SecurityResearch
Community of Users

CoU Brief
Climate Clustering

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EU-funded projects in the field of climate hazard do not yet collaborate optimally. There is a need for an informal network to improve information exchange, develop a shared strategy, and find common grounds for collaboration. The workshop on Climate Clustering during the 7th CoU meeting brought together project's coordinators and policy makers to boost possible synergies among projects and different actors.

The twelve projects invited to the workshop are projects awarded under the Horizon 2020 DRS[1] call 2014-2015 and initially identified as projects with potential synergies.[2] Identified collaboration opportunities are focused around sharing and learning from each other's processes, developing common tools to measure efficiency, developing a shared message towards policy makers and exploring joint actions, such as workshops and case studies.

Next step would be to set up a follow-up meeting to (1) discuss how to organise collaboration and keep the cluster members involved, (2) identify shared goals, (3) discuss key actions for sharing knowledge, and (4) identify opportunities for joint case studies, joint workshops and bringing solutions on the market together.

Introduction

This CoU brief summarises the opportunities for clustering twelve EU-funded projects in the field of climate hazards that participated in the thematic workshop on Climate Clustering during the 7th Meeting of the Community of Users (CoU) on Secure, Safe and Resilient Societies that took place 15-17 May 2017 at the BAO convention centre in Brussels.

The Community of Users is a DG Home initiative that aims to improve the information transfer of research outputs and their usability by different categories of stakeholders. During the meetings and thematic workshops, policy updates and information about H2020 projects are provided and interactive discussions facilitated to ensure that solutions and tools resulting from research will reach users.

Focus

Climate Clustering to create synergies

Clustering means grouping a set of objects in such a way that objects in the same group (cluster) are more similar to each other than to those in other groups (clusters). The purpose of clustering in this specific case is to create synergies. The Oxford Dictionary definition of synergy is *"the interaction or cooperation of two or more organisations, substances, or other agents to produce a combined effect greater than the sum of their separate effects"*[3].

Applying the definition of synergy to the context of H2020 projects, *a synergy is understood as a joint or coordinated effort to produce a greater impact and efficiency*[4] *between projects financed under H2020 programmes.* Synergies might occur at different levels and stages of a project implementation. The ultimate aim is to gain better insight into how projects could increase their impact and/or added value through smarter collaboration.

Creating synergies to address challenges

On the basis of the common project cycle[5] of EU-funded security projects four main categories for exploring synergies in EU-funded projects in security research can be identified.

The **first dimension** looks at the project objective and links it to the EU policy challenge it seeks to solve. By linking related project objectives to policy challenges in a more systematic way, it becomes easier to determine to what extent policy challenges are being addressed and where potential gaps lie.

The **second dimension** involves looking at the consortium members of a project that is carrying out the project and its overall management structure. Synergies can be exploited by sharing results, exchange of expertise, alignment of outreach strategies and campaigns, etc.

[1] Disaster Resilient Society
[2] This CoU brief mostly elaborates on the ten projects that were present at the workshop of the 7th CoU meeting. PLACARD and ESPRESSO were not present.
[3] https://en.oxforddictionaries.com/definition/synergy
[4] This definition is closely linked to the definition of synergies among research programmes adopted in SWD (2014)205 Guidance for promoting Synergies.
[5] from the identification, preparation, and appraisal of a specific research objective, to the presentation of a study proposal, to its implementation, through to its monitoring and evaluation.

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The **third dimension** refers to project outputs and dissemination channels. This can take on the form of methods, procedures, technologies, solutions, demonstrations, standards, but also training, workshops, and seminars. Exploiting synergies in project outputs and dissemination channels is a key activity to help translate outputs into outcome, reduce duplication, scale up best practice, and ensure that the knowledge creation process is optimised, where possible.

The **fourth dimension** looks at the level of external user involvement across the full project cycle. In this context, it is useful to further stimulate efforts to involve stakeholder groups around similar or complementary activities to ensure greater impact and uptake of research outputs.

Relevance

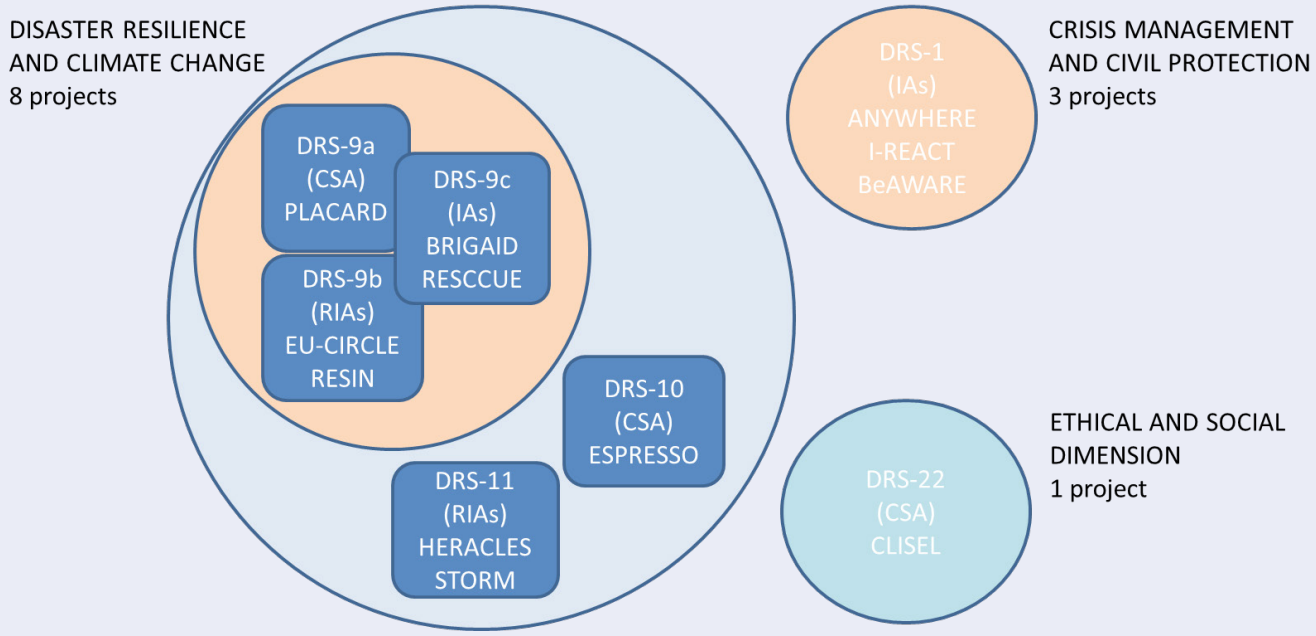
EU-funded projects in the field of climate hazards do not cooperate optimally. There are overlaps and often projects do not learn optimally from each other's knowledge and experiences. There is a need for an informal network to improve information exchange, to develop a shared strategy, and to find common grounds for collaboration. At this moment, climate hazard related projects do not have a shared message towards policymakers, and do not provide (policy) recommendations together.

Projects

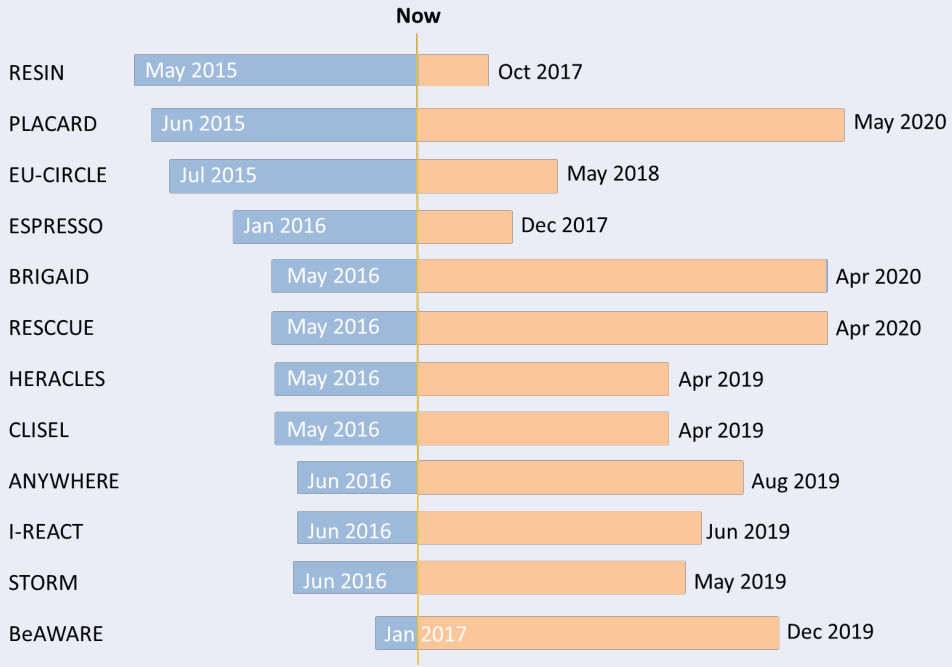
Twelve projects were initially identified as projects with potential synergies. These projects are all awarded under the Horizon 2020 DRS[6] call 2014-2015 'Disaster-resilience: safeguarding and security society, including adapting to climate change'. The call consists of 5 parts (DRS 1, 9, 10, 11 and 22), which are all related to climate hazard. The cluster of the twelve projects is a combination of research and innovation actions (RIA), innovation actions (IA) and coordination and support actions (CSA).

The twelve projects started between May 2015 and January 2017. RESIN is the first project to be finished in October 2017. PLACARD is the last project to finished in May 2020.

The common objective of the projects is to enhance the various stages of the crisis management cycle. Six of the projects focus on the full crisis management cycle. The other six projects focus on one or more components of the cycle. In addition the projects RESIN, EU-CIRCLE, BRIGAID and RESCCUE have an important climate adaptation component.



[6] Disaster Resilient Society



Eight projects focus on all climate hazards (ANYWHERE, I-REACT, RESIN, EU-CIRCLE, CLISEL, PLACARD, ESPRESSO, STORM), while the other four focus on multiple specific hazards:

- BeAWARE: flood, fire heatwave;
- RESCCUE: increase of rainfall intensities, drought, heat waves and sea level rise;
- BRIGAID: flood, drought, extreme weather;
- HERACLES: hydrogeological, atmospheric moisture changes, sea level rise, pollution.

Stakeholder involvement

The twelve projects use various ways to involve multiple stakeholder groups, but the question remains: What is the most efficient way? How to assess the efficiency?

ANYWERE involves twelve operational authorities in emergency management and six enterprises as consortium partners, and integrates 50 stakeholders institutions in the Stakeholders' Board. Twelve out of the 31 project partners are end users. Innovation co-ownership drives the results from the very beginning: from its first design to its validation in the emergency control centres of the four selected pilot sites. HERACLES involves policy makers, superintendents, municipalities, ministries. End users are active partners of the project and stakeholders are involved through an external Advisory Board.

In ANYWHERE, 50 industries and SMEs are invited to the workshops. RESCCUE organises local workshops as well. I-REACT involves users through key meetings for end user requirements, system trials, strategic consulting, in-field demonstrations, and periodic calls for follow ups. BeAWARE involves end users in emergency, and first responders in pilots' evaluation and implementation. In CLISEL, locals and practitioners are invited to five workshops.

RESIN involves four cities as partners, and 17 tier-2 cities around these, which are linked with city networks through partner ICLEI. EU-CIRCLE ensures active engagement from end users through a mixed approach where end users are full partners, members of the advisory board and active participants to case studies. Communication takes place through existing platforms (DRMKC) and a working version of CIRP. BRIGAID involves end users through project conferences and events. End users, innovators, policy makers are invited to participate in the ISP (Climate Innovation Window) or in events. HERACLES also utilises existing networks to connect with stakeholders. CLISEL involves 377 local authorities linked through the non-academic partner, the Council of Local Autonomies (CAL). Additional means of involvement include questionnaires, workshops and training programmes.

PLACARD has an "open space" to connect with society and professionals from research and politics who are working in climate change adaptation and disaster risk reduction. ESPRESSO includes a network of stakeholders and experts who are required to express their opinions and share their comments on various aspects of smart cities and open standards. To encourage user uptake, EU-

CIRCLE will give local climate data to users and BRIGAID records and disseminates the tests of 35-50 innovations online. STORM uses the concept of PUDF (Plan for the Use and Dissemination of Foregrounds) as a key pillar for user uptake. RESCCUE develops an instrument to identify and approach key users.

Project outputs

Several projects develop a platform. ANYWHERE develops an operational platform to provide multi-hazard impact forecasts and EU-CIRCLE a 'Climate Infrastructure Resilience Platform'. PLACARD develops a platform for climate adaptation and risk reduction bringing the CCA and DRR communities together and creating opportunities for collaboration. HERACLES develops an ICT-platform to collect and integrate multisource information in order to effectively provide complete and updated situational awareness and support decision. In CLISEL, the active engagement of stakeholders, in particular policy makers, is ensured through the 'Global Climate Change Security Platform'.

I-REACT is a big data system able to collect, couple and process several information sources in real-time, including in-field reports from both citizens and first responders, social media streams, satellite maps, and forecast model outputs. BeAWARE and RESIN develop decision support systems. BRIGAID develops sectorial assessment models and implements an assessment tool.

STORM provides a proposal of best practices, guidelines and policy recommendations. CLISEL will provide a guidelines for the EU policy makers and specific visual tools (e.g. interactive maps, a geo-archive, travel app) that will constitute the Climate Change Security toolbox. ANYWHERE provides services for specific activities at risk to support self-protection plans. RESCCUE develops a test case specific adaptation plans and EU-CIRCLE will examine and prioritise different case specific adaptation options. ESPRESSO develops a strategic vision for natural hazards risk reduction and climate change adaptation. I-REACT, HERACLES, RESIN take steps towards the use of standards.

Lessons learnt and challenges

One of the challenges faced by STORM is the large number of different types of stakeholders involved, which makes it difficult to find a common language. RESIN faced some language issues as well, dealing with local stakeholders in multiple European languages. Within STORM, a frame of reference, terminology, and standardised processes, are developed to overcome these challenges. A lesson learnt is that it is essential to identify stakeholders and their mutual benefits in an early stage.

Another challenge is that end users are often not included in the consortium as partners, but involved as stakeholders. The challenge is to get end users to do more than only providing a letter of support A good example of engaging stakeholders has been realised within I-REACT. I-REACT invited eleven end users and twelve advisors in a wide international workshop aimed to gather the needs of all stakeholders and co-design the key elements of the system, including the definition of the information to be collected from the field in the different emergency phases and the graphical interface of the system, through a participatory approach.[7] Another good example is BRIGAID, in which researchers, innovators and SMEs come together in one-day workshops to provide immediate feedback.

In regards to the challenge of end user involvement, it is needed to not only think about the technology readiness level (TRL) of the system, but also of the users. Users need to be trained to work with the technology, otherwise, they will not use it. Pre-commercial procurement is an important aspect in supporting interaction between end users and the academic community.

A challenge identified by ANYWHERE is the expansion from several pilot locations to a broader range of locations with minimal need for customisation. In addition, lack of time makes it difficult for end users to participate. There is a mismatch between what end users want and what kind of projects are approved by the Commission. The same challenge is experienced by STORM. RESIN has positive experience with co-creation, which allows to adapt to both wishes of users and the Commission.

Another challenge is that, during the project, the consortium needs to think about legacy of the project after its lifetime. BRIGAID's innovator and end-user platform is an example of this. It can be coupled with existing networks after the project to be sustainable.

Finally, a challenge that may hamper collaboration is that there is no shared macro-timeline or collection of key phases and milestones. The information is scattered on the different project websites. Data accessibility is also a limitation, for example, when maps with raster data are used instead of vector data. There is also an increasing need for real time data.

Common ground for further collaboration

There is a good starting point for discussion and some common grounds for collaboration. Collaboration opportunities are focused around sharing and learning from each other's processes.

1. Common demonstration methodology

One common aspect is that all projects want to prove that they are effective in reducing the impact of emergencies brought by natural hazards. The participants of the Climate Clustering workshop are interested in a common methodology to test their systems and tools so as to compare the outcomes of the demonstrations that are scheduled within each project.

[7] A video of the International User Requirement workshop is available online: https://www.youtube.com/watch?v=jkHSGIki0Is&t=1s

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2. Sharing information, knowledge and experiences

Project information is available, but not easily accessible. It is fragmented on national and transnational platforms. It would be useful to have a joint repository, for example the Climate Adapt website. JRC has such a repository, but only for FP7 projects. CORDIS provides public deliverables, but it would be more useful to be able to access the information on a content instead of a project basis.

Some projects are interested in sharing exploitation plans to ensure legacy after the project's lifetime. Elements of such plans are available from I-REACT and BRIGAID and could be shared.
BRIGAID can assess the efficiency of innovations, including the societal dimension. This knowledge can be used to assess tools and solutions from the other projects in the cluster. RESIN provides users with information on which tool to apply in which situation based on certain criteria (decision support system), which can be useful to be shared within the cluster.

The cluster is interested in sharing developed methodologies of all projects and work towards a common glossary of key terminology. This could be a good starting point. Exchange of information about data collection methods is an important aspect of most projects.

3. Shared message to policy makers

It is difficult to bring tools together, but there is a strong common message: cover the complete cycle of climate adaptation and disaster risk management, and extend it to cultural heritage, because the current platforms only cover one of these areas.

Provide shared policy recommendations towards policy makers. An example of disseminating a shared policy is in the form of policy booklets. The question is if this could become a common deliverable for EU-funded projects.

4. Joint actions

There are various options to increa.se interaction through joint demonstrations or workshops, or by jointly investigating topics such as standardisation and intellectual property right issues. Another option would be to invite people from other projects within the cluster to workshops. Within several projects this is already done, but it not in a formal matter.

Collaboration in case studies is also an option, for example, when projects have case studies in the same location (e.g. RESCCUE and ANYWHERE in Barcelona). Workshops can be co-organised, or other projects can be invited as observers.

Way forward

To commit to collaboration, the group expressed interest in a follow-up meeting to (1) discuss ways to organise collaboration and keep the cluster members involved, (2) identify shared goals to show the cluster's strength and how projects can complement each other for different climate events, (3) discuss key actions for sharing knowledge and (4) identify opportunities for joint case studies, workshops, and bringing solutions on the market together.

Other actions identified are the development of a macro-timeline with key milestones of all projects and regular briefings (newsletters) to be produced together.

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Direct next steps are:

- Sharing the project fact sheets from the workshop and contact details of the project's key persons;
- Maintaining contacts during the 3rd European Climate Change Adaptation Conference (BRIGAID, RESIN, RESCCUE, PLACARD and EU-CIRCLE will attend, but not all twelve projects will).

Related readings and events

- The Climate adaptation platform: http://climate-adapt.eea.europa.eu
- 3rd European Climate Change Adaptation Conference (ECCA) - Our Climate Ready Future. Glasgow, 5th-9th June 2017

Forthcoming CoU Events

Brussels, Brainstorming on National CoU initiatives, 29 June 2017

Brussels, Plenary CoU and Thematic Workshops, 12-14 September 2017

Brussels, CoU Thematic Workshops, 5-6 December 2017