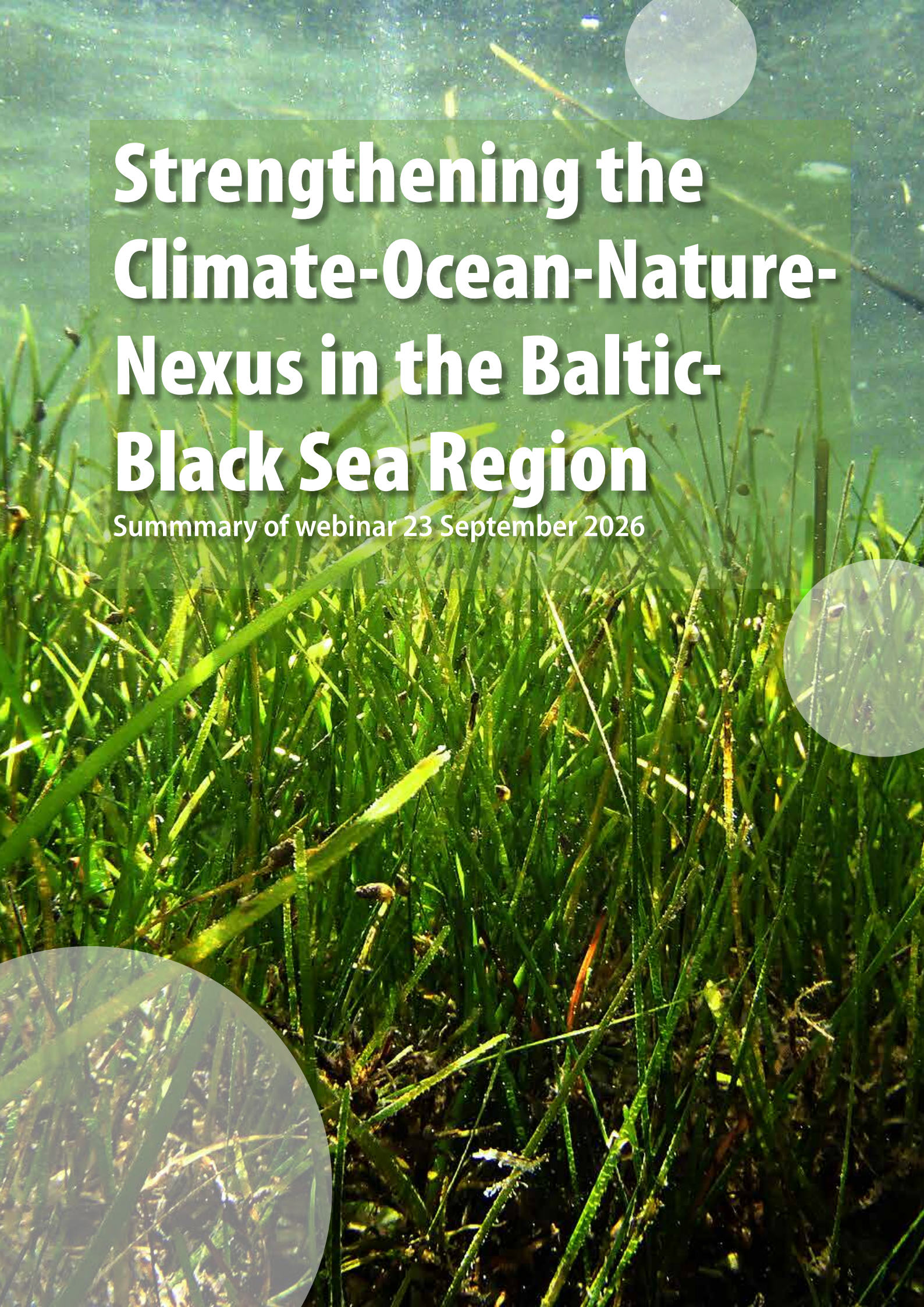


The background of the entire page is an underwater photograph of a dense seagrass meadow. Sunlight filters through the water, creating a dappled light effect on the green blades of the seagrass. Three semi-transparent circular overlays are present: one in the top right corner, one on the right side, and one in the bottom left corner, each showing a slightly different view or detail of the seagrass environment.

Strengthening the Climate-Ocean-Nature- Nexus in the Baltic- Black Sea Region

Summmary of webinar 23 September 2026

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Project partners

AirClim is a joint initiative of four Swedish environmental organisations working to reduce air pollution and greenhouse gas emissions through advocacy, research, and public awareness.

www.airclim.org

Center for Environmental Initiatives Ecoaction is a Ukrainian civil society organisation promoting climate action, renewable energy, clean air, and sustainable development.

www.ecoaction.org.ua

The Institute for Sustainable Development Foundation (ISD) is an independent Polish think tank that promotes policies and solutions for sustainable development.

www.pine.org.pl

Polish Ecological Club Pomeranian Branch is a regional branch of one of Poland's leading environmental NGOs, working on issues including water quality, marine pollution, and the circular economy.

www.pke.gdansk.pl

Cover photo: Seagrass (*Zostera marina*) at Dzharylhach Island in the Black Sea. Credits: Sofia Sadogurska

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Andrzej Kassenberg

Climate, Ocean Acidification & Nature Governance in the Baltic-Black Sea Region



“Maybe it is necessary to make a much, much stronger cooperation between Baltic and the Black Sea on governmental as on stakeholders levels.”

Key points

- **Baltic and Black Sea face similar, interconnected pressures.** Both are semi-enclosed seas that are particularly vulnerable to pressures from large river basins. Climate change, eutrophication and ocean acidification interact and contribute to declining water quality and ecosystem functions..
- **The environmental pressures also have economic consequences.** Ecosystem degradation affects fisheries and tourism, highlighting the need to consider climate and marine pressures not only from an environmental perspective but also in economic planning and management.
- **Governance remains fragmented.** At the global level, Andrzej highlighted a weak connection between SDG 13 (Climate Action) and SDG 14 (Life Below Water), particularly the limited recognition of ocean acidification and its link to greenhouse-gas emissions. At EU level, climate and marine policies have developed largely in parallel, without sufficient integration.
- **The two regions differ in governance capacity.** The Baltic Sea has more developed institutional cooperation and monitoring, while governance and international coordination are weaker around the Black Sea. The Danube catchment was highlighted as particularly important for the Black Sea.
- **Adaptation needs to be more integrated.** Andrzej stressed stronger cooperation between countries, sectors and administrative levels, with a focus on resilience and sustainability. Nature-based solutions, ecosystem restoration and marine spatial planning can all play an important role.
- **Six recommendations were presented,** including stronger links between SDG 13 and 14, greater attention to ocean acidification in the UN climate process, integrating ocean acidification into national energy and climate plans, greater use of nature-based solutions, climate-proof marine spatial planning, and stronger cooperation between the Baltic and Black Sea regions.

Andrzej Kassenberg is a co-founder of the Institute for Sustainable Development Foundation (ISD) in Poland. He holds a PhD in Technical Sciences from the Institute of Architecture and Urban Planning.

Agnieszka Fiszka Borzyszkowska

From Climate Change to Health Risks: Environmental Health in the Climate–Ocean–Nature Nexus



“Climate adaptation is also health adaptation.”

Key points

- **Climate change is increasingly a public health issue**, with both direct effects (heatwaves, floods, extreme weather) and indirect effects through environmental change and human activity.
- **Rising sea levels and flooding can cause deaths and injuries**, but also longer-term health impacts such as infectious diseases and mental health problems
- **A warmer climate is changing the distribution of infectious diseases.** In Poland, reported Lyme disease cases roughly doubled between 2013 and 2023, while warmer coastal waters can create more favourable conditions for *Vibrio* bacteria.
- **Marine ecosystems face multiple, interconnected health risks**, including cyanobacterial blooms and the presence of pathogens.
- **Climate adaptation should also be seen as health adaptation.** The presentation called for stronger integration of climate, ocean, nature and health policies, using a One Health approach to build resilience in the Baltic and Black Sea regions.

Agnieszka Fiszka Borzyszkowska works at the Medical University of Gdańsk, Department of Environmental Toxicology. She holds a PhD in Chemistry and Biochemistry from the University of Gdańsk and is also president of the Polish Ecological Club.

Sergiy Medinets

Unbalanced nutrient loads causing eutrophication in the Black Sea area.



“This is not only an environmental threat, this is loss of valuable resources.”

Key points

- **Nutrient imbalance is a major environmental problem.** Excess nitrogen and phosphorus from agriculture and wastewater drive pollution of air and water, eutrophication and biodiversity loss, while deficits deplete and degrade soils. In pre-war Ukraine nitrogen was over-applied across all staple crops while phosphorus and potassium were mined from soils (asymmetric between nutrients, crops and locations), with agriculture driving >60% of reactive nitrogen emissions to the atmosphere, PM2.5 (~3 times the revised WHO level) and groundwater nitrate (up to 10 times the limit) pollution.
- **Wasted manure is both an environmental threat and a squandered resource.** ~75% of the manure nitrogen produced in 2015 was wasted/unutilised, equivalent to half of all synthetic fertiliser nitrogen applied that year, and a loss of roughly USD 2.2 billion to Ukrainian agriculture in 2021, driven by the decoupling of crop and livestock systems.
- **Domestic wastewater is a leaking system.** WW treatment efficiency <50% in Ukraine and Moldova and up to 75% in some modern Romanian WWTPs, together with poor connection to sewers, leaves around 80% of human-excreted nitrogen lost to the environment; reported discharges omit organic nutrients, so true loads are severely underestimated.
- **The Black Sea is loaded by both riverine and atmospheric nitrogen.** Rivers account for around 20% of reactive nitrogen inputs, fuelling eutrophication in its fragile deltas and adjacent coastal areas, while atmospheric deposition contributes roughly 40%, spreading nitrogen more broadly across the sea.
- **The war in Ukraine has disrupted nutrient flows in both directions.** Total nitrogen deposition in the Lower Dniester fell by 35% with population displacement, while refugee influx and business relocation overloaded infrastructure further up the basin; on farms, fertiliser use roughly halved against 2021, causing nutrient soil mining deepened beyond early-2000s levels.
- **Five priorities were highlighted.** Peace and stability; better legislation and farmer support for sustainable nutrient management; (re)building wastewater and waste infrastructure; coordinated nutrient monitoring and control; and sustained research and monitoring to assess whether mitigation measures actually work.

Sergiy Medinets works at the UK Centre for Ecology & Hydrology in Edinburgh, UK, and the Regional Centre for Integrated Environmental Monitoring in Odesa, Ukraine.

Sofia Sadogurska

Oceans in the Climate Negotiations.



“The climate ambition must not come at the cost of ocean integrity.”

Key points

- **The ocean is a core part of the climate system**, but local and regional seas are often insufficiently reflected in international climate discussions. The presentation highlighted the need to bring the needs of seas such as the Baltic and Black Sea into global climate policy.
- **International climate negotiations can influence local and national policy.** Decisions made under the UNFCCC can shape regional sea policies, national adaptation plans and climate policies, creating a need for stronger connections between global and local levels.
- **The ocean–climate nexus has gained recognition within the UNFCCC.** Since COP25 in 2019, the Ocean and Climate Change Dialogue has developed into an annual process, providing a space for governments and non-governmental stakeholders to discuss ocean issues in the context of climate change.
- **Civil society can use this process to bring regional evidence and concerns into international negotiations**, including through interventions, submissions and side events.
- **Ocean-based climate solutions need careful scrutiny.** Sofia highlighted ecosystem protection and restoration as important approaches, while stressing the precautionary principle for potentially harmful technologies or geoengineering approaches.
- **Ocean acidification needs stronger attention in climate policy.** Because acidification is directly driven by excess CO₂ emissions, the UNFCCC has an important role in addressing its underlying cause.
- **A key challenge is moving from dialogue to action.** The presentation called for clearer goals and a roadmap to ensure that discussions on the ocean–climate nexus actually influence climate policy and negotiations.

Sofia Sadogurska is a climate and ocean policy expert at Ecoaction, Ukraine. She holds a PhD in Marine Biology from the M.H. Kholodny Institute of Botany, National Academy of Sciences of Ukraine.

Inken Dressler

Experiences of Integrating Ocean Acidification into law and policy

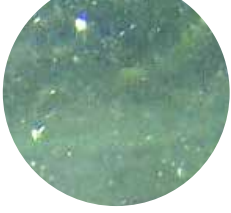


“Ocean acidification action can and must be taken on different governance levels, so not just at the international level, but at the regional and national level too.”

Key points

- **Ocean acidification (OA) needs to be addressed at multiple governance levels** — international, regional and national. The OA Alliance works to connect these levels and support decision-makers in integrating ocean acidification into law and policy.
- **Regional cooperation is particularly important.** Shared governance frameworks, science priorities, and coordination can help countries and marine regions develop common strategies and share lessons. The Baltic and Black Sea provide useful contexts for this kind of cooperation.
- **Existing EU legislation offers opportunities to integrate ocean acidification.** The presentation highlighted the Marine Strategy Framework Directive (MSFD), Water Framework Directive, Nitrates Directive, Maritime Spatial Planning Directive, and relevant EU nature legislation as relevant entry points.
- **Both global and local drivers of ocean acidification need to be addressed. CO₂ emissions are the fundamental global driver of OA.** However, local drivers such as nutrient pollution can worsen coastal acidification and should be addressed through relevant policies (e.g. eutrophication-related policies).
- **Turning science into policy is a central challenge.** The OA Alliance has worked with scientists, governments, NGOs and regional sea conventions to develop practical guidance on monitoring and integrating ocean acidification into existing policy frameworks.
- **National OA action plans help states take stock of their current and planned ocean acidification actions.** It facilitates understanding of the impacts OA has on their region and accelerates nearshore OA mitigation, adaptation, and resilience building. OA Action Plans cover six key themes, including scientific understanding, CO₂-emissions reductions, land-based pollution, adaptation/resilience, public awareness, and international cooperation.

Inken Dressler is European Project Lead and Policy & Legal Research Fellow at the Ocean Acidification Alliance (OA Alliance). She has a background in biology and law.



Final discussion

Overarching message:

The structures and policy initiatives largely exist, and there are signs of progress, but the main gap is coordination and implementation — turning separate processes into practical, integrated action on the ground.

Key points:

- **There is policy activity, but implementation remains fragmented.** Participants noted that many regional and international initiatives already exist, but coordination between them and between different levels of governance remains weak. National authorities in particular still struggle to connect regional initiatives with national policy work.
 - **Some movement is visible at the regional European level.** Inken pointed to the revision of the EU Marine Strategy Framework Directive (MSFD) as a concrete example of progress, with climate change and ocean acidification expected to be more explicitly integrated. Regional seas conventions such as HELCOM and the Black Sea Commission were also identified as important platforms for advancing climate–ocean cooperation.
 - **Stronger links are needed across international conventions and national policies.** Sofia and Sergiy highlighted opportunities to connect climate policy with the Convention on Biological Diversity, nutrient pollution commitments, UNEP/UNEA and regional processes. At national level, better coordination between climate adaptation plans, biodiversity plans and other relevant strategies is needed, although limited administrative capacity can be a constraint.
 - **The key challenge is moving from discussion to practical action.** Andrzej emphasised that there are already many meetings, papers and policy processes, but that the next step should be practical initiatives that bring climate, ocean and nature together, particularly around adaptation. Nature- and ocean-based solutions, combined with action in river basins, were highlighted as potential ways to translate the policy discussion into concrete measures.
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