacific Ocean, *in review at EPSL*.

Cooper, V. et al.: Last Glacial Maximum pattern effects reduce climate sensitivity estimates, *in review at Science Advances.*

***Published***

Hansen., J., Sato. M., Simons, L., Nazarenko, L. S., Sangha, I., Kharecha, P., Zachos, J. C., von Schuckmann, K., Loeb N. G., **Osman, M. B.,** Jin, Q., Tselioudis, G., Jeong, E., Lacis, E., Ruedy, R., Russell, G., Cao, J., Li, J., Global warming in the pipeline, *Oxford Open Climate Change*, 3(1), kgad008, 2023.

King, J., Tierney, J., **Osman, M. B.,** Anchukaitis, K., and Judd, E.: DASH: A MATLAB Toolbox for Paleoclimate Data Assimilation, *Geoscientific Model Development, 2023.*

Jiang, Z., *et al*. Jiang, Z., Brierley, C. M., Bader, J., Braconnot, P., Erb, M., Hopcroft, P. O., *et al*. No consistent simulated trends in the Atlantic Meridional Overturning Circulation for the past 6,000 years. *Geophysical Research Letters*, 50, e2023GL103078., 2023.

Leonard, E. M., Laabs, B. J. C., Marcott, S. A., Crawford, E. E., Mackall, B. T., Ibarra, D. E., **Osman, M. B**., Plummer, M. A., & Caffee, M. W. Chronology and climate of the Last Glacial Maximum and the subsequent deglaciation in the northern Medicine Bow Mountains, Wyoming, USA. *Quaternary Science Advances*, *12*, 100109 2022.

**Osman, M.B.**, J.E. Tierney, J. Zhu, R. Tardif, J. King, G.J. Hakim and C.J. Poulsen: Globally resolved surface temperatures since the Last Glacial Maximum, *Nature*, **599**, 239-244, 2021.

*Nature News and Views highlight,* [*here*](https://doi.org/10.1038/d41586-021-03011-6)*.*

**Osman, M.B.**, S. Coats, J.R. McConnell, N. Chellman, S.B. Das: North Atlantic jet stream projections from a 1,250 year context, *Proceedings of the National Academy of Sciences,* **118**(38), e2104105118, 2021*.*

**Osman, M.B.**, B.E. Smith, L.D. Trusel, S.B. Das, J.R. McConnell, N. Chellman, M. Arienzo, and H. Sodemann: Enhanced sensitivity of west Greenland ice caps to last millennium climate change, *Nature Geoscience*, **14**, 756–761, 2021.

Criscitiello, A.S., T. Geldsetzer, R. Rhodes, M. Arienzo, J.R. McConnell, N. Chellman, **M.B. Osman**, J.J. Yackel, and S. Marshall: Marine aerosol records of Arctic sea-ice and polynya variability from new Ellesmere and Devon Island firn cores, Nunavut, Canada, *JGR Oceans,* **126**, e2021JC017205,2021*.* `

**Osman, M.B.**, Das, S.B., Trusel, L.D., Evans, M., Fischer, H., Grieman, M., Kipfstuhl, S., McConnell, J.R., Saltzman, E.: Industrial-era decline of subarctic Atlantic productivity, *Nature*, **569**, 551-555, 2019.

Trusel, L.D., Das, S.B., \***Osman, M. B.**, et al.: Nonlinear rise in Greenland runoff in response to post-industrial Arctic Warming, *Nature*, **564**, 104–108, 2018.

**Osman, M.B.**, Das, S.B., Marchal, O., and Evans, M.J.: Methanesulfonic acid (MSA) migration in polar ice: Data synthesis and theory, *The Cryosphere*, **11**, 2439-2462, 2017.

*Study selected as a 2017 Research Highlight article in The Cryosphere (top 5% of articles at Editor’s discretion)*

**Osman, M.,** Zawadowicz, M. A., Das, S. B., and Cziczo, D. J.: Real time analysis of insoluble particles in glacial ice using single particle mass spectrometry, *Atmos. Meas. Tech.*, **10**, 4459-4477, 2017.