



Universität
Rostock



Traditio et Innovatio



6th International Summer School on

“Climate of the Baltic Sea Region”

24 – 31 August 2020

co-organized by

Leibniz Institute for Baltic Sea Research Warnemünde (IOW), University of Rostock and
International Baltic Earth Secretariat at Helmholtz-Zentrum Geesthacht
under the umbrella of Baltic Earth (baltic.earth)

Draft Agenda

Day	Mon 24/8	Tue 25/8	Wed 26/8	Thu 27/8	Fri 28/8	Sat 29/8	Sun 30/8	Mon 31/8
General topic	Course introduction; Basics of climate	Physical oceanography of the Baltic Sea; Student presentations	Physical oceanography of the Baltic Sea; Wave dynamics; Air-sea interaction	Climate variability of coastal seas; Eutrophication	Remote sensing; Hypoxia; Science communication	Climate modeling; Baltic Earth activities	Carbon cycle ; History of the Baltic Sea	Biological oceanography
Speaker/title Morning session 09:00-10:30 (2 x 45 min)	Markus Meier: Course introduction and basics of climate dynamics	Short student presentations of their thesis work (3 min, each)	Markus Meier: Physical Oceanography of the Baltic Sea and other regional seas, part III	Markus Meier: Past and future climate variability of the Baltic Sea and other regional sea	Susanne Kratzer: Optical properties of Baltic Sea	Markus Meier: Climate Modeling – The global and regional perspective, part I	Karol Kulinski: Carbon cycle I	Marcus Reckermann: Biological Oceanography of the Baltic Sea
Break 10:30-11:00								
11:00-12:30 (2 x 45 min)	Markus Meier: Climate state and global circulation patterns in the atmosphere	Markus Meier: Physical Oceanography of the Baltic Sea and other regional seas, part I	Laura Tuomi: Ocean surface waves	Christoph Humborg: Processes in the Baltic Sea catchment area I	Susanne Kratzer: Ocean Color Remote Sensing	Markus Meier: Climate Modeling – The global and regional perspective, part II	Karol Kulinski: Carbon cycle II	Examination (45 minutes)
Lunch break 12:30-14:00								
Speaker/title Afternoon session: 14:00-15:30 (2 x 45 min)	Introduction in Jupyter notebooks (Jan) and R (Manja) (Jan Kaiser, Manja Placke, Hagen Radtke, and Markus Meier)	Time series analysis I (Hagen) (Hagen Radtke, Jan Kaiser, Manja Placke and Markus Meier)	Working with NetCDF data (Manja) Exercises physical oceanography (Markus) (Hagen Radtke, Jan Kaiser, Manja Placke and Markus Meier)	Calculating air-sea exchange and sensitivity analysis (Jan) “Montagsmaler” (Jan) (Hagen Radtke, Jan Kaiser, Manja Placke and Markus Meier)	Daniel Conley: Hypoxia	Time series analysis II (Hagen) Climate exercises (Markus) (Hagen Radtke and Markus Meier)	Exercises waves and ARGO float data (Laura) Repetition (Markus) (Laura Tuomi and Markus Meier)	Students' group presentations
Break 15:30-16:00								

16:00-17:30 (2 x 45 min)	Markus Meier: Large-scale ocean circulation	Markus Meier: Physical Oceanography of the Baltic Sea and part II	Laura Tuomi: Ocean surface layer dynamics	Christoph Humborg: Processes in the Baltic Sea catchment area II	Daniel Conley: Science communication	Marcus Reckermann: Baltic Earth –regional Earth system science and How to give a bad presentation	Markus Meier: History of the Baltic Sea	Students' group presentations; resumé of the school
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Lectures	Hours	Contents
Prof. Markus Meier	22	Physical Oceanography and Meteorology
Prof. Christoph Humborg	4	Terrestrial biogeochemistry
Dr. Karol Kulinski	4	Carbon cycle
Prof. Daniel Conley	4	Marine biogeochemistry and eutrophication
Dr. Laura Tuomi	4	Physical Oceanography
Prof. Susanne Kratzer	4	Remote sensing
Dr. Marcus Reckermann	4	Earth system science
Total	46	

Seminar	Hours	Contents
Prof. Markus Meier	6	Students' presentations supervised by Markus Meier and Marcus Reckermann and NN

Exercises and tutorials	Hours	Contents
Prof. Markus Meier	12	Exercises, tutorials, and students group work supervised by Markus Meier, Jan Kaiser, Manja Placke, Hagen Radtke and LauraTuomi