AIDAN STARR, *MSci., Ph.D.*

Climate ~ Data Scientist

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PROFILE

I am an **interdisciplinary climate scientist** working in the **Cambridge Computational Paleoclimatology** group. I use statistical analysis, climate models, geochemistry and oceanography approaches to better understand the trajectory of the Earth system under different forcing conditions.

SKILLS

Technical: Python // R // MATLAB // Linux // QGIS // GitHub

Domain: Climate Dynamics // Geochemistry // Statistics // Geospatial Analysis

TECH STACK

🐍 Python
Data manipulation, statistical modelling, data visualisation, geospatial analysis;
`Pandas`, `matplotlib`, `Geopandas`, `XArray`, `scikit-learn`, `statsmodels`, `XGBoost`, `HoloViews`, `pykrige`, `EOFs`

Ⓡ R
Bayesian modelling and time-series analysis;
`BayesianTools`, `dplR`, `coda`, `astrochron`

🔗 **See my mini-portfolio here** 🔗

EXPERIENCE

08/23 – present **University of Cambridge – Department of Geography** **Research Associate**
- Postdoc in the Cambridge Computational Climatology research group.
- Working with Dr Francesco Muschitiello, Arnell Fellow in Climate Repair at Downing College.
- Studying decadal, centennial, and millennial climates dynamics.

03/22 – 07/23 **Rutgers University of New Jersey - Department of Marine and Coastal Sciences** **Research Associate**
- Postdoc in the Sikes Organic Geochemistry and Sediment Analysis laboratory.
- Working with Professor Elisabeth L. Sikes.
- Reconstructing ocean and carbon cycle dynamics in the geological past.

11/21 – 03/22 **University of Cardiff - School of Earth and Environmental Sciences** **Research Associate**
- Postdoc working with Professor Ian R. Hall.
- Researching quantitative paleoclimate reconstructions in the Indian Ocean region.

EDUCATION

2022 **Doctor of Philosophy** **Cardiff University**
PhD in Earth Sciences

- Topics: climatology, paleoceanography, carbon chemistry

- Thesis: *Surface and Deep Hydrography across the Mid-Pleistocene Transition; Multiproxy paleoceanographic reconstructions from the southwest Indian Ocean*

- Advisors: I.R. Hall and S. Barker (*Cardiff*); S.R. Hemming (*Columbia University, NY*)

2016 **Integrated Master of Science** **University of Southampton**
MSci. in Oceanography

2013 **A-levels** **Matthew Arnold School, Oxford**
Chemistry, Geography, Biology

TRAINING / WORKSHOPS

2023-2024 **Machine Learning Residency**
University of Cambridge
1 year residency in Machine Learning for scientific research as part of the University of Cambridge Accelerate Programme

2023	**Data Science and Machine Learning for Research**
	University of Cambridge ᴀᴄᴄᴇʟᴇʀᴀᴛᴇ Programme & Cambridge Spark
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
2018	**cGenie Climate Modelling workshop**
	University of Bristol

PRESENTATIONS

Invited Seminars

University of Cambridge // GEOMAR, Kiel University (Germany) // American Museum of Natural History (NY) // University of Delaware (DE) // University College London // National Oceanography Centre, Southampton

Lectures

Guest lecturer: University of Cambridge Holocene Climates MSc.
Public lecture series: New Jersey Public Library System
Public outreach: Cardiff University "GeoTalks"

SELECTED PUBLICATIONS

In Review

Nature
Meridional displacement of the Antarctic Circumpolar Current under warmer-than-present climates
Starr, A., *et al.*

2022

Science 🔗
Persistent influence of precession on northern ice sheet variability since the early Pleistocene
Barker, S., Starr, A. et al.

2021

Nature 🔗
Antarctic icebergs reorganize ocean circulation during Pleistocene glacials
Starr, A., et al.

2021

Nature 🔗
Indo-pacific Walker Circulation drove Pleistocene African Aridification
van der Lubbe, HJL., ..., Starr, A., et al.

2021

Quaternary Science Reviews 🔗
Neodymium isotope evidence for coupled Southern Ocean circulation and Antarctic climate throughout the last 118,000 years
Williams, TJ., ..., Starr, A.,, *et al.*

2021

Communications Earth and Environment 🔗
Strong glacial-interglacial variability in upper ocean hydrodynamics, biogeochemistry, and productivity in the southern Indian Ocean
Tangunan, D., ..., and Starr, A.

LANGUAGES

English - native, **Welsh** - learner

INTERESTS

Trail Running · Cycle Touring · Chess · Birdwatching · Football