

Collaborative Project



CLIM-RUN

Climate Local Information in the Mediterranean
region Responding to User Needs



WP 4 – Climate Services Pilot Case Studies
Task 4.2 Case Study Implementation

Second workshops synthesis report

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1. Introduction

Two rounds of stakeholder workshops have played a major and critical role in the implementation of the CLIM-RUN case studies. The first round workshops were held between May and December 2011 and focused on the first two key stages of CLIM-RUN:

- Stage setting
 - First (stage-setting stakeholder workshops)
 - First formal stakeholder contact
 - Beginning to define 'who' and 'what'
- Mapping the issues
 - Prior to/during/after first stakeholder workshops
 - Perception and data needs questionnaires

A synthesis of the first round workshops is provided in Deliverable D4.2, while D4.1 provided a planning and resource document for the workshop organizers.

The period between the first and second round workshops was devoted to iterative consultation and collaboration (CLIM-RUN key stage 3) primarily between the CLIM-RUN Climate Expert Team (CET) and Stakeholder Expert Team (SET) (see Section 3) and focused on the development of products and information sheets (see Section 5).

The second round workshops were held between May and October 2013 and were planned to implement CLIM-RUN key stage 4:

- Consolidation and collective review/assessment

as well as feeding into the 5th and final CLIM-RUN key stage:

- Going forward: synthesis and recommendations.

This deliverable, D4.3, provides a summary and synthesis of the second round workshops. Section 2 provides summary information about the number, location and content of the workshops. Section 3 outlines the planning process and support provided while Section 4 considers the use of participatory methods and tools. Section 5 discusses feedback on the presented CLIM-RUN products and tools. Section 6 comments on the process of translating and meeting user needs and Section 7 considers issues relating to continuing stakeholder engagement. Finally, Section 8 provides some concluding remarks.

2. Summary of the CLIM-RUN workshops

Table 1 lists the nine CLIM-RUN workshops which were held between May and October 2013, together with four non-CLIM-RUN events used by WP7 as opportunities for stakeholder interaction. The numbers attending workshops are indicated, including the number of stakeholders, together with the language used. The final column indicates the specific CLIM-RUN products (primarily

information sheets) that were presented and reviewed during the workshops. All workshops ran for either half-a-day or a full-day.

Individual reports have been produced for each workshop/event by the relevant Work Package (WP). All reports are in English. All these reports, together with powerpoint presentations, programmes and other workshop-related material, are available from the CLIM-RUN wiki and/or internal file manager system.

Table 1: Summary of CLIM-RUN workshops and other stakeholder events.

Work Package and Sector	Location	Date – all 2013	Total number attending – number of stakeholders in brackets	Language	CLIM-RUN products (information sheets) presented
WP5 Tourism	Tunis, Tunisia	1 May	24 (15)	French	<ul style="list-style-type: none"> • Tourism comfort index • Seasonal predictions of SST • 2050 projections of temperature, precipitation and sea level rise
	Savoie, France	31 May	10(7)	French	<ul style="list-style-type: none"> • Climate balance of the past season • 2050/2100 projections of temp. in high mountain areas • 2050/2100 projections of spring conditions in Savoie • Future evolution of surface temp. for four lakes • Future risks posed by extremes
	Zagreb, Croatia	4 June	22(10)	Croatian	<ul style="list-style-type: none"> • Thermal component of climate potential for tourism in Croatia • Climate index for tourism in Croatia
	Nicosia, Cyprus	11 October	17 (10)	English	<ul style="list-style-type: none"> • Cyl CLIM-RUN data portal
WP6 Fires	Athens, Greece	4 June	23(19)	Greek	<ul style="list-style-type: none"> • Educational software for FWI • Future fire risk in Greece

					<ul style="list-style-type: none"> Short-term fire risk forecast for Greece
WP7 Energy	Maghreb Renewable Energy Congress, Rabat, Morocco	21-22 May	Presentation to 30 participants. 10 face-to-face discussions.	English	<ul style="list-style-type: none"> Wind forecasting Wind scenario distribution Wind scenario maps
	Zagreb, Croatia	6 June	29 (18)	Croatian	<ul style="list-style-type: none"> Wind atlas for Croatia Precipitation climate change for hydro Indices of precipitation extremes for the Croatian Adriatic
	Weather Risk and Forecasting for the Energy Markets Conference, Berlin, Germany	13-14 June	Presentation to ~30 participants (25 stakeholders from energy trading, insurance). 5 face-to-face discussions.	English	<ul style="list-style-type: none"> Wind forecasting Seasonal wind forecast 'operational' newsletter
	International Conference of Energy and Meteorology, Toulouse, France	24-28 June	Presentation to ~30 participants (10 stakeholders from range of backgrounds). 5 face-to-face discussions.	English	<ul style="list-style-type: none"> Wind forecasting Seasonal wind forecast 'operational' newsletter
	Weather Intelligence for Renewable Energy (WIRE) COST Action Summer School, Toulouse, France	1-5 July	Presentation to ~70 participants (15 stakeholders from range of backgrounds). 8 face-to-face discussions.	English	<ul style="list-style-type: none"> Wind forecasting Seasonal wind forecast 'operational' newsletter
	Nicosia, Cyprus	14 October	12 (7)	English	<ul style="list-style-type: none"> Cyl CLIM-RUN data portal
WP8 Integrated	Zagreb, Croatia	4 June – Tourism, see WP5 above			
	Trieste, Italy	28 May	15(11)	Italian	<ul style="list-style-type: none"> Sea level rise in the North Adriatic Seasonal forecasts of heavy rainfall Indices of extremes

					<ul style="list-style-type: none"> • Risk assessment: sea level rise inundation risk maps; pluvial flood inundation risk maps in urban areas
	Venice, Italy	26 September	9(4)	Italian	<ul style="list-style-type: none"> • Local climate change projections and associated uncertainty • Local climate change projections and associated uncertainty in the presentation of intense events • Sea level rise • Risk assessment: sea level rise inundation risk maps; pluvial flood inundation risk maps in urban areas
	Zagreb, Croatia	6 June – Energy, see WP7 above			

3. Workshop planning and support

As with the first round of workshops, WP4 provided planning support and co-ordination for the workshops, while still allowing flexibility at the local level.

A short planning document was produced by WP4 covering the following issues:

- Workshop objectives
- Stakeholder participation (identification and invitations)
- Material to be sent to workshop invitees
- Workshop approaches/formats
- Presentations (common and case-study specific)
- Stakeholder feedback
- Post-workshop activities

A number of skype conferences were held to discuss workshop arrangements, covering both overall project approaches and individual workshops, followed up by email discussions. The relevant CET members (from WP2 and WP3) and the SET members (from WPs 5 to 8) were again expected to play a major role in the organisation and implementation of these workshops. CET and

SET members are listed in milestone report MS.8/9/17. The product information sheets (see Section 5) were expected to provide a major focus for the workshops.

WP4 defined the workshop objectives from the perspective of CLIM-RUN as a whole (in the expectation that case-study specific objectives would be defined by the local teams):

- The intention is to review both the process of interaction between the CLIM-RUN scientists and case-study stakeholders, as well as the utility of the products and information developed in CLIM-RUN
 - How far have we got?
 - How successful have we been?
 - What are the remaining problems and/or gaps?
 - How to sustain and extend the interactions?

WP4 also outlined the feedback on products that was sought:

- Is the information clearly presented – in language that is meaningful and understandable for you?
- Could the presentation/description be improved?
 - If so, how?
- Is the information relevant (and useful and/or usable) for you?
 - If so, how might you use it?
 - If not, why not?
- What additional information would you like?

For most of the workshops, the main starting point for identifying and inviting stakeholders was the lists of those attending or invited to the first round workshops as well as those subsequently completing perception questionnaires (see Section 4 of Deliverable D4.2). As part of this earlier process, a systematic approach to the identification and classification of stakeholders was taken for the WP8 Venice integrated and the WP5 Savoie and Tunisia tourism workshops (see Section 5 of Deliverable D4.2). In preparation for the second round workshops, surveys of the tourism and energy sectors were undertaken in Cyprus focusing on: basic statistics and description of the industry in Cyprus, both currently and recent history; a compilation of the main players/stakeholders; and, a concise description of relationships and interdependencies between the main players. These surveys were used as the basis for the selection of invitees to the second round Cyprus workshops which were attended by more of the relevant major institutions than the first round workshops (which were only attended by 2 or 3 institutions).

As for the first round workshops, invitations were generally sent out by email with various reminders. Fax was also used in Tunisia. In many cases, the emails were followed up by telephone calls. The response rate was quite variable. For the Croatian tourism workshop, for example, the original email invitation was sent to more than 80 addresses, with 10 people from tourism organisations eventually attending.

The workshops were generally held in the same geographical locations as the first round workshops. However, for the Italian integrated case study it was decided to hold the workshop in Trieste in order to increase participation from the Friuli Venezia Giulia region. However, stakeholder participation in total decreased and so it was decided to hold a follow-up smaller 'focus group' meeting in Venice in late September (see Table 1).

WP7 used different methods to contact stakeholders attending the four renewable energy events (see Table 1). In the case of the large (around 300 delegates) Maghreb Renewable Energy Congress, the congress internal networking tool was the main approach used. This online meeting or chat room provided contact details for all delegates. The most relevant delegates were contacted through the tool, with follow-ups by email and telephone if no response was received. Through this means, face-to-face discussions were held with 10 renewable energy financiers, local project developers and policy makers (see Section 4). For the other three events, potential interviewees were identified by reviewing the lists of delegates.

With respect to involvement and participation of CLIM-RUN project partners, the workshops were organised by the relevant members of the SET. They were, for example, responsible for identifying and inviting stakeholders. The relevant CET members were invited to give workshop presentations (see Section 4) and were responsible for overseeing the development of relevant climate products (see Section 5). The intention was that both CET and SET members would review the extent to which stakeholder needs had been met (see Section 6).

4. Participatory methods and tools

Most of the workshops followed a fairly conventional format with Powerpoint presentations by CET and SET members, other local experts, and stakeholders – followed by discussion. The workshops generally ran for half a day – a full day at most – which perhaps limited the time available for discussion in some cases. However, despite relatively low attendance by stakeholders the discussion sessions were generally very lively with plenty of interest and input from stakeholders.

It has been suggested this rather formal approach should be improved on with more use of participatory methods (see Deliverable D5.4 for example). The short participatory exercise used in the Savoie workshop to assess the relevance of the products was considered quite successful in this respect. The first examples of products were reviewed and discussed in the stakeholder group regarding format, content, usefulness and relevance for adaptation and improvement of decision-making processes.

For the renewable energy events attended by CLIM-RUN partners, the strategy was to give a presentation on the project in a relevant conference session and then to conduct individual face-to-face interviews, typically lasting 20-25 minutes. A standard set of 10 guiding questions (see Appendix) was used to obtain feedback on a few of the CLIM-RUN products (see Table 1 and Section 5). As with the longer perception questionnaire developed by WP4 for the first round

workshops (see Deliverable D4.2), the initial questions cover the extent to which business operations are affected by climate variability and change and the current use of climate information. Subsequent questions relate more specifically to the second round workshop objectives (see Section 2) and the presented products.

For the Athens wild fires case-study, a follow-up questionnaire was sent to stakeholders by email. The questions (see Appendix) focus very specifically on the usability and learnability of the three web-based training and educational tools presented (see Table 1 and Section 5), the adequacy of the data provided, the documentation as well as the visualisation of the derived information.

Since stakeholder involvement in the first round workshops had been rather limited, a more general questionnaire on climate services (see Appendix) was distributed to attendees of the tourism and energy workshops in Cyprus.

For the Italian integrated case study, as well as seeking feedback on three climate product information sheets, feedback was sought on climate impact and adaptation services for the North Adriatic coast. In particular, the Regional Risk Assessment approach and the Decision support System for Coastal climate change impact assessment (DESYCO) used by the Italian CLIM-RUN risk experts were presented. Feedback was sought on three preliminary risk-based impacts products: sea level rise inundation risk maps; pluvial flood inundation risk maps in urban areas; and, water stress index and maps for agricultural typologies. As well as workshop discussion, specific feedback was sought through a questionnaire (see Appendix) circulated to participants by email. Ideally the questionnaire would have been completed during the workshop, but this was precluded by time constraints and subsequently only five out of 11 distributed questionnaires were returned. However, the process can be considered truly participatory in the sense that respondents were asked to help assign scores and weights to various parameters and factors within DESYCO.

5. Review of products

Following the first round workshops, the process of ‘translating’ user needs (see Section 6), culminated in the production of the first examples of products and outputs. It was agreed that these should be presented in the form of two-page briefing notes or information sheets following a standard format with sections on: Relevance to the case-study requirements; The approach; Product example; and, Making the product usable. The intention was that the climate input should be provided by the WP2 (climate modelling) and WP3 (observed climate) partners, and that the information sheets should be reviewed at the case-study level by the relevant SET members and stakeholders, before being submitted to a five-member project-wide review panel and final publication on the CLIM-RUN web site. Thus draft information sheets provided the basis for discussion at many of the second round workshops (see Table 1).

In general, these two-page documents were welcomed by stakeholders as a useful way of presenting information in an accessible way and demonstrating the type of information that climate services can provide. However, stakeholders suggested a number of ways in which the information

content and/or its presentation could be improved in order to enhance accessibility and usability. Comments encompassed a number of different aspects including:

- The clarity and understandability of figures and maps, including comments on units and axis labelling
- The desirability of having information at higher spatial resolution
- The need for better guidance on the robustness of the information for decision making, including discussion of uncertainties and model calibration and validation
- Missing information – including additional variables and more impacts focused information

The specific feedback is reported in the individual workshop reports. Here, some of the main comments are summarised.

Some quite specific feedback was obtained from the Savoie tourism workshop, for example on the choice of units. Timeliness of delivery of information based on observations was seen as very important – with a desire for close to ‘real-time’ information. Stakeholders did not want/need too many figures, but saw the information as an important ‘communications weapon’ in the discussion on climate change. It was suggested that alternative dissemination routes could be explored including mobile applications.

The Tunisian tourism stakeholders felt that the product on the Tourism Climate Comfort Index in Tunisia (ICT) met their needs with regard to knowledge of the tourism climate of the country and its variation across regions and seasons. They were able to see a number of ways in which different types of stakeholders, e.g., hotel owners, might use it. The surveying of tourists to determine their climatic requirements and to assist in the definition of ICT thresholds for favourable and unfavourable conditions was particularly appreciated. Stakeholders also appreciated the relatively simple graphical presentation of the ICT for the present day. They wanted more information on short-term and seasonal forecasting timescales, but struggled more with the presented climate change information, being particularly concerned about model validation.

While there was lively discussion during the Croatian tourism workshop, no specific feedback on the products presented is provided in the workshop report. The Cyprus tourism stakeholders wanted more explicit clarification on the effects of uncertainties and limitations of numerical modelling on the usability of information, together with guidance on using the data portal.

Very specific feedback was obtained in the Greek workshop – reflecting the three products/tools targeted at different types of users. All products generally received very high scores (8.4 to 9 out of 10) in the questionnaire (see Appendix) as far as the usability, learnability, adequacy and visualisation of the data were concerned. However, respondents had only used the software for personal usage and information rather than as part of their jobs. Improved documentation and guidance was requested for all software tools. Stakeholders also suggested a number of ways in which the fire risk information could be extended by incorporating socioeconomic factors and land use and vegetation as well as providing a more local characterisation of fire risk categories.

The information sheets on wind presented to stakeholders during the renewable energy events were appreciated for their concise presentation and were seen as a step forward in raising awareness. While some more technical users would have liked more detail, the main concerns related to doubts about the usefulness of the information primarily due to large uncertainties and

the limited reliability of seasonal forecasts. This was of particular concern to the finance sector. More work was requested on calibration and validation of forecasts. Stakeholders also indicated that policy and financial issues tend to dominate over considerations of climate change and variability, though the situation may change somewhat with the forthcoming removal of the Feed in Tariff subsidy. Despite these concerns, stakeholders considered that the CLIM-RUN products helped people to visualise what climate services can provide and were generally willing to continue discussions and to continue to receive the wind forecasting newsletter.

No specific product feedback was received from the Croatian energy stakeholders although there was a feeling that the hydroelectric power community needs to better understand the probabilistic approach. The Cyprus stakeholders expressed a need for additional variables to be included in the data portal, in particular DNI (Direct Normal Irradiance). Users also wanted higher spatial resolution information, for example, for urban areas.

Italian stakeholders considered the three climate products presented in Trieste and Venice useful, but would have appreciated higher spatial resolution and/or longer time series. A need for additional downscaling was identified though the difficulties of observed data availability were acknowledged. User needs went very much beyond climate information and stakeholders considered the CLIM-RUN bottom-up approach to be particularly valuable in the context of the DEYSCO risk management tool. This approach allowed stakeholders to help define input parameters and output maps and indicators thus increasing compliancy with their expectations. Based on their knowledge of local crops and soils, for example, stakeholders were able to suggest a more appropriate area for the proposed testing of the water stress index and maps.

6. Meeting user needs

Following the first round workshops, the process of ‘translating’ the expressed user needs into specific products, information and tools was embarked on (see Section 7 of Deliverable D4.2). In particular this was intended to allow:

- Production of new examples of products and outputs
- Identification of key data/output gaps and strategies for tackling them
- Identification of priorities
- Identification of requests which are ‘out of scope’ of CLIM-RUN or impossible to meet
- Definition of new modelling tools required.

Initially a summary of user needs and how these could be met was produced for each case study. CET members were asked to define each particular request according to the following categories:

- 0 – not possible to provide
- 1 – already available
- 2 – easy to provide
- 3 – able to provide, but with a lot of work.

Gathering this information was seen as an important step in subsequent communication with stakeholders. Rather than apparently ignoring an ‘impossible’ or ‘too difficult’ request, it was considered important to provide feedback to stakeholders as to why particular requests could not

be met at least within the limited scope and timeframe of the CLIM-RUN project. From the second round workshop reports, it is not evident that such a formal or organised reporting back took place. It is also the case that a number of additional needs, particularly related to sectoral impacts, were expressed during the second round workshops. It is not the purpose of this workshop synthesis report to provide a summary of all needs and the extent to which they have been met. These issues are, however, discussed in a series of cross-cutting conclusions deliverables (D4.4, D5.4, D7.4 and D8.4). These deliverables also evaluate the functioning of the CET and SET who were envisaged as sharing responsibility for the process of identifying, translating and meeting user needs and managing expectations.

It is noted that for the renewable energy case study, a deliberate decision was made to focus on wind during the industry events. This was done for two main reasons. First, it is still very challenging to assess and communicate how climate forecasting can help to predict power production and its variability in the mid- to long-term, and therefore simplifying the message to one technology would make it easier to optimise research resources and focus the messages to make them more understandable. Within CLIM-RUN, there was already a good body of knowledge related to wind modelling and forecast capabilities. Second, the wind energy market continues to be the leading renewable energy technology, and there is growing stakeholder interest in deploying wind technology.

7. Continuing the stakeholder engagement

During the first round workshops and as part of the perception questionnaire, stakeholders were asked about their willingness to be involved in follow-on activities and a number of methods for continuing and enhancing stakeholder engagement were identified (see Section 6 of Deliverable D4.2). Given the forthcoming end of CLIM-RUN (February 2014) and the lack of continuing funding, it was quite difficult to discuss these issues during the second round workshops without inappropriately raising stakeholder expectations. Nonetheless, there are clearly very many areas of ongoing work for climate service providers and users in the Mediterranean and considerable work still remains to meet the needs of the CLIM-RUN stakeholders (see Section 6).

Other CLIM-RUN deliverables being prepared following the second round workshops (see, in particular deliverables D1.1 and D1.4) will deal more explicitly with mechanisms including possible funding mechanisms for developing sustainable Mediterranean climate services. Here we report a few specific actions and mechanisms for continuing stakeholder engagement identified during the second round workshops.

As a short-term action for the Tunisian tourism case-study, it was agreed to publish a brochure on the Tourism Climate Index and disseminate it to tourism stakeholders. It was also agreed to present the case-study results during a major international event on tourism climate services to be held in Tunisia in early 2014. For the longer-term, it was considered desirable to develop a tourism climate services web site integrated within the national weather service (INM) website and involving the Tunisian National Tourist Office (ONTT).

For the Greece wild fires case study, it is anticipated that the educational tools and, in particular, the operational short-term fire risk tool, developed within CLIM-RUN will continue to provide foci for stakeholder engagement. Moreover, the long-term fire risk web tool could be greatly improved by

incorporating socioeconomic factors and land use and vegetation as additional layers with the meteorological fire risk indicators.

It is also expected that publication of the renewable energy newsletter for seasonal wind forecasts will continue. Opportunities for communication through the International Renewable Energy Agency (IRENA) web portal will also be sought building on contacts made within CLIM-RUN.

8. Summary and concluding remarks

The CLIM-RUN second round workshops provided the basis for the key project stage of consolidation and collective review and assessment. In the end the nine workshops and four conference events provided the opportunity for direct interaction with about 160 stakeholders. This interaction was most successful (with respect to the project and workshops aims and objectives) when specific products and tools produced by CLIM-RUN partners could be presented and discussed in detail. In some cases, quite specific feedback has been obtained allowing refinement of the presentation of information and helping to prioritise and focus future work.

It is evident that organising these workshops and preparing the input for them were time consuming tasks. There are still barriers to involving and engaging stakeholders thus, for example, time and effort is needed to personally follow-up invitations sent to stakeholders.

The aims and objectives of these workshops were distinctly different from those of more general workshops on 'impacts of climate change'. In this context, it would be useful to explore and evaluate more participatory methods and tools rather than continue to rely on the standard 'present and discuss' workshop format. More fundamentally, the CLIM-RUN experiences particularly in the tourism and renewable energy case studies, suggest that it may be better for the climate service providers to go to the stakeholders (e.g., during relevant industry events) rather than expect stakeholders to come to climate service events, particularly in the development stages.

In the closing stages of CLIM-RUN, feedback from the workshops is being used to further refine products and outputs, which are being made available through the CLIM-RUN case-studies portal and data portal. The workshop experiences are also being used for reflection and self-learning by project partners thus informing finalisation of the CLIM-RUN protocol for the development of Mediterranean climate services (see Deliverable D1.1). The series of cross-cutting conclusions deliverables (D4.4, D5.4, D7.4 and D8.4) are also important in this respect.

Finally, it is noted that while many stakeholders considered that CLIM-RUN had produced useful information for their particular sector, it is much harder to determine whether this information is usable yet and there are no clear examples of the information actually being used for decision making. These are the ultimate goals of climate services.

Appendix

Guiding questions used in face-to-face interviews with renewable energy stakeholders

- 1) How are your business operations (depending on who you speak to it could be more precise, for instance, how is the mid- to long-term planning of your wind energy projects) affected by climate variability/change?**
- 2) What type of climate information is important for your activity/your organization?**
- 3) Would this type of information (refer to one of the three product sheets) help to improve your decisions with regard to planning your renewable energy project activities?**
- 4) Is the level and detail of the climate information appropriate to support decisions in your business operations?**
- 5) Do you find this climate information as it is presented here useful?**
- 6) Do you have any doubts concerning the reliability of this type of climate information?**
- 7) Is this type of climate information easily understandable for you (or a climate or meteo-expert in your organization) or would you need further explanation?**
- 8) What additional information would you need to improve your decision making with regard to climate variability/change?**
- 9) How would you improve this information or change this product sheet to make it usable in your sector?**
- 10) How could you help us to better tailor these product sheets to the specific needs of the sector you are working in?**

Product feedback questionnaire sent to the Athens workshop attendees

1. Have you used the application after the workshop?
 - a. Yes, for personal usage and information
 - b. Yes, as part of my job
 - c. I have not used the software
2. Assuming a scale, where 1 corresponds to the minimum and 10 to the maximum desired level, how would you rate the application in respect of:
 - a. Its comprehensibility - is it easily understood?
 - b. Its learnability- is it easy to learn how to use its functions?
 - c. The adequacy of the data
 - d. The visualization of the provided information
 - e. The provided documentation
3. What do you think can be improved or added to the application? If you have not used the software, please give the reasons, especially if they are relevant to the difficulties encountered in its usage.

General questionnaire on climate services distributed to attendees of the Cyprus tourism and energy workshops

Please answer each question by ticking (✓) the appropriate box¹ (more than one answer possible!)

I consider climate services to be of considerable value in my longer-term strategic planning	5	4	3	2	1	0
Climate information should be provided free of charge on a regular basis through electronic media	5	4	3	2	1	0
I would like to gather information on my own at a user-friendly and easily accessible web-site	5	4	3	2	1	0
I consider local information (municipality, district level) as most useful	5	4	3	2	1	0
I would like to get information on a country to regional level (Cyprus and the Eastern Mediterranean)	5	4	3	2	1	0
I would like to receive climate information for the next one to five years	5	4	3	2	1	0
I consider climate information on a time frame of five to twenty years very valuable	5	4	3	2	1	0
I would like to get information on temperature and precipitation (rain) on a seasonal time frame	5	4	3	2	1	0
I need information on a monthly to weekly time frame	5	4	3	2	1	0
Aside from temperature and precipitation, wind speed and wind direction as well as coastal water temperatures would be useful in my planning	5	4	3	2	1	0

Any additional comments:

¹

- 0 No comment/answer
- 1 I completely disagree
- 2 I disagree
- 3 I partly agree/disagree
- 4 I agree
- 5 I strongly agree

Questionnaire on the DEYSCO risk assessment tool circulated to attendees of the Trieste workshop

Trieste, 28th May 2013. Stakeholders questionnaire

Name	Surname	Affiliation

Product 1 Sea-level rise inundation risk maps

INPUT DATA

- 1.1. Do you think that the proposed dataset for the North Adriatic case study is appropriated (Table 1.1)?
☐Yes ☐No

Dataset	Dominio	Fonte
Digital Elevation Model (DEM) 10 m	FVG	FVG, 2007
Digital Elevation Model (DEM) 5 m	VE	VE, 2007
Subsidence map	VE	Carbognin L., Teatini P., Tosi L., 2005. Land subsidence in the Venetian area: known and recent aspects. Ital J Eng Geol Environ 1:5–11. doi:10.1474/GGA.2005-01.0-01.0001
Hydrological basins 1:25000	VE, FVG	VE, FVG, 2000
Corine Land Cover, 1:100.000	FVG, VE	ISPRA, 2006
Protected areas 1:150.000	VE, FVG	VE, 2008, FVG, 2007
Geological and geomorphologic maps 1:50000	VE, FVG	FVG, VE, Province, Autorità di Bacino
Administrative boundaries	VE	VE, 2005
	FVG	FVG, 2006
Population density	VE, FVG	ISTAT, 2010

Tabella 1.1. Dataset available for the north Adriatic case study FVG = Friuli-Venezia Giulia, VE = Veneto.

If not, which other receptors would you suggest to include?

1.2. Which scores and weights would you assign to the value factors proposed in Table 1.2? Please use the linguistic evaluation guidelines (Table 1.3) to assign weights and scores from 0-1 to each of the proposed value classes.

Weight	Factor	Class	Score
	Protection level	National area	
		Regional area	
		Nature 2000	
	Urban typology	Residential buildings	
		Commercial buildings	
		Infrastructures	
	Urban typology	Permanent	
		Stable meadow-Pastures	
		Arable land	
	Wetlands extension (km ²)	0 – 19,9	
		19,9 – 39,8	
		39,8 – 59,8	
		59,8 – 79,7	
		79,7 – 99,6	
	Vegetation cover	Natural grassland and meadow	
		Vegetation with shrubbery	
		Forest	
	Population density (inhabitans/region)	< 100	
		100-300	
		> 300	

Table 1.2. Value factors and classes

Linguistic evaluation	Scores
Most important class	1
Weakly less important class	0.8
Rather less important class	0.6
Strongly less important class	0.4
Demonstratively less important class	0.2
Absolutely less important class	0

Table 1.3 Linguistic evaluations supporting the assignation of relative score to value classes.

OUTPUT DATA

1.3. How many classes should be represented in the hazard map (e.g. 3 high, medium, low hazard)?

1.4. Which threshold better identify the water level that generates the maximum inundation hazard (e.g. 10, 60, 100 cm)?

Product 2 Pluvial flood inundation risk maps in urban areas

INPUT DATA

2.1. Is the proposed area (Province of Venice) appropriate for the study?

☐ Yes

☐ No

If not, which areas should be included?

2.2. Are the proposed receptors (Table 2.1) appropriate for the study?

Receptors	Source
Population	ISTAT, 2010
Infrastructure	Corine Land Cover, 1:100000, Land use, 1:25000 ISPRA, 2006
Buildings	Corine Land Cover, 1:100000, Land use, 1:25000 ISPRA, 2006

Table 2.1. Receptors considered for the pluvial flood risk assessment.

2.3. If not, which other receptors would you suggest to include?

2.4. Are the proposed vulnerability factors (Table 2.2) appropriate?

Bio physical and environmental vulnerability factors
Slope
Land use
Recently flooded areas

Table 2.2. Bio physical and environmental vulnerability factors considered.

If not, suggest which others factors should be included

OUTPUT DATA:

2.5. Is the proposed time scale (i.e. number of events in the decade 2041-2050) appropriate?

☐ Yes

☐ No

2.6. Which should be the most appropriate time scale for the study?

☐ Monthly number of events;

☐ Annual number of events;

☐ Seasonal number of events;

Other: _____

Product 3 Water stress index for crops

INPUT DATA

3.1. Do you think the case study area considered (Po river delta) is appropriate for the study?

☐ Yes

☐ No

If not, can you suggest others areas to investigate?

3.2. Which crop typologies (Table 3.1) should be consider as priority for the application of water stress index?

Livello 1	Livello 2	Livello 3	Livello 4	Livello 5
Superfici agricole utilizzabili	2.1. Seminativi	2.1.1. Seminativi in aree non irrigue	2.1.1.1. Colture intensive	2.1.1.1.1 Mais in aree non irrigue 2.1.1.1.2 Soia in aree non irrigue 2.1.1.1.6 Foraggiere in aree non irrigue
			2.1.1.2. Colture estensive	2.1.1.2.1 Cereali in aree non irrigue
		2.1.2. Seminativi in aree irrigue	2.1.2.6 Piante oleifere in aree irrigue	2.1.2.1.1 Mais in aree irrigue 2.1.2.1.2 Soia in aree irrigue 2.1.2.1.3 Barbabietola in aree irrigue 2.1.2.1.4 Girasole in aree irrigue 2.1.2.1.6 Foraggiere in aree irrigue 2.1.2.4.1 Orticole in pieno campo in aree irrigue 2.1.2.4.2 Orticole in serra o sotto plastica in aree irrigue
			2.1.2.4. Orticole in aree irrigue	
	2.2. Colture permanenti	2.1.3. Risaie		
		2.2.1. Vigneti 2.2.2. Frutteti e frutti minori 2.2.3. Oliveti 2.2.4. Arboricoltura da legno	2.2.4.1 Arboricoltura da legno 2.2.4.2 Pioppeti in coltura	

Table 3.1. Corine Land Cover for agricultural areas of the Po river delta

OUTPUT DATA

3.3. Which temporal resolution should be consider for the water stress index scenario for the 2041-2050 period?

- ☐ Annual;
☐ Monthly;
☐ Seasonal;
☐ Other:

3.4. Would you prefer the visualisation of the results in a single crop maps or a total crop map (i.e. all the crop typologies in the same risk map)?
