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**EUCLEIA**

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**EUropean CLimate and weather Events : Interpretation and Attribution**

**Milestone 2 / Work package 4.2**

***Harmonized methodology for the focus group organization  
and regional level stakeholder understanding and needs  
assessment***

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## 1. Overall objectives and tasks of WP 4.2 - Attribution: regional level stakeholders' needs and understanding

*The objective of this task is to understand and assess how useful an event attribution service is perceived by different regional stakeholder groups. This understanding will contribute to the overarching objective to close the gap between stakeholder expectations and curiosity driven research.*

*Work task 4.2 will consist of regional **stakeholder identification** according to an attribution-relevant typology that is coherent with the theoretical framework developed in Task 4.1. The stakeholder identification is bordered by the two empirical test cases of WP4 dealing with regional stakeholders:*

- 1) Heat waves and cold spells in the greater Paris area*
- 2) Storm surges at the German Baltic Sea coast*

*Building upon good working relationships of HZG and UVSQ with regional and municipal authorities and other stakeholders, **three focus groups** in each test case will be run. The results will be analysed and compared.*

Work task 4.1 has developed a harmonized conceptual framework which provides the foundation for the selection of focus groups and the stakeholder understanding and needs assessment. For the conceptual framework development we drew on existing concepts of risk perception and risk governance, on the one hand, and on scientist interviews, media analysis and first stakeholder workshops, on the other hand. In a grounded theory approach preliminary concepts of social articulation of extremes, event attribution, and knowledge production for regional climate services were developed. An iterative dialogue between the context-relevant concepts and the appraised empirical data and continuous learning by going forth and back from data to concepts facilitated this process of concept development (Charmaz 2014, S. 1ff.; Glaser und Strauss 1998).

## 2. Foci and leading questions

In order to develop an extreme event attribution climate service which is tailored to stakeholder needs it is, first of all, important to understand information needs with respect to Baltic Sea storm surges and heat waves or cold spells in the greater Paris area in general. Appraising aspects like: "Does climate related information matter to stakeholders in the context of the selected hazards?", "Is it merely physical processes and thereof derived measures like predicted water levels or temperature which matter?" or "Is there a need for region-specific information?" provide a basis for assessing whether there is a need for specific information about the causes of changing physical processes. We therefore assess the demand for regional **climate services in general** and the requirements for a regional climate service being relevant, reliable and expedient first. The focus group organization and regional level stakeholder understanding and needs assessment will accordingly focus on the appraisal of the user-specific demand and requirements with respect to regional climate services. This information can provide a basis for understanding the need for **event attribution as part of regional climate services** as perceived by different stakeholders.

**Regionally**, our research will focus on heat waves in the greater Paris area and the Baltic Sea storm surges as designated in the EUCLEIA description of work. The stakeholder typology and selection of sectorial and contextual foci in each of the regional cases will be developed according to the following criteria:

1. significant exposure to the respective extreme event and climate change–related impacts
2. evident need for regional climate services given current socio-economic problems with respect to the hazard
3. evinced interest of stakeholder groups in regional climate services and/or established working contacts of HZG/UVSQ with the stakeholder group

The foci are also *aligned with the conceptual framework* developed in WP 4.1. In the framework, it is argued that extreme event attribution climate services are able to influence risk perception and governance processes. Building on the seminal works of Ortwin Renn and his colleagues (cf. in particular Renn 2008), we assume that a long term stakeholder dialogue on event attribution may serve as decision relevant basis for the pre-assessment, appraisal, characterization, and management of risks. Bray and Martinez (2015, S. 58) argue in this context that particularly “under the rubric of post-normal science, there are cries for a new model of science, in which the formulation of knowledge is shared between science and, for want of better words, tradition, lay observations and lay interpretations, etc.”. Therefore a science stakeholder dialogue seems to be a key process of regional climate services. A long-term stakeholder dialogue serves as a foundation for being able understand the interests, goals and values of relevant stakeholder groups, communicate scientific results to decision-makers, and provide a platform for exchange between science and stakeholders. According to Renn (1992, S. 53), an effective and stakeholder-oriented communication of scientific results, which are part of regional climate services, are highly relevant to decision and policy making. It is therefore important to focus in the stakeholder understanding and needs assessment on **how regional climate information in general and event attribution information in specific is understood and communicated and how these influence the phases of risk governance** of different stakeholders. This includes an understanding of stakeholders perception with respect to a general understanding of the world (evidence claim), material constraints (relevance claim), and value systems (normative claim). The methodology developed for work package 4.2. will explicitly consider these aspects.

In accordance with the identified goals and foci of this work package, we identified the following leading questions:

1. How do regional stakeholders understand extreme event attribution?
2. How do they perceive the usefulness of regional climate services in general and extreme event attribution information in particular?
3. What makes a regional climate service relevant, reliable and expedient for stakeholders and related decisions?

The following chapters will outline how these questions can be answered methodologically. Grasping who relevant regional stakeholders are requires an identification of focus groups (see chapter 3). To understand the stakeholder-specific perceptions and needs with respect to regional climate and event attribution services, we decided to apply a quantitative survey with mayors as important regional stakeholders (chapter 4), in-depth interviews with key stakeholders (chapter 5), and workshops with focus groups (chapter 6). Details on why these methods were selected, how they

were or are planned to be implemented, and their implications for the overall methodology are discussed in the following chapters.

### **3. Regional stakeholder focus group identification**

Focus groups are inherently defined by being homogenous groups of actors who are uniform with respect to aspects of interest to the researcher or practitioner. To contrast opinions, it is also important that there is sufficient variation among different focus groups (Bird 2009, S. 65).

Given that the communication of extreme event attribution information is a crucial aspect of EUCLEIA, it is important to consider both the actors communicating the role of anthropogenic climate change regarding extreme events and the users of this information about climate change. Weingart et al. (2000, S. 262f.) argue that there are three spheres relevant to the communication of climate change related information: science, politics, and public. There is a constant information-based interaction between these spheres. Other scholars argue that it is also important to consider the sphere of civic society (broad public) and sphere of the economy (Haus 2002, p. 9; Gosewinkel et al. 2004, p. 11).

Several years of stakeholder dialogue in the Northern German Climate Office have shown that the demand for homogeneity and the requirements of sufficient variation among different focus groups with respect to regional climate services needs a more differentiated categorization of stakeholder groups than proposed by Weingart et al. (2000). Based on our experience and validated by interviews with scientists in WP4.1 and a first interview with a key regional provider and user of climate services, we identify eight different stakeholder groups as established users of regional climate services in general and potential users for event attribution services in particular: 1) scientific networks, 2) media, 3) civil society organizations, 4) regional authorities and administration, 5) political actors and parties, 6) education, 7) economic/private sector actors, and 8) general public/individuals. This is to be understood as a preliminary categorization of stakeholder groups which can change as we proceed in our data collection for WP4.2.

The perspectives of the first two groups, i.e. scientists and media, on climate change, extreme events, event attribution and the needs with respect to regional climate services have been part of task 4.1 where interviews with climate scientists and an analysis of the press coverage of Baltic Sea storm surges as well as cold spells and heat waves in the greater Paris area were conducted. The perspectives of economic private sector representatives, in particular insurances, will be analyzed in task 4.3 and the general public / individuals are subject of task 4.4. To cover as many as possible of the above mentioned stakeholder groups in WP4, we focus on the remaining groups in this task 4.2.: These are political and administrative actors, representatives from the education sector and civil society organizations.

In the Baltic Sea region, existing experience in stakeholder dialogue in the Northern German Climate Office and a literature research provided a basis to identify preliminary sectorial foci for developing a stakeholder typology. This information was validated and complemented by a first interview with the team of the Klimabündnis Kieler Bucht (KBKB) at the Geography Institute of the University of Kiel<sup>1</sup>.

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<sup>1</sup> The Klimabündnis Kieler Bucht has established a network of communal actors in the Baltic Sea Bay of Kiel and is a key provider of regional climate services and awareness raising institution in the region.

We have identified two major areas of interest in the context of climate change and Baltic Sea storm surges, namely urban centers and periphery. Both regions deal with a particular set of problems. In the urban centers, coastal and flood protection, emergency management and urban planning are identified as most relevant sectors to be addressed in the context of changing storm surge risks. In the periphery, tourism and nature protection are assumed to be additionally important to the given context. Whether it is possible to address *both* areas of interest is not clarified at this point and will have to be decided in the course of further expert interviews. A preliminary list of relevant stakeholder groups addressed in the different EUCLEIA work packages is provided in table 1 and 2.

In the greater Paris area stakeholder groups have been identified (1) in the course of the focus group conducted in June 2014, (2) through the work conducted in the course of various environmental health projects, and (3) through the current work that various level of government are conducting in terms of integrated climate and adaptation planning. As for the Baltic regions a distinction can be established between urban centers, characterized by the impact heat waves have on public health and on infrastructures, and more rural, “rurban” to be precise, areas, where impacts are also felt on agricultural production and forest management. As in the Baltic area, expert interviews will be critical in assessing which stakeholder types should and are willing to participate.

**Table 1: Preliminary list of relevant stakeholders groups**

Stakeholder groups	addressed in:	Foci	
1) scientific networks organizations	WP 4.1	Experts in the field of climate change and event attribution	
2) media		Press coverage of the selected extreme events and climate change	
3) civil society organizations	WP 4.2	<b>Baltic Sea Storm Surges</b> <i>Urban centers:</i> - coastal protection - emergency management - urban planning <i>Periphery:</i> - coastal protection - tourism - nature protection	<b>Paris heat waves/cold spells</b> <i>Urban centers:</i> - emergency health care - health planning - mass transit - collective provision of temperature regulation (cold) - urban planning - local and regional climate planning <i>Periphery</i> - land use planners - local and regional climate offices - forestry - agriculture
4) ministries, authorities and administration			
5) political actors and parties			
6) education			
7) economic/private sector actors			
	WP 4.3	Insurance sector	
8) General public/ Individuals	WP 4.4	Directly and indirectly affected households	

**Table 2: Exemplary list of stakeholders relevant to WP4.2 in selected sectors of interest**

Stakeholder groups	Baltic Sea Storm Surges	Heat waves & cold spells in Paris
1) civil society organizations	Regional dike associations	Farmers association
	Local initiatives for/against dikes	Nature conservancy groups
	Environmental protection initiatives	Relief centered NGOs
	Foundations	Climate activists
	Infrastructure management network	Unions
	Volunteer fire brigade	
	Church Parish Councils	
2) ministries, authorities and administration	Local tourism associations/initiatives	
	Department of Urban/ Spatial Planning	Department of Urban/ Spatial Planning
	Department of Environment	Department of Environment
	Department of Agriculture/Forestry	Department of Agriculture/Forestry
	Department of Tourism	Department of Tourism
	Department for Emergency management	Department for Emergency management
	Coastal defense authorities	Health authorities
	Regional and city climate change mitigation managers	Regional and local climate change mitigation managers
	Fire fighters	
Technical emergency services		
3) political actors and parties	Mayors in the German Baltic Sea region	Local elected officials
4) education	Teachers & facility managers of schools in the region	Teachers & facility managers of schools in the region
	Regional training institutes and centers	Regional training institutes and centers
	Museums	Museums
5) economic/private sector actors	Exposed critical infrastructure providers/ municipal utilities	Collective cold providers
	Exposed companies	Mass transit authorities
	Urban/spatial planning offices	Local chambers of commerce
	Port development authorities	Agricultural producers associations
	Private sector development	Woodlot owner association

#### 4. Survey of regional political decision makers in the Baltic Sea region

In order to grasp the general perception of political decision-makers with respect to climate change and related information needs, a survey of mayors was conducted by HZG in March 2014. Standardized surveys have been extensively used for assessing climate change and natural hazard-related risk perception, knowledge, priorities as well as their relevance to decision-making processes in order to create an empirical basis for generalizable statements (see e.g. Bird 2009; Bray und Storch 2014; Martinez und Bray 2011). The survey of mayors is undertaken for decision-makers in the Baltic Sea region only. However, the results of it admit drawing conclusions not only for the Baltic Sea case study but also for designing a harmonized methodology.

The focus of our survey was on regional climate services, dialogue formats and the relevance of climate information, in particular event attribution. The questionnaire includes general questions, for instance, about whether human activities have an impact on climate change and extreme events and if extreme event attribution might serve as relevant information in comparison with other possible regional climate information. This may convey a coarse understanding of whether there is a general

lack of knowledge with respect to anthropogenic climate change and how the utility of event attribution is perceived compared to other topics. The analyses of the survey can convey an understanding of which kind of information is most relevant and useful to stakeholders. This may help increasing the motivation to participate in interviews and workshops and raise the overall usefulness of an exchange between stakeholders. The survey was meant to provide, above all, a first estimate of how important attribution information is perceived to be in the overall context of regional climate service needs.

Quantitative approaches to a topic which is difficult to grasp, not directly observable, and difficult to communicate have, however, often been criticized for not being able to convey the width and complexity of actor-internal processes of decision-making. It has therefore been argued that exploratory research needs to antecede a quantitative survey (see e.g. Creswell 2013; Teddlie und Tashakkori 2009). Following an exploratory research design, a better understanding of stakeholder needs and priorities will be addressed in further in-depth interviews and focus group workshops (see chapter 5 and 6).

## **5. Interviews with key contacts in the region**

The quantitative questionnaire-based survey shall be complemented by more qualitative findings. Qualitative research is a “method of understanding” as Max Weber terms it (in Kruker and Rauh 2005, p. 4) and is therefore essential for generating an in-depth appreciation of stakeholder needs and understanding of event attribution.

Interviews with key stakeholders are, in this respect, expedient not only for conveying a better comprehension of stakeholder perceptions on climate and event attribution services but also for identifying relevant stakeholders in the context of Climate Change, Baltic Sea Storm Surges and Heat waves / Cold spells in the greater Paris area. This facilitates a further specification and validation of the preliminary set of focus groups identified in the course of WP4.1 and in the early stages of WP4.2.

Approaching key stakeholders who are not only regional decision-makers in the context of extreme events and climate change but also have an extensive network of other stakeholders in the region, can facilitate the sampling for further interviews and workshops. We decided for a snowball sampling which “yields a study sample through referrals made among people who share or know of others who possess some characteristics that are of research interest” (Biernacki und Waldorf 1981, S. 141). This sampling method has commonly been used to study social groups which are difficult to approach. In our case of regional stakeholder analyses, snowball sampling helps identifying people in charge of topics relevant to the study objective. Moreover, being referred to a person by one of his/her personal contacts raises the motivation to participate in an interview or workshop. Given that most of the relevant actors have only very limited time resources and sometimes little motivation to participate in interviews or workshops, this is a critical aspect in the sampling. The interviews shall also help making the planned workshops useful and interesting for the participating stakeholders. For this reason, the content and participants of potential workshops shall be discussed in the in-depth interviews with key contacts.

For the selection of relevant topics for the interview guidelines we can draw on our experience in regional stakeholder dialogues and the results and the survey of mayors. The guidelines are aligned with the theoretical and conceptual framework developed in WP 4.1. After an introduction of the EUCLEIA project, the interviewer and the interviewee, it is expedient to address key topics of interest in the region and stakeholders involved in managing related issues. In that way, the following discussion is targeted towards topics of relevance to regional stakeholders. Following the risk governance approach proposed in WP 4.1, the questions are targeted towards the importance of certain information for the interviewee-specific phases of risk governance (see chapter 2). The quality criteria for climate and attribution services address normative, relevance and evidence claims which have been identified to be critical in regional decision-making processes in the conceptual framework.

A guideline for the in-depth interviews with key stakeholders is presented in textbox 1. The interviews shall be conducted in an open and flexible way so that the interviewees are able to express their opinions with little interference from the interviewer. In that way, also information which might not be directly covered by the questions in the guidelines does not go by the board. The interviewees are selected based on two main criteria: 1) their experience and role as regional decision-makers in the field of Baltic Sea Storm surges, heat waves or cold spells in the greater Paris area and climate change; 2) an extensive network with other stakeholders in the region. For the identification of potential interviewees, HZG and UVSQ can draw upon years of intensive stakeholder dialogue. In fields or regions, where HZG and UVSQ are not in contact with relevant stakeholders, an internet research can facilitate the identification of potential interviewees. In addition to this, interviews with stakeholders will help identify further contacts in the region. The first interviews shall be conducted in early 2015. If there is further need for in-depth interviews, a second round might be conducted in April or May 2015.

## Textbox 1: Preliminary guideline for the in-depth interviews with key stakeholders

- I. Introduction – institutions, people, context
  1. Introduction of the own institution, the EUCLEIA project, interviewer and interviewee /
  2. Key topics and actors around climate change & storm surges/heat waves in the region
- II. Role of regional climate services
  3. Tasks of the interviewee
  4. High priority topics
    - a) at the moment and
    - b) long term
  5. Role of extreme event related information (Baltic Sea storm surges / heat waves and coldspells)
  6. Role of CC-related information in each of these tasks
    - a. general (*short-, medium- and long-term / strategic-institutional*)
    - b. details at the example of one thematic complex or extreme event in the past
  7. Sources of extreme event and climate-related information
  8. Quality criteria which determine the value of climate/extreme event-related information in the short-term and strategic context; e.g.:
    - a. When / why is information judged trustworthy, reliable, convincing
    - b. When / why is information judged relevant to the case/context
    - c. When would it legitimize taking action
- III. Definition and potential relevance of event-attribution-related information
  9. Understanding of detection/attribution and event attribution
  10. Introduction of potential attribution products
  11. Potential value/use of this information for own fields of work
    - a. for which of the fields of work is it relevant
    - b. which specific information would be relevant (*List of potential data/fact-sheet*)
    - c. when is attribution-related information needed
    - d. under which circumstances is such information of relevance
    - e. how to assure that information is accessible and applicable for the user
  12. Other potential users of this information in politics, private sector and general public in the research area
  13. Further contacts (*snowball sampling for interviews and workshops*)
- IV. Workshop concept and planning
  14. Outline the overall goals of a workshop with different stakeholders
  15. Discussion of a possible format for a useful and interesting workshop
    - a. General interest in a workshop
    - b. On which topics should we focus
    - c. What would be interesting focus groups
    - d. Between which actors might be an interest or need for cooperation and interaction

## 6. Focus group workshops

Focus group discussions or workshops can complement in-depth interviews at the side of qualitative research methods. In contrast to individual interviews, **group discussions** show how opinions, perceptions and needs are formed and how they change in a process of social interaction (Breitenfelder et al. 2004). A group discussion “capitalises on communication between research participants in order to generate data [...] The method is particularly useful for exploring people's knowledge and experiences and can be used to examine not only what people think but how they think and why they think that way” (Kitzinger 1995, S. 299). Given that WP4 focuses on stakeholder perceptions and needs, such information is of relevance to achieving the overall goals of the work package. Moreover, group discussions can reveal directly similarities and differences in the participants' opinions and perceptions whereas, for instance, opposing views drawn from individual interviews only encounter each other in the process of data analysis (Morgan 1997).

The advantages of **focus groups** (cf. chapter 3), i.e. having homogenous groups talking to each other, lies, according to Breitenfelder et al. (2004), first, in the fact that “group opinions” of common interest groups can be generated; second, in the fact that a “natural conversational climate” can be created. However, members of one focus group might represent diverging interests with respect to aspects which are not among the research foci. Therefore, it is difficult to assume that a common “group opinion” is always represented. Krueger and Casey (2000) argue that “It is a fallacy to assume that any one individual can “represent” his or her neighborhood, race, gender or culture. Each person speaks for himself or herself. When asked, however, these individuals may attempt to offer insights about the opinions of an entire category of people”. These aspects therefore need to be kept in mind and the results of group discussions need to be validated by further interviews and secondary literature.

In order to generate an understanding of the needs and perceptions of respective other focus groups and facilitate *inter-focus group* learning processes, also a **workshop with different stakeholder groups** can be of advantage. In-depth stakeholder interviews prior to the workshops (see chapter 5) shall show whether and how the provision of a communication platform and the opportunity for networking between different stakeholder groups increases the benefit of such workshops for the participants. If the interviews reveal that the communication and networking between different stakeholder groups are of use to the stakeholders, workshops in a so called World Café format can be expedient. They can make use of both the advantages of having a homogenous group talking with each other, on the one hand, and the capitalization of communication between different stakeholder groups, on the other hand. It offers a “practical way to enhance the human capacity for collaborative thought”(Schieffer et al. 2004, S. 2). At the same time, it is able to facilitate a discussion within one stakeholder groups and indicate the opinion of each of the stakeholder groups. It is therefore possible to initiate a dialogue, knowledge sharing and learning processes both between and within stakeholder groups.

## Textbox 2: Design for a half-day world café workshop on climate and event attribution services

### I. Introduction

- Northern German Climate Office/UVSQ and climate services,
- Background and goals of EUCLEIA
- Climate change at the Baltic coast / heat waves and cold spells in Paris

### II. Simulation „Regional climate services for a Baltic Sea storm surge/ Paris heat wave 2015 “

Presentation of a scenario for a potential 2015 extreme event (cf. fact sheet on the Baltic Sea storm surge event/Paris heat wave/cold spell) by the EUCLEIA team

### III. World Café – “Extreme event information” rounds

*On paper-covered tables, a number of focus groups discuss relevant topics in a café ambiance in several conversational rounds. Each round lasts between 20 – 45 minutes and addresses one specific question or topic. At the end of a round, the group moves to another table to discuss a different topic. Each table has one host who does not move from table to table. He/she facilitates the discussion, helps capturing the results graphically at the paper-covered table, and briefs the groups about the results of the previous rounds of discussion at this table. The number of people at one table should be between 3 and 5 and the number of focus groups in our case will be around 3-4.*

To be illustrated on the table:

1. *affected fields*
  - ➔ *to be written on the table/pieces of paper*
  - ➔ *e.g. fields of work, sectors, departments/people in charge, institutions, households*
2. *actor group*
  - ➔ *it needs to be recognizable which group produced which discussion results (each group could have e.g. their own stickers or pen colour)*
3. *Type of information needed*
  - ➔ *Type, description and source of information on prepared pieces of paper – including information on and examples of the respective product/ multiple choice options*
  - ➔ *e.g.: maps, models, response options, attribution results*
4. *Spatial scale*
  - ➔ *the spatial scale at which the information is to be provided shall be labeled (e.g. stickers)*

### IV. World Café – “Event attribution services” round

Attribution discussion (*possibly with a factsheet presentation*)

*To be discussed at each table in several rounds:*

- ➔ *How should information be exchanged and how can a climate service contribute to this?*
- ➔ *Who should provide this information?*
- ➔ *When / why is information judged trustworthy, reliable, convincing*
- ➔ *When / why is information judged relevant to the case/context*
- ➔ *When would it legitimise taking action*

### V. „Open Space“

- ➔ *Wrap-up*
- ➔ *General ideas and requests whether an attribution system is relevant to the own work and how a climate service in general should look like*
- ➔ *Evaluation of the world café workshop*

A preliminary design for such a work shop is presented in textbox 2. Whether it is more expedient to organize workshops in such a format or group discussions with only one stakeholder group at a time is to be shown by the interviews prior to the workshops. Potential participants of the workshop are also identified in these in-depth interviews. A first workshop is planned for March 2015. If necessary and feasible a second workshop (round of workshops) could be conducted in May or June.

## 7. Data analysis

The data drawn from the survey of mayors will be analysed using quantitative statistical methods. Given the content and structure of the survey questionnaire, mainly descriptive statistics will be applied. The data from the qualitative interviews and focus group discussions will be analysed along the lines of qualitative content analysis, in particular, grounded theory (for more details cf. Glaser and Strauss 1998 and EUCLEIA Deliverable 4.1).

We plan to create a continuous dialogue between the scientist, existing theories and the data from different empirical corpuses. The category or code development is therefore in between inductive and deductive content analysis (cf. Mayring 2000). We plan to design a coding system which emerges on the theory and concepts proposed in WP4.1, in particular risk governance and risk perception concepts (cf. e.g. Renn 2008), and the data collected in WP 4.2. In this respect, the concepts proposed in WP4.1 will be tested with regard to their appropriateness and contribution to answer the given research questions. In more concrete terms, an initial coding round of the given data set is undertaken by building on predefined and emerging codes. Thereafter, other coding rounds facilitate an iterative specification and organization of codes and sub-codes. This facilitates an analysis based on a coding system which is adapted to the specific research problem and thereby allows a systemic approach to theory development for WP 4 of the EUCLEIA project. WP4.3 and WP 4.4 will also follow this approach and thereby build on the grounded theories and concepts continuously developed and refined throughout WP 4.1 and WP 4.2. Software programs like MaxQDA or Atlas.ti can facilitate such an analysis.

## 8. Timeframe and deadlines for the work package 4.2

	Task	Timeframe
1	HZG sends a first proposal for the methodology in 4.2	20.01.2015
2	UVSQ sends revised version to HZG	23.01.2015
3	<i>Skype/TelCo UVSQ / HZG to discuss methodology</i>	<i>23.01.2015</i>
4	Agreement on a common methodology for stakeholder workshops (incl. stakeholder typology)	26.1.2015 <b>(MS2 – due date month 13)</b>
5	First round of interviews with key contacts	January to March 2015
6	First focus group discussion	April 2015
9	Meeting UVSQ / HZG in Hamburg – discussion of previous interviews & workshops, papers and concepts, coding scheme, further proceeding (i.a. whether a second round of interviews and workshops is to be conducted)	19.-20. March 2015
10	<i>Second round of interviews with key contacts (if necessary)</i>	<i>May 2015</i>
11	<i>Second focus group discussion (if necessary)</i>	<i>May/June 2015</i>
12	HZG proposes a report skeleton	Mid-May 2015
13	First draft deliverable 4.2	End of June 2015

14	Final draft for submission	End of July 2015 <i>(D4.2 – due date month 20)</i>
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## 9. Conclusion

The previous chapters show that an approach as proposed in this report can provide an expedient basis to address the stated goals of WP4.2. A profound and flexible development of the stakeholder typology, which is not pre-set but developed step-by-step in the course of in-depth interviews, is able to cover the width of relevant stakeholder. Starting from this basis, we are able to sample further interviewees and the participants of focus group workshops more target-oriented and increase the interviews' and workshops' usefulness for the participants.

The overall design and content of both the questionnaire-based survey of mayors and in particular the qualitative interviews with key stakeholders in the Baltic Sea and Greater Paris area are able to provide a solid basis to understand not only the overall usefulness of event attribution services but also an in-depth understanding of stakeholders' perceptions, priorities and needs with respect to these services. Workshops, for instance in a world café format, create in addition to this a field of interaction for different stakeholder groups. This can increase the use of workshops for the participant stakeholders because it facilitates inter-focus group learning and networking.

Embedding event attribution services in the overall context of regional climate services is also expedient with respect to our research goals. It shows the relative relevance of attribution services and is able to reveal quality criteria which would probably not have been found if only attribution services would be at the center of interest. Aligning the interview and workshop foci with the conceptual framework developed as part of WP4.1 facilitates a more detailed and in-depth understanding of which event attribution services might be of need to stakeholders and why/how these feed into risk governance processes.

Having a harmonized methodology addressing two different case studies provides a basis for inter-regional and –stakeholder comparisons and thereby facilitates drawing conclusions for regions and stakeholders beyond the scope of this research. Overall, our methodology is therefore able to understand regional level stakeholder needs with respect to attribution services from various angles and in accordance with the common goals of EUCLEIA.

## Literature

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