

# Publications (8 april 2019)

## In review:

Brown, N., J. Nilsson, and **P. Pemberton**. Arctic Ocean freshwater dynamics: transient response to increasing river runoff and precipitation, *Journal of Geophysical Research - Oceans*, **XX**, XX–XX, 20XX.

## Peer-reviewed publications:

Hordoir R, L. Axell , A. Höglund, C. Dieterich, F. Fransner, M. Gröger, Y. Liu, **P. Pemberton**, S. Schimanke, H. Andersson, P. Ljungemyr, P. Nygren, S. Falahat, A. Nord, A. Jönsson, I. Lake, K. Döös, M. Hieronymus, H. Dietze, U. Löptien, I. Kuznetsov, A. Westerlund, L. Tuomi, and J. Haapala. A NEMO based ocean model for Baltic & North Seas, research and operational applications, *Geoscientific Model Development*, <https://doi.org/10.5194/gmd-12-363-2019>, 2019.

Lambert, E, A. Nummelin, **P. Pemberton** and M. Illiack. Tracing the imprint of river runoff variability on Arctic water mass transformation, *Journal of Geophysical Research - Oceans*, **124**, 302–319, 2018.

Meier H.E.M., K. Eilola, E. Almroth-Rosell, S. Schimanke, M. Kneibusch, A. Höglund, **P. Pemberton**, Y. Liu, G. Väli and S. Saraiva. Disentangling the impact of nutrient load and climate change on Baltic Sea hypoxia and eutrophication since 1850, *Climate dynamics*, <https://doi.org/10.1007/s00382-018-4296-y>, 2018.

**Pemberton, P.**, Löptien, U., Hordoir, R., Höglund, A., Schimanke, S., Axell, L., and Haapala, J.: Sea-ice evaluation of NEMO-Nordic 1.0: a NEMO–LIM3.6 based ocean–sea ice model setup for the North Sea and Baltic Sea, *Geoscientific Model Development*, doi:10.5194/gmd-10-3105-2017, 2017.

Hordoir, R., Höglund, A., **Pemberton, P.** and Schimanke, S. Sensitivity of the overturning circulation of the Baltic Sea to climate change, a numerical experiment, *Climate Dynamics*, doi:10.1007/s00382-017-3695-9, 2017.

Höglund, A., **Pemberton, P.**, Hordoir, R. and Schimanke, S. Ice conditions for maritime traffic in the Baltic Sea in future climate, *Boreal Environment Research*, **22**, 245–265, 2017.

Wählström, C. Dietrich, **P. Pemberton** and H.E.M. Meier, Impact of increasing inflow of warm Atlantic water on the sea-air exchange of carbon dioxide and methane in the Laptev Sea, *Journal of Geophysical Research - Biogeosciences*, **121**, 1867–1883, 2016.

**Pemberton P.** and J. Nilsson, The response of the central Arctic Ocean stratification to freshwater perturbations, *Journal of Geophysical Research - Oceans*, **121**, 792–817, 2015.

**Pemberton P.** , J. Nilsson, M. Hieronymus and H.E.M. Meier, Arctic Ocean water mass transformation in S–T coordinates, *Journal of Physical Oceanography*, **45**, 1025–1049, 2015.

**Pemberton P.** , J. Nilsson and H.E.M. Meier, Arctic Ocean freshwater composition, pathways and transformations from a passive tracer simulation, *Tellus A*, **66**, 23988, 2014.

Jahn A., Y. Aksenov, B. A. de Cuevas, L. de Steur, S. Häkkinen, E. Hansen, C. Herbaut, M. N. Houssais, M. Karcher, F. Kauker, C. Lique, A. Nguyen, **P. Pemberton**, D. Worthen, and J. Zhang , 2012. Arctic Ocean freshwater: How robust are model simulations? *Journal of Geophysical Research*, 117, p.C00D16.

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, *Journal of Geophysical Research*, 117, C00D15, doi:10.1029/2010JC006936.

Eriksson, L. E. B., K. Borenäs, W. Dierking, A. Berg, **P. Pemberton**, H. Lindh, B. Karlson, and M. Santoro. Evaluation of new spaceborne SAR sensors for sea-ice monitoring in the Baltic Sea. *Canadian Journal of Re-*

*ote Sensing*, Vol. 36, Suppl. 1, pp. S56–S73, 2010.

**Conference proceedings and other publications:**

Hansson, M., **P. Pemberton**, B. Håkansson, A. Reinart, K. Alikas. Operational nowcasting of algal blooms in the Baltic Sea using MERIS and MODIS. ESA Living Planet Symposium, Bergen 28-Jun to 02-Jul-2010, Special Publication SP-686, 2010.

**Pemberton P.**, Mårtensson S. and H.E.M. Meier, SEARCH Sea Ice Outlook 2009 contributions (July and August).

<http://www.arcus.org/search/seaiceoutlook/index.php>

Eriksson, L. E. B., Borenäs, K., Dierking, W., **Pemberton, P.**, Griph, S., and Lindh, H., "Improved sea-ice monitoring for the Baltic Sea: Project overview and first results", Proceedings of The 2nd International Workshop on Advances in SAR Oceanography from Envisat and ERS Missions, Frascati, Italy, 21-25 January, 2008.

Eriksson, L. E. B., Borenäs, K., Dierking, W., **Pemberton, P.**, Griph, S., and Lindh, H., "Improved sea-ice monitoring for the Baltic Sea: Project overview and first results", Proceedings of The First Joint PI Symposium of ALOS Data Nodes for ALOS Science Program in Kyoto, Kyoto, Japan, 19 - 23 November, 2007, JAXA-SP-07-012, 2008.

Funkquist L., **P. Pemberton** and R. Sigg, 2006: Development of an Operational Data Assimilation System for the Baltic Sea. *ODON tech. rep.* (available at [www.noos.cc/ODON](http://www.noos.cc/ODON)), 32 pp.

**Pemberton, P.** and L. Funkquist, 2006: Data Assimilation Experiments in the Baltic Sea. *ODON tech. rep.* (available at [www.noos.cc/ODON](http://www.noos.cc/ODON)), 31 pp.

**Pemberton, P.**, 2006. Validation of a one year simulation of the Baltic Sea with optimised boundary conditions, improved bathymetry and data assimilation. In: *Proceedings of the Fourth International Conference on EuroGOOS 6–9 June, Brest, France*. Eds: Dahlin, H., Flemming, N.C, Marchard, P. and Petersson S.E. p.p 526-530.

**Pemberton, P.**, 2004. Variations in the volume transport between the main basins in the Baltic Sea, Kattegat and Skagerrak during 1997–2001, extracted from data from SMHI's operational ocean model. Masters thesis, Department of Physics, Umeå University, Sweden.