



## 3<sup>rd</sup> Baltic Earth Conference Online Programme

As of 29 May 2020

### Tuesday, 2 June 2020

- 9:45      Welcome by **H.E. Markus Meier**  
Chair of the Baltic Earth Science Steering Group  
Leibniz Institute for Baltic Sea Research Warnemünde, German
- Welcome and technical issues by **Marcus Reckermann**  
International Baltic Earth Secretariat at Helmholtz-Zentrum Geesthacht,  
Germany
- Welcome by **Karol Kulinski**  
Vice-Chair of Institute of Oceanology, Polish Academy of Science, Sopot,  
Poland
- 10:00      Welcome and Keynote 1  
**Social perception of the Baltic Sea in Poland**  
Jan Marcin Weslawski, Director of Institute of Oceanology, Polish Academy of  
Science, Sopot, Poland



## Salinity dynamics

*Chair: Markus Meier*

10:15 **Long-term variability of the near-bottom oxygen, temperature and salinity in the Southern Baltic**  
Beata Schmidt and A. Bulczak

10:25 **Rotation of floating particles in submesoscale cyclonic and anticyclonic eddies: a model study for the southeastern Baltic Sea**  
Victor Zhurbas, G. Väli and N. Kuzmina

10:35 **Discussion**

10:45 **Break**

11:15 **Keynote 2**  
**Connecting science, society and policy: experience of a small country**  
Tarmo Soomere



## Land-sea-atmosphere biogeochemical feedbacks

11:30 **Bioavailability and remineralization of sediment-derived dissolved organic carbon from the Baltic Sea depositional area**  
Monika Lengier, B. Szymczycha, K. Kuliński

11:40 **Submarine groundwater discharge influence on marine CO<sub>2</sub> system**  
Beata Szymczycha, A. Winogradow, K. Kuliński

11:50 **Benthic fauna influence on the marine silicon cycle in the coastal zones of the southern Baltic Sea**  
Zusanna Borawska, B. Szymczycha, K. Kozirowska-Makuch, MJ. Silberberger, M. Szczepanek, M. Kędra

12:00 **Lunch Break**

13:00 **Keynote 3**  
**The coastal processes and management in the southern Baltic Sea**  
Grzegorz Uścińowicz

13:15 **Microbial life and phosphorus cycling along salinity and redox gradients**  
Simeon Choo, S. Langer, H. Schulz-Vogt

13:25 **Discussion**

## **Natural hazards and high impact events**

*Chair: Karol Kulinski*

13:35 **Coastal flooding: Joint probability of extreme water levels and waves along the Baltic Sea coast (possible withdrawal)**  
Nadia Kudryavtseva, A. Räämet, T. Soomere

13:45 **Long-term statistics of atmospheric conditions over the Baltic Sea and meteorological features related to wind wave extremes in the Gulf of Gdańsk**  
Witold Cieślikiewicz, A. Cupiał

13:55 **Break**

14:25 Keynote 4  
**Changes in flood risk at a range of scales - Globe, Europe, Baltic Sea Basin**  
Zbigniew W. Kundzewicz

14:40 **Convective snow bands over the Baltic Sea in an ensemble of regional climate scenarios**  
Christian Dieterich, M. Gröger, K. Klehmet, P. Berg, J. Jeworrek, K. Jylhä, E. Kjellström, H. E. M. Meier, T. Olsson, L. Wu, A. Rutgersson

14:50 **From climate variability to heavy precipitation: Learning transfer functions from data**  
Michał Kałczyński, K. Krawiec, Z. Kundzewicz

15:00 **Definition of droughts and their recurrence in Lithuania**  
Egidijus Rimkus, E. Stonevičius, D. Valiukas, V. Mačiulytė

15:10 **Discussion**

15:20 **Break**

## Regional variability of water and energy exchanges

- 15:35 **Complementing ERA5 and E-OBS20 with high-resolution river discharge over Europe**  
Stefan Hagemann, T. Stacke
- 15:45 **Intermediate plumes of low oxygen in the southeastern Baltic Sea**  
Vadim Paka, M. Golenko, V. Zhurbas, A. Korzh, A. Kondrashov
- 15:55 **Mid-winter stratification formation in the Gulf of Finland**  
Taavi Liblik, G. Väli, M.-J. Lilover, J. Laanemets, V. Kikas, I. Lips
- 16:05 **Discussion**
- 16:15 End of Day 1

## Wednesday, 3 June 2020

*Chair: Marcus Reckermann*

- 10:00 Keynote 5  
**Dumped munitions as a pressure factor for the Baltic Ecosystem**  
Jacek Beldowski

## Multiple drivers of environmental changes

- 10:15 **First results of model sensitivity studies on the influence of global changes to the Baltic Sea**  
Birte-Marie Ehlers, F. Janssen, J. Abalichin
- 10:25 **Accuracy assessment of ESA CCI LC over Eastern Europe and the Baltic States from a climate modelling perspective – identification of spatial inaccuracy patterns and misclassification issues using a fuzzy comparison method**  
Vanessa Reinhart, P. Hoffmann, B. Bechtel, D. Rechid, J. Bohner
- 10:35 **Discussion**
- 10:45 **Break**

**11:15** Keynote 6  
**Declining oxygen in the Black Sea and in the world ocean**  
Marilaure Gregoire

## Regional climate system modelling

**11:30** **Does internally generated hydrodynamic noise matter in the Baltic Sea?**  
Hans von Storch, A. Omstedt, J. Elken

**11:40** **Uncertainties of Baltic Sea future projections under different shared socioeconomic pathways**  
H. E. Markus Meier, C. Dieterich, M. Gröger

**11:50** **Moving climate zones and climate change impact on anomalous weather phenomena in the Euro-Cordex / Baltic Sea region**  
Matthias Gröger, C. Dieterich, H. E. M. Meier

**12:00** **Discussion**

**12:10** **Lunch Break**

**13:10** Keynote 7  
**A philosophical view of the ocean and humanity**  
Anders Omstedt

## Climate change and its impacts


*Chair: Markus Meier*

**13:25** **The overturning circulation of the Baltic Sea and its sensitivity to long-term atmospheric and hydrological changes**  
Manja Placke, H. E. M. Meier, T. Neumann

**13:35** **Long-term observations of nitrous oxide and methane at the Boknis Eck Time-Series Station in the Eckernförde Bay (southwestern Baltic Sea)**  
Xiao Ma, S. T. Lennartz, H. W. Bange

**13:45** **Estimating the wave statistics bias in the partially ice-covered regions of the Baltic Sea**  
Fateme Najafzadeh, N. Kudryavtseva, A. Giudici, T. Soomere

**13:55** **Break**

- 14:25** Keynote 8  
**Multiple drivers of change in coastal water quality and ecosystem status: From participatory mental mapping to systems modelling**  
Georgia Destouni
- 14:40 **The future of the Gulf of Bothnia: NEMO-SCOBi SmartSea scenarios from the present until 2060**  
Simo-Matti Siiriä, S. Fredrikson, A. Oikkonen, J. Hieronymus, A. Höglund, P. Roiha, J. Särkkä, L. Arneborg, L. Tuomi
- 14:50 **Intraannual and longterm variability of wind in Poland in the period 1966-2018**  
Joana Wibig
- 15:00 **Discussion**
- 15:10 Break**
-  **New climate observation systems**
- Chair: Marcus Reckermann*
- 15:25 **ARGO floats – the modern tool for the Southern Baltic monitoring**  
Waldemar Walczowski, M. Merchel, D. Rak, P. Wieczorek
- 15:35 **Monitoring lake ice extent using optical satellite data**  
Kirsikka Heinilä, O.P. Mattila, S. Metsämäki, S. Väkevä, K. Luoju, G. Schwaizer, S. Koponen
- 15:45 **Using InSAR observations to understand changes to coastal and inland water resources in the Baltic basin**  
Fernando Jaramillo, S. Aminjafari, M. Nia, M. Darvishi, J. García
- 15:55 **Utilization of Earth Observation to support biogeochemical modeling**  
Sampsä Koponen, T. Neumann, D. Müller, C. Brockmann, C. Mazeran, P. Philipson, K. Kallio, J. Attila, S. Väkevä
- 16:05 **Discussion**
- Chair: Markus Meier, Karol Kulinski, Marcus Reckermann*
- 16:15 **General Discussion and Wrap-Up**
- 16:30 End of Day 2 and Farewell