Dr. Matt Amos
Climate data scientist

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Experienced climate scientist passionate about solving important interdisciplinary challenges. Quick learner with a strong background in environmental and climate science, statistics and machine learning, and physics. Motivated by tricky problems and working with others for the good of people and the planet.

Employment and Education

Head of Climate at Quantifying Nature (Current)
- Designed a framework to quantify climate-related financial risks and identify nature-positive strategies
- Built a geospatial python backend and deployed AWS cloud infrastructure to implement the framework
- Pitched and communicated complex scientific ideas to clients and investors
- Developed and deployed machine learning models for climate and biodiversity
- Contributed across the start-up, from design, business planning, web development and more

Senior Research Associate in Maths and Statistics at Lancaster University (2021- 2022)
- Led independent and collaborative research to build state-of-the-art models for climate model output including scenario analysis of SSPs and RCPs

PhD in Atmospheric Science
- Built custom data science tools to better understand atmospheric chemistry and climate modelling

Responsibility and Mentoring

- Mentoring postgraduate research students
- Managing and completing interdisciplinary research
- Communicating complex ideas to non-experts
- Peer reviewer for Nature, GMD, JGR
- Data manager on a petascale compute platform
- Maintaining open-source software
- Taught atmospheric science, machine learning, data analysis and maths
- Developed business and financial plans
- Designed and risk assessed research campaigns
- Led and instructed hundreds of young adults in high risk outdoor activities

Specific Skills

Skilful and experienced with a typical **Python and ML development tech stack** for both research and production. Evidence of experience can be seen on my github. Fluent with git, unix, xarray, tensorflow, jax, cloud computing (AWS, GCP), blender, plotly, dash, SQL, geopandas, rasterio and many others.

Accomplished **statistician producing innovative machine learning solutions**. Particularly knowledgeable in geospatial methods, Bayesian neural networks, Gaussian processes and hybrid modelling.

Notable Outputs

- Produced innovative applied research in Environmental Data Science, Atmospheric Chemistry and Physics, Ecology and Evolution (Visit https://mattramos.github.io/publications/ for all publications)
- Contributing author on the World Meteorological Organisation's Ozone Assessment report
- Team leader on a CMIP6 (climate model data) hackathon
- Maintain an open-source Python package for Bayesian climate model ensembling
- Attracted $10000 funding from Google to explore Bayesian neural networks and GANs
- Published machine learning research in NeurIPS on both Gaussian processes and neural networks