DR AIDAN STARR
MSci. PhD

PERSONAL INFORMATION

Born in Cambridgeshire, United Kingdom

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website	https://aidanstarr.github.io/

SKILLS SUMMARY

- 🐍 – Python
- 🌐 – Geospatial analysis and GIS
- 📈 – Time series analysis
- 📊 – Data visualization
- 🐙 – Git

PROFILE

I am currently an **interdisciplinary scientist** who uses data science and analytical approaches to better understand the trajectory of the Earth system under different forcing conditions. I have authored or coauthored 6 peer-reviewed articles in world-leading journals (Nature, Science, etc.) and my research has been cited over 60 times.

I am now looking for a new position as a **data scientist**, specializing in geographical, time series, renewable energy topics.

COMPUTER SKILLS

Acquainted	HTML · Adobe Illustrator · QGIS · SQL · Dask and parallel computing
Experienced	R · Geospatial analysis[a] · LaTeX · Linux · GIT · NETCDF
Advanced	PYTHON[b] · MATLAB · Ocean Data View

INTELLECTUAL SKILLS

Intermediate	Machine Learning · Database management · Signal processing · Forecasting algorithms · Data visualisation and information design
Expert	Time series analysis[c] · Oceanography · Climate Change · Earth History · IPCC models and projections

WORK EXPERIENCE

03/2022 – Present	Postdoctoral Research Associate (PDRA)
Rutgers University, NJ	Researcher working with **Professor Elisabeth L. Sikes** in the fields of paleoclimatology, oceanography, and carbon cycling. Daily tasks include

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a Kriging, map projections, PCA and EOF

b Pandas, Numpy, Matplotlib, Geopandas, XArray, scikit-learn, statsmodels, Bokeh, HoloViews

c ARIMA models, frequency and wavelet analysis, trend and change-point analysis

analysing climate model output, undertaking laboratory work, performing statistical analysis on climate time series data, visualising and presenting results, and writing reports for publication in peer-reviewed journals.

10/2021 – 03/2022   PDRA

Cardiff University, UK

Researcher under **Professor Ian R. Hall** to conduct research within **quantitative paleoclimate science focused on ocean dynamics in the geological past** and contribute to the overall research performance of the School and University, carrying out research leading to the publishing of high-quality research.

EDUCATION

2016 – 2021   Cardiff University, UK

Doctor of Philosophy

Thesis: *Surface and Deep Hydrography across the Mid-Pleistocene Transition; Multi-proxy paleoceanographic reconstructions from the Southwest Indian Ocean*
School: School of Earth and Environmental Sciences
Funding: Natural Environmental Research Council GW4+ Studentship
Advisors: Prof. I.R. Hall & Prof. S. Barker & Prof. S.R. Hemming
Examiners and Award: Prof. D.A. Hodell (Cambridge) & Dr. S.S. Sosdian (Cardiff) · Submitted 10/2021 · Defended 01/2022

2013 – 2016   The University of Southampton, UK

Integrated Master of Science in Oceanography

Dissertation: *Vertical habitat changes preceding extinction in planktic foraminifer Globoconella puncticulata*
School: School of Ocean and Earth Sciences
Advisors: Prof. Paul A. Wilson & Dr. Thomas Ezard

2011 – 2013   Matthew Arnold School, Oxford, UK

A-Levels

Biology (A*), **Chemistry (A)**, **Geography (A)**

TRAINING AND WORKSHOPS

Training and Workshops

2023 · Applied Machine Learning in Python (University of Michigan *via Coursera*)

2022 · Past Global Changes Interglacial Working Group meeting (Columbia University, New York)

2020 · Uncertainties in Data Analysis Workshop (Potsdam Institute for Climate Impact Research)

OTHER INFORMATION

Funding and Awards

2022 · Quaternary Research Associate research funding

2018 · Antarctic Science Bursary research funding

2018 · NERC GW4+ Doctoral Training Partnership Studentship

Selected Oral Presentations

2023 · Woods Hole Oceanographic Institute (Invited Seminar)

2022 · University of Delaware (Invited Seminar)

2022 · American Museum of Natural History, New York (Invited Seminar)

2021 · The Geological Society – Climate Change in the geological record (Flash Talk)

2021 · Goldschmidt international conference on geochemistry (Solicited Talk)

2021 · GEOMAR – Kiel University, Germany (Invited Seminar)

Languages ENGLISH · Mothertongue

WELSH · Basic (simple words and phrases only)

FRENCH · Basic (simple words and phrases only)

Interests Trail Running · Chess · Birdwatching · Football

PUBLICATIONS

2023 Meridional displacement of the Antarctic Circumpolar Current under warmer-than-present climates

submission to Nature Starr, A., Hall, I. R., Barker, S., Hemming, S. R.

2022 Persistent influence of precession on northern ice sheet variability since the early Pleistocene

Science Barker, S., Starr, A., van der Lubbe, J., Doughty, A., Knorr, G., . . . others. · https://doi.org/10.1126/science.abm4033

2021 Antarctic icebergs reorganize ocean circulation during Pleistocene glacials

Nature Starr, A., Hall, I. R., Barker, S., Rackow, T., Zhang, X., Hemming, S. R., . . . others. · https://doi.org/10.1038/s41586-020-03094-7

2021 Indo-pacific Walker Circulation drove Pleistocene African Aridification

Nature van der Lubbe, H. J. L., Hall, I. R., Hemming, S. R., Barker, S., Baars, T. F., Starr, A., . . . Joordens, J. C. A. · https://doi.org/10.1038/s41586-021-03896-3

2021 Neodymium isotope evidence for coupled Southern Ocean circulation and Antarctic climate throughout the last 118,000 years

Quaternary Science Reviews Williams, T. J., Martin, E. E., Sikes, E. L., Starr, A., Umling, N., & Glaubke, R. · https://doi.org/10.1016/j.quascirev .2021.106915

2021 Strong glacial-interglacial variability in upper ocean hydrodynamics, biogeochemistry, and productivity in the southern Indian Ocean

Communications Earth and Environment Tangunan, D. N., Berke, M. A., Cartagena-Sierra, A., Flores, J. A., Gruetzner, J., Jimenez- Espejo, F. J., . . . Starr, A. · https://doi.org/10.1038/s43247-021-00148-0

2021 Latitudinal migrations of the subtropical front across the Mid- Pleistocene Transition at the Agulhas Plateau

Paleoceanography and Paleoclimatology Cartagena-Sierra, A., Berke, M. A., Robinson, R. S., Marcks, B., Castañeda, I. S., Starr, A., . . . Hemming, S. R. · https://doi.org/10.1029/2020PA004084

April 4, 2023