

Publications

2014-03-21

Diploma Thesis

Meier, H.E.M., 1989: Nonlineare, plane plasma waves in Pulsar magnetospheres – an approach to take radiation reaction into account (in German). Diploma thesis, University of Kiel, 125 pp.

Ph.D. Thesis

Meier, H.E.M., 1996: A regional model of the western Baltic Sea with open boundary conditions and data assimilation (in German). PhD thesis, University of Kiel, in: Ber. Inst. f. Meereskunde No.284, D-24105 Kiel, Germany, 117 pp.

Articles in international scientific journals with referee practice

1. Haapala, J., **H.E.M. Meier**, and J. Rinne, 2001: Numerical investigations of future ice conditions in the Baltic Sea. *Ambio*, 30, 237-244.
2. **Meier, H.E.M.**, 2001: On the parameterization of mixing in three-dimensional Baltic Sea models. *J. Geophys. Res.*, 106, 30,997 - 31,016.
3. Döscher, R., U. Willén, C. Jones, A. Rutgersson, **H.E.M. Meier**, U. Hansson, and L.P. Graham, 2002: The development of the regional coupled ocean-atmosphere model RCAO. *Boreal Env. Res.*, 7, 183-192.
4. **Meier, H.E.M.**, 2002: Regional ocean climate simulations with a 3D ice-ocean model for the Baltic Sea. Part 1: Model experiments and results for temperature and salinity. *Clim. Dyn.*, 19, 237-253.
5. **Meier, H.E.M.**, 2002: Regional ocean climate simulations with a 3D ice-ocean model for the Baltic Sea. Part 2: Results for sea ice. *Clim. Dyn.*, 19, 255-266.
6. **Meier, H.E.M.**, and R. Döscher, 2002: Simulated water and heat cycles of the Baltic Sea using a 3D coupled atmosphere-ice-ocean model. *Boreal Env. Res.*, 7, 327-334
7. **Meier, H.E.M.**, and T. Faxén, 2002: Performance analysis of a multiprocessor coupled ice-ocean model for the Baltic Sea. *J. Atmos. Oceanic Technol.*, 19, 114-124.
8. Kauker, F., and **H.E.M. Meier**, 2003: Modeling decadal variability of the Baltic Sea: 1. Reconstructing atmospheric surface data for the period 1902-1998. *J. Geophys. Res.*, 108(C8), 3267, doi:10.1029/2003JC001797.
9. **Meier, H.E.M.**, and F. Kauker, 2003: Modeling decadal variability of the Baltic Sea: 2. Role of freshwater inflow and large-scale atmospheric circulation for salinity. *J. Geophys. Res.*, 108(C11), 3368, doi:10.1029/2003JC001799.
10. **Meier, H.E.M.**, and F. Kauker, 2003: Sensitivity of the Baltic Sea salinity to the freshwater supply. *Clim. Res.*, 24, 231-242.
11. **Meier, H.E.M.**, R. Döscher, and T. Faxén, 2003: A multiprocessor coupled ice-ocean model for the Baltic Sea: Application to salt inflow. *J. Geophys. Res.*, 108(C8), 3273, doi:10.1029/2000JC000521.

12. Wang, J., R. Kwok, F.J. Saucier, J. Hutchings, M. Ikeda, W. Hibler III, J. Haapala, M.D. Coon, **H.E.M. Meier**, H. Eicken, N. Tanaka, D. Prentki, and W. Johnson, 2003: Working towards improved small-scale sea ice-ocean modeling in the Arctic seas. *EOS, Trans. AGU*, 84(34), 325, 329-330.
13. Räisänen, J., U. Hansson, A. Ullerstig, R. Döscher, L.P. Graham, C. Jones, **H.E.M. Meier**, P. Samuelsson, and U. Willén, 2004: European climate in the late twenty-first century: regional simulations with two driving global models and two forcing scenarios. *Clim. Dyn.*, 22, 13-31.
14. Döös, K., **H.E.M. Meier**, and R. Döscher, 2004: The Baltic haline conveyor belt or the overturning circulation and mixing in the Baltic. *Ambio*, 33, 261-266.
15. Döscher, R., and **H.E.M. Meier**, 2004: Simulated sea surface temperature and heat fluxes in different climates of the Baltic Sea. *Ambio*, 33, 242-248.
16. **Meier, H.E.M.**, R. Döscher, and A. Halkka, 2004: Simulated distributions of Baltic sea-ice in warming climate and consequences for the winter habitat of the Baltic ringed seal. *Ambio*, 33, 249-256.
17. **Meier, H.E.M.**, B. Broman, and E. Kjellström, 2004: Simulated sea level in past and future climates of the Baltic Sea. *Clim. Res.*, 27, 59-75.
18. **Meier, H.E.M.**, R. Döscher, B. Broman, and J. Piechura, 2004: The major Baltic inflow in January 2003 and preconditioning by smaller inflows in summer/autumn 2002: a model study. *Oceanologia*, 46, 557-579.
19. **Meier, H.E.M.**, 2005: Modeling the age of Baltic Sea water masses: Quantification and steady state sensitivity experiments. *J. Geophys. Res.*, 110, C02006, doi:10.1029/2004JC002607.
20. Kjellström, E., R. Döscher, and **Meier, H.E.M.**, 2005: Atmospheric response to different sea surface temperatures in the Baltic Sea: Coupled versus uncoupled regional climate model experiments. *Nordic Hydrology*, 36 (4-5), 397-409.
21. **Meier, H.E.M.**, B. Broman, H. Kallio, and E. Kjellström, 2006: Projections of future surface winds, sea levels, and wind waves in the late 21st century and their application for impact studies of flood prone areas in the Baltic Sea region. In: Schmidt-Thomé, P. (ed.), Sea level changes affecting the spatial development of the Baltic Sea region, *Geological Survey of Finland, Special Paper 41*, Espoo, 23-43, <http://arkisto.gtk.fi/sp/SP41.pdf>.
22. **Meier, H.E.M.**, 2006: Baltic Sea climate in the late twenty-first century: a dynamical downscaling approach using two global models and two emission scenarios. *Clim. Dyn.*, 27(1), 39-68, doi: 10.1007 / s00382-006-0124-x.
23. **Meier, H.E.M.**, R. Feistel, J. Piechura, L. Arneborg, H. Burchard, V. Fiekas, N. Golenko, N. Kuzmina, V. Mohrholz, C. Nohr, V.T. Paka, J. Sellschopp, A. Stips, and V. Zhurbas, 2006: Ventilation of the Baltic Sea deep water: A brief review of present knowledge from observations and models. *Oceanologia*, 48(S), 133-164.
24. **Meier, H.E.M.**, E. Kjellström, and L. P. Graham, 2006: Estimating uncertainties of projected Baltic Sea salinity in the late 21st century. *Geophys. Res. Lett.*, Vol. 33, No. 15, L15705, doi: 10.1029/2006GL026488.
25. **Meier, H.E.M.**, 2007: Modeling the pathways and ages of inflowing salt- and freshwater in the Baltic Sea. *Estuarine, Coastal and Shelf Science*, Vol. 74/4, 717-734.

26. Burchard, H., P. D. Craig, J. R. Gemmrich, H. van Haren, P.-P. Mathieu, **H. E. M. Meier**, W. A. M. N. Smith, H. Prandke, T. P. Rippeth, E. D. Skyllingstad, W. D. Smyth, D. J. S. Welsh, and H. W. Wijesekera, 2008: Observational and numerical modeling methods for quantifying coastal ocean turbulence and mixing. *Prog. Oceanog.*, 76, 399-442.
27. Eilola, K., **H.E.M. Meier**, and E. Almroth, 2009: On the dynamics of oxygen, phosphorus and cyanobacteria in the Baltic Sea; a model study. *J. Marine Systems*, 75, 163-184.
28. Conley, D. J., S. Björk, E. Bonsdorff, J. Carstensen, G. Destouni, B. G. Gustafsson, S. Hietanen, M. Kortekaas, H. Kuosa, **H. E. M. Meier**, B. Müller-Karulis, K. Nordberg, G. Nürnberg, A. Norkko, H. Pitkänen, N. Rabalais, R. Rosenberg, O. Savchuk, C. P. Slomp, M. Voss, F. Wulff, and L. Zillén, 2009: Hypoxia-Related Processes in the Baltic Sea. *Environmental Science and Technology*, 43(10), 3412-3420.
29. Döscher, R., K. Wyser, **H. E. M. Meier**, M. Qian, and R. Redler, 2010: Quantifying Arctic contributions to climate predictability in a regional coupled ocean-ice-atmosphere model. *Clim. Dyn.*, 34, 1157-1176, doi: 10.1007/s00382-009-0567-y (published on-line 8 Apr 2009)
30. Hordoir, R., and **H. E. M. Meier**, 2010: Freshwater fluxes in the Baltic Sea: A model study. *J. Geophys. Res.*, 115, C08028, doi: 10.1029/2009JC005604.
31. **Meier, H.E.M.**, K. Eilola, and E. Almroth, 2011: Climate-related changes in marine ecosystems simulated with a three-dimensional coupled biogeochemical-physical model of the Baltic Sea. *Clim. Res.*, 48, 31-55.
32. Soomere, T., N. Delpeche, B. Viikmäe, E. Quak, **H. E. M. Meier**, and K. Döös, 2011: Patterns of current-induced transport in the surface layer of the Gulf of Finland. *Boreal Env. Res.*, 16 (suppl. A), 49-63
33. **Meier, H.E.M.**, A. Höglund, R. Döscher, H. Andersson, U. Löptien and E. Kjellström, 2011: Quality assessment of atmospheric surface fields over the Baltic Sea of an ensemble of regional climate model simulations with respect to ocean dynamics. *Oceanologia* , 53, 193-227.
34. Hordoir, R., and **H. E. M. Meier**, 2012: Effect of climate change on the thermal stratification of the Baltic Sea - a sensitivity experiment. *Clim. Dyn.* , 38:1703-1713, doi: 10.1007/s00382-011-1036-y. (published on-line 4 March 2011)
35. Almroth-Rosell, E., K. Eilola, R. Hordoir, **H. E. M. Meier**, and P. O. J. Hall, 2011: Transport of fresh and resuspended particulate organic material in the Baltic Sea - a model study. *J. Marine Systems*, 87, 1-12, doi:10.1016/j.jmarsys.2011.02.005
36. Eilola, K., B.G. Gustafson, I. Kuznetsov, **H.E.M. Meier**, T. Neumann, O. P. Savchuk, 2011: Evaluation of biogeochemical cycles in an ensemble of three state-of-the-art numerical models of the Baltic Sea during 1970-2005. *J. Marine Systems*, 88, 267-284, doi:10.1016/j.jmarsys.2011.05.004
37. Löptien, U., and **H. E. M. Meier**, 2011: The influence of increasing water turbidity on the sea surface temperature in the Baltic Sea: A model sensitivity study. *J. Marine Systems*, 88, 323-331, doi:10.1016/j.jmarsys.2011.06.001
38. Reckermann, M., J. Langner, A. Omstedt, H. von Storch, S. Keevallik, B. Schneider, B. Arheimer, **H. E. M. Meier** and B. Hünicke, 2011: BALTEX - An interdisciplinary research network for the Baltic Sea region. *Environ. Res. Lett.*, 6, 045205

39. **Meier, H.E.M.**, H.C. Andersson, K. Eilola, B.G. Gustafsson, I. Kuznetsov, B. Müller-Karulis, T. Neumann, O. P. Savchuk, 2011: Hypoxia in future climates: A model ensemble study for the Baltic Sea. *Geophys. Res. Lett.*, 38, L24608 (highlighted by Nature Climate Change, A. Brown, 2012: Low oxygen outlook, Vol. 2, p. 75, 2012, doi:10.1038/nclimate1406, published online 27 January 2012)
40. **Meier, H.E.M.**, R. Hordoir, H.C. Andersson, C. Dieterich, K. Eilola, B.G. Gustafsson, A. Höglund, and S. Schimanke, 2012: Modeling the combined impact of changing climate and changing nutrient loads on the Baltic Sea environment in an ensemble of transient simulations for 1961-2099. *Clim. Dyn.*, 39, 2421-2441, doi: 10.1007/s00382-012-1339-y. (published on-line 25 April 2012) (highlighted by Nature Climate Change, B. Wake, 2012: Climate and Baltic Sea nutrients, Vol. 2, p. 394, doi:10.1038/nclimate1567, published online 25 May 2012)
41. **Meier, H. E. M.**, B. Müller-Karulis, H. C. Andersson, C. Dieterich, K. Eilola, B. G. Gustafsson, A. Höglund, R. Hordoir, I. Kuznetsov, T. Neumann, Z. Ranjbar, O. P. Savchuk, and S. Schimanke, 2012: Impact of climate change on ecological quality indicators and biogeochemical fluxes in the Baltic Sea - a multi-model ensemble study. *AMBIO*, 41 (6), 558-573, doi:10.1007/s13280-012-0317-y, <http://www.springerlink.com/content/n5158p42n133/>
42. MacKenzie, B. R., **H. E. M. Meier**, M. Lindegren, S. Neuenfeldt, M. Eero, T. Blenckner, M. Tomczak, and S. Niiranen, 2012: Impact of Climate Change on Fish Population Dynamics in the Baltic Sea: A Dynamical Downscaling Investigation. *AMBIO*, 41 (6), 626-636, doi:10.1007/s13280-012-0317-y, <http://www.springerlink.com/content/n5158p42n133/>
43. Mårtensson, S., **H.E.M. Meier**, P. Pemberton and J. Haapala, 2012: Ridged sea ice characteristics in the Arctic from a coupled multicategory sea ice model. *J. Geophys. Res.*, 117, C00D15, doi:10.1029/2010JC006936.
44. Höglund, A. and **H. E. M. Meier**, 2012: Environmentally safe areas and routes in the Baltic proper. *Mar. Pollut. Bull.*, 64, 1375-1385, <http://dx.doi.org/10.1016/j.marpolbul.2012.04.02> (published on-line 2 June 2012).
45. Eilola, K., E. Almroth-Rosell, C. Dieterich, F. Fransner, A. Höglund, and **H. E. M. Meier**, 2012: Modeling nutrient transports and exchanges of nutrients between shallow regions and the open Baltic Sea in present and future climate. *AMBIO*, 41 (6), 586-599, doi:10.1007/s13280-012-0317-y, <http://www.springerlink.com/content/n5158p42n133/>
46. Gustafsson, B. G., F. Schenk, T. Blenckner, K. Eilola, **H. E. M. Meier**, B. Müller-Karulis, T. Neumann, T. Ruoho-Airola, O.P. Savchuk, and E. Zorita, 2012: Reconstructing the development of Baltic Sea eutrophication 1850-2006. *AMBIO*, 41 (6), 534-548, doi:10.1007/s13280-012-0317-y, <http://www.springerlink.com/content/n5158p42n133/>
47. Neumann, T., K. Eilola, B. G. Gustafsson, B. Müller-Karulis, I. Kuznetsov, **H. E. M. Meier**, O. P. Savchuk, 2012: Extreme values of temperature, oxygen and blooms in the Baltic Sea in changing climate. *AMBIO*, 41 (6), 574-585, doi:10.1007/s13280-012-0317-y, <http://www.springerlink.com/content/n5158p42n133/>
48. **Meier, H. E. M.** and H. C. Andersson, 2012: ECOSUPPORT: A pilot study for decision support for Baltic Sea environmental management. *AMBIO*, 41 (6), 529-533, doi:10.1007/s13280-012-0317-y, <http://www.springerlink.com/content/n5158p42n133/>
49. **H. E. M. Meier**, H. C. Andersson, B. Arheimer, T. Blenckner, B. Chubarenko, C. Donnelly, K. Eilola, B. G. Gustafsson, A. Hansson, J. Havenhand, A. Höglund, I. Kuznetsov,

- B. MacKenzie, B. Müller-Karulis, T. Neumann, S. Niiranen, J. Piwowarczyk, U. Raudsepp, M. Reckermann, T. Ruoho-Airola, O. P. Savchuk, F. Schenk, J. M. Weslawski, and E. Zorita, 2012: Comparing reconstructed past variations and future projections of the Baltic Sea ecosystem - first results from multi-model ensemble simulations. *Environ. Res. Lett.*, 7, 034005, doi:10.1088/1748-9326/7/3/034005 (see also interview "Climate change is bad for Baltic Sea" in News of environmentalresearchweb, <http://environmentalresearchweb.org/cws/article/>)
50. Schimanke, S., **H. E. M. Meier**, E. Kjellström, G. Strandberg and R. Hordoir, 2012: The climate in the Baltic Sea region during the last millennium. *Climate of the Past*, 8, 1419-1433, doi:10.5194/cp-8-1419-2012. (www.clim-past.net/8/1419/2012/)
 51. Eilola, K., S. Mårtensson, and **H. E. M. Meier**, 2013: Modeling the impact of reduced sea ice cover in future climate on the Baltic Sea biogeochemistry. *Geophys. Res. Lett.*, 40, 149-154, doi:10.1029/2012GL054275
 52. Hense, I., **H. E. M. Meier**, and S. Sonntag, 2013: Projected climate change impact on Baltic Sea cyanobacteria. *Climatic Change*, 119, 391-406, doi:10.1007/s10584-013-0702-y (published on-line 19 February 2013)
 53. Löptien, U., S. Mårtensson, **H. E. M. Meier** and A. Höglund, 2013: Long-term characteristics of simulated ice deformation in the Baltic Sea (1962-2007). *J. Geophys. Res.*, 118/2, 801-815, doi:10.1002/jgrc.20089
 54. Hordoir, R., C. Dieterich, C. Basu, H. Dietze, and **H. E. M. Meier**, 2013: Freshwater outflow of the Baltic Sea and transport in the Norwegian current: A statistical correlation analysis based on a numerical experiment. *Continental Shelf Research*, 64, 1-9
 55. Niiranen, S., J. Yletyinen, M. M. Tomczak, T. Blenckner, O. Hjerne, B. MacKenzie, B. Müller-Karulis, T. Neumann, and **H. E. M. Meier**, 2013: Combined effects of global climate change and regional ecosystem drivers on an exploited marine food web. *Global Change Biology*, 19, 3327-3342, doi:10.1111/gcb.12309 (published online August 2013)
 56. Väli, G., **H. E. M. Meier**, and J. Elken, 2013: Simulated halocline variability in the Baltic Sea and its impact on hypoxia during 1961-2007. *J. Geophys. Res.*, 118, 6982-7000, doi:10.1002/2013JC009192
 57. Liu, Y., **H. E. M. Meier**, and L. Axell, 2013: Reanalyzing temperature and salinity on decadal time scales using the Ensemble Optimal Interpolation data assimilation method and a 3D ocean circulation model of the Baltic Sea. *J. Geophys. Res.*, 118, 5536-5554, doi:10.1002/jgrc.20384
 58. **H. E. M. Meier**, H. C. Andersson, B. Arheimer, C. Donnelly, K. Eilola, B. G. Gustafsson, L. Kotwicki, T. S. Neset, S. Niiranen, J. Piwowarczyk, O. P. Savchuk, F. Schenk, J. M. Weslawski, and E. Zorita, 2014: Ensemble modeling of the Baltic Sea ecosystem to provide scenarios for management. *AMBIO*, 43, 37-48, doi:10.1007/s13280-013-0475-6
 59. Soomere, T., K. Döös, A. Lehmann, **H. E. M. Meier**, J. Murawsky, K. Myrberg, and E. Stanev, 2014: The potential of current- and wind-driven transport for environmental management of the Baltic Sea. *AMBIO*, 43, 94-104, doi:10.1007/s13280-013-0486-3
 60. Kotilainen, A. T., L. Arppe, S. Dobosz, E. Jansen, K. Kabel, J. Karhu, M. Kotilainen, A. Kuijpers, B. C. Loughheed, **H. E. M. Meier**, M. Moros, T. Neumann, C. Porsche, N. Poulsen, J. P. Rasmussen, S. Ribeiro, B. Risebrobakken, D. Ryabchuk, S. Schimanke, I. Snowball, M. Spiridonov, J. Virtasalo, K. Weckström, A. Witkowski, V. Zhamoida, 2014:

Echoes from the past - a healthy Baltic Sea requires more effort. *AMBIO*, 43, 60-68, doi:10.1007/s13280-013-0477-4

61. Skogen, M. D., K. Eilola, J. S. Hansen, **H. E. M. Meier**, M. S. Molchanov, and V. A. Ryabchenko, 2014: Eutrophication status of the North Sea, Skagerrak, Kattegat and the Baltic Sea in present and future climates: A model study. *J. Marine Systems*, 132, 174-184
62. **H. E. M. Meier**, A. Rutgersson, and M. Reckermann, 2014: Baltic Earth - A new Earth System Science Program for the Baltic Sea Region. *EOS, Trans. AGU*, in press.

Monographs (Scientific reports)

1. **Meier, H.E.M.**, 1999: First results of multi-year simulations using a 3D Baltic Sea model. *Reports Oceanography No. 27, SMHI, Norrköping, Sweden*, 48 pp.
2. **Meier, H.E.M.**, R. Döscher, A.C. Coward, J. Nycander and K. Döös, 1999: RCO - Rossby Centre regional Ocean climate model: model description (version 1.0) and first results from the hindcast period 1992/93. *Reports Oceanography No. 26, SMHI, Norrköping, Sweden*, 102 pp.
3. **Meier, H.E.M.**, 2000: The use of the $k - \epsilon$ turbulence model within the Rossby Centre regional ocean climate model: parameterization development and results. *Reports Oceanography No. 28, SMHI, Norrköping, Sweden*, 81 pp.
4. **Meier, H.E.M.**, 2001: The first Rossby Centre regional climate scenario for the Baltic Sea using a 3D coupled ice-ocean model. *Reports Meteorology and Climatology No. 95, SMHI, Norrköping, Sweden*, 63 pp.
5. Kauker, F., and **H.E.M. Meier**, 2002: Reconstructing atmospheric surface data for the period 1902-1998 to force a coupled ocean-sea ice model of the Baltic Sea. *Reports Meteorology and Climatology No. 99, SMHI, Norrköping, Sweden*, 30 pp.
6. **Meier, H.E.M.** and F. Kauker, 2002: Simulating Baltic Sea climate for the period 1902-1998 with the Rossby Centre coupled ice-ocean model. *Reports Oceanography No. 30, SMHI, Norrköping, Sweden*, 111 pp.
7. Räisänen, J., U. Hansson, A. Ullerstig, R. Döscher, L.P. Graham, C. Jones, **M. Meier**, P. Samuelsson and U. Willén, 2003: GCM driven simulations of recent and future climate with the Rossby Centre coupled atmosphere - Baltic Sea regional climate model RCAO. *Reports Meteorology and Climatology No. 101, SMHI, Norrköping, Sweden*, 61 pp.
8. **Meier, H.E.M.**, J. Andréasson, B. Broman, L.P. Graham, E. Kjellström, G. Persson, and M. Viehhauser, 2006: Climate change scenario simulations of wind, sea level, and river discharge in the Baltic Sea and Lake Mälaren region - a dynamical downscaling approach from global to local scales. *Reports Meteorology and Climatology No. 109, SMHI, Norrköping, Sweden*, 52 pp.
9. Gustafsson, B.G., **H.E.M. Meier**, O.P. Savchuk, K. Eilola, L. Axell, and E. Almroth, 2008: Simulation of some engineering measures aiming at reducing effects from eutrophication of the Baltic Sea. *Report Series C82, Earth Sciences Centre, Gteborg University, Sweden*, 59 pp.
10. Eilola, K., **H.E.M. Meier**, Almroth, E., and A. Höglund, 2008: Transports and budgets of oxygen and phosphorus in the Baltic Sea. *Rapport Oceanografi No. 96, SMHI, Norrköping, Sweden*, 39 pp.

11. Höglund, A., **H.E. M. Meier**, B. Broman, and E. Kriezi, 2009: Validation and correction of regionalised ERA-40 wind fields over the Baltic Sea using the Rossby Centre Atmosphere model RCA3.0. *Rapport Oceanografi No. 97, SMHI, Norrköping, Sweden*, 29 pp.
12. Eilola, K., B.G. Gustafson, R. Hordoir, A. Höglund, I. Kuznetsov, **H.E.M. Meier**, T. Neumann, and O. P. Savchuk, 2010: Quality assessment of state-of-the-art coupled physical-biogeochemical models in hindcast simulations 1970-2005. *Rapport Oceanografi No. 101, SMHI, Norrköping, Sweden*, 21 pp.
13. **Meier, H.E.M.** and K. Eilola, 2011: Future projections of ecological patterns in the Baltic Sea. *Rapport Oceanografi No. 107 SMHI, Norrköping, Sweden*, 15 pp.
14. **Meier, H.E.M.**, H. Andersson, C. Dieterich, K. Eilola, B.G. Gustafsson, A. Höglund, R. Hordoir and S. Schimanke, 2011: Transient scenario simulations for the Baltic Sea Region during the 21st century. *Rapport Oceanografi No. 108 SMHI, Norrköping, Sweden*, 81 pp.
15. Löptien, U. and **H.E.M. Meier**, 2011: Simulated distribution of colored dissolved organic matter in the Baltic Sea. *Rapport Oceanografi No. 109, SMHI, Norrköping, Sweden*, 15 pp.
16. Eilola, K., J. Hansen, **H.E.M. Meier**, K. Myrberg, V.K. Ryabchenko and M.D. Skogen, 2011: Eutrophication Status Report of the North Sea, Skagerrak, Kattegat and the Baltic Sea: A model study. *Rapport Oceanografi No. 110, SMHI, Norrköping, Sweden*, 55 pp.
17. Schimanke, S., E. Kjellström, G. Strandberg, and **H.E.M. Meier**, 2011: A regional climate model simulation over Europe for the last Millennium. *Rapport Oceanografi No. 111, SMHI, Norrköping, Sweden*, 37 pp.
18. Gustafsson, B.G., O.P. Savchuk, and **H.E.M. Meier**, 2011: Load scenarios for ECOSUPPORT. *Technical Report No.4*, Baltic Nest Institute, Stockholm, Sweden. ISSN 978-91-86655-03-7.
19. **Meier, H. E. M.**, K. Eilola, B. G. Gustafsson, I. Kuznetsov, T. Neumann, and O. P. Savchuk, 2012: Uncertainty assessment of projected ecological quality indicators in future climate. *Rapport Oceanografi No. 112, SMHI, Norrköping, Sweden*, 11 pp.
20. Germo Väli, **H.E.M. Meier** and J. Elken, 2012: Simulated variations of the Baltic Sea halocline during 1961-2007. *Report Oceanography, No. 44, SMHI, Norrköping, Sweden*, 37 pp. (http://www.smhi.se/polopoly_fs/1.21994!RO_44.pdf)
21. Dieterich, C., S. Schimanke, S. Wang, G. Vli, Y. Liu, R. Hordoir, L. Axell, A. Hglund, and **H.E.M. Meier**, 2013: Evaluation of the SMHI coupled atmosphere-ice-ocean model RCA4-NEMO. *Report Oceanography (RO) No. 47, SMHI, Norrköping, Sweden*, 60 pp.
22. Hordoir, R., B. W. An, J. Haapala, and **H.E.M. Meier**, 2013: BaltiX V1.1: A 3D ocean modelling configuration for Baltic and North Sea exchange analysis. *Report Oceanography (RO) No. 48, SMHI, Norrköping, Sweden*, 66 pp.
23. Eilola, K., J. Hansen, **H.E.M. Meier**, M.S. Molchanov, V.A. Ryabchenko and M.D. Skogen, 2013: Eutrophication Status Report of the North Sea, Skagerrak, Kattegat and the Baltic Sea: A model study. Present and Future Climate. *Rapport Oceanografi No. 115, SMHI, Norrköping, Sweden*, 38 pp.

Book chapters

1. **Meier, H.E.M.**, 2005: The doubly stratified regime: turbulence closures for an OGCM of the Baltic Sea. In: H.Z. Baumert, J. Simpson, and J. Sündermann (eds.), *Marine Turbulence: Theories, Observations, and Models. Results of the CARTUM Project.*, chapter 47, Cambridge University Press, Cambridge, 376-382
2. Rippeth, T. and **H.E.M. Meier**, 2005: The four shelf-sea regimes. In: H. Baumert, J. Simpson, and J. Sündermann (eds.), *Marine Turbulence: Theories, Observations, and Models. Results of the CARTUM Project.*, chapter 46, Cambridge University Press, Cambridge, 369-375
3. Heino, R., H. Tuomenvirta, V.S. Vuglinsky, B.G. Gustafsson, H. Alexandersson, L. Bärring, A. Briede, J. Cappelen, D. Chen, M. Falarz, M. Falarz, E. Førland, J. Haapala, J. Jaagus, L. Kitaev, A. Kont, E. Kuusisto, G. Lindström, **H.E.M. Meier**, M. Mietus, A. Moberg, K. Myrberg, T. Niedzwiedz, Ø. Nordli, A. Omstedt, K. Orviku, Z. Pruszek, E. Rimkus, V. Russak, C. Schrum, Ü. Suursaar, T. Vihma, R. Weisse, and J. Wibig, 2008: Past and current climate change. In: *Assessment of climate change in the Baltic Sea Basin (BACC)*, chap. 2, pp. 35–131, Springer Verlag, Berlin, Heidelberg.
4. Graham, L.P., D. Chen, O.B. Christensen, E. Kjellström, V. Krysanova, **H.E.M. Meier**, M. Radziejewski, J. Räisänen, B. Rockel, and K. Ruosteenoja, 2008: Projections of future anthropogenic climate change. In: *BALTEX Assessment of climate change in the Baltic Sea Basin (BACC)*, chap. 3, pp. 133–219, Springer Verlag, Berlin, Heidelberg.
5. Andersson, A. and **H.E.M. Meier**, 2010: Hur påverkas haven runt Sveriges kust av klimatförändringar? (How does climate change affect the seas around the Swedish coasts?) In: *Formas fokuserar: Sverige i nytt klimat, Forskningsrådet Formas, Stockholm, Sweden*, p. 117-132 (ISBN 978-91-540-6040-5)
6. **Meier, H.E.M.** and A. Höglund, 2012: Studying the Baltic Sea circulation with Eulerian tracers. In: T. Soomere and E. Quak, *Preventive Methods for Coastal Pollution: towards the Use of Ocean Dynamics for Pollution Control*, chapter 4, 105–134 Springer Verlag, Heidelberg.
7. **H.E.M. Meier**, 2013: Marine physical changes. In: *Second BALTEX Assessment of Climate Change in the Baltic Sea Basin (BACC II)*, chap. 4.3.3, pp. ???–???, Springer Verlag, Berlin, Heidelberg. In press.

Compendia

1. **Meier, H.E.M.**, 2009: Physical oceanography of the Baltic Sea and seas around Sweden. Course for PhD students, Stockholm University, January 2005 and February 2009, 195 pp.

Other scientific publications (Newsletter articles, conference abstracts and proceedings, etc.)

1. **Meier, H.E.M.**, and W. Krauss, 1994: Data assimilation into a numerical model of the Baltic Sea using the adjoint method, In: *Proceedings of the 19th Conference of the Baltic Oceanographers*, Sopot, Poland, 447-458.
2. **Meier, H.E.M.**, 1995: Data assimilation into a regional model of the western Baltic Sea. In: A. Staniforth (ed.), *Research activities in atmospheric and oceanic modelling*. WMO-ICSU-IOC Joint Committee for the World Climate Research Programme, 2 pp.

3. **Meier, H.E.M.**, and W. Krauss, 1995: Data assimilation into a numerical model of the Baltic Sea using the adjoint method, In: *Annales Geophysicae, Part II, Oceans, Atmosphere, Hydrology & Nonlinear Geophysics, Supplement II to Vol.13*. [European Geophysical Society 20th General Assembly, Hamburg, Germany, 3-7 April 1995].
4. **Meier, H.E.M.**, and W. Krauss, 1995: A regional high-resolution model of the western Baltic Sea in connection with data assimilation using the adjoint method. In: *Proceedings of the first study conference on BALTEX*, Ed.: A. Omstedt, Visby, Sweden, August 28 - September 1, 1995. *International BALTEX Secretariat publication series, GKSS, Geesthacht, Germany*, 3, 127-128.
5. **Meier, H.E.M.**, and W. Krauss, 1996: Mixed layer physics simulated by a regional model of the western Baltic Sea. In: *Annales Geophysicae, Part II, Oceans, Atmosphere, Hydrology & Nonlinear Geophysics, Supplement II to Vol.14*. [European Geophysical Society 21th General Assembly, The Hague, The Netherlands, 6-10 May 1996].
6. **Meier, H.E.M.**, 1997: Modelling the water exchange between North and Baltic Sea. In: *Annales Geophysicae, Part II, Oceans, Atmosphere, Hydrology & Nonlinear Geophysics, Supplement II to Vol.15*. [European Geophysical Society 22th General Assembly, Vienna, Austria, 21-25 April 1997].
7. **Meier, H.E.M.**, 1998: State-of-the-art of the Baltic/North Sea model development within SWECLIM. *SWECLIM Newsletter, SMHI, Norrköping, Sweden*, 1, 10-14.
8. **Meier, H.E.M.**, 1998: SWECLIM workshop on modelling sea ice coupled to a 3D Baltic Sea model held at SMHI, November 19 and 20, 1998. *SWECLIM Newsletter, SMHI, Norrköping, Sweden*, 3, 31-34.
9. **Meier, H.E.M.**, 1999: The Baltic Sea as a lake. *SWECLIM Newsletter, SMHI, Norrköping, Sweden*, 6, 27-31.
10. **Meier, H.E.M.**, 2000: Choices for parameterization of turbulence in the Baltic Sea. In: *Proceedings of the BALTEX workshop on "Parameterization of surface fluxes, atmospheric planetary boundary layer and ocean mixed layer turbulence for BRIDGE - What can we learn from field experiments"*, Abisko, Lapland, Sweden, June 20-21 1999. *International BALTEX Secretariat publication series, GKSS, Geesthacht, Germany*, 17, 108-115.
11. **Meier, H.E.M.**, 2000: First results of scenario simulations using a coupled ice-ocean model for the Baltic Sea. *SWECLIM Newsletter, SMHI, Norrköping, Sweden*, 7+8, 34-45.
12. **Meier, H.E.M.**, 2000: Scenario simulations using a coupled ice-ocean Baltic Sea model. In: *Geophysical Research Abstracts Vol.2*. [European Geophysical Society 25th General Assembly, Nice, France, 25-29 April 2000]. (CD-ROM, ISSN:1029-7006)
13. **Meier, H.E.M.**, 2000: On the quality of ERA sea surface temperatures. *SWECLIM Newsletter, SMHI, Norrköping, Sweden*, 9, 15-19.
14. Döscher, R., and **H.E.M. Meier**, 2000: A first test of an EVP sea-ice model in the Baltic Sea. *SWECLIM Newsletter, SMHI, Norrköping, Sweden*, 7+8, 27-33.
15. Döscher, R., and **H.E.M. Meier**, 2000: Sensitivity of an EVP sea-ice model in the Baltic Sea. In: *Geophysical Research Abstracts Vol.2*. [European Geophysical Society 25th General Assembly, Nice, France, 25-29 April 2000]. (CD-ROM, ISSN:1029-7006)

16. Döös, K., B. Jönsson, J. Nycander, P. Lundberg, R. Döscher and **M. Meier**, 2001: Lagrangian trajectory study of the Baltic Sea circulation. In: *Abstract Publication of the Baltic Sea Science Congress 2001*, Stockholm Marine Research Centre, p. 105.
17. Döscher, R., U. Willén, C. Jones, A. Rutgersson, U. Hansson and **H.E.M. Meier**, 2001: The state of development of the coupled ocean-atmosphere model RCAO. *SWECLIM Newsletter, SMHI, Norrköping, Sweden*, 10, 9-15.
18. Döscher, R., U. Hansson, C. Jones, **H.E.M. Meier**, A. Rutgersson and U. Willén, 2001: The development of the coupled ocean-atmosphere model RCAO. In: *Proceedings of the third study conference on BALTEX*, Ed.: J. Meywerk. Mariehamn, Åland, Finland, July 2 - 6, 2001. *International BALTEX Secretariat publication series, GKSS, Geesthacht, Germany*, 20, 45-46.
19. **Meier, H.E.M.**, 2001: On the parameterization of mixing in 3D Baltic Sea models. In: *Geophysical Research Abstracts Vol.3*. [European Geophysical Society 26th General Assembly, Nice, France, 25-30 March 2001]. (CD-ROM, ISSN:1029-7006)
20. **Meier, H.E.M.**, 2001: On the need for 3D Baltic Sea models in climate studies. In: B. Sjöberg, S. Nerheim, A. Stigebrandt, and J. Öberg (eds.), Long term oceanographic modelling of the Baltic: A report from a scientific workshop arranged by the MARE research programme, Göteborg university, Earth Sciences Centre, *Report C37*, 63-70.
21. **Meier, H.E.M.**, 2001: The Rossby Centre regional ocean climate model. In: B. Sjöberg, S. Nerheim, A. Stigebrandt, and J. Öberg (eds.), Long term oceanographic modelling of the Baltic: A report from a scientific workshop arranged by the MARE research programme, Göteborg university, Earth Sciences Centre, *Report C37*, 41-45.
22. **Meier, H.E.M.**, 2001: Simulated water and heat cycles of the Baltic Sea using a 3D coupled ice-ocean model. In: *Proceedings of the third study conference on BALTEX*, Ed.: J. Meywerk. Mariehamn, Åland, Finland, July 2 - 6, 2001. *International BALTEX Secretariat publication series, GKSS, Geesthacht, Germany*, 20, 161-162.
23. **Meier, H.E.M.** and R. Döscher, 2001: On the closure of simulated heat cycles in the Baltic Sea. In: *Geophysical Research Abstracts Vol.3*. [European Geophysical Society 27th General Assembly, Nice, France, 25-30 March 2001]. (CD-ROM, ISSN:1029-7006)
24. **Meier, H.E.M.**, R. Döscher, U. Hansson, C. Jones, A. Rutgersson and U. Willén, 2001: On the closure of simulated heat cycles in the Baltic Sea. *SWECLIM Newsletter, SMHI, Norrköping, Sweden*, 10, 27-31.
25. Döscher, R., and **H.E.M. Meier**, 2002: A first test of an EVP sea-ice model in the Baltic Sea. *Proceedings of the 3rd workshop of Baltic sea-ice climate change*, Stawiska, Poland, October 5-8, 1999, 23-34.
26. Döscher, R., and **H.E.M. Meier**, 2002: Baltic Sea ice in regional control and scenario runs based on Hadley Centre data. *SWECLIM Newsletter, SMHI, Norrköping, Sweden*, 12, 24-27.
27. Döscher, R., and **H.E.M. Meier**, 2002: A new tool for coupled simulations of the BALTEX area: RCAO. *BALTEX Newsletter, GKSS, Geesthacht, Germany*, 4, 1-3.
28. Döscher, R., U. Willén, C. Jones, A. Rutgersson, **H.E.M. Meier**, U. Hansson, and P. Graham, 2002: On the coupling of a 3D Baltic Sea model to a regional atmospheric model. In:

H. Ritchie (ed.), *Research activities in atmospheric and oceanic modelling*. WMO-ICSU-IOC Joint Committee for the World Climate Research Programme, WMO Commission for atmospheric sciences, CAS/JSC working group on numerical experimentation, Report No.32, WMO/TD-No.1105, 09-03 - 09-04.

29. **Meier, H.E.M.**, 2002: On the response of the Baltic Sea salinity to extreme freshwater supply. *SWECLIM Newsletter, SMHI, Norrköping, Sweden*, 13, 13-16.
30. **Meier, H.E.M.**, and R. Döscher, 2002: First regional downscaling results for Baltic Sea temperature and salinity based on Hadley Centre boundary data from HadAM3. *SWECLIM Newsletter, SMHI, Norrköping, Sweden*, 12, 21-24.
31. **Meier, H.E.M.**, and F. Kauker, 2002: Long-term simulations of the Baltic Sea using a 3D coupled ice-ocean model. *NSC Annual Progress Report, July 2000 - June 2001, National Supercomputer Centre, Linköping University, SE-58183 Linköping, Sweden*, 66-73.
32. **Meier, H.E.M.**, and F. Kauker, 2002: Modelling decadal variability of the Baltic Sea during 1902-1998. In: *Geophysical Research Abstracts Vol.4*. [European Geophysical Society 27th General Assembly, Nice, France, 21-25 April 2002]. (CD-ROM, ISSN:1029-7006)
33. **Meier, H.E.M.**, and F. Kauker, 2002: On the sensitivity of Baltic Sea salinity over decadal time scales. *SWECLIM Newsletter, SMHI, Norrköping, Sweden*, 12, 45-49 pp.
34. **Meier, H.E.M.**, and F. Kauker, 2002: Modeling Baltic Sea climate for the period 1902-1998. *BALTEX Newsletter, GKSS, Geesthacht, Germany*, 4, 3-6.
35. Rummukainen, M., R. Döscher, L.P. Graham, U. Hansson, C. Jones, **H.E.M. Meier**, J. Räisänen, P. Samuelsson, A. Ullerstig, and U. Willén, 2002: PRUDENCE-related regional climate modeling at the SMHI/Rosby Centre, Norrköping. In: PRUDENCE kick-off meeting Snekkersten December 3-5, 2001. *Danish Climate Centre Report No.01-8, Danish Meteorological Institute, Copenhagen, Denmark*, 40-41.
36. Rutgersson, A., R. Döscher, **H.E.M. Meier**, and A. Omstedt, 2002: Estimating the uncertainty in simulating sea surface properties using two Baltic Sea ocean-models. *SWECLIM Newsletter, SMHI, Norrköping, Sweden*, 12, 39-45.
37. Döscher, R., and **H.E.M. Meier**, 2003: Baltic Sea temperature, salinity and sea ice in 30-year timeslice Control and Climate-Scenario experiments. In: *Geophysical Research Abstracts Vol.5*. [European Geophysical Society - American Geophysical Union - European Union of Geosciences Joint Assembly, Nice, France, 6-11 April 2003]. (CD-ROM, ISSN:1029-7006)
38. **Meier, H.E.M.**, 2003: On the sensitivity of the Baltic Sea salinity to the freshwater supply. In: *Geophysical Research Abstracts Vol.5*. [European Geophysical Society - American Geophysical Union - European Union of Geosciences Joint Assembly, Nice, France, 6-11 April 2003]. (CD-ROM, ISSN:1029-7006)
39. **Meier, H.E.M.**, 2003: Nederbörd och vind förklarar Östersjöns salthalt. In: *SWECLIM Annual Report 2002, SMHI, Norrköping, Sweden*, 18-19.
40. **Meier, H.E.M.**, 2003: On the sensitivity of Baltic Sea ice variability to changing climate. In: *Proceedings of a workshop on small-scale sea-ice and ocean modeling (SIOM) in the Nearshore Beaufort and Chukchi Seas at the International Arctic Research Center (IARC)*, University of Alaska, Fairbanks, Alaska, August 7-9, 2002, Ed.: J. Wang, Coastal Marine Institute, University of Alaska, Fairbanks, Alaska, OCS Study MMS 2003-043.

41. **Meier, H.E.M.**, and R. Döscher, 2003: Modeling the climate, environment and processes of the Baltic Sea: Examples and ideas based on the regional model system at the Rossby Centre. In: Minutes of the 14th BALTEX Science Steering Group Meeting at Lund University, Lund, Sweden, November 18-20, 2002. *International BALTEX Secretariat publication series, GKSS, Geesthacht, Germany*, 25, 47-48.
42. **Meier, H.E.M.**, 2003: Modelling the changing climate of the Baltic Sea during the 20th and 21st century. In: *Abstract Publication of the Baltic Sea Science Congress 2003*, Helsinki, Finland, August 24-28, 2003, p.3.
43. **Meier, H.E.M.**, and F. Kauker, 2003: Modelling decadal variability of the Baltic Sea during 1902-1998. In: J. Rodhe and B. Sjöberg (eds.), *Processes of importance for the large-scale salinity distribution of a semi-enclosed sea such as the Baltic Sea*. A report from the SWECLIM-MARE workshop at Kristineberg, Sweden, 2002. Göteborg University, Earth Sciences Centre, *Report C50*, p.16.
44. **Meier, H.E.M.**, 2003: Modelling the vertical circulation of the Baltic Sea using a three-dimensional ocean model. In: J. Rodhe and B. Sjöberg (eds.), *Processes of importance for the large-scale salinity distribution of a semi-enclosed sea such as the Baltic Sea*. A report from the SWECLIM-MARE workshop at Kristineberg, Sweden, 2002. Göteborg University, Earth Sciences Centre, *Report C50*, 22-23.
45. Özsoy, E. and **H.E.M. Meier**, 2003: Summary comments of Session II “Which processes govern the horizontal salinity gradients?”, In: J. Rodhe and B. Sjöberg (eds.), *Processes of importance for the large-scale salinity distribution of a semi-enclosed sea such as the Baltic Sea*. A report from the SWECLIM-MARE workshop at Kristineberg, Sweden, 2002. Göteborg University, Earth Sciences Centre, *Report C50*, 9-10.
46. Döscher, R., and **H.E.M. Meier**, 2004: Simulated sea surface temperature and sea ice in different climates of the Baltic Sea. *BALTEX Newsletter, GKSS, Geesthacht, Germany*, 6, 18-22.
47. **Meier, H.E.M.** and F. Kauker, 2004: Response of a two-layer estuary to freshwater inflow and wind: a case study of the Baltic Sea. In: J. Côté (ed.), *Research activities in atmospheric and oceanic modelling*. WMO-ICSU-IOC Joint Committee for the World Climate Research Programme, WMO Commission for atmospheric sciences, CAS/JSC working group on numerical experimentation, sec.8, 13-14.
48. Döscher, R. and **H.E.M. Meier**, 2004: Baltic Sea climate scenarios for sea surface temperature and ice. In: J. Côté (ed.), *Research activities in atmospheric and oceanic modelling*. WMO-ICSU-IOC Joint Committee for the World Climate Research Programme, WMO Commission for atmospheric sciences, CAS/JSC working group on numerical experimentation, sec.7, 5-6.
49. Wyser, K., Döscher, R., **Meier, H.E.M.** and C. Jones, 2004: Development of a coupled regional climate model for the Arctic. In: J. Côté (ed.), *Research activities in atmospheric and oceanic modelling*. WMO-ICSU-IOC Joint Committee for the World Climate Research Programme, WMO Commission for atmospheric sciences, CAS/JSC working group on numerical experimentation, sec.9, 9-10.
50. **Meier, H.E.M.**, and F. Kauker, 2004: What causes stagnation of the Baltic Sea deep-water? In: *Proceedings of the fourth study conference on BALTEX*, Ed.: H.-J. Isemer, Gudhjem, Bornholm, Denmark, May 24-28, 2004. *International BALTEX Secretariat publication series No.29, GKSS, Geesthacht, Germany*, 134-135.

51. **Meier, H.E.M.**, B. Broman, and E. Kjellström, 2004: Modelling sea level variability in different climates of the Baltic Sea. In: *Proceedings of the fourth study conference on BALTEX*, Ed.: H.-J. Isemer, Gudhjem, Bornholm, Denmark, May 24-28, 2004. *International BALTEX Secretariat publication series No.29, GKSS, Geesthacht, Germany*, 170-171.
52. R. Döscher and **H.E.M. Meier**, 2004: Simulated sea surface temperature and sea ice in different climates of the Baltic. In: *Proceedings of the fourth study conference on BALTEX*, Ed.: H.-J. Isemer, Gudhjem, Bornholm, Denmark, May 24-28, 2004. *International BALTEX Secretariat publication series No.29, GKSS, Geesthacht, Germany*, 162-163.
53. Persson, G., Graham, L.P., Andréasson, J., and **H.E.M. Meier**, 2004: Impact of climate change effects on sea-level rise in combination with an altered river flow in the Lake Mälaren Region. In: *Proceedings of the fourth study conference on BALTEX*, Ed.: H.-J. Isemer, Gudhjem, Bornholm, Denmark, May 24-28, 2004. *International BALTEX Secretariat publication series No.29, GKSS, Geesthacht, Germany*, 172-173.
54. Wyser, K., Döscher, R., **Meier, H.E.M.** and C. Jones, 2004: Development of a coupled regional climate model for the Arctic. *NSC Annual Progress Report, 2003, National Supercomputer Centre, Linköping University, SE-58183 Linköping, Sweden*, 163-165.
55. **Meier, H.E.M.**, 2004: Quantification of residence times in the Baltic Sea - a challenge for 3D numerical modelling. *NSC Annual Progress Report, 2003, National Supercomputer Centre, Linköping University, SE-58183 Linköping, Sweden*, 113-118.
56. **Meier, H.E.M.**, 2005: Regional ocean modeling - climate variability and impact studies of the Baltic Sea.
In: Extended Abstracts of a WMO/WCRP-sponsored regional-scale climate modelling workshop - High-resolution climate modelling: assessment, added value and applications. Lund, Sweden, 29 March - 2 April 2004. Ed.: L. Bärring and R. Laprise. *Lund Electronic Reports in Physical Geography No.5*, <http://www.natgeo.lu.se/Elibrary/LeRPG/LeRPGHome.htm>, pp. 40-41.
57. **Meier, H.E.M.**, 2005: Modelling the age of Baltic Sea water masses: inter-annual variability, steady-state sensitivity experiments, and scenarios. In: *Abstract Publication of the 5th Baltic Sea Science Congress 2005*, Sopot, Poland, June 20-23, 2005, 22-23.
58. Döscher, R. and **H.E.M. Meier**, 2005: Simulated Sea Surface Temperature and Sea Ice in different Climates of the Baltic. In: *Abstract Publication of the 5th Baltic Sea Science Congress 2005*, Sopot, Poland, June 20-23, 2005, 220-221.
59. Broman, B. and **H.E.M. Meier**, 2005: Modeling waves in past and future climates of the Baltic Sea. In: *Abstract Publication of the 5th Baltic Sea Science Congress 2005*, Sopot, Poland, June 20-23, 2005, 72-73.
60. **Meier, H.E.M.**, R. Döscher, B. Broman, and J. Piechura, 2005: The major Baltic inflow in January 2003 and preconditioning by smaller inflows in summer/autumn 2002: a model study. In: *Abstract Publication of the Baltic Sea Science Congress 2005*, Sopot, Poland, June 20-23, 2005, 116-117.
61. Dethloff, K., A. Rinke, S. Saha, E. Sokolova, W. Dorn, D. Handorf, J.E. Haugen, M.Ø. Køltzow, L.P. Roed, J.H. Christensen, M. Stendel, P. Kuhry, S. Holzkämper, P. Wassmann, M. Reigstad, B. Rockel, A. Benkel, R. Döscher, K. Wyser, and **M. Meier**, 2005: Feedbacks between the Arctic and the global climate system. In: *Geophysical Research Abstracts*

Vol.7, 04174, [European Union of Geosciences General Assembly, Vienna, Austria, 24-29 April 2005]. (CD-ROM, ISSN:1029-7006)

62. **Meier, H.E.M.**, 2005: New scenario simulations of the Baltic Sea. *BALTEX Newsletter, GKSS, Geesthacht, Germany*, No. 8, 5-7.
63. **Meier, H.E.M.**, R. Döscher, and K. Wyser, 2006: Modelling the changing climate of the Baltic Sea. *SNIC Annual Progress Report, 2003-2005, Swedish National Infrastructure for Computing, Campus Norrköping, Linköping University, SE-601 74 Norrköping, Sweden*, 103-105.
64. Döscher, R., **H.E.M. Meier**, and K. Wyser, 2006: Sensitivities in the Rossby Centre Arctic models. In: Rinke, A. and K. Dethloff (eds.), *Global Implications of Arctic Climate Processes and Feedbacks, Report of the Arctic Climate Workshop, Alfred Wegener Institute for Polar and Marine Research, Potsdam (Germany), 5-7 September 2005, Reports on Polar and Marine Research No. 520, ISSN 1618-3193*, 36-39.
65. Wyser, K., Jones, C., Döscher, R., and **H.E.M. Meier**, 2006: Comparison of modelled and observed clouds and radiation in the Arctic. In: Rinke, A. and K. Dethloff (eds.), *Global Implications of Arctic Climate Processes and Feedbacks, Report of the Arctic Climate Workshop, Alfred Wegener Institute for Polar and Marine Research, Potsdam (Germany), 5-7 September 2005, Reports on Polar and Marine Research No. 520, ISSN 1618-3193*, 139-143.
66. Kauker, F. and **H.E.M. Meier**, 2006: Reconstructing atmospheric surface data of the 20th century to force of a coupled sea ice- ocean model of the Baltic Sea. In: *Geophysical Research Abstracts Vol.8*, [European Union of Geosciences General Assembly, Vienna, Austria, 2-7 April 2006]. (CD-ROM, ISSN:1029-7006)
67. Döscher, R., **H.E.M. Meier**, and K. Wyser, 2006: Sensitivities in the Rossby Centre Arctic models. In: *Geophysical Research Abstracts Vol.8*, [European Union of Geosciences General Assembly, Vienna, Austria, 2-7 April 2006]. (CD-ROM, ISSN:1029-7006)
68. Döscher, R., K. Wyser, R. Redler, and **H.E.M. Meier**, 2006: RCAO, the Rossby Centre Atmosphere-Ocean model. In: *Geophysical Research Abstracts Vol.8*, [European Union of Geosciences General Assembly, Vienna, Austria, 2-7 April 2006]. (CD-ROM, ISSN:1029-7006)
69. Eilola, K., and **Meier, H.E.M.**, 2006: Implementation of a high-resolution 3D ecosystem model for regional climate studies in the Baltic Sea. *BALTEX Newsletter, GKSS, Geesthacht, Germany*, No. 9, 10-11.
70. Wyser, K., R. Döscher, and **H.E.M. Meier**, 2007: RCAO - a coupled regional climate model for the Arctic. [European Union of Geosciences General Assembly, Vienna, Austria, 15-20 April 2007]. (CD-ROM, ISSN:1029-7006)
71. **Meier, H.E.M.**, 2007: Modeling the pathways and ages of inflowing salt- and freshwater in the Baltic Sea. In: *Proceedings of the fifth study conference on BALTEX*, Ed.: H.-J. Isemer, Kuressaare, Saaremaa, Estonia, 4-8 June 2007, *International BALTEX Secretariat publication series No.38, GKSS, Geesthacht, Germany*, 23-24.
72. Eilola, K. and **H.E.M. Meier**, 2007: Impact of climate change on the Baltic Sea ecosystem. In: *Proceedings of the fifth study conference on BALTEX*, Ed.: H.-J. Isemer, Kuressaare, Saaremaa, Estonia, 4-8 June 2007, *International BALTEX Secretariat publication series No.38, GKSS, Geesthacht, Germany*, 67-68.

73. **H.E.M. Meier**, 2008: Symposium “Eutrophication in future climate”. *BALTEX Newsletter*, GKSS, Geesthacht, Germany, 12, p 12.
74. **H.E.M. Meier**, 2008: ECOSUPPORT - An advanced modeling tool for scenarios of the Baltic Sea ECOSystem to SUPPORT decision making. *BALTEX Newsletter*, GKSS, Geesthacht, Germany, 12, 7-10.
75. Kotilainen, A., Arppe, L., Jansen, E., Karhu, J., Kotilainen, M., Kuijpers, A., **Meier, M.**, Moros, M. Neumann, T., Ryabchuk, D., Snowball, I., Spiridonov, M., Witkowski, A., 2009: INFLOW providing information on forcing mechanisms of environmental changes of the Baltic Sea during the past 6000 years and future scenarios. In: Kubischta, F., Kultti, S., Salonen, V.-P. (Eds.) 6th National Colloquium 4.-6.3.2009, Helsinki : Program and Abstracts. Publications of the Department of Geology. Series A 3. Helsinki: University of Helsinki, 30.
76. **H.E.M. Meier**, 2009: Östersjön i förändrat klimat. *Samhällsbyggaren*, 2, 51-53.
77. **H.E.M. Meier**, and B.G. Gustafsson, 2009: Vad styr saltvatteninbrotten i Östersjön? Havet 2009 (www.havet.nu), Swedish Environmental Protection Agency, 19-22.
78. **H.E.M. Meier**, 2009: ECOSUPPORT - An advanced modeling tool for scenarios of the Baltic Sea ECOSystem to SUPPORT decision making. *BONUS Newsletter*, November 2009 (www.bonusportal.org).
79. **Meier, H.E.M.**, 2010: Impact of changing climate on the Baltic Sea ecosystem, *NSC News, 2010:1*, National Supercomputer Centre, Linköping University, SE-58183 Linköping, Sweden, 3-5.
80. **H.E.M. Meier** and ECOSUPPORT co-workers, 2010: Transient scenario simulations for the Baltic Sea for 1961-2099. In: *Proceedings of the sixth study conference on BALTEX*, Ed.: M. Reckermann, Miedzyzdroje, Island of Wolin, Poland, 14 to 18 June 2010, *International BALTEX Secretariat publication series No.46 GKSS, Geesthacht, Germany*, 35–36
81. Eilola, K., B. G. Gustafsson, R. Hordoir, A. Höglund, I. Kuznetsov, **H.E.M. Meier**, T. Neumann and O. P. Savchuk, 2010: Quality assessment of state-of-the-art coupled physical-biogeochemical models for the Baltic Sea. In: *Proceedings of the fifth study conference on BALTEX*, Ed.: M. Reckermann, Miedzyzdroje, Island of Wolin, Poland, 14 to 18 June 2010, *International BALTEX Secretariat publication series No.46 GKSS, Geesthacht, Germany*, 95–96.
82. **Meier, H. E. M.**, H. C. Andersson, C. Dieterich, K. Eilola, B. G. Gustafsson, A. Höglund, R. Hordoir, I. Kuznetsov, T. Neumann, O. P. Savchuk and S. Schimanke, 2012: Projected Baltic Sea ecosystem changes in future climates. ICES CM Documents, 2012, ICES CM 2011/R:18.
83. **H.E.M. Meier**, H. Andersson and M. Reckermann, 2013: ECOSUPPORT: Decision Support for the Baltic Sea Environmental Management in the light of climate change. *BALTEX Newsletter*, HZG, Geesthacht, Germany, 15, 5-6. (<http://www.baltex-research.eu/publications/Newsletters>)
84. **H.E.M. Meier** and ECOSUPPORT co-workers, 2013: Advanced modeling tool for scenarios of the Baltic Sea ECOSystem to SUPPORT decision making (ECOSUPPORT, 2009-2011) In: *Proceedings of the seventh study conference on BALTEX*, Ed.: M. Reckermann and S. Köppen, Borgholm, Öland, Sweden, 10-14 June 2013, *International BALTEX Secretariat publication series No.53, GKSS, Geesthacht, Germany*, 175–176.

85. **H.E.M. Meier**, 2013: A new science and outreach programme for the Baltic Sea region. In: *Proceedings of the seventh study conference on BALTEX*, Ed.: M. Reckermann and S. Köppen, Borgholm, Öland, Sweden, 10-14 June 2013, *International BALTEX Secretariat publication series No.53, GKSS, Geesthacht, Germany*, 6–7.
86. **H. E. M. Meier**, A. Rutgersson, M. Reckermann, J. Aigars, F. Berger, I. Dailidienė, C. Donnelly, J. Haapala, S. Keevalik, K. Kulinski, A. Lehmann, K. Myrberg, C. Nilsson, A. Omstedt, I. Partasenok, P. Post, G. Rehder, B. Smith, M. Stendel, H. von Storch, S. Zhuravlev and E. Zorita, 2013: Baltic Earth - Earth System Science for the Baltic Sea region. *Baltic Earth Newsletter, HZG, Geesthacht, Germany*, 1, 1-3. http://www.baltex-research.eu/balticearth/Newsletter1_BalticEarth.pdf

Other publications

1. Haapala, J., W. Krauss, M. Leppäranta, A. Lehmann, P. Ljungemyr, **M. Meier**, and A. Omstedt, 1997: Baltic Sea modelling must include ice! *BASYS Newsletter*, 3rd issue (May 1997), <http://www.io-warnemuende.de/Projects/Basys/newslett/news3.htm>
2. Bengtsson, L., R. Döscher, L. Funkquist, B. Håkansson, **H.E.M. Meier**, A. Omstedt, J. Sahlberg and B. Sjöberg, 2001: A strategy for ocean modelling at SMHI. *Internal Report, SMHI, Norrköping, Sweden*, 48 pp + 8 pp Appendix.

Plenary lectures at international meetings and other important presentations since 1998

Lectures 1998

- SWECLIM workshop on atmosphere and ocean circulation climate modeling, Norrköping, Sweden, February 25, 1998, Author(s): **H.E.M. Meier**, Title: First steps towards a Baltic/North Sea model for regional climate studies.
- SWECLIM workshop on modeling sea ice coupled to a 3D Baltic Sea model, Norrköping, Sweden, November 19-20, 1998, Author(s): **H.E.M. Meier**, Title: Introduction into the workshop idea and brief overview of the ocean modeling activities at the Rossby Centre.

Lectures 1999

- CARTUM (Comparative Analysis and Rationalization of Second-Moment Turbulence Models) Kick-Off Workshop I, Hamburg, Germany, June 23-25, 1999, Author(s): **H.E.M. Meier**, Title: Choices for parameterization of turbulence in the Baltic Sea.
- BALTEX workshop on “Parameterization of surface fluxes, atmospheric planetary boundary layer and ocean mixed layer turbulence for BRIDGE - What can we learn from field experiments”, Abisko, Lapland, Sweden, June 20-21, 1999, Author(s): **H.E.M. Meier**, Title: Choices for parameterization of turbulence in the Baltic Sea.
- Third workshop of Baltic sea-ice climate change, Stawiska, Poland, October 5-8, 1999, Author(s): **H.E.M. Meier**, Title: Multi-year simulations using a coupled ice-ocean model for the Baltic Sea.
- SWECLIM workshop on coupling of ocean, ice, and atmosphere, Norrköping, Sweden, October 20-22, 1999, Author(s): **H.E.M. Meier**, Title: First results of multi-year simulations using the Rossby Centre Ocean model.

Lectures 2000

- European Geophysical Society 25th General Assembly, Nice, France, April 25-29, 2000, Author(s): **H.E.M. Meier**, Title: Scenario simulations using a coupled ice-ocean Baltic Sea model.
- Second CARTUM Workshop, Marseilles, France, March 1-2, 2000, Author(s): **H.E.M. Meier**, Title: Modeling turbulence under sea ice.

Lectures 2001

- Swedish Ministry of the Environment - Informal workshop on Climate Change, Norrköping, Sweden, February 4-7, 2001, Author(s): **H.E.M. Meier**, Title: Impact on Baltic Sea.
- European Geophysical Society 26th General Assembly, Nice, France, April 21-25, 2001, Author(s): **H.E.M. Meier**, Title: On the parameterization of mixing in 3D Baltic Sea models.
- European Geophysical Society 26th General Assembly, Nice, France, April 21-25, 2001, Author(s): **H.E.M. Meier** and R. Döscher, Title: On the closure of simulated heat cycles in the Baltic Sea.

- Third CARTUM Workshop, Budapest, Hungary, May 31 - June 1, 2001, Author(s): **H.E.M. Meier**, Title: On the parameterization of mixing in 3D Baltic Sea models.
- Third study conference on BALTEX, Mariehamn, Åland, Finland, July 2 - 6, 2001, Author(s): **H.E.M. Meier**, Title: Simulated water and heat cycles of the Baltic Sea using a 3D coupled ice-ocean model.
- CARTUM Final Conference, Brussels, Belgium, December 3-5, 2001, Author(s): **H.E.M. Meier**, Title: On the mean vertical circulation of the Baltic Sea simulated with a 3D coupled ice-ocean-turbulence model.

Lectures 2002

- European Geophysical Society 27th General Assembly, Nice, France, April 21-25, 2002, Author(s): **H.E.M. Meier** and F. Kauker, Title: Modeling decadal variability of the Baltic Sea during 1902-1998 (Poster).
- Fourth Workshop on Baltic Sea Ice Climate, Norrköping, Sweden, May 22-24, 2002 Author(s): **H.E.M. Meier** and R. Döscher, Title: On the sensitivity of Baltic Sea ice variability to changing climate.
- International Workshop on Small-Scale Sea Ice-Ocean Modeling (SIOM) for Nearshore Beaufort and Chukchi Seas, Fairbanks, Alaska, August 7-9, 2002, Author(s): **H.E.M. Meier**, Title: On the sensitivity of Baltic Sea ice variability to changing climate (invited).
- Kick-off meeting of SEAREG (Sea Level Change Affecting the Spatial Development in the Baltic Sea Region), Helsinki, Finland, September 15-17, 2002, Author(s): **H.E.M. Meier**, Title: Introduction of the SWECLIM project.
- Baltic Sea Ice Workshop, Celebrating the 100th anniversary of the Tvärminne Zoological Station, September 18-21, 2002, Author(s): **H.E.M. Meier**, Title: Baltic sea ice in changing climate simulated with the Rossby Centre coupled ice-ocean model.
- SWECLIM-MARE workshop on Processes of importance for the large-scale salinity distribution of a semi-enclosed sea such as the Baltic, Kristineberg, Sweden, November 4-6, 2002, Author(s): **H.E.M. Meier** and F. Kauker, Title: Modeling decadal variability of the Baltic Sea during 1902-1998.
- SWECLIM-MARE workshop on Processes of importance for the large-scale salinity distribution of a semi-enclosed sea such as the Baltic, Kristineberg, Sweden, November 4-6, 2002, Author(s): **H.E.M. Meier**, Title: Modeling the vertical circulation of the Baltic Sea deepwater using a 3D ocean model.
- First Workshop on Climate Variations in Sweden During the Past 2000 Years, Stockholm University, Stockholm, November 7-8, 2002, Author(s): **H.E.M. Meier** and F. Kauker, Title: Modeling climate variability of the Baltic Sea.
- BALTEX Workshop on Achievements of and Perspectives for the BALTEX Programme, Lund University, Lund, Sweden, November 18, 2002, Author(s): **H.E.M. Meier** and R. Döscher, Title: Modeling the climate, environment and processes of the Baltic Sea: Examples and ideas based on the regional model system at the Rossby Centre (invited).

Lectures 2003

- Seminar at the International Arctic Research Center (IARC), Frontier Research System for Global Change, University of Alaska, Fairbanks, U.S.A., February 19, 2003, Author(s): **H.E.M. Meier**, Title: Regional climate modeling at the Rossby Centre (invited).
- Seminar on Measures against Coastal Erosion, Helsingborg, Sweden, March 27, 2003, Author(s): **H.E.M. Meier**, Title: Climate change - projections of Baltic sea level variability in 100 years (invited).
- EGS - AGU - EUG Joint Assembly, Nice, France, April 6-11, 2003, Author(s): **H.E.M. Meier**, Title: On the sensitivity of the Baltic Sea salinity to the freshwater supply.
- First Annual SEAREG Workshop (Sea Level Change Affecting the Spatial Development in the Baltic Sea Region), University of Greifswald, Greifswald, Germany, April 23-25, 2003, Author(s): **H.E.M. Meier**, Title: Modeling of climate change and possibilities of application.
- First Annual SEAREG Workshop (Sea Level Change Affecting the Spatial Development in the Baltic Sea Region), University of Greifswald, Greifswald, Germany, April 23-25, 2003, Author(s): **H.E.M. Meier** and B. Broman, Title: Climate and sea level change modeling: Further work.
- SWECLIM (Swedish Regional Climate Modelling Programme) Final Scientific Conference, Söderköping, Sweden, June 11-12, 2003, Author(s): **H.E.M. Meier** and R. Döscher, Title: Ocean Climate Research at the Rossby Centre during SWECLIM.
- 4th Baltic Sea Science Congress, Helsinki University, Helsinki, Finland, August 24-28, 2003, Author(s): **H.E.M. Meier**, Title: Modelling the changing climate of the Baltic Sea during the 20th and 21st century (plenary session).
- Second Workshop on Climate Variations in Sweden during the past 2000 years: Climate variability, environmental change, and cultural response, Uppsala, Sweden, October 20-21, 2003, Author(s): **H.E.M. Meier**, Title: The Baltic Sea as integrating climate indicator.

Lectures 2004

- WCRP-sponsored Regional-scale Climate Modelling Workshop on “High-resolution climate modeling: Assessment, added value and applications”, Lund, Sweden, March 29 - April 2, 2004, Author(s): **H.E.M. Meier**, Title: Regional ocean modeling (invited),
<http://www.natgeo.lu.se/Lars.barring/RCMworkshop/RCMhome.htm>
- Second Annual SEAREG Workshop (Sea Level Change Affecting the Spatial Development in the Baltic Sea Region), Stockholm, Sweden, April 22-24, 2004, Author(s): **H.E.M. Meier**, Title: Simulated sea level in past and future climate of the Baltic Sea.
<http://www.gsf.fi/projects/seareg/2ndworkshop.html>
- Second Annual SEAREG Workshop (Sea Level Change Affecting the Spatial Development in the Baltic Sea Region), Stockholm, Sweden, April 22-24, 2004, Author(s): **H.E.M. Meier**, Title: Foreseen SMHI contribution to Knowledge Base and other DSF parts.
<http://www.gsf.fi/projects/seareg/2ndworkshop.html>

- Fourth study conference on BALTEX, Gudhjem, Bornholm, Denmark, 24-28 May, 2004, Author(s): **H.E.M. Meier** and F. Kauker, Title: What causes stagnation of the Baltic Sea deepwater?
- Fourth study conference on BALTEX, Gudhjem, Bornholm, Denmark, 24-28 May, 2004, Author(s): **H.E.M. Meier**, B. Broman, and E. Kjellström, Title: Modelling sea level variability in different climates of the Baltic Sea (Poster).
- Workshop on “Sea waves and current modeling in marine ecology with emphasis given to data assimilation” organized by BALTDER (Centre of Excellence for Baltic Development, Education and Research), Marine Station on Hel, Institute of Oceanology, University of Gdansk, Poland, 22-24 August, 2004, Author(s): **H.E.M. Meier**, Title: Variational data assimilation using the adjoint method: an application for the Baltic Sea (invited).
- Presentation at the Institute of Oceanology, Polish Academy of Sciences, Sopot, Poland, 25 August, 2004, Author(s): **H.E.M. Meier**, Title: Modeling climate variability of the Baltic Sea - new results based upon the regional model system at the Rossby Centre (invited).
- Bjerknes Centenary 2004, Open Science Conference “Climate Change in High Latitudes”, Bergen, Norway, September 1-3, 2004, Author(s): **H.E.M. Meier** and R. Döscher, Title: Sea-ice climate of the Baltic in the late 21st century - a dynamical downscaling approach using results of two global models and two forcing scenarios (Poster).
- Rossby Centre Climate Modelling Day, Norrköping, Sweden, October 6, 2004, Author(s): **H.E.M. Meier**, Title: What information do we get from the RCO model?

Lectures 2005

- Third Annual SEAREG Workshop (Sea Level Change Affecting the Spatial Development in the Baltic Sea Region), Tallin, Estonia, March 3-5, 2005, Author(s): **H.E.M. Meier**, B. Broman, H. Kallio, and E. Kjellström. Title: Projections of future surface winds and sea levels in the late 21st century and their application for impact studies of flood prone areas in the Baltic Sea Region.
<http://www.gsfi.fi/projects/seareg/2ndworkshop.html>
- 9th Workshop of the Arctic Ocean Model Intercomparison Project (AOMIP), McGill University, Montreal, Canada, June 15-16, 2005, Author(s): **H.E.M. Meier**, R. Döscher, K. Wyser, and K. Döös, Title: The Rossby Centre Ocean model applied to the Arctic Ocean using ERA-40.
- 5th Baltic Sea Science Congress (“The Baltic Sea - a changing ecosystem”), Sopot, Poland, June 20-23, 2005, Author(s): **H.E.M. Meier**, Title: Modelling the age of Baltic Sea water masses: inter-annual variability, steady-state sensitivity experiments, and scenarios (plenary session).
- Workshop on “Ventilation of the Baltic Sea deepwater: observations and model results” at the 5th Baltic Sea Science Congress (“The Baltic Sea - a changing ecosystem”), Sopot, Poland, June 20-23, 2005, Author(s): **H.E.M. Meier**, R. Döscher, B. Broman, and J. Piechura, Title: The major Baltic inflow in January 2003 and preconditioning by smaller inflows in summer/autumn 2002: a model study.

- 5th Baltic Sea Science Congress (“The Baltic Sea - a changing ecosystem”), Sopot, Poland, June 20-23, 2005, Author(s): R. Döscher, and **H.E.M. Meier**, Title: Simulated Sea Surface Temperature and Sea Ice in different Climates of the Baltic (Poster).
- Rossby Centre Day 2005, Norrköping, Sweden, October 6, 2005, Author(s): **H.E.M. Meier**, Title: Stakeholder support. Experiences and tools from the SEAREG project.
- Presentation at the Baltic Sea Research Institute Warnemünde, Germany, 25 October, 2005, Author(s): **H.E.M. Meier**, Title: Klimaveränderungen der Ostsee im 20. und 21. Jahrhundert - neue Ergebnisse basierend auf dem regionalen Modellsystem des Rossby Centers (invited).
- Fourth Workshop on Climate Variations in Sweden during the past 2000 years: Observed and simulated climate variability. Norrköping, Sweden, November 3-4, 2005, Author(s): **H.E.M. Meier**, Title: Observed and simulated salinity variations in the Baltic Sea.
- Presentation at the Institute of Oceanology, University of Gdansk, Gdynia, Poland, 7 November, 2005, Author(s): **H.E.M. Meier**, Title: Past and future climate change of the Baltic Sea (invited).
- Presentation at the Institute of Oceanology, University of Gdansk, Gdynia, Poland, 9 November, 2005, Author(s): **H.E.M. Meier**, Title: Modelling the vertical circulation of the Baltic Sea deep water (invited).

Lectures 2006

- UK/Sweden science seminar “Predicting climate change in the Arctic”, Stockholm, Sweden, 8-9 March, 2006, Author(s): **H.E.M. Meier**, Title: The Rossby Centre Ocean model applied to the Baltic Sea and Arctic Ocean (invited).
- International “Workshop on Polar and Global Climate Modeling: Connection and Interplay”, International Arctic Research Center, University of Alaska Fairbanks, Alaska, USA, 14-16 June, 2006, Author(s): **H.E.M. Meier**, Title: Sensitivity of Arctic sea ice in coupled and uncoupled regional climate model simulations (invited).

Lectures 2007

- 6th Baltic Sea Science Congress, Rostock, Germany, 19-23 March, 2007, Author(s): **H.E.M. Meier**, Title: On the Baltic conveyor belt.
- Baltic Sea 2020 Workshop: Understanding hypoxia in the Baltic Sea, Lund University, Lund, Sweden, 17-19 April, 2007, Author(s): **H.E.M. Meier**, Title: Modelling hypoxia in the Baltic Sea during the 20th and 21st centuries (invited short presentation).
- HELCOM-EuroGOOS workshop: Operational models in the service of the Baltic Sea Action Plan, Helsinki, Finland, 22 May, 2007, Author(s): **H.E.M. Meier**, Title: Long-term scenario simulations of the Baltic Sea ecosystem to support decision making.
- Workshop on added values of regional climate models and detection and attribution studies in the Baltic Basin, Göteborg University, Göteborg, Sweden, 24-25 May, 2007, Author(s): **H.E.M. Meier**, Title: How RCO can be used in Baltic Sea attribution studies.
- Fifth study conference on BALTEX, Kuressaare, Saaremaa, Estonia, 4-8 June 2007, Author(s): **H.E.M. Meier**, Title: Modeling the pathways and ages of inflowing salt- and freshwater in the Baltic Sea.

- Fifth study conference on BALTEX, Kuressaare, Saaremaa, Estonia, 4-8 June 2007, Author(s): **H.E.M. Meier** and K. Eilola. Title: Impact of climate change on the Baltic Sea ecosystem.
- AOMIP/(C)ARCMIP/SEARCH for DAMOCLES workshop, University Pierre et Marie Curie, Paris, France, 29-31 October 2007, Author(s): **H.E.M. Meier** and Per Pemberton. Title: On the parameterization of mixing in regional circulation models for the Arctic Ocean.
- Presentation at Uppsala University, Sweden, 5 October, 2007, Author(s): **H.E.M. Meier**, Title: Baltic Sea modeling activities at the Swedish Meteorological and Hydrological Institute 1997-2007 - a review (invited).
- Swedish Marine Science Conference 2007, Tjärno marine biological laboratory, Strömstad, Sweden, 7-9 November 2007, Author(s): **H.E.M. Meier**, Kari Eilola, and Elin Almroth, Title: Uncertainties of future projections of the Baltic ecosystem.
- Baltic Sea 2020 Workshop: Understanding hypoxia in the Baltic Sea, Lund University, Lund, Sweden, 27-29 November, 2007, Author(s): **H.E.M. Meier**, Kari Eilola, and Lars Axell, Title: Simulations of some engineering methods proposed to improve conditions in the Baltic proper using RCO-SCOBI (invited presentation).

Lectures 2008

- BALTEX workshop on the Utility of Regional Climate Models, Swedish Meteorological and Hydrological Institute, Norrköping, Sweden, 23 January, 2008, Author(s): **H.E.M. Meier**, Title: Scenarios of the Baltic Sea ecosystem calculated with a regional climate model.
- HELCOM EUTRO PRO 6-2008 meeting, Copenhagen, Denmark, 4-5 February, 2008, Author(s): Kari Eilola and **H.E.M. Meier**, Title: Modelling of Baltic Sea reference conditions for WFD implementation.
- ECOOP Annual Meeting, Hellenic Centre for Marine Research, Glyfada (Athens), Greece, 13-14 February, 2008, Author(s): **H.E.M. Meier**, Kari Eilola, and Elin Almroth, Title: Climate-related changes in marine ecosystems simulated with a three-dimensional coupled biogeochemical-physical model of the Baltic Sea (invited presentation).
- Presentation at the Centre for Marine and Atmospheric Sciences (ZMAW), Geophysical Colloquium, Hamburg, Germany, 17 April, 2008, Author(s): **H.E.M. Meier**, Title: Changing climate of the Baltic Sea during the 20th and 21st century - latest results based upon coupled physical-biogeochemical model simulations (invited presentation).
- US/EU-Baltic 2008 International Symposium: Ocean Observations, Ecosystem-Based Management and Forecasting, Tallinn, Estonia, 27-29 May, 2008, Author(s): **H.E.M. Meier**, Title: Impact of climate change on physical and biogeochemical variables of the Baltic Sea. (invited presentation).
- US/EU-Baltic 2008 International Symposium: Ocean Observations, Ecosystem-Based Management and Forecasting, Tallinn, Estonia, 27-29 May, 2008, Author(s): **H.E.M. Meier** and K. Eilola, Title: SMHI ecosystem hindcasting the last 30 years - a basis for reference conditions within the Marine Directive.

- Rossby Centre Day 2008: “Nordic-Arctic Climate Change : Towards an Earth System Approach” Norrköping, Sweden, October 13-14, 2008, Author(s): **H.E.M. Meier**, Title: Coupled Climate and Environmental Modeling for the Baltic Sea Region. (invited presentation)
- Marine Environmental Day 2008: “Can we save the Baltic Sea? - Eutrophication in future climate”, Norrköping, Sweden, October 21, 2008, Author(s): **H.E.M. Meier**, Title: Will the Baltic Sea Action Plan work in future climate?
- TELLUS-BALTEX Workshop on “Biogeochemical Land and Baltic Sea Interactions driven by Climate and Land Use”, University of Gothenburg, Sweden, 1-2 December 2008, Author: **H.E.M. Meier**, Title: Regional climate models and the coupling with marine biogeochemical models. (invited presentation)
- Application presentation at the Centre for Marine and Atmospheric Sciences (ZMAW), Hamburg, Germany, 22 December, 2008, Author(s): **H.E.M. Meier**, Title: Ursachen der dekadischen Variabilität der vertikalen Zirkulation in der Ostsee. (invited presentation)

Lectures 2009

- 2nd Lund Regional-scale Climate Modelling Workshop: “21st Century Challenges in Regional-scale Climate Modelling”, Lund, Sweden, 4 - 8 May 2009, Author(s): **H.E.M. Meier**, for the ECOSUPPORT consortium Title: Future challenges for regional coupled climate and environmental modeling in the Baltic Sea Region.
- 2nd Lund Regional-scale Climate Modelling Workshop: “21st Century Challenges in Regional-scale Climate Modelling”, Lund, Sweden, 4 - 8 May 2009, Author(s): **H.E.M. Meier**, L. Barring, O. Bøssing Christensen, E. Kjellström, P. Lorenz, B. Rockel, and E. Zorita. Title: Selected examples of the added value of regional climate models (Poster).
- Joint Assembly of IAMAS (International Association of Meteorology and Atmospheric Science), IAPSO (International Association for the Physical Sciences of the Oceans) and IACS (International Association of the Cryospheric Sciences), Montreal, Canada, July 20-24, 2009, Author(s): **H.E.M. Meier**, Title: Regional coupled climate and environmental modeling for the Baltic Sea Region.
- 7th Baltic Sea Science Congress, Tallinn, Estonia, 17-21 August, 2009, Author(s): **H.E.M. Meier**, for the ECOSUPPORT consortium Title: ECOSUPPORT - Advanced modeling tool for scenarios of the Baltic Sea ecosystem to support decision making.
- 7th Baltic Sea Science Congress, Tallinn, Estonia, 17-21 August, 2009, Author(s): **H.E.M. Meier**, K. Eilola, and E. Almroth Title: Climate-related changes in marine ecosystems simulated with a three-dimensional coupled biogeochemical-physical model of the Baltic Sea
- International conference on “Linking Science and Management in the Baltic Sea Ecoregion”, Copenhagen, Denmark, 9-10 September, 2009, Author(s): **H.E.M. Meier** Title: New modeling tools for scenarios of the Baltic Sea ecosystem to support decision making
- International Workshop on “The marine ecosystem in changing climate - on the added value of coupled climate-environmental modeling for the Baltic Sea”, Norrköping, Sweden, 16 October, 2009, Author(s): **H.E.M. Meier**, Title: Impact of changing climate on biogeochemical cycles in the Baltic Sea - an introduction.

- 13th Workshop of the Arctic Ocean Model Intercomparison Project (AOMIP), Woods Hole Oceanographic Institute, Woods Hole, MA, USA, October 20-23, 2009, Author(s): **H.E.M. Meier**, Sebastian Mårtensson, and Per Pemberton, Title: Impact of sea ice dynamics on the Arctic climate variability - a model study.

Lectures 2010

- BONUS annual conference 2010, Vilnius, Lithuania, 19-21 January, 2010, Author(s): **H.E.M. Meier** and ECOSUPPORT co-workers, Title: First results of recently performed scenario simulations for the Baltic Sea for 1961-2099.
- International workshop on “Effects of climate change on the marine environment” organized by the Nordic Council of Ministers, Copenhagen, Denmark, 9-10 March, 2010. Author(s): **H.E.M. Meier** Title: Impact of changing hydrography on biogeochemical cycles in future climates of the Baltic Sea. (invited presentation)
- Deutsche Meteorologische Gesellschaft, Deutscher Wetterdienst, Seewetteramt Hamburg, Hamburg, 16 March, 2010. Author(s): **H.E.M. Meier**, Title: Klimaszenarien für das 21. Jahrhundert - neue Ergebnisse basierend auf einem regionalen gekoppelten Atmosphäre-Eis-Ozeanmodell für die Ostsee. (invited presentation)
- Presentation at Finland’s environmental administration (SYKE), 24 May 2010, Helsinki, Finland, Author(s): **H.E.M. Meier**, Title: From daily algae forecasts towards scenario simulations of changing climate - an overview on environmental modelling activities at the Swedish Meteorological and Hydrological Institute. (invited presentation)
- Sixth study conference on BALTEX, Miedzyzdroje, Island of Wolin, Poland, 14 - 18 June 2010, Author(s): **H.E.M. Meier** and ECOSUPPORT collaborators. Title: Transient scenario simulations for the Baltic Sea for 1961-2099. (solicited)
- Sixth study conference on BALTEX, Miedzyzdroje, Island of Wolin, Poland, 14 - 18 June 2010, Author(s): K. Eilola, B.G. Gustafsson, R. Hordoir, A. Höglund, I. Kuznetsov, **H.E.M. Meier**, T. Neumann and O.P. Savchuk. Title: Quality assessment of state-of-the-art coupled physical-biogeochemical models for the Baltic Sea.
- EUTRO 2010, Nyborg, Denmark, 14 - 18 June 2010, Author(s): **H.E.M. Meier**, H. Andersson, K. Eilola, R. Hordoir, and A. Höglund, Title: New scenario simulations of the Baltic Sea ecosystem to support decision making.
- BalticStern workshop on scenarios, Stockholm Resilience Centre, Stockholm, Sweden, 6-7 October 2010, Author(s): **H.E.M. Meier**, Title: “Coupled climate-environmental modelling for the Baltic Sea Region” (invited presentation)
- BONUS+ program cluster workshop on “Uncertainties of scenario simulations”, Norrköping, Sweden, 14 October 2010. Author(s): **H.E.M. Meier**, A. Höglund, R. Döscher, H. Andersson, U. Löptien and E. Kjellström, Title: “Quality assessment of atmospheric surface fields over the Baltic Sea of an ensemble of regional climate model simulations with respect to ocean dynamics”

Lectures 2011

- Presentation at the Swedish Ministry of Environment within a seminar on climate change impact studies, Stockholm, 29 March, 2011: Author(s): **H.E.M. Meier**, Title: Klimat och Östersjöns havsmiljö (Climate and the Baltic Sea environment).

- Presentation at the Centre of Water and Environmental Studies, Linköping University, Sweden, 30 March, 2011, Author(s): **H.E.M. Meier**, Title: Coupled climate and marine environmental modelling (invited presentation).
- Kungliga Skogs- och Lantbruksakademiens (KSLAs) Vattenkommitté (The Royal Swedish Academy of Agriculture and Forestry's water committee), Seminarium om Baltic Sea Action Plan - De svåra frågorna om eutrofieringen. Author(s): **H.E.M. Meier**, Title: Behövs fler modeller av Östersjöns eutrofiering? (Are several models of the Baltic Sea eutrophication needed?) (invited presentation).
- EFARO (the European Fisheries and Aquaculture Research Organisation) General Assembly, Sopot, Poland, 24 May 2011, Author(s): **H.E.M. Meier**, Title: ECOSUPPORT - management support for a changing Baltic Sea. (invited presentation)
- 8th Baltic Sea Science Congress, St. Petersburg, Russia, August 22-26, 2011, Author(s): **H.E.M. Meier**, H. Andersson, C. Dieterich, K. Eilola, B. Gustafsson, A. Hglund, R. Hordoir, I. Kuznetsov, T. Neumann, O. Savchuk and S. Schimanke, Title: Nutrient load reductions in future climate of the Baltic Sea - assessment of uncertainties.
- 8th Baltic Sea Science Congress, St. Petersburg, Russia, August 22-26, 2011, Author(s): **H.E.M. Meier**, Title: Assessment of Climate Change for the Baltic Sea - an update.
- 8th Baltic Sea Science Congress, St. Petersburg, Russia, August 22-26, 2011, Author(s): R. Hordoir and **H.E.M. Meier**, Title: Effect of climate change on the thermal stratification of the Baltic Sea: a sensitivity experiment.
- 8th Baltic Sea Science Congress, St. Petersburg, Russia, August 22-26, 2011, Author(s): R. Hordoir and **H.E.M. Meier**, Title: Freshwater fluxes in the Baltic Sea: A model study.
- ICES Annual Science Conference, Gdansk, Poland, 19 - 23 September 2011, Author(s): **H.E.M. Meier**, H. Andersson, C. Dieterich, K. Eilola, B. Gustafsson, A. Höglund, R. Hordoir, I. Kuznetsov, T. Neumann, O. Savchuk and S. Schimanke, Title: Projected Baltic Sea ecosystem changes in future climates.
- BALTEX Workshop on "Different concepts in biogeochemical modelling of the Baltic Sea", Baltic Sea Research Institute Warnemünde, Germany, 29 September 2011, Author(s): **H.E.M. Meier**, Title: Advantages and disadvantages of biogeochemical models used within ECOSUPPORT (invited).
- BONUS Forum at the 2nd Annual Forum for the EU Strategy for the Baltic Sea Region and the Baltic Development Forum, Gdansk, Poland, 24 October 2011, Author(s): **H.E.M. Meier**, Title: Advanced modeling tool for scenarios of the Baltic Sea ECOSystem to SUPPORT decision making (ECOSUPPORT).
- International ECOSUPPORT and RECOCA stakeholder conference on "An outlook to the future Baltic Sea: how can we reach the targets of the Baltic Sea Action Plan?", Stockholm University, Stockholm, Sweden, 7 December 2011, Author(s): **H.E.M. Meier**, Title: Introduction of ECOSUPPORT.

Lectures 2012

- European Climate Research Alliance (ECRA) pilot workshop: "Regional sea level change", Utrecht, The Netherlands, 13-14 March, 2012: Author(s): **H.E.M. Meier**, Title: Projections of future storm surges in the Baltic Sea.

- Second Joint International Symposium on “Effects of Climate Change on the World’s Oceans” of ICES, PICES and IOS (convened as one of the official events related to Expo-2012), Yeosu, Korea, May 15-19, 2012: Author(s): **H.E.M. Meier**, Title: Hypoxia in future climates - a model ensemble study for the Baltic Sea (invited).
- Hypoxia workshop at Utrecht University, The Netherlands, 13 November, 2012: Author(s): **H.E.M. Meier**, Title: Ensemble modeling for assessing the status of the Baltic Sea under future climate scenarios and management options (invited).

Lectures 2013

- Application presentation at the Baltic Sea Research Institute Warnemünde, Germany, 11 January 2013, Author(s): **H.E.M. Meier**, Title: Estimating uncertainties in future projections of Baltic Sea hypoxia (invited).
- HELCOM Workshop on “Baltic Sea region climate change and its implications”, 5-6 February 2013, Warnemünde, Germany: Author(s): **H.E.M. Meier**, Title: HELCOM Baltic Sea Action Plan in a warmer world (invited).
- ECOCHANGE seminar on “The cycling and fate of contaminants in the Baltic Sea in a Climate Change Perspective”, Ume, Sweden, 29 April, 2013, Author(s): **H.E.M. Meier**, Title: Climate change scenarios for the Baltic Sea and it’s drainage area (invited).
- BEAM seminar on “Modeling climate variability of the Baltic Sea and relevant processes”, Stockholm, Sweden, 22 May, 2013, Author(s): **H.E.M. Meier**, Title: (invited).
- Presentation at the DTU Aqua, National Institute of Aquatic Resources, Technical University of Denmark, Charlottenlund, Denmark, 4 June, 2013, Author(s): **H.E.M. Meier**, Title: Impact of changing climate on the marine ecosystem - a numerical modeling approach. (invited presentation)
- Seventh study conference on BALTEX, Borgholm, Island of Öland, Sweden, 10-14 June 2013, Author(s): **H.E.M. Meier** and the ECOSUPPORT co-workers, Title: Advanced modeling tool for scenarios of the Baltic Sea ECOSystem to SUPPORT decision making (ECOSUPPORT, 2009-2011).
- Seventh study conference on BALTEX, Borgholm, Island of Öland, Sweden, 10-14 June 2013, Author(s): **H.E.M. Meier** (chair of the new programme), Title: A new science and outreach programme for the Baltic Sea region.
- Joint Assembly of IAHS (International Association of Hydrological Sciences), IAPSO (International Association for the Physical Sciences of the Oceans) and IASPEI (International Association of Seismology and Physics of the Earth’s Interior) on ‘Knowledge for the future’, Gothenburg, Sweden, 22-26 July, 2013, Author(s): **H.E.M. Meier** and the ECOSUPPORT co-workers, Title: Comparing reconstructed past variations and future projections of the Baltic Sea ecosystem - results from multi-model ensemble simulations.
- Gulf of Finland Year 2014 data/modelling fusion workshop, Finnish Meteorological Institute, Helsinki, Finland, 19 September 2013, Author(s): **H.E.M. Meier**, Title: Long-term changes in Baltic Sea ecosystems under climate and nutrient load changes. (invited presentation)
- ICES Annual Science Conference, Reykjavik, Iceland, 23 - 27 September 2013, Author(s): **H.E.M. Meier** and the ECOSUPPORT co-workers, Title: Comparing reconstructed past variations and future projections of the Baltic Sea ecosystem.

- Conference of the Swedish Institute for the Marine Environment on “Climate change and its impact on the sea - and what are we doing?” (“Klimatförändringar och dess påverkan på havet - och vad gör vi?”), Marstrand, Sweden, 16-17 October 2013, Author(s): **H.E.M. Meier**, Title: Hur kommer klimatet att påverka Östersjöns framtid? (How will climate change impact the future Baltic Sea?)
- Colloquium, Mesoskalige Meteorologie und Klima Institut für Atmosphäre und Umwelt/ Geozentrum, Riedberg Goethe-Universität Frankfurt a.M., 24 October 2013, Author(s): **H.E.M. Meier**, Title: On the added value of regional climate system models. (invited presentation)
- Colloquium, Institute for Coastal Research, Helmholtz-Zentrum Geesthacht (HZG), Geesthacht, Germany, 7 November 2013, Author(s): **H.E.M. Meier**, Title: From daily forecasts to regional climate system modelling - an overview on ocean modelling activities at the Swedish Meteorological and Hydrological Institute. (invited presentation)
- Baltic Earth workshop on “Challenges for biogeochemistry research in the Baltic Sea Region”, Institute of Oceanology, Polish Academy of Sciences (IOPAN), Sopot, Poland, 13 November 2013, Author(s): **H.E.M. Meier**, Title: Challenges for biogeochemical modelling on centennial time scales. (invited presentation)
- Bolin Days, Bolin Centre for Climate Research, Stockholm University, Stockholm, Sweden, 21 November 2013, Author(s): **H.E.M. Meier**, Title: Modelling the impact of changing climate on biogeochemical cycles in the Baltic Sea and Laptev Sea/Arctic Ocean.

Lectures 2014

- International Conference organized by the European Cooperation in Science and Technology (COST) on “Predictive Power of Marine Science in a Changing Climate, Sopot, Poland, 7-8 April 2014, Author(s): **H.E.M. Meier**, Title: Uncertainties in state-of-the-art climate change projections of the Baltic Sea ecosystem (invited keynote speaker of the conference)
- 3rd Lund Regional-scale Climate Modelling Workshop: “21st Century Challenges in Regional Climate Modelling”, Lund, Sweden, 16-19 June 2014: Author(s): **H.E.M. Meier** and members of the Baltic Earth Working Group on Regional Climate System Modelling, Title: Challenges in regional climate system modeling for the Baltic Sea and North Sea regions. (invited keynote speaker of Theme 1 “Regional Climate and Earth System Models”)