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## Glossary of Terms

Term	Explanation
climate service	The transformation of climate related data – often together with other relevant information - in to customized information products, offered as such or embedded in consultancy and/or education [condensed version of European Roadmap definition]
<i>climate service:</i> seasonal forecast	A prediction of weather tendencies (often expressed as probabilistic deviations from long term averages typical for the considered period and area) stretching from approx. 1 month to 6 months or more.
<i>climate service:</i> long term forecast	A prediction of climate conditions for a certain area and for typical time units (diurnal to annual) referring to decadal or multi-decadal averages several to many decades ahead
Webinar	Web-based video presentation (or series of presentations), including questions & answers; usually attendants have to register in advance; streaming of the webinar is often available for later watching
Workshop	Gathering of invited experts and other stakeholders to discuss a coherent set of topics relevant for a work package, and to jointly analyse questions and issues with the aim to provide the work package with input helpful for generating solutions and deliverables

Abbreviation	Full name and explanation
COP	UNFCCC Conference of the Parties
COPERNICUS	The European Union's Earth Observation Programme
CS	Climate service
ERA-NET	European Research Area Network
UNFCCC	United Nations Framework Convention on Climate Change
WP	Work Package (WPn – Work Package no. n (1 – 7))

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# 1. INTRODUCTION

## The study

To support further product development and effective widespread uptake of climate services, as a means to boost mitigation of and adaptation to climate change as well as capabilities to cope with climate variability, the European Commission has included several actions in its current research programme Horizon 2020 (H2020). Essentially these actions follow from the logic to implement the European Research and Innovation Roadmap for Climate Services (cf. European Commission, 2015)

EU-MACS and its twin project MARCO deal with analysis of the climate services market. In addition demonstration calls were launched on the added value of climate services for supposedly high value added sectors with hitherto little uptake of climate services (SC5-01-2016-2017), while other actions focus more on networking activities interlinking to better connect relevant players, such as the Coordination and Support Action (SC5-05b-2015) called Climateurope. In addition the ERANET for climate services (ERA4CS) is a programme that contains both testing of particular types of climate services in selected sectors and exploration of suitable climate service types for selected sectors.

An extremely important sub-programme in H2020 is the COPERNICUS Climate Change Service (C3S) programme, which aims to generate a very comprehensive coherent and quality assured climate data set meant to support mitigation and adaptation planning, implementation and monitoring. In due course, also coping capabilities of (current) climate variability are addressed.

In this framing, EU-MACS – European Market for Climate Services – will analyse market structures and drivers, obstacles and opportunities from scientific, technical, legal, ethical, governance and socioeconomic vantage points. The analysis is grounded in economics and social sciences, embedding innovation theories on how service markets with public and private features can develop, and how innovations may succeed.

## The scope and remit of this report

In the original project plan a joint final event with twin project MARCO was foreseen. During the first half of 2018 it became however clear that the diversity in stakeholders made it practically impossible to stage an event that is sufficiently relevant for at least a significant part of these different stakeholder groups. On the other hand several relevant and significant third party events were planned in autumn 2018. As a consequence the coordinators of EU-MACS and MARCO decided in good cooperation to aim for effective presence and visibility in those events, while possibly supported by other events or media attention tools.

In other words instead of one joint final seminar EU-MACS, often in cooperation with MARCO, had own sessions or was part of dedicated climate services sessions in a series of events between 25.9.2018 and 12.12.2018. The following events will be briefly presented in the following chapters:

- Copernicus Climate Change Services (C3S) 2<sup>nd</sup> General Assembly, Berlin 26.9.2018 (with MARCO)
- Climateurope Climate Services Festival, Belgrade 17-19.10.2018 (with MARCO)
- 6<sup>th</sup> SISC Conference, Venice 17-18.2018
- YHYS Colloquium, Rovaniemi 21.11.2018
- UNFCCC COP24, Katowice 5.12.2018 (with MARCO)
- EU-MACS / CMCC / Climateurope Webinar 12.12.2018

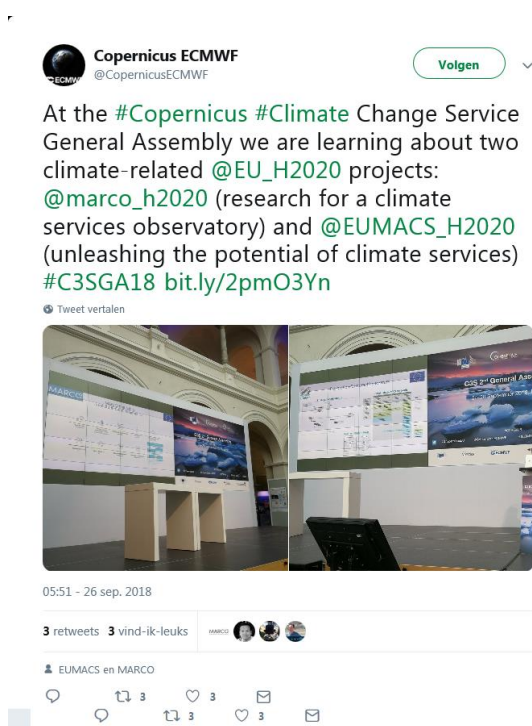
The joint stakeholder workshop with MARCO, held on 28.9.2018 as a side-event of the C3S 2<sup>nd</sup> General Assembly, is reported in D6.7.

## 2. SUMMARIES OF THE INTERACTION PROCESSES

### • Copernicus Climate Change Services (C3S) 2<sup>nd</sup> General Assembly, Berlin 26.9.2018

This event was meant for all research and expert organisations involved in projects commissioned by C3S, as well as key for stakeholders (e.g. prospective sectors of application such as electric power production). The total number of attendants was around 120, in majority from upstream CS providers (Met-Offices, Academia).

COPERNICUS Climate Change Services (C3S) is a large endeavour funded by the European Commission and implemented as part of the COPERNICUS programme to create a very versatile climate data hub as basis for climate services development. ECMWF is the coordinator and host of the programme. It should be realized that long term projections are available via C3S in the Climate Data Store (CDS), but are hitherto not the mainstay of C3S. A C3S survey showed that users of CDS, which are mainly active in upstream and midstream parts of the value chain, were mostly quite satisfied with the features and products of CDS. So far 81% of the European users has a public or academic status. It was admitted that despite the openness of CDS, de facto a high expertise level is needed to make proper use of CDS. Also more attention for linkage to downstream CS would be welcomed, and a growth in CDS based downstream CS product portfolios was desired (even though that goes beyond the remit of C3S).



The MARCO and EU-MACS projects presented the highlights of their projects, in as far as results were already presentable. Particular interest caused some of the recommendations, such as regarding more attention for business model designs also for publicly provided CS, as well as the realization that public CS providers not necessarily have to cover the whole value chain themselves, as well as QA for non-climate data.

In the margin of this meeting we had some discussions with various researchers. The plenary presentation fitted in a longer cycle of contacts with C3S. C3S chief Jean-Noël Thépaut participated in the stakeholder side-event of MARCO and EU-MACS on 28.9 (see D6.7). Later on C3S Carlo Buontempo attended the finance sector webinar of EU-MACS (see below). It was promising to observe that among the (predominantly public) CS providers in the C3S network rises the awareness about what might be their 'natural position' in the value chain and that cooperation with downstream providers merits to be reinforced.

• **Climateurope Climate Services Festival, Belgrade 17-19.10.2018**

Climateurope is a so-called coordination action in the EU H2020 programme aiming at promotion of coordinated action regarding climate services development and promotion. In comparison to C3S there is more emphasis on downstream CS and on reaching very different end-users, notably the ones that are harder to reach and mobilise. The latter aspect was also the reason to locate the 2<sup>nd</sup> climate festival in Belgrade, trying to better reach – so-far less well covered South-Eastern and Eastern Europe. Estimated number of participants approx. 100.



Eric Hoa  
@EricHS\_H

Volgen

Full house for the #ClimatEU18's side-event on sister projects @EUMACS\_H2020 and @marco\_h2020, with @adriaanper highlighting the complex value chain in the provision of #climateservices

Tweet vertalen



08:45 - 17 okt. 2018

4 retweets 7 vind-ik-leuks



EU-MACS and MARCO had a joint dedicated plenary session of which the contents was quite similar to the presentation at C3S in Berlin. In this case more discussion was ignited about resourcing of CS and affordability of CS, acknowledging the dilemma that free or low cost CS can help to enhance use of CS, but at the same time may undermine the long term viability in relation to the need for regular updating of a certain CS.

Listed obstacles for uptake were widely recognized by this audience, and also the need for flexible collaborative organisational structures to develop and/or provide CS was acknowledged by many attendants. Several other presentations referred to EU-MACS and MARCO.

In the opening plenary the EIB presentation corroborated the use of the AWARE tool<sup>®</sup> of Acclimatise as a practical and helpful first introduction to certain CS for the financial sector.

In the margin of the conference intensive contact with the H2020 CLARITY project, inter alia resulting in a dedicated web-meeting early November (CLARITY - EU-MACS – MARCO), providing CLARITY with our insights on obstacles, to uptake and possible measures to resolve them.

• **6<sup>th</sup> SISC Conference, Venice 17-18.2018**

EUMACS heeft geretweet  
**EUMACS** @EUMACS\_H2020 · 18 okt. ▼  
 @kpillisihvola live from #SISCClima conference in #Venice discussing some of the findings of @EUMACS\_H2020 project on #climateservices. Do not miss her poster this afternoon  
 Tweet vertalen



4 10

• **HYS Colloquium, Rovaniemi 21.11.2018**



SISC is the Italian Society for Climate Science, involving both natural and social scientists. The reason to attend this meeting was a dedicated session on climate services, while there would be more economists in the session audience. Estimated number of participants approx. 100, and about 15 in the session.

Karoliina Pilli-Sihvola (FMI) gave a presentation similar in content to the one by Adriaan Perrels (FMI) in Belgrade. Among this audience in particular a discussion about the value chain ensued, regarding its evolvement, completeness in representation, etc.

The Finnish Society for Environmental Social Science (YHYS) is a multidisciplinary society that brings together the practitioners and users of environmental social science in Finland. Each year YHYS organizes annual colloquium where YHYS members and other researchers come together to present and discuss their work. The 23th annual colloquium was held at the University of Lapland, Rovaniemi November 22-23. The colloquium had a special session for climate services, called “Climate services – a new way to translate climate science to decision-making”.

Estimated number of participants approx. 170; in the session 9.

This session was in fact arranged by the BLUE-ACTION H2020 project, which includes also climate service development, notably in relation to snow management of ski centres. Both the BLUE-ACTION case of snow management climate services for the Ruka ski centre (by Ilona Mettiäinen) and the key findings of the EU-MACS study (by Adriaan Perrels), with special emphasis for



tourism, were presented. Atte Harjanne discussed the emerging institutional logics of climate services, with results partly based on work in the two projects. During the session comparison between the projects focused on stakeholder interaction processes and assessment of benefit generation.

This event was thereby a good moment of stocktaking regarding climate services prospects for tourism in Finland, and more in particular Lapland. The activities of both projects have ignited more interest for CS among Lapland tourist sector representatives. Together with BLUE ACTION partner Lapland University EU-MACS partner FMI can further plan for awareness raising and product scanning actions for the tourism sector in Lapland and later on elsewhere in Finland. Also Prof. Marku (Univ. of Lapland; tourism economics) is interested to participate. He also attended the stakeholder event on 28.9.2018 in Berlin as panel member.

• **UNFCCC COP24, Katowice 5.12.2018**

As part of a side-events series in UNFCCC COP24 facilitated by the European Commission a session was organised by Jaroslav Mysiak (CMCC), titled “Climate innovations for low-carbon and climate-resilient transitions”. Estimated number of participants in the session approx. 35. This session was also supported by a fair amount of tweets.

**Climate services as vehicles of innovation and resilience building**

**Moderator**

- Jenny Lieu  
University of Sussex

**Panelists**

- Albert Soret  
Barcelona Supercomputing Centre
- Ilias Pechlivanidis  
SMHI  
Swedish Meteorological and Hydrological Institute
- Eric Hoa  
Climate KIC France & Mediterranean
- Adriaan Perrels  
Finnish Meteorological Institute

The 2 hours session consisted of two presentation series with questions and a concluding panel discussion. The first series of presentations dealt with aspects of transition to a low carbon economy. The second series of presentations dealt with climate services.

The coverage of the four presentations about climate services was coordinated in advance to offer the audience a coherent overview and a few main issues. The four presentations dealt

with ‘what is a climate service?’, ‘gap analysis in user engagement’, ‘scope and scale of climate services market’ (MARCO) and ‘Obstacles to innovation and uptake of climate services’ (EU-MACS).

Both the questions directly after the presentation series and the discussion during the panel was quite diverse. A significant part of the discussion revolved around issues near to EU-MACS and MARCO, i.e. how climate service selection, fitness-for-purpose, and matching of user needs and provider’s product offer is functioning and what can be improved. There was also some attention for links between adaptation and mitigation (e.g. as is the case for renewable energy and energy efficient building design).



- **EU-MACS / CMCC / Climateurope Webinar 12.12.2018**

**WEBINAR**  
December 12, 2018 - h.11.00 am CET

**Climate services in the finance sector:  
insights for users and providers  
of climate data and information**

**Robin Hamaker - Taylor** - Presenter  
*Policy and risk analyst – Acclimatise*

**Adriaan Perrels** - Discussant  
*Finnish Meteorological Institute*

**Jaroslav Mysiak** - Moderator  
*Euro-Mediterranean Centre for Climate Change –  
RAAS Division*

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cmcc EU-MACS Climateurope

In cooperation with CMCC (facilitator) and Climateurope (marketing) a webinar was staged on Wednesday 12 December from 11 am to 12.05 pm. The topic was ‘*Climate services in the Finance sector – insights for users and providers of climate data and information*’.

Reported number of attendants (max.) 140

The session was moderated by Francesca Larosa (CMCC), substituting for Jaroslav Mysiak. Main speaker was WP2 leader Robin Hamaker-Taylor (Acclimatise), while Adriaan Perrels introduced the overall project and acted as discussant.

As about 80% of the audience stayed tuned for at least for 55 minutes, apparently the large majority regarded the webinar as worthwhile. Especially for climate service providers and researchers it seemed to have been informative. The discussion at the end was lively, and a remainder of 8 questions was answered after the webinar via direct email contact.

The webinar can be watched via <https://youtu.be/t0-To3XjHv4>

### 3. CONCLUSIONS

We are convinced that the realized set of events, being substitutes for the own specific final event (joint with MARCO), have been probably more effectively reached a larger and more diverse audience, and achieved more visibility, than could have been expected from a separate own event.

By reorienting the focus of presentations across the various events, also a reasonable degree of variety of topics from the project could be brought to the attention of at least some audience. Admittedly in a whole day specific final event more detail could have been presented. On the other hand we have good reasons to believe that a separate specific event, even when organised in Brussels back-to-back with another relevant event (though that opportunity did not occur in autumn 2018), would have not attracted a satisfactory large audience (say 70+ participants, not counting project representatives).

Furthermore, the segmented series of interactions seems to have created more options for follow-up activities. There is still the intention to stage a final webinar (jointly with MARCO) in January 2019. Furthermore, FMI together with Finance Finland will organize a half-day seminar on February 4 in Helsinki about climate services and the finance sector.