

Publications

17. Radtke, H., F. Börgel, **S.-E. Brunnabend**, A. Eggert, M. Kniebusch, H. E. M. Meier, D. Neumann, T. Neumann, M. and Placke, (2019), Validator – a Web-Based Interactive Tool for Validation of Ocean Models at Oceanographic Stations, *Journal of Open Research Software*, 7:18, doi: 10.5334/jors.259.
16. Meier, H. E. M., M. K. Edman, K. J. Eilola, M. Placke, T. Neumann, H. Andersson, **S.-E. Brunnabend**, C. Dieterich, C. Frauen, R. Friedland, M. Gröger, B. Gustafsson, E. Gustafsson, A. Isaev, M. Kniebusch, I. Kuznetsov, B. Müller-Karulis, A. Omstedt, V. Ryabchenko, S. Saraiva, O. Savchuk, (2019), Assessment of Uncertainties in Scenario Simulations of Biogeochemical Cycles in the Baltic Sea, *Frontiers in Marine Science*, section Coastal Ocean Processes, doi: 10.3389/fmars.2019.00046.
15. Meier, H. E. M., M. K. Edman, K. J. Eilola, M. Placke, T. Neumann, H. Andersson, **S.-E. Brunnabend**, C. Dieterich, C. Frauen, R. Friedland, M. Gröger, B. Gustafsson, E. Gustafsson, A. Isaev, M. Kniebusch, I. Kuznetsov, B. Müller-Karulis, A. Omstedt, V. Ryabchenko, S. Saraiva, O. Savchuk, (2018), Assessment of eutrophication abatement scenarios for the Baltic Sea by multi-model ensemble simulations, *Frontiers in Marine Science*, section Coastal Ocean Processes, doi: 10.3389/fmars.2018.00440.
14. **Brunnabend, S.-E.** and H. A. Dijkstra (2017). Asymmetric response of the Atlantic Meridional Ocean Circulation to freshwater anomalies in a strongly-eddying global ocean model. *Tellus Ser. A-Dyn. Meteorol. Oceanol.* 69: 1299283, doi: 10.1080/16000870.2017.1299283.
13. **Brunnabend, S.-E.**, H. A. Dijkstra, M. A. Kliphuis, H. E. Bal, F. Seinstra, B. v. Werkhoven, J. Maassen and M. v. Meersbergen (2017). Changes in extreme regional sea level under global warming. *Ocean Sci.* 13: 47-60, doi: 10.5194/os-13-47-2017.
12. Maassen J., B. van Werkhoven, M. van Meersbergen, H. E. Bal, M. Kliphuis, **S.-E. Brunnabend**, Henk A. Dijkstra, G. van Malenstein, M. de Vos, S. Kuijpers, S. Boele, J. Wolfrat, N. Hill, D. Wallom, Ch. Grimm, D. Kranzmueller, M. Santcroos, S. Jha, Y. El Khamra, F. O. Brian, B. Kirtman, and F. J. Seinstra, (2016), On the Complexities of utilizing large-scale Lightpath-Connected Distributed Cyberinfrastructure, *Concurrency Computation: Practical Experience*, doi: 10.1002/cpe.3853.
11. Rietbroek, R., **S.-E. Brunnabend**, J. Kusche, J. Schröter, and Ch. Dahle, (2016), Revisiting the contemporary sea-level budget on global and regional scales, *Proceedings of the National Academy of Sciences of the United States of America*, 113 (6), 1504–1509, doi: 10.1073/pnas.1519132113.
10. **Brunnabend, S.-E.**, J. Schröter, R. Rietbroek, an J. Kusche (2015), Regional sea level change in response to ice mass loss in Greenland, West Antarctic and Alaska, *Journal of Geophysical Research Oceans*, 120 (11), 7316–7328, doi: 10.1002/2015JC011244.
9. **Brunnabend, S.-E.**, H. A. Dijkstra, M. A. Kliphuis, B. van Werkhoven, H. E. Bal, F. Seinstra, J. Maassen, and M. van Meersbergen, (2014), Changes in extreme regional sea surface height due to an abrupt weakening of the Atlantic MOC, *Ocean Science*, 11, 1213-1241, 10.5194/os-10-881-2014.
8. van Werkhoven, B., J. Maassen, M. Kliphuis, H. A. Dijkstra, **S. E. Brunnabend**, M. van Meersbergen, F. J. Seinstra, and H. E. Bal (2014), A distributed computing approach to improve the performance of the Parallel Ocean Program (v2.1), *Geosci. Model Dev.*, 7, 267-281, doi: 10.5194/gmd-7-267-2014.

7. Rietbroek, R., M. Fritsche, Ch. Dahle, **S.-E. Brunnabend**, M. Behnisch, J. Kusche, F. Flechtner, J. Schröter, and R. Dietrich, (2013), Can GPS derived surface loading bridge a GRACE mission gap?, *Surveys in Geophysics*, doi: 10.1007/s10712-013-9276-5.
6. **Brunnabend, S.-E.**, J. Schröter, R. Timmermann, R. Rietbroek, and J. Kusche, (2012), Modeled steric and mass-driven sea level change caused by Greenland Ice Sheet melting, Special Issue SPP1257, *Journal of Geodynamics*, 59–60, 219–225, doi: 10.1016/j.jog.2011.06.001.
5. Rietbroek R., **S.-E. Brunnabend**, J. Schröter, and J. Kusche, (2012), Resolving sea level contributions by identifying fingerprints in time-variable gravity and altimetry, Special Issue SPP1257, *Journal of Geodynamics*, 59–60, 72–81, doi: 10.1016/j.jog.2011.06.007.
4. Rietbroek R., M. Fritsche, J. Kusche, F. Flechtner, Ch. Dahle, **S.-E. Brunnabend**, and J. Schröter, (2012), Global surface mass from a new combination of reprocessed GRACE and GPS data, Special Issue SPP1257, *Journal of Geodynamics*, 59–60, 64–71, doi: 10.1016/j.jog.2011.02.003.
3. **Brunnabend, S.-E.**, R. Rietbroek, R. Timmermann, J. Schröter, and J. Kusche, (2011), Improving mass redistribution estimates by modeling ocean bottom pressure uncertainties, *Journal of Geophysical Research*, 116, C08037, doi:10.1029/2010JC006617.
2. Jansen M., B.C. Gunter R. Rietbroek, C. Dahle, J. Kusche, F. Flechtner, **S.-E. Brunnabend**, and J. Schröter (2010), Estimating Sub-Monthly Global Mass Transport Signals Using GRACE, GPS and OBP Data Sets. In: Mertikas S. (eds) *Gravity, Geoid and Earth Observation*. International Association of Geodesy Symposia, vol 135, pp 587-593, Springer, Berlin, Heidelberg, doi: 10.1007/978-3-642-10634-7_78.
1. Rietbroek, R., **S.-E. Brunnabend**, Ch. Dahle, J. Kusche, F. Flechtner, J. Schröter, and R. Timmermann, (2009), Changes in total Ocean mass derived from GRACE, GPS, and Ocean Modeling with weekly Resolution, *Journal of Geophysical Research*, 114, C11004, doi:10.1029/2009JC005449.

Presentations (selected)

Brunnabend, S.-E., U. Gräwe, X. Lange, and H. E. M. Meier, Influence of global mean sea level rise on salt water inflow events, Geophysical Research Abstracts, Vol. 21, EGU2019-4862, 2019, EGU General Assembly 2019 (talk).

Brunnabend, S.-E., M. Placke, C. Frauen, F. Börgel, M. Schmidt, T. Neumann, and H. E. M. Meier, Evaluation of a regional climate system model for the Baltic Sea region, 2nd Baltic Earth Conference on “The Baltic Sea Region in Transition”, Helsingør, Denmark, 11-15 June 2018 (talk).

Brunnabend, S.-E., U. Gräwe, X. Lange, and H. E. M. Meier, Water exchange through the Danish Straits with global mean sea level rise, 2nd Baltic Earth Conference on “The Baltic Sea Region in Transition”, Helsingør, Denmark, 11-15 June 2018 (poster).

Brunnabend, S.-E., C. Frauen, M. Placke, F. Börgel, and H. E. M. Meier, A regional coupled Earth system model to study climate variations in the regions of the Baltic Sea, MedCORDEX-Baltic Earth-COST Workshop on Regional Climate System Modelling for the European Sea Regions, Palma de Mallorca, Spain, 14-16 March 2018 (talk).

Brunnabend, S.-E., H.E.M. Meier, and X. Lange, Global mean sea level rise changes salt inflow into the Baltic Sea, Baltic Sea Science Conference 2017, Rostock, Germany, 12-16 June 2017 (talk).

Brunnabend, S.-E., J. Kusche, und E. Forootan, Sea level reconstruction from altimetry und tide gauges using independent component analysis, Geophysical Research Abstracts, Vol. 18, EGU2017-6401, 2017, EGU General Assembly 2017 (poster).

Brunnabend, S.-E., J. Kusche, R. Rietbroek, and E. Forootan, On how climate variability influences regional sea level change, Geophysical Research Abstracts, Vol. 18, EGU2016-7511, 2016, EGU General Assembly 2016 (poster).

Brunnabend, S.-E., J. Kusche, R. Rietbroek, and E. Forootan, Sea level reconstruction from satellite altimetry and tide gauges using advanced signal decomposition techniques, Workshop on Global and Regional Sea Level Variability and Change, Palma de Mallorca, Spain, June 10-12, 2015 (talk).

Brunnabend, S.-E., Dijkstra, H. A., Kliphuis, M, van Werkhoven, B., Bal, H. E., van Meersbergen, M., Seinstra, F. and Maassen J., Modeling future high-resolution dynamic sea level change, Geophysical Research Abstracts, Vol. 17, EGU2015-2413, 2015, EGU General Assembly 2015 (talk).

Brunnabend, S.-E., Dijkstra, H. A., Kliphuis, M, van Werkhoven, B., Bal, H. E., Seinstra, F., Maassen J., and van Meersbergen, M., Non-linear response of the AMOC to buoyancy perturbations around Greenland, Geophysical Research Abstracts, Vol. 17, EGU2015-2415, 2015, EGU General Assembly 2015 (poster).

Brunnabend, S.-E., Dijkstra, H. A., Kliphuis, M, van Werkhoven, B, Bal, H. E., Maassen J., van Meersbergen, M., Seinstra, F., Historical high-resolution dynamic sea level variations, Geophysical Research Abstracts, Vol. 16, EGU2014-3399, 2014, EGU General Assembly 2014 (poster).

Brunnabend, S.-E., Dijkstra, H. A., Kliphuis, M. A, van Werkhoven, B., Maassen, J., Bal, H. E., van Meersbergen, M., and Seinstra, F., North Atlantic Ocean dynamics: from natural fluctuations to externally forced response, Ocean Science Meeting, Honolulu, USA, 23-28 February 2014 (poster).

Brunnabend, S.-E., Rietbroek, R. , Jensen, . L. , Schröter, J. , Kusche, J., Sea level fingerprints caused by land ice mass loss, Grace Science Team Meeting, Potsdam, 17-19September 2012 (talk).

Brunnabend, S.-E., Schröter, J., R., Rietbroek, R. and Kusche, J., Regional Sea Level Change Caused by Mass Loss of the Major Ice Sheets, IPY2012 Conference, Montreal, Canada, 22-27 April 2012 (talk).

Brunnabend, S.-E., Schröter, J., Rietbroek, R. and Kusche, J., Local sea level change caused by Greenland Ice Mass Loss, IMUM 2011, the 10th International Workshop on Multiscale (Un-)structured Mesh Numerical Modeling for coastal, shelf and global ocean dynamics, Bremerhaven, Germany, August 2011 (poster).

Brunnabend, S.-E., Schröter, J., Timmermann, R., Rietbroek, R. and Kusche, J., Decadal sea level change due to Greenland Ice Sheet melting, Geophysical Research Abstracts, Vol. 13, EGU2011-6253, EGU General Assembly 2011 (poster).

Brunnabend, S.-E., Schröter, J. and Timmermann, R., Oceanic response due to Greenland ice sheet melting, REKLIM Workshop, Bremerhaven, Germany, 29.-30. March 2011 (talk).

Brunnabend, S.-E., Rietbroek, R., Schröter, J. and Kusche, J., Fingerprints of Sea Level Change due to Mass Loss of Ice Sheets and Land Glaciers, IUGG 2011, Melbourne, Australia, 28. June - 07. July 2011 (talk).

Brunnabend, S.-E., Rietbroek, R., Schröter, J., Kusche, J., Timmermann, R., Estimated error of modeled OBP and its influence to a joint inversion, Geophysical Research Abstracts, Vol. 12, EGU2010-2093, 2010 (poster).

Brunnabend, S.-E., J. Schröter, R. Rietbroek, J. Kusche, Ch. Dahle, F. Flechtner, C. Böning, R. Timmermann, Abschätzung des Fehlers modellierter Veränderungen im Ozeanbodendruck und Vergleich mit in-situ Bodendruckdaten, Geodätische Woche, Karlsruhe, Germany, September 22.-24., 2009 (talk).

Brunnabend, S.-E., C. Böning, R. Rietbroek, Ch. Dahle, J. Kusche, F. Flechtner, R. Savcenko, W. Bosch, R. Timmermann, J. Schröter, On ocean density variations as observed by altimetry and GRACE, EGU 2009, Session OS15/G20 (Physical Oceanographic Applications of Combined Sea Level and Ocean Gravity measurements), Vienna, Austria, 19 - 24 April 2009 (poster).

Brunnabend, S.-E., J. Schröter, R. Timmermann, C. Böning, R. Rietbroek, J. Kusche, Ch. Dahle, F. Flechtner, Variations of ocean mass from a finite-element sea-ice ocean model (FESOM), EGU 2009, G18 (Mass Transport and Mass Distribution in the System Earth), Vienna, Austria, 19 - 24 April 2009 (talk).

Brunnabend S.-E., J. Schröter, R. Rietbroek, J. Kusche, Ch. Dahle, F. Flechtner, M.J.F. Jansen, B. Gunter, C. Böning, Surface Mass Transport by joint inversion of modeled ocean bottom pressure, GRACE gravity models and GPS site displacements, Geodetic Week, Bremen, Germany, September 30-October 02, 2008 (talk).