



## PERSONAL INFORMATION

## Gianpiero Cossarini



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[Web of Science: COSSARINI G](#); [Research Gate: Cossarini Gianpiero](#); [Orcid.org: 0000-0001-7803-8568](#)

Sex M | Date of birth 27/03/1974 | Nationality Italian

## WORK EXPERIENCE

- From Jan 2023 - present** **Lead Researcher (Dirigente di Ricerca)**  
**National Institute of Oceanography and Applied Geophysics – OGS, Trieste (Italy)**  
 Research activities include: Biogeochemical modeling focusing on nutrient and carbon cycles, carbon pump, eutrophication and acidification of the Mediterranean Sea and its marginal seas using coupled physical-biogeochemical-carbonate models; biogeochemical data assimilation, uncertainty and sensitivity analysis of coupled physical-biogeochemical models; analysis of status, variability and trend of marine, estuarine and coastal ecosystems (Lagoon of Venice, Gulf of Trieste, Northern Adriatic Sea) and analysis of the relationships between ecosystem variability and driving forcing (both modelling and statistical approaches are used); operational system for short-term biogeochemical forecast of the Mediterranean Sea including products quality assessment and model validation; reanalysis and modeling climate studies on Mediterranean Sea biogeochemistry; analysis of the effects of climatic changes on coastal ecosystems and plankton communities.  
 The research activity is described in 67 papers published in international peer reviewed journals and 15 contributions in books and other peer-reviewed journals.  
 Responsible of the Biogeochemistry Component of the Copernicus Mediterranean Monitoring and Forecast Centre (2015-2024).  
 Responsible of the Copernicus service evolution project MASSIMILI (2016-2018) for the development of data assimilation of BGC-Argo float data. Principal Investigator for OGS and WP leader of the H2020 SEAMLESS (2021-2023) and HEU NECCTON (2023-2026). Involved in several EU FP7 (MyOcean, OPEC, MEDSEA, E-AIMS, CoCoNet), H2020 (EUROSEA, FORCOAST, SHAREMED) and national funded (VECTOR, RITMARE, Acidit) scientific projects and high performance computing (ISCRA-CINECA, PRACE) projects.  
 List of duties and responsibilities includes: member of the ESFM PhD scientific committee (Trieste University); supervisor of several PostDoc researchers, PhD and Master students; member of the committee for the development of a HPC centre in OGS; member of BFM Consortium scientific committee; MultiYearProduct expert for the Med-MFC Copernicus working group, member of the Product Quality Working Group of Copernicus Marine service, member of the Ocean Predict OceanPredict Marine Ecosystem Analysis and Prediction Team from 2017; guest editor of an Ecological Modelling special issue and reviewer for Ecological Modeling, Ocean Modeling, Ocean Dynamics, Biogeosciences, and Journal of Marine Science.
- From Jan 2020 to Dec 2022** **Senior Researcher (Primo Ricercatore)**  
**National Institute of Oceanography and Applied Geophysics – OGS, Trieste (Italy)**  
 Research activities include: Biogeochemical modeling; biogeochemical data assimilation, uncertainty and sensitivity analysis; operational system for short-term biogeochemical forecast of the Mediterranean Sea; reanalyses and modeling climate studies on Mediterranean Sea biogeochemistry;
- From 2006 to Dec 2019** **Researcher (from May 2008 permanent position)**  
**National Institute of Oceanography and Applied Geophysics – OGS, Trieste (Italy)**  
 Research activities include: Biogeochemical modeling; biogeochemical data assimilation, uncertainty and sensitivity analysis; statistical analysis of marine data, operational system for short-term biogeochemical forecast of the Mediterranean Sea; reanalyses and modeling climate studies on Mediterranean Sea biogeochemistry;
- From 2004 to 2006** **Post-doc position (assegno di ricerca)**  
**National Institute of Oceanography and Applied Geophysics – OGS, Trieste (Italy)**  
 Analysis of marine ecosystems: statistical analysis of hydrodynamical and biogeochemical dataset, and development of coupled transport-biological model. Application to the study sites: gulf of Trieste, Gulf of Venice, and Northern Adriatic Sea
- From Mar 2003 to Aug 2003** **Visitor student during PhD period**  
**Division of Engineering and Applied Sciences, Harvard University, Boston –USA**  
 Development of data assimilation methods on ecosystem/biogeochemical models
- From Sep 1999 to Jan** **Scientific collaboration**  
**University of Venice, Dept. of Physical Chemistry, Università Cà Foscari, Venezia, Italy**

2000 Development of techniques of Data Assimilation on the 3-D model of the lagoon of Venice; development of graphical procedure for the visualization of 3D model results

EDUCATION AND TRAINING

- From: 2001-12-01 to: 2003-12-31

PhD in Environmental Science (in Italian: *Biomonitoraggio dell'alterazione ambientale*)  
 University of Trieste, Piazzale Europa, Trieste, Italy

Title of the thesis (translated from Italian): Development and application of a suite of models and statistical methods for the analysis of biogeochemical state and dynamics in coastal ecosystems
- From Feb 2000 to Dec 2000

student grant  
 National Institute of Oceanography and Applied Geophysics – OGS, Trieste (Italy)

Collaboration within the research project INDICCO Indicator Coastal Community founded by European Community (FAIR CT98-4399) on the development of a database of Italian fisheries communities. Analysis of available biological, chemical and physical data on Gulf of Trieste; phenomenological description of the ecosystem and the development of a 0D mathematical model
- From: 1993-10-01 to: 1999-07-27

ITA Diploma di Laurea in Science Ambientali  
 Master degree in Environmental Science, 110/110 cum laude

University of Venice, Ca Foscari, Venice, Italy

title of the thesis (translated from Italian): development and application of a 3D transport-biogeochemical model of the lagoon of Venice, and the comparison between simulations and time series

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	C1	C1	C2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user  
 Common European Framework of Reference for Languages

Computer skills Good knowledge of the following languages Fortran, Matlab, Python, and good experiences on the following OS: LINUX, UNIX and WINDOWS

Papers on international scientific journals

- p67 Pietropolli G., Manzoni L., **Cossarini G.**, 2023. Multivariate Relationship in Big Data Collection of Ocean Observing System, Applied Sciences, 13,9, doi.org/10.3390/app13095634
- p66 Coppini, G., Clementi, E., **Cossarini, G.**, Salon, S., Korres, G., et al., 2023. The Mediterranean forecasting system. Part I: evolution and performance. Ocean Science, EGU sphere, 1-50. doi.org/10.5194/egusphere-2022-1337 (sottomesso nel 2022)
- p65 Menna M., Martellucci R., Reale M., **Cossarini G.**, Salon S., Notarstefano G., Mauri E., Poulain P-M., Gallo A., Solidoro C., 2023. A case study of impacts of an extreme weather system on the Mediterranean Sea circulation features: Mediane Apollo (2021), Nature Scientific Reports, 13, 1, 3870 (sottomesso nel 2022)
- p64 Mignot A., Claustre H., **Cossarini G.**, D'Ortenzio F., Gutknecht E., Lamouroux J., Lazzari P., Perruche C., Salon S., Sauzède R., 2023. Using machine learning and Biogeochemical-Argo (BGC-Argo) floats to assess biogeochemical models and optimize observing system design. Biogeosciences, 20, 7, 1405-1422 (sottomesso nel 2022)
- p63 Solidoro C., **Cossarini G.**, Lazzari P., Galli G., Bolzon G., Somot S., Salon S., 2022. Modeling carbon budgets and acidification in the Mediterranean Sea ecosystem under contemporary and future climate. Frontiers in Marine Science, 8, 781522
- p62 Di Biagio V., Salon S., Feudale L., **Cossarini G.**, 2022. Subsurface oxygen maximum in oligotrophic marine ecosystems: mapping the interaction between physical and biogeochemical processes. Biogeosciences, 19 (23), 5553-5574
- p61 Álvarez E., Lazzari P., **Cossarini G.**, 2022. Phytoplankton diversity emerging from chromatic adaptation and

- competition for light. *Progress in Oceanography*, 204, 102789
- p60 Reale M., **Cossarini G.**, Lazzari P., Lovato T., Bolzon G., Masina S., Solidoro C., Salon S., 2022. Acidification, deoxygenation, nutrient and biomasses decline in a warming Mediterranean Sea. *Biogeosciences*, 19, 4035-4065
- p59 Retelletti Brogi S., **Cossarini G.**, Bachi G., Balestra C., Camatti E., Casotti R., Checcucci G., Colella S., Evangelista V., Falcini F., 2022. Evidence of Covid-19 lockdown effects on riverine dissolved organic matter dynamics provides a proof-of-concept for needed regulations of anthropogenic emissions. *Science of The Total Environment*, 812, 152412
- p58 Pietropolli G., **Cossarini G.**, Manzoni L., 2022. GANs for integration of deterministic model and observations in marine ecosystem. *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 2022, 13566 LNAI, pp. 452–463, doi:10.1007/978-3-031-16474-3\_37
- p57 Agnetta D., Badalamenti F., Colloca F., **Cossarini G.**, Fiorentino F., Garofalo G., Patti B., Pipitone C., Russo T., Solidoro C., Libralato S., 2022. Interactive effects of fishing effort reduction and climate change in a central Mediterranean fishing area: Insights from bio-economic indices derived from a dynamic food-web model. *Frontiers in Marine Science*, 9, 909164
- p56 Reale M., **Cossarini G.**, Salon S., Di Biagio V., Teruzzi A., Coidessa G., Clementi E., 2022. Section 2.6. Winter fertilization in the Mediterranean Sea euphotic layer and its relationship with Northern Hemisphere large-scale circulation patterns. In: *Copernicus Ocean State Report, Issue 6, Journal of Operational Oceanography*, 15:sup1, s43–s49; DOI: 10.1080/1755876X.2022.2095169
- p55 Melaku Canu D., Rosati G., **Cossarini G.**, Laurent C., Bolzon G., Solidoro S., 2022. Section 3.7. Winter nutrient content as a basic proxy of ocean fertility. In: *Copernicus Ocean State Report, Issue 6, Journal of Operational Oceanography*, 15:sup1, s133–s138; DOI: 10.1080/1755876X.2022.2095169
- p54 Lazzari P., Álvarez E., Terzić E., **Cossarini G.**, Chernov, I., D'Ortenzio F., Organelli E., 2021. CDOM spatiotemporal variability in the Mediterranean Sea: a modelling study. *Journal of Marine Science and Engineering*, 9 (2), 176
- p53 Bruschi A., Lisi I., De Angelis R., Querin S., **Cossarini G.**, Di Biagio V., Salon S., Solidoro C., Fassina D., Ancona S., 2021. Indexes for the assessment of bacterial pollution in bathing waters from point sources: The northern Adriatic Sea CADEAU service. *Journal of Environmental Management*, 293, 112878
- p52 Teruzzi A., Bolzon G., Feudale L., **Cossarini G.**, 2021. Deep chlorophyll maximum and nutrient in the Mediterranean Sea: emerging properties from a multi-platform assimilated biogeochemical model experiment, *Biogeosciences*, 18, 6147-6166
- p51 **Cossarini G.**, Feudale L., Teruzzi A., Bolzon G., Coidessa G., Solidoro C., Di Biagio V., Amadio C., Lazzari P., Brosich A., Salon S., 2021. High-resolution reanalysis of the Mediterranean Sea biogeochemistry (1999–2019). *Frontiers in Marine Science*, 8, 1537
- p50 Panzeri D., Bitetto I., Carlucci R., Cipriano G., **Cossarini G.**, D'Andrea L., Masnadi F., Querin S., Reale M., Russo T., Scarcella G., Spedicato M.T., Teruzzi A., Vrgoč N., Zupa W., Libralato S., 2021. Section 3.6. Developing spatial distribution models for demersal species by the integration of trawl surveys data and relevant ocean variables. In: von Schuckmann et al., *Copernicus marine service ocean state report, issue 5*, pp.114-122. *Journal of Operational Oceanography*, 14, sup1,1-185,2021, doi.org/10.1080/1755876X.2021.1946240
- p49 Friedland R., Macias D., **Cossarini G.**, Daewel U., Estournel C., Garcia-Gorriz E., Grizzetti B., Grégoire M., Gustafson B., Kalaroni S., 2021. Effects of nutrient management scenarios on marine eutrophication indicators: A Pan-European, multi-model assessment in support of the Marine Strategy Framework Directive. *Frontiers in Marine Science*, 8, 596126
- P48 Terzić E., Salon S., **Cossarini G.**, Solidoro C., Teruzzi A., Miró A., Lazzari P., 2021. Impact of interannually variable diffuse attenuation coefficients for downwelling irradiance on biogeochemical modelling. *Ocean Modelling*, 161, 101793
- P47 Martellucci R., Salon S., **Cossarini G.**, Piermattei V., Marcelli M., 2021. Coastal phytoplankton bloom dynamics in the Tyrrhenian Sea: Advantage of integrating in situ observations, large-scale analysis and forecast systems. *Journal of Marine Systems*, 218, 103528
- P46 Reale M., Salon S., Somot S., Solidoro C., Giorgi F., Crise A., **Cossarini G.**, Lazzari P., Sevault F., 2020. Influence of large-scale atmospheric circulation patterns on nutrient dynamics in the Mediterranean Sea in the extended winter season (October-March) 1961-1999. *Climate Research*, 82, 117-136
- p45 Di Biagio V., **Cossarini G.**, Salon S., Solidoro C., 2020. Extreme event waves in marine ecosystems: an application to Mediterranean Sea surface chlorophyll. *Biogeosciences*, 17 (23) 5967-5988
- p44 **Cossarini G.**, Marine B., Di Biagio V., d'Andon O. F., Garnesson P., Antoine M., and Solidoro C. (2020). Primary production. In: von Schuckmann K. et al., *Copernicus Marine Service Ocean State Report, Issue 4*; pp. 16-24. *Journal of Operational Oceanography*, 3, issue sup1, S1-S172, doi.org/10.1080/1755876X.2020.1785097
- p43 Retelletti Brogi S., Balestra C., Casotti R., **Cossarini G.**, Galletti Y., Gonnelli M., Vestri S., Santinelli C., 2020. Time resolved data unveils the complex DOM dynamics in a Mediterranean river. *Science of the Total Environment*, 750, 149433

- Environment, 733, 139212. doi.org/10.1016/j.scitotenv.2020.139212
- p42 **Cossarini G.**, Mariotti L., Feudale L., Mignot A., Salon S., Taillandier V., Teruzzi A., D'Ortenzio F., 2019. Towards operational 3D-Var assimilation of chlorophyll Biogeochemical-Argo float data into a biogeochemical model of the Mediterranean Sea. *Ocean Modelling*, 133, pp. 112-128. DOI: 10.1016/j.ocemod.2018.11.005
- p41 Di Biagio V., **Cossarini G.**, Salon S., Lazzari P., Querin S., Sannino G., Solidoro C., 2019. Temporal scales of variability in the Mediterranean Sea ecosystem: Insight from a coupled model. *Journal of Marine Systems*, 197, art. no. 103176, DOI: 10.1016/j.jmarsys.2019.05.002
- p40 Fennel K., Gehlen M., Brasseur P., Brown C.W., Ciavatta, S., **Cossarini G.**, Crise A., Edwards C.A., Ford D., Friedrichs M.A.M., Gregoire M., Jones E., Kim H.C., Lamouroux J., Murtugudde R., Perruche C., 2019. Advancing Marine Biogeochemical and Ecosystem Reanalyses and Forecasts as Tools for Monitoring and Managing Ecosystem Health. *Frontiers in Marine Science*, 6, UNSP 89, doi: 10.3389/fmars.2019.00089
- p39 Le Traon P.Y., Reppucci A., Fanjul E., Aouf L., Behrens A., Belmonte M., Bentamy A., Bertino L., Brando V.E., Kreiner M.B., Benkiran M., Carval T., Ciliberti S.A., Claustre H., Clementi E., Coppini G., **Cossarini G.**, Alonso-Munoyero M.A., Delamarche A., Dibarbouré G., Dinessen F., Drevillon M., Drillet Y., Faugere Y., Fernandez V., Fleming A., Garcia-Hermosa M.I., Sotillo M.G., Garric G., Gasparin F., Giordan C., Gehlen M., Gregoire M.L., Guinehut S., Hamon M., Harris C., Hernandez F., Hinkler J.B., Hoyer J., Karvonen J., Kay S., King R., Lavergne T., Lemieux-Dudon B., Lima L., Mao C.Y., Martin M.J., Masina S., Melet A., Nardelli B.B., Nolan G., Pascual A., Pistoia J., Palazov A., Piolle J.F., Pujol M.I., Pequignet A.C., Peneva E., Gomez B.P., de la Villeon L.P., Pinardi N., Pisano A., Pouliquen S., Reid R., Remy E., Santoleri R., Siddorn J., She J., Staneva J., Stoffelen A., Tonani M., Vandenbulcke L., Schuckmann K., Volpe G., Wettre C., Zacharioudaki A., 2019. From Observation to Information and Users: The Copernicus Marine Service Perspective. *Frontiers in Marine Science*, 6 10.3389/fmars.2019.00234
- p38 Mignot A., D'Ortenzio F., Taillandier V., **Cossarini G.**, Salon S., 2019. Quantifying observational errors in Biogeochemical-Argo oxygen, nitrate, and chlorophyll a concentrations. *Geophysical Research Letters*, DOI: 10.1029/2018GL080541
- p37 Salon S., **Cossarini G.**, Bolzon G., Feudale L., Lazzari P., Teruzzi A., Solidoro, C., Crise A., 2019. Novel metrics based on Biogeochemical Argo data to improve the model uncertainty evaluation of the CMEMS Mediterranean marine ecosystem forecasts. *Ocean Science*, 15 (4):997-1022; 10.5194/os-15-997-2019
- p36 Teruzzi A., Di Cerbo P., **Cossarini G.**, Pascolo E., Salon S., 2019. Parallel implementation of a data assimilation scheme for operational oceanography: The case of the MedBFM model system. *Computers and Geosciences*, 124, pp. 103-114. DOI:10.1016/j.cageo.2019.01.003
- p35 Tintoré J, Pinardi N, Álvarez-Fanjul E, Aguiar E, Álvarez-Berastegui D, Bajo M, Balbin R, Bozzano R, Nardelli BB, Cardin V, Casas B, Charcos-Llorens M, Chiggiato J, Clementi E, Coppini G, Coppola L, **Cossarini G**, Deidun A, Deudero S, D'Ortenzio F, Drago A, Drudi M, El Serafy G, Escudier R, Farcy P, Federico I, Fernández JG, Ferrarin C, Fossi C, Frangoulis C, Galgani F, Gana S, García Lafuente J, Sotillo MG, Garreau P, Gertman I, Gómez-Pujol L, Grandi A, Hayes D, Hernández-Lasheras J, Herut B, Heslop E, Hilmi K, Juza M, Kallos G, Korres G, Lecci R, Lazzari P, Lorente P, Liubartseva S, Louanchi F, Malacic V, Mannarini G, March D, Marullo S, Mauri E, Meszaros L, Mourre B, Mortier L, Muñoz-Mas C, Novellino A, Obaton D, Orfila A, Pascual A, Pensieri S, Pérez Gómez B, Pérez Rubio S, Perivoliotis L, Petihakis G, de la Villeon LP, Pistoia J, Poulain P-M, Pouliquen S, Prieto L, Raimbault P, Reglero P, Reyes E, Rotllan P, Ruiz S, Ruiz J, Ruiz I, Ruiz-Orejón LF, Salihoglu B, Salon S, Sammartino S, Sánchez Arcilla A, Sánchez-Román A, Sannino G, Santoleri R, Sardá R, Schroeder K, Simoncelli S, Sofianos S, Sylaios G, Tanhua T, Teruzzi A, Testor P, Tezcan D, Torner M, Trotta F, Umgiesser G, von Schuckmann K, Verri G, Vilibic I, Yucel M, Zavatarelli M and Zodiatis G, 2019. Challenges for Sustained Observing and Forecasting Systems in the Mediterranean Sea. *Front. Mar. Sci.* 6:568. doi: 10.3389/fmars.2019.00568
- p34 Teruzzi A., Bolzon G., Salon S., Lazzari P., Solidoro C., **Cossarini G.**, 2018. Assimilation of coastal and open sea biogeochemical data to improve phytoplankton simulation in the Mediterranean Sea. *Ocean Modelling*, 132, pp. 46-60. DOI 10.1016/j.ocemod.2018.09.007
- p33 Perruche C., Solidoro C., **Cossarini C.**, 2018. Air-to-Sea carbon flux. Section 1.7. In: von Schuckmann, K., et al., 2018. Copernicus Marine Service Ocean State Report, issue 2, *Journal of Operational Oceanography*, 11, S1-S142, DOI: 10.1080/1755876X.2018.1489208
- p32 Sitz L.E., Di Sante F., Farneti R., Fuentes-Franco R., Coppola E., Mariotti L., Reale M., Sannino G., Barreiro M., Nogherotto R., Giuliani G., Graffino G., Solidoro C., **Cossarini G.**, Giorgi F., 2017. Description and evaluation of the Earth System Regional Climate Model (Reg CM-ES), *Journal of Advances in Modeling Earth Systems*, 9(4), 1863–1886. dx.doi.org/10.1002/2017MS000933
- p31 **Cossarini G.**, Querin S., Solidoro C., Sannino G., Lazzari P., Di Biagio V., Bolzon G., 2017. Development of BFMCOUPLER (v1.0), the coupling scheme that links the MITgcm and BFM models for ocean biogeochemistry simulations, *Geoscientific Model Development*, doi:10.5194/gmd-2016-222
- p30 von Schuckmann K., P. Le Traon, E. Álvarez-Fanjul, L. Axell, M. Balmaseda, L. Breivik, R.J. W Brewin, C.

- Bricaud, M. Drevillon, Y. Drillet, C. Dubois, O. Embury, H. Etienne, G. Garric, F. Gasparin, E. Gutknecht, S. Guinehut, F. Hernandez, M. Juzo, B. Karlson, G. Korres, J. Legelais, B. Levier, V. S. Lien, R. Morrow, G. Notarstefano, L. Parent, Á. Pascual, B. Pérez-Gómez, C. Perruche, N. Pinaridi, A. Pisano, P. Poulain, I. M. Pujol, R. P. Raj, U. Raudsepp, H. Roquet, A. Samuelsen, S. Sathyendranath, J. She, S. Simoncelli, C. Solidoro, M. G. Sotillo, J. Tinker, J. Tintore, L. Viktorsson, M. Ablain, E. Almroth-Rosell, A. Bonaduce, E. Clementi, **G. Cossarini**, Q. Dagheaux, C. Desportes, S. Dye, C. Fratianni, S. Good, E. Greiner, J. Gourrion, M. Hamon, J. Holt, P. Hyder, J. Kennedy, F. Manzano-Muñoz, A. Melet, B. Meyssignac, S. Mulet, B. Buongiorno Nardelli, E. O’Dea, E. Olason, A. Paulmier, I. Pérez-González, R. Reid, M. Racault, D.E. Raitsos, A. Ramos, P. Sykes, T. Szekely, N. Verbrugge, 2016. The Copernicus Marine Environment Monitoring Service Ocean State Report. *Journal of Operational Oceanography* 9.sup2, s235-s320
- p29* **Cossarini G.**, Querin S., Solidoro C., 2015. The continental shelf carbon pump in the northern Adriatic Sea (Mediterranean Sea): Influence of wintertime variability. *Ecological Modelling* 314, 118-134
- p28* **Cossarini G.**, Lazzari P., Solidoro C., 2015. Spatiotemporal variability of alkalinity in the Mediterranean Sea. *Biogeosciences*, 12(6), pp.1647-1658
- p27* Melaku Canu D., Ghermandi A., Nunes P.A.L.D., **Cossarini C.**, Lazzari P., Solidoro S., 2015. Ecological Economics valuation of carbon sequestration ecosystem service in the Mediterranean Sea. *Global Environmental Change*, 32, 87-95
- p26* Teruzzi A., Dobrici S., Solidoro C., **Cossarini G.**, 2014. A 3-D variational assimilation scheme in coupled transport-biogeochemical models: Forecast of Mediterranean biogeochemical properties. *Journal of Geophysical Research: Oceans*, 119(1), 200-217
- p25* Querin S., **Cossarini G.**, Solidoro C., 2013. Simulating the formation and fate of dense water in a midlatitude marginal sea during normal and warm winter conditions. *Journal of Geophysical Research: Oceans*, 118(2), 885-900
- p24* Bandelj V., Solidoro C., Curiel D., **Cossarini G.**, Melaku Canu D., Rismondo, A., 2012. Fuzziness and Heterogeneity of Benthic Metacommunities in a Complex Transitional System. *PLoS ONE*, 7(12), art. no. e52395
- p23* Cabrini M., Fornasaro D., **Cossarini G.**, Lipizer M., Virgilio D., 2012. Phytoplankton temporal changes in a coastal northern Adriatic site during the last 25 years. *Estuarine, Coastal and Shelf Science*, 115, pp. 113-124
- p22* Bernardi Aubry F., **Cossarini G.**, Aciri F., Bastianini M., Bianchi F., Camatti E., De Lazzari E., Pugnelli A., Solidoro C., Socal G., 2012. Plankton communities in the northern Adriatic Sea: patterns and changes over the last 30 years. *Estuarine, Coastal and Shelf Science*, 115, pp. 125-137
- p21* **Cossarini G.**, Solidoro C., Fonda Umani S., 2012. Dynamics of biogeochemical properties in temperate coastal areas of freshwater influence: lessons from the Northern Adriatic Sea (Gulf of Trieste). *Estuarine, Coastal and Shelf Science*, 115, pp. 63-74
- p20* Lipizer M., **Cossarini G.**, Falconi C., Solidoro C., Fonda Umani S., 2011. Impact of different forcing factors on N:P balance in a semi-enclosed bay: The Gulf of Trieste (North Adriatic Sea). *Continental Shelf Research*, doi:10.1016/j.csr.2011.06.004
- p19* Melaku Canu D., Solidoro C., **Cossarini G.**, Giorgi F., 2010. Effect of global change on bivalve rearing activity and the need for adaptive management. *Climate Research*, 42, 13-26, doi: 10.3354/cr00859
- p18* Mozetic P., Fonda Umani S., Solidoro C., **Cossarini G.**, Socal G., Precali R., France J., Bianchi F., De Vittor C., Smodlaka N., 2010. Recent Trends Towards Oligotrophication of the Northern Adriatic: Evidence from Chlorophyll a Time Series. *Estuaries and Coasts*, 33(2), 362-375
- p17* Solidoro C., Bandelj V., **Cossarini G.**, Libralato S., Melaku Canu D., 2009. Challenges for ecological modelling in a changing world: Global Changes, Sustainability and Ecosystem Based Management. *Ecological Modelling*, 220 (21)
- p16* Solidoro C., **Cossarini G.**, Libralato S., Salon S., 2009. Remarks on the redefinition of system boundaries and model parameterization for downscaling experiments. *Progress in Oceanography*, doi:10.1016/j.pocean.2009.09.017
- p15* Solidoro C., Bastianini M., Bandelj V., Codermatz R., **Cossarini G.**, Canu D.M., Ravagnan E., Salon S., Trevisani S., 2009. Current state, scales of variability, and trends of biogeochemical properties in the northern Adriatic Sea. *Journal of Geophysical Research C: Oceans*, 114(7), C07S91, doi:10.1029/2008JC004838
- p14* **Cossarini G.**, Lermusiaux P., Solidoro C., 2009. Lagoon of Venice ecosystem: Seasonal dynamics and environmental guidance with uncertainty analyses and error subspace data assimilation. *Journal of Geophysical Research*, 114, C06026, doi:10.1029/2008JC005080
- p13* Haley P.J. Jr., P.F.J. Lermusiaux, A.R. Robinson, W.G. Leslie, O. Logoutov, **G. Cossarini**, X.S. Liang, P. Moreno, S.R. Ramp, J.D. Doyle, J. Bellingham, F. Chavez and S. Johnston, 2009. Forecasting and reanalysis in the Monterey Bay/California Current region for the Autonomous Ocean Sampling Network-II experiment, *Deep Sea Research Part II: Topical Studies in Oceanography* 56, (3-5), pp. 127-148
- p12* Socal G., **Cossarini G.**, Solidoro C., Aciri F., Bastianini M., Bernardi Aubry F., Bianchi F., Cassin D., Coppola J., De Lazzari A., Bandelj V., 2008. Hydrological and biogeochemical features of the Northern Adriatic Sea

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