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Scientific communication · Earth System Knowledge Platform

ON OUR OWN ACCOUNT: ON THE END OF THE ESKP PROJECT

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Teaser

With the beginning of the fourth period of Programme-Oriented Funding (POF) in January, 2021, the knowledge platform of the Helmholtz Association's Earth and Environment research unit, the Earth System Knowledge Platform (ESKP) will come to its end. This is a good reason for looking back at the project.

Keywords

Scientific communication, online, audience, Earth System Knowledge Platform (ESKP), Earth and Environment research unit, Helmholtz, recognition culture, discourse, synthesis, earth system

The *Earth System Knowledge Platform* eskp.de was initiated in 2012, by the Helmholtz Association's Earth and Environment research unit. After a build-up of two years, in 2014 the website went online with its first contributions. The knowledge platform developed into a medium of scientific communication providing insights into the manifold research of the earth system while at the same time placing them into larger contexts.

This referred, on the one hand, to challenges to society resulting e. g. from climate change, species extinction or natural disasters, on the other hand in particular those contexts were elaborated which are part of the earth system as such. The more we know about the systemic contexts of Earth and environment and the more evidence-based knowledge we are provided with, the more it becomes clear that these are no isolated insights but that there exist interactions and feedbacks between those topical fields research is intensively dealing with. Our planet is a "system" where everything is connected to everything.

Science for everybody

ESKP met this challenge by way of an approach which was supposed to reach the widest possible audience. Thus the Platform reflects the demand of the people for an increased

transfer of knowledge and information. According to a current survey, 60 per cent of those interviewed state to be much or very much interested in research and science (WiD, 2020 & Kantar, p. 6, see Fig. 1). Acting as an information broker, ESKP thus made knowledge stocks accessible to a wide range of addressees, among them politics, the media, and the educational sector (Spreen et al., 2020).

The ESKP websites eskp.de and themenspezial.eskp.de were provided by those centres as being involved in the Helmholtz Association's Earth and Environment research unit: Alfred-Wegener-Institut, Helmholtz-Zentrum für Polar- und Meeresforschung (AWI), Deutsches Zentrum für Luft- und Raumfahrt, German Aerospace Center (DLR), Forschungszentrum Jülich (FZJ), GEOMAR Helmholtz-Zentrum für Ozeanforschung Kiel, Helmholtz-Zentrum Potsdam - Deutsches GeoForschungsZentrum (GFZ), Helmholtz-Zentrum Geesthacht, Zentrum für Material- und Küstenforschung (HZG), Karlsruher Institut für Technologie (KIT) as well as Helmholtz-Zentrum für Umweltforschung (UFZ). The editing was provided by the central ESKP editorial staff as well as by the ESKP coordinators from the centres involved.

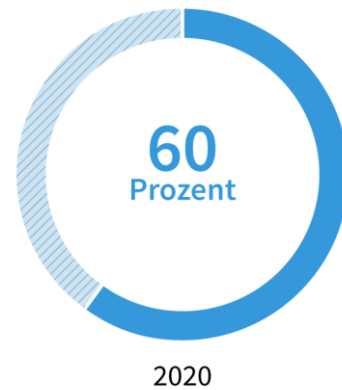


Fig. 1: Sixty percent of Germans are interested in scientific topics, according to the 2020 [survey conducted by Wissenschaft im Dialog](#). (Illustration: Wissensplattform Erde und Umwelt, eskp.de)

The special issues

One crucial element of the knowledge offer are the special issues (<https://themenspezial.eskp.de/>). The first special issue, on the topic of “Plastik in Gewässern - Wie unser Handeln Meere verändert (Plastics in Waters - How our Behaviour Changes the Seas)”, was published by the end of 2017. It was followed by issues on topics such as “Metropolen unter Druck - So werden Städte zukunftsfähiger (Metropolises under Pressure - How to Make Cities Fit for the Future)” (2018), “Rohstoffe in der Tiefsee - Metalle aus dem Meer für unsere High-Tech-Gesellschaft (Raw Materials from the Deep Seas - Metals from the Sea for Our High-Tech Society)” (2018), “Biodiversität im Meer und an Land - Vom Wert biologischer Vielfalt (Biodiversity in the Seas and on Land - On the Value of Biodiversity)” (2019) as well as “Vulkanismus und Gesellschaft - Zwischen Risiko, Vorsorge und Faszination (Volcanism and Society - Between Risk, Precaution and Fascination)” (2020).

The special issues are open synthesis formats, to which also a number of experts not belonging to the Helmholtz Association have contributed their expert knowledge. Each issue provides a sound overview of as well as a structured access to the respective topics. However, they also provide the readers with individual approaches. When it came to editing, in close coordination with the experts the editorial staff took care that the contents were well understandable also for laypeople.

ESKP in terms of numbers

By the end of the project, more than 770 contributions have been published on the eskp.de and themenspezial.eskp.de websites, 161 of them by the special issues and more than 100 articles dealing with basic knowledge of the Earth system. To this there add 170 encyclopaedia entries. The contributions on eskp.de are distributed across the four major sections of “Natural Hazards”, “Climate Change”, “Pollutants” as well as “Energy Transformation & Environment” Each of these sections includes a number of sub-categories, such as “Biodiversity”, “Volcanism”, “Permafrost” or “Risk Management”.

The structure of the website allows for networking each article with further contributions and suitable basics. Thus, each article is a network node, allowing for individual access to deeper knowledge, each according to interest. ESKP works like a knowledge network, similar to a neuronal network - however a network which is constantly updated according to the latest innovations of the sciences.

Over the course of the project, more than 420 experts have contributed actively, either as authors or as experts in the context of quality assurance. This way, the contributions were scientifically safe and supported a crucial goal of ESKP: presenting the audience with information and current, reliable insights. To have it in the words of psychologist Rainer Bromme: it was about making “informed trust” possible (Retzbach, 2020).

Trust in information means also that references are given in a standardise format. For this purpose, the latest volumes make use of an adjusted standard - that is the APA quotation norm, which has been adjusted in a way which allows for its use both for online and pdf as well as for print formats.

Attendance has developed very positively over the years. After a start-up phase, when groundwork was done particularly in the field of basic knowledge and the site became increasingly well known, in particular in recent years the attendance figures for ESKP and ESKP Special Issue experienced a very dynamic development. Fig. 2 shows the average monthly numbers of visitors per year.

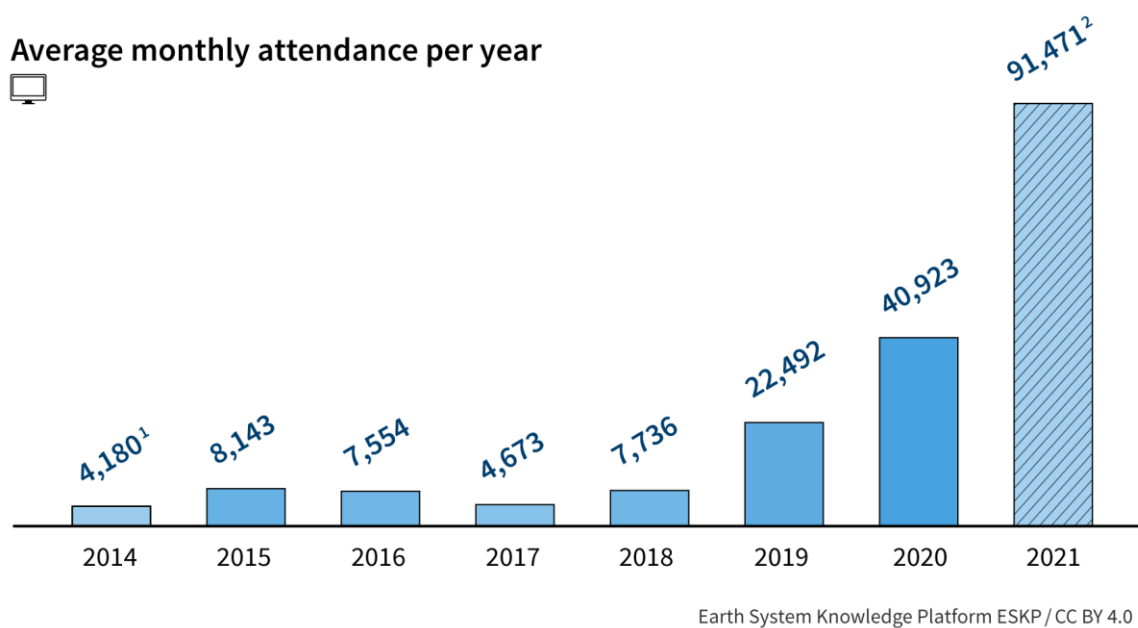


Fig. 2: The diagram shows the average monthly attendance per year for Vols. 1 to 7. The last bar shows the attendance in January, 2021. A new visit is defined as somebody attending the website for the first time or as more than 30 minutes having passed since the last time this person has attended the site. (1) In 2014, the website went online by the end of May. Thus, what was measured in this case was the monthly average from June to December, 2014. (2) Attendance during the last measured month, January 2021. (Illustration: Wissensplattform Erde und Umwelt, eskp.de, data: Matomo)

As becomes obvious, after a period of implementation and coordination the demand rises considerably. In January, 2021, ESKP and ESPK Special Issue together recorded more than ninety thousand visits; which is impressive evidence of the great demand by the interested public for this way of providing current, quality-checked information (data: Matomo website analytics).

ESKP was also meant as an offer to the media, which this way were able to pursue research developments or to adopt ideas. As an example, here we may refer to the article on

volcanism in the weekly Die Zeit, for which eskp.de was given as a reference (Die Zeit, February 13th, 2020, p. 38).

Apart from its own Facebook account, ESKP also had a Twitter account: @geowissenschaft. The latter was characterised by a prominent and valuable follower structure. Among them there counted ministries, a number of institutionalised as well as independent research and educational institutions, publishers of scientific books, scientific communications actors, Helmholtz Centres and Institutes as well as, apart from enterprises and civil society actors, also many private people.



Earth System Knowledge Platform ESKP / CC BY 4.0

Fig. 3: An overview of some important ESKP key figures. (Illustration: Wissensplattform Erde und Umwelt, eskp.de)

Lessons learned

Running the ESKP online knowledge platform allowed for making important experiences with scientific communication. Conclusively, four points shall be mentioned explicitly:

- **Supporting the recognition culture:** Informed trust requires quality management. For this, the input by scientists as authors or experts is crucial. This commitment should be acknowledged. One first means is marking contributions with digital object identifiers, in short: DOI. This way a permanent link is established, which allows for tracking the performances by the contributing scientists, thus allowing for lasting references.
- **Patience and marketing:** A platform such as ESKP grows over time. By and by there develops an ever more comprehensive network which, consequently, becomes interesting for ever more people. Accordingly, it takes some time until such a platform is recognized and established in the online world and the media. Even for search engines one needs a lot of staying power, so that the contributions are well indicated and can be found. For this, apart from high-quality contributions, also illustrative visualisations and infographics are important. The demand is there, and it is growing. Marketing measures may reduce the recognition period.
- **Following the scientific discourse:** To reflect the dynamics of the great challenges to society, it is important to allow the users of scientific communication platforms to participate in the scientific development. This is where digital knowledge platforms have a great potential as far as they frequently supply their audiences with fresh insights and function as a reliable contact partner in this concern.
- **Synthesis and contextualisation:** To do justice to the many different approaches, it is recommendable to make offers meeting individual demands. Open synthesis formats, such as special issues, may appeal to a wider audience consisting of different target groups. Linking different contributions to each other is another way of allowing the readers to find their individual paths through the thicket of knowledge. Furthermore, it makes sense if the contributions refer to social challenges and point out to options for action.

On behalf of the ESKP editorial staff (Oliver Jorzik, Jana Kandarr and Pia Klinghammer) I explicitly thank all those experts inside and outside the Helmholtz Association who, by

their commitment and by spending their valuable time, have contributed to making the project a success story. Also, I would like to explicitly thank the ESKP coordinators from the involved Helmholtz Centres, without whose reliable and constructive commitment this success story would not have been possible.

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