

**5th International Summer School on
“Climate of the Baltic Sea Region”
26 August – 2 September 2019**

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

Course agenda (arrival on Askö 10:30 on Monday, departure 10:00 on Monday):

Day	Monday 26/8	Tuesday 27/8	Wednesday 28/8	Thursday 29/8	Friday 30/8	Saturday 31/8	Sunday 1/9
General topic	Course introduction, student presentations	Physical oceanography of the Baltic Sea	Nutrients and carbon cycles, Baltic Earth, presentation technique, fundamental processes in the climate system, large-scale circulation in the ocean	Large-scale circulation in the atmosphere and ocean, climate modeling and dynamical downscaling	Land-sea interaction, eutrophication, hypoxia, climate modeling and dynamical downscaling	History of the Baltic Sea, past climate variability of the Baltic Sea region, science communication	Future projections, examination, biological oceanography, students' group presentation, resumé
Breakfast 08:00-08:45							
Speaker/title Morning session 09:00-10:30 (2 x 45 min)	Travel to Askö	Markus Meier: Physical Oceanography of the Baltic Sea and other regional seas, part I	Karol Kulinski: Biogeochemical cycles in the Baltic Sea part I	NN: Climate state and global circulation patterns in the atmosphere, part I	Christoph Humborg: Processes in the Baltic Sea catchment area and eutrophication I	Markus Meier: History of the Baltic Sea and past changes on millennial time scales	Markus Meier: Future projections for the Baltic Sea Region
Break 10:30-11:00							
11:00-12:30 (2 x 45 min)	Markus Meier: Course introduction	Markus Meier: Physical Oceanography of the Baltic Sea and other regional seas, part II	Karol Kulinski: Biogeochemical cycles in the Baltic Sea part II	NN: Climate state and global circulation patterns in the atmosphere, part II	Christoph Humborg: Processes in the Baltic Sea catchment area and eutrophication II	Markus Meier: Past climate variability of the Baltic Sea on decadal to centennial time scales	Examination (90 minutes), in parallel ¹ Marine Biology of the Baltic Sea by Marcus Reckermann
Lunch 12:30-15:00							
Speaker/title Afternoon session: 15:00-16:30 (2 x 45 min)	Short student presentations of their thesis work (5 min. each)	Tutorials and exercises: Physical Oceanography of the Baltic Sea (Markus Meier)	Tutorials and exercises: Carbon Cycle (Karol Kulinski and Markus Meier)	Excursion: Visit Electra (Markus Meier)	Markus Meier: Climate Modeling – The global and regional perspective, part I	Tutorials and exercises: Running your own climate model (Markus Meier)	Students' group presentations, resumé of the school
Break 16:30-17:00							
17:00-18:30 (2 x 45 min)	Short student presentations of their thesis work (5 min. each)	Markus Meier: Physical Oceanography of the Baltic Sea and other regional seas, part III	Markus Meier: fundamental processes of the climate system and large-scale ocean circulation	Markus Meier: Climate Modeling – The global and regional perspective, part I	Markus Meier: Climate Modeling – The global and regional perspective, part III	Markus Meier and Marcus Reckermann: Soft skills in science	Students' group presentations, resumé of the school
Break							

¹ For all students that do not want to participate in the examination

18:30-19:00							
Dinner 19:00-20:00							
Evening session 20:00-21:30 (2 x 45 min)	Social activities (ice breaker)	Markus Meier: Physical Oceanography of the Baltic Sea and other regional seas, part IV	Marcus Reckermann: Baltic Earth – regional Earth system science and presentation technique	Students' group work supervised by Markus Meier	Tutorials and exercises: discussion on trusting climate models and model democracy (Markus Meier)	Students' group work supervised by Markus Meier	Social activities (BBQ)

Lectures	Hours	Contents
Prof. Markus Meier	26	Physical Oceanography
NN	4	Meteorology
Prof. Christoph Humborg	4	Terrestrial biogeochemistry
Dr. Karol Kulinski	4	Marine biogeochemistry
Dr. Marcus Reckermann	4	Earth system science
Total	42	

Seminar	Hours	Contents
Prof. Markus Meier	8	Students' presentations supervised by Markus Meier, and Marcus Reckermann and NN

Exercises and tutorials	Hours	Contents
Prof. Markus Meier	14	Exercises, tutorials and excursion with the research vessel Electra, students group work supervised by Markus Meier and NN