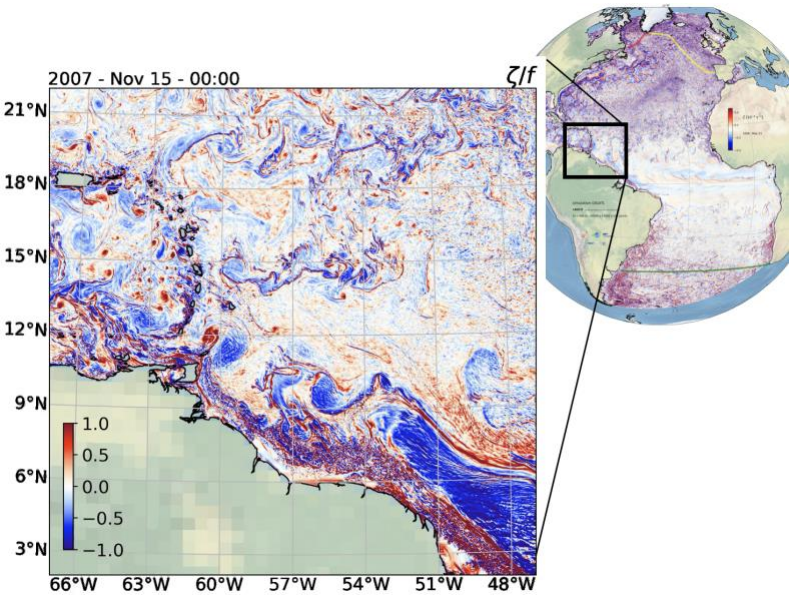
2-year postdoctoral position on Air-Sea Exchanges at Oceanic Fine Scales

Position : 24-month position in the **Laboratory for Ocean Physics and Satellite remote sensing** (LOPS, https://www.umr-lops.fr/en) located in the European Institute for Marine Studies (IUEM, https://www-iuem.univ-brest.fr/the-institute/?lang=en) in Plouzané, France.

Funded by: ANR and Région Bretagne

Supervisors: Jonathan Gula (Associate Prof. LOPS/UBO; gula@univ-brest.fr), Xavier Carton (Prof. LOPS/UBO; xcarton@univ-brest.fr) and Sabrina Speich (Prof. LMD/ENS)

Context and objectives: This postdoc position is inserted in the context of the international EUREC4A project (http://eurec4a.eu/) and in particular its oceanic component EUREC4A-OA (http://eurec4a-oa.eu/) which aim at advancing our understanding of atmosphere-ocean exchanges at fine scales through two complementary approaches: 1) by analysing an unprecedented set of in-situ observations obtained in the equatorial Atlantic region, and 2) by jointly using realistic, very high resolution models of this region.



Surface relative vorticity in a 1-km Atlantic simulation with the CROCO model

The successful candidate will work with available observations from the Eurec4a campaign [Stevens et al 21] and data from existing realistic, submesoscale-permitting numerical modelling carried out at LOPS using the ROMS/CROCO model (see inserted figure). He or she will also design new forced and atmosphere-coupled submesoscale-resolving regional simulations with CROCO and WRF. The objective will be to investigate the impact of fine-scale ocean structures (mesoscale eddies, submesoscale fronts, river plumes, etc.) on the uptake of heat and energy in the ocean, and assess the impact of ocean-atmosphere coupling on the dynamics of these structures and the induced flows.

The successful candidate will collaborate closely with partners of the EUREC4A-OA (http://eurec4a-oa.eu/) and ATOMIC (https://psl.noaa.gov/atomic/) projects, which involve numerous international institutions in the USA, Germany, Italy, Norway, and France. Regular meetings and workshops will be held with the project partners.

Requirements: Candidates should have spent at least 18 months outside of France between 1 May 2018 and the start date of the contract. Candidates should have a PhD in physical oceanography or fluid mechanics, and strong interests in geophysical fluid dynamics, ocean dynamics, and numerical modeling.

Application: Send CV, statement of research interests and contacts of at least two references to gula@univ-brest.fr and xcarton@univ-brest.fr. Review of applications will begin immediately and continue until the position is filled.

Specs: The position will initially be funded for a 2-year period and could be renewed upon scientific outcome and funding availability.

• Bjorn Stevens, Sandrine Bony, David Farrell, Felix Ament, Alan M. Blyth, et al.. EUREC^{4}A. *Earth System Science Data*, Copernicus Publications, 2021, 13 (8), pp.4067-4119. ⟨10.5194/essd-13-4067-2021⟩. ⟨hal-03023368v3⟩