

References

- Berthold, M., Karsten, U., von Weber, M., Bachor, A., Schumann, R. 2018. Phytoplankton can bypass nutrient reductions in eutrophic coastal water bodies. *Ambio* 47 (Suppl. 1), S146–S158, doi: 10.1007/s13280-017-0980-0
- Billen, G., Garnier J. 1997. The Phison River Plume: coastal eutrophication in response to changes in land use and water management in the watershed. *Aquat. Microb. Ecol.* 13, 3-17, doi: 10.3354/ame013003
- Billen, G., Garnier, J. 2007. River basin nutrient delivery to the coastal sea: assessing its potential to sustain new production of non-siliceous algae. *Mar. Chem* 106, 148-160, doi: 10.1016/j.marchem.2006.12.017
- Billen, G., Garnier, J., Ficht, A., Cun, C. 2001. Modelling the response of water quality in the Seine Estuary to human activity in its watershed over the last 50 years. *Estuaries* 24, 977-993.
- Busch, J.A., Andree, K. B., Diogene, J., Fernandez-Tejedor, M., Toebe, K., John, U., Krock, B., Tillmann, U., Cembella, A.D. 2016. Toxigenic algae and associated phycotoxins in two coastal embayments in the Ebro Delta (NW Mediterranean). *Harmful Algae* 55, 191–201, doi: 10.1016/j.hal.2016.02.012
- Chatzinikolaou, Y., Ioannou, A., Lazaridou, M. 2010. Intra-basin spatial approach on pollution load estimation in a large Mediterranean river. *Desalination* 250, 118–129, doi: 10.1016/j.desal.2008.12.062
- Conley, D.J., Kilham, S.S., Theriot, E.C. 1989. Differences in silica content between marine and freshwater diatoms. *Limnol Oceanogr* 34, 205–213, doi: 10.4319/lo.1989.34.1.0205
- Cozzi, S., Giani, M. 2011. River water and nutrient discharges in the Northern Adriatic Sea: Current importance and long term changes. *Continental Shelf Research* 31, 1881–1893, doi: 10.1016/j.csr.2011.08.010
- Cugier, Ph., Billen, G., Guillaud, J.F., Garnier, J., Ménesguen, A. 2005. Modelling the eutrophication of the Seine Bight (France) under historical, present and future riverine nutrient loading. *J. Hydrol* 304, 381-396, doi: 10.1016/j.jhydrol.2004.07.049
- Desmit, X., Thieu, V., Billen, G., Campuzano, F., Dulière, V., Garnier, J., Lassaletta, L., Ménesguen, A., Neves, R., Pinto, L., Silvestre, M., Sobrinho, J.L., Lacroix, G. 2018. Reducing marine eutrophication may require a paradigmatic change. *Science of the Total Environment* 635, 1444–1466, doi: 10.1016/j.scitotenv.2018.04.181.
- Duarte, C.M., Conley, D.J., Carstensen, J., Sanchez-Camacho, M. 2009. Return to Neverland: Shifting baselines affect eutrophication restoration targets. *Estuaries and Coasts* 32, 29–36, doi: 10.1007/s12237-008-9111-2

Duarte, C.M., Borja, A., Carstensen, J., Elliott, M., Krause-Jensen, D., Marba N. 2015. Paradigms in the recovery of estuarine and coastal ecosystems. *Estuaries and Coasts* 38, 1202–1212, doi: 10.1007/s12237-013-9750-9.

Elser, J.J., Bracken, M.E.S., Cleland, E.E., Gruner, D.S., Harpole, W.S., Hillebrand, H., Ngai, J.T., Seabloom, E.W., et al. 2007. Global analysis of nitrogen and phosphorus limitation of primary producers in freshwater, marine and terrestrial ecosystems. *Ecology Letters* 10, 1135–1142.

Fernández-Tejedor, M., Delgado, M., Garcés, E., Camp, J., Diogène, J. 2009. Toxic phytoplankton response to warming in two Mediterranean bays of the Ebro Delta. *Phytoplankton responses to Mediterranean environmental changes - Tunis*, 7 - 10 October 2009. CIESM Workshop Monographs n°40

Friedland, R., Schernewski, G., Gräwe, U., Greipsland, I., Palazzo, D., Pastuszak, M. 2019. Managing Eutrophication in the Szczecin (Oder) Lagoon-Development, Present State and Future Perspectives. *Front. Mar. Sci.* 5, 521, doi: 10.3389/fmars.2018.00521

Fytianos, K., Siumka, A., Zachariadis, A., Beltios S. 2002. Assessment of the quality characteristics of Pinios River, Greece. *Water, Air, and Soil Pollution* 136, 317–329.

Garnier, J., Beusen, A., Thieu, V., Billen, G., Bouwman, L. 2010. N:P:Si nutrient export ratios and ecological consequences in coastal seas evaluated by the ICEP approach. Special issue “Past and Future Trends in Nutrient Export from Global Watersheds and Impacts on Water Quality and Eutrophication”. *Global Biogeochem. Cycles* 24, GB0A05, doi: 10.1029/2009GB003583

Garnier, J., Billen, G., Legendre, R., Riou, Ph., Cugier, Ph., Schapira, M., Théry, S., Thieu, V., Menesguen, A. 2019a. Managing the Agri-Food System of Watersheds to Combat Coastal Eutrophication: A Land-to-Sea Modelling Approach to the French Coastal English Channel. *Geosciences* 9, 441, doi : 10.3390/geosciences9100441

Garnier, J., Marescaux, A., Guillon, S., Vilmin, L. Rocher, V., Billen, G., Thieu, V., Silvestre, M., Passy, P., Groleau, A., Tallec, G., Flipo, N. 2019b. Ecological functioning of the Seine River: from long-term modelling approaches to high-frequency data analysis. In: Flipo N, Labadie P, Lestel L (2019). *The Seine River basin, Handbook of Environmental Chemistry*, Springer, doi: 10.1007/698_2019_379.

Garnier, J., Billen, G., Lassaletta, L., Vigiak, O., Nikolaidis, N.P., Grizzetti, B. 2020. Hydromorphology of coastal zone and structure of watershed agro-food system are main determinants of coastal eutrophication. *Environ. Res. Lett.*, in press, doi: 10.1088/1748-9326/abc777

Grizzetti, B., Bouraoui, F., Aloe, A. 2012. Changes of nitrogen and phosphorus loads to European seas. *Glob Change Biol* 18, 769-782, doi: 10.1111/j.1365-2486.2011.02576.x

Heisler, J., Glibert, P.M., Burkholder, J.M., Anderson, D.M., Cochlan, W., Dennison, W.C., Dortch, Q., Gobler, C.J., Heil, C.A., Humphries, E., Lewitus, A., Magnien, R., Marshall, H.G., Sellner, K., Stockwell, D.A., Stoecker, D.K., Suddleson, M. 2008.

Eutrophication and harmful algal blooms: a scientific consensus. *Harmful Algae* 8, 3–13.

Howarth, R.W., Billen, G., Swaney, D., Townsend, A., Jaworski, N., Lajtha, K., Downing, J.A., Elmgren, R., Caraco, N., Jordan, T., Berendse, F., Freney, J., Kudryarov, V., Murdoch, P., Zhu, Zhao-Liang. 1996. Riverine inputs of nitrogen to the North Atlantic Ocean: fluxes and human influences. *Biogeochemistry* 35, 75–139

Howarth, R.W., Marino, R. 2006. Nitrogen as the limiting nutrient for eutrophication in coastal marine ecosystems: Evolving views over three decades. *Limnology and Oceanography* 51, 364–376, doi: 10.4319/lo.2006.51.1_part_2.0364

Howarth, R., Chan, F., Conley, D.J., Garnier, J., Doney, S.C., Marino, R., Billen, G. 2011. Coupled biogeochemical cycles: eutrophication and hypoxia in temperate estuaries and coastal marine ecosystems. *Front. Ecol. Environ.* 9, 18-26, doi: 10.1890/100008

Jakobsen, H.J., Markager, S. 2016. Carbon-to-chlorophyll ratio for phytoplankton in temperate coastal waters: Seasonal patterns and relationship to nutrients. *Limnol. Oceanogr.* 61, 1853–1868, doi: 10.1002/lno.10338

Justić, D., Rabalais, N.N., Turner, R.E. 1995. Stoichiometric nutrient balance and origin of coastal eutrophication. *Mar. Pollut. Bull.* 30, 41–46, doi: 10.1016/0025-326X(94)00105-I

Kowalkowski, T., Pastuszak, M., Igras, J., Buszewski, B. 2012. Differences in emission of nitrogen and phosphorus into the Vistula and Oder basins in 1995–2008 — Natural and anthropogenic causes (MONERIS model). *Journal of Marine Systems* 89, 48–60, doi: 10.1016/j.jmarsys.2011.07.011

Kudryavtseva, E., Aleksandrov, S., Bukanova, T., Dmitrieva, O., Rusanov, I. 2019. Relationship between seasonal variations of primary production, abiotic factors and phytoplankton composition in the coastal zone of the south-eastern part of the Baltic Sea. *Regional Studies in Marine Science* 32, 100862, doi: 10.1016/j.rsma.2019.100862

Lancelot, C., Gypens, N., Billen, G., Garnier, J., Roubex, V. 2007. Linking marine eutrophication to land use: an integrated river-ocean mathematical tool: The Southern Bight of the North Sea over the past 50 years. *Journal of Marine Systems* 64, 216–228, doi: 10.1016/j.jmarsys.2006.03.010

Lancelot, C., Thieu, V., Polard, A., Garnier, J., Billen, G., Hecq, W., Gypens, N. 2011. Ecological and economic effectiveness of nutrient reduction policies on coastal *Phaeocystis* colony blooms in the Southern North Sea: an integrated modeling approach. *Sciences of the Total Environment* 409, 2179–2191, doi: 10.1016/j.scitotenv.2011.02.023.

Ménesguen, A., Desmit, X., Dulière, V., Lacroix, G., Thouvenin, B., Thieu, V., Dussauze, M. 2018. How to avoid eutrophication in coastal seas? A new approach to derive river-specific combined nitrate and phosphate maximum concentrations.

Science of the Total Environment 628–629, 400–414, doi:
10.1016/j.scitotenv.2018.02.025

Minaudo, C., Meybeck, M., Moatar, F., Gassama, N., Curie, F. 2015. Eutrophication mitigation in rivers: 30 years of trends in spatial and seasonal patterns of biogeochemistry of the Loire River (1980–2012). *Biogeosciences* 12, 2549–2563, doi: 10.5194/bg-12-2549-2015

Molot, L.A. 2017. The effectiveness of cyanobacteria nitrogen fixation: Review of bench top and pilot scale nitrogen removal studies and implications for nitrogen removal programs. *Environmental Reviews* 25, 292-295, doi: 10.1139/er-2016-0107

Passy, P., Gypens, N., Billen, G., Garnier, J., Lancelot, C., Thieu, V., Rousseau, V., Callens, J. 2013. A Model reconstruction of riverine nutrient fluxes and eutrophication in the Belgian Coastal Zone since 1984. *J. Mar. System.* 128, 106–122, doi: 10.1016/j.jmarsys.2013.05.005

Passy, P., Le Gendre, R., Garnier, J., Cugier, P., Callens, J., Paris, F., Billen, G., Riou, P., Romero, E. 2016. Eutrophication modelling chain for improved management strategies to prevent algal blooms in the Seine Bight. *Mar. Ecol. Prog. Ser.* 543, 107–125, doi: 10.3354/meps11533

Psomas, A., Dagalaki, V., Panagopoulos, Y., Konsta, D., Mimikou, M. 2016. Sustainable agricultural water management in Pinios river basin using remote sensing and hydrologic modeling. *Procedia Engineering* 162, 277 – 283, doi: 10.1016/j.proeng.2016.11.059

Quijano-Scheggia, S., Garcés, E., Flo, E., Fernandez-Tejedor, M., Diogène, J., Camp, J. 2008. Bloom dynamics of the genus *Pseudo-nitzschia* (Bacillariophyceae) in two coastal bays (NW Mediterranean Sea). *Scientia Marina* 72, 577-590, ISSN: 0214-8358

Redfield, A.C., Ketchum, B.H., Richards, F.A. 1963. The influence of organisms on the composition of sea-water. In: Hill, M.N. (Ed.), *The Sea*. John Wiley, New York, pp. 12–37.

Ritchie, R.J., Trautman, D.A., Larkum, A.W.D. 2001. Phosphate limited cultures of the cyanobacterium *Synechococcus* are capable of very rapid, opportunistic uptake of phosphate. *New Phytologist* 152, 189–201, doi : 10.1046/j.0028-646X.2001.00264.x

Rocher, V., Azimi, S. 2017. Evolution de la qualité de la Seine en lien avec les progrès de l'assainissement. Editions Johannet, Paris. 76 pp.

Romero, E., Garnier, J., Lassaletta, L., Billen, G., Le Gendre, R., Riou, P., Cugier, P. 2014. Large-scale patterns of river inputs in SW Europe: seasonal and interannual variations and potential eutrophication effects at the coastal zone. *Biogeochemistry* 113, 481-505, doi: 10.1007/s10533-012-9778-0.

Stefanidis, K., Panagopoulos, Y., Psomas, A., Mimikou, M. 2016. Assessment of the natural flow regime in a Mediterranean river impacted from irrigated agriculture.

Science of the Total Environment 573, 1492–1502, doi:
10.1016/j.scitotenv.2016.08.046

Thorel, M., Claquin, P., Schapira, M., Le Gendre, R., Riou, P., Goux, D., Le Roy, B., Raimbault, V., Deton-Cabanillas, A.-F., Bazina, P., Kientz-Bouchart, V., Fauchot, J. 2017. Nutrient ratios influence variability in *Pseudo-nitzschia* species diversity and particulate domoic acid production in the Bay of Seine (France). *Harmful Algae* 68, 192–205, doi: 10.1016/j.hal.2017.07.005

Torrecilla, N.J., Galve, J.P., Zaera, L.G., Retamar, J.F., Alvarez, A.N.A. 2005. Nutrient sources and dynamics in a mediterranean fluvial regime (Ebro river, NE Spain) and their implications for water management. *Journal of Hydrology* 304, 166–182, doi: 10.1016/j.jhydrol.2004.07.029

Viaroli, P., Bartoli, M., Giordani, G., Naldi, M., Orfandini, S., Zaldivar, J.M. 2008. Community shifts, alternative stable states, biogeochemical controls and feedbacks in eutrophic coastal lagoons: a brief overview. *Aquat. Conserv. Mar. Freshwat. Ecosyst.* 18, S105–S117, doi: 10.1016/j.scitotenv.2018.05.233