



Universität
Rostock



Traditio et Innovatio



7th International Summer School on

“Climate of the Baltic Sea Region”

23 – 30 August 2021

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 23/8	Tue 24/8	Wed 25/8	Thu 26/8	Fri 27/8	Sat 28/8	Sun 29/8	Mon 30/8
General topic	Travel to Askö and course introduction	Climate variability; Student presentations	Physical oceanography of the Baltic Sea; Biogeochemical cycles	Eutrophication, hypoxia and carbon cycle	Regional climate models; Science and art	Climate modeling; Paleoclimate; Hypoxia; Science communication	Biological oceanography; students' presentations	Travel from Askö
Speaker/title Morning session 09:00-10:30 (2 x 45 min)		Short student presentations of previous thesis work (3 min, each)	Markus Meier: Physical Oceanography of the Baltic Sea and other regional seas, part I	Markus Meier: Physical Oceanography of the Baltic Sea and other regional seas, part II	Markus Meier: Past climate variability of the Baltic Sea and other regional seas	Markus Meier: Climate Modeling – The global and regional perspective, part II	Examination (45 minutes) Results	
Break 10:30-11:00								
11:00-12:30 (2 x 45 min)		Markus Meier: Large-scale atmospheric circulation	Karol Kulinski: Global biogeochemical cycles	Christoph Humborg: Processes in the Baltic Sea catchment area	Markus Meier: Climate Modeling – The global and regional perspective, part I	Markus Meier: History of the Baltic Sea and past changes on millennial time scales	Marcus Reckermann: Biological Oceanography of the Baltic Sea	
Lunch break 12:30-14:00								
Speaker/title Afternoon session: 14:00-15:30 (2 x 45 min)		Ann-Kristin Malz: Programming with Python	Exercises: Analyze the variability of the maximum annual sea-ice extent in the Baltic Sea (trend, correlation to the atmospheric circulation, etc.)	Exercises: Analyze the variability of Major Baltic Inflows	Exercises IPCC AR6 and model uncertainty	Exercises: Science and art (Anders Omstedt)	Students' group presentation	
Break 15:30-16:00								
16:00-17:30 (2 x 45 min)	Markus Meier: Course introduction, Jupyter notebooks, and fundamental	Markus Meier: Large-scale ocean circulation	Karol Kulinski: Biogeochemical cycles in the Baltic Sea	Christoph Humborg: Carbon dioxide and methane fluxes	Anders Omstedt: Process-oriented modeling	Marcus Reckermann and Markus Meier: Science communication	Students' group presentations; résumé of the school	

	processes of the climate system							
Dinner 17:30-19:30								
19:30-21:00	Social activity (Ice breaker)	Students group work	Students group work	Students group work	Anders Omstedt: Science and art	Repetition and preparation for the exam	Social activity	

Lectures	Hours	Contents
Prof. Markus Meier	22	Physical Oceanography and Meteorology, Climate science
Prof. Christoph Humborg	4	Terrestrial biogeochemistry
Dr. Karol Kulinski	4	Carbon cycle
Prof. Anders Omstedt	4	Physical Oceanography
Dr. Marcus Reckermann	4	Earth system science
Ann-Kristin Malz	2	Programming with Python
Total	40	

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

Exercises and tutorials	Hours	Contents
Prof. Markus Meier	14	Exercises, tutorials, and students group work supervised by Markus Meier and Anders Omstedt