

Head of Research Unit Biogeochemical Modelling

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## Research Interests

- Physical, biogeochemical, and ecological constraints on the oceanic carbon uptake and its climate sensitivity
- Development of mechanistic ecological and biogeochemical models
- Mixing processes and their representation in numerical models
- Data assimilation and parameter optimisation
- Assessment of Climate-Engineering proposals

## Education and Employment

- since 2006 Professor of "Marine Biogeochemical Modelling" at IFM-GEOMAR, now GEOMAR | Helmholtz Centre for Ocean Research Kiel, Germany
- 2004 – 2006 Professor of "Physical Oceanography", National Oceanography Centre Southampton
- 2003 – 2004 Associate Professor, IFM-GEOMAR, Universität Kiel
- 2000 – 2003 Head of interdisciplinary "Nitrogen Cycle" group at IfM Kiel
- 2002 Habilitation at the Universität Kiel with the thesis "Physical controls on biological production: North Atlantic model studies"
- 1997 – 2003 Assistant Professor, IfM, Universität Kiel
- 1995 – 1996 PostDoc at LEGOS/CNRS, Toulouse
- 1994 – 1995 Research Scientist, IfM, Universität Kiel
- 1990 – 1994 PhD student, Theoretical Oceanography, IfM Kiel, Christian-Albrechts-University of Kiel, with PhD thesis "Assimilation of satellite altimeter

data into an eddy-resolving primitive equation model of the North Atlantic Ocean"

- 1989 – 1990 MPhil student, Theoretical Physics, Cavendish Laboratory, University of Cambridge, with MPhil thesis "Many-body effects in doped semiconductors"
- 1986 – 1989 first 3 years of Physics (Dipl) degree course, Universität Heidelberg

## Committees

- 2012 – dato Speaker of Collaborative Research Project SFB 754
- 2012 – dato Scientific Advisory Board Institut für Chemie und Biologie des Meeres (ICBM), Oldenburg
- 2012 – dato Member of ERC Advanced Grants Evaluation Panel
- 2012 – dato Coordinator of DFG Priority Program SPP 1689, "Climate Engineering: Risks, Challenges, Opportunities?"
- 2011 – dato Scientific Advisory Board Zentrum für Marine Tropenökologie (ZMT) Bremen
- 2008 – dato Executive committee member of SFB 754 "Climate-Biogeochemistry Introduction in the Tropical Ocean", Speaker of Theme B "Redox-dependent Biogeochemistry"
- 2008 – dato Executive committee member of Excellence Cluster "The Future Ocean", Speaker of Theme A "Ocean Change"
- 2004 – dato Co-Editor Ocean Modelling
- 2004 – dato Member of the SCOR GEOTRACES Planning Group
- 2001 – 2010 Co-Editor Ocean Dynamics
- 2001 – 2003 Member of the JGOFS Global Synthesis Working Group

## Awards

- 2011 Georg-Wüst Prize
- 1987 - 1990 Scholarship of the German National Academic Foundation

## Publications

### Article in a Scientific Journal - peer-reviewed

Blanco-Ameijeiras, S., Lebrato, M., Stoll, H. M., Iglesias-Rodriguez, M. D., Mendez-Vicente, A., Sett, S., Müller, M. N., Oschlies, A. and Schulz, K. (2012) *Removal of organic*

*magnesium in coccolithophore carbonates* *Geochimica et Cosmochimica Acta*, 89 . pp. 226-239. DOI 10.1016/j.gca.2012.04.043.

Duteil, O., Koeve, W., Oschlies, A., Aumont, O., Bianchi, D., Bopp, L., Galbraith, E., Matear, R., Moore, J. K., Sarmiento, J. L. and Segschneider, J. (2012) *Preformed and regenerated phosphate in ocean general circulation models: can right total concentrations be wrong?* *Biogeosciences (BG)*, 9 . pp. 1797-1807. DOI 10.5194/bg-9-1797-2012.

Getzlaff, J., Nurser, G. and Oschlies, A. (2012) *Diagnostics of diapycnal diffusion in z-level ocean models. Part II: 3-Dimensional OGCM* *Ocean Modelling*, 45-46 . pp. 27-36. DOI 10.1016/j.ocemod.2011.11.006.

Göthlich, L. and Oschlies, A. (2012) *Phytoplankton niche generation by interspecific stoichiometric variation* *Global Biogeochemical Cycles*, 26 (2). DOI 10.1029/2011GB004042.

Keller, D., Oschlies, A. and Eby, M. (Submitted) *A new marine ecosystem model for the University of Victoria Earth system climate model* *Geoscientific Model Development Discussions*, 5 (2). pp. 1135-1201. DOI 10.5194/gmdd-5-1135-2012.

Kriest, I., Oschlies, A. and Khatiwala, S. (2012) *Sensitivity analysis of simple global marine biogeochemical models* *Global Biogeochemical Cycles*, 26 . GB2029. DOI 10.1029/2011GB004072.

Mouriño-Carballido, B., Pahlow, M. and Oschlies, A. (2012) *High sensitivity of ultra-oligotrophic marine ecosystems to atmospheric nitrogen deposition* *Geophysical Research Letters*, 39 . DOI 10.1029/2011GL050606.

Rickels, W., Rehdanz, K. and Oschlies, A. (2012) *Economic prospects of ocean iron fertilization in an international carbon market* *Resource and Energy Economics*, 34 (1). pp. 129-150. DOI 10.1016/j.reseneeco.2011.04.003.

Taucher, J., Schulz, K. G., Dittmar, T., Sommer, U., Oschlies, A. and Riebesell, U. (Submitted) *Enhanced carbon overconsumption in response to increasing temperatures during a mesocosm experiment* *Biogeosciences Discussions*, 9 (3). pp. 3479-3514. DOI 10.5194/bgd-9-3479-2012.

Zuo, H., Naveira Garabato, A. C., New, A. L. and Oschlies, A. (2012) *Mechanisms of subantarctic mode water upwelling in a hybrid-coordinate global GCM Ocean Modelling*, 45-46 . pp. 59-80. DOI 10.1016/j.ocemod.2011.12.006.

Duteil, O. and Oschlies, A. (2011) *Sensitivity of simulated extent and future evolution of marine suboxia to mixing intensity* Geophysical Research Letters, 38 (6). L06607. DOI 10.1029/2011GL046877.

Flögel, S., Wallmann, K., Poulsen, K., Zhou, J., Oschlies, A., Voigt, S. and Kuhnt, W. (2011) *Simulating the biogeochemical effects of volcanic CO<sub>2</sub> degassing on the oxygen-state of the deep ocean during the Cenomanian/Turonian Anoxic Event (OAE2)* Earth and Planetary Science Letters, 305 (3/4). pp. 371-384. DOI 10.1016/j.epsl.2011.03.018.

Gleßmer, M., Park, W. and Oschlies, A. (2011) *Simulated reduction in upwelling of tropical oxygen minimum waters in a warmer climate* Environmental Research Letters, 6 (4). 045001. DOI 10.1088/1748-9326/6/4/045001.

Kriest, I. and Oschlies, A. (2011) *Numerical effects on organic-matter sedimentation and remineralization in biogeochemical ocean models* Ocean Modelling, 39 (3-4). pp. 275-283. DOI 10.1016/j.ocemod.2011.05.001.

Lebrato, M., Pahlow, M., Oschlies, A., Pitt, K. A., Jones, D. O. B., Molinero, J. C. and Condon, R. H. (2011) *Depth attenuation of organic matter export associated with jelly falls* Limnology and Oceanography, 56 . pp. 1917-1928.

Lebrato, M., Pitt, K. A., Sweetman, A. K., Jones, D. O. B., Cartes, J. E., Oschlies, A., Condon, R. H., Molinero, J. C., Adler, L., Gaillard, C., Lloris, D. and Billett, D. S. M. (In Press / Accepted) *Jelly-falls historic and recent observations: a synthesis to drive future research directions* Hydrobiologia .

Prowe, F., Pahlow, M. and Oschlies, A. (In Press / Accepted) *Controls on the diversity-productivity relationship in a marine ecosystem model* Ecological Modelling . DOI 10.1016/j.ecolmodel.2011.11.018.

Prowe, F., Pahlow, M., Dutkiewicz, S., Follows, M. and Oschlies, A. (In Press / Accepted) *Top-down control of marine phytoplankton diversity in a global ecosystem model* Progress in Oceanography . DOI 10.1016/j.pocean.2011.11.016.

Taucher, J. and Oschlies, A. (2011) *Can we predict the direction of marine primary production change under global warming?* Geophysical Research Letters, 38 . L02603. DOI 10.1029/2010GL04534.

Kähler, P., Oschlies, A., Dietze, H. and Koeve, W. (2010) *Oxygen, carbon, and nutrients in the oligotrophic eastern subtropical North Atlantic* Biogeosciences (BG), 7 (3). pp. 1143-1156. DOI 10.5194/bg-7-1143-2010.

Getzlaff, J., Nurser, G. and Oschlies, A. (2010) *Diagnostics of diapycnal diffusivity in z-level ocean models part I: 1-Dimensional case studies* Ocean Modelling, 35 (3). pp. 173-186. DOI 10.1016/j.ocemod.2010.07.004.

Güssow, K., Proelss, A., Oschlies, A., Rehdanz, K. and Rickels, W. (2010) *Ocean iron fertilization: Why further research is needed* Marine Policy, 34 (5). pp. 911-918. DOI 10.1016/j.marpol.2010.01.015.

Kriest, I., Khatiwala, S. and Oschlies, A. (2010) *Towards an assessment of simple global marine biogeochemical models of different complexity* Progress in Oceanography, 86 (3-4). pp. 337-360. DOI 10.1016/j.pocean.2010.05.002.

Oschlies, A., Koeve, W., Rickels, W. and Rehdanz, K. (2010) *Side effects and accounting aspects of hypothetical large-scale Southern Ocean iron fertilization* Biogeosciences (BG), 7 (12). pp. 4017-4035. DOI 10.5194/bg-7-4017-2010.

Oschlies, A., Pahlow, M., Yool, A. and Matear, R. J. (2010) *Climate engineering by artificial ocean upwelling - channelling the sorcerer's apprentice* Geophysical Research Letters, 37 . DOI 10.1029/2009GL041961.

Rickels, W., Rehdanz, K. and Oschlies, A. (2010) *Methods for greenhouse gas offset accounting: A case study of ocean iron fertilization* Ecological Economics, 69 (12). pp. 2495-2509. DOI 10.1016/j.ecolecon.2010.07.026.

Steinhoff, T., Friedrich, T., Hartman, S. E., Oschlies, A., Wallace, D. W. R. and Körtzinger, A. (2010) *Estimating mixed layer nitrate in the North Atlantic Ocean* Biogeosciences (BG), 7 . pp. 795-807. DOI 10.5194/bg-7-795-2010.

- Ward, B. A., Friedrichs, M. A. M., Anderson, T. R. and Oschlies, A. (2010) *Parameter optimisation techniques and the problem of underdetermination in marine biogeochemical models* Journal of Marine Systems, 81 (1-2). pp. 34-43.
- Yool, A., Oschlies, A., Nurser, A. J. G. and Gruber, N. (2010) *A model-based assessment of the TrOCA approach for estimating anthropogenic carbon in the ocean* Biogeosciences (BG), 7 . pp. 723-751. DOI 10.5194/bg-7-723-2010.
- Zamora, L., Landolfi, A., Oschlies, A., Hansell, D., Dietze, H. and Dentener, F. (2010) *Atmospheric deposition of nutrients and excess N formation in the North Atlantic* Biogeosciences (BG), 7 . pp. 777-793. DOI 10.5194/bg-7-777-2010.
- Alvaréz, M., Lo Monaco, C., Tanhua, T., Yool, A., Oschlies, A., Bullister, J. L., Goyet, C., Tourtair, F., McDonagh, E. and Bryden, H. L. (2009) *Estimating the storage of anthropogenic carbon in the subtropical Indian Ocean: A comparison of five different approaches* Biogeosciences (BG), 6 . pp. 681-703. DOI 10.5194/bg-6-681-2009.
- Friedrich, T. and Oschlies, A. (2009) *Basin-scale pCO<sub>2</sub> maps estimated from ARGO float data: A model study* Journal of Geophysical Research - Oceans, 114 . C10012. DOI 10.1029/2009JC005322.
- Friedrich, T. and Oschlies, A. (2009) *Neural network-based estimates of North Atlantic surface pCO<sub>2</sub> from satellite data: A methodological study* Journal of Geophysical Research - Oceans, 114 . C03020. DOI 10.1029/2007JC004646.
- Gleißner, M., Eden, C. and Oschlies, A. (2009) *Contribution of oxygen minimum zone waters to the coastal upwelling off Mauritania* Progress in Oceanography, 83 . pp. 143-150.
- Oschlies, A. (2009) *Impact of atmospheric and terrestrial CO<sub>2</sub> feedbacks on fertilization-induced marine carbon uptake* Biogeosciences (BG), 6 (8). pp. 1603-1613. DOI 10.5194/bg-6-1603-2009.
- Pahlow, M. and Oschlies, A. (2009) *Chain model of phytoplankton P, N and light colimitation* Marine Ecology Progress Series, 376 . DOI 10.3354/meps07748.

Paulmier, A., Kriest, I. and Oschlies, A. (2009) *Stoichiometries of remineralisation and denitrification in global biogeochemical ocean models* Biogeosciences (BG), 6 . pp. 923-935.

Riebesell, U., Körtzinger, A. and Oschlies, A. (2009) *Sensitivities of marine carbon fluxes to ocean change* PNAS Proceedings of the National Academy of Sciences of the United States of America, 106 . pp. 20602-20609.

Smith, S. L., Yamanaka, Y., Pahlow, M. and Oschlies, A. (2009) *Optimal uptake kinetics: physiological acclimation explains the pattern of nitrate uptake by phytoplankton in the ocean* Marine Ecology Progress Series, 384 . pp. 1-12.

Watson, A. J., Schuster, U., Bakker, D. C. E., Bates, N. R., Corbière, A., González-Dávila, M., Friedrich, T., Hauck, J., Heinze, C., Johannessen, T., Körtzinger, A., Metzl, N., Olafsson, J., Olsen, A., Oschlies, A., Padin, X. A., Pfeil, B., Santana-Casiano, J. M., Steinhoff, T., Telszewski, M., Rios, A. F., Wallace, D. W. R. and Wanninkhof, R. (2009) *Tracking the Variable North Atlantic Sink for Atmospheric CO<sub>2</sub>* Science, 326 (5958). pp. 1391-1393. DOI 10.1126/science.1177394.

Yool, A., Shepherd, J. G., Bryden, H. L. and Oschlies, A. (2009) *Low efficiency of nutrient translocation for enhancing oceanic uptake of carbon dioxide* Journal of Geophysical Research - Oceans, 114 . C08009. DOI 10.1029/2008JC004792.

Duce, R. A., LaRoche, J., Altieri, K., Arrigo, K. R., Baker, A. R., Capone, D. G., Cornell, S., Dentener, F., Galloway, J., Ganeshram, R. S., Geider, J., Jickells, T., Kuypers, M. M., Langlois, R., Liss, P. S., Liu, S. M., Middelburg, J. J., Moore, C. M., Nickovic, S., Oschlies, A., Pedersen, T., Prospero, J., Schlitzer, R., Seitzinger, S., Sorensen, L. L., Uematsu, M., Ulloa, O., Voss, M., Ward, B. and Zamora, L. (2008) *Impacts of atmospheric anthropogenic nitrogen on the open ocean* Science, 320 . pp. 893-897.

Gleißner, M., Oschlies, A. and Yool, A. (2008) *Simulated impact of double-diffusive mixing on physical and biogeochemical upper ocean properties* Journal of Geophysical Research - Oceans, 113 . C08029. DOI 10.1029/2007JC004455.

Kriest, I. and Oschlies, A. (2008) *On the treatment of particulate organic matter sinking in large-scale models of marine biogeochemical cycles* Biogeosciences (BG), 5 . pp. 55-72. DOI 10.5194/bg-5-55-2008.

Landolfi, A., Oschlies, A. and Sanders, R. (2008) *Organic nutrients and excess nitrogen in the North Atlantic subtropical gyre* Biogeosciences (BG), 5 . pp. 1199-1213. DOI 10.5194/bg-5-1199-2008.

Oschlies, A., Schulz, K. G., Riebesell, U. and Schmittner, A. (2008) *Simulated 21st century's increase in oceanic suboxia by CO<sub>2</sub>-enhanced biotic carbon export* Global Biogeochemical Cycles, 22 . DOI 10.1029/2007GB003147.

Salihoglu, B., Garcon, V., Oschlies, A. and Lomas, M. W. (2008) *Influence of nutrient utilization and remineralization stoichiometry on phytoplankton species and carbon export: A modelling study at BATS* Deep-Sea Research Part I-Oceanographic Research Papers, 55 . pp. 73-107. DOI 10.1016/j.dsr.2007.09.010.

Schmittner, A., Oschlies, A., Matthews, H. D. and Galbraith, E. D. (2008) *Future changes in climate, ocean circulation, ecosystems, and biogeochemical cycling simulated for a business-as-usual CO<sub>2</sub> emission scenario until year 4000 AD* Global Biogeochemical Cycles, 22 . GB1013. DOI 10.1029/2007GB002953.

Anderson, R. F., Henderson, G. M., Adkins, J., Andersson, P., Eisenhauer, A., Frank, M. and Oschlies, A. and SCOR Working Group (2007) *GEOTRACES - An international study of the global marine biogeochemical cycles of trace elements and their isotopes* Chemie der Erde - Geochemistry, 67 . pp. 85-131. DOI 10.1016/j.chemer.2007.02.001.

Breitbarth, E., Oschlies, A. and LaRoche, J. (2007) *Physiological constraints on the global distribution of Trichodesmium - effect of temperature on diazotrophy* Biogeosciences (BG), 4 (1). pp. 53-61. DOI 10.5194/bg-4-53-2007.

Kriest, I. and Oschlies, A. (2007) *Modelling the effect of cell-size-dependent nutrient uptake and exudation on phytoplankton size spectra* Deep-Sea Research Part I-Oceanographic Research Papers, 54 (9). pp. 1593-1618. DOI 10.1016/j.dsr.2007.04.017.

Riebesell, U., Schulz, K. G., Bellerby, R. G. J., Botros, M., Fritsche, P., Meyerhöfer, M., Neill, C., Nondal, G., Oschlies, A., Wohlers, J. and Zöllner, E. (2007) *Enhanced biological carbon consumption in a high CO<sub>2</sub> ocean* Nature, 450 (7169). pp. 545-548. DOI 10.1038/nature06267.



Weber, L., Völker, C., Oschlies, A. and Burchard, H. (2007) *Iron profiles and speciation of the upper water column at the Bermuda Atlantic Time-series Study site: a model based sensitivity study* Biogeosciences (BG), 4 . pp. 689-706. DOI 10.5194/bg-4-689-2007.

Eden, C. and Oschlies, A. (2006) *Adiabatic reduction of circulation-related CO<sub>2</sub> air-sea flux biases in North Atlantic carbon-cycle models* Global Biogeochemical Cycles, 20 . DOI 10.1029/2005GB002521.

Friedrich, T., Oschlies, A. and Eden, C. (2006) *Role of wind stress and heat fluxes in generating interannual to decadal variability of air-sea CO<sub>2</sub> and O<sub>2</sub> fluxes in a North Atlantic model* Geophysical Research Letters, 33 . DOI 10.1029/2006GL026538.

Dietze, H. and Oschlies, A. (2005) *Modeling abiotic production of apparent oxygen utilisation in the oligotrophic subtropical North Atlantic* Ocean Dynamics, 55 (1). pp. 28-33. DOI 10.1007/s10236-005-0109-z.

Dietze, H. and Oschlies, A. (2005) *On the correlation between air-sea heat flux and abiotically induced oxygen exchange in a circulation model of the North Atlantic* Journal of Geophysical Research - Oceans, 110 . C09016. DOI 10.1029/2004JC002453.

Machu, E., Biastoch, A., Oschlies, A., Kawamiya, M., Garçon, V. and Lutjeharms, J. R. E. (2005) *Phytoplankton distribution in the Agulhas system from a coupled physical-biological model* Deep-Sea Research Part I-Oceanographic Research Papers, 52 (7). pp. 1300-1318.

Memery, L., Reverdin, G., Paillet, J. and Oschlies, A. (2005) *Introduction to the POMME special section: Thermocline ventilation* Journal of Geophysical Research - Oceans, 110 . C07S01. DOI 10.1029/2005JC002976.

Oschlies, A. and Schartau, M. (2005) *Basin-scale performance of a locally optimized marine ecosystem model* Journal of Marine Research, 63 (2). pp. 335-358.

Schmittner, A., Oschlies, A., Giraud, X. and Eby, M. (2005) *A global model of the marine ecosystem for multi-millennial simulations* Global Biogeochemical Cycles, 19 . DOI 10.1029/2004GB002283.

Schneider, B., Karstensen, J., Oschlies, A. and Schlitzer, R. (2005) *Model-based evaluation of methods to determine C:N and N:P regeneration ratios from dissolved nutrients* Global Biogeochemical Cycles, 19 . GB2009. DOI 10.1029/2004GB002256.

Waniek, J. J., Schulz-Bull, D. E., Blanz, T., Prien, R. D., Oschlies, A. and Müller, T. J. (2005) *Interannual variability of deep water particle flux in relation to production and lateral sources in the northeast Atlantic* Deep-Sea Research Part I-Oceanographic Research Papers, 52 (1). pp. 33-50.

Worm, B., Sandow, M., Oschlies, A., Lotze, H. and Myers, R. A. (2005) *Global patterns of predator diversity in the open oceans* Science, 309 (5739). pp. 1365-1369. DOI 10.1126/science.1113399.

Dietze, H., Oschlies, A. and Kähler, P. (2004) *Internal-wave induced and double-diffusive nutrient fluxes to the nutrient-consuming surface layer in the oligotrophic subtropical North Atlantic* Ocean Dynamics, 54 . pp. 1-7. DOI 10.1007/s10236-003-0060-9.

Kawamiya, M. and Oschlies, A. (2004) *Impact of intraseasonal variations in surface heat and momentum fluxes on the pelagic ecosystem of the Arabian Sea* Journal of Geophysical Research - Oceans, 109 (C3). C0301. DOI 10.1029/2003JC002107.

Oschlies, A. (2004) *Feedbacks of biotically induced radiative heating on upper-ocean heat budget, circulation, and biological production in a coupled ecosystem-circulation model* Journal of Geophysical Research - Oceans, 109 (C12). C12031. DOI 10.1029/2004JC002430.

Oschlies, A. and Kähler, P. (2004) *Biotic contribution to air-sea fluxes of CO<sub>2</sub> and O<sub>2</sub> and its relation to new production. Export production, and net community production* Global Biogeochemical Cycles, 18 (1). DOI 10.1029/2003GB002094.

Kawamiya, M. and Oschlies, A. (2003) *An ecosystem model for the Arabian Sea embedded into an eddy-permitting primitive-equation model. Comparison with observations* Journal of Marine Systems, 38 . pp. 221-257.

Oschlies, A., Dietze, H. and Kähler, P. (2003) *Salt-finger induced enhancement of upper-ocean nutrient supply* Geophysical Research Letters, 30 (23). DOI 10.1029/2003GL018552.

Schartau, M. and Oschlies, A. (2003) *Simultaneous data-based optimisation of a 1D-ecosystem model at three locations in the North Atlantic Ocean: Part 1. Method and parameter estimates* Journal of Marine Research, 61 (6). pp. 765-793.

Schartau, M. and Oschlies, A. (2003) *Simultaneous data-based optimisation of a 1D-ecosystem model at three locations in the North Atlantic Ocean: Part 2. Nitrogen fluxes and seasonal cycles* Journal of Marine Research, 61 (6). pp. 795-821.

Koeve, W., Pollehne, F., Oschlies, A. and Zeitzschel, B. (2002) *Storm-induced convective export of suspended matter during spring in the northeast Atlantic Ocean* Deep-Sea Research Part I-Oceanographic Research Papers, 49 (8). pp. 1431-1444. DOI 10.1016/S0967-0637(02)00022-5.

Oschlies, A. (2002) *Can eddies make ocean deserts bloom?* Global Biogeochemical Cycles (16). DOI 10.1029/2001GB001830.

Oschlies, A. (2002) *Improved representation of upper ocean dynamics and mixed layer depths in a model of the North Atlantic on switching from eddy-permitting to eddy-resolving grid resolution* Journal of Physical Oceanography, - (32). pp. 2277-2298.

Oschlies, A. (2002) *Nutrient supply to the surface waters of the North Atlantic: A model study* Journal of Geophysical Research-Oceans, 107 (C5). DOI 10.1029/2000JC000275.

Zielinski, O., Oschlies, A., Llinas, O. and Reuter, R. (2002) *Underwater light field parameterization and its effect on a 1D biogeochemical model at station ESTOC, north of the Canary Islands* Deep-Sea Research Part II-Topical Studies in Oceanography (49). pp. 3529-3542.

Kawamiya, M. and Oschlies, A. (2001) *Formation of a basin-scale surface chlorophyll pattern by Rossby waves* Geophysical Research Letters, 28 . pp. 4139-4142.

Killworth, P., Dieterich, C., LeProvost, C., Oschlies, A. and Willebrand, J. (2001) *Assimilation of Altimetric Data into an Eddy-Permitting Model of the North Atlantic* Progress in Oceanography, 48/2-3 . pp. 313-315.

Oschlies, A. (2001) *Model-derived estimates of new production: New results point towards lower values* Deep-Sea Research, II (48). pp. 2173-2197.

Oschlies, A. (2001) *NAO-induced long-term changes in nutrient supply to the surface waters of the North Atlantic* Geophysical Research Letters, 28 . pp. 1751-1754.

Oschlies, A., Garçon, V., McGillicuddy, D., Waniek, J. and Doney, S. (2001) *The role of mesoscale variability on plankton dynamics* Deep-Sea Research, II (48). pp. 2199-2226.

Schartau, M., Oschlies, A. and Willebrand, J. (2001) *Parameter estimates of a zero-dimensional ecosystem model applying the adjoint method* Deep-Sea Research Part II-Topical Studies in Oceanography, 48 . pp. 1769-1800.

Käse, R. H. and Oschlies, A. (2000) *Flow through Denmark Strait* Journal of Geophysical Research-Oceans, 105 (C12). 28,527-28,546.

Oschlies, A., Koeve, W. and Garçon, V. (2000) *An eddy-permitting coupled physical-biological model of the North Atlantic. Part II: Ecosystem dynamics and comparison with satellite and JGOFS local studies data* Global Biogeochemical Cycles, 13 . pp. 135-160.

Oschlies, A. (2000) *Equatorial nutrient trapping in biogeochemical ocean models: the role of advection numerics* Global Biogeochemical Cycles, 14 . pp. 655-667.

Oschlies, A., Ferry, N. and Reverdin, G. (2000) *Seasonal sea level variability in the North Atlantic* Journal of Geophysical Research, 105 . pp. 6307-6326.

Gunson, J., Oschlies, A. and Garçon, V. (1999) *Sensitivity of ecosystem parameters to simulated satellite ocean colour data using a coupled physical-biological model of the North Atlantic* Journal of Marine Research, 57 . pp. 613-639.

Oschlies, A. (1999) *On spurious interactions between mixed layer model, convective adjustment, and isopycnal mixing in ocean circulation models* Monthly Weather Review (127). pp. 1920-1927.

Oschlies, A. (1999) *An unrealistic high-salinity tongue simulated in the tropical Atlantic: another example for the need of more careful treatment of vertical discretizations in OGCMs* Ocean Modelling (1). pp. 101-109.

Oschlies, A. and Garçon, V. (1999) *An eddy permitting coupled physical-biological model of the North Atlantic. Part I: Sensitivity to advection numerics and mixed layer physics* Global Biogeochemical Cycles (13). pp. 135-160.

Oschlies, A. and Garçon, V. (1998) *Eddy-induced enhancement of primary production in a model of the north Atlantic Ocean* Nature, 394 . pp. 266-269.

Oschlies, A. and Willebrand, J. (1996) *Assimilation of Geosat altimeter data into an eddy-resolving primitive equation model of the North Atlantic Ocean* Journal of Geophysical Research-Oceans, 101 (C6). pp. 14175-14190.

#### **Article in a Scientific Journal - without review**

Leisner, T., Oschlies, A. and Rickels, W. (2012) *Lässt sich die Erde künstlich kühlen?* Spektrum der Wissenschaft, 4/12 . pp. 4-11.

Oschlies, A., Brandt, P., Schelten, C. and Stramma, L. (2012) *SFB754: Climate-Biogeochemistry Interactions in the Tropical Ocean* Exchanges, 58 (17(1)). pp. 11-14.

Koeve, W., Kim, H. C., Lee, K. and Oschlies, A. (Submitted) *Potential impact of DOC accumulation on  $fCO_2$  and carbonate ion computations in ocean acidification experiments* Biogeosciences Discussions, 8 (2). pp. 3797-3827. DOI 10.5194/bgd-8-3797-2011.

Zamora, L., Prospero, J. M., Hansell, D. A., Trapp, J. M., Landolfi, A., Oschlies, A. and Dentener, F. (2011) *Phosphorus stress induced by atmospheric deposition to the surface waters of the subtropical North Atlantic* SOLAS News, 13 . pp. 34-36.

Oschlies, A. (2010) *Weitere Diskussion erforderlich! Bericht von der "Asilomar International Conference on Climate Intervention Technologies"*

Technologiefolgenabschätzung -Theorie und Praxis, 19 (2). pp. 42-43.

Keeling, R. F., Oschlies, A. and Orr, J. C. (2009) *Atmospheric evidence for recent global ocean deoxygenation* Geochimica et Cosmochimica Acta, 73 (13 (Suppl. S460YS)). A632-A632.

### Book

Rickels, W., Klepper, G., Doern, J., Betz, G., Brachtzek, N., Cacean, S., Güssow, K., Heintzenberg, J., Hiller, S., Hoose, C., Leisner, T., Oschlies, A., Platt, U., Proelß, A., Renn, O., Schäfer, S. and Zürn, M. (2011) *Gezielte Eingriffe in das Klima? Eine Bestandsaufnahme der Debatte zu Climate Engineering* Kiel Earth-Institute, Kiel, Germany. ISBN 3-89456-324-9

### Book chapter

Gehlen, M., Gruber, N., Gangsto, R., Bopp, L. and Oschlies, A. (2011) *Biogeochemical consequences of ocean acidification and feedbacks to the earth system* Ocean Acidification. Oxford University Press, Oxford, UK, pp. 230-248. ISBN 978-0-19-959109-1

Oschlies, A. and Kriest, I. (2011) *Wann, woher und wohin? - Untersuchungen zur Geschichte und Zukunft von CO<sub>2</sub> im Ozean* Investigating the role of ocean ventilation in anthropogenic CO<sub>2</sub> uptake and sequestration via Green functions Forschung im HLRN-Verbund 2011. Konrad-Zuse-Zentrum für Informationstechnik, Berlin, Germany, pp. 86-87. ISBN 978-3-00-034131-1

Oschlies, A. and Kriest, I. (2011) *Wie gut sind unsere Beschreibungen biologischer Vorgänge im globalen Ozean? Einfluss von Remineralisierungsparametern auf globale biogeochemische Ozeanmodelle* Forschung im HLRN-Verbund 2011. Konrad-Zuse-Zentrum für Informationstechnik, Berlin, Germany, pp. 88-89. ISBN 978-3-00-034131-1

Oschlies, A. (2010) *Aus der Luft geholt* Geo-Engineering. Notwendiger Plan B gegen den Klimawandel? Politische Ökologie, 120 . Oekom Verlag, München, Germany, pp. 19-22. ISBN 978-3-86581-226-1

Oschlies, A., Blackford, S. C. and Gehlen, M. (2010) *Modelling considerations* Guide to best practices for ocean acidification research and data reporting. Publications Office of the European Union, pp. 233-242.

Oschlies, A. (2008) *Eddies and upper-ocean nutrient supply* Ocean Modeling in an Eddying Regime. Geophysical Monograph Series, 177 . American Geophysical Union, Washington, DC, pp. 115-130.

Oschlies, A. (2006) *On the use of data assimilation in biogeochemical modelling* Ocean weather forecasting. Springer, Dordrecht, pp. 525-547. ISBN 1-402-03981-6