

Publications in peer-reviewed journals

- 2025 **E. Lovecchio**, Stephanie Henson, Filipa Carvalho, Nathan Briggs, Hans Hilder, George A. Wolff, Sarah L. C. Giering, Kathryn Cook, Chelsey A. Baker, Sophie Fielding, Calum Preece, Mark Stinchcombe “*Mesopelagic particle layers in the dynamic hypoxic northern Benguela are shaped by zooplankton activity*”, *Journal of Geophysical Research: Oceans*, 130, e2024JC021039, <https://doi.org/10.1029/2024JC021039>
- 2024 William Major, Sarah L. C. Giering, Joanna Ainsworth, Anna Belcher, ..., **E. Lovecchio**, ..., María Villa-Alfageme, George A. Wolff & Richard Sanders “*Active and passive organic carbon fluxes during a bloom in the Southern Ocean (South Georgia)*”, *Scientific Data* volume 11, Article number: 1392 (2024), <https://doi.org/10.1038/s41597-024-04151-w>
- 2024 Z. Lachkar, M. Cornejo-D’Ottone, A. Singh, J. Arístegui, B. Dewitte, S. Fawcett, V. Garçon, **E. Lovecchio**, V. Molina, P. N. M. Vinayachandran “*Biogeochemistry of greenhouse gases in coastal upwelling systems: Processes and sensitivity to global change*”, *Elementa: Science of the Anthropocene*, 12 (1): 00088, <https://doi.org/10.1525/elementa.2023.00088>
- 2023 **E. Lovecchio**, L. Clément, C. Evans, R. Rayne, C. Dumousseaud, S. Roshan, S.L.C. Giering, A. Martin “*Export of Dissolved Organic Carbon (DOC) compared to the particulate and active fluxes near South Georgia, Southern Ocean*”, *Deep Sea Research II*, 212, <https://doi.org/10.1016/j.dsr2.2023.105338>
- 2023 S.J. Bograd, M.G. Jacox, E.L. Hazen, **E. Lovecchio**, I. Montes, M. Pozo Buil, L.J. Shannon, W.J. Sydeman, and R.R. Rykaczewski “*Climate Change Impacts on Eastern Boundary Upwelling Systems*”, *Annual Review of Marine Science*, 15:4.1–4.26, <https://doi.org/10.1146/annurev-marine-032122-021945>
- 2022 **E. Lovecchio**, S. Henson, F. Carvalho, N. Briggs “*Oxygen variability in the offshore northern Benguela Upwelling System from glider data*”, *JGR:Oceans*, 127, e2022JC019063, <https://doi.org/10.1029/2022JC019063>
- 2022 **E. Lovecchio**, N. Gruber, M. Münnich, I. Frenger “*On the Processes Sustaining Biological Production in the Offshore Propagating Eddies of the Northern Canary Upwelling System*”, *JGR: Oceans*, 127, e2021JC017691 <https://doi.org/10.1029/2021JC017691>
- 2021 G. Bonino*, **E. Lovecchio***, N. Gruber, M. Münnich, S. Masina, D. Iovino “*Drivers and impact of the seasonal variability of the organic carbon offshore transport in the Canary Upwelling System*”, *Biogeosciences*, 18, 2429–2448 <https://doi.org/10.5194/bg-18-2429-2021>, *these authors contributed equally
- 2020 **E. Lovecchio**, T.M. Lenton “*BPOP model: exploring the impact of changes in the biological pump on the shelf sea and ocean nutrient and redox state*”, *Geoscientific Model Development*, 13, 1865–1883 <https://doi.org/10.5194/gmd-13-1865-2020>
- 2018 **E. Lovecchio**, N. Gruber, M. Münnich “*Mesoscale contribution to the long-range offshore transport of organic carbon from the Canary Upwelling System to the open North Atlantic*”, *Biogeosciences*, 15, 5061-5091 <https://doi.org/10.5194/bg-15-5061-2018>
- 2017 **E. Lovecchio**, N. Gruber, M. Münnich, Z. Lachkar “*On the long-range offshore transport of organic carbon from the Canary Upwelling System to the open North Atlantic*”, *Biogeosciences* (highlight paper), 14, 3337-3369, <https://doi.org/10.5194/bg-14-3337-2017>
- 2012 **E. Lovecchio**, P. Allegrini, E. Geneston, B.J. West, P. Grigolini, “*From self-organized to extended criticality*”, *Frontiers in Fractal Physiology*, 3, 98, 1-9, <https://doi.org/10.3389/fphys.2012.00098>

Contributions to international conferences

Only first-author or presented contributions are listed

Conference Talks (in-person)

- 2024 **E. Lovecchio**, S.Henson, F. Carvalho, N. Briggs, H. Hilder, S.L.C. Giering, G.A. Wolff, K. Cook “*Drivers of the Formation of Mesopelagic Particle Layers and Deep Export Events in the Hypoxic Northern Benguela from Glider, Ship and Model Data*”, Ocean Sciences Meeting 2024, New Orleans (USA), [link to abstract](#)
- 2023 **E. Lovecchio**, S.Henson, F. Carvalho, N. Briggs, H. Hilder, S.L.C. Giering, G.A. Wolff, K. Cook “*Mesopelagic particle layers in oxygen minimum zones: what do we know from data and can models capture them?*”, Challenger Society for Marine Science ‘Ocean Modelling Group Meeting 2023’, Southampton (U.K.)
- 2022 **E. Lovecchio**, S.Henson, F. Carvalho and N. Briggs “*Meso and submesoscale oxygen and particle variability in the northern Benguela Upwelling System from glider and model data*”, EGU General Assembly, Vienna (Austria), [link to abstract](#)
- 2022 **E. Lovecchio**, S.Henson, F. Carvalho and N. Briggs “*Meso and submesoscale oxygen variability in the northern Benguela Upwelling System from glider and model data*”, 53rd International Colloquium on Ocean Dynamics, Liège (Belgium), [link to program](#)
- 2019 **E. Lovecchio**, S.T. Daines, and T.M. Lenton “*Modeling the impact of the evolution of the biological pump on the shelf sea and ocean nutrient and redox state*”, Goldschmidt, Barcelona (Spain), [link to abstract](#)
- 2018 **E. Lovecchio**, N. Gruber, M. Münnich “*Role of eddies and filaments in the offshore transport of organic carbon in the Canary Upwelling System: a modeling study*”, Ocean Sciences Meeting 2018, Portland (USA), [link to abstract](#)
- 2017 **E. Lovecchio**, N. Gruber, M. Münnich, D. Byrne, Z. Lachkar “*Total and mesoscale long-range offshore transport of organic carbon from the Canary Upwelling System to the open North Atlantic*”, EGU General Assembly, Vienna (Austria), [link to abstract](#)
- 2016 **E. Lovecchio**, M. Münnich, D. Byrne, N. Gruber, “*On the role of mesoscale eddies in the long-range export of carbon and nutrients from the Canary Upwelling System to the open North Atlantic*”, Ocean Sciences Meeting 2016, New Orleans (USA), [link to abstract](#)
- 2015 **E. Lovecchio**, D. Byrne, M. Münnich, N. Gruber “*Quantifying the long-range exchange of carbon and nutrients between the Canary Upwelling System and the open North Atlantic*”, IUGG General Assembly 2015, Prague (Czech Republic)

Virtual Talks

- 2021 **E. Lovecchio**, S. Henson, F. Carvalho, N. Briggs, N. Gruber, M. Münnich, G. Bonino, S. Masina, D. Iovino “*Biophysical interactions at the ocean’s mesoscale: eddy and filament impacts on the marine organic carbon and oxygen cycles*”, 25th AIOL congress (on-line), [link to abstract](#), page 46
- 2021 **E. Lovecchio**, S. Henson, F. Carvalho, N. Briggs “*Combining gliders and models to understand mesoscale biogeochemical patterns at the Angola-Benguela front*”, EGU General Assembly, Online conference vEGU, [link to abstract](#)
- 2021 **E. Lovecchio** (keynote speaker), S. Henson, F. Carvalho, N. Briggs, N. Gruber, M. Münnich, G. Bonino, Z. Lachkar “*3D cycling of organic matter in upwelling regions: driven by small scales, impacting on large scales*”, 1 Early Career Symposium on Marine Biogeochemical Modelling, [link to slides and recorded talk](#)
- 2018 **E. Lovecchio**, N. Gruber, M. Münnich, Z. Lachkar “*The 3D biological pump in EBUS regions: long-range offshore transport of organic carbon from the northwestern African coast to the open Atlantic*”, EBUS Webinars series

PICO presentations

- 2019 **E. Lovecchio**, S.T. Daines, and T.M. Lenton *“How Neoproterozoic-Paleozoic evolution of the biological pump affected shelf sea and ocean nutrient and redox state”*, EGU General Assembly, Vienna (Austria), [link to abstract](#)

Conference Posters

- 2025 C. Le Quéré, T. Jarníková, M.-F. Racault, P. Townsend, R. Wright, S. Henson, **E. Lovecchio***, T. Panaïotis, S. Oliver, A. Baldwin, B. Townhill, P. Buckley, L. Greig, E. Couce, J. Pinnegar, M. Thomas, T. Luisetti, N. Greenwood, L. Rutterford, D. Orchard, J. Graham *“TIMBER: Forecasting Tipping points in Marine Biogeochemistry and Ecosystem Responses ”*, Global Tipping Points conference, Exeter (U.K.), **presenting*
- 2025 **E. Lovecchio**, S. Henson, T. Ryan-Keogh *“Physical drivers of multidecadal changes in the North Atlantic bloom phenology”*, AMBIO conference 2025 “Marine Biogeochemistry in a Changing World”, Edinburgh (U.K.)
- 2023 **E. Lovecchio**, L. Clément, C. Evans, R. Rayne, C. Dumousseaud, S. Roshan, S.L.C. Giering, A. Martin *“Simultaneous estimation of the sinking, dissolved and active export components from in-situ data in the region of South Georgia”*, International Symposium: The Climate Change Effects on the World’s Ocean (ECCWO5), Bergen (Norway)
- 2021 **E. Lovecchio**, S. Henson, F. Carvalho, N. Briggs *“Mesoscale oxygen patterns from glider data in the northern Benguela Upwelling System”*, Ocean Carbon & Biogeochemistry workshop 2021, OCB2021 (virtual)
- 2020 **E. Lovecchio**, N. Gruber, M. Münnich *“Mesoscale contribution to the 3D cycling of organic matter in the Canary Upwelling System”*, Ocean Sciences Meeting 2020, Portland (USA) [link to abstract](#)
- 2018 **E. Lovecchio**, N. Gruber, M. Münnich *“Filament and eddy contribution to the offshore transport of organic carbon”*, Swiss Global Change Day 2018, Bern (Switzerland)
- 2016 **E. Lovecchio**, M. Frischknecht, D. Byrne, M. Münnich, N. Gruber *“Long-range offshore transport of organic carbon from the Canary Upwelling System to the open North Atlantic”*, IBP Congress 2016, Zürich & Swiss Global Change Day 2016, Bern (Switzerland) [link to abstract](#)
- 2015 **E. Lovecchio**, D. Byrne, M. Münnich, N. Gruber *“Quantifying the long-range exchange of carbon and nutrients between the Canary Upwelling System and the North Atlantic”*, IBP Congress 2015, Zürich & Swiss Global Change Day 2015, Bern (Switzerland)
- 2014 **E. Lovecchio**, M. Frischknecht, D. Byrne, Z. Lachkar, N. Gruber *“CALNEX: Quantifying the exchange of carbon and nutrients between the coastal and the open seas”*, IBP Congress 2014, Zürich (Switzerland)