

Fashionable Climate Services

The *Hats* and *Styles* of User Engagement

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ABSTRACT: In recent years, climate service has emerged as a new field to better connect climate data providers and users of climate change–related information. The aim is to transform climate-related information into customized, user-centered products. This transformation of data is increasingly sought after by decision-makers due to public and regulatory pressure. As one of the first institutions to provide climate services, the Climate Service Center Germany (GERICS) has collected a wide range of different experiences in the field of climate services. Based on this know-how, GERICS has identified three distinct roles—we call them *hats*—that the institute commonly assumes as a climate service provider: the facilitator, the developer, and the trendsetter. The definition and tasks related to each of these distinct hats is presented alongside examples. The key ingredient for the success of a service product heavily depends on successful user engagement. While wearing any of the three hats and depending on a project’s context as well as the project stage, GERICS makes use of several methods to codevelop services with users. Based on past experiences, four different *styles* of user engagement, distinguished by the degree of intensity of participation, were established: information, consultation, dialog, and partnership. The connection of the three hats and the four styles of user engagement creates a structure in which climate service providers operate. It may help other climate service providers to reflect upon the general outline of their services and enhance the effectiveness of their engagement with users in transdisciplinary research settings.

KEYWORDS: Climate change; Adaptation; Climate services

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The challenge for any successful service is to connect demand and supply in a meaningful way. In recent years, climate service has emerged as a new field tackling the supply and demand for customized climate change knowledge. As the need for customized climate change knowledge increases, so has the number of climate service providers as well as the market volume and the number of products available (Cortekar et al. 2020a). They aim to transform “climate-related data—together with other relevant information—into customized products such as projections, forecasts, information, trends, economic analysis, assessments (including technology assessment), counselling on best practices, development and evaluation of solutions and any other service in relation to climate that may be of use for the society at large”(Street 2016).

The roles of the institutions and organizations on the climate service market in terms of supply and demand differs depending on the situation. In a given context they may be representing the supply side, but in other environments, their interests could be closer aligned with the demand side (Perrels et al. 2020; Otto et al. 2016). A decisive factor for the side which a climate service provider is on is the position of the respective counterpart. Often, the lines are blurred and a clear distinction and assignment of the roles is difficult.

There is a considerable amount of literature analyzing the work of climate services from different angles. As a new research field, climate services face a number of challenges. Lemos et al. (2012) identify a gap between the information scientists provide and label as useful and the capabilities users have to be able to utilize the information. Prior to the process of developing a climate service product, an understanding of the context in which the information will be used is important (Dilling and Lemos 2011). Bruno Soares and Dessai (2016) observe that users often struggle with the application of climate services due to a lack of awareness regarding the relevance of this climate information, a lack of resources—both technical and manpower—and expertise needed to handle the provided information. They emphasize that a close interaction between user and provider supports the implementation of the climate service.

There is substantial evidence that understanding and interpretation varies across producers. (André et al. 2021). The ability to appreciate varied interests and perspectives is critical to more nuanced climate services that can better address evolving needs. This is a difficult task; therefore, Porter and Dessai (2017) suggest that that social science research and capabilities become more organically connected to the development of climate services, identifying pathways to more meaningful processes of coproduction (Lugen 2020; Eisenack et al. 2014; Dilling and Lemos 2011). This means that the underlying assumptions about knowledge production and the system in which this knowledge is to be implemented must be identified, challenged, and potentially rewritten (Fazey et al. 2018). Furthermore, the success of climate services is determined by the ability to embed users as integral partners already in the “coconstruction” of climate services (Stegmaier et al. 2020).

These articles are mainly concerned with issues and barriers that arise when working on the implementation of climate services in the real world. They, however, focus on conceptual and theoretical methods to overcome the mentioned obstacles. In contrast, this essay takes a different perspective. It provides a glimpse behind the scenes of a climate service provider. As one of the institutions of the first hour, GERICS has collected a broad range of different experiences with climate services by now. Thus, this essay presents practical approaches, which have proven effective in the field of user-centered climate services.

The three climate service provider hats

Climate service providers must act with great dexterity within the space that connects research and application in practice to satisfy the varying needs and requirements of clients which can vary largely (Tart et al. 2020). For instance, the needs and requirements of a regional government interested in adapting its policies and strategies to increase its resilience against consequences of climate change differs a lot from that of a medium-sized enterprise looking for a climate service to expand its risk management. As a result, many climate service providers, such as the public climate service provider GERICS, are constantly changing their role depending on the individual parties involved in the development of a specific climate service.

Recently several studies have tried to provide a picture of the different roles climate service providers are taking on. It is made up of systematically analyzing the supply side including the definition of categories for climate services providers and what type of services they offer (Cortekar et al. 2020a). While some studies contribute to the picture by building a framework articulating ideal types of climate services (Visscher et al. 2020), others approach it from a pure economic side by investigating business models for climate services (Larosa and Mysiak 2020).

All these studies have in common that they take a look from the outside on the climate service landscape. With the bird's-eye view, they categorize the climate service landscape from various angles. It is, however, equally important to survey and understand the roles within the world of climate service providers. Since 2009, GERICS has taken up many different roles—*hats* in our words—in the climate service landscape. Based on this know-how, three predominant hats were identified: the facilitator, the developer, and the trendsetter (see Fig. 1).

The facilitator. As the facilitator, GERICS aims to enable and enhance the matching of demands and supplies. Collaboration and good networking is key to develop action-relevant climate services (Jacob 2020). In this context, it is important for GERICS to have a comprehensive overview of the relevant stakeholders—i.e., the potential users of climate services. These have to be brought together in environments where open conversations and constructive discussions can take place. Neutral locations where all stakeholders are heard and can talk with each other at eye level are important. Further, formats have to be offered which allow the establishment of a common language to stimulate a substantial knowledge exchange going beyond platitudes. This is of particular importance when knowledge streams from different networks and communities come together. When wearing the facilitator's hat, GERICS intends to make sure that all stakeholders involved get a chance to directly connect and support each other in the effort to adapt to climate change.

The Climateurope festivals as part of the H2020 project Climateurope are an example in which GERICS wore the facilitator's hat (Kotova et al. 2017; Hewitt et al. 2021). GERICS coorganized a series of festivals and over the course of summer and autumn 2020 as web festivals (webstivals) creating a platform for stakeholders representing different initiatives in the fields of Earth system modeling and climate services to interact in a less rigid

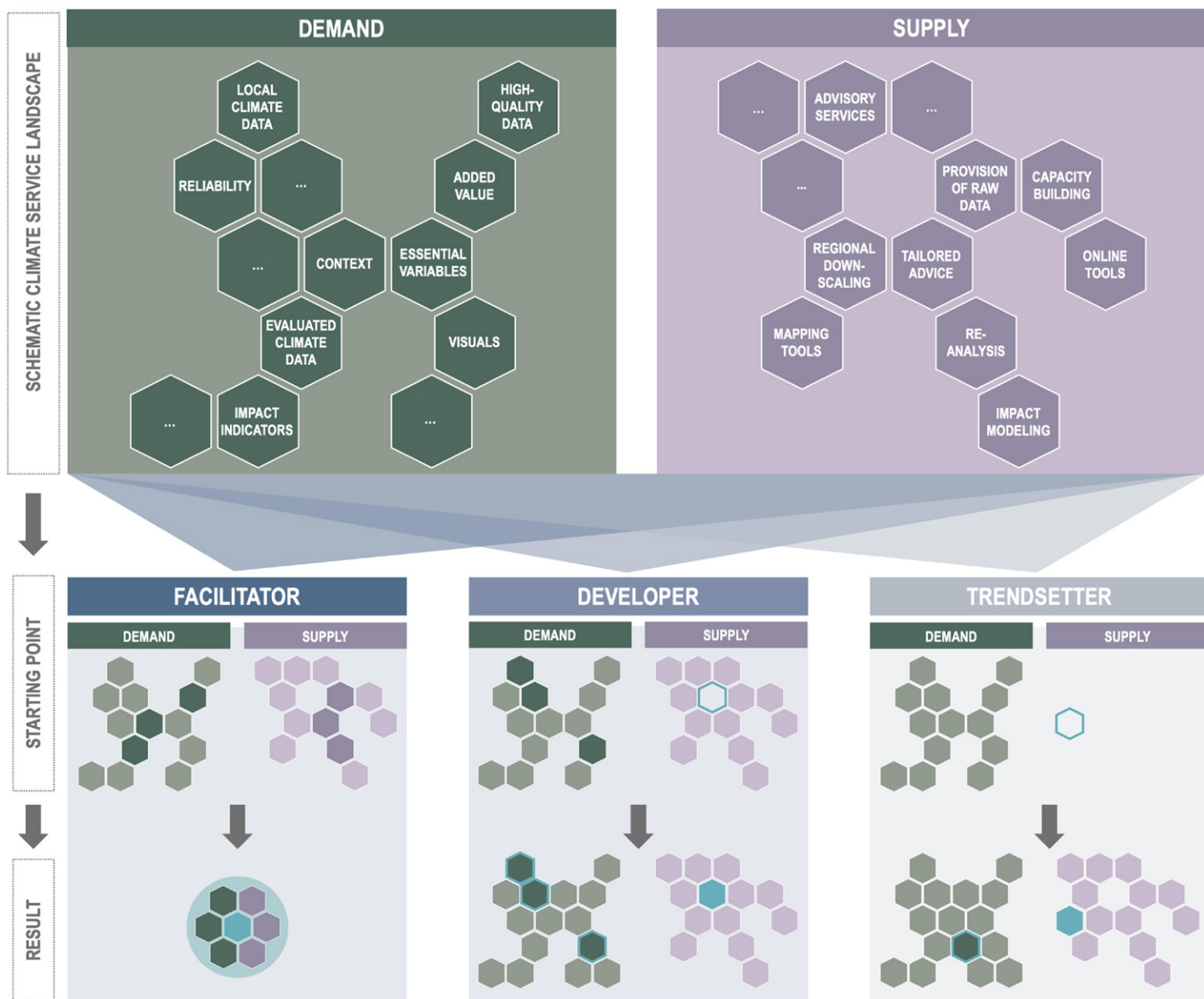


Fig. 1. In the upper part of the graphic there is an exemplary representation of the climate service landscape, consisting of honeycombs for (left) demand and (right) supply. The terms in the honeycombs are examples of supply and demand; the dots indicate that there are many more. The lower part of the graphic consists of a schematic representation of the three hats and their role in the climate service landscape: (left) *facilitator*, (center) *developer*, (right) *trendsetter*. The climate service provider's role is represented in turquoise. Dark colored honeycombs represent demands and supplies that will match in the process. The starting point depicts the demand and supply situation before the climate service is provided (upper part of the figure), and the result of the process is depicted in the lower part of the figure. As a *facilitator*, the climate service enables the matching of existing demand and supply (here represented by each three dark colored honeycombs) and arranges them into a useful output. The *developer*, however, spots a gap in supply which can cater to three demand items (darker color). By filling the gap in supply, those three demands can be satisfied with a climate service (turquoise honeycomb). As a *trendsetter*, the climate service supplies an innovative solution that fits to a specific demand even though the demand side has not necessarily been able to articulate this demand at first (darker color in result row). As such, the climate service sets a trend to bring supply and demand closer together.

environment than a scientific conference to identify and generate synergies. Different venues in the city hosting the festival inspire dialogs around specific urgent local issues regarding climate change. Varying formats, from traditional impulse talks to innovative interactive sessions, intended to provoke discussions around successful and failed experiences with climate services which are both equally important for the evolution and enhancement of useful and usable climate services.

The developer. GERICS wears the developer’s hat in situations where it becomes apparent that there are unfulfilled demands by climate services and a corresponding supply to it is missing. To address and fill such gaps, GERICS designs a suitable user-driven climate service. One important prerequisite for this is to develop a solid understanding of the requirements of all participating parties. It is crucial to answer questions about the characteristics of the unfulfilled demands, the reasons for this unanswered niche, and the barriers and opportunities of serving this particular demand. In the role of the developer, GERICS focuses on designing prototypical climate services. GERICS has established a prototyping process, which describes the approach in different steps, all of which build on each other (J. Petersen and P. Seipold 2021, internal communication). Each of these steps has several phases and follows a codevelopment process. This means that in all process steps both internal GERICS experts and external stakeholders are involved. This transdisciplinary approach encourages both sides, the service provider and the user, to communicate more intensively, to take on ownership of the process and the product and to ensure the development of a useful and useable product.

An example of GERICS as the developer is the climate service product “Klimaausblick für die deutschen Bundesländer” (*Climate outlook for the German federal states*) (Pfeifer et al. 2020). It was initially codeveloped with the Ministry of Rural Development, Environment and Agriculture of the Federal State of Brandenburg and contains 18 customized climate indices, thresholds, and their possible future development in the twenty-first century. The representation and design of climate model uncertainty and robustness as well as the different fields of action were tailored to the state’s needs and demands. Following this, the product has been further developed and is now available for all federal states of Germany.

The trendsetter. Since GERICS has ample experience both in climate science and in the climate service field, it can use its knowledge and research capacities to identify innovative and novel solutions for climate services on the supply side, even before a demand or even the awareness for a demand emerges. In this specific role, GERICS acts as a trendsetter. Its access to resources and expertise that allow the recognition of future challenges ahead of time is giving GERICS the edge to identify breakthroughs in science to address real world needs. In this case, GERICS is a driver to take the development of decision-relevant and tailored climate services to the next level.

For the trendsetter hat, the GERICS-Stadtbakasten (*GERICS-Adaptation toolkit for cities*) serves as a very good example (Bender et al. 2017a). The modular-designed advisory tool supports cities and municipalities in developing and implementing adaptation policies and measures, considering both climate change mitigation and adaptation. Due to its modular structure, it is flexible and transparent and provides customized support. In various consulting modules, interdisciplinary solutions are developed for specific urban challenges (Bender et al. 2017b; Groth and Bender 2020). Processing takes place in cooperation with the city and is always individual and case related. The modules cover, among others, city-specific climate information, urban green spaces, or water in the city.

These three hats demand a certain versatility of a climate service provider. The unifying component—and the key ingredient to wear these hats successfully—is appropriate user engagement. The identified four different types of user engagement—we call them *styles*—are described in the following section.

The four user engagement styles

A crucial element of GERICS’s daily work—independent of which of three *hats* GERICS is wearing—is effective user engagement. Transdisciplinary collaboration is the basis for the development of a tailored climate service product, since users play a vital role in providing

expertise, local needs, and opinions, as well as insight into “on the ground realities” (UNEP 2020). It is important to note that the definition of “the user” or “the stakeholder” is very versatile. However, based on GERICS’s experience in multifaceted projects and product developments, all stakeholders are viewed as individuals who have knowledge of the issue, are willing to engage and represent suitable geographical as well as cultural contexts (UNEP 2005). Working with users is never about advertising or persuasion; rather, it is about educational knowledge transfer.

Over the years, different engagement approaches and intensities have proven to be effective depending on the project or project phase. Although there are many different styles of user engagement, here the four most important ones for GERICS will be presented in detail. These four styles are oriented toward the general idea of the increasing degree of empowerment by Arnstein (1969), but are inspired by further references (UNEP 2005; Stauffacher et al. 2008; Hewitt et al. 2017) and—most importantly—by GERICS’s real-world experiences.

Information. The first style is called “information”; its main message is “hear us.” Similar to a radio broadcast, it is based on a one-way communication stream from GERICS to the user. This is a rather weak form of communication as the users are not required to engage, interact, or reply. Common examples include analog and digital media, such as brochures, reports, flyers as well as websites, apps, and newsletters. Also, conference speeches and public presentations can be classified into the information style. To maximize the style’s impact, it is of utmost importance to incorporate user-guided and intuitive design principles (Hewitt et al. 2017). Our experience has shown that the easier a product is to use, the wider its application and greater its benefit. Since information products reach many users all at once, it is recommended to update them regularly. However, ensuring an information product is up-to-date requires good project management skills with regular product monitoring and allocated budgets, both in terms of time and financing.

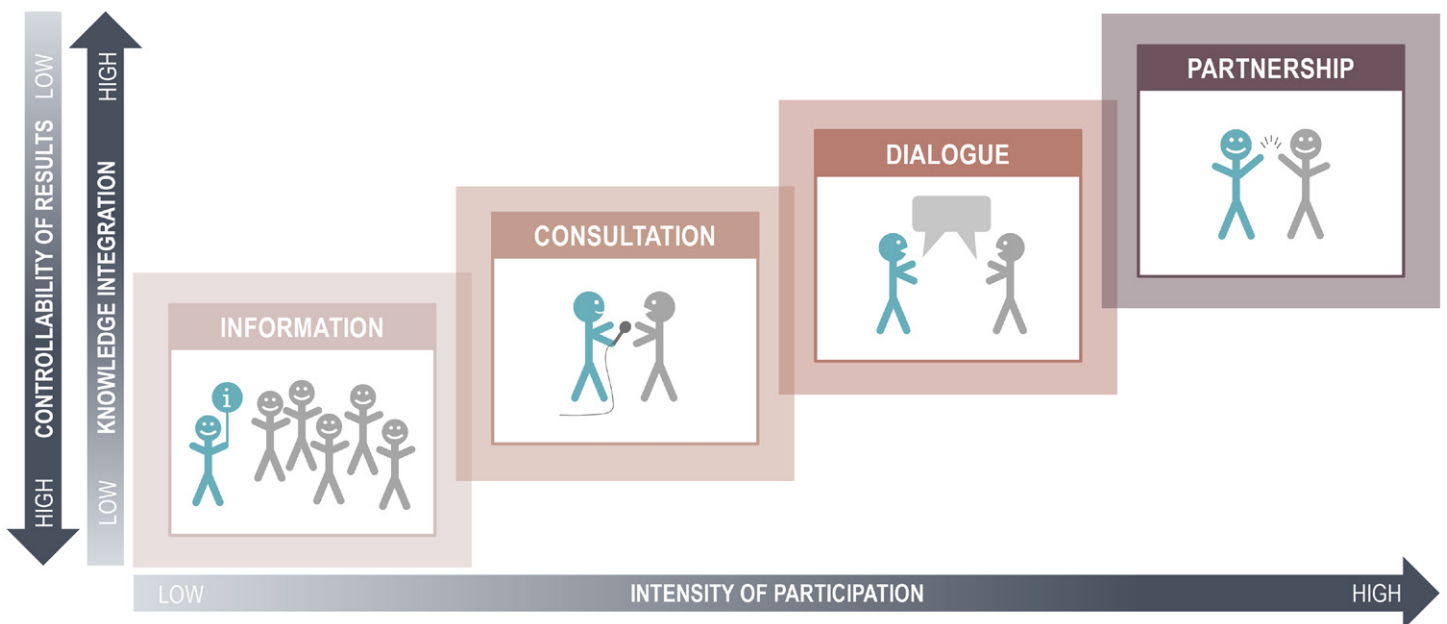


Fig. 2. Illustration of the four engagement styles ranging from low to high intensity of participation. The level of intensity has also an effect on the controllability of results from the scientist view and in turn on the knowledge integration that increases with increasing intensity of participation. Each style has a unique combination and can therefore be used in a targeted way. The overlapping boxes show that the styles cannot be sharply delineated. From a minisurvey among GERICS staff (see for more information the section “How do hats and styles fit together?”) we learned that the scientists perceived a higher level of difficulty with an increasing level of participation. Interestingly, the styles “dialog” and “partnership” are among the two preferred styles of GERICS staff to work with.

An example of an information style product GERICS developed includes a series of flyers that adapted the findings of the Intergovernmental Panel on Climate Change's special report on global warming of 1.5°C for the metropolitan region of Hamburg. The centerpiece is an 8-page flyer that aims to deliver readily understandable and useful information to citizens in order to build awareness and drive local adaptation to climate change (Jacob et al. 2018a,b). The interdisciplinary development team put special emphasis into the processing of climate data into tangible variables with concrete application examples. The team also incorporated the principles of effective visual communication (Steuri et al. 2020a). The flyers are available on the GERICS website; printed copies are disseminated at public events. They were well received, and dozens of copies were requested multiple times by externals, such as libraries or public authorities.

Consultation. The second style is called “consultation”; its main message is “tell us.” Here GERICS gathers information or advice from users and takes it into consideration when working on climate services. Thus, it can be described as a limited two-way communication and the learning takes place predominantly on the side of the climate service provider. At GERICS, before developing a new climate service, a wide range of user groups are often consulted to get an overview of user needs. It also helps to account for potentially different levels of knowledge, as well as accommodating divergent perspectives and expectations. Once the climate service is under development, a smaller group of users is consulted for fine-tuning. Engagement approaches that belong to this engagement style include (online) surveys, one-to-one meetings with experts, or online feedback on a certain product.

A GERICS example of consultation style engagement is an information brochure for homeowners about heavy precipitation events and flash floods in the northern German city of Bleckede. GERICS examined the runoff behavior of heavy precipitation in the city center, and a written survey with 600 households was carried out to validate the model results (Hillen 2017). The survey revealed the issues on which the population, especially homeowners in flood-prone areas, need more information. These topics—e.g., possible access routes for water in buildings or directions on what to do in the event of damage and insurability of damage—were addressed in a brochure that was then distributed to the residents (Groth 2018; Groth and Bender 2020).

Dialog. In the third engagement style, GERICS engages with the user in a “dialog.” Its main message is “speak with us.” This style involves repeated exchange, where different perspectives are explored to foster mutual understanding and trust. Due to the direct work with stakeholders, it is assured that their concerns or needs are fully understood and considered in the product development. Therefore, capacity building takes place on both sides. Dialogs provide an active interface and are often based on regular interaction; thus, they require constant commitment from all parties. The dialogs take place repeatedly with the same stakeholder group discussing the same topics (Stauffacher et al. 2008). To optimize follow-up activities, it is highly recommended to evaluate the dialog performance. Furthermore, the multiway communication between the involved parties enables colearning and codevelopment of climate services and products, although a hierarchical relation between those being involved and those involving exists (Hewitt et al. 2017; Stauffacher et al. 2008). Engagement approaches that belong to this style include, e.g., advisory panels, multistakeholder forums, interactive group activities, or participatory decision-making processes (UNEP 2005).

The IMPACT2C web atlas is an ideal example for GERICS's third engagement style. Within the frame of the IMPACT2C project, the web atlas was produced to provide easily accessible information on the impacts of +2°C global warming to policymakers, media, and other interested parties for the development of recommendations on possible adaptations strategies

(Jacob and Solman 2017). The concept of the web atlas was discussed with a large audience; the concrete product development was then based on repeated interaction with groups of potential users. These dialogs enabled the design of a harmonized and well-structured appearance, which guides the users through the web atlas and helps them focus on the content. To evaluate the web atlas, an open analytic platform provided information to analyze the user activities (Preuschmann et al. 2017). The results guided the development of a subsequent national web atlas for a carbon-neutral Germany by 2050 (Blome et al. 2021).

Partnership. The fourth engagement style is called “partnership”; it describes the closest interaction between GERICS and the user. Its main message is “work with us.” Partnerships are highly iterative and often involve a focused one-to-one contact. The goal is to acquire in-depth knowledge and to develop mutually agreed solutions as well as a joint plan of action. Similar to the dialogs, a partnership is also an active and two-way or multiway style of communication between GERICS and the users. Learning, negotiation, and decision-making take place on both sides (Hewitt et al. 2017; UNEP 2005). Partnerships are based on a long-term relation and all collaborators are “responsible on equal footing for the progress of process and output” (Stauffacher et al. 2008). Thus, both parties work closely together to take action and generate the best possible knowledge. Engagement approaches that belong to the partnership style are two-party or multistakeholder initiatives as well as joint projects. Here it is important to add that the other engagement styles can also be integrated (see Fig. 3). For example, projects mainly based on the engagement style “partnership” may also conduct surveys (see “Consultation” section) or interactive group activities (see “Dialog” section).

A GERICS example for the most active user engagement style is the development of the user-friendly urban climate model PALM-4U. In the frame of the 3-yr transdisciplinary project UseUclim, part of the funding measure Urban Climate Under Change (UC2), the needs from users in urban planning practice were explored and transferred to the model developers from science (Halbig et al. 2019). Although the urban practitioners clearly influenced the urban climate model’s development and value was created for all participating project partners, two test phases as well as a subsequent model evaluation with practitioners showed the need for further development (Steuri et al. 2020b). Thus, the follow-up project ProPolis assures the continuous improvement of the model practicability as well as capacity building in the users’ community as important building blocks of the continuation strategy for the planned long-term operationalization (Cortekar et al. 2020b). To gather all relevant stakeholders and to facilitate systemic user–science interaction, the living laboratory approach (Higgins and Klein 2011) was chosen for both projects.

How to handle the styles. Engagement between climate service providers and the users occurs on multiple levels and, as shown in Fig. 2 by the intensifying colors, transits from passive to active. This degree of activeness, from left to right, potentially increases the amount of time, resources, and expenses required to enhance the use as well as uptake of climate information (WMO 2018). However, based on GERICS’s experience, it can be ascertained that an increasing intensity of participation generally leads to an enhanced degree of knowledge integration. The more intense the participation, the more effectively the user knowledge can be integrated into a goal-oriented and tailored climate service product. GERICS’s hands-on knowledge has also shown that the controllability of the results from the scientist’s point of view declines with a more active user participation. The reason for this is that the users can—and should—exert more influence on the collaboration. This in turn can have an impact on the course of the project and change initial expectations. To maneuver successfully through such processes, transparent communication flows and a high degree of flexibility from all partners are required. In addition, if there are any difficulties, it is helpful to always keep in

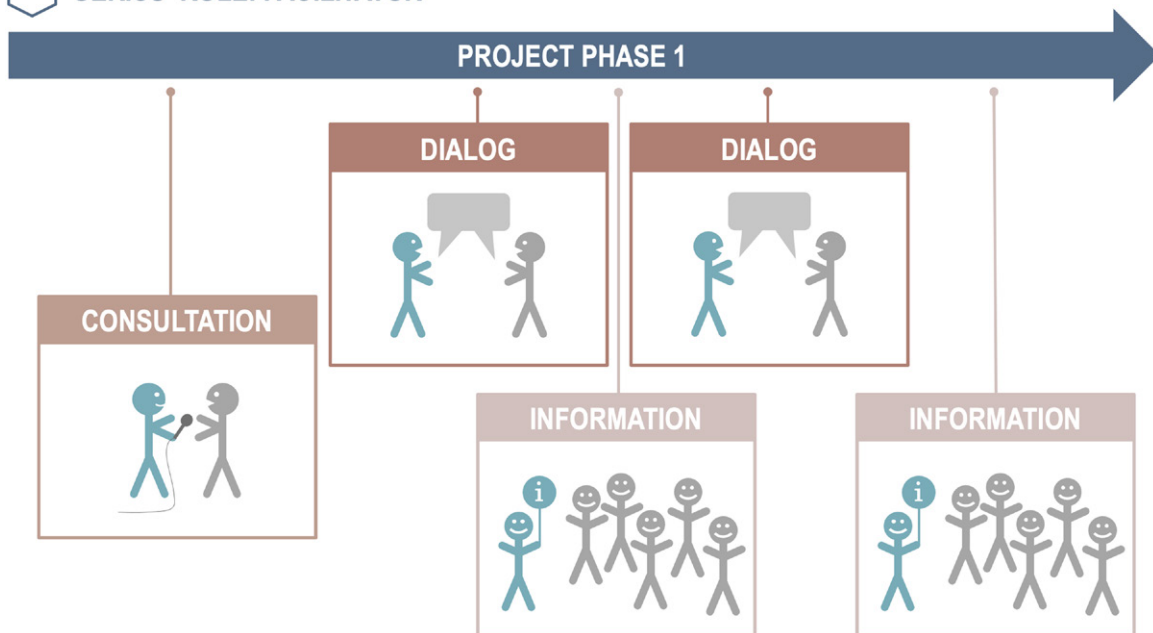


Fig. 3. The illustration demonstrates how the climate service provider hats can interact with the different user engagement styles. Based on a 3-yr GERICS project example, the graphic shows how the individual communication levels can be applied. It becomes apparent that they can be used in different sequences and depending on the situation. In the project UseUclim, GERICS took on the role of facilitator and mediated between scientists and practice partners for the development of a scientifically sound and practice-oriented urban climate model (Halbig et al. 2019; Steuri et al. 2020b). Due to the close cooperation, the project can be booked as a partnership; however, the other three communication levels were used according to the needs of the various project phases: a survey among the practice partners was carried out to learn more about the practical requirements for the urban climate model (consultation); after the scientists had incorporated these requirements, the model was tested twice by the practice partners in a real-world setting as part of training courses (dialog); between the two training courses and before the end of the project, the user experiences were reflected back to the scientists for further development of the model (information).

mind that it is precisely at such moments that innovation happens and benefits are created for everyone involved.

How do hats and styles fit together?

The three hats that GERICS predominantly wears as a climate service provider in combination with the four styles of user engagement that GERICS regularly applies bridge the gap between demand and supply. The question is how the hats and styles are combined and how the combinations evolve over the project's lifetime.

The target of a climate service project defines the type of hat. The hat is a fairly constant component during the life cycle of a project, whereas the styles of user engagement most likely change during its different stages. For example, at the beginning of a climate service project the needs of the users tend to be vague. The style "consultation" allows us to gather the user needs and what kind of climate service is expected by the users. The following stage of this communication channel can be the style of dialog. If the interaction has proven to be fruitful and promising, this relationship may enter the strongest engagement style in terms of a partnership. The creation of partnerships allows for mutual learning opportunities and boosts the innovation behind climate service products (Larosa and Mysiak 2020).

However, the boundaries between the styles are permeable and blurry. Figure 2 summarizes the gradual differences and intends to provide guidance. It is important to base the adequate

style of engagement on the users' needs as well as the project type, goals, and phase. Almost all projects require spanning various levels at different points in time (Stauffacher et al. 2008). Thus, climate service providers are invited to “move up and down the continuum” (WMO 2018) of the four engagement styles. It is also important to note that the choice of interaction style for the climate service provided is situation dependent and is not based on a predetermined order (see Fig. 3). This also means that not all engagement levels have to be used in a project.

Another question is as follows: How well do hats and engagement styles function in daily work life? Depending on the circumstances and the goal a specific climate service endeavor is following, it is necessary to analyze in detail the roles each participant is playing, which kind of hat the climate service provider is wearing and which type of engagement with the users of the envisioned service is most expedient. Both the three roles and the four engagement styles presented here have varying degrees of difficulty when it comes to applying them in a real situation.

We consulted the GERICS staff with a minisurvey about the hats and styles, which 33 employees filled out (see data availability statement for more information). The survey does not claim to be representative, but the replies do offer insights based on the daily work of a climate service provider.

Interestingly, hats are evenly distributed among GERICS activities, ranging from global to local projects in different countries. When it comes to the level of difficulty to wear each hat, the answers diverge. The facilitator role is deemed as easier than the developer whereas the trendsetter role is perceived as the most difficult. The levels of difficulty regarding the four user engagement styles show that the higher the intensity of participation of the user, the more challenging the style is perceived by GERICS staff.

According to GERICS staff, the most important skills for working at the interface between science and practice are communication skills, impartiality, patience and tolerance of ambiguity, and also respect. These observations are in line with recommendations how to approach users or stakeholders in other fields (UNEP 2005). Successful engagement builds upon trust (Jacobs and Street 2020; Cortekar et al. 2020a) and requires willingness on both sides (UNEP 2005). GERICS's claim is to regard the user as a knowledge carrier and in this way to involve them at eye level. The interdisciplinary composition of the staff bringing in a variety of backgrounds as well as the work in transdisciplinary projects with practitioners are a key ingredient for productive relationships (Lugen 2020).

Outlook—Where do we go from here?

This typology of hats and styles gives structure to the variety of provided climate services and the engagement with users. Thus, it provides a framework for the development of user-centered climate services and helps providers to reflect upon the general outline of their services and their collaboration with stakeholders.

As climate service providers intensify the engagement with users in order to satisfy an increasing demand for coproduction (Bremer et al. 2021), solid and trusted relationships between climate service providers and users also increase (Jacobs and Street 2020). In climate service literature user engagement is widely supported (Visscher et al. 2020). In practice, climate service providers increasingly recognize the means of cocreation processes to improve the effective generation and utilization of climate information (Vincent et al. 2018). However, approaches to coproduction of climate services remain still relatively rare in practice (Vaughan et al. 2018) but they are growing in the recent years (Jacobs and Street 2020). Systematic evaluations to prove that coproduction of climate services is as effective as is often claimed are still in their infancy.

The field of climate services is constantly growing and evolving (Cortekar et al. 2020a; Larosa and Mysiak 2020). However, for successful climate services it is of paramount importance

to foster a trustworthy relationship with users and avoid their fatigue, for example, by repeatedly requesting information without providing anything in return.

Numerous studies, also outside of the climate service area, deal with recommendations for successful user engagements (WMO 2018; Durham et al. 2014; Bruno Soares and Buontempo 2019; Schuck-Zöllner and Brinkmann 2018). Beyond that, assessing the effectiveness and quality of the engagement undertaken is being introduced in the field of climate services. Different formats of evaluation and how to assess the quality of knowledge generated from climate services codesign processes emerge in the climate service landscape (André et al. 2021; Zahid et al. 2020). Drawing experiences from other fields shows that there is no single, or simple, way of evaluating user engagement (Durham et al. 2014). As the topic of evaluation has only recently entered the climate service scene, there exist no straightforward procedures yet (Bremer et al. 2021).

While this study does not aim to evaluate roles in climate services or the user engagement as such, nor to propose guidelines on how to improve the services, we do present a scheme for rethinking service and engagement formats for approaching users in order to create a basis for exploration regarding the communication with users in the field of climate services. The scheme helps service providers to better understand their role in the demand and supply landscape and provides an opportunity to identify new synergies and opportunities to successfully collaborate with users.

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Data availability statement. The data from the internal survey that support the findings of this study are available from the corresponding author upon reasonable request. No further datasets were generated or analyzed during the current study.

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