

XI – Climate adaptation services

Parallel session D – Tuesday 11th March 2014 14:00-15:20

ID N°: [65]

Title: DEVELOPING ADAPTATION SERVICES FOR PLUVIAL FLOOD RISKS UNDER CHANGING CLIMATE: A PARTICIPATORY APPROACH APPLIED IN THE NORTH ADRIATIC COAST.

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Extreme weather events (i.e. heavy precipitations, storms, floods), together with increasing exposure and vulnerability patterns and changing climate, are expected to cause increasing impacts to coastal societies and ecosystems. The development of adaptation services transferring knowledge about climate-related risks to stakeholders and society is therefore becoming a key step to communicate information about the expected impacts of climate change and mainstream adaptation in coastal zone management. A participatory Regional Risk Assessment (RRA) methodology for the evaluation of pluvial risk in urban areas under future climate change scenarios was developed and applied to the territory of the municipality of Venice (North Adriatic coast, Italy) in order to produce climate risk and adaptation services for local stakeholders and decision-makers. Through the analysis of hazard, exposure, vulnerability and risk and the application of Multi-Criteria Decision Analysis (MCDA), the RRA methodology allowed to identify and prioritize targets (i.e. residential, commercial-industrial areas and infrastructures) and sub-areas that are more likely to be affected by flood risk due to heavy precipitation events in the future scenario (2041-2050). From the early stages of its development and application, the RRA followed a bottom-up approach taking into account the needs, knowledge and perspectives of local stakeholders dealing with Integrated Coastal Zone Management (ICZM), by means of questionnaires, workshops and focus groups organized within the CLIM-RUN and GEMINA projects. The main output of the risk assessment are GIS-based hazard maps, depicting that the major number of potential hydraulic emergencies will take place in the autumn season (i.e. September, October, November); vulnerability maps, showing that areas more vulnerable to pluvial floods are characterized by low permeability and slope and by the presence of recently flooded areas; risk maps identifying and classifying areas, receptors and hotspots at risk in the case study, by combining information about hazard, exposure and vulnerability. All the climate risk products considered stakeholders' requests in term of time scenarios, geographical scale and resolution, choice of receptors, vulnerability factors and thresholds, thus providing tailored risk services functional to the development of sustainable plans, programs and policies in coastal zones.

Presenter

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ID N°: [74]

Title: UNDERSTANDING THE NEEDS FROM SUB NATIONAL ACTORS FOR ADAPTATION SERVICES: A CLIMATE-KIC CASE STUDY IN 5 EUROPEAN COUNTRIES

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Impacts of climate change are largely location specific, and sub national actors have to play a key role in implementing actions to adapt our systems to these threats. However, against the current heterogeneous and fragmented landscape of related knowledge, actors have difficulties in identifying and accessing the right support. In addition, given various starting points and backgrounds, informational needs of individual actors in this context are diverse and relate to aspects of the entire value chain of adaptation services, including general information as well as specific methodological guidance or operational tools.

The Climate-KIC one-year project ATLA (Adaptation Tool box for Local Authorities) aims at preparing a climate adaptation service offer dedicated to the specific needs of European local authorities. To this end, we strive to systematically identify existing demands from sub national actors, which will then be matched against services that can be provided within the KIC community.

We have derived a framework from the literature to systematically capture adaptation related information needs. Based on this, we have built a questionnaire addressing sub national actors to map their current needs and their understanding of the adaptation challenge. We then ran a survey during 2 months in 2013, covering 5 countries with various profiles with respect to progress in integration of adaptation at sub national level: Germany, Hungary, Spain, Italy and Poland. Within each of the 5 subnational territories, the survey targeted at local authorities and public institutions working closely with local governments and using a multisectoral approach.

We present results from this survey which in total gathered 127 answers. We can observe a strong heterogeneity of needs, and an imbalance in the availability of different categories of information: while a majority of the respondents states to have access to climate projections, only smaller fractions appear to have sufficient information on vulnerabilities and chains of impacts. Our results further indicate that the most desired aspect of information relates to criteria for prioritizing adaptation actions. Interest in methodological guidance and operational tools appears to be highest for identifying the costs of impacts, prioritizing actions, and mainstreaming climate adaptation. Not least, the survey indicates different need perceptions depending on the respondents' state of progress in handling adaptation to climate change.

Presenter

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ID n°: [274]

Title: SUPPORTING THE CHOICE OF SALIENT METHODS AND TOOLS FOR ADAPTATION: A DIAGNOSTIC FRAMEWORK

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Adaptation to climate change involves a wide range of activities from individual actors adaptation affecting only themselves, to multiple actor situations involving a range of stakeholders and requiring collective action. The diversity of adaptation situations implies a variety of different tasks to be addressed by both researchers and policy-makers depending on the type of adaptation situation, and the specifics of a particular case. Often a significant challenge is the identification of a specific adaptation problem, and the identification of appropriate tasks and methods to address it. While methodological choices are critical for problem-oriented adaptation research, the current debate on these is underdeveloped and characterised by simple dichotomies like bottom-up and top-down as well as vaguely defined concepts such as vulnerability. Adaptation challenges and approaches for addressing them are more diverse than these labels suggest. This paper addresses this deficit by developing a diagnostic framework that helps to identify approaches suitable for addressing a given adaptation challenge. The framework was developed out of the necessity to discuss diverse approaches from natural science, social science and practice in a set of adaptation case studies conducted with the European funded MEDIATION project. Based on these case studies complemented by the literature, we iteratively abstracted typical adaptation challenges researched, typical approaches taken, and empirical and theoretical criteria applied for choosing a particular approach. Our results refine the methodological debate by distinguishing between the three research questions of exploring risks, identifying measures and appraising options. Adaptation challenges are classified according to private and public interest involved, individual or various types of collective action involved, data/model availability, decision making time horizon, etc. For each type of challenge and approach we give examples and discuss salient issues. Our results point to the opportunity to apply institutional and behavior research to support the identification of measures and possibly avoiding barriers in practice. The diagnostic framework also serves as the basis for the forthcoming guidance for assessing vulnerability, impacts and adaptation to be published by the UNEP Programme of Research on Climate Change Vulnerability, Impacts and Adaptation (PROVIA).

Presenter

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ID N°: [43]

Title: CLIMATE IRELAND - SUPPORTING AN PROGRESSING CLIMATE ADAPTATION IN IRELAND

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Until recently, climate adaptation has not been considered a high priority for decision making in Ireland. This was due in part to the absence of a statutory requirement to address climate change adaptation through planning, but also a profound lack of awareness amongst decision makers. However, the recent publication of Ireland's National Climate Change Adaptation Framework (NCCAF) has made the incorporation of adaptation into spatial and sectoral planning practices mandatory. This poses a challenge to decision makers in Ireland who, in the context of the three phases of an idealised adaptation cycle (understanding, planning and managing), need firstly to enhance their understanding of adaptation, and subsequently transition through the planning and managing phases of the process. In response, the Irish EPA-funded project Ireland's Climate Information Platform (ICIP) is designing and developing a web-based resource, Climate Ireland, to facilitate decision makers to transition through the three phases of the adaptation cycle, overcome the barriers presented and, through the employment of policy-orientated decision support tools, address the requirements of the NCCAF. Importantly, in ensuring that ICIP meets the requirements of key stakeholder groups, engaging with and providing a bridging mechanism between the key data providers and users forms a key component of this research.

Currently, for Ireland, a knowledge deficit is a key initial barrier to the commencement of the adaptation process. ICIP aims to overcome this barrier through the development of a resource that is responsive to key questions posed by stakeholders during outreach and survey work. Moreover and in doing so, ICIP aims to increase concern, inform the target audience about climate change, uncertainty, and the requirement for adaptation and also to overcome the more common barriers such as scepticism, denial and ignorance.

There is now considered adequate climate information and data available in Ireland to begin planning for climate adaptation. However, this data has been developed by a number of institutions, with differing means of access, using different techniques, models and scenarios. As a result, the employment of this information by decision makers is problematic. In order to make best use of available information ICIP is collating and tailoring existing and relevant climate information for Ireland, in close collaboration with the key stakeholders, thus enabling users to redefine the problem of climate change and begin to understand the range of climate change impacts that they might face.

In order to facilitate decision makers in meeting the requirements of NCCAF and, in doing so, overcoming uncertainty and transitioning to the planning and managing phases of climate change adaptation, ICIP is developing policy-orientated decision support tools that aim to facilitate the incorporation of adaptation into current spatial and sectoral planning practices in Ireland.

Presenter

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