CEOP-AEGIS

Coordinated Asia-European long-term Observing system of Qinghai–Tibet Plateau hydro-metOeorological processes and the Asian-monsoon systEm with Ground satellite Image data and numerical Simulations

EU Project

Collaborative Project / Small or medium-scale focused research project – Specific International Co-operation Action

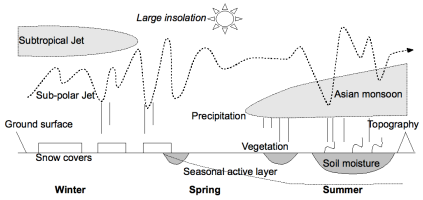
ENV.2007.4.1.4.2
Improving observing systems for water resource management

SEVENTH FRAMEWORK PROGRAMME

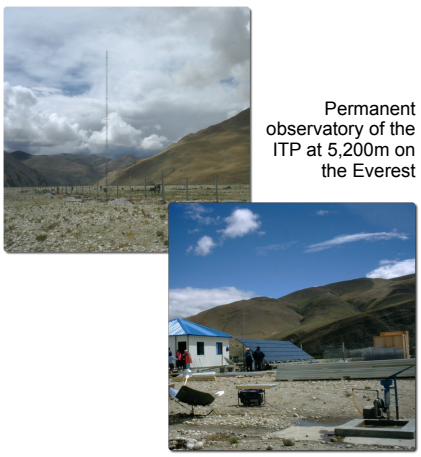
Period: May 2008 – May 2012

Qinghai-Tibet Plateau context

Headwater of seven major rivers: Yellow river, Yangtze, Mekong,Salween, Irrawaddy, Brahmaputra, and Ganga (see map on the right)



Schematic illustration of the key factors in land-atmosphere interactions and their seasonal evolution over the Tibetan plateau, courtesy of Dr K.Ueno.



Permanent observatory of the ITP at 5,200m on the Everest

An international cooperation project between Europe and Asia to improve knowledge on hydrology and meteorology of the Tibetan plateau and its role in climate, monsoon and extreme meteorological events.

The Qinghai-Tibet Plateau is a regulating area for the climate of China and of the Eastern Hemisphere as a whole, and exerts profound thermal and dynamical influences on the onset, maintenance, and withdrawal of the monsoon. The control of water resources and the forecast of rainfall is a matter of great concern for people and governments of all SE-Asia. However, **estimates of Plateau water balance relies on sparse and scarce observations** that cannot provide the required accuracy, spatial density and temporal frequency.

The effort proposed in **CEOP-AEGIS** is to:
1. Demonstrate an **observing system** to determine and **monitor the water yield** of the Plateau
2. Monitor the evolution of surface conditions and analyze the **linkage with convective activity, precipitation events and the Asian Monsoon**

Improve spatial density and temporal frequency of observations
- Ground based observations (radiative / turbulent fluxes, soil moisture); data quality and footprint analysis for up-scaling to satellite grid size (WorkPackage 1)
- Satellite observations of snow, vegetation cover, surface albedo, temperature (WP2), satellite based estimates of energy and water fluxes (WP3), top soil moisture (WP4), precipitation (WP5), glaciers and snow meltwater (WP6)

↓

Contribute to advance understanding of land-atmosphere interactions, monsoon system and precipitation (WP7)

↓

Prototype observing system for large area water management by monitoring the water balance and water yield of the Plateau (WP8)

↓

EOS benefits demo in China and India:
- Satellite drought monitoring system (WP9)
- Satellite flood monitoring system (WP10)

Contribute to the Group on Earth Observation water theme and capacity building infrastructure for SE Asia (WP11)

→ GEOSS

Coordinator
Pr. Massimo MENENTI
Laboratoire des Sciences de l'Image, de l'Informatique et de la Télédétection
Université Louis Pasteur, Strasbourg
5 boulevard Sébastien Brant
67412 ILLKIRCH, FRANCE
e-mail: menenti@lsiit.u-strasbg.fr

CEOP-AEGIS members:
- Louis Pasteur University, Strasbourg, FR
- International Institute for Geo-information science and Earth Observation, Enschede, NL
- ARIES Space, IT
- University of Bayreuth, GE
- Alterra - Wageningen University and Research Centre, NL
- University of Valencia, SP
- Institute for Tibetan Plateau Research, Lhasa, CN
- China Meteorological Administration, Beijing, CN
- Beijing Normal University, CN
- National Institute of Hydrology, Rorkee, IN
- University of Tsukuba, JP
- WaterWatch, NL
- Cold and Arid Regions Environment and Engineering Research Institute, Lanzhou, CN
- University of Ferrara, IT
- Institute of Geographical Sciences and Natural Resources Research, Beijing, CN
- Institute for Remote Sensing Applications, Beijing, CN
- FutureWater, NL