List of peer-reviewed publications

- [1] A. Barth, C. Troupin, E. Reyes, A. Alvera-Azcárate, J.-M. Beckers, and J. Tintoré, 2021. Variational interpolation of high-frequency radar surface currents using DIVAnd. *Ocean Dynamics*. doi:10.1007/s10236-020-01432-x. URL http://hdl.handle.net/2268/253954. In press.
- [2] A. Alvera-Azcárate, C. Troupin, H. Goosse, M. J. McPhaden, and J.-M. Beckers, Dec 2020. Editorial to the liège colloquium special issue: Long-term studies in oceanography a celebration of 50 years of science at the liège colloquium (1969 2018). Ocean Dynamics, 71(1):119–123. ISSN 1616-7228. doi:10.1007/s10236-020-01421-0. URL https://link.springer.com/article/10.1007/s10236-020-01421-0.
- [3] A. Barth, A. Alvera-Azcárate, M. Licer, and J.-M. Beckers, Mar 2020. Dincae 1.0: a convolutional neural network with error estimates to reconstruct sea surface temperature satellite observations. *Geoscientific Model Development*, 13(3):1609–1622. ISSN 1991-9603. doi:10.5194/gmd-13-1609-2020. URL https://gmd.copernicus.org/articles/13/1609/2020/.
- [4] S. Ruiz, M. Claret, A. Pascual, A. Olita, C. Troupin, A. Capet, A. Tovar-Sánchez, J. Allen, P.-M. Poulain, J. Tintoré, and A. Mahadevan, 2019. Effects of Oceanic Mesoscale and Submesoscale Frontal Processes on the Vertical Transport of Phytoplankton. *Journal of Geophysical Research*, 124(8):5999-6014. doi:10.1029/2019JC015034. URL https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2019JC015034.
- [5] C. Troupin, A. Pascual, S. Ruiz, A. Olita, B. Casas, F. Margirier, P.-M. Poulain, G. Notarstefano, M. Torner, J. G. Fernández, M. A. Rújula, C. Muñoz, E. Alou, I. Ruiz, A. Tovar-Sánchez, J. T. Allen, A. Mahadevan, and J. Tintoré, Jan 2019. The AlborEX dataset: sampling of sub-mesoscale features in the Alboran Sea. *Earth System Science Data*, 11(1):129–145. ISSN 1866-3516. doi:10.5194/essd-11-129-2019. URL https://www.earth-syst-sci-data.net/11/129/2019/.
- [6] 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.
- [7] 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.
- [8] 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/.
- [9] 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.
- [10] 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.
- [11] 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.
- [12] A. Barth, S. Watelet, C. Troupin, A. Alvera-Azcárate, G. Santinelli, G. Hendriksen, A. Giorgetti, and J.-M. Beckers, October 2016. OceanBrowser: on-line visualization of gridded ocean data and in situ observations. In I. N. di Oceanografia e di Geofisica Sperimentale, editor, Bollettino di Geofisica teorica ed applicata IMDIS 2016 International Conference on Marine Data and Information Systems, volume 57 supplement, pages 39-40. IOPAN and IMGW. URL http://www3.ogs.trieste.it/bgta/pdf/IMDIS2016.pdf.

- [13] 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.
- [14] 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.
- [15] L. Petit de la Villéon, S. Pouliquen, H. Wehde, J. Tintore, T. Carval, L. S. Ringheim, S. Tarm, S. Tarot, V. Marinova, M. L. Perivoliotis, de Alfonso Alonso-Muñoyerro, T. Hammarklint, F. Manzano Muñoz, C. Troupin, K. Balem, and C. Guyot, October 2016. Marine environmental data bases: infrastructures and data access systems Copernicus Marine Environment Monitoring Service In Situ TAC: an In situ operational data provision system for operational oceanography. In *Bollettino di Geofisica teorica ed applicata IMDIS 2016 International Conference on Marine Data and Information Systems*, volume 57 supplement, pages 149–150. IOPAN and IMGW. URL http://www3.ogs.trieste.it/bgta/pdf/IMDIS2016.pdf.
- [16] 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/.
- [17] C. Troupin, B. Frontera, J. P. Beltran, A. Krietemeyer, K. Sebastian, S. Gómara, M. Gomila, R. Escudier, M. Juza, B. Mourre, Àngels Garau, T. Cañellas, and J. Tintoré, October 2016. Medclic: the Mediterranean in one click. In I. N. di Oceanografia e di Geofisica Sperimentale, editor, Bollettino di Geofisica teorica ed applicata IMDIS 2016 International Conference on Marine Data and Information Systems, volume 57 supplement. IOPAN and IMGW. URL http://www3.ogs.trieste.it/bgta/pdf/IMDIS2016.pdf.
- [18] C. Troupin, B. J. Pau, B. Frontera, S. Gómara, M. Gomila, A. Krietemeyer, C. M. noz, M. A. Rújula, I. Serra, and J. Tintoré, October 2016. Data processing and visualization at the Balearic Islands Coastal Observing and Forecasting System (SOCIB). In I. N. di Oceanografia e di Geofisica Sperimentale, editor, *Bollettino di Geofisica teorica ed applicata IMDIS 2016 International Conference on Marine Data and Information Systems*, volume 57 supplement, pages 43–44. IOPAN and IMGW. URL http://www3.ogs.trieste.it/bgta/pdf/IMDIS2016.pdf.
- [19] M. Juza, B. Mourre, L. Renault, S. Gómara, K. Sebastián, S. Lora, J. Beltran, B. Frontera, C. Troupin, M. Torner, E. Heslop, G. Vizoso, B. Casas, and J. Tintoré, October 28-30 2015. WMOP: Western Mediterranean SOCIB high-resolution ocean fore-casting system. In E. Buch, Y. Antoniou, D. Eparkhina, and G. Nolan, editors, *Proceedings of the Seventh EuroGOOS International Conference*:, pages 347–355. EuroGOOS, Lisbon, Portugal. URL http://eurogoos.eu/download/publications/EuroGOOS-2014-Conference-Proceedings.pdf. ISBN 978-2-9601883-1-8.
- [20] 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.
- [21] 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.
- [22] C. Troupin, J. Belltran, 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.
- [23] C. Troupin, J. Beltran, B. Frontera, S. Gómara, S. Lora, D. March, K. Sebastian, and J. Tintoré, October 28-30 2015. Oceanographic data management at the Balearic Islands Coastal Ocean Observing and Forecasting System (SOCIB). In E. Buch, Y. Antoniou, D. Eparkhina, and G. Nolan, editors, *Proceedings of the Seventh EuroGOOS International Conference*, pages 177-184. EuroGOOS, Lisbon, Portugal. URL http://eurogoos.eu/download/publications/EuroGOOS-2014-Conference-Proceedings.pdf. ISBN 978-2-9601883-1-8.

- [24] 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.
- [25] 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.
- [26] J.-M. Beckers, A. Barth, C. Troupin, and A. Alvera-Azcárate, February 2014. 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.
- [27] 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.
- [28] 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.
- [29] M. Benavides, J. Arístegui, N. S. R. Agawin, X. A. Álvarez Salgado, M. Álvarez, and C. Troupin, 2013. Low contribution of N₂ 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.
- [30] 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.
- [31] 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.
- [32] 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.
- [33] 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/.
- [34] 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 https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2010JC006665.
- [35] 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.
- [36] 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/.
- [37] 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.

- [38] 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.
- [39] 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.