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Federal Department of Home Affairs FDHA Federal Office of Meteorology and Climatology MeteoSwiss





## **MeteoSwiss**

# User-tailored seasonal forecasts for agriculture

Creating socio-economic benefit through climate services in the Andes

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- Background
- Approach
- Challenges and lessons learnt



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- Approach
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# Project context

## **Global Framework for Climate Services (GFCS)**



Climandes Servicios Climáticos para el Desarrollo http://www.wmo.int/gfcs

# Project context

## GFCS



## Climandes

- Building an interface between users and providers & evaluating socioeconomic benefits
- Producing user-tailored climate information for the agricultural sector in the Andean region











# Project organisation





- Background
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# Twinning - Approach

Close collaboration between equal partners, e.g.,:

- SENAMHI Peru and MeteoSwiss
- University La Molina & University of Berne
  - Scientific visits
  - On-the-job training
  - Courses





# Examples of twinning achievements



## Improving climate information

- Conduction of a blended course on verification for RA III
- Verification of CPT forecasts
- Development of prototype forecast products including skill information



- SENAMHI plays an active role in RA III, e.g.:
  - Collaboration with the Argentinean weather service on verification
  - Leading monthly briefings for seasonal forecasts

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# Examples of twinning achievements



World Heteorological Organization EXECUTIVE COUNCIL Seventieth Session General, 20 to 29 June 2018			EC-70/Dec. 11.1 Submitted by:	
			27.VL 2010	
AGE	NDA ITEM 11:	CAPACITY DEVELOPMENT		
AGE	NDA ITEM 11.1:	EDUCATION AND TRAININ	6	
		DRAFT RESOLUTION	NS	
		Draft Resolution 11.1/1 (	EC-70)	
		EDUCATION AND TRAIN	ING	
THE	EXECUTIVE COUNCI	L.		
Rec. Prog Deci	alling Resolutions 5: ramme; and Resolut sion 56 (EC-69);	1 (Cp-17) on guiding principles for ten 52 (Cp-17), Resolution 8 (EC-6	the Education and Training (8), Decision 64 (EC-68) and	
Taki 'Ape in Se	ing note of the requincia Estatal de Mete pain;	est of the Permanent Representation of Spain as a W	ve of Spain on designation of the MO Regional Training Center (RTC)	
Hav	ing considered the ving to designate AE	recommendations of the BC Panel MET as a Regional Training Centre	of Experts on Education and (See EC-70/INF, 11.1);	
Taki Inge Arge desig	ing note also of the nieria y Ciencias Hid nitina as a componer pration of the "Servi ponent of the WHO I	request of the PR of Argentina on rices" (FICH) of the "Universided N rt of the WMO RTC in Argentina; a ico Nacional de Meteorología e Hid RTCs in Peru;	the designation of the "Facultad de lacional del Litural" (UNL) of nd that of PR of Peru on the rologia" (SENAMHI) of Peru as a	
Hav	ing also considere the DC Panel of Expe	d the recommendations of the Pres erts on Education and Training;	ident of Regional Association III,	
Dec	ides:			
(1)	To designate the "Agencia Estatal de Meteorologia" (AEMET) of Spain as a WMO RTC in Spain;			
(2)	To designate the "Facultad de Ingenieria y Cienciat Hidrices" (FICH) of the "Universidad Nacional del Litoral" (UNL) of Argentina as the third component of the WMO RTC in Argentina;			
(3)	To designate the "S the second component	Servicio Nacional de Meteorologia e vent of the WMO RTCs in Peru;	Hidrologia" (SENAMHI) of Peru as	
(4)	To reconfirm the WHO RTC in Algeria based on the recommendation made by the EC Panel of Experts on Education and Training;			
(5)	To extend the reco Madagascar, Nigeri RTCs until subsequ	nfirmation of the WMO RTCs in Ind a. Peru, Philippines, Russian Feder ent EC decisions following the conc	onesia, Iorael, Italy, Kenya, ation, South Africa, and Turkey as dusions of ongoing or next external	
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## **Capacity development**

- Elaboration of an e-learning strategy
- Implementation of a Moodle platform at SENAMHI
- Conduction of blended courses at regional scale
- SENAMHI has taken ownership for training activities
- In June 2018, SENAMHI was officially designated as the second component of the WMO Regional Training Center in Peru



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# Challenges

### Institutional

- Missing intermediary institutions in project set-up
- Discontinuity of employed staff
- Few human resources at NMHSs, e.g.:
  - SENAMHI Peru employs roughly the same number of people as MeteoSwiss (Peru: ~1'300'000km<sup>2</sup>; CH: ~42'000km<sup>2</sup>)
    - Implementation of project goals additional to daily work
    - Little time available for training

## Technical

- Low station density & low quality of meteorological data
- Low quality of global datasets in the Peruvian Andes, e.g.:
  - Precipitation shift in Re-Analysis datasets
  - Low skill of seasonal precipitation forecasts





# Challenges

## Cultural

- Language
- Differing working cultures
- Missing trust in governmental institutions
- Few experience with online training









# Lessons learnt

#### Institutional

- Active and early involvement of stakeholders
- Involvement of intermediary institutions
- Inclusion of regional offices are key to reach user groups
- Institutional capacity building (to avoid loss of knowledge)

### Technical

- Users may require information that cannot be provided
  - Communicating the limitations of climate information
- Low data quality / low model skill may hinder the production of climate information
  - Adapting project goals if required





## Lessons learnt

#### Collaboration

• Twinning approach as a recipe to success



- Combination of technical exchange and capacity building fosters sustainability of project results
- Success is largely a consequence of experience, trust, and contacts established in the first project phase
- Importance of knowing other initiatives / projects with similar focus
  > Organization of session at EMS



# Further information and contact

- www.senamhi.gob.pe/climandes
- climandes@senamhi.gob.pe



- www.meteoswiss.ch/climandes
- climandes@meteoswiss.ch

The project CLIMANDES-2 builds upon the first phase of the project (CLIMANDES-1) and aims to develop climate services for decision-makers in Peru and to improve the training of meteorologists in the Andean region. User-tailored weather forecasts can help the rural population in managing the impacts of climate change. The cooperation between MeteoSwiss and the Peruvian weather service is financed by the Swiss Agency for Development and Cooperation (SDC) and coordinated by the World Meteorological Organization (WMO).



