

PML Publications 2015

1. Abualnaja Y, Papadopoulos VP, Josey SA, Hoteit I, Kontoyiannis H, **Raitsos DE**. Impacts of climate modes on air-sea heat exchange in the Red Sea. *Journal of Climate* 28, 2665-2681.
2. Acevedo-Trejos E, Brandt G, **Bruggeman J**, Merico A. Mechanisms shaping size structure and functional diversity of phytoplankton communities in the ocean. *Scientific Reports* 5.
3. Agirbas E, Feyzioglu AM, Kopuz U, **Llewellyn CA**. Phytoplankton community composition in the south-eastern Black Sea determined with pigments measured by HPLC-CHEMTAX analyses and microscopy cell counts. *Journal of the Marine Biological Association of the United Kingdom* 95, 35-52.
4. Agirbas E, **Martinez-Vicente V**, **Brewin RJW**, **Racault M-F**, **Airs RL**, **Llewellyn CA**. Temporal changes in total and size-fractioned chlorophyll-a in surface waters of three provinces in the Atlantic Ocean (September to November) between 2003 and 2010. *Journal of Marine Systems* 150, 56-65.
5. Ahlheim M, **Boerger T**, Froer O. Replacing rubber plantations by rain forest in southwest China-who would gain and how much? *Environmental Monitoring and Assessment* 187.
6. Aoyama M, Bakker K, van Ooijen J, Ossebaar S, **Woodward EMS**. Report from an international nutrient workshop focusing on phosphate analysis. Fukushima, Japan, Yang Yang, 78pp.
7. **Atkinson A**, **Harmer RA**, **Widdicombe CE**, **McEvoy AJ**, **Smyth TJ**, **Cummings DG**, **Somerfield PJ**, **Maud JL**, **McConville K**. Questioning the role of phenology shifts and trophic mismatching in a planktonic food web. *Progress in Oceanography* 137, 498-512.
8. **Atkinson S**, **Thomas SF**, Goddard P, **Bransgrove RM**, **Mason PT**, Oak A, Bansode A, Patankar R, Gleason ZD, Sim MK, Whitesell A, **Allen MJ**. Swirl Flow Bioreactor coupled with Cu-alginate beads: A system for the eradication of coliform and *Escherichia coli* from biological effluents. *Scientific Reports* 5, 9461-9461.
9. **Austen MC**, **Hattam C**, **Borger T**. Chapter 2: Ecosystem services and benefits from marine ecosystems. In: Crowe, TP; Frid, CLJ, (eds.) *Marine ecosystems: human impacts on biodiversity, functioning and services*. Cambridge University Press, 21-41.
10. **Austen MC**, **Hattam C**, Garrard SL. Chapter 11: Human activities and ecosystem service use: impacts and trade-offs. In: Crowe, TP; Frid, CLJ, (eds.) *Marine ecosystems: human impacts on biodiversity, functioning and services*. Cambridge University Press, 335-376.
11. **Bale NJ**, **Airs RL**, Martin P, Lampitt RS, **Llewellyn CA**. Chlorophyll-a transformations associated with sinking diatoms during termination of a North Atlantic spring bloom. *Marine Chemistry* 172, 23-33.
12. **Barnes MK**, **Tilstone GH**, **Smyth TJ**, **Widdicombe CE**, Gloel J, Robinson C, Kaiser J, Suggett DJ. Drivers and effects of *Karenia mikimotoi* blooms in the western English Channel. *Progress in Oceanography* 137, 456-469.
13. **Barnes MK**, **Tilstone GH**, Suggett DJ, **Widdicombe CE**, **Bruun J**, **Martinez-Vicente V**, **Smyth TJ**. Temporal variability in total, micro- and nano-phytoplankton primary production at a coastal site in the Western English Channel. *Progress in Oceanography* 137, 470-483.
14. Barton ED, Largier JL, **Torres R**, Sheridan M, Trask A, Souza A, Pazos Y, Valle-Levinson A. Coastal upwelling and downwelling forcing of circulation in a semi-enclosed bay: Ria de Vigo. *Progress in Oceanography* 134, 173-189.
15. **Beacham TA**, Mora Macia V, **Rooks PA**, **White DA**, **Ali ST**. Altered lipid accumulation in *Nannochloropsis salina* CCAP849/3 following EMS and UV induced mutagenesis. *Biotechnology Reports*, 7. 87-94.
16. **Beale R**, **Dixon JL**, **Smyth TJ**, **Nightingale PD**. Annual study of oxygenated volatile organic compounds in UK shelf waters. *Marine Chemistry* 171, 96-106.
17. **Bell TG**, De Bruyn W, Marandino CA, Miller SD, Law CS, Smith MJ, Saltzman ES. Dimethylsulfide gas transfer coefficients from algal blooms in the Southern Ocean. *Atmospheric Chemistry and Physics* 15, 1783-1794.

18. Bene C, **Barange M**, Subasinghe R, Pinstруп-Andersen P, Merino G, Hemre G-I, Williams M. Feeding 9 billion by 2050-Putting fish back on the menu. *Food Security (Special Issue: Feeding 9 billion: Challenges and Choices for 2050)* 7, 261-274.
19. Biller P, Ross AB, **Skill SC**. Investigation of the presence of an aliphatic biopolymer in cyanobacteria: Implications for kerogen formation. *Organic Geochemistry* 81, 64-69.
20. Blackett M, Lucas CH, **Harmer RA**, Licandro P. Population ecology of *Muggiaea atlantica* (Cnidaria, Siphonophora) in the Western English Channel. *Marine Ecology Progress Series* 535, 129-144.
21. **Blackford J**, Bull JM, Cevatoglu M, Connelly DP, Hauton C, James RH, Lichtschlag A, Stahl H, **Widdicombe S**, Wright IC. Marine baseline and monitoring strategies for carbon dioxide capture and storage (CCS). *International Journal of Greenhouse Gas Control* 38, 221-229.
22. **Boerger T**, **Hooper TL**, **Austen MC**. Valuation of ecological and amenity impacts of an offshore windfarm as a factor in marine planning. *Environmental Science & Policy* 54, 126-133.
23. **Brewin RJW**, **de Mora L**, **Jackson T**, **Brewin TG**, **Shutler J**. On the potential of surfers to monitor environmental indicators in the coastal zone. *Plos One* 10.
24. **Brewin RJW**, **Raitsos DE**, **Dall'Olmo GD**, Zarokanellos N, **Jackson T**, **Racault M-FLP**, Boss ES, **Sathyendranath S**, Jones BH, Hoteit I. Regional ocean-colour chlorophyll algorithms for the Red Sea. *Remote Sensing of Environment* 165, 64-85.
25. **Brewin RJW**, **Sathyendranath S**, **Jackson T**, Barlow R, **Brotas V**, **Airs R**, Lamont T. Influence of light in the mixed-layer on the parameters of a three-component model of phytoplankton size class. *Remote Sensing of Environment* 168, 437-450.
26. **Brewin RJW**, **Sathyendranath S**, Müller D, Brockmann C, Deschamps P-Y, Devred E, Doerffer R, Fomferra N, Franz BA, **Grant MG**, **Groom SB**, **Horseman A**, Hu C, Krasemann H, Lee ZP, Maritorea S, Melin F, Peters M, **Platt T**, Regner P, **Smyth TJ**, Steinmetz F, Swinton J, Werdell J, White GN. The Ocean Colour Climate Change Initiative: III. A round-robin comparison on in-water bio-optical algorithms. *Remote Sensing of Environment* 162, 271-294.
27. Brito AC, Sa C, **Brotas V**, **Brewin RJW**, Silva T, Vitorino J, **Platt T**, **Sathyendranath S**. Effect of phytoplankton size classes on bio-optical properties of phytoplankton in the Western Iberian coast: Application of models. *Remote Sensing of Environment* 156, 537-550.
28. Broadstock DC, **Papathanasopoulou E**. gasoline demand in greece: the importance of shifts in the underlying energy demand trend. *International Journal of Sustainable Transportation* 9, 310-319.
29. **Calder-Potts R**, Spicer JI, Calosi P, **Findlay HS**, **Widdicombe S**. A mesocosm study investigating the effects of hypoxia and population density on respiration and reproductive biology in the brittlestar *Amphiura filiformis*. *Marine Ecology Progress Series* 534, 135-147.
30. Carpenter LJ, **Nightingale PD**. Chemistry and release of gases from the surface ocean. *Chemical Reviews* 115, 4015-4034.
31. **Cole M**, **Lindeque P**, **Fileman E**, Halsband C, Galloway TS. The impact of polystyrene microplastics on feeding, function and fecundity in the marine copepod *Calanus helgolandicus*. *Environmental Science & Technology* 49, 1130-1137.
32. Coulson PG, Platell ME, **Clarke KR**, Potter IC. Dietary variations within a family of ambush predators (Platycephalidae) occupying different habitats and environments in the same geographical region. *Journal of Fish Biology* 86, 1046-1077.
33. Cross J, Nimmo-Smith WAM, Hosegood PJ, **Torres R**. The role of advection in the distribution of plankton populations at a moored 1-D coastal observatory. *Progress in Oceanography* 137, 342-359.
34. Crowe TP, **Austen MC**, Frid CLJ. Introduction. In: Crowe, TP; Frid, CLJ, (eds.) *Marine ecosystems: human impacts on biodiversity, functioning and services*. Cambridge University Press, 3-20.
35. Cusson M, Crowe TP, Araujo R, Arenas F, Aspden R, Bulleri F, Davoult D, Dyson K, Frascchetti S, Herkuel K,

- Hubas C, Jenkins S, Kotta J, Kraufvelin P, Migne A, Molis M, Mulholland O, Noel LMLJ, Paterson DM, Saunders J, **Somerfield PJ**, Sousa-Pinto I, Spilmont N, Terlizzi A, Benedetti-Cecchi L. Relationships between biodiversity and the stability of marine ecosystems: Comparisons at a European scale using meta-analysis. *Journal of Sea Research* 98, 5-14.
36. Dalton G, Allan G, **Beaumont N**, Georgakaki A, Hacking N, **Hooper T**, Kerr S, O'Hagan AM, Reilly K, Ricci P, Sheng W, Stallard T. Economic and socio-economic assessment methods for ocean renewable energy: Public and private perspectives. *Renewable & Sustainable Energy Reviews* 45, 850-878.
37. d'Ovidio F, Della Penna A, Trull TW, **Nencioli F**, Pujol M-I, Rio M-H, Park Y-H, Cotté C, Zhou M, Blain S. The biogeochemical structuring role of horizontal stirring: Lagrangian perspectives on iron delivery downstream of the Kerguelen Plateau. *Biogeosciences* 12, 5567-5581.
38. Ducklow HW, Doney SC, **Sailley SF**. Ecological controls on biogeochemical fluxes in the western Antarctic Peninsula studied with an inverse foodweb model. *Advances in Polar Science*, 26 (2). 122-139.
39. **Ellis RP**, **Widdicombe S**, **Parry H**, **Hutchinson TH**, Spicer JI. Pathogenic challenge reveals immune trade-off in mussels exposed to reduced seawater pH and increased temperature. *Journal of Experimental Marine Biology and Ecology* 462, 83-89.
40. Extance A, **Brewin B**. Surfers on a mission. *New Scientist* 228, 31-31.
41. **Fernandes JA**, Irigoien X, Lozano JA, Inza I, Goikoetxea N, Perez A. Evaluating machine-learning techniques for recruitment forecasting of seven North East Atlantic fish species. *Ecological Informatics* 25, 35-42.
42. **Findlay HS**, Edwards LA, Lewis CN, Cooper GA, Clement R, Hardman-Mountford N, Vagle S, Miller LA. Late winter biogeochemical conditions under sea ice in the Canadian High Arctic. *Polar Research* 34.
43. **Findlay HS**, Gibson G, Kedra M, Morata N, Orchowska M, Pavlov AK, Reigstad M, Silyakova A, Tremblay J-E, Walczowski W, Weydmann A, Logvinova C. Responses in Arctic marine carbon cycle processes: conceptual scenarios and implications for ecosystem function. *Polar Research* 34.
44. Flynn KJ, **Clark DR**, Mitra A, Fabian H, Hansen PJ, Glibert PM, Wheeler GL, Stoecker DK, **Blackford JC**, Brownlee C. Ocean acidification with (de)eutrophication will alter future phytoplankton growth and succession. *Proceedings of the Royal Society B-Biological Sciences* 282.
45. Flynn KJ, St John M, Raven JA, Skibinski DOF, **Allen JI**, Mitra A, Hofmann EE. Acclimation, adaptation, traits and trade-offs in plankton functional type models: reconciling terminology for biology and modelling. *Journal of Plankton Research* 37, 683-691.
46. Garmendia M, Borja A, Breton F, **Butenschoen M**, Marin A, **Miller PI**, Morisseau F, **Xu W**. Challenges and difficulties in assessing the environmental status under the requirements of the Ecosystem Approach in North African countries, illustrated by eutrophication assessment. *Environmental Monitoring and Assessment* 187.
47. Gattuso JP, Magnan A, Bille R, Cheung WWL, Howes EL, Joos F, Allemand D, Bopp L, Cooley SR, Eakin CM, Hoegh-Guldberg O, Kelly RP, Portner H-O, Rogers AD, Baxter JM, Laffoley D, Osborn D, Rankovic A, Rochette J, Sumaila UR, Treyer S, **Turley CM**. Contrasting futures for ocean and society from different anthropogenic CO₂ emissions scenarios. *Science* 349, 45-+.
48. Gaylord B, Kroeker KJ, Sunday JM, Anderson KM, Barry JP, Brown NE, Connell SD, Dupont S, Fabricius KE, Hall-Spencer JM, Klinger T, Milazzo M, Munday PL, Russell BD, Sanford E, Schreiber SJ, Thiyagarajan V, Vaughan MLH, **Widdicombe S**, Harley CDG. Ocean acidification through the lens of ecological theory. *Ecology* 96, 3-15.
49. Gerardo ML, Van Den Hende S, Vervaeren H, Coward T, **Skill SC**. Harvesting of microalgae within a biorefinery approach: A review of the developments and case studies from pilot-plants. *Algal Research-Biomass Biofuels and Bioproducts* 11, 248-262.
50. Gloel J, Robinson C, **Tilstone GH**, **Tarran G**, Kaiser J. Technical note: Could benzalkonium chloride be a suitable alternative to mercuric chloride for preservation of seawater samples? *Ocean Science* 11, 947-952.
51. Goddijn-Murphy LM, Woolf DK, **Land PE**, Shutler JD, Donlon C. The OceanFlux Greenhouse Gases

- methodology for deriving a sea surface climatology of CO₂ fugacity in support of air-sea gas flux studies. *Ocean Science* 11, 519-541.
52. Graff JR, Westberry TK, Milligan AJ, Brown MB, **Dall'Olmo G**, van Dongen-Vogels V, Reifel KM, Behrenfeld MJ. Analytical phytoplankton carbon measurements spanning diverse ecosystems. *Deep-Sea Research Part I-Oceanographic Research Papers* 102, 16-25.
 53. Grob C, Taubert M, Howat AM, Burns OJ, **Dixon JL**, Richnow HH, Jehmlich N, von Bergen M, Chen Y, Murrell JC. Combining metagenomics with metaproteomics and stable isotope probing reveals metabolic pathways used by a naturally occurring marine methylotroph. *Environmental Microbiology* 17, 4007-4018.
 54. Hamilton ML, Warwick J, Terry A, **Allen MJ**, Napier JA, Sayanova O. Towards the industrial production of omega-3 long chain polyunsaturated fatty acids from a genetically modified diatom *Phaeodactylum tricornutum*. *Plos One* 10.
 55. **Harris R**. 2014 David Cushing prize. *Journal of Plankton Research* 37, 1-1.
 56. **Hattam C**, Atkins JP, **Beaumont N**, **Boerger T**, Bohnke-Henrichs A, Burdon D, de Groot R, Hoefnagel E, Nunes PALD, Piwowarczyk J, Sastre S, **Austen MC**. Marine ecosystem services: Linking indicators to their classification. *Ecological Indicators* 49, 61-75.
 57. **Hattam C**, Bohnke-Henrichs A, **Boerger T**, Burdon D, Hadjimichael M, Delaney A, Atkins JP, **Garrard S**, **Austen MC**. Integrating methods for ecosystem service assessment and valuation: Mixed methods or mixed messages? *Ecological Economics* 120, 126-138.
 58. Helliwell KE, Collins S, Kazamia E, Purton S, **Wheeler GL**, Smith AG. Fundamental shift in vitamin B-12 eco-physiology of a model alga demonstrated by experimental evolution. *Isme Journal* 9, 1446-1455.
 59. Hemsley VS, **Smyth TJ**, Martin AP, Frajka-Williams E, Thompson AF, Damerell G, Painter SC. Estimating oceanic primary production using vertical irradiance and chlorophyll profiles from ocean gliders in the North Atlantic. *Environmental Science & Technology* 49, 11612-11621.
 60. Hennige SJ, Wicks LC, Kamenos NA, Perna G, **Findlay HS**, Roberts JM. Hidden impacts of ocean acidification to live and dead coral framework. *Proceedings of the Royal Society B-Biological Sciences* 282.
 61. **Hooper T**, **Ashley M**, **Austen MC**. Perceptions of fishers and developers on the co-location of offshore wind farms and decapod fisheries in the UK. *Marine Policy* 61, 16-22.
 62. Hyder K, Rossberg AG, **Allen JI**, **Austen MC**, Barciela RM, Bannister HJ, Blackwell PG, Blanchard JL, Burrows MT, Defriez E, Dorrington T, Edwards KP, Garcia-Carreras B, Heath MR, Hembury DJ, Heymans JJ, Holt J, Houle JE, Jennings S, Mackinson S, Malcolm SJ, McPike R, Mee L, Mills DK, Montgomery C, Pearson D, Pinnegar JK, Pollicino M, Popova EE, Rae L, Rogers SI, Speirs D, Spence MA, Thorpe R, Turner RK, van der Molen J, Yool A, Paterson DM. Making modelling count - increasing the contribution of shelf-seas community and ecosystem models to policy development and management. *Marine Policy* 61, 291-302.
 63. Janssen ABG, Arhonditsis GB, Beusen A, Bolding K, Bruce L, **Bruggeman J**, Couture R-M, Downing AS, Elliott JA, Frassl MA, Gal G, Gerla DJ, Hipsev MR, Hu F, Ives SC, Janse JH, Jeppesen E, Joehnk KD, Kneis D, Kong X, Kuiper JJ, Lehmann MK, Lemmen C, Oezkundakci D, Petzoldt T, Rinke K, Robson BJ, Sachse R, Schep SA, Schmid M, Scholten H, Teurlincx S, Trolle D, Troost TA, Van Dam AA, Van Gerven LPA, Weijerman M, Wells SA, Mooij WM. Exploring, exploiting and evolving diversity of aquatic ecosystem models: a community perspective. *Aquatic Ecology* 49, 513-548.
 64. Jones AC, **Mead A**, Kaiser MJ, **Austen MCV**, Adrian AW, Auchterlonie NA, Black KD, Blow LR, Bury C, Brown JH, Burnell GM, Connolly E, Dingwall A, Derrick S, Eno NC, Gautier DJH, Green KA, Gubbins M, Hart PR, Holmyard JM, Immink AJ, Jarrad DL, Katoh E, Langley JCR, Lee DO, Le Vay L, Leftwich CP, Mitchell M, Moore A, Murray AG, McLaren EMR, Norbury H, Parker D, Parry SO, Purchase D, Rahman A, Sanver F, Siggs M, Simpson SD, Slaski RJ, Smith K, Syvret ML, Tibbott C, Thomas PC, Turnbull J, Whiteley R, Whittles M, Wilcockson MJ, Wilson J, Dicks LV, Sutherland WJ. Prioritization of knowledge needs for sustainable aquaculture: a national and global perspective. *Fish and Fisheries* 16, 668-683.

65. Jones DG, Beaubien SE, **Blackford JC**, Foekema EM, Lions J, De Vittor C, West JM, **Widdicombe S**, Hauton C, **Queiros AM**. Developments since 2005 in understanding potential environmental impacts of CO₂ leakage from geological storage. *International Journal of Greenhouse Gas Control* 40, 350-377.
66. **Kay S**, Caesar J, Wolf J, Bricheno L, Nicholls RJ, Islam AKMS, Haque A, Pardaens A, Lowe JA. Modelling the increased frequency of extreme sea levels in the Ganges-Brahmaputra-Meghna delta due to sea level rise and other effects of climate change. *Environmental Science-Processes & Impacts* 17, 1311-1322.
67. Kita J, Stahl H, Hayashi M, Green T, Watanabe Y, **Widdicombe S**. Benthic megafauna and CO₂ bubble dynamics observed by underwater photography during a controlled sub-seabed release of CO₂. *International Journal of Greenhouse Gas Control* 38, 202-209.
68. La HS, Lee H, Fielding S, Kang D, Ha HK, **Atkinson A**, Park J, Siegel V, Lee SH, Shin HC. High density of ice krill (*Euphausia crystallorophias*) in the Amundsen sea coastal polynya, Antarctica. *Deep-Sea Research Part I-Oceanographic Research Papers* 95, 75-84.
69. **Land PE**, Shutler JD, **Findlay HS**, Girard-Arduin F, Sabia R, Reul N, Piolle J-F, Chapron B, Quilfen Y, Salisbury J, Vandemark D, Bellerby R, Bhadury P. Salinity from space unlocks satellite-based assessment of ocean acidification. *Environmental Science & Technology* 49, 1987-94.
70. Lawrence SA, Davy JE, **Wilson WH**, Hoegh-Guldberg O, Davy SK. Porites white patch syndrome: associated viruses and disease physiology. *Coral Reefs* 34, 249-257.
71. Le Quere C, Moriarty R, Andrew RM, Peters GP, Ciais P, Friedlingstein P, Jones SD, Sitch S, Tans P, Arneeth A, Boden TA, Bopp L, Bozec Y, Canadell JG, Chini LP, Chevallier F, Cosca CE, Harris I, Hoppema M, Houghton RA, House JI, Jain AK, Johannessen T, Kato E, Keeling RF, **Kitidis V**, Klein Goldewijk K, Koven C, Landa CS, Landschützer P, Lenton A, Lima ID, Marland G, Mathis JT, Metzl N, Nojiri Y, Olsen A, Ono T, Peng S, Peters W, Pfeil B, Poulter B, Raupach MR, Regnier P, Rödenbeck C, Saito S, Salisbury JE, Schuster U, Schwinger J, Seferian R, Segschneider J, Steinhoff T, Stocker BD, Sutton AJ, Takahashi T, Tilbrook B, van der Werf GR, Viovy N, Wang Y-P, Wanninkhof R, Wiltshire A, Zeng N. Global carbon budget 2014. *Earth System Science Data* 7, 47-85.
72. Lee YJ, Matrai PA, Friedrichs MAM, Saba VS, Antoine D, Ardyna M, Asanuma I, Babin M, Belanger S, Benoit-Gagne M, Devred E, Fernandez-Mendez M, Gentili B, Hirawake T, Kang S-H, Kameda T, Kattlein C, Lee SH, Lee Z, Melin F, Scardi M, **Smyth TJ**, Tang S, Turpie KR, Waters KJ, Westberry TK. An assessment of phytoplankton primary productivity in the Arctic Ocean from satellite ocean color/in situ chlorophyll-a based models. *Journal of Geophysical Research-Oceans* 120, 6508-6541.
73. Lett C, van der Lingen CD, **Loveday BR**, Moloney CL. Biophysical models of larval dispersal in the Benguela Current ecosystem. *African Journal of Marine Science* 37, 457-465.
74. **Lindeque PK**, Dimond A, **Harmer RA**, **Parry HE**, Pemberton KL, **Fileman ES**. Feeding selectivity of bivalve larvae on natural plankton assemblages in the Western English Channel. *Marine Biology* 162, 291-308.
75. **Llewellyn CA**, Sommer U, Dupont CL, Allen AE, Viant MR. Using community metabolomics as a new approach to discriminate marine microbial particulate organic matter in the western English Channel. *Progress in Oceanography* 137, 421-433.
76. Lovett AA, Dockerty TL, **Papathanasopoulou E**, **Beaumont NJ**, Smith P. A framework for assessing the impacts on ecosystem services of energy provision in the UK: An example relating to the production and combustion life cycle of UK produced biomass crops (short rotation coppice and Miscanthus). *Biomass & Bioenergy* 83, 311-321.
77. Mabon L, Shackley S, **Blackford JC**, Stahl H, Miller A. Local perceptions of the QICS experimental offshore CO₂ release: Results from social science research. *International Journal of Greenhouse Gas Control* 38, 18-25.
78. Mabon L, Shackley S, Vercelli S, Anderlucchi J, **Boot K**. Deliberative decarbonisation? Assessing the potential of an ethical governance framework for low-carbon energy through the case of carbon dioxide capture and storage. *Environment and Planning C-Government and Policy* 33, 256-271.

79. Marrec P, Cariou T, Mace E, Morin P, Salt LA, Vernet M, **Taylor B**, Paxman K, Bozec Y. Dynamics of air-sea CO₂ fluxes in the northwestern European shelf based on voluntary observing ship and satellite observations. *Biogeosciences* 12, 5371-5391.
80. Martin AP, Levy M, van Gennip S, **Pardo S**, Srokosz M, Allen J, Painter SC, Pidcock R. An observational assessment of the influence of mesoscale and submesoscale heterogeneity on ocean biogeochemical reactions. *Global Biogeochemical Cycles* 29, 1421-1438.
81. **Maud JL, Atkinson A**, Hirst AG, **Lindeque PK, Widdicombe CE, Harmer RA, McEvoy AJ, Cummings DG**. How does *Calanus helgolandicus* maintain its population in a variable environment? Analysis of a 25-year time series from the English Channel. *Progress in Oceanography* 137, 513-523.
82. Mawji E, Schlitzer R, + 134 others inc **Woodward EMS**. The GEOTRACES Intermediate Data Product 2014. *Marine Chemistry* 177, 1-8.
83. **McCoy SJ**, Kamenos NA. Coralline algae (Rhodophyta) in a changing world: integrating ecological, physiological, and geochemical responses to global change. *Journal of Phycology* 51, 6-24.
84. McQuatters-Gollop A, Edwards M, Helaouet P, Johns DG, Owens NJP, **Raitsos DE**, Schroeder D, Skinner J, Stern RF. The Continuous Plankton Recorder survey: How can long-term phytoplankton datasets contribute to the assessment of Good Environmental Status? *Estuarine Coastal and Shelf Science* 162, 88-97.
85. Meadows AS, **Ingels J, Widdicombe S, Hale R**, Rundle SD Effects of elevated CO₂ and temperature on an intertidal meiobenthic community. *Journal of Experimental Marine Biology and Ecology* 469, 44-56.
86. Merino G, Quetglas A, Maynou, F, Garau, A, Arrizabalaga, H, Murua, H, Santiago, J, **Barange, M**, Prellezo, R, Garcia, D, Leonart, J, Tserpes, G, Maravelias, CD, Carvalho, N, **Austen, MC, Fernandes, JA**, Oliver, P, Grau, AM. Improving the performance of a Mediterranean demersal fishery toward economic objectives beyond MSY. *Fisheries Research* 161, 131-144.
87. **Miller PI, Scales KL**, Ingram SN, Southall EJ, Sims DW. Basking sharks and oceanographic fronts: quantifying associations in the north-east Atlantic. *Functional Ecology* 29, 1099-1109.
88. **Miller PI, Xu W**, Carruthers M. Seasonal shelf-sea front mapping using satellite ocean colour and temperature to support development of a marine protected area network. *Deep-Sea Research Part II-Topical Studies in Oceanography* 119, 3-19.
89. **Moore MN**, Shaw JP, Adams DRF, Viarengo A. Anti-oxidative cellular protection effect of fasting-induced autophagy as a mechanism for hormesis. *Marine Environmental Research* 107, 35-44.
90. **Moore MN**. Do airborne biogenic chemicals interact with the PI3K/Akt/mTOR cell signalling pathway to benefit human health and wellbeing in rural and coastal environments? *Environmental Research* 140, 65-75.
91. Mueller D, Krasemann H, **Brewin RJW**, Brockmann C, Deschamps P-Y, Doerffer R, Fomferra N, Franz BA, **Grant MG, Groom SB**, Melin F, **Platt T**, Regner P, **Sathyendranath S**, Steinmetz F, Swinton J. The Ocean Colour Climate Change Initiative: I. A methodology for assessing atmospheric correction processors based on in-situ measurements. *Remote Sensing of Environment* 162, 242-256.
92. Mueller D, Krasemann H, **Brewin RJW**, Brockmann C, Deschamps P-Y, Doerffer R, Fomferra N, Franz BA, **Grant MG, Groom SB**, Melin F, **Platt T**, Regner P, **Sathyendranath S**, Steinmetz F, Swinton J. The Ocean Colour Climate Change Initiative: II. Spatial and temporal homogeneity of satellite data retrieval due to systematic effects in atmospheric correction processors. *Remote Sensing of Environment* 162, 257-270.
93. Nechad B, Ruddick K, Schroeder T, Oubelkheir K, Blondeau-Patissier D, Cherukuru N, Brando V, Dekker A, Clementson L, Banks AC, Maritorea S, Werdell PJ, Sa C, Brotas V, de Frutos IC, Ahn YH, Salama S, **Tilstone G, Martinez-Vicente V**, Foley D, McKibben M, Nahorniak J, Peterson T, Silio-Calzada A, Rottgers R, Lee Z, Peters M, Brockmann C. CoastColour Round Robin data sets: a database to evaluate the performance of algorithms for the retrieval of water quality parameters in coastal waters. *Earth System Science Data*, 7 (2), 319-348.
94. **Papathanasopoulou E, Beaumont NJ, Hooper TL, Nunes J, Queiros AM**. Energy systems and their impacts on marine ecosystem services. *Renewable and Sustainable Energy Reviews*, 52. 917-926.

95. Paulot F, Jacob DJ, Johnson MT, **Bell TG**, Baker AR, Keene WC, Lima ID, Doney SC, Stock CA. Global oceanic emission of ammonia: Constraints from seawater and atmospheric observations. *Global Biogeochemical Cycles* 29, 1165-1178.
96. Pendleton L, Mongruel R, **Beaumont N, Hooper T**, Charles M. A triage approach to improve the relevance of marine ecosystem services assessments. *Marine Ecology Progress Series* 530, 183-193.
97. **Pentreath RJ**, Larsson CM, Coplestone D. ICRP's approach to protection of the living environment under different exposure situations. *Annals of the ICRP* 44, 288-94.
98. Phelps JJC, **Blackford JC**, Holt JT, Polton JA. Modelling large-scale CO₂ leakages in the North Sea. *International Journal of Greenhouse Gas Control* 38, 210-220.
99. Philibert R, Waldron H, **Clark D**. A geographical and seasonal comparison of nitrogen uptake by phytoplankton in the Southern Ocean. *Ocean Science* 11, 251-267.
100. **Picart SS, Allen JI, Butenschoen M, Artioli Y, de Mora L**, Wakelin S, Holt J. What can ecosystem models tell us about the risk of eutrophication in the North Sea? *Climatic Change* 132, 111-125.
101. Pinna A, Pezzolesi L, Pistocchi R, Vanucci S, **Ciavatta S, Polimene L**. Modelling the stoichiometric regulation of C-rich toxins in marine dinoflagellates. *Plos One* 10.
102. **Polimene L**, Mitra A, **Sailley SF, Ciavatta S, Widdicombe CE, Atkinson A, Allen JI**. Decrease in diatom palatability contributes to bloom formation in the Western English Channel. *Progress in Oceanography* 137, 484-497.
103. **Quartly GD**, Passaro M. Initial examination of AltiKa's individual echoes. *Marine Geodesy* 38, 73-85.
104. **Quartly GD**. Metocean comparisons of Jason-2 and AltiKa-A method to develop a new wind speed algorithm. *Marine Geodesy* 38, 437-448.
105. **Queiros AM, Bruggeman J, Stephens N, Artioli Y, Butenschoen M, Blackford JC, Widdicombe S, Allen JI, Somerfield PJ**. Placing biodiversity in ecosystem models without getting lost in translation. *Journal of Sea Research* 98, 83-90.
106. **Queiros AM, Fernandes JA**, Faulwetter S, Nunes J, Rastrick SPS, Mieszkowska N, **Artioli Y**, Yool A, Calosi P, Arvanitidis C, **Findlay HS, Barange M**, Cheung WWL, **Widdicombe S**. Scaling up experimental ocean acidification and warming research: from individuals to the ecosystem. *Global Change Biology* 21, 130-143.
107. **Queiros AM, Stephens N**, Cook R, Ravaglioli C, **Nunes J, Dashfield S, Harris C, Tilstone GH, Fishwick J**, Braeckman U, **Somerfield PJ, Widdicombe S**. Can benthic community structure be used to predict the process of bioturbation in real ecosystems? *Progress in Oceanography* 137, 559-569.
108. **Queiros AM**, Taylor P, Cowles A, Reynolds A, **Widdicombe S**, Stahl H. Optical assessment of impact and recovery of sedimentary pH profiles in ocean acidification and carbon capture and storage research. *International Journal of Greenhouse Gas Control* 38, 110-120.
109. **Racault M-F, Raitzos DE**, Berumen ML, **Brewin RJW, Platt T, Sathyendranath S**, Hoteit I. Phytoplankton phenology indices in coral reef ecosystems: Application to ocean-color observations in the Red Sea. *Remote Sensing of Environment* 160, 222-234.
110. **Raitzos DE**, Yi X, **Platt T, Racault M-F, Brewin RJW**, Pradhan Y, Papadopoulos VP, **Sathyendranath S**, Hoteit I. Monsoon oscillations regulate fertility of the Red Sea. *Geophysical Research Letters* 42, 855-862.
111. Rastelli E, Corinaldesi C, Dell'Anno A, Amaro T, **Queiros AM, Widdicombe S**, Danovaro R. Impact of CO₂ leakage from sub-seabed carbon dioxide capture and storage (CCS) reservoirs on benthic virus-prokaryote interactions and functions. *Frontiers in Microbiology* 6.
112. Reis S, Morris G, Fleming LE, Beck S, Taylor T, White M, Depledge MH, Steinle S, Sabel CE, Cowie H, Hurley F, Dick JMcP, Smith RI, **Austen MC**. Integrating health and environmental impact analysis. *Public Health* 129, 1383-1389
113. Riddick CAL, Hunter PD, Tyler AN, **Martinez-Vicente V**, Horvath H, Kovacs AW, Voeroes L, Preston T, Presing M. Spatial variability of absorption coefficients over a biogeochemical gradient in a large and

- optically complex shallow lake. *Journal of Geophysical Research-Oceans* 120, 7040-7066.
114. Rose A, **Ingels J**, Raes M, Vanreusel A, Arbizu PM. Long-term iceshelf-covered meiobenthic communities of the Antarctic continental shelf resemble those of the deep sea. *Marine Biodiversity* 45, 743-762.
 115. Sabeel RAO, **Ingels J**, Pape E, Vanreusel A. Macrofauna along the Sudanese Red Sea coast: potential effect of mangrove clearance on community and trophic structure. *Marine Ecology-an Evolutionary Perspective* 36, 794-809.
 116. **Sailley SF**, **Polimene L**, Mitra A, **Atkinson A**, **Allen JI**. Impact of zooplankton food selectivity on plankton dynamics and nutrient cycling. *Journal of Plankton Research* 37, 519-529.
 117. **Sathyendranath S**, Ji R, Browman HI. Revisiting Sverdrup's critical depth hypothesis Introduction. *ICES Journal of Marine Science* 72, 1892-1896.
 118. **Scales KL**, **Miller PI**, Varo-Cruz N, Hodgson DJ, Hawkes LA, Godley BJ. Oceanic loggerhead turtles *Caretta caretta* associate with thermal fronts: evidence from the Canary Current Large Marine Ecosystem. *Marine Ecology Progress Series* 519, 195-207.
 119. Schabetsberger R, Okland F, Kalfatak D, Sichrowsky U, Tambets M, Aarestrup K, Gubili C, Sarginson J, Boufana B, Jehle R, **Dall'Olmo G**, Miller MJ, Scheck A, Kaise, R, **Quartly GD**. Genetic and migratory evidence for sympatric spawning of tropical Pacific eels from Vanuatu. *Marine Ecology Progress Series* 521, 171-187.
 120. Serret P, Robinson C, Aranguren-Gassis M, García-Martín EE, Gist N, **Kitidis V**, Lozano J, **Stephens JA**, **Harris C**, Thomas R. Both respiration and photosynthesis determine the scaling of plankton metabolism in the oligotrophic ocean. *Nature Communications* 6.
 121. Sforzini S, **Moore MN**, Boeri M, Bencivenga M, Viarengo A. Effects of PAHs and dioxins on the earthworm *Eisenia andrei*: A multivariate approach for biomarker interpretation. *Environmental Pollution* 196, 60-71.
 122. Shutler JD, **Warren MA**, **Miller PI**, Barciela R, Mahdon R, **Land PE**, Edwards K, Wither A, Jonas P, Murdoch N, Roast SD, **Clements O**, **Kurekin A**. Operational monitoring and forecasting of bathing water quality through exploiting satellite Earth observation and models: The AlgaRisk demonstration service. *Computers & Geosciences* 77, 87-96.
 123. Silsbe GM, Oxborough K, Suggett DJ, Forster RM, Ihnken S, Komárek O, Lawrenz E, Prášil O, Röttgers R, Šicner M, **Simis SGH**, Van Dijk MA, Kromkamp JC. Toward autonomous measurements of photosynthetic electron transport rates: An evaluation of active fluorescence-based measurements of photochemistry. *Limnology and Oceanography-Methods* 13, 138-155.
 124. **Skakala J**, **Smyth TJ**. Complex coastal oceanographic fields can be described by universal multifractals. *Journal of Geophysical Research-Oceans* 120, 6253-6265.
 125. Smale DA, **Yunnie ALE**, **Vance T**, **Widdicombe S**. Disentangling the impacts of heat wave magnitude, duration and timing on the structure and diversity of sessile marine assemblages. *PeerJ* 3.
 126. Small DP, Calosi P, Boothroyd D, **Widdicombe S**, Spicer JI. Stage-specific changes in physiological and life-history responses to elevated temperature and pCO₂ during the larval development of the european lobster *Homarus gammarus* (L.). *Physiological and Biochemical Zoology* 88, 494-507.
 127. Smolina I, Kollias S, Moller EF, **Lindeque P**, Sundaram AYM, Fernandes JMO, Hoarau G. Contrasting transcriptome response to thermal stress in two key zooplankton species, *Calanus finmarchicus* and *C. glacialis*. *Marine Ecology Progress Series* 534, 79-93.
 128. **Smyth T**, **Atkinson A**, **Widdicombe S**, Frost M, **Allen I**, **Fishwick J**, **Queiros A**, Sims D, **Barange M**. The Western Channel Observatory. *Progress in Oceanography* 137, 335-341.
 129. Snow JT, Schlosser C, **Woodward EMS**, Mills MM, Achterberg EP, Mahaffey C, Bibby TS, Moore CM. Environmental controls on the biogeography of diazotrophy and Trichodesmium in the Atlantic Ocean. *Global Biogeochemical Cycles* 29, 865-884.
 130. Spilling K, Ylostalo P, **Simis S**, Seppala J. Interaction effects of light, temperature and nutrient limitations (N, P

- and Si) on growth, stoichiometry and photosynthetic parameters of the cold-water diatom *Chaetoceros wighamii*. Plos One 10.
131. Steele DJ, **Tarran GA, Widdicombe CE, Woodward EMS, Kimmance SA**, Franklin DJ, **Airs RL**. Abundance of a chlorophyll a precursor and the oxidation product hydroxychlorophyll a during seasonal phytoplankton community progression in the Western English Channel. Progress in Oceanography 137, 434-445.
 132. Stern RF, Picard KT, Hamilton KM, Walne A, **Tarran GA**, Mills D, McQuatters-Gollop A, Edwards M. Novel lineage patterns from an automated water sampler to probe marine microbial biodiversity with ships of opportunity. Progress in Oceanography 137, 409-420.
 133. Stoffels RJ, **Clarke KR**, Linklater DS. Temporal dynamics of a local fish community are strongly affected by immigration from the surrounding metacommunity. Ecology and Evolution 5, 200-212.
 134. Strong JA, Andonegi E, Bizsel KC, Danovaro R, Elliott M, Franco A, Garces E, Little S, Mazik K, Moncheva S, Papadopoulou N, Patricio J, **Queiros AM**, Smith C, Stefanova K, Solaun O. Marine biodiversity and ecosystem function relationships: The potential for practical monitoring applications. Estuarine Coastal and Shelf Science 161, 46-64.
 135. **Tait K, Airs RL, Widdicombe CE, Tarran GA, Jones MR, Widdicombe S**. Dynamic responses of the benthic bacterial community at the Western English Channel observatory site L4 are driven by deposition of fresh phytodetritus. Progress in Oceanography 137, 546-558.
 136. **Tait K, Beesley A, Findlay HS, McNeill CL, Widdicombe S**. Elevated CO₂ induces a bloom of microphytobenthos within a shell gravel mesocosm. FEMS microbiology ecology 91.
 137. **Tait K**, Stahl H, Taylor P, **Widdicombe S**. Rapid response of the active microbial community to CO₂ exposure from a controlled sub-seabed CO₂ leak in Ardmucknish Bay (Oban, Scotland). International Journal of Greenhouse Gas Control 38, 171-181.
 138. **Tarran GA, Bruun JT**. Nanoplankton and picoplankton in the Western English Channel: abundance and seasonality from 2007-2013. Progress in Oceanography 137, 446-455.
 139. Taubert M, Grob C, Howat AM, Burns OJ, **Dixon JL**, Chen Y, Murrell JC. XoxF encoding an alternative methanol dehydrogenase is widespread in coastal marine environments. Environmental Microbiology 17, 3937-3948.
 140. **Taylor BH, Groom SB, Miller PI**, Lonie N, Parkes S. Applications of Satellite Earth Observations section - NEODAAS: Providing satellite data for efficient research. Committee on Earth Observation Satellites, 3pp.
 141. Taylor P, Stahl H, Vardy ME, Bull JM, Akhurst M, Hauton C, James RH, Lichtschlag A, Long D, Aleynik D, Toberman M, Naylor M, Connelly DP, Smith D, Sayer MDJ, **Widdicombe S**, Wright IC, **Blackford JC**. A novel sub-seabed CO₂ release experiment informing monitoring and impact assessment for geological carbon storage. International Journal of Greenhouse Gas Control 38, 3-17.
 142. Thomalla SJ, **Racault M-F**, Swart S, Monteiro PMS. High-resolution view of the spring bloom initiation and net community production in the Subantarctic Southern Ocean using glider data. ICES Journal of Marine Science 72, 1999-2020.
 143. **Tilstone GH, Taylor BH**, Blondeau-Patissier D, Powell T, **Groom SB, Rees AP**, Lucas MI. Comparison of new and primary production models using SeaWiFS data in contrasting hydrographic zones of the northern North Atlantic. Remote Sensing of Environment 156, 473-489.
 144. **Tilstone GH**, Xie Y-y, Robinson C, Serret P, **Raitsos DE**, Powell T, Aranguren-Gassis M, Garcia-Martin EE, **Kitidis V**. Satellite estimates of net community production indicate predominance of net autotrophy in the Atlantic Ocean. Remote Sensing of Environment 164, 254-269.
 145. Trifonova N, Kenny A, Maxwell D, Duplisea D, **Fernandes J**, Tucker A. Spatio-temporal Bayesian network models with latent variables for revealing trophic dynamics and functional networks in fisheries ecology. Ecological Informatics 30, 142-158.
 146. Tuerena RE, Ganeshram RS, Geibert W, Fallick AE, Dougans J, Tait A, Henley SF, **Woodward EMS**. Nutrient cycling in the Atlantic basin: The evolution of nitrate isotope signatures in water masses. Global

- Biogeochemical Cycles 29, 1830-1844.
147. Tweedley JR, **Warwick RM**, Potter IC. Can biotic indicators distinguish between natural and anthropogenic environmental stress in estuaries? *Journal of Sea Research* 102, 10-21.
 148. **Uncles RJ, Stephens JA, Harris C**. Estuaries of southwest England: Salinity, suspended particulate matter, loss-on-ignition and morphology. *Progress in Oceanography* 137, 385-408.
 149. **Uncles RJ, Stephens JA, Harris C**. Physical processes in a coupled bay-estuary coastal system: Whitsand Bay and Plymouth Sound. *Progress in Oceanography* 137, 360-384.
 150. Vecchione M, Falkenhaus T, Sutton T, Cook A, Gislason A, Hansen HO, Heino M, **Miller PI**, Piatkowski U, Porteiro F, Soiland H, Bergstad OA. The effect of the North Atlantic Subpolar Front as a boundary in pelagic biogeography decreases with increasing depth and organism size. *Progress in Oceanography* 138, 105-115.
 151. Wakefield ED, Cleasby IR, Bearhop S, Bodey TW, Davies RD, **Miller PI**, Newton J, Votier SC, Hamer KC. Long-term individual foraging site fidelity why some gannets don't change their spots. *Ecology* 96, 3058-3074.
 152. Wakelin SL, **Artoli Y, Butenschoen M, Allen JI**, Holt JT. Modelling the combined impacts of climate change and direct anthropogenic drivers on the ecosystem of the northwest European continental shelf. *Journal of Marine Systems* 152, 51-63.
 153. **Warwick RM, Somerfield PJ**. Assessing the conservation status of marine habitats: thoughts from a sandflat on the Isles of Scilly. *Journal of Sea Research* 98, 109-119.
 154. Watanabe Y, **Tait K**, Gregory S, Hayashi M, Shimamoto A, Taylor P, Stahl H, Green K, Yoshinaga I, Suwa Y, Kita J. Response of the ammonia oxidation activity of microorganisms in surface sediment to a controlled sub-seabed release of CO₂. *International Journal of Greenhouse Gas Control* 38, 162-170.
 155. **White DA, Widdicombe CE, Somerfield PJ, Ains RL, Tarran GA, Maud JL, Atkinson A**. The combined effects of seasonal community succession and adaptive algal physiology on lipid profiles of coastal phytoplankton in the Western English Channel. *Marine Chemistry* 177, 638-652.
 156. **Widdicombe S, McNeill CL**, Stahl H, Taylor P, **Queiros AM, Nunes J, Tait K**. Impact of sub-seabed CO₂ leakage on macrobenthic community structure and diversity. *International Journal of Greenhouse Gas Control* 38, 182-192.
 157. Xie Y, **Tilstone GH, Widdicombe C, Woodward EMS, Harris C**, Barnes MK. Effect of increases in temperature and nutrients on phytoplankton community structure and photosynthesis in the western English Channel. *Marine Ecology Progress Series* 519, 61-73.
 158. **Xu W, Miller PI, Quartly GD, Pingree RD**. Seasonality and interannual variability of the European Slope Current from 20 years of altimeter data compared with *in situ* measurements. *Remote Sensing of Environment* 162, 196-207.
 159. Yates KK, **Turley C**, Hopkinson BM, Todgham AE, Cross JN, Greening H, Williamson P, Van Hooijdonk R, Deheyn DD, Johnson Z. Transdisciplinary science a path to understanding the interactions among ocean acidification, ecosystem, and society. *Oceanography* 28, 212-225.
 160. Zanuttigh B, Angelelli E, Bellotti G, Romano A, Krontira Y, Troianos D, Suffredini R, Franceschi G, Cantu M, Airoldi L, Zagonari F, Taramelli A, Filipponi F, Jimenez C, Evriviadou M, **Broszeit S**. Boosting blue growth in a mild sea: analysis of the synergies produced by a multi-purpose offshore installation in the Northern Adriatic, Italy. *Sustainability* 7, 6804-6853.
 161. Zhang Q, **Warwick RM, McNeill CL, Widdicombe CE**, Sheehan A, **Widdicombe S**. An unusually large phytoplankton spring bloom drives rapid changes in benthic diversity and ecosystem function. *Progress in Oceanography* 137, 533-545.