

General Assembly 2017

Climate Change and Vulnerable Regions

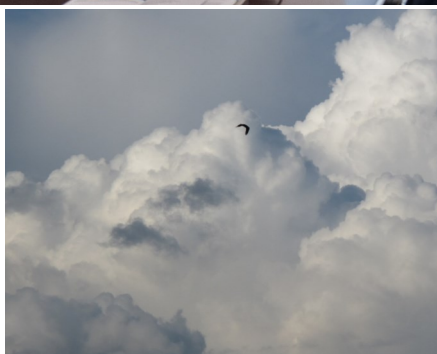
7—8 March 2017

Brussels, Belgium

Conference Documentation



The ECRA General Assembly 2017 was a forum to discuss climate research priorities, vulnerable regions, impacts and potential adaptation strategies, along with advancing integrative and collaborative research. More than 110 climate scientists, policy makers and representatives from relevant climate initiatives made it a successful conference!



Content

- ⇒ Key Messages
- ⇒ Science-Policy Dialogue
- ⇒ Climate Change Research
- ⇒ The European Climate Research Alliance (ECRA)



KEY MESSAGES

The ECRA General Assembly 2017 showed that (i) improving the observational network and (ii) model simulations at all scales is still required, (iii) a sustained science-policy dialogue and stakeholder involvement are increasingly important for ECRA, (iv) the Paris Agreement's mitigation and adaptation frameworks have implications for climate research and scenario building.



The following key messages have been highlighted:

Research focus on vulnerable regions

Vulnerable regions are defined by the priorities and perceptions of societies and communities. The vulnerability of regions or communities depends on experience and familiarity with certain climatic conditions, but can also be reduced through learning from others. Cities are highly vulnerable and have been largely discussed for their site-specific problems and solutions, and the pressing need to involve local stakeholders.

Integration of natural and social sciences in research projects

Highlighting social aspects in climate change projects is needed for addressing vulnerability, resilience, and adaptation. Addressing these issues requires working across disciplines and is also determined by access to information. This transdisciplinary work builds on openness of natural and social scientists towards the different scientific cultures. These projects require – and will benefit from – mutual learning and co-design of joint projects.

Bottom-up initiatives and stakeholder involvement

The value of bottom-up initiatives such as ECRA lies in the breadth and depth of the represented expertise and the resulting opportunities for mutual learning, connecting issues and disciplines. Bottom-up initiatives also means 'inclusiveness', i.e. to involve all scientists but also consider stakeholders within the bottom-up activity. Stakeholder involvement should occur already in the framing phase and is essential for effective research projects.

Reliable modelling at appropriate scales

The provision of suitable model results enables development of trustworthy climate services for stakeholders at all levels. High-resolution modelling has proven to be essential, particularly for studying changes at local scales and extreme climate processes. In specific cases the required model resolutions need to be worked out together with the individual users of the model outputs.

Sharing data

Data sharing still depends on scientist's willingness to make their data available and is hampered by lacking recognition of data providers. In particular consolidated datasets of long-term records are needed to put recent observations into context.

Science-policy interface

Research provides a basis for sound policy making in both adaptation and mitigation. There are positive examples from joint projects (e.g. university-city council) with regular meetings and exchange. A change in perception is needed with science seen as part of the solution. Policy must move from a reactive to proactive approach vis-à-vis adaptation and preparedness in vulnerable regions.

Outreach and communication

Scientists need to find ways to communicate not only among themselves but to the general public. This may include developing easier ways for exchanging information along with raising awareness and engaging the public on scientific and socioeconomic questions. New meeting concepts and communication tools (e.g. social media) may facilitate public science communication.

ECRA topics

The topics of ECRA's Collaborative Programmes are aligned with the focus on regions and topics as prioritised in IPCC and EEA reports: Arctic, Mediterranean, mountain regions, coasts. However, not all of the regions are vulnerable in the same way. Therefore, studying drivers across sectors and topics is needed as well, e.g. as reflected in ECRA's CP High Impact Events and Climate Change.

SCIENCE-POLICY DIALOGUE (I)

The evening discussion on 7 March started with keynote statements – introducing the climate change science as well as the policy perspective – which set the scene for the ensuing panel discussion with representatives from European research institutions, public bodies and initiatives active in the field of climate change.

Keynote Statements



Karin Lochte

*Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research (AWI), Germany
Director, ECRA Chair*

“Vulnerability and risk should be the most important links between climate science and societal concerns” (after IPCC, 2009). *These urgent science issues are in the focus of the ECRA Collaborative Programmes:* 1) Sea level rise impacts are a critical variable for coastal communities in different regions of the world. 2) The hydrological cycle changes in complex, often non-linear ways. 3) Climate change is not a mean state modification: Its manifestations vary massively regionally. 4) The Arctic is warming 2-3 times faster than the global average with major feedbacks on the global system.



Anneli Pauli

*European Commission: DG Climate Action (DG CLIMA), Belgium
Adviser hors classe*

ECRA is making the European Research Area in climate research a reality. Research provides a basis for sound policy making in both mitigation and adaptation and can contribute to the implementation of the Paris Agreement: *Fighting climate change from a knowledge point of view.* The European Commission’s climate actions include revising the Emissions Trading System to spur innovation, supporting the Covenant of Mayors, and targeting 35 % for climate-related spending within Horizon 2020. The target for climate-related spending in the whole Commission budget is 20 %.

Panel Discussion

Moderation: Ralf Ludwig *LMU Munich, Germany*

The panellists exchanged their views on the meaning of vulnerability and resilience, the importance of science communication and outreach, and collaborating with stakeholders on the science process and on developing solutions.

The questions posed to the panellists were:

- What are vulnerable regions?
- How to move from a vulnerability to a resilience perspective?
- How can the necessity for basic research on the one hand and the communication to stakeholders on the other hand be bridged?
- Is the science-policy interface on a good way?
- What is the value of bottom-up initiatives?



SCIENCE-POLICY DIALOGUE (II)

Panel Discussion — Perspectives



Christian Berretta *University of Leeds, UK*

A crucial issue in climate change vulnerability is increasing resilience in cities. Efforts should focus on supporting most vulnerable communities and including nature-based solutions in the built environment that deliver multiple benefits. There is evidence of more projects co-designed by university and local authorities. Cities can be living laboratories because problems and solutions are site-specific. Projects at local scales facilitate stakeholder involvement and help in developing evidence on the performance of nature-based solutions.

“We need demonstration projects on the local level.”



Hans-Martin Füssel *European Environment Agency (EEA), Denmark*

The perception of vulnerability depends on the perspective of the stakeholder asking the question. EEA’s “Climate change, impacts, and vulnerability in Europe 2016” report identifies climate impacts and adaptation needs. Adaptation practitioners often call for a better understanding of links between climate change and extreme events and for improved outreach of research projects. IPCC-inspired climate reports at the European level could work towards building trust and achieving co-creation.

“All regions are vulnerable, but in different ways.”



Katrine Krogh Andersen *Technical University of Denmark (DTU), Denmark*

The framing of the science-policy interface requires a change in perception where science is seen as part of the solution. This requires collaboration across disciplines and with stakeholders – as solutions may not necessarily come from within the discipline of climate or even natural sciences – along with educating students in sustainability at universities. Co-creating solutions, dialogue and taking part in society can achieve a democratisation of climate science.

“Students need to be put in mind-set of sustainability and finding creative solutions.”



Kevin Noone *University of Stockholm, Sweden, JPI Climate*

Vulnerable systems are those least resilient to climate change impacts. This entails focussing on what defines resilience and understanding how societies transform – in a proactive or foresighted way. At the science-policy interface, science can be greatly enriched through stakeholder involvement and a transdisciplinary process. Communication and concerted effort can build the trust necessary for the changes in lifestyle that go along with conducting climate science.

“The bottom-up approach should be inclusive – all, scientists and the public are at the bottom.”



Andrea Tilche *European Commission: DG Research and Innovation (DG RTD), Belgium*

Vulnerable regions are research priorities. A changing political landscape such as in the US with possible associated funding cuts challenges research activities and highlights the importance of “making climate change undeniable”. The populist criticism of elites also extends to scientists, which must find new ways to communicate to the general public, explore options of citizen science, and thus create a society where everyone can contribute to making science close to people.

“Scientists have to show leadership engaging in an alliance with people: We care for people’s needs.”

CLIMATE CHANGE RESEARCH

The second day of the conference on 8 March focussed on climate change research within ECRA's four Collaborative Programmes (CPs). Each session had four presentations followed by a discussion with the audience. The session outcomes were summarized by the CP co-chairs. Download Factsheets prepared for the conference [here](#) and access all presentations on the [documentation site](#).

Sea Level Change and Coastal Impacts

Co-chairs: Gianmaria Sannino (ENEA, IT) and Jan Even Ø. Nilsen (NERSC/BCCR, NO)

Observations clearly show that the sea level is continuously increasing. Even if global temperatures stabilise at the proposed COP21 values, sea level will keep rising. Without ad hoc local adaptation the expected number of people flooded globally will continue growing in the future. The current challenge is to move from a 'reactive' to 'proactive' coastal management, making full use of simulation capabilities to explore future sea level states on coastal areas. There is still need to better align sea level information to coastal decision making. Sea level information in coastal risk management and adaptation decision making must start with characterising the decision context confronted with and proceed to select an appropriate decision-making framework and in turn suitable sea level information.

High Impact Events and Climate Change

Co-chairs: Peter Braesicke (KIT, DE) and Martin Drews (DTU, DK)

We cannot consider climate change as a "mean state" modification. Its impacts are closely tied to regional and local conditions. Changes in the characteristics, frequency, and severity of extreme weather events are among the most significant aspects of climate change. Examples covered at the ECRA GA included hail and how its occurrence frequency and severity will change (Susanna Mohr, KIT) and extratropical storms and associated strong precipitation events (Len Shaffrey, University Reading). Another important aspect is to understand the impact of future extremes on different sectors to increase resilience (Hilppa Gregow, FMI) and the challenges faced by cities and how we should develop cities that form safe and pleasant living spaces for people (Marco Hoogvliet, Deltares).

Changes in the Hydrological Cycle

Co-chairs: Ralf Ludwig (LMU, DE) and Elisa Palazzi (CNR, IT)

The session comprised four presentations, providing highly relevant, multi-levelled, transdisciplinary and multi-scale perspectives on climate change impacts on the hydrological cycle: i) (hydro)ecological impacts in protected areas and nature conservation, ii) the climate-hydrological interface in alpine environments, iii) the economic implications in Mediterranean agriculture and iv) the stakeholder perception and societal awareness of drought risk in North-West Europe. The discussions emphasized the persistent role of uncertainties in assessing and projecting the impacts of climate change on natural and anthropogenic systems and the importance to include socio-economic perspectives in research on climate change impacts on hydrology. Despite undoubted recent progress, estimates of uncertainty or robustness still remain a challenging topic that must be included proactively in the considerations of mitigation and adaptation strategies of regions vulnerable to climate change.

Arctic Climate Stability and Change

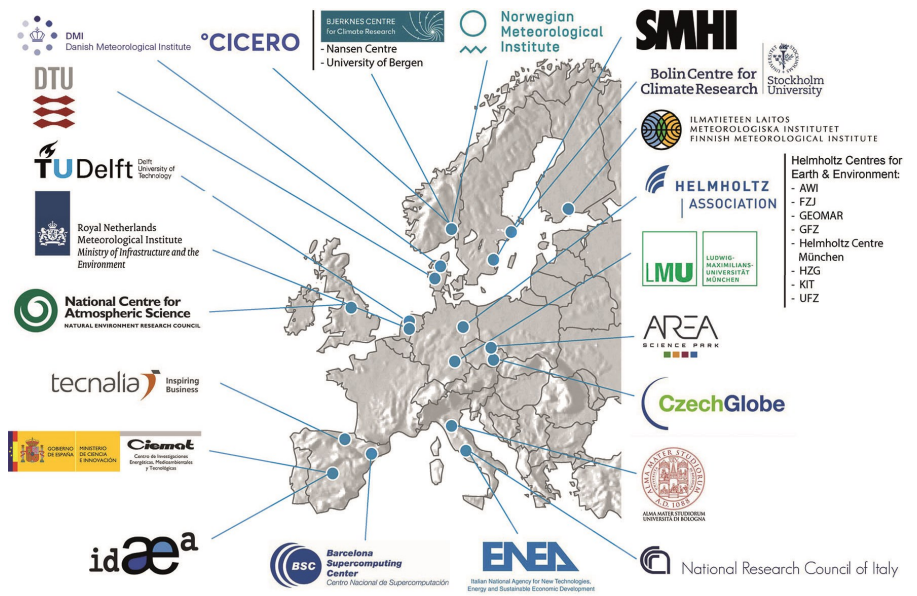
Co-chairs: Lars H. Smedsrud (University of Bergen/BCCR, NO) and Richard Bintanja (KNMI, NL)

The presentations summarized the present state of Arctic climate research: sea ice loss, Arctic amplification and feedbacks, and scenarios and ecological effects of ocean warming. The discussion centred on the Arctic vulnerability, emphasizing ecological response, given implementation of the Paris Agreement in terms of the future response of the sea ice, Arctic warming and implications for atmospheric circulation. Lars H. Smedsrud introduced [a new set of research priorities](#). Arctic ECRA has contributed to the "big three" Horizon 2020 projects presently addressing Arctic climate change (INTAROS, APPLICATE and Blue-Action) that will work in a coordinated way onwards to 2020, and have many active Arctic ECRA participants from across Europe. These projects focus on improvements of predictions in polar regions and contain dedicated efforts towards working with stakeholders from local Arctic communities to commercial shipping and fisheries agents.

THE EUROPEAN CLIMATE RESEARCH ALLIANCE (ECRA)

The European Climate Research Alliance (ECRA) is an association of leading European research institutions. Launched in 2011, ECRA's objective is to bring together, expand and optimise expertise in climate research through a *bottom-up approach*. The initiative is a *platform for joint research planning* by sharing existing national research capacities and infrastructures. As such, ECRA acts as a *unified voice for climate research* in Europe.

ECRA is currently made up of 23 institutions (9 core partners) from 10 countries and is open to new members.



Collaborative Programmes

ECRA's core activities are represented in four Collaborative Programmes:

- ⇒ Arctic Climate Stability and Change
- ⇒ High Impact Events and Climate Change
- ⇒ Sea level Change and Costal Impacts
- ⇒ Changes in the Hydrological Cycle

Tasks

- ⇒ Work in ECRA Collaborative Programmes
- ⇒ Develop training, education and outreach activities
- ⇒ Provide advice to policy and public in respect to climate change
- ⇒ Develop links to other climate initiatives and sustained partnerships with industry

Activities

- ⇒ 16 x ECRA Workshops (Collaborative Programmes)
- ⇒ 2 x Parliamentary Lunch Briefings: European Parliament 2013, Brussels
- ⇒ 3 x ECRA Side events at Conferences: EGU 2013, CORDEX 2013, CORDEX 2016
- ⇒ 2 x ECRA General Assembly (2015, 2017)

Future

Moving forward, ECRA's Collaborative Programmes will make an effort to improve the dialogue between natural and social scientists and the stakeholder involvement in formulating and implementing research priorities. Linking to relevant climate initiatives continues to be among ECRA's priorities, as is engaging and exchanging experiences with early career scientists. To improve public outreach, ECRA will consider new meeting formats such as webinars and keep up its use of social media – a field particularly young researchers can help develop.



*We would like to thank all participants
for a successful General Assembly 2017!*

Contact

Dr. Tina Swierczynski
Executive Secretary

Rue du Trône 98
1050 Brussels
Belgium

Phone: +32 2 5000 983
Fax: +32 2 5000 980
Email:
tina.swierczynski@ecra-climate.eu
Twitter: @ECRA_Climate