

## Workshop Series: "Climate Knowledge for Regional Coastal Stakeholders in the Eastern Baltic Sea Region"

How do decision makers in Poland and the Baltic states perceive climate change and climate change adaptation? What impact will climate change have in coastal regions, and how can stakeholders there prepare themselves? What information is available to them? What programs have already been implemented? A series of workshops organized by Ecologic Institute in cooperation with various partners has addressed these questions. The workshops in Szczecin, Gdansk, Klaipeda, and Riga were commonly organized by members of the "Regional availability of climate knowledge in the Baltic Sea region" (Circum Mare Balticum), RADOST, and Baltadapt projects. ...to be continued on page 6



Harbor in Gdansk

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## "Lust op dat Meer": Conclusion and Challenges Ahead

On 11 November 2011, the concluding event of the "Lust op dat Meer" (Come Enjoy the Sea) competition, which had been launched by the Ministry of the Interior of Schleswig-Holstein, took place in the Wissenschaftszentrum Kiel. The goal of this project, which was supported by the Federal Environment Agency as well as the Federal Ministry for the Environment, was to produce practice-relevant examples of implementation of Integrated Coastal Zone Management (ICZM) on the Schleswig-Holstein North and Baltic Sea coasts. In summer 2010, six model projects from Schleswig-Holstein were ...to be continued on page 2



Close to 100 participants attended the concluding event.

# Regional Activities

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chosen for further funding from among the competition entries. They were selected because they approach upcoming, conflict-laden challenges in coastal development with innovative ideas and at the same time create new opportunities to foster community involvement in coastal development. After roughly one year, good progress had become visible: new ways were found to realize participation through early consulta-



tion processes; economic, ecological, and socio-cultural needs were reconciled with one another; and different topical areas were integrated with each other in order to take advantage of the synergies among them. The six "Lust op dat Meer" projects

therefore constitute "good practice examples" that contribute to informing the future implementation of the national ICZM strategy in Germany.

In the second portion of the event, "coastal development and climate change" was the central topic. The coastal communities involved in the Klimabündnis Kieler Bucht (Bay of Kiel Climate Alliance; the tourism-focused RADOST network in Schleswig-

Holstein) articulated their perspectives on how adequate flood and coastal protection systems can be designed to deal with climate change. This also raised the issue of legal and administrative hurdles that could potentially hinder practical problem-solving

on the ground. In the discussion between the municipal decision makers and representatives of coastal protection agencies, it was evident that financing responsibility for pilot climate adaptation projects needed to be cleared up. The "General Plan for Coastal Protection" produced by the State of Schleswig-Holstein (update planned for mid-2012) focuses mainly on the improvement of the system of major dikes, for which the State takes responsibility. The local communities believe that further tasks, such as the testing of new, innovative approaches to beach management or the reduction of risk for the potentially endangered coastal cities of Flensburg, Eckernförde, Kiel, and Lübeck, require more attention in the future. The dialogue between the coastal communities and the state-level agencies about sustainable adaptation strategies must therefore continue and intensify. The communities believe that the Klimabündnis Kieler Bucht should expand its involvement, which would however require a certain amount of financial resources.

**Further information:**  
[www.lustopdatmeer.de](http://www.lustopdatmeer.de)

## Quo Vadis – Baltic Sea Coast?

On 30 September 2011, the concluding event of the "Future Beach Management" ("ZukunftsManagement Strand") project took place in the Kiel Museum of Art. This project was a part of the "Lust op dat Meer" ("Come Enjoy the Sea") competition held by the Ministry of the Interior of Schleswig-Holstein. Under the title "Quo Vadis – Baltic Sea Coast? – How Can the Challenges of Climate Change in Coastal Regions Be Met Effectively in the Future?" the participants summed up the experiences and knowledge gained in the last year and drew conclusions about options for future action. In opening statements, key issues were identified from the points of view of municipal administration and planning, environmental protection and nature conservation, regional planning

and management, as well as business (the tourism industry in particular) and science. Subsequently, the problems faced by Baltic Sea communities in coastal management and coastal climate change adaptation were discussed in smaller groups. This discussion identified factors that hinder and support good coastal management. Professor Horst Sterr then introduced a draft version of the "Kiel Declaration," which triggered a lively debate. Since then, remarks from communal representatives and other participants in the event have been worked into the document. Meanwhile, the final version has become available and enjoys broad political support.

**Further information:**  
[www.klimabuendnis-kieler-bucht.de](http://www.klimabuendnis-kieler-bucht.de)



Dirk Osbahr of the local administration of Dänischenhagen spoke about coastal protection at local level.

## Kiel Declaration (Final Version, 4.11.2011)

The communities and local decision makers of the Bay of Kiel (if not the entire Baltic Sea coastline of Schleswig-Holstein) agree on the following points regarding the impacts of climate change and how to address them:

1. The coastal communities in the area of the Bay of Kiel assume that climate change will intensify in the coming years and decades.
2. The foreseeable impacts of climate change, including greater risks of floods, changes in the system of coastal erosion and deposition, and an increased occurrence of things washed ashore in certain locations, necessitate a science-based regional development forecast to inform sustainable coastal management and integrated strategies for coastal use.
3. Almost all of the communities in the region lack the financial and technical resources to implement programs to handle the upcoming, above-mentioned impacts; additionally, in many cases the existing legal regulations narrow the scope for pragmatic solutions.
4. Effective adaptation to climate change and its accompanying challenges for coastal areas cannot be achieved with action solely at the municipal level. It is considered vital that the Bay of Kiel Climate Alliance continue to exist, even after the end of the RADOST project. However, more financial support will be needed.
5. The Bay of Kiel Climate Alliance serves as a forum for the coastal communities to articulate their common interests and goals regarding sustainable coastal management. Support from the state and federal governments will also be necessary for the coastal communities to plan effectively in the long term and handle problems and events adeptly in the short term. In the medium term, the Climate Alliance aims to develop into a model region for climate change adaptation along the German coastline.

## The Sense behind Measurement

A workshop on environmental measures took place under this motto on 12 October 2011 in Rockstock and was organized by the State Agency for Agriculture and the Environment of Central Mecklenburg (StALU MM) and the University of Rostock, Department of Coastal Engineering (URCE). The measurement chain set up on the coast in front of Warnemünde for generating knowledge about hydrodynamics along sandy coasts was presented as an example project that received major support from RADOST. Sea state, currents, and water levels are measured in the nearshore area up to the surf zone. Until now, comparable long-term measurements had never been made in the Baltic Sea.

Two other measurement programs from the beach in front of Warnemünde were also presented. The first investigates the formation of ripples on the sea floor from

oscillating currents by capturing sediment movements with an underwater stereoscopic camera. The resulting data are immediately connected to the sea state investigation of the RADOST measurement chain. In the second program, ground water measurements are taken on a beach area in front of Warnemünde in order to assess the geothermal energy potential. The immediate proximity of these measurement programs allows them to share data with one another.

Hans-Joachim Meier, Head of StALU MM, pointed to the limited duration of the RADOST project and called for the continuance of the measurement chain both during and after the project's duration, given the good resonance it enjoyed with the audience due to its importance and uniqueness. In addition to facilitating

more active data exchange, the use of pre-existing infrastructure was also discussed. Expanding the research location on the shores of Warnemünde, perhaps in order to perform associated biological research, is also thinkable.

# National Activities

## KLIMZUG Status Conference

RADOST is not alone! On 2 and 3 November 2011, professionals from various areas and disciplines met at the Umweltforum in Berlin to discuss climate adaptation in Germany. The KLIMZUG Status Conference allowed representatives from the seven joint projects that form the KLIMZUG program (“Managing climate change in the regions for the future”) to give approximately 270 participants an overview of their current experiences and findings from the process of creating comprehensive regional adaptation strategies.



Panel discussion with representatives of all KLIMZUG networks

It was made clear that the various regions of Germany will be hit by climate change differently – sometimes positively and sometimes negatively. While more sunlight can enhance plant growth, the possibility of droughts increases the risk of harvest losses. Beach tourism can profit from a longer summer season with good planning, but skiing regions will face serious problems in the face of rising temperatures.

Even if the climate model results for the next fifty years in Germany predict only moderate changes, measures to increase Germany's adaptation capacity can be designed and taken up today. This is especially important in sectors that already exhibit conflicts that will be exacerbated by climate change, for example, land-use planning and water management, where competing resource uses stand at odds with one another.

The results of the KLIMZUG projects were also discussed more deeply in thematic

working groups. Here it was especially noted that not only possible adaptation measures but also communication approaches need to be tailored to the relevant target groups because they have varying planning horizons. In forestry and coastal protection, which generally plan over decades, aspects of climate change are already being integrated by many decision makers. On the other hand, tourism and agriculture tend to plan seasonally and may therefore not as readily integrate climate change concerns. Further communication problems may

arise when current weather events appear to contradict the conclusions of climate research: it is still important to make clear that a single wet summer or cold winter does not invalidate estimates made by climate scientists about long-term trends.

The interim results show that already now, KLIMZUG research is generating relevant messages for adaptation planning not only in Germany but also beyond national borders. The most important challenge for the second half of the program's duration will be to sustain beyond 2014 the networks that have been constructed. What form they will then take is another question: It was stated repeatedly at the conference that KLIMZUG will have been successful when climate adaptation considerations form an integral part of planning processes in all relevant fields.

**Further information (in German):**  
[www.klimzug.de/de/863.php](http://www.klimzug.de/de/863.php)

## New Funding Opportunity for Adaptation Measures

On 20 October 2011, the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety announced a new funding programme for climate change adaptation measures. Activities in the following areas are eligible for support:

1. preparation of adaptation plans in businesses
2. creation of education and training programs related to adaptation to climate change impacts
3. municipal demonstration projects; creation of cooperation networks and elaboration of adaptation concepts, including pilot-phase implementation, through intercommunal or regional alliances

Entities eligible for funding include: municipalities and municipally-owned companies, associations, small and medium-sized enterprises, public initiatives, legally independent federal state-owned entities, foundations under public law, as well as public, nonprofit, and religious universities. The applicant is generally required to cover 35% of project costs (including through in-kind contributions).

**Further information (in German):**  
[www.bmu.de/foerderprogramme/anpassung\\_an\\_die\\_folgen\\_des\\_klimawandels/doc/47882.php](http://www.bmu.de/foerderprogramme/anpassung_an_die_folgen_des_klimawandels/doc/47882.php)

## Communication with Public Agencies and Offices

### Summary of the 5<sup>th</sup> networking workshop of the KLIMZUG working group on "Education, Communication and Transfer"

Public authorities are continually being integrated as partners into the work of the seven KLIMZUG networks. However, targeted communication measures must often also be used in order to reach all levels of administration and find new partners for regional project networks.



Organized by the RADOST project team, the 5<sup>th</sup> networking workshop of the KLIMZUG working group on "Education, Communication and Transfer" took place on 23 and 24 September 2011 in Rostock and Warnemünde. Representatives from the regional networks talked about their experiences regarding climate change adaptation and designed new communication tools in consultation with local and regional administrators.

Participants also had the opportunity to quiz Mr. Jürgen Schönwandt, head of internal administration and Second Deputy Mayor

involved. Therefore, exchange between researchers and administration should be intensified even further.



The first day of the conference took place in the Pinniped Research Center (Marine Science Center, MSC) in Rostock-Warnemünde.

or of the City of Wolgast, on a "hot seat" regarding his work and things to consider specially when communicating with public authorities.

This discussion stressed that personal contact between the project team and the administrative offices is extremely important for climate change adaptation measures; additionally, climate change adaptation in Germany can only be effective when all levels (federal, state, and municipal) are active-

On the next day, the representatives from the KLIMZUG networks exchanged further information about their work in education, communication, and transfer. Films and postcards in addition to media workshops and social media platforms such as Facebook were presented as communicative instruments, and their most effective uses were discussed. The networks want to publish a document relating their experiences with various communicative instruments together in the near future.

## Mussel Farming in the Baltic Sea

The cultivation of mussels with line and net systems (mussel farming) represents an efficient way to produce nutrient-dense food, reduce turbidity, and absorb nutrients, thereby removing them from coastal waters. Mussels can be used not only for human nutrition, but can also replace fish feed in aquaculture and poultry farming. In the past in the Baltic Sea and along its coasts there has been neither commercial mussel farming nor a tradition of mussel use. The prototype mussel farms in Kalmar, Sweden, and in the Öresund were destroyed during the last icy winter. These cold winters that result in the formation of sea ice are a major reason why mussel farming has thus far failed in the Baltic

Sea. New cultivation methods along with climate change impacts, which are expected to reduce the extension of winter sea ice in the coming decade, will create new opportunities. The Leibniz Institute for Baltic Sea Research Warnemünde and the firm Coastal Research and Management from Kiel, Germany, will be investigating these opportunities as a part of the RADOST project. Because Scandinavia already has some experience with mussel cultivation, and because this project could be of interest for other Baltic coastal states, a network for international cooperation on the topic has been created and is documented at:

[www.musselnet.eucc-d.de](http://www.musselnet.eucc-d.de).



## Workshop Series: “Climate Knowledge for Regional Coastal Stakeholders in the Eastern Baltic Sea Region”

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At each workshop, information about climate change and adaptation at the local level was provided, including in the form of speeches from participants from Germany, Poland, and other Baltic states. At two of the workshops “ad hoc” surveys were given to the participants in order to investigate their perception of climate change and climate change adaptation. With the aid of modern technology, the answers could immediately be answered and the results displayed. This allowed for an immediate discussion of exciting or surprising results. The survey form used was based on an earlier survey given to decision makers from the German Baltic coast as a part of the RADOST project in early 2011 (see the article “A survey of the perceptions of regional political decision makers concerning climate change and adaptation in the German Baltic Sea region” on page 7). Even if the results from the survey cannot be viewed as representative due to the small number and makeup of the group, they still give an indication of possible interesting research topics for the future. Expanding the surveys given to decision makers from the German coast to include other Baltic riparian states was greeted by the participants, and several different institutions signaled their interest in working together on the survey.

The workshops were also used to gather information about the need and current status of knowledge regarding a European adaptation strategy in discussion groups. This adaptation strategy should be elaborated for the entire Baltic Sea area as part of the Baltadapt project.

It became clear in the discussion groups that interest in climate change adaptation measures is fairly low in Poland and the Baltic states at a local and regional level. Various explanations were given for this;



Discussion in Riga

for example, participants from Poland stated that institutions that could deliver the information to local decision makers did not exist. A representative from the City of Gdansk explained that water and air quality, energy security, and nature conservation are higher on the city’s environment department’s list of priorities than climate change adaptation. A reason for this was perceived to be insufficient communication and information structures. Available information about climate change must be made understandable and accessible for communities and the general public. Another deciding factor affecting the introduction of adaptation measures was a lack of funds.

Positive examples were also presented though. Justas Kayz from Vilnius University reported on activities in the Smeltale river basin, and Andris Urtans (Nature Conservation Agency, Latvia) presented measures from the Latvian community of Salacgriva. He emphasized the importance of integration of the local population. For example, he spoke about the reclamation and redevelopment of the self-purification capacity of small rivers in the area and

how the perception of these measures by the local populace was increased by their participation.

An evaluation of the workshops shows that adaptation to climate change has enjoyed relatively little priority in Poland and the Baltic states up until now. Knowledge and information about climate change and its possible effects are available; however, the political will has not been available to take up comprehensive measures. Because financial sources are a deciding factor, more support for adaptation from the EU is of great importance.

Additionally, the workshops evidenced that the topic is taken particularly seriously by the participants. The results from the surveys show this without question. Based on these results, two important areas show promise for future research: it is necessary to investigate the informational needs of decision makers and the public and to transform the existing knowledge about climate change and adaptation in such a way that it is understandable and useful for all targeted stakeholders.

**Further Information:**  
[www.ecologic-events.eu/cmb](http://www.ecologic-events.eu/cmb)

## Second RADOST Annual Report

After two years of project work, the second RADOST annual report presents the project's research results and the lessons learned from cooperating with decision makers in ministries and state agencies, local communities, and business.

The RADOST project partners have again made great progress in planning climate change adaptation strategies for the Baltic Sea coastline. This report covers the project activities from April 2010 to March 2011.

While the first project year focused on identifying and characterizing target groups for network building and laying the groundwork for research activities, the second year allowed for increased networking and discussion of pertinent issues among regional stakeholders as well as the release of preliminary results of the engineering and scientific studies.

The report presents the current status of network development in Mecklenburg-Western Pomerania and Schleswig-Holstein within the six focus topics "coastal protection," "tourism and beach management," "water management and agriculture," "ports and maritime economy," "conservation and land use," and "renewable energy."

Additionally, preliminary data for water flows and sediment transport, water levels, sea swells, water quality, and ecology and biodiversity in the face of climate change have been generated specifically for the project region. Furthermore, selected implementation projects are described in the report.

The report is available in German for free download at: [www.klimzug-radost.de/info/2-radost-jahresbericht](http://www.klimzug-radost.de/info/2-radost-jahresbericht)

## A survey of the perceptions of regional political decision makers concerning climate change and adaptation in the German Baltic Sea region

Ecologic Institute and Helmholtz Zentrum Geesthacht (previously GKSS) conducted an online survey with regional political stakeholders from the German Baltic Sea coast in spring 2011. Eleven hundred decision makers at the community level in Mecklenburg-Western Pomerania and Schleswig-Holstein were surveyed on their perceptions of climate-induced changes in their communities and possible measures for adapting to climate change. They were also questioned about their experience using regional climate data in political practice. Ten percent of all addressed stakeholders participated in the opinion poll.

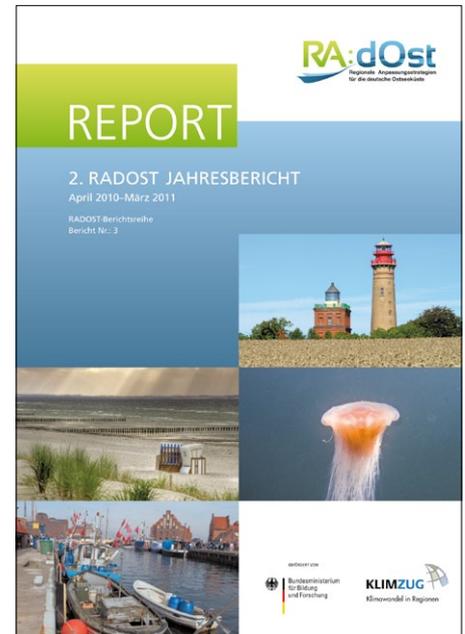
The analysis of the poll shows that climate change on the German Baltic Sea coast is recognized as a problem and that the need for proactive and quick adaptation measures at the community level has been acknowledged. In order to have a better understanding of possible options for action,

regional stakeholders are in need of easily understandable research as well as tailored information that will help them respond to regional issues and needs.

The survey is part of the RADOST project and was supported by BALTEX (the Baltic Sea Experiment). Results have been published in German and English.

Regional political decision makers in other Baltic Sea states will also be surveyed. Initial interviews took place during meetings with community representatives in the coastal regions of Poland, Lithuania, Latvia, and Estonia in October 2011. Please see the article "Climate Knowledge for Regional Coastal Stakeholders in the Eastern Baltic Sea Region" on pages 1 and 6.

The report is available for download at [www.klimzug-radost.de/en/report4\\_survey](http://www.klimzug-radost.de/en/report4_survey)



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## Events

2012 Canadian Conference for Fisheries Research (CCFFR)  
5–7 January 2012, New Brunswick, Canada  
[www.uwindsor.ca/glier/ccffr/2012-call-for-papers](http://www.uwindsor.ca/glier/ccffr/2012-call-for-papers)

BaltSeaPlan Final Conference  
12 January 2012, Berlin, Germany  
[www.baltseaplan.eu/index.php/Events;118/1](http://www.baltseaplan.eu/index.php/Events;118/1)

Congress Iberoamericano, Integrated Coastal Management  
25–27 January 2012, Cadiz, Spain  
[www.uca.es/grupos-inv/HUM117/grupogial/paginas/cursosymaster/icongresogialiberoamerica/congresogialiberoamerica](http://www.uca.es/grupos-inv/HUM117/grupogial/paginas/cursosymaster/icongresogialiberoamerica/congresogialiberoamerica)

Social Science for Coastal Decision-Making  
15–16 February 2012, Charleston, USA  
[www.csc.noaa.gov/socialcoastforum/index.html](http://www.csc.noaa.gov/socialcoastforum/index.html)

acatech Forum „Georesource Water“  
20 February, Berlin, Germany  
[www.acatech.de/de/aktuelles-presse/veranstaltungen/veranstaltung/kalender/event/2012/02/20/acatech-forum-georessource-wasser/tx\\_cal\\_phpicalendar/view-list?page\\_id-744.html](http://www.acatech.de/de/aktuelles-presse/veranstaltungen/veranstaltung/kalender/event/2012/02/20/acatech-forum-georessource-wasser/tx_cal_phpicalendar/view-list?page_id-744.html)

World Oceans Summit  
22–24 February 2012, Capella, Singapore  
[www.economistconferences.asia/event/world-oceans-summit](http://www.economistconferences.asia/event/world-oceans-summit)

Dynamic Deltas Conference  
17–20 April, Vlissingen, The Netherlands  
[www.dynamicdeltas.org](http://www.dynamicdeltas.org)

International Conference on Marine and Coastal Ecosystems (MarCoastEcos 2012)  
25–28 April 2012, Tirana, Albania  
[www.marcoastecos2012.al](http://www.marcoastecos2012.al)

Resilient Cities 2012  
12–15 May 2012, Bonn, Germany  
<http://resilient-cities.iclei.org/bonn2012>

## Imprint

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### Photos

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Institut Raum & Energie  
Berlin, December 2011

## Project Partners

