



Competence Center
Environment and Sustainability

Reporting 2015 to the ETH Board

Climate & Environmental Change



Sustainable Land Use



Food, Environment & Health



Natural Resources



Natural Hazards & Risks



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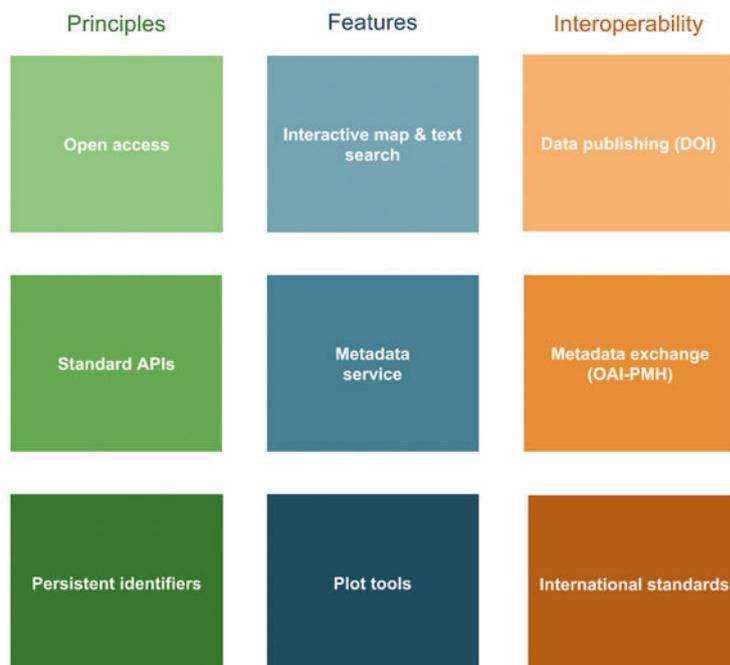
1 Summary of main activities

Research projects and research platform Swiss Experiment on track

All seven research projects of the second period (2012 to 2016) as well as the research platform Swiss Experiment/OSPER are well on track concerning both time schedule and use of financial means. TRAMM-2 ('Triggering of Rapid Mass Movements in Steep Terrain') and GeneMig ('Genetic variation and species migration under environmental change: views of science, environmental management, and the general public') were finished in 2015 as the first research projects of the second period. All others will officially end in 2016.

The Swiss Experiment/OSPER research platform will be integrated into ENVIDAT

The Swiss Experiment platform has seen a major technological jump towards practicality and user friendliness. Some ambitious data analysis features will no longer be supported, making the system slimmer and easier to maintain. As a core, the platform renamed OSPER (Open Support Platform for Environmental Research) still features a data infrastructure with easy and now intuitive data access, exploration and (simple) analysis. The main strength remains a flexible treatment of metadata and therefore a platform that allows the scientist to store, share and retrieve data from various and heterogeneous sources. While OSPER will continue to provide access to hundreds of environmental data sets, e.g. from former CCES projects (www.osper.ch), it will now also join forces with the ENVIDAT data portal with a view to guaranteeing easy access to data for both scientific and practical purposes. OSPER is serving data to ENVIDAT but also provides ENVIDAT with some of the new technology developed in OSPER. One first example of this collaboration is the DOI publishing of data sets, which is already fully functional and dynamic. To start with, two long-term nivo-meteorological data sets from Weissfluhjoch Davos have been published. Overall, CCES supported the ENVIDAT initiative with direct contributions of 263 kCHF for the technical implementation plus 680 kCHF for project proposals addressing issues of the conservation, curation, management and access to observational data collected through CCES projects in the period 2014 to 2016.



Design matrix of key properties of the new OSPER data platform.

Source: Joel Fiddes, WSL/SLF

Fifth edition of the CCES Winter School ‘Science Meets Practice’



Reflection, mutual exchange, discussions – key ingredients of the CCES Winter School. Photo: Carolina Adler, CCES

Now in its fifth consecutive year, the CCES Winter School 2015 ‘Science Meets Practice’ was, as in 2013 and 2014, once again held at Propstei Wislikofen during the months of January and February 2015 (see www.cces.ethz.ch/winter-school/pws/2015). CCES received 35 strong applications, out of which a total of 28 PhD candidates and postdocs from the ETH Domain institutions and universities in Germany, Romania and Northern Ireland were selected to participate. The program offered theory on science-practice interactions and coaching on communication. Furthermore, it supported participants in applying skills in consultation and co-production of knowledge through workshops with stakeholders from administration, practice and residents from Wislikofen. The chosen topic ‘Future Landscapes’ included diverse issues related to landscape management, land-use change and urban/peri-urban development. This topic created a lot of interest and enthusiasm among the stakeholders and guests that were invited to exchange views with participants. It stimulated engaged discussions on the many factors that affect changes in our landscapes, and it proved to be well suited to reflect on how science may affect policy and practice.

Workshop ‘Dialog between Policy and Science – the Case Study of Energy Transition’



Workshop participants during roundtable discussion. Photo: Omar Kassab, ETH Sustainability

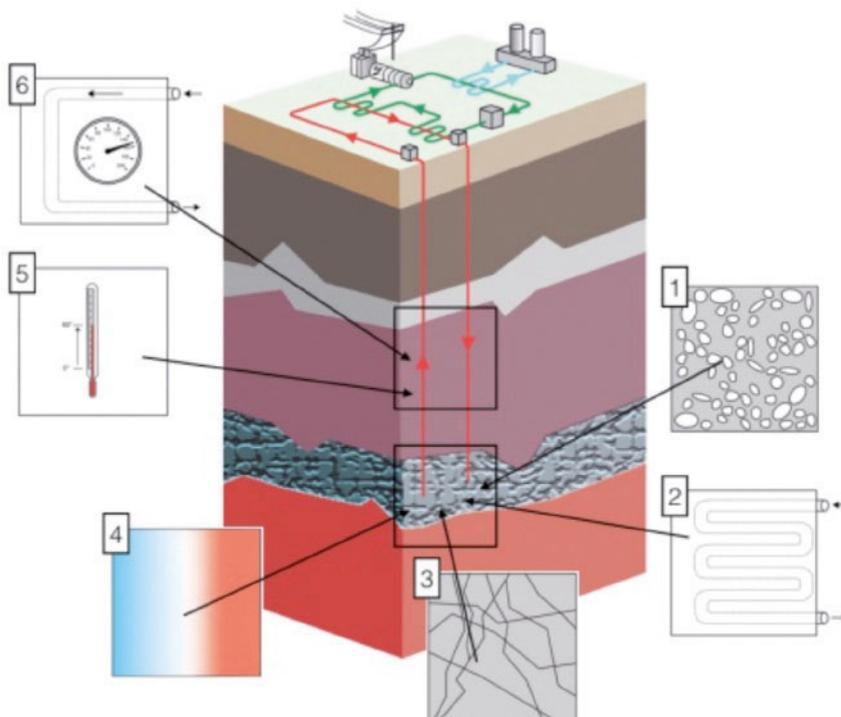
Co-organized by the Swiss Academy of Sciences (SCNAT) and CCES, a follow-up workshop analyzing the science-policy interface took place at ETH Zurich on November 6, 2015. Participants comprised 38 personalities from policy, public administration, business, science, and from the science-policy interface. The workshop aimed at identifying strategies and

institutional prerequisites for improving the dialog between science and policy, particularly with respect to complex scientific issues. Landmark decisions towards the energy transition in Switzerland served as a up to date topic (case study) in order to focus the group discussions on successful or failed knowledge transfers as well as on recommendations for interaction improvements.

Among other conclusions, participants agreed that basic requirements for an improved science-policy dialog include the establishment of more powerful permanent exchange channels between science and political stakeholders including public administration. With such channels the awareness within the scientific community for actual political issues as well as the awareness within the political community for future challenges could and should be significantly improved. In general, scientific consensus as well as dissent and knowledge gaps should be made more transparent. Since many of the present and future problems to be solved are very complex in nature, appropriate funding is required for inter- and transdisciplinary research as well as for knowledge transfer of complex issues. In this context, career opportunities in problem-oriented research areas should be further developed.

New teaching units on geothermal energy and landscape genetics available

CCES@School is the environmental education initiative of CCES. It provides teaching materials with new and scientifically sound knowledge about the environmental system for secondary school students ensuring that teaching materials fulfill both scientific and pedagogic quality standards through collaboration between experts from both fields (see www.cces.ethz.ch/ccesatschool/). The MINT Learning Center of ETH Zurich regularly organizes seminars for teachers to disseminate the materials. These seminars are also integrated into the teacher education program of ETH Zurich. Scientists from the CCES projects have contributed to the development of new teaching materials on landscape ecology and geothermal energy as part of the CCES@School initiative in 2015.



CCES@School teaching materials support the understanding and management of complex environmental and technological systems.

Source: MINT Learning Center, ETH Zurich

2 Performance information

Table 3: Performance information

1.	Scientific publications (only published, not submitted/forthcoming)	2006 to 2014	2015	Total
1.1	No. of peer-reviewed ISI journal publications	972	62	1,034
1.2	No. of peer-reviewed non-ISI journal publications	172	14	186
1.3	No. of PhD theses	173	4	177
1.4	No. of master/diploma theses	394	9	403
1.5	No. of abstracts/proceedings/presentations/posters at scientific conferences/congresses/workshops	2,413	110	2,523

2.	Scientific events organized by the project/by project partners	2006 to 2014	2015	Total
2.1	No. of conferences/workshops etc. (open to an audience beyond project partners/participants)	239	2	241
2.2	No. of PhD courses/summer schools, etc.	85	3	88
2.3	No. of other events	100	1	101

3.	Outreach	2006 to 2014	2015	Total
3.1	No. of publications for stakeholders outside the scientific community (e.g. public administration)	214	6	220
3.2	No. of press articles (newspapers, radio/TV broadcasts, etc.)	495	5	500
3.3	No. of courses/seminars/workshops for stakeholders outside the scientific community	219	4	223
3.4	No. of public information events for local/regional authorities/residents	139	0	139
3.5	No. of events/activities at schools (courses)	163	4	167
3.6	No. of other events	123	3	126
3.7	No. of patents	8	0	8