## List of peer-reviewed publications

- [1] A. Barth, A. Mahadevan, A. Pascual, S. Ruiz, and C. Troupin, 2018. The 48th Liege colloquium: submesoscale processes: mechanisms, implications, and new frontiers. *Ocean Dynamics*, 68(8):1067–1069. doi:10.1007/s10236-018-1173-5. URL https://link.springer.com/article/10.1007/s10236-018-1173-5.
- [2] A. Iona, A. Theodorou, S. Sofianos, S. Watelet, C. Troupin, and J.-M. Beckers, 2018. Mediterranean Sea climatic indices: monitoring long-term variability and climate changes. *Earth System Science Data*, 10(4):1829–1842. doi:10.5194/essd-10-1829-2018. URL https://www.earth-syst-sci-data.net/10/1829/2018/essd-10-1829-2018.html.
- [3] A. Iona, A. Theodorou, S. Watelet, C. Troupin, J.-M. Beckers, and S. Simoncelli, Jul 2018. Mediterranean Sea Hydrographic Atlas: towards optimal data analysis by including time-dependent statistical parameters. *Earth System Science Data*, 10(3):1281–1300. ISSN 1866-3516. doi:10.5194/essd-10-1281-2018. URL https://www.earth-syst-sci-data.net/10/1281/2018/.
- [4] S. Ruiz, M. Claret, A. Pascual, A. Olita, C. Troupin, A. Capet, A. Tovar-Sanchez, J. Allen, P.-M. Poulain, J. Tintoré, and A. Mahadevan, 2018. Effects of oceanic meso- and submeso-scale frontal processes on the vertical transport of phytoplankton. *Journal of Geophysical Research*. Under revision.
- [5] C. Troupin, A. Pascual, S. Ruiz, A. Olita, B. Casas, F. Margirier, P.-M. Poulain, G. Notarstefano, M. Torner, J. G. Fernández, M. Àngel Rújula, C. Muñoz, J. T. Allen, A. Mahadevan, and J. Tintoré, Sep 2018. The AlborEX dataset: sampling of submesoscale features in the Alboran Sea. Earth System Science Data Discussions, pages 1–21. ISSN 1866-3591. doi:10.5194/essd-2018-104. URL https://www.earth-syst-sci-data-discuss.net/essd-2018-104/.
- [6] F. Lenartz, C. Troupin, and W. Lefebvre, Sep 2017. Data interpolating variational analysis for the generation of atmospheric pollution maps at various scales. In *International Technical Meeting on Air Pollution Modelling and its Application*, pages 231–235. Springer International Publishing. ISBN 9783319576459. ISSN 2213-8692. doi:10.1007/978-3-319-57645-9\_37. URL https://link.springer.com/chapter/10.1007%2F978-3-319-57645-9\_37.
- [7] M. Licer, B. Mourre, C. Troupin, A. Krietemeyer, A. Jansá, and J. Tintoré, Mar 2017. Numerical study of Balearic meteotsunami generation and propagation under synthetic gravity wave forcing. *Ocean Modelling*, 111:38-45. ISSN 1463-5003. doi:10.1016/j.ocemod.2017.02.001. URL http://www.sciencedirect.com/science/article/pii/S1463500317300136.
- [8] A. Pascual, S. Ruiz, A. Olita, C. Troupin, M. Claret, B. Casas, B. Mourre, P.-M. Poulain, A. Tovar-Sanchez, A. Capet, E. Mason, J. Allen, A. Mahadevan, and J. Tintoré, 2017. A multiplatform experiment to unravel meso- and submesoscale processes in an intense front (AlborEx). Frontiers in Marine Science, 4(39):1–16. doi:10.3389/fmars.2017.00039. URL http://journal.frontiersin.org/article/10.3389/fmars.2017.00039/full.
- [9] M. Juza, R. Escudier, A. Pascual, M.-I. Pujol, G. Taburet, C. Troupin, B. Mourre, and J. Tintoré, 2016. Impacts of reprocessed altimetry on the surface circulation and variability of the Western Alboran Gyre. *Advances in Space Research*, 58(3):277–288. doi:10.1016/j.asr.2016.05.026. URL http://www.sciencedirect.com/science/article/pii/S0273117716302125.
- [10] M. Juza, B. Mourre, L. Renault, S. Gómara, K. Sebastián, S. Lora, J. P. Beltran, B. Frontera, B. Garau, C. Troupin, M. Torner, E. Heslop, B. Casas, R. Escudier, G. Vizoso, and J. Tintoré, 2016. SOCIB operational ocean forecasting system and multi-platform validation in the Western Mediterranean Sea. *Journal of Operational Oceanography*, 9(sup1):s155-s166. doi:10.1080/1755876X.2015.1117764. URL http://www.tandfonline.com/doi/full/10.1080/1755876X.2015.1117764#.V4M5xP7HjGc.
- [11] M. Sotillo, E. Garcia-Ladona, A. Orfila, P. Rodríguez-Rubio, J. C. Maraver, D. Conti, E. Padorno, J. Jiménez, E. Capó, F. Pérez, J. Sayol, F. J. de los Santos, A. Amo, A. Rietz, C. Troupin, J. Tintoré, and E. Álvarez Fanjul, 2016. The MEDESS-GIB database: Tracking the Atlantic water inflow. *Earth System Science Data*, 8:141–149. doi:10.5194/essd-8-141-2016. URL http://www.earth-syst-sci-data.net/8/141/2016/.
- [12] EuroGOOS, 2015. Oceanographic data management at the Balearic Islands Coastal Ocean Observing and Forecasting System (SOCIB).

- [13] A. Pascual, A. Lana, C. Troupin, S. Ruiz, Y. Faugère, R. Escudier, and J. Tintoré, 2015. Assessing SARAL/AltiKa near-real time data in the coastal zone: comparisons with HF radar and Jason-2 observations. *Marine Geodesy*, 38(Supplement 1):260–276. doi:10.1080/01490419.2015.1019656. URL http://www.tandfonline.com/doi/full/10.1080/01490419.2015.1019656.
- [14] P. Sangrà, C. Troupin, B. Barreiro-González, E. D. Barton, A. Orbi, and J. Arístegui, May 2015. The Cape Ghir filament system in August 2009 (NW Africa). *Journal of Geophysical Research*, 120(6):4516-4533. ISSN 2169-9275. doi:10.1002/2014jc010514. URL http://onlinelibrary.wiley.com/doi/10.1002/2014JC010514/full.
- [15] C. Troupin, J. Beltran, E. Heslop, M. Torner, B. Garau, J. Allen, S. Ruiz, and J. Tintoré, 2015. A toolbox for glider data processing and management. *Methods in Oceanography*, 13-14:13-23. doi:10.1016/j.mio.2016.01.001. URL http://www.sciencedirect.com/science/article/pii/S2211122015300207.
- [16] C. Troupin, A. Pascual, G. Valladeau, I. Pujol, A. Lana, E. Heslop, S. Ruiz, M. Torner, N. Picot, and J. Tintoré, 2015. Illustration of the emerging capabilities of SARAL/AltiKa in the coastal zone using a multi-platform approach. Advances in Space Research, 55(1):51–59. doi:10.1016/j.asr.2014.09.011. URL http://www.sciencedirect.com/science/article/pii/S0273117714005754.
- [17] A. Barth, J.-M. Beckers, C. Troupin, A. Alvera-Azcárate, and L. Vandenbulcke, 2014. divand-1.0: n-dimensional variational data analysis for ocean observations. *Geoscientific Model Development*, 7:225–241. doi:10.5194/gmd-7-225-2014. URL http://www.geosci-model-dev.net/7/225/2014/gmd-7-225-2014.html.
- [18] J.-M. Beckers, A. Barth, C. Troupin, and A. Alvera-Azcárate, February 2014. Some approximate and efficient methods to assess error fields in spatial gridding with DIVA (Data Interpolating Variational Analysis). *Journal of Atmospheric and Oceanic Technology*, 31(2):515–530. doi:10.1175/JTECH-D-13-00130.1. URL http://journals.ametsoc.org/doi/abs/10.1175/JTECH-D-13-00130.1.
- [19] A. Capet, E. Mason, V. Rossi, C. Troupin, Y. Faugère, I. Pujol, and A. Pascual, 2014. Implications of refined altimetry on estimates of mesoscale activity and eddy-driven offshore transport in the Eastern Boundary Upwelling Systems. *Geophysical Research Letters*, 41(21):7602–7610. doi:10.1002/2014GL061770. URL http://onlinelibrary.wiley.com/doi/10.1002/2014GL061770/abstract.
- [20] A. Capet, C. Troupin, J. Carstensen, M. Grégoire, and J.-M. Beckers, January 2014. Untangling spatial and temporal trends in the variability of the Black Sea Cold Intermediate Layer and mixed Layer Depth using the DIVA detrending procedure. Ocean Dynamics, 64(3):315-324. doi:10.1007/s10236-013-0683-4. URL http://link.springer.com/article/10.1007%2Fs10236-013-0683-4.
- [21] M. Benavides, J. Arístegui, N. S. R. Agawin, X. A. Álvarez Salgado, M. Álvarez, and C. Troupin, 2013. Low contribution of N<sub>2</sub> fixation to new production and excess nitrogen in the subtropical northeast Atlantic margin. *Deep-Sea Research I*, 81(0):36–48. ISSN 0967-0637. doi:10.1016/j.dsr.2013.07.004. URL http://www.sciencedirect.com/science/article/pii/S0967063713001386.
- [22] C. Troupin, E. Mason, J.-M. Beckers, and P. Sangrà, 2012. Generation of the Cape Ghir upwelling filament: a numerical study. *Ocean Modelling*, 41:1–15. doi:10.1016/j.ocemod.2011.09.001. URL http://www.sciencedirect.com/science/article/pii/S1463500311001557.
- [23] C. Troupin, D. Sirjacobs, M. Rixen, P. Brasseur, J.-M. Brankart, A. Barth, A. Alvera-Azcárate, A. Capet, M. Ouberdous, F. Lenartz, M.-E. Toussaint, and J.-M. Beckers, 2012. Generation of analysis and consistent error fields using the Data Interpolating Variational Analysis (Diva). *Ocean Modelling*, 52-53:90-101. doi:10.1016/j.ocemod.2012.05.002. URL http://www.sciencedirect.com/science/article/pii/S1463500312000790.
- [24] L. Tyberghein, H. Verbruggen, K. Pauly, C. Troupin, F. Mineur, and O. De Clerck, 2012. ORACLE: a global environmental dataset for marine species distribution modeling. *Global Ecology and Biogeography*, 21(2):272–281. doi:10.1111/j.1466-8238.2011.00656.x. URL http://onlinelibrary.wiley.com/doi/10.1111/j.1466-8238.2011.00656.x/pdf.
- [25] A. Alvera-Azcárate, C. Troupin, A. Barth, and J.-M. Beckers, 2011. Comparison between satellite and in situ sea surface temperature data in the Western Mediterranean Sea. *Ocean Dynamics*, 61:767–778. ISSN 1616-7341. doi:10.1007/s10236-011-0403-x. URL http://www.springerlink.com/content/r5784271357u5400/.
- [26] E. Mason, F. Colas, J. Molemaker, A. F. Shchepetkin, C. Troupin, J. C. McWilliams, and P. Sangrà, 2011. Seasonal variability of the Canary Current: a numerical study. *Journal of Geophysical Research*, 116(C6):C06001. doi:10.1029/2010JC006665. URL http://onlinelibrary.wiley.com/doi/10.1029/2010JC006665/abstract.

- [27] C. Troupin, September 2011. Study of the Cape Ghir upwelling filament using variational data analysis and regional numerical model. Ph.D. thesis, University of Liège. URL http://hdl.handle.net/2268/105400. 224 pp.
- [28] A. Barth, A. Alvera-Azcárate, C. Troupin, M. Ouberdous, and J.-M. Beckers, 2010. A web interface for griding arbitrarily distributed in situ data based on Data-Interpolating Variational Analysis (DIVA). *Advances in Geosciences*, 28:29–37. doi:10.5194/adgeo-28-29-2010. URL www.adv-geosci.net/28/29/2010/.
- [29] F. Lenartz, J.-M. Beckers, J. Chiggiato, B. Mourre, C. Troupin, L. Vandenbulcke, and M. Rixen, 2010. Super-ensemble techniques applied to wave forecast: performance and limitations. *Ocean Science*, 6(2):595-604. doi:10.5194/os-6-595-2010. URL http://www.ocean-sci.net/6/595/2010/os-6-595-2010.html.
- [30] C. Troupin, F. Machín, M. Ouberdous, D. Sirjacobs, A. Barth, and J.-M. Beckers, 2010. High-resolution climatology of the north-east Atlantic using Data-Interpolating Variational Analysis (Diva). *Journal of Geophysical Research*, 115(C8):C08005. doi:10.1029/2009JC005512. URL http://onlinelibrary.wiley.com/doi/10.1029/2009JC005512/epdf.
- [31] C. Troupin, P. Sangrà, and J. Arístegui, 2010. Seasonal variability of the oceanic upper layer and its modulation of biological cycles in the Canary Island region. *Journal of Marine Systems*, 80(3-4):172-183. doi:10.1016/j.jmarsys.2009.10.007. URL http://www.sciencedirect.com/science/article/B6VF5-4XMKB67-1/2/326bcf54e891969eb6191ec534805d35.
- [32] G. Jordà, L. Houpert, D. Gomis, A. Bosse, P. Testor, J. Llasses, and C. Troupin, in prep. Mapping the temperature and salinity of the Mediterranean Sea (1950-2014). Product description and sources of uncertainty. *Ocean Science*.