

Report

Joint CIRCLE-2 SHARE and JPI CLIMATE Scoping Workshop

Processes for improving the interface between climate
Research and its application: sharing experiences on
Climate Services development in Europe

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Venue: CMCC, Bologna (Italy)

Organisers:



Circle2 Work-package SHARE 4.2

**JPI CLIMATE Working Group 2 “Researching and advancing Climate Service Development”
and JPI CLIMATE Working Group 3 “Transformations of society in the face of Climate
Change”**

Supported by the Euro-Mediterranean Center for Climate Change (CMCC), Italy

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Background Information

Overarching process: The climate science community finds itself increasingly exposed to various groups of stakeholders asking rather specific questions about consequences, uncertainties, probabilities related to climate and climate change and the related risks. These clients are decision makers, stakeholders from industry and other private enterprises, various policy areas and planning disciplines as well as highly trained scientists using the data for impact research and applied research. The various categories of “users” are affected by the physical, ecological, economic or social consequences of climate change in very different ways.

This workshop wants to bring together and interlink different communities in order to develop and optimize processes related to the application of climate and climate change research. A first step towards that aim could be to get a better overview/inventory about already existing processes and initiatives. Therefore different experiences from initiatives aimed at enhancing development of climate services, with a special focus on mechanisms and processes for informed engagement of stakeholders/users shall be shared.

The Workshop is part of an ongoing process of various actors, to engage in the development of a European network for sharing information, tools, case studies, experiences and means for developing processes to improve the interface between climate research and its application. It is targeted at developers and users of climate services and shall identify common issues, share information and experiences and initiate collaborative research and learning processes. Ultimately, it could lead to the development of joint products, methodologies and protocols and establish a systematic and sustainable exchange of good practice.

Objectives: The workshop marked a specific effort to exchange process oriented experiences from practice. The scope was to establish a better overview about activities in the different countries, as the landscape is becoming ever more complex which makes exchange of knowledge at the same time more needed and more difficult. Different countries have different strengths in their approaches, and are at different stages of establishing sector specific knowledge. This workshop could outline also which countries have already experiences with specific sectors.

Input on the following propositions was collected building on the conclusions of the joint EEA/IS-ENES/CIRCLE-2 “IS-ENES Workshop on Bridging Climate Research Data and the Needs of the Impact Community”:

1. **Mechanisms for sustained user involvement:** A concerted effort is needed to develop and implement such a mechanism, possibly in the context of a system of European climate services. Required interactions include collaborative strategy development, regular feedback on evolving climate information portals, the joint development of guidance, periodic (e.g., bi-annual) European conferences, and management of expectations to avoid unrealistic demands.

2. **Development of training programmes on use and interpretation of climate modelling results and on dealing with multiple uncertainty issues:** The number of researchers and practitioners working with climate data is rapidly increasing, and the volume and complexity of climate model output will increase as new results become available (CMIP5, CORDEX). With notable exceptions, the user community is not well trained to use and interpret this information correctly and effectively. An urgent need exists to develop and implement training programmes for impacts researchers, for practitioners, and for students. Main messages and materials could be harmonized at the European level (e.g. using and integrating input from various related FP7 projects) and funding sources be identified.

At the workshop another issue emerged where exchange is beneficial: the need to enhance the relevance of climate information for users. Framing information from the user needs side can figure as guiding principle – the possible implications might be far reaching and are only beginning to emerge. This switch in perspective could help advance CS development.

Concrete aims of the workshop were to contribute to the following:

- **Developing a working structure and methods how to proceed**
- **Assessing needs for further actions on this topic in (possibly) a sector-oriented approach**
- **Addressing suitable follow up activities for 2012/2014;**

Link between CIRCLE-2 and JPI CLIMATE, and other initiatives: A growing number of European countries¹ have already in place or are currently devising and establishing institutions providing climate services, which face comparable difficulties in establishing a good knowledge of user needs and ways to communicate with users. On the other hand many “climate data users” find it extremely difficult to define their knowledge needs and cannot do so independently from the producers of climate data. Research and research results are often not targeted towards user needs as well. Therefore a clear separation where in single interactions users hand over their neatly packaged user needs and scientists then in turn work out the answers would be a too high challenge. Besides, it would represent an inefficient and ineffective working model.

The idea of joint knowledge production and learning seems to be a more suitable approach. But establishing and answering user needs makes boundary crossing become important, which then needs to be guided. From pioneering examples we also have learnt about the problems, for instance, that it can be rather challenging to have a sustained stakeholder engagement. In addition, it may also be impractical to have continuous engagement of all stakeholders. There is a need for an appropriate level of engagement where there are mutual benefits to both users and providers of climate information and knowledge. Mechanisms to ensure sustained interaction therefore are very much

¹ Among which UK, Germany, The Netherlands, Austria, Italy.

needed.

CIRCLE-2 and JPI CLIMATE “Connecting climate knowledge for Europe” have identified the above mentioned topic to be of high relevance and joint interest for both of them. JPI-Climate proposed it as relevant for a JPI-Fast Track Activity by Module 2 “Research for Climate Service Development” and Module 3 “Societal transformations in the Face of Climate Change”. The topic was further specified in a round table discussion at the first annual progress meeting of CIRCLE-2 in Bologna, June 21-22 2011. In addition, within FP7 two projects, ECLISE (Enabling Climate Information Services for Europe) and ClimRun (Climate Local Information in the Mediterranean region - Responding to User Needs) are working on climate service development – both focussing on ways of involving users and/ or their perspectives.

The workshop also followed up on the workshop “Bridging Climate Research Data and the Needs of the Impact Community” jointly organized by European Environment Agency (EEA), CIRCLE-2 and FP7 Project IS-ENES (InfraStructure for the European Network for the Earth System Modelling) in January 2011, which brought together climate impact researchers and climate modellers, and indicated need to involve policy makers, practitioners and other end users of climate information. It had the aim to support the development of a European network of climate services as well as the European Climate Adaptation Platform (CLIMATE-ADAPT), one of the elements of a new European Climate Change Adaptation Strategy that is being developed following the EU White Paper on Adaptation.

Participants: The workshop was especially targeted at developers, providers and disseminators of climate services, as well as researchers and policy makers participating in CIRCLE-2, JPI CLIMATE Working Groups 2 and 3 and related projects such as ECLISE, ClimRun and IS-ENES. It addressed representatives from European Climate Service Centers, interested in exchanging experiences with other CSCs and representatives from other organizations, stakeholders and practitioners acting at the European level on the topics were involved (a.o. EEA, National Environment Agencies etc.).

Output and Follow-Up: Proceedings of the meeting as the basis for CIRCLE-2 future activities and Fast Track activities of JPI CLIMATE and also as information to link up with other relevant initiatives.

This scoping workshop contributed to Follow-Up activities, by shaping ideas on more extended exploration activities such as a user needs workshop with representatives from different sectors, Stakeholders and users of Climate Services. These are representatives from different user-groups (e.g. Finance Sector, Insurance Sector, Water sector, Energy Sector, Health Sector, Tourism...) interested in improving Climate Services and Climate Information relevant to their sector. It was suggested that such a scoping workshop was needed early (possibly during 2012) | Further details and budget still have to be discussed.

Main conclusions: The workshop provided a first overview of climate services initiatives across Europe. It also started to shape a possible new joint initiative in this domain.

Key messages:

- Mapping of climate services activities is crucial and should be done as a first step prior to coordination of activities: need to have a more specific format for inventory;
- As an overall guideline for climate services, all information should be framed from the user perspective(s);
- Acknowledging the need for a platform of European Climate Services;
- Interesting to explore differences between countries with or without ongoing climate services programmes through mapping and reporting;
- Establishing a protocol and related tools is more effective than setting a number of user needs that maybe will not be relevant over time;
- Important to consider the feedback process between investors/providers and users (see Rob Swart's graph, which can be found in this presentation on page 3:
 - <https://is.enes.org/documents/workshop%20results%20Swart.pdf>)
 - For sustaining the interest of users it is crucial to establish users' communities driven by demand for knowledge and results at different levels (cities, regions, country);
- Such processes ideally take place in interaction with users/user group representatives which can act as purveyors (or multipliers);
- Climate services may play a role in providing advice on how to exploit synergies between adaptation and mitigation strategies (consultancy for adaptation);
- The role of CIRCLE-2 is to support research and foster national dialogue, providing links and interface between JPI CLIMATE members and CIRCLE-2 partners.

Key open questions:

- How to position JPI CLIMATE in the EU landscape? JPI CLIMATE is not representing the whole Europe, and other players exist in this area (e.g. GMES). There is a potentially large overlap between institutions devoted to climate services.
- How to sustain the interest of users?
- How to enhance the relevance of climate information for users?
- How JPI CLIMATE and the planned activities could further inform the ongoing EU projects

on climate services?

Possible follow-up for 2012/2014:

Joint initiative of CIRCLE-2, JPI CLIMATE (WG2 and WG3), ECLISE, IS-ENES, ClimRun projects.

Format: Focal workshop on user needs (possible lead organizer could be IS-ENES2 → Rob Swart)

Potential scope:

- Presentation of intermediate results of EU pilot projects (ECLISE, ClimRun..) to inform mid- and long-term plans of JPI CLIMATE Working Groups;
- Inventory of projects on existing climate service initiatives on global/regional scale;
- International cooperation for climate services and capacity building for developing countries;
- Link with the EEA Clearinghouse/ Platform Climate-ADAPT on Impacts and Adaptation and related mapping efforts, the release of the Impact Assessment in 2013;
- Link with the development of the EU adaptation strategy and the EU Working Group on Knowledge Base;
- Other links: Nordic Conference; International Conference on Climate Adaptation (29-31 May 2012, Arizona). Possible strong links with the European Climate Change Adaptation Conference (ECCA), which is planned to take place in Hamburg, 18th to 20th March 2013 (announcement available at www.eccaconf.eu)

Possible date: Summer 2012 (back to back with ECLISE workshop in Hamburg, 2012), or in relation with other links

Participants: include also representatives of user communities

Approach: participatory

Possible outcome: formal synthesis of the state of the art on climate service initiatives

Minutes

Day 1

Session 1: National Experiences with Climate Services

(Chair: Sergio Castellari)

Introduction by the workshop organizers [Dagmar Bley](#) and [Kirsten Hollaender](#)

Opening and welcome by Host (Sergio Castellari) [\[DOWNLOAD\]](#)

Words of Welcome by the Local Organizer, [Sergio Castellari \(CMCC\)](#)

Introduction and welcome by [Tiago Capela Lourenço \(CIRCLE-2\)](#)

[Tiago Capela Lourenço](#) gave an opening speech, emphasizing the need for development of an improved interface between climate knowledge and its practical application. Especially, in times of crisis it remains important to share experiences for facing future conditions. Knowledge transfer and the science-policy interface are relevant, as the exchange on tools, experiences, means, with the CS featuring as example.

Institutional and historical settings influence how Climate Services develop. For example, in Portugal, FCCUL has had a double role, often acting as a CSC by providing an interface between climate change research and the users of its outcomes.

He acknowledges the need for this workshop topic identified earlier by Rob Swart, in 2008 under the framework of CIRCLE CA.

Goals of the Workshop (Kirsten Hollaender/Dagmar Bley) [\[DOWNLOAD\]](#)

Dagmar Bley and Kirsten Hollaender welcomed the participants and explained the Goals of the workshop thanking all contributors and participants for their contributions and especially the local organizers for their excellent support.

Roger Street, UKCIP, UK: The UKCIP Experience: lessons learnt in developing and presenting climate information to support decision making [\[DOWNLOAD\]](#)

[Roger Street](#) (UKCIP) emphasized we should move from a data-driven approach to one that is decision driven and informed by scientists. Everything needs to be framed from the perspective of decisions, supporting decision and policy making. Descriptions of climate alone are insufficient. Need for informed engagement and for continuous improvement. Need for mutual understanding, support is needed, defined by working with users. There is a gap between what is needed vs. what is available.

Most users need very short term information, few also look into next 20-50 years, and even fewer look ahead to next 50-100 years.

Users are interested in thresholds, variabilities and extremes – clear need for user defined variables and derived metrics.

Spatial scales may vary; even very local users might have global investments or want to inform themselves on the future situation of their competitors.

There is a clear need for reliable base line information.

The following aspects were considered to be important:

Credibility of information and source is crucial.

Communities of users with common interest should be addressed

Guidance should be provided (online and as hard copy)

Integration into decision making processes should be an aim.

Case studies are needed

Feedback mechanisms: What are different users' rationales, their resources, limitations and capabilities? Listening to the users' voices helps understand.

It is important to keep in mind that users also include purveyors of information, they can act as intermediates. Also the commercial interests of purveyors can influence their willingness to share information with others.

Clearly identified need for informed and sustained engagement of users.

UK CIP tried different measures, such as a user advisory panel, communities of users and guidance for users. As part of the guidance, case studies are included, which also provide information on: why they used the information the way they did (going beyond the what and how).

UK CIP provides feedback opportunities to users, questions to be asked and conducts user surveys.

Supporting users (training face-to-face and online): Training also is relevant, the design should engage the users. Users might become mesmerized by the data, historical data and climate science data. Users are changing as well as their needs. Users' engagement and the information provided/ the ways it is provided in. Accessibility is another issue.

Dealing with uncertainties: It is better to frame it in this way than to frame it as uncertainties. (Framing as risk then leads to the need to clarify who "owns" the risks.)

Providing climate information with other information, e.g. socio-economic or land-use scenario's can provide added value. Thus ask:

"How much risk are you willing to take?"

"What are the options?"

Climate Service Sciences: need for research to support the development and delivery of climate services

Climate services can be better conceptualized as a knowledge network than a chain.

International capacity building could be done by European CSC network

Bringing together robust information on base line level for Europe is what we should aim at.

Probabilities still are a challenge.

Persons involved: scientist, decision makers, communicators + somebody (facilitator) to organize those persons to work together

Role of users in acting as intermediaries/ multipliers towards other user groups

Quality assurance is important, often however, once the information is provided it is difficult to trace how it is used.

Training sessions for intermediates, different users such as farmers are useful. Therefore you need training specialists, the training materials are then produced by scientists.

Reimund Schwarze/ CSC, D: The CSC experience in Germany: Lessons learnt and challenges ahead [\[DOWNLOAD\]](#)

Reimund Schwarze (CSC, D) reported about the CSC experience in Germany mentioning the following aspects.

- Institutionalization of CS (national/international), e.g. S-Africa, ICCS
- Financing CS
- Funding: incentives for other researchers to collaborate with CSC

CSC are a social innovation and offer new opportunities.

The science in the German CSC is cutting edge. CSC deals with a diversity of users.

The chart of different users developed by Rob Swart is important also because of the loop. In fact, there is not a chain, but the feedback is essential.

The present divide in some discussions between projections vs. observations is not useful, both are needed in CS. The central question is “how is the feedback loop organized?” CSC sees itself as facilitator in a broad network. In fact, CSC are used by the whole society. Of special interest are partnerships with priority target groups 2010-2014, such as forestry and water management, transport and infrastructure, financial services and insurances, civil protection and the German Länder. This is more geared towards decision makers.

Key performance indicators have been developed to look at the success of the work of the CSC. The feedback loop to users in form of a request system was met with some reluctance, initially. Now, the Climate-Navigator is available. Working together with the finance sector is developing well, for instance a workshop was held with the association of German Insurers. They need robust results for certain areas.

What are the lessons learnt?

There is a great research potential.

Need for links to cross fragmentation.

The mitigation market is currently small, but the adaptation market large.

The scientific community is not sufficiently committed (money is needed to involve them).

The public sector is insufficiently flexible.

There has been some discussion on the legal form the institution of the CSC should best have. Now, it is established as a trusted institution, neutral with authority like a public service. There is some competition with commercial interests to provide climate services, because of business opportunities.

What also shows is that companies to some extent prefer other companies to interact with, so it might be an idea to have some private spin off, operating from a business model.

In any case, the quality control is essential and should cover a good minimum standard which needs to be fulfilled.

Janette Bessembinder, KNMI, NL: *Climate services in the Netherlands and the interaction with impact researchers and policy makers* [\[DOWNLOAD\]](#)

Janette Bessembinder (KNMI, NL) reported about the experiences in the NL. Coupling climatology, hydrology, ecology and agriculture is favoured. She sees CS tasks as to improve consistence in the presentation and use of scenarios. The aim is developing a Climate Impact Guide.

CS is translating science to users. Interaction is needed in order to arrive at successful tailoring climate information. It is an interactive process to establish what is actually the question, point out the limitations of the information and offer suitable guidance. From tailoring you can derive standard products, such as the Atlas, scenario's, the sketch book with maps of future climate situations which was developed with impact researchers.

In this, the uncertainties and communication as well as user requirements, close contact with adaptation and impact modellers is relevant.

At the KNMI climate desk, all questions are documented which can give useful insights into user needs.

What also is helpful, are secondments, such as into the ministry, working with impact researchers, discuss feedback with examples of tailored data in order to try to understand each other better. The public is not interested in CC as such, but in the effects of climate change. Working with impact researchers helps to increase the consistency of statements and improve these. Distinguishing different types of users is relevant to learn what the climate information is needed for, for instance to create a sense of urgency, then specific data on extremes are needed. The users on their turn also transform information according to the context they work in.

It is important to learn about the risk perceptions of different users and how the frame the problem. How do they think about the acceptability of risk. In this context the problem Typology of Hisschemöller, 1993 is useful. What also should be considered is the role of visualization, the power of the picture. From her experience, it is important not simply to answer a question with a scenario, but to find out how many risks users are willing to accept.

Andreas Gobiet, Wegener Center Graz, A: *The Climate Change Centre Austria (CCCA)* [\[DOWNLOAD\]](#)

Andreas Gobiet (A) presented the concept for the CCCA Austria. He promised to send further information to the audience about the distribution of CSs.

Andreas Gobiet talked about how Austria is establishing its Climate Service Center.

The Met service is on board, with a climate data center, also socioeconomic and political data are considered. This is in the own interest of network institutions. It is a bottom up initiative and indirectly funded.

There is/ will be a report in English available on the Climate DaZ. The Austrian Climate Data Demand Study, is sent out with a separate mail (it is part of a project report on establishing a climate data Center in Austria (full report not available in English).

Martin asked how robustness vs. uncertainty is communicated in standard products. Janette stated the KNMI has in its general suggestions for use the advice to use more than one scenario, the robustness of measures and a list of issues to consider. The KNMI Scenarios are based on the full range of scenarios. Uncertainties also concern emissions development.

Roger confirms never use only one scenario, always show multiple projections, providing alternative presentations, and include thresholds and sensitivities. Rob Swart focused on the presentation in portals, e.g. the use of animated maps how they can be embedded.

Reimund Schwarze stated the CDS use IPCC robustness methodology. Roger Street reflected on what is robust decision making, such as if you accept 0% risk you have to look at the full range of scenario outcomes and ensembles. The needs of users on sensitivities and thresholds differ greatly. If uncertainty is large, look at the adaptation deficit in the short term. What do we best know now. Also there is an uncertainty of observations. And of further developments, where you on the one hand do not know how emission scenarios develop after 2050 and on the other hand face the inherent model uncertainty. Lars Barring and Andreas Gobiet stress that uncertainty is still a big issue.

Hans Sanderson mentioned the aspect of risk communication towards users vs. general public, the need to deal with problems in a proactive way, where for instance impact uncertainties are even higher.

Day 2

Session 2: Understanding User Needs (plenary and parallel sessions)

(Chair: Reimund Schwarze)

Martin Füssel (EEA) presented the EU Clearinghouse Mechanism on Adaptation (now renamed European Climate Adaptation Platform, CLIMATE-ADAPT (<http://climate-adapt.eea.europa.eu/>)).

Climate-Adapt was launched on 23 March 2012 by the European Commission and the European Environment Agency (see here for further information: <http://www.eea.europa.eu/highlights/major-new-website-to-assist>).

He considers it important, how robustness and uncertainties are communicated to users and favours mapping and guidance. Jeanette sees this to be done through diverse mechanisms like brochures, pictures, website and suggestions which scenario to use for what purpose (e.g. adaptation: more than one scenario; policy making: list). Roger Street agreed concerning the guidance, need to provide multiple projections (never only one), and alternative ways of pictures, words and diagrams and favours to put everything on the web-site. Reimund emphasized the robustness aspect which corresponds to the IPCC likelihood term. However the IPCC does not fit all sectors. Rob Swart likes the idea of clicking and displaying of uncertainties, which Martin realizes in the Clearinghouse approach.

Users want to get an idea about the range of uncertainties, but different calculations take a lot of time. Roger mentioned the likelihood of a certain outcome and that people often take the 90% level. He considers it important to provide people with a range of possibilities and information on the possible worst case. Lars Barring mentioned ensembles and emphasized that the 90%-level would constitute a biased attempt. Hans Sanderson answered that climate (model?) uncertainties would

often be negligible compared to the uncertainties implied in the impact models. Martin emphasized the importance of the Science-policy dialogue and the Clearinghouse/ Platform Climate-ADAPT lead by DG Clima. He further reported about an assessment report related to coasts. He sees this as a portal to information relevant for adaptation policies with a focus on transboundary issues. He also reported about the relevance and links of observations (GMES) to CS and about his plans concerning a clickable map of CS.

Rob Swart reported on the outcomes of the IS-ENES Initiative, associating various modellers. He sees the users asking for information on extremes, worst cases, spatial data...which should be provided as process oriented data. He is in favour of a European CS System, refers to GMES and ICCS and sees the IS-ENES e-portal part of a wider system in the context of a pan-European CS system.

A workshop was held in 2011 focussing on special user needs, with an inventory of climate data needs. Main conclusions are

- Diversity of users, with differing capabilities
- Specialized vs. non-specialized
- provide processed information, as indices (question how far to go in a portal, vs. tailoring)
- Post-processing tools
- Bias correction and correct data use instructions
- access to consistent other information
- Provision of a linked entry point, with a problem based research facility
- underlined the need for a Pan European System of CS
- Impact portal and use cases
- Issue of accessibility
- Need for training, messages and materials need to be harmonized

Björn Weber, CSC Experiences from EU-Research Project "ECLISE" [\[DOWNLOAD\]](#)

Björn Weber presented from the recently started project of ECLISE which is constructed around the flow of work of a CS and aims at end users, such as decision makers, from coastal areas, cities, sectors of water and energy in a user platform and works on a user feedback mechanism. They have 26 user cases and interact with research community and users. In September 2011 they held their first workshop with end-users and together elaborated a list of questions. Also he is working on an inventory of Climate Services, with as next step a Workshop planned for 2012 with decision makers.

ECLISE focuses more on the North Europe and water management, cities, coasts and energy. It can join forces with ClimRun focussing on the Mediterranean Region, and sectors such as tourism, renewable energies.

Update: The ECLISE Mid-project Workshop shall be held October/November 2012 and the Synthesis-Workshop with Stakeholder-participation is expected to take place in October 2013. ECLISE is working on an inventory, to establish also a two way dialogue- interface. Both, ECLISE and ClimRun could influence follow up research programmes.

It would be desirable to have a focal workshop for a synthesis of EU pilot studies; this could be back to back with the ECLISE workshop and inform the idea of national dialogues, as well as the JPI CLIMATE WG2 work plan. The discussion focussed then on how to sustain user involvement, how to

keep the loop from research to users to research running. There is a need for an institutional continuity and for a network. In this context also operational issues are relevant, e.g. if users pay for CS, legal issues, etc.

Silvio Gualdi, CMCC Experiences from EU-Research Project: "ClimRun" [\[DOWNLOAD\]](#)

Silvio Gualdi addressed the bottom up and iterative approach of ClimRun, which runs in parallel with ECLISE. He explained that ClimRun addresses the gap between users and researchers a.o. with a protocol – to enhance two way information transfers. And can provide the starting point for a Mediterranean basis side climate service network which will converge into the pan- European network. ClimRun as project focuses on tourism, energy, wildfires an integrated case study. Data needs are being elaborated and workshops organized. After the end of IS-ENES, Clim Run and ECLISE could take into account not research on end user, but on research programmes and benefit of results.

However, generally there is the problem that project only have a limited life span. So we need to point out and work towards enhancing user relevance and sustained user involvement. As a sort of adaptation counselling which is more than providing data. E.g. renewable energy programmes needs to integrate adaptation and mitigation, in the sense of climate proofing mitigation for instance. City governments often started with mitigation now have to also take adaptation on board. The interaction with user organizations in an important point, such as ICLEI for instance, as part of a strategy to sustain user involvement. Also we then talk about organized user groups and how to address them, such as ICLEI.

Discussion in Parallel Sessions

Parallel Session A: Mechanisms for sustained user involvement

Main points discussed:

Need for coordination

Need for inventory about activities

ECLISE first step, to be continued by JPI CLIMATE WG 2 (overview)

CIRCLE-2 to establish links to other countries

IS-ENES: inform users, research programs

JPI CLIMATE WG 2: focal workshops to build national dialogues

Clarify institutional, legal, financial aspects (loose ends, need for continuity, focus on user-needs needed)

Organize feed-back loop

Include e.g. ICLEI to have more continuity

Stakeholders are asked by too many people, incentives (added values) for users have to be made visible

What happens after the projects?

Parallel Session B: Enhancing User relevance of Climate information

Main points discussed:

1. How to BRING the initiatives together (plus the need to clarify which initiatives)?

Mapping of initiatives and what they focus on

Gaps, organizational research: whom they focus on and why?

How to organize feedback from users

Users are involved in a different way in the different countries, fitting to their special individual governance, limits to pan-European efforts?

Different “cultures” of providers/science sides

2. Role of Adaptation Counselling?

Dealing with high users’ priorities (hazards...)

How to deal with the mitigation discussion? Link to mitigation is important for decision makers. Integrate Mitigation in CS. CS as facilitators. NL: PCCC includes Mitigation/Energy aspects; Clearing House as well.

Role of socio-economic changes?

3. Next steps (workshops, conference)

For JPI-CLIMATE mapping: send information to organizers about what is existing/available and what is missing concerning user-needs, must be an open process, prepare a format, starting from CSP format.

Interactive platform to integrate users/stakeholders, ask what they need, incentives for them to work together.

Formulate wishes and establish contacts to the other communities (Cordex, JPI CLIMATE WEBSITE; Andreas Gobiet, ..)

4. Research gaps, research programmes

Decision-making oriented

Incentives for researchers to be user-oriented (suggestion: peer-reviewed journal on Climate Services? interdisciplinary journals?)

Mechanisms to organise VIA research community?

Building a climate service research community

Social sciences involvement!

Session 3: Research Perspectives

(Chair: Roger Street)

During the summary and discussion Roger asked the different initiatives about their lessons learnt and future proceeding. He emphasized the links of JPI CLIMATE and CIRCLE-2 with ClimRun, ECLISE and IS-ENES.

Regarding JPI CLIMATE WG2 it was mentioned that for the planned mapping further resources would be needed (in some countries) as well as targeted questions. Janette and Kirsten would be willing to provide the respective questionnaire. ECLISE could be seen as a starting point to build up the mapping. The question was raised whether transboundary initiatives should be integrated as well in to the mapping exercise, however it was seen that those would only exist outside Europe up to now. It was mentioned that ClimRun would reflect why stakeholders are doing what they are doing. The two-way flow of information between JPI CLIMATE and the different initiatives like ECLISE, ClimRun was considered important. It was highlighted that user-needs would change and one should rather focus on tools and methods about which a summary should be provided. The cooperation with other initiatives beside the present could be realized within the JPI-CLIMATE.

Rob Swart reported about the current IS-ENES activities keeping Horizon 2020 and end-users in mind. The importance of the ClimRun and ECLISE work with regional stakeholders was emphasized. Rob is thinking about postponing the planned workshop for 2012 to provide an opportunity to integrate mutual influences between the different initiatives. Furthermore he referred to the 1. European Adaptation Conference in 2013, where JPI CLIMATE working groups/ initiatives in the context of CIRCLE-2 could present their results and the International Conference on Adaptation in May 2012 in Arizona (CS is a focus) as well as the Nordic Conference in Oct. 2012. The events should be posted on the JPI CLIMATE website. It was considered important that a knowledge base would be built on the different pillars and that a continuous exchange with other DGs about the ongoing projects would take place (e.g. yearly Workshop under the umbrella of JPI CLIMATE). It was hinted that there would be several calls launched in January 2012 by DG CLIMA).

From the CIRCLE-2 perspective the national Adaptation strategies (incl. mapping) are considered important as well as the connection to JPI CLIMATE, under which the mapping and national dialogues could be carried out. Also the link of CIRCLE-2 to the other JPI CLIMATE Working groups and to other JPIs was thought to be important (e.g. CIRCLE-2 Workshop on extreme water related events with JPI-Water). Regarding the lessons learnt Tiago mentioned the change of the landscape and the importance to know what is going on. With respect to where to go from here he considers it important to result in concrete actions based on the minutes. A community of CS providers should be formed on a sustained basis also including consultancies.

Sergio Castellari as host closed the workshop thanking the participants and especially the chairs for their contributions.

Addendum on the connections with Working Group 3 of JPI CLIMATE “Societal Transformations in the face of climate change” (added after the workshop, by Kirsten Hollaender, Co-Chair of WG 3)

In addition to what has been discussed in the plenary, research questions and possible contributions from the societal sciences are addressed here which shall be further explored with Working Group 3 of JPI Climate.

Understanding User needs

Climate information is used in different sectors and spatial levels as well as decision-making contexts, ranging from individual companies and consumers to municipalities, planning departments on regional, national and international scale. Whilst some contacts exist with “specialist user groups” users of climate information are becoming more in numbers and increasingly heterogeneous in their backgrounds.

Climate data supply is ever increasing, with new modelling developments and large observation programmes being launched. However this increase in production is not matched by an equal increase in capacities of users to understand and act on these results.

Need for a translational approach

The concept of translational sciences is beneficial for developing Climate services. The health sciences have seen the advent of “translational Sciences”: “cross disciplinary, scientific research that is motivated by the need for practical applications that help people” (http://en.wikipedia.org/wiki/Translational_science).

What would translational sciences for understanding user needs in climate service development need?

The different contexts in which climate knowledge is used are not known well at forehand. In these contexts of application researchers rely on local knowledge from the users. Therefore, approaches that encompass mutual engagement in dialogues, joint demonstration projects or climate labs are promising.

Social sciences next to their expertise in studying the effects of different framings, values and interpretations of climate change on adaptation actions have extensive methodological expertise in engaging with users. In the last years, a large number of participatory approaches have been developed and used to interact with stakeholders or users and gain a richer picture through local knowledge.

Social sciences have a strong record in case-study and action research. In addition, they can organize coordination processes between different groups. It is relevant to learn: For whom are adaptation actions, who decides to adapt what, how are relevant actors identified and how are priorities for efficient and effective adaptation measures developed? Social sciences contribute empirically tested psychological models of precautionary actions by actors, pointing to the role of emotions, personal communications, role of pioneers and social diffusion processes. Personal communication plays a vital role in informing decision making. Relevant climate risks and adaptation measures are not self evident and need to be identified and negotiated upon in communication processes. In the field of marketing the approach of “customer engagement” and the “voice of the customer” as well as using social media to engage with users offer interesting entry points.

At the core of climate services is the need to translate information into knowledge in different contexts (Where in the pyramid below is mere data, in the first step transformed into information, in the second step into knowledge). This implies interdisciplinarity when the users of the climate information are also scientific actors. When the users do not belong to the academic context, it requires transdisciplinarity or joint knowledge production processes.

Institutional Diversity and free use of information:

While some countries can look back on considerable experience over more than a decade, others only now are beginning to establish dedicated climate services. Often, these are developed as an add-on for meteorological institutes. Next to differences in climatic conditions in countries, the institutional context within which climate services develop and operate is highly diverse. For instance, what kind of organisation the climate service is, if it receives (partial) state funding, which rights it carries on the information, if it is to operate in a commercially viable way or how relations with commercial competitors are shaped and if this is regulated. How third parties that use this information can secure their commercial rights.

This affects also what kind of information is produced and how it is delivered. Most visible are the public domain climate information services. However, there are many more which have a long tradition especially in sectors operating with long time frames such as insurances and their re-insurances. These however due to their nature are less inclined to openly share information, which is observed for different kinds of commercial services. Currently, a mushrooming of different climate services is taking place, where for instance in the UK more than 150 institutions claim to provide at least some type of climate service. Quality assurance thus is a highly complex task.

Conclusion

The concept of joint knowledge production as termed by Gibbons et al. and the notion of transdisciplinarity are very useful for further developing and understanding the concepts climate services can use to enhance their quality. It can help CS to develop ways of better engaging with users which are mutually beneficial.

Within JPI CLIMATE an integration concept was developed which places at its core “integrated climate knowledge and decision support services for societal innovation”. The aim of “connecting climate knowledge” implies connections between the disciplines and different societal domains, between science and policy.

The aforementioned initiatives will play an important role in testing, developing and jointly learning how such connections at the interface can be shaped. Working Group 3 is developing a concept on the needed research activities and will be hosting a workshop in autumn 2012 on research needs. The abovementioned issues will be further explored.

To be continued.

Annex 1

Programme

Monday 15:00-18:00 and Tuesday 8:30-12:30: JPI preparatory Meeting of M2 and M3 (optional).

Tuesday, 8th November 2011

13:30-14:00 Registration, coffee/tea

14:00-15:00 Opening (plenary)

Opening and welcome by Host (Sergio Castellari)

Welcome by CIRCLE-2 (Tiago Capela Lourenço)

Goals of the Workshop (Kirsten Hollaender/Dagmar Bley)

15:00-18:15 **Session 1 “National experiences with Climate Services” (plenary)**
(Chair: Sergio Castellari)

15:00-15:30: J. Roger Street, UKCIP:

The UKCIP Experience: lessons learnt in developing and presenting climate information to support decision making

15:30-16:00: Reimund Schwarze, CSC:

The CSC experience in Germany: Lessons learnt and challenges ahead

16:00-16:30: Coffee Break

16:30-17:00: Janette Bessembinder, KNMI:

Climate services in the Netherlands and the interaction with impact researchers and policy makers

17:00-17:15: Andreas Gobiet, Wegener Center Graz:

The Climate Change Centre Austria (CCCA)

17:15-18:15: Discussion

19:30-22:00 Social Dinner

Wednesday, 9th November 2011

8:30-10:30 **Session 2: "Understanding User Needs" (plenary and parallel sessions)** (Chair: Reimund Schwarze)

- 8:30-8:45: Hans-Martin Füssel, EEA
EU Clearinghouse Mechanism on Adaptation (Platform Climate-ADAPT) and 2012 EEA Climate Change report
- 8:45-9:00 Rob Swart, Wageningen University and Research Center:
Outcome of IS-ENES Workshop on "Bridging Climate Research Data and the Needs of the Impact Community"
- 9:00-9:15: Björn Weber, CSC
Experiences from EU-Research Project "ECLISE"
- 9:15-9:30 Silvio Gualdi, CMCC
Experiences from EU-Research Project: "ClimRun"
- 9:30-10:30: Discussions in Parallel Sessions.

Session A: *Mechanisms for sustained user involvement*

Session B: *Enhancing the User Relevance of climate information*

10:30-11:00 **Coffee Break**

11:00-13:00 **Session 3: "Research perspectives" (plenary)** (Chair: Roger Street)

Short reporting back from the two parallel sessions
Summary and Discussion about future proceeding and activities
Lessons learnt
Where to go from here
Aob

13:00-13.30 **Closure of workshop**

13.30 **Lunch**

Annex 2

List of participants

1	Bärring	Lars	Rosby Centre SMHI	Sweden
2	Besseminder	Janette	KNMI	The Netherlands
3	Bley	Dagmar	PT-DLR	Germany
4	Capela Lourenço	Tiago	FFCUL/CIRCLE-2	Portugal
5	Castellari	Sergio	CMCC	Italy
6	Christensen	Tina	Danish Meteorological Institute	Denmark
7	Dodd	David	Environmental Protection Agency	Ireland
8	Driessen	Peter	Utrecht University & Knowledge for Clima	The Netherlands
9	Eboli	Fabio	CMCC	Italy
10	Førland	Eirik	Norwegian Met. Inst.	Norway
11	Füssel	Hans-Martin	European Environment Agency	EU
12	Gobiet	Andreas	Wegener Center, University of Graz	Austria
13	Gomes	Ana	FFCUL/CIRCLE-2	Portugal
14	Gualdi	Silvio	CMCC	Italy
15	Hollaender	Kirsten	PT DLR	Germany
16	Hughes	Ruth	Natural Environment Research Council	UK
17	Jaagus	Jaak	Estonian Science Foundation	Estonia
18	Jimenez Mingo	Jose M.	European Commission	EC
19	Lid	Ingunn Borlaug	Research Council of Norway	Norway
20	McGrath	Ray	Met Eireann	Ireland
21	Sanderson	Hans	Aarhus University	Denmark
22	Schwarze	Reimund	Climate Service Center Hamburg	Germany
23	Street	Roger B	UKCIP/ECI, Oxford University	UK
24	Swart	Rob	WUR	The Netherlands
25	Tinz	Birger	DWD Hamburg	Germany
26	Vanderstraeten	Martine	BELSPO	Belgium
27	Venturini	Sara	CMCC	Italy
28	Weber	Björn	Climate Service Center Hamburg	Germany
29	Helgenberger	Sebastian	Boku Vienna	Vienna