

Climateurope Festival: An innovative way of linking science and society

Lola Kotova^{a,*}, Maria Máñez Costa^a, Daniela Jacob^a, Chris Hewitt^{b,c}, Paula Newton^b, Natalie Garrett^b, Stacey New^b, Rebecca Parfitt^b, Tyrone Dunbar^b, Janette Bessembinder^d, Ralf Toumi^e, Mauro Buonocore^f, Aleksandra Krzic^g, Marta Terrado^h

^a Climate Climate Service Center Germany (GERICS), Helmholtz-Zentrum Hereon, Fischertwiete 1, 20095 Hamburg, Germany

^b Met Office, Fitzroy Road, Exeter EX1 3PB, UK

^c Centre for Applied Climate Science, University of Southern Queensland, Toowoomba, Australia

^d Royal Netherlands Meteorological Institute (KNMI), Utrechtseweg 297, De Bilt, 3731 GA, Netherlands

^e Imperial College, London, UK

^f Centro Euro-Mediterraneo Sui Cambiamenti Climatici (CMCC), via Marco Biagi, 5 - I-73100 Lecce, Italy

^g Republic Hydrometeorological Service of Serbia (RHMS), Kneza Visislava 66, 11030 Belgrade, Serbia

^h Barcelona Supercomputing Center (BSC-CNS), Plaça Eusebi Güell, 1-3, 08034 Barcelona, Spain

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ABSTRACT

The Climateurope Festivals were designed to create synergies between different European, national and international initiatives in the fields of Earth-system modelling & Climate Services and enhance the transfer of information between suppliers and users. It gave an opportunity to display best in class outcomes and engage in world class networking in a less rigid environment than a scientific conference.

A number of formats were adopted in the Festival, from traditional impulse talks to innovative interactive sessions, and the thought-provoking discussions allowed the participants to share their experiences and knowledge around the advantages and challenges that Climate Services face within different sectors.

Three Climateurope Festivals were originally planned to be held across Europe. Two Festivals were successfully organised, the first in Valencia in 2017, and the second in Belgrade in 2018. Due to the COVID-19 pandemic and associated lockdowns and travel restrictions, the third and final Festival was held online as a series of virtual web-based Festivals in 2020/2021.

The Festivals were highly valued by participants. There was a strong desire by the Climateurope network to continue a science-stakeholder dialogue and make the Climateurope Festivals a regular event.

1. Introduction

In this paper we present the Climateurope Festivals (here after called Festivals), that were designed under the motto “Climate information at your service”. A key aim was to provide an easy platform to facilitate the exchange of climate information at the European and national levels and to strengthen science-policy and science-user interfaces. The main idea behind was to increase the uptake of science-based Climate Services into decision making in the private and public sectors.

In addition, these Festivals served as a key element for communication and dissemination within the Climateurope project. Climateurope created and managed a framework to coordinate, integrate and support Europe’s research and innovation activities in the fields of Earth-System modelling (ESM) and Climate Services. The project is described in detail in [Hewitt et al. \(2017\)](#), [Hewitt et al. \(2021\)](#) and at <https://www.climateurope.eu>.

[climateurope.eu](https://www.climateurope.eu).

The inspiration for the Climateurope Festivals came from the Climate-KIC (Knowledge and Innovation Communities) Festivals, e.g. Climate-KIC’s Innovation Festival in 2014 in Valencia. The Climate-KIC community realised that their focus on innovation required bringing together different stakeholders with different meeting expectations. It was recognized that a conventional academic style conference with intensive presentations was not a suitable format to engage a wide range of stakeholders, for example, business and public servants. What was most desirable at the Climate-KIC Festivals was innovation network and partnership creation and this could be best achieved by maximising opportunities for dialogue. No single format would meet these requirements so multiple activities including informal settings were needed and this led to the choice naming of “festival” as opposed to “conference”.

* Corresponding author.

The Climateurope Festivals were designed to:

- Demonstrate the progress of European Climate Service and Earth System Modelling, building on the network, mapping, and outreach activities of the project;
- Offer two-way engagement to delineate the contents of Climateurope and to present findings;
- Support the uptake of services by decision and policy makers in a range of sectors, in order to improve society's resilience to climate change and to mitigate the risk of its dangerous impacts;
- Provide targeted networking opportunities by actively facilitating interaction between suppliers, users and funders of Climate Services;
- Publicise the outcomes of the Climateurope expert groups and the outcomes of the forward looking analysis;
- Knowledge transfer and exchange to make relevant research information available and accessible to stakeholders.

Three Festivals were planned to be held during the project duration. The first Festival was organised in Valencia in April 2017 (Kotova et al., 2017), and the second in Belgrade in October 2018. The third Festival should have taken place in Riga, Latvia in June 2020. Due to the situation with COVID-19 and associated lockdowns and travel restrictions, the option of a physical event was ruled out (Hewitt et al., 2021). The Climateurope Festival in 2020 was held online as a series of web-based Festivals (here after called Webstivals).

The following chapters will explain the organisational process in detail, provide the examples of the successful face-to-face Festivals and online Webstivals and share the lessons learned.

2. Festival planning

The Festivals were planned as an opportunity for all communities ranging from climate service providers including climate researchers and data providers to data users, intermediaries and funders in the EU and elsewhere to display and learn from best in class outcomes and engage in world class networking in a less rigid environment than a scientific conference.

For those who were interested in participating but were unable to travel to Valencia or Belgrade, remote participation was offered. Technological solutions such as twitter and online streaming via Climateurope YouTube channel (at the second Festival) were available to a wide audience.

Planning the events included following steps:

- identifying the key target audiences;
- choosing suitable locations with options for remote participation;
- designing an innovative, useful and engaging programme.

2.1. Target audience

The potential participants included all of those in the network developed through Climateurope. Furthermore, the Festivals aimed at expanding the existing project's network by attracting new communities, in particular from different European scientific projects and initiatives and the user communities from the countries where the Festivals were held.

The target audience represented not only the wider Earth System Modelling research community but also all other providers and users of Climate Services and representatives of governmental institutions or funding bodies. In addition, the Festivals were structured in a way to make it interesting for commercial companies to attend the event.

The choice of venue enabled the attraction of participants from specific regions. The first Festival in Valencia, Spain, was focused on the Mediterranean region. The second Festival was held in Belgrade, Serbia to better engage the representatives of Eastern Europe. Moving the focus

towards Eastern European countries, characterised by a lower proportion of Climate Service providers, was considered strategic to boost user and provider engagement.

The Festivals needed to be sufficiently large enough to attract and be representative of key stakeholders, and still be able to allow efficient networking. At the beginning, it was anticipated that the Festivals would grow through the project, with the first one attended by up to 100 participants and the third (and the final one) by 200–300 participants (Hewitt et al., 2021).

However, after the success of holding of two physical Festivals, it was decided to limit the number of participants to 150 people for the face-to-face events. For the virtual Webstivals, the number of participants was unlimited to maximise the potential for networking.

2.2. Suitable location

Both Festivals were held within Europe and the locations were chosen taking into account provision of ambiance, suitable facilities, services and amenities, readily accessible and value for money.

The Festivals were designed to provide a space that encourages open communication and a comfortable settings to make sure participants feel at ease during the intense Festival's activities. So, for example, The Centre for urban innovation and hub for art and literature "Las Naves" was one of the venues in Valencia and inspired a creative and innovative atmosphere.

The Festival's venue also reflected the festival's topics. Valencia, for example, was selected as a suitable location for discussing themes relevant to the Mediterranean region. Furthermore, there was positive feedback on holding different workshops in this City. The practical application of Climate Services in viticulture, was highlighted during the special session at the Jeremic Winery about 30 km away from Belgrade.

2.3. Innovative formats

The Festivals adopted the innovative formats to raise the awareness, stimulate creativity, innovation and engagement with the target audience. While the scientific discussions were at the core of the Festivals, the Festival's style gave the opportunity for open discussions, brainstorming and generating new ideas.

Furthermore, the events aimed at building connections among participants, either by disseminating science in an alternative way or by sharing interesting options. These were, among others, presentations on where to find images about climate change, presentations about regional topics linked to climate services (e.g. local food tasting in Valencia), market place looking for matches between service providers and users or learning about conservation issues while navigating in Valencia's Albufera Nature Park Nature Park.

The program themes of the Festivals were chosen based on climate issues relevant to the region where the event took place. Thus, for example, each day of the first Festival in Valencia was dedicated to different themes relevant to the Mediterranean. These were water, ecosystems and food production.

At both Festivals, most of the sessions were structured in a way that a number of presentations addressed state-of-the-art Earth System Modelling and e-infrastructure followed by talks on how to obtain value from climate information and to transform it into bespoke products.

Various formats, from traditional impulse talks to innovative interactive sessions, were applied and gave the participants the opportunity to share their experiences and knowledge. This provoked discussion of the advantages and challenges of Climate Services.

The short *impulse talks in plain language* were intended to initiate discussions on the Festival's themes by the representatives not only from the scientific community, but also from the stakeholders. These talks focused on the aspects that were important for society, sparing attendants some details that are often difficult to follow by non-experts and therefore, capturing people's attention better.

The *storytelling sessions* were designed to motivate and inspire a wide audience. They were structured in a way to demonstrate the pathways and lessons learned for transforming climate information from Earth System Modeling into Climate Services, with selected case studies from across Europe (see the examples in the [Sections 3,4,5](#)).

This storytelling format was further developed and successfully implemented at the Webstivals. Two sessions were jointly organised with the Baltic Earth initiative (<https://www.climateurope.eu/events-climateurope/festival/webstival-2020-home-page/webstival-october-15/>); another event was held in collaboration with the Copernicus Climate Change Services (<https://www.climateurope.eu/events-climateurope/festival/webstival-2020-home-page/webstivals-january-2021/>).

The *round-table discussions* offered a great opportunity for brainstorming and generating new ideas between academic experts and the users community. At the first Festival, discussions focused on the challenges and opportunities for the private sector, especially with regard to funding innovation, while in the second Festival they were addressed to Climate Services from Central and Eastern Europe.

Another novel approach that was employed at the second Festival was an *interactive workshop* under the motto “Climate Services at work: matching users’ needs & discussing solutions”. The purpose of twelve breakout sessions was to discuss and further develop a climate service (selected from the presentations at the marketplace) in collaboration with (potential) customers (selected from the list of participants) (see more details in [Section 4](#)).

To assist in making the European landscape of Climate Services less fragmented, *speed networking* was an important part of all events and facilitated cooperation between different European research projects and initiatives. It was used to help the participants to know each other and create an environment favourable for open discussions, collaboration and engagement.

At both Festivals, open and interactive ‘marketplaces’ offered the opportunity to present climate service products and projects and to establish new contacts and reconnect with old ones. It was open to everyone to present their projects, online tools or products.

The approach to engage with audiences in a non-traditional fashion also extended to social media. The Festivals employed the use of a Twitter wall, that integrated all live tweets during the event in English (@Climateurope) which used the Festival’s hashtags “#ClimatEU17”, “#ClimatEU18”. The Climateurope Twitter wall was well-populated with lively interactions and debates between network members from all geographical locations. The ability to connect one on one or one to many through Twitter opened up a lot of opportunities for collaboration and engagement.

In addition, the conversations in Spanish were led by the organizing Committee and were available online via hashtag #ClimatEU17 at the first Festival.

2.4. Arts

Merging arts and science at the Festivals helped scientists view their research from new perspectives, given artists fresh inspiration, and helped both scientists and artists engage with the public in exciting and innovative ways. Thus, for example, BellHouse (<https://bellhouseproject.co.uk/>) invited delegates of the Webstival to share their data to be translated into the chimes of 34 bells, challenging how data is presented, communicated and miscommunicated.

Scribing was used during the Festivals and Webstivals to capture a graphical recording of the majority of presentations and conversations during the events ([Fig. 1](#)). Such visual metaphors were a wonderful way of engaging with participants and an innovative way to help them remember the main messages, while creating a visual identity of the events.

At the second Festival an interactive poster was displayed which gave the delegates the opportunity to co-produce a poster on topics of

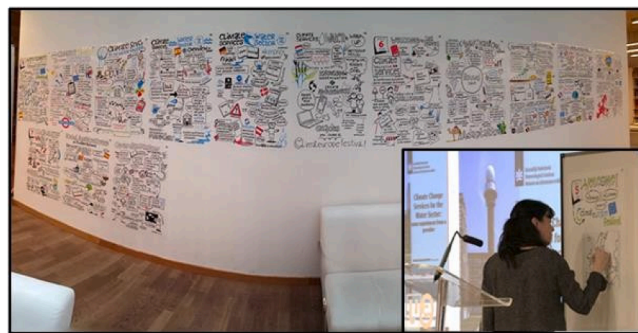


Fig. 1. In-situ scribing posters on display at the first Festival, in Valencia. Inset: the artist (Neva©) drawing a poster during talks at the Festival, © Natalie Garrett.

their choosing.

Also in Belgrade, twelve poems and pieces of artworks relating to climate change were selected from the outputs of the Climate Stories project, which was funded by the UK Natural Environment Research Council (NERC) under the Engaging Environments Programme. These pieces of artworks were printed onto canvas for display around the Festival’s venue, three examples of which are given in [Fig. 2](#). These were intended to be a provocation and invitation to discuss the arts and their importance in the discussion with the broader public around the impacts of climate change. These were well received, with the poem ‘Diversions’ being widely shared on Twitter.

The Festivals also provided a platform for awarding the winners of various competitions. In Spring 2018 the Horizon 2020 CRESCENDO schools network launched a competition inviting high school students to produce educational material on climate change. The winner was the video from high-school students from Albania; “If the earth was Human” (<https://www.youtube.com/watch?v=8FAeeH0ZCvQ>). In recognition of their achievement, the students presented their work and video to the Festival audience in Belgrade. It was extremely well received, and highlights that communicating the urgency of climate change through art and the voices of youth is a powerful medium.

The inclusion of art in the Festivals was further developed at the Webstivals. For example, a number of photo competitions were

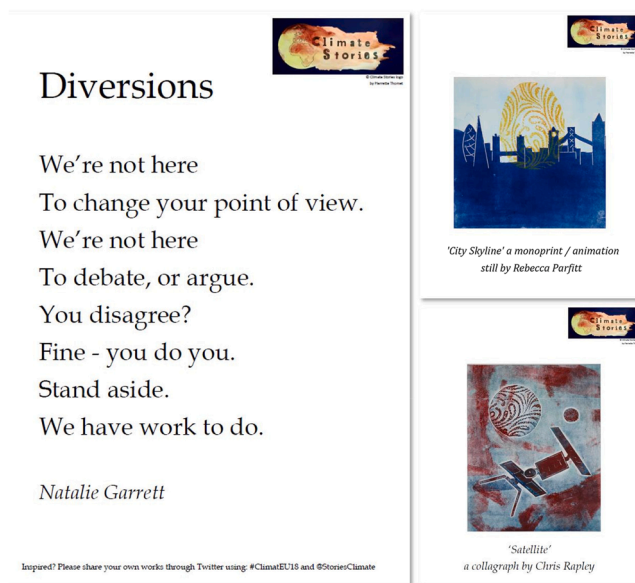


Fig. 2. Three examples of the 12 Climate Stories posters displayed at the second Climateurope Festival.

organised and an art and science collaboration in the form of an experimental music performance of BellHouse (<https://bellhouseproject.co.uk/>) was a great icebreaker.

In the following, the Festivals in Valencia and Belgrade will be described in detail.

3. The first Festival in Valencia: April,05 - April,07 2017

<https://www.climateurope.eu/events-climateurope/festival/climateurope-festival-2017/>

The first Festival took place from 5th to 7th April 2017 in multiple venues across the City of Valencia. The venue ADEIT was chosen to inspire the discussions on water related issues. ADEIT is situated near one of the most prominent places in the Old Town, the Tribunal of Waters, which has settled disputes arising from the use of irrigation water for over a millennium. The session at Valencia's Albufera Nature Park, just outside the city, gave valuable insights into the real-life impact of a changing climate on ecosystems. The Albufera lake (L'Albufera) is the largest lake in Spain and one of the most important wetland areas in the Iberian Peninsula.

The key objective of the first Festival was to discuss the advantages and challenges that Climate Services face within the sectors of water, ecosystems, food production, and food security. Over 100 participants representing scientific communities, innovative small and medium-sized enterprises and funding bodies from 17 European countries and Canada attended the event. Eighty-four organisations were represented in Valencia. Twenty-six marketplaces gave a unique opportunity to present research projects, funding opportunities and Climate Services products.

A number of different formats were applied at the first Festival. The impulse talk was given by the representative of the world leading international water and wastewater company SUEZ, that made its business-case in Climate Services visible.

The storytelling sessions gave the participants the opportunity to share their experience, insights, and knowledge on how Climate Services are already being successfully delivered. Thus, for example, one storytelling session was devoted to the Júcar River, which is one of the river basins in Spain most affected by climate change. The session was led by the Júcar River Basin Authority and showed the efficient way of bringing together the research community, urban-agricultural associations, and industrial users.

Another storytelling session was organized in Valencia's Albufera Nature Park. Not only the location of the session at the Albufera Lake was highly aesthetically appealing, but the examples and insights into ecosystem services (e.g. presentations of the ECOPotential and Nature Insurance value: Assessment and Demonstration- NAIAD projects) were of great value.

The speed networking sessions connected the Horizon 2020 projects and European initiatives, such as Copernicus Climate Change Services (C3S), ERA4CS, the European Climate Research Alliance (ERCA), the LIFE Programme and the new innovation activities launched by the European Commission for Demonstration of Climate Services.

Another novel approach at the first Festival was the 'Climate Snack' initiative. This involved hosting a few selected relevant talks on latest research that dealt with a particular "crop" or "food ingredient" that might be affected by climate change and for the production of which might become challenging. To better engage the attendees with the concept of how climate change affects crop production, example produce was provided for them as a snack by the end of the first Festival.

Further details about the first Festival can be found in [Kotova et al., \(2017\)](#).

4. The Second Festival in Belgrade: October,17 - October,19 2018

<https://www.climateurope.eu/events-climateurope/festival/climateurope-festival-2018/>

The second Festival took place from 17 October to 19 October 2018 in Belgrade. Jugoslovenska kinoteka (Yugoslav Film Archive) was chosen for its central location and offered plenty of space for various activities at the event.

The short impulse talks in plain language initiated the discussions on perspectives and challenges of Climate Services in Central and Eastern Europe. The advantages and challenges that Climate Services face within the sectors of agriculture, viticulture and resilient infrastructure were discussed at the storytelling sessions.

The second Festival was financially supported by the European Investment Bank (EIB). Two round table discussions offered a great opportunity for brainstorming and generating new ideas between different communities to mobilize quality Climate Services expertise for strategic sectors (e.g., agriculture and forestry, resilient infrastructures). These discussions helped to identify additional climate action projects of EIB. They brought together academics (representatives of the EU projects, e.g., EU-MACS, Climate-Fit Cities, VISCA) and practitioners from the EIB Networks. The discussions were focused on different research questions, such as, how can existing Climate Services be effectively connected with the Climate Risk Management systems?

Over 100 participants from 19 European countries and Turkey attended the second Festival. More than half of the participants were representatives from Albania, Bosnia and Herzegovina, Croatia, Hungary, Latvia, Republic of Macedonia, and Serbia.

As mentioned above, the interactive workshop comprised of 12 breakout groups was organized to complete a business model template for given Climate Services and to develop certain details of the services themselves (Fig. 3). This workshop was useful to encourage climate service providers, intermediaries, and potential users to interact and share ideas on specific Climate Services taking exploitation aspects into account.

Some of the key messages that came out of the breakout sessions were summarized in the word cloud (Fig. 4) and in the presentation at the last day of the Festival (the video is available at the Climateurope YouTube channel). It was shown that developing a business model for a climate service involves multiple strands and complexities. The process of developing a business model was used to improve existing science-based services, and to develop ideas for new services.

Two side events were held at the second Festival in addition to the main program. The virtual C3S Climate Data Store and the initial results of the Horizon 2020 EU-MACS - Climate Services for the Finance, Tourism and Urban Planning sectors and MARCO-Climate Services Market projects were presented.

Forty-seven projects and services were presented at the 'marketplace'. Of these, seventeen were focused on the research activities in Eastern European Countries. Other initiatives which were showcased include JPI-Climate and European Climate Research Alliance (ECRA).

To provoke some interesting engagement, an interactive poster was designed (Fig. 5). The poster was made from magnetic whiteboard



Fig. 3. Interactive session: Climate Services at work, © Super Travel.

The following main core lessons emerged from the wish-tree, open forum discussion and the interviews at the first Festival:

- Holding the Festivals in different regions of Europe to allow better engagement with the local government representatives and climate service users;
- Emphasis on participants from Eastern Europe as an often under-represented region;
- More interactive sessions and less lecture-style presentations - e.g. “working in groups” or storytelling sessions can be structured as a mixture of impulse talks and round table discussions;
- More “festival” style in the programme, e.g. music or art performances.
- Balanced participation of women and men.

By organising the second Festival all these ideas were taken into account. It took place in Serbia and more than half of the participants were regional representatives from the Balkan countries. Based on the elements that participants of the first Festival highlighted as more useful, most of the sessions were structured as impulse talks and round tables; the new interactive workshop was organized as well. It kept participants active and engaged for the entirety of the event.

Networking opportunities received much positive feedback at both Festivals. It not only gave an opportunity to meet old colleagues, but to also get in touch with new communities.

Another positive outcome was the organisation of side events that Climateurope offered to different European initiatives as enriching elements of the Festival’s program. For example, in Valencia, a working diner was organised by JPI Climate to collect ideas for the development and implementation directions of the 26 projects granted through ERA4CS.

The Festivals helped to expand the Climateurope network and attract new members to the Climateurope Twitter and LinkedIn communities. Both Festivals were well-attended (over 100 participants at each Festival); most of attendees expressed a desire to participate in follow-up events.

The Festival’s marketplace proved to be popular with a wide range, and large number of projects who expressed interest in being represented at the event.

The representatives of the world-leading SUEZ group and commercial providers of climate services Technalia and Acclimatise shared their experiences at the first Festival in Valencia. The European Investment Bank actively supported the organization of the second Festival in Belgrade, Serbia.

Despite the successes, some challenges were identified for the future.

The Festivals have helped to create a sense of community (the climate services community) that is very difficult to create in other types of research venues. One of the challenges in evaluation is that we do not know the attitudes of those that didn’t attend the events. In particular, it continues to be a challenge to attract commercial participants, in particular users of climate services from private companies and business sectors. There could be several reasons. Commercial participants will need to provide estimates of benefits to their companies to justify travel budget spend. This will be more challenging for small and medium enterprises. It also becomes more difficult when there is not a narrow focus on their own sector.

Furthermore, if we want to engage different communities (beyond academia), we need to do things differently. It may be more effective in the future to integrate climate service engagement activities within established trade events that commercial actors would be expected to attend anyway. An example are business innovation events like hackathons and, more specifically, climate innovation initiatives or climathons, where the different actors come together to co-create ideas to

tackle local climate challenges.

7. Practical Implications

The experiences of organising the Festivals reveals several practical applications worthy of organizing future events. The Festival’s innovative formats such as storytelling sessions, marketplaces and round tables gave an excellent opportunity to exchange knowledge between academics and a wide range of stakeholders, for example, business companies and public authorities. Furthermore, the Festivals provided excellent networking opportunities by actively facilitating interaction between suppliers, users, and funders of Climate Services. Bringing the Festivals to the regions, for example Eastern Europe, that are characterised by a lower proportion of Climate Service providers, was a considered strategy to boost user and provider engagement. More than half of the participants in the second Festival were representatives from Eastern Europe. The EiB also showed great interest in taking an active part in the organization of the Festival in Belgrade.

8. Conclusion

The Festivals were used as an opportunity to showcase numerous examples of the integration of Climate Services and Earth System Modelling and to further strengthen its integration in the future. Awareness raising leading to stakeholders’ engagement was made possible through the Climateurope project website and social media. The innovation approach applied by the Festivals, including different techniques for interaction and discussion, were very well-received by participants and proved to be effective in linking science with society and were very well-received by participants.

In general, both Festivals were successful activities and highly valued by participants. There was a strong desire to continue the dialog between stakeholders and scientists and make the Festival a regular event.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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