Arthur Coquereau

Curriculum Vitae

Education

2022–present **PhD, Physical Oceanography & Climate**, *University of Western Brittany*, Brest, France.
Project: Assessing the role of forced and internal variability for the ocean and climate response

2020–2022 : **Master "Marine Science" (Physical Oceanography & Climate)**, *University of Western Brittany*, Brest, France (Equivalent Master of Science with major Oceanography).

2017–2020 : **Licence "Sciences de la Terre"**, *University of La Rochelle*, La Rochelle, France (Three-years university degree in science, with major Earth Sciences and Physics including Oceanography).

Publications

In review

2025 **Coquereau, A.**, F. Sévellec, T. Huck, J. J.-M. Hirschi, and Q. Jamet. Past, Present, and Future Variability of Atlantic Meridional Overturning Circulation in CMIP6 Ensembles. ***EGUsphere***, volume 2025, pages 1–29, 2025.

2025 **Coquereau, A.**, F. Sévellec, T. Huck, and Alexey V. Fedorov. Projected Increase in ENSO Frequency and Intensity in a warming climate: Insights from CMIP6 Large Ensembles. ***Geophysical Research Letters***, 2025.

Published

2024 **Coquereau, A.**, F. Sévellec, T. Huck, J. J.-M. Hirschi, and A. Hochet. Anthropogenic Changes in Interannual-to-Decadal Climate Variability in CMIP6 Multiensemble Simulations. ***Journal of Climate***, volume 37, pages 3723 – 3739, 2024.

2024 **Coquereau, A.**, N. P. Foukal, and K. Våge. Extreme wind events responsible for an outsized role in shelf-basin exchange around the southern tip of Greenland. ***Science Advances***, volume 10, page eadp9266, 2024.

2023 **Coquereau, A.** and N. P. Foukal. Evaluating altimetry-derived surface currents on the south Greenland shelf with surface drifters. ***Ocean Science***, volume 19, pages 1393–1411, 2023.

Science Outreach Article

2024 **Beylat, S., Coquereau, A., Le Priol, C., Marino, T., Saddier, L.**, La science des points de bascule., In ***La Météorologie***, 124, 44-48, 2024..

Research Experience

Laboratory for Ocean Physics and Satellite remote sensing, Brest, France

Nov, 2022 – present ***PhD student in Physical Oceanography & Climate.***
Assessing the role of forced and internal variability for the ocean and climate response from an ensemble perspective. Analysis of state-of-the-art ensemble climate models (CMIP6) with particular focus on surface temperature and precipitations at global scale, Atlantic Meridional Overturning Circulation (AMOC), and El Niño-Southern Oscillation (ENSO). Development and analysis of a regional coupled Ocean-Atmosphere ensemble model (CROCO/ROMS-WRF).

Laboratory for Ocean Physics and Satellite remote sensing
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Advisors : **Dr. Florian Sévellec**, *Senior Researcher at CNRS (French National Centre for Scientific Research)*, Laboratory for Ocean Physics and Satellite remote sensing, Brest, France

Dr. Thierry Huck, *Senior Researcher at CNRS (French National Centre for Scientific Research)*, Laboratory for Ocean Physics and Satellite remote sensing, Brest, France

Dr. Joël Hirschi, *Senior Researcher at National Oceanography Centre (NOC), Associate Head Marine Systems Modelling*, Southampton, UK

Woods Hole Oceanographic Institution, MA, USA

Apr – Sep, 2022 ***Guest student / Master degree's internship (Second year)***.

Pathways and fate of freshwater around the southern tip of Greenland. Evaluation of altimetry-derived surface currents in comparison with surface drifter trajectories. Study of shelf-basin exchanges in altimetry surface currents from 1993 to 2022.

Advisor : **Dr. Nicholas Foukal**, *Assistant Professor, Skidaway Institute of Oceanography*, GA, USA (*Formerly: Woods Hole Oceanographic Institution*)

Laboratory for Ocean Physics and Satellite remote sensing, Brest, France

Jul – Aug, 2021 ***Master degree's internship (First year)***.

Interactions between ocean eddies and islands in the equatorial Pacific. Development and analysis of simulations from Surface Quasi-Geostrophic model.

Advisor : **Prof. Xavier Carton**, *Senior Professor, University of Western Brittany*, Laboratory for Ocean Physics and Satellite remote sensing, Brest, France

Scientific cruises

Sep, 2023 **EN 709**, *R/V Endeavor*, Woods Hole, MA to Narragansett, RI, USA (25 days), Chief Scientist: Nick Foukal and Dan Torres (WHOI).

Southwestern Labrador Shelf and Newfoundland shelf. Deployment of six surface drifters. Participation in mooring work: Deployment of seven moorings in the Southwestern Labrador Shelf. Hydrographic and velocity survey of the Newfoundland shelf.

Aug – Sep, 2022 **OSNAP 32**, *R/V Neil Armstrong*, Reykjavik, Iceland to Nuuk, Greenland (40 days), Chief Scientist: Fiamma Straneo (UC San Diego).

Southwestern Irminger Sea and the southeastern Labrador Sea. Responsible for deployment of 12 surface drifters and four profiling floats (coordinated by Nick Foukal). Participation in mooring work: Recover and turn around shelf and slope moorings of OSNAP-East (Irminger) and OSNAP-West (eastern Labrador) arrays. Hydrographic and velocity survey of the southeast and southwest Greenland shelves and slopes.

Participation in Scientific events

Mai, 2025 **Arctic-Subarctic Ocean Fluxes (ASOF)**, Barcelona, Spain.
Oral presentation

Apr, 2025 **European Geophysical Union (EGU25) Annual meeting**, Vienna, Austria.
Oral presentation

Dec, 2024 **American Geophysical Union (AGU24) Annual meeting**, Washington, D.C. (USA).
Poster presentation

May, 2024 **Workshop: Interfaces in the Climate System**, Grenoble, France.
Oral presentation

Oct, 2023 **Joint Workshops: "Previsibility in Ocean, Atmosphere and Climate Sciences" and "Tipping Points in the Climate System"**, Paris, France.
Poster presentation

Teaching & Supervision

Spring, 2024 **Lectures and practical work: Applied methods for oceanography**, European Institue for Marine Studies, Brest, France.
Master's degree students in Physical Oceanography & Climate

Winter, 2024 **Practical work and project supervision: Big Data in Climate Sciences**, IMT Atlantique, Brest, France.
Master's degree students in Physical Oceanography & Climate and Computer engineering students

Professional activities

Journal reviewer, Critical Insights in Climate Change (Taylor & Francis).