



Baltic Stakeholder Conference 2022  
Climate Change in the Baltic Sea  
**26-27 September 2022, online**

Outcome

Baltic Stakeholder Conference 2022 - Climate change in the Baltic Sea

Day 1 webinar

Held online on 26 September 2022



## Baltic Stakeholder Conference 2022

### Climate Change in the Baltic Sea

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#### Key outtakes of the Conference

1. Humankind depends on healthy oceans in the efforts against climate change. While the effects and impacts of climate change are complex, we have enough certainty and it is important to act on it now even if the exact extent is uncertain. The HELCOM/Baltic Earth Climate Change Fact Sheet compiles the essentials, and it is time to accelerate action.
2. Climate change is acted upon at national, regional and global levels. Countries and national stakeholders bear a big responsibility in climate action, e.g. when they follow the global agreements such as the Sustainable Development Goals (SDGs) or the Paris Agreement. However, when a marine area such as the Baltic Sea is in focus, the regional level has an essential role. The almost 20 years of cooperation between Baltic Earth and HELCOM is a role model for channelling scientific findings into regional policies.
3. Conservation and restoration of blue carbon habitats should be supported and stakeholders are key in increasing knowledge and protection efforts of such habitats as well in developing sustainable measures.
4. Regional level action and cooperation on climate change has many essential benefits, and we need it in creating a healthy ecosystem that is resilient and may meet the challenges of climate change. The less we do in mitigation, the more we will have to do in the adaptation later.
5. Baltic Sea region is as a very special area with many stressors on ecosystems, and this affects the climate change mitigation, too. HELCOM's work with the environmental status of Baltic Sea is playing a big role e.g. with the new regionally agreed measures as part of the updated Baltic Sea Action Plan (BSAP). Moreover, many aspects – mitigation, Marine Protected Areas, climate refugees etc.– make it necessary to consider the climate change from a regional account. Nutrient load reduction strategies for the Baltic Sea countries should consider climate change impacts and their uncertainties, which can be estimated using multi-model ensemble simulations.
6. Regional work considers factors that national or global frameworks would not be able to address. The Baltic Sea region has traditionally cooperated, beyond HELCOM, for centuries. Other advantages of the regional level work are to avoid duplication of efforts and maximizing synergies, for more efficient results.
7. Creating a holistic view and respective actions on climate change are crucial. The regional viewpoint enables us to see, how we can best address climate change across the whole spectrum and at an ecologically relevant level, as opposed to being based on limitations created e.g. for management or political purposes.
8. One important part is to highlight the cost of inaction, as prevention is likely less costly than fixing the damage done. Climate change should be considered in policymaking at all levels and be pursued with constant resources.
9. The focus on marine environment is often overlooked in climate change mitigation measures. Such measures and initiatives belong to human policies, which on their part often focus more on land-based aspects. Thus, having HELCOM bringing in the perspective on climate change in marine areas and the regional aspect is very valuable.
10. Utilising the contribution by the stakeholder conference further in HELCOM work: HELCOM will consider the outputs of the conference, especially as regards to the outcomes of policy and management station outcomes of the Day 2 workshops. The input provided regarding HELCOM's role in relation to combating climate change will function as the basis for further discussions within HELCOM, also to identify which parts are possible to translate into concrete action directly under HELCOM and which can be more relevant for other fora. With the ongoing update of the Terms of Reference and workplans of the HELCOM Working Groups, the intention is to distribute climate change actions and considerations across all HELCOM structures.



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### Background

The effects of climate change are already evident in the Baltic Sea. However, they are often not easy to understand and can be difficult to distinguish from other anthropogenic pressures. Both climate change and other human-induced pressures vary significantly between different regions in the Baltic Sea, ruling out simple management solutions and a one-size-fits-all approach that could be applied across the entire region.

Centred around the theme of climate change in the Baltic Sea, the Baltic Stakeholder Conference – Climate Change in the Baltic Sea (BSC2022) was part of the efforts to disseminate knowledge on the regional effects of climate change. The BSC2022 was organized for gathering fresh views on climate change mitigation and adaptation from policymakers and all other stakeholders in the Baltic Sea region.

### The specific objectives of BSC 2022

- Present the findings of the multifaceted [HELCOM/Baltic Earth Climate Change Fact Sheet](#) and determine how it can best be used to support marine protection processes;
- Identify options for integrating climate change mitigation and adaptation considerations into HELCOM activities and instruments (and vice versa), and look into the specific role of HELCOM regarding climate change action;
- Identify possible management options regarding mitigation of and adaptation to the effects of climate change, such as blue carbon but also those that aim at strengthening the ecosystem's resilience such as nutrient load reductions, climate refuges and MPAs, and fisheries, as well as to discuss the outcomes of the [joint HELCOM and UBA/BfN Blue Carbon Workshop 2021](#);
- Identify steps and opportunities for the implementation of the climate change related actions and measures contained in the BSAP.

The BSC2022 was held online on 26-27 September 2022, hosted by Germany (German Environment Agency (UBA) and the Federal Agency for Nature Conservation in Germany (BfN)) and Baltic Earth. The Stakeholder Conference was moderated by Ms. Jannica Haldin, Deputy Executive Secretary of HELCOM. The webinar on Day 1 was open to all, and the workshop on Day 2 was by invitation only. The programme of the Conference is available on the [event site](#).

The Stakeholder Conference, an annual tradition of the Baltic Marine Environment Protection Commission (HELCOM), had to be postponed from 9-10 March 2022 due to the political situation and the consequent [strategic pause of HELCOM](#).

The webinar was attended by more than 200 participants from around the Baltic Sea as well as from other parts of Europe, Africa, and the United States.

The recording of the Day 1 of the Conference has been made available on the event site and can be publicly viewed in [YouTube](#).



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### Opening remarks

**Mr. Sebastian Unger, First Marine Commissioner, Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection of Germany**, highlighted the dependence of humankind on healthy oceans as allies in the fight against climate change, as well as the importance to tackle the current triple crises of climate change, biodiversity and pollution also impacting the Baltic Sea marine environment.

Mr. Unger informed the webinar participants of a new national action plan for nature-based solutions for climate and biodiversity launched in Germany and including a programme for marine blue carbon, aiming to mitigate climate change and simultaneously protect marine biodiversity. Germany has also launched an ocean deal together with partners endorsed in the G7 summit in Elmau. One of the key goals of Germany in the upcoming CBD COP in Montreal in December 2022 will be the protection of 30% of the global ocean, which will also impacts work on the Baltic Sea level.

Mr. Unger also presented the key achievements during the [German HELCOM Chairmanship 2020-2022](#), including the update of the HELCOM [Baltic Sea Action Plan](#) (BSAP) and noted that seeking to achieve a resilient Baltic Sea fit to cope with climate effects is an important upcoming challenge in the region.

**Mr. Marcus Reckermann, Head of the International Baltic Earth Secretariat**, introduced Baltic Earth: an international and interdisciplinary network of researchers and institutions around the Baltic Sea region, striving for improved earth system understanding of the Baltic Sea region to support science-based management. Baltic Earth concentrates on climate science but has also other focus areas.

Mr. Reckermann further gave an overview of the past and present collaboration between HELCOM and Baltic Earth, which has already lasted for almost twenty years. The most recent joint publication of HELCOM and Baltic Earth is the 2021 Climate Change Fact Sheet in the Baltic Sea, prepared by the joint Expert Network on climate change (EN CLIME) and based on the BALTEX and Baltic Earth Climate Change assessments (BACC, BEAR) and the expertise of the scientists in the expert network. [The Fact Sheet is now also available in German language](#). Mr. Reckermann saw to the cooperation between Baltic Earth and HELCOM as a role model for channelling scientific findings into the regional political process.

**Mr. Rüdiger Stempel, Executive Secretary, HELCOM**, welcomed the participants to the conference, highlighted the topical theme of the conference. Mr. Stempel quoted the 2022 IPCC Assessment Report 6 on Impacts, Adaptation and Vulnerability: “Climate change impacts and risks are becoming increasingly complex and more difficult to manage” and stressed, however, that the problem is acknowledged in the Baltic Sea region, though for example the joint HELCOM-Baltic Earth expert network on climate change as well as specific actions within the 2021 Baltic Sea Action Plan. Mr. Stempel also referred to the global efforts in the context of the Paris Agreement under the United Nations Framework Convention on Climate Change (UNCCC) and the Sustainable Development Goals.



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Mr. Stremmel further highlighted the highly competent and broad scientific and research community in the Baltic Sea region which HELCOM is privileged to be able to tap into when seeking to address and better understand the impacts of climate change in the region.

### Climate Change in the Baltic Sea – state of affairs

**Mr. Markus Meier, Chair of the Baltic Earth Science Steering Group, Leibniz Institute for Baltic Sea Research Warnemünde** gave a presentation on the [2021 Baltic Earth/HELCOM Climate Change Fact Sheet in the Baltic Sea](#). Link to [presentation](#).

Mr. Meier presented background information and introductory chapters of the Fact Sheet as well as climate change impacts on selected direct parameters from the Fact Sheet, including water temperature, sea ice, river run-off, salinity and saltwater inflows, and sea level. Mr. Meier also noted that the Climate Change Fact Sheet is based on IPCC AR5, as the regional downscaling of IPCC results takes some time, however all the information in the Fact Sheet is still up to date. In addition, Mr. Meier presented the 2022 Baltic Earth Assessment Reports (BEAR) containing review of knowledge about processes and changes in the Baltic Sea basin. One of the included articles is a summary on climate change in the Baltic Sea region.

**Ms. Manuela Krakau, Scientific Officer, German Environment Agency (UBA)** presented the outcome of the [HELCOM Workshop 2021 on Blue Carbon Potential in the Baltic Sea Region](#), held on 17-18 November 2021 and hosted by Germany. Link to [presentation](#).

The aim of the workshop was to harmonise the perception of the term “blue carbon” and discuss scientific and political conditions for blue carbon in the Baltic Sea Region. As background information, Ms. Krakau referred to the 2018 HELCOM Ministerial Declaration in which reference to blue carbon storage linking climate and marine nature protection is included and mentioned the cross-cutting action on blue carbon in the 2021 Baltic Sea Action Plan. Climate change and the Baltic Sea was also one of the focus areas of the German HELCOM Chairmanship of 2020-2022 and blue carbon storage capacity is included as a parameter in the 2021 Climate Change Fact Sheet.

Identified barriers to conservation and restoration of blue carbon habitats were discussed and included, e.g. lack of consensus of perception; insufficient management; limited coordination; lack of knowledge, funding; inadequate legislation etc. Proposed solutions included e.g. better consensus and implementation in the BSAP; improved research and mapping; improved communication and campaigns on the topic.

Progress on blue carbon has been made, e.g. for its definition, as more projects and initiatives are being supported. Options for blue carbon habitats needs to be locally examined and improved, with need for regional collaboration on this. An important message is also that progress on blue carbon solutions should not be an excuse to not reduce green house gas emissions at source.

One take home message is, that nature-based climate mitigation needs to be strengthened in the Baltic Sea Region – implementing of BSAP is part of this. Stakeholders are needed to increase knowledge and protection of blue carbon habitats and to develop sustainable measures.



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**Mr. Erik Kjellström, Climate researcher, Swedish Meteorological and Hydrological Institute (SMHI)** presented the Climate projections for the Baltic Sea Region. Link to [presentation](#).

Changing forcing conditions with four representative concentration pathways, with a wide variety of possible future outcomes on CO<sub>2</sub> emissions, are considered by Kjellström. Climate models show that a continuous climate change is foreseen, even if a reduction in CO<sub>2</sub> emissions could be achieved in the future (due to time lags). Different levels of global warnings are showing that highest temperature increase is predicted in the arctic areas which is caused by positive feedback. Other predicted effects are a warmer atmosphere, which causes several negative side effects such as larger variability in precipitation, increased risk on drought and more intense precipitation.

Resolution in climate models are important for simulating impacts at different locations and might show slight differences in their outcomes. Output results from EURO-CORDEX RCMs rely on different model results and indicate that for temperature, generally all seasons are expected to be warmer, with largest warmings in winters and the north. Wintertime conditions revealed a reduced frequency and intensity of cold snaps, i.e., less variability and fewer cold winters are predicted. Predictions for precipitation are showing that generally more precipitation is anticipated with wetter winters and summers (in northern areas). Very intense precipitation in 10-year period is expected to increase in north and south meaning that intense and extreme precipitation is expected everywhere. Predictions show a heavy decrease of snow in the future.

All these changes are expected to have generally more precipitation, with larger risk from flooding (except in areas where spring snow is reduced). Also potential for drier conditions in the south are shown. These differences are for Sweden but anticipated for the whole Baltic Sea region.

Generally, the take home message is that projections show continued warming of the regions, with shorter winters and longer summers. More precipitation in winter and, in the north in summer, increasing risk of droughts, more extreme precipitation events, and less snow/ice coverage are expected. The uncertainty in projected wind speed is large.



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### Panel discussion - What is the added value of regional level work to climate change mitigation?

The panel consisted of:

- Ms. **Johanna Källén Fox**, Director, WWF Baltic Ecoregion Programme
- Mr. **Markus Meier**, Chair of the Baltic Earth Science Steering Group, Leibniz Institute for Baltic Sea Research Warnemünde
- Ms. **Henna Rinne**, Senior Specialist, Ministry of the Environment of Finland
- Ms. **Evija Šmite**, Chair of HELCOM, Deputy Director General and the Director of Fisheries Control Department, State Environmental Service of Latvia
- Mr. **Rüdiger Stempel**, Executive Secretary, HELCOM

#### Different aspects to regional climate work

From the civil society perspective, for creating a healthy ecosystem that is resilient and may meet the challenges of climate change, we need regional cooperation. The less we do in mitigation, the more we will have to do in the adaptation later. To combine protection of blue carbon with biodiversity goals could be a good way forward.

Baltic Sea region is as a very special area with many stressors on ecosystems, and this affects the climate change mitigation, too. HELCOM's work with the environmental status of Baltic Sea is thus playing a big role e.g. with the new regionally agreed measures as part of the new BSAP. Moreover, many aspects – mitigation, Marine Protected Areas, climate refugees etc.– really make it necessary to consider the climate change from a regional account.

Looking from the national perspective, the main added value of HELCOM is the clear focus on Baltic Sea, also when considering climate change. The Climate Change Fact Sheet sets the scene concisely for the work that needs to be done, and it takes well into account the complexities of different human uses, biodiversity etc. National targets on climate change are in need to be interlinked to other factors, like biodiversity, to have a synergistic approach and thus links very well to the work in HELCOM. Climate change scenarios are thus crucial to be incorporated into HELCOM work.

The perspective of regional collaboration in climate change is crucial – one should “think globally, act regionally”. Framework of HELCOM has proven to enable successful regional collaboration and thus there are also future hopes on HELCOM platform to facilitate the work on this topic.

The climate change challenge needs to be addressed nationally, regionally and globally. Regional work considers factors that national or global frameworks would not be able to address. The Baltic Sea region has traditionally cooperated, beyond HELCOM, for centuries. Other advantages of the regional level work are to avoid duplication of efforts and maximizing synergies, for more efficient results.



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### No time to lose

Time scale is perceived to be a very challenging factor when addressing climate change. The impacts are expected to come faster than previously anticipated - but the implementation of the agreed measures, such as BSAP, takes time. Despite some variabilities in the predictive models, it is quite evident that there will be major negative effects on environment and society.

Moreover, climate change is also complex in terms of needs for society and environment to leave space for nature “do its job” to naturally recover, which takes time.

Thus, it is important to act on climate change now even if the exact extend is uncertain, since it is clear that there will be warmer and more extreme weather, melting sea ice, the sea water temperatures will rise, etc. There must be a fully implemented set of measures mitigating climate change.

The problem of climate change has been known for decades and we are now on the crises stage. Nevertheless, we also have good goals and targets already in place in the Baltic Sea region, we are definitely not starting from scratch neither regionally or nationally.

### Concrete steps and higher political will

Concrete steps to counteract climate change are surely needed and, barriers might exist to counteract climate change, as many harmful activities still continue.

One important part is to highlight the cost of inaction, and that climate change should be driven higher up on the political agenda and be pursued with constant resources.

Assessments are one of the best ways to get political action started, and there is already sufficient scientific evidence to act upon, while the level of knowledge improves all the time. Best management should take all of this into account.

Also, creating a holistic view and respective actions on climate change are crucial. These should be applied for various topics, e.g. from designing MPAs, to fishing, to wind parks and many more. Furthermore, investments need to move away from activities known to drive climate change.

There are already big agendas set up which pursue action on climate change, such as the BSAP as well as national and global strategies. Information should be disseminated consistently and understandably to public.

Exchange of best practices on climate change on the regional level are taken into account in various national and global processes by e.g. exchange with the EU, Contracting Parties to HELCOM and also beyond the Baltic Sea aspects, when collaborating with other international and global organisations (e.g. UN, stakeholders).

As per international data exchange, the Baltic Sea region is already perceived as good example, but improvements are always welcome, especially regarding best available knowledge, decision making and implementation of new measures.





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### Concluding remarks

During the webinar, many added values to regional level work for climate change mitigation were identified. The Baltic Sea is a very unique and also a highly utilised sea, and there are a lot of pressures on it. Thus, there is a need to understand the regional perspective more thoroughly to see, what can be anticipated in the future. Furthermore, a regional viewpoint enables us to see, how we can best address climate change across the whole spectrum, at an ecologically relevant level, as in the end the ecosystem doesn't fit into any oversimplified management nor policy objectives.

The focus on marine environment is often overlooked in climate change mitigation measures. Such measures and initiatives belong to human policies, which on their part often focus more on land-based aspects. Thus, having HELCOM bringing in the perspective on climate change in marine areas and the regional aspect is very valuable.

Action against climate change is needed. Even when acknowledging that we don't know everything, we do have quite a lot of knowledge and data already available - enough of it - to have decisions based on best available knowledge, for instance for deciding on adaption and mitigation measures.

How do we leverage action? And what indeed is the cost of inaction? HELCOM has only recently started to look at the cost of degradation and non-action, in addition to the estimated costs of actions against climate change. All these factors should be considered when discussing incentives and when channelling resources to the different actors working in climate change alleviation. Overall, it is more costly to implement measures which mitigate the effects of climate change than creating measures on prevention. And the less mitigation we do, the more adaptation there is in the future.

All in all, climate change needs to stay a high priority and it must be addressed constantly on the political agenda. This can be better achieved by highlighting that measures have also other beneficial effects, and they do not depend on the changing political situations. Moreover, having an informed public helps, so that they better understand the cost of inaction and the consequences of decisions that have been taken.

Measures need to be properly understood and it is important to follow up on them. If we set a measure in place we need to understand if it is working, and this can be done via assessments, to gain an accurate insight on what is happening in the Baltic Sea.

Think globally and act regionally. HELCOM can contribute to the climate change processes, and in reaching these targets by implementing regional measures. Climate change neutrality might be achieved by simultaneously addressing pollution and biodiversity issues. This requires a holistic picture on the entire system as well as reacting to the emerging issues by creating new solutions.

### Annexes

All Annexes are provided [in the meeting webpage](#):

- Recording of Day 1
- Programme, Day 1
- Presentations



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- Questions from the audience to the panellists