

MeteoSwiss



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Again, an intensive and successful half year has come to an end. In the course of the last months the dialogue with smallholder farmers was intensified and led to the introduction of forecasts and warnings through local radio and SMS. Capacity building activities since 2012 proved to be very successful, as SENAMHI demonstrates a leadership role in the region for key topics such as data management, automated production of user-tailored climate information, e-learning through the platform Moodle or in the designing of socio-economic studies. Furthermore, Climandes could contribute to the international scientific discourse on climate services for instance through presenting the projects results at various events. The good progress of Climandes was awarded with the annual SFIAR prize for agricultural research for development.

We are fully energized for the project's last year! In 2018, emphasis will be put on improving the fit of climate services to the users' needs, on reaching out to Ibero-America and on the dissemination of key findings for the benefit of similar objectives in the region.

High-quality climate services to support farmers



A prerequisite for reliable climate services are high-quality climate observations. This is why SENAMHI organizes the **Data Management for Climate Services Workshop** from 29 May to 1 June 2018 in Lima, Peru. The workshop is addressed to national climate services communities in Ibero-America and aims at enhancing their capacities in data rescue, homogenization and gridded data methods. **Abstracts for contributions to the workshop can be submitted until 15 January on: www.senamhi.gob.pe/workshop2018.**

To automate the production of user-tailored climate information an **R package (“ClimIndVis”)** is being developed. The package includes functions for the calculation, verification and visualization of different indices relevant for the agricultural sector. It calculates for example past beginnings of rainy seasons as well as seasonal forecasts including their forecast skill. The release of the package on GitHub is scheduled for spring 2018. A small workshop using a trial version of the package was conducted at SENAMHI in November 2017 and an online course introducing the functionality of the package is planned to take place concurrent to its release.

A publication on summertime precipitation deficits in the Peruvian Highlands since 1964 has been submitted to the International Journal of Climatology. Further publications on the results elaborated in the second phase of Climandes are in preparation and will be submitted to international journals at the end of 2018.

Improved training for better climate services



In 2017 several well-attended courses were offered to participants of up to 15 countries from the region. They aimed at enhancing the provision and use of climate information in Ibero-America and supported the Regional Training Center (RTC) Peru:

- i) A three-part blended course facilitated participants with a set of theoretical and practical knowledge on **seasonal climate forecasts**. These courses were arranged by NOAA, CPTEC, University of Connecticut, Meteodat, SENAMHI and MeteoSwiss and will be continued in 2018 with a focus on the applications of seasonal forecasts to agriculture.
- ii) The **blended course on re-analysis** held by the University of Berne and SENAMHI explored the possible use of such products for better climate services in the region.
- iii) A course on the **metadata tool OSCAR** offered by WMO and MeteoSwiss supported data quality efforts within the region.
- iv) A course on **methodologies of studies to estimate socio-economic benefits (SEB) of climate services** was realized by MeteoSwiss and Swiss TPH in close collaboration with SENAMHI. The objective was to transfer knowledge on the key concepts of economic valuation, the traceability of the case study results conducted in Cusco and Puno and the framing of own study designs.

Specialized SENAMHI staff integrated all these courses in the **e-learning platform Moodle**. Furthermore, **the e-learning material developed within Climandes Phase 1 is applied to teach students at the University La Molina (UNALM)** in climatology and related topics. It will be translated from English to Spanish and some parts of it will be tailored to the use by a broader public. The training material will be published at the end of the year on the MetEd webpage (<https://www.meted.ucar.edu/>).

An exchange among the regional leaders of the RTCs and possibly others worldwide is programmed for 2018 to enhance the coordination of training activities in Ibero-America. Finally, **two students from Bolivia and Colombia will start their studies at UNALM** on a Climandes sponsored scholarship.

Understanding farmers' needs to tailor climate services



In two **pilot communities monthly capacity-building workshops are offered to discuss and apply pilot forecast products**. More than 60 farmers from the Quechua district of Pusi (Northern Puno) and 28 from the Aymara district Ilave (Southern Puno) participated and learned how to interpret and use regional climate and weather forecasts at the local scale. Farmers stated that they rely mostly on traditional forecasting methods, but also see the advantage of scientific based agrometeorological information provided by SENAMHI. "We are farmers and ranchers. It is very important for us to be informed about extreme events that affect our crops and livestock", stated Celestino Sucapuca. The producers pointed out that local radio and mobile phones are the most easily accessible communication channels for them. They further showed interest in a continuous dialogue among them and with meteorologists in order to benefit from scientific and local ancestral knowledge.

Based on these insights, the regional SENAMHI office in Puno **newly delivers weekly text messages** with forecasts and early warnings. Furthermore, Radio *Decana*, a local radio station in Juliaca, now provides daily weather predictions at 7 pm in local the language Quechua.

In September, a **second household survey was conducted in Cusco with 402 potato and maize producers**. These results will complement the studies performed in Puno and will help to develop new climate services tailored to the smallholders' needs.

During their scientific visit in Switzerland, an economist and an agronomist from SENAMHI developed their capacities in the design, conduction and evaluation of socio-economic benefit studies. The training was realized by the University of Zurich, ETH, Swiss TPH and MeteoSwiss.

Climandes presented the results of the socio-economic evaluation studies to governmental entities, NGOs, private institutions and interested individuals in Lima and Puno. The Ministry of Economics and Finance (MEF) was informed about the potential return on current and future investments in climate services. These awareness-raising activities are fundamental to provide SENAMHI with the necessary resources for delivering climate services after the project end.

Además



On 11 September 2017 the Climandes Team at MeteoSwiss received the annual **[Research Award of the Swiss Forum for International Agricultural Research \(SFIAR\)](#)** for the project. The award was given for their support to Peruvian smallholder farmers to better prepare for adverse events. These good news were communicated on different channels (Social Media: [MeteoSwiss](#), [SENAMHI](#) and [WMO](#), [WMO News](#), GFCS [News](#) and [Newsletter](#), [SFIAR press release](#), [website](#) and [Newsletter](#)).

In order to exchange experience in how to enhance climate resilience of the most vulnerable, **MeteoSwiss and the University of Bern co-convoked a session at the 4th International Conference on Research for Development (ICRD) from 5 - 8 September 2017**. Keynote speeches, a panel discussion and posters emphasized that the success and sustainability of climate services largely depend on strategic partnerships among suppliers, users, government and civil society (more information: [MeteoWorld December 2017](#))

Last but not least, the results of the field study from late 2016 with more than 700 smallholders from Puno, Peru were published on [our MeteoSwiss Blog](#) (in German). Further publications in English will follow and include a synthesis report.

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More information

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