ADAPTATION TO THE IMPACT OF RAPID GLACIER RETREAT IN THE TROPICAL ANDES PROJECT

(Bolivia, Ecuador, Peru)

Bonn, June 05 2008

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POR UN PERÚ JUSTO, LIBRE, SOBERANO Y SOSTENIBLE

WHY A REGIONAL ADAPTATION PROJECT IN THE TROPICAL ANDES?

First conversations in COP X, Buenos Aires, 2004: **Climate change adaptation is a long-term venture**

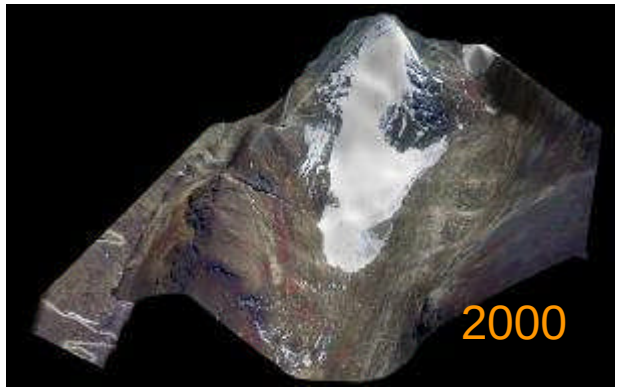
1. Climate change is affecting, as an aditional burden, the already difficult path to socio economic development in the Andean region.
2. More than 50% of the population lives in poverty and in extreme poverty conditions.

WHY A REGIONAL ADAPTATION PROJECT IN THE TROPICAL ANDES?

3. The availability and accessibility to safe water and sanitation services is below the average of latinamerican countries.

4. There is enough evidence of rapid glacier retreat that is already affecting the availability of water resources.

Retreat of the Chacaltaya glacier - Bolivia



WHY A REGIONAL ADAPTATION PROJECT IN THE TROPICAL ANDES?

5. The Region is articulated by the Andes mountain chain, and water is one of the main priorities in all of these countries.

6. Awareness exist regarding need incorporate adaptation to climatic change vulnerabilities as part of planning and management of socio economic development.

Wetlands - Ecuador

WHY A REGIONAL ADAPTATION PROJECT IN THE TROPICAL ANDES?

7. National capabilities have been created through international technical cooperation.

8. Need and interest in sharing experiences and knowledge to further enhance this subject at the regional level.

9. Need to show robust and consistent evidence and data on climate change and its impacts to move political decisions.

Ilimani glacier; vulnerable zone - Bolivia

The proposal (Bolivia, Ecuador yPerú)

Development Objective

Contribute to strengthening the resilience of local ecosystems and economies to the impacts of glacier retreat in the Tropical Andes, through the implementation of specific pilot adaptation activities that illustrate the costs and benefits of adaptation.

* SCCF-GEF US$ 7.49 million
* GFDRR US$ 0.5 million
* CCIG (Japan) US$ 0.9 million
* Own resources US$24.11 million

→Total amount = US$ 33 million

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Specific objectives

- the effective integration of the implications of glacier retreat into the regional and local planning in glacierized basins;
- the inclusion of glacier retreat impacts in local, sector development projects; and
- generation of data and knowledge on glacier dynamics.

Selected areas

ECUADOR

- Microcatchments directly related to Antisana glaciers in the Cordillera Real (Papallacta, Jeringa, Quijos and Antisana microcatchments)

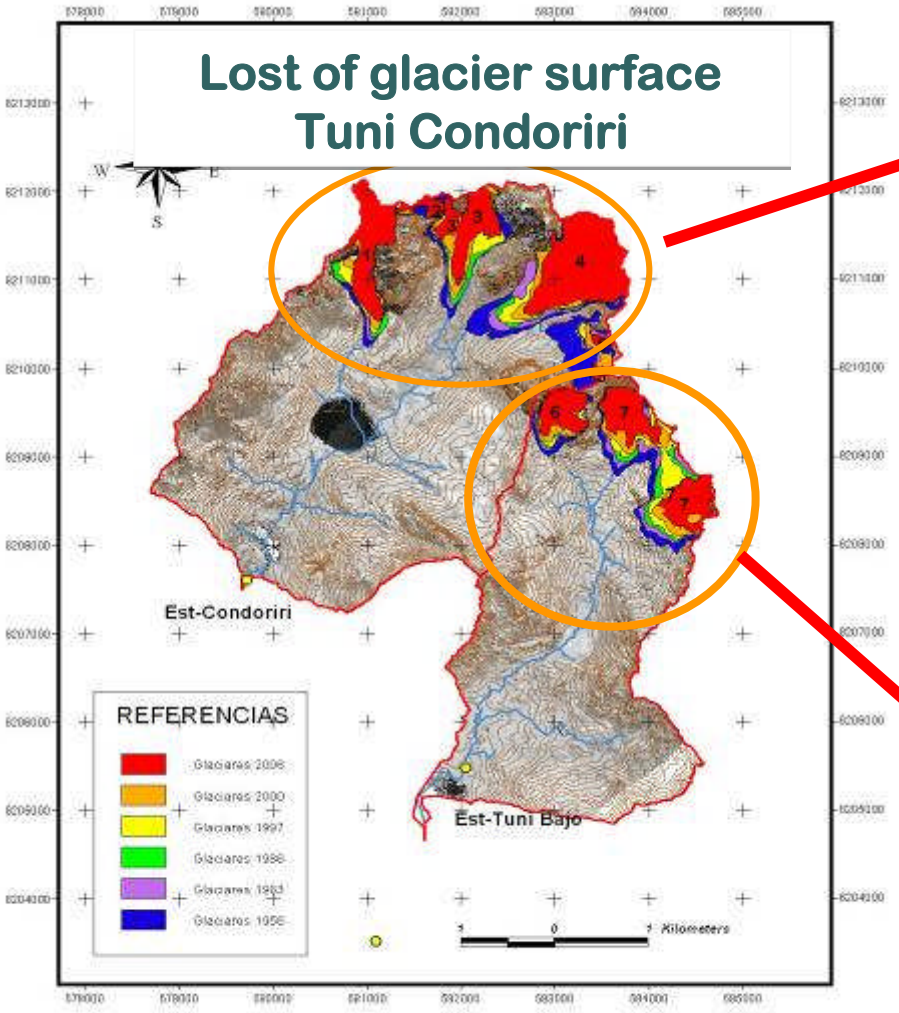
BOLIVIA

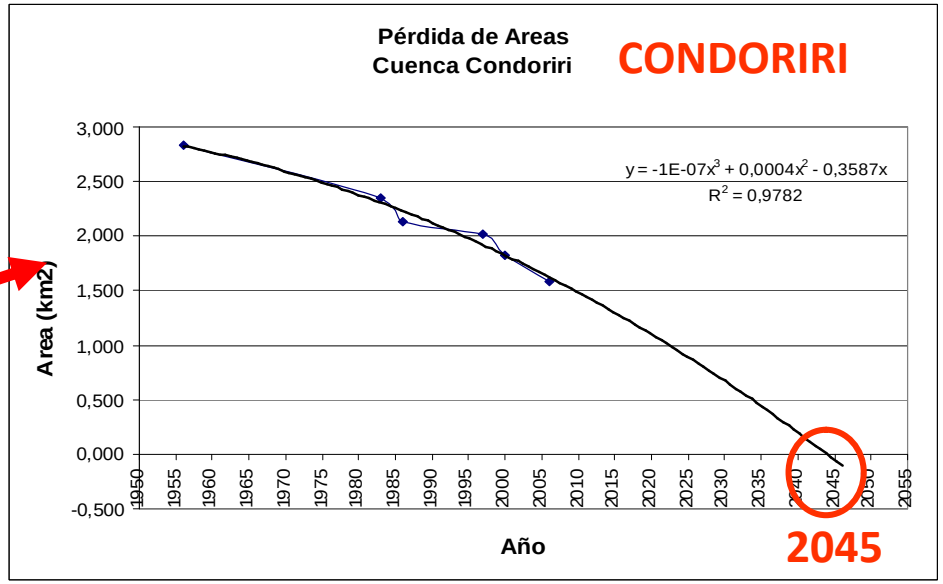
- River basins associated to the Cordillera Oriental mountain range, providing water to the cities of La Paz and El Alto (Zongo, Tuni Condoriri, Illimani, Mururata glaciers)

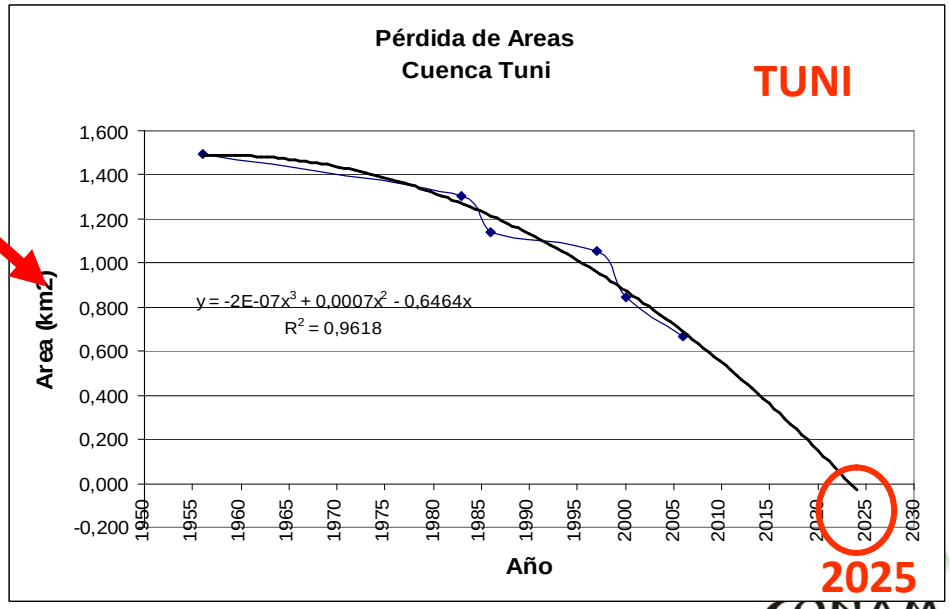
Antisana glacier - Ecuador

Glacier retreat Tuni Condoriri

(Main source of water for the cities of La Paz y El Alto)





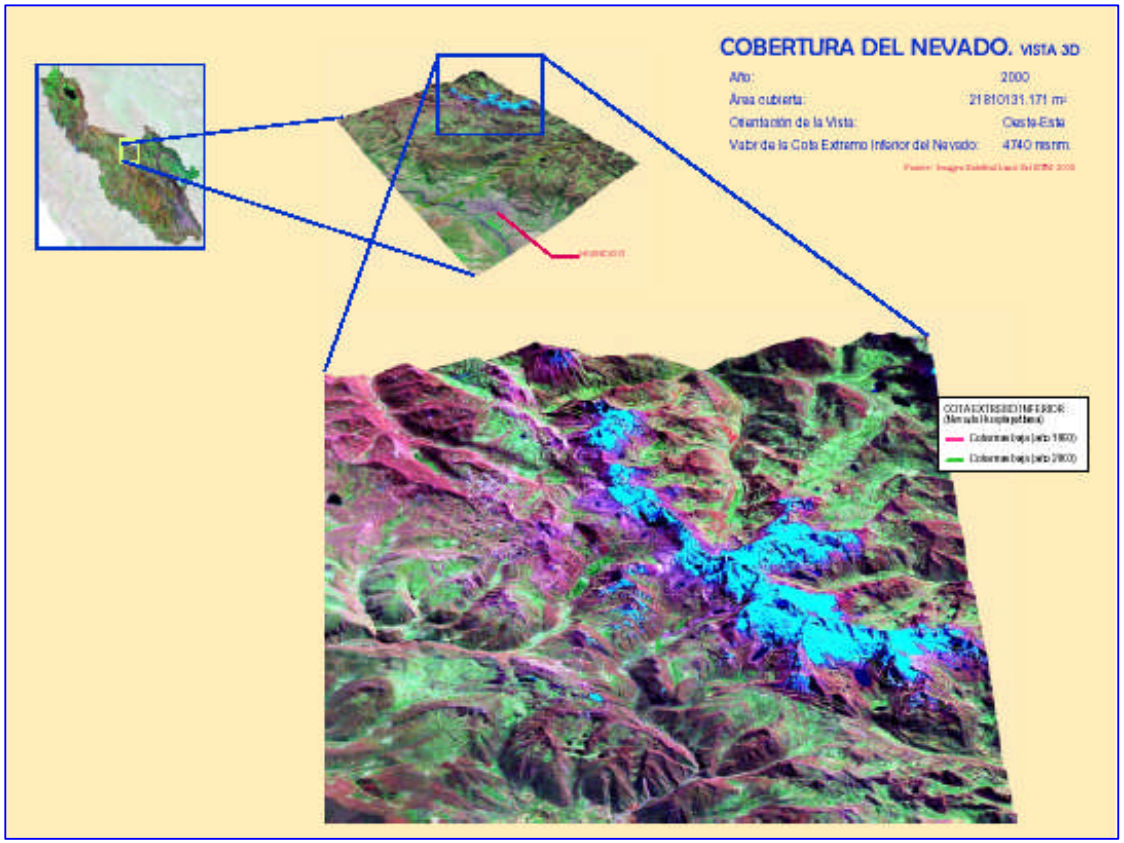


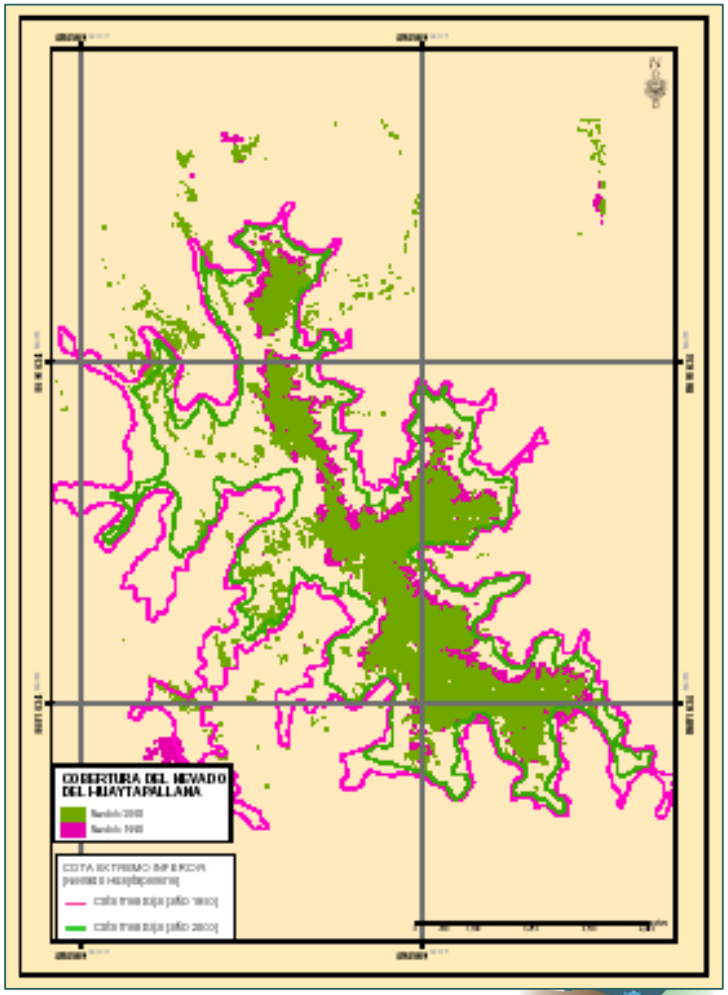
Selected areas

PERU

- Mantaro river basin, sub basin of Shullcas river (Huaytapallana glacier)
- Vilcanota-Urubamba river basin, sub basin of the Santa Teresa river (Salkantay glacier)

Retreat of the Huaytapallana glacier





Lost of ice cover in the galcier

Period : 1990 – 2000

Lost area : 5’299,259.9 m2

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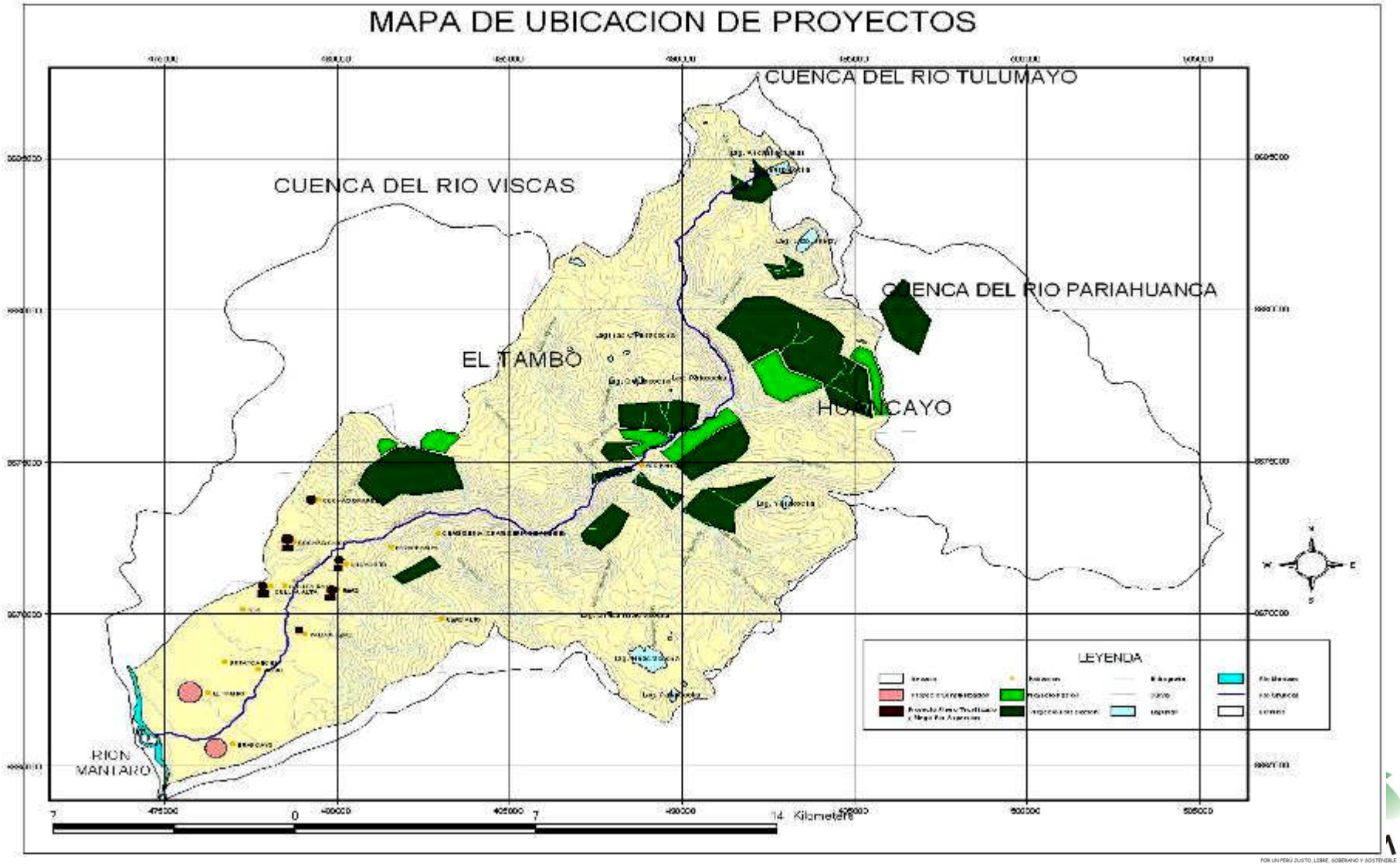
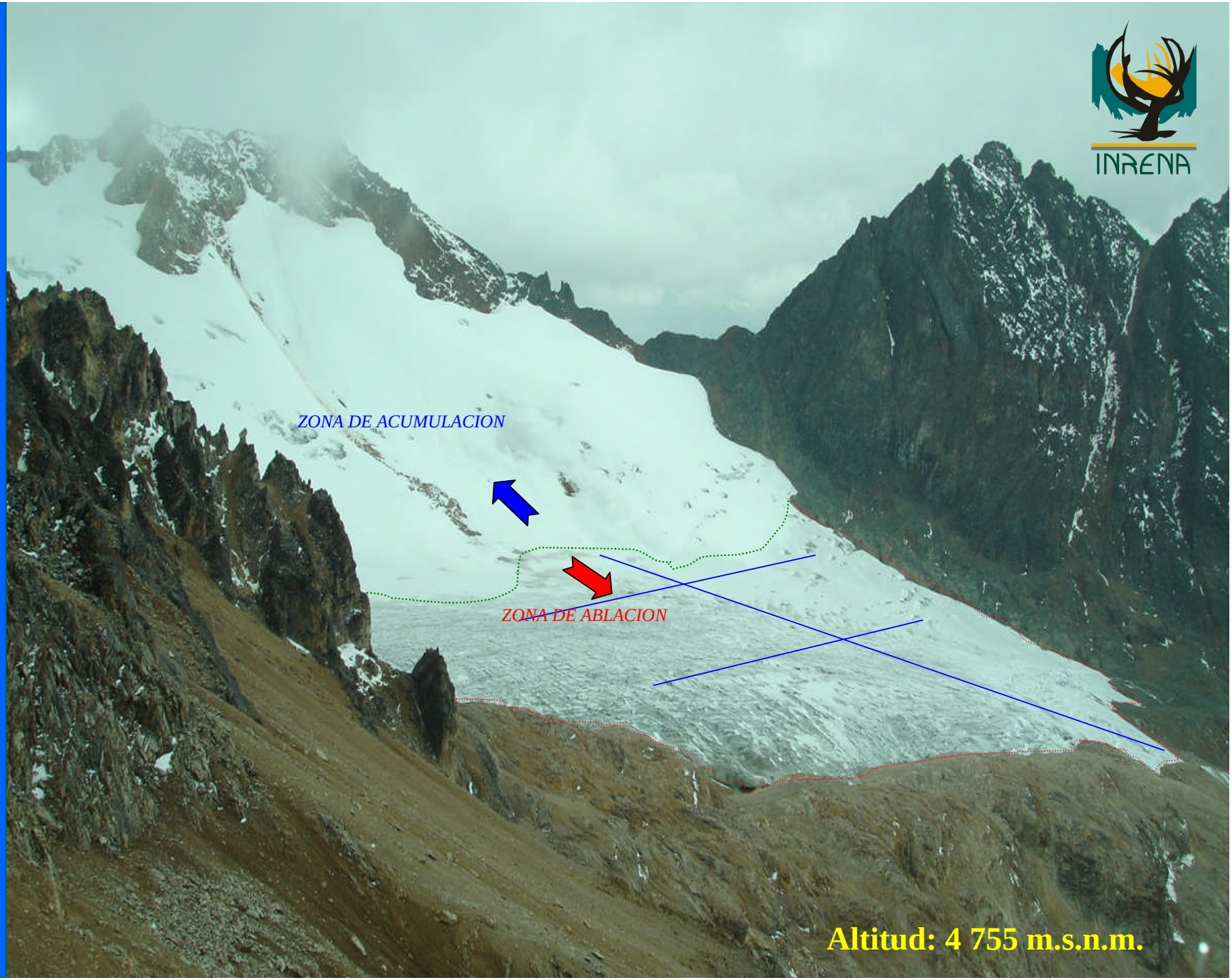
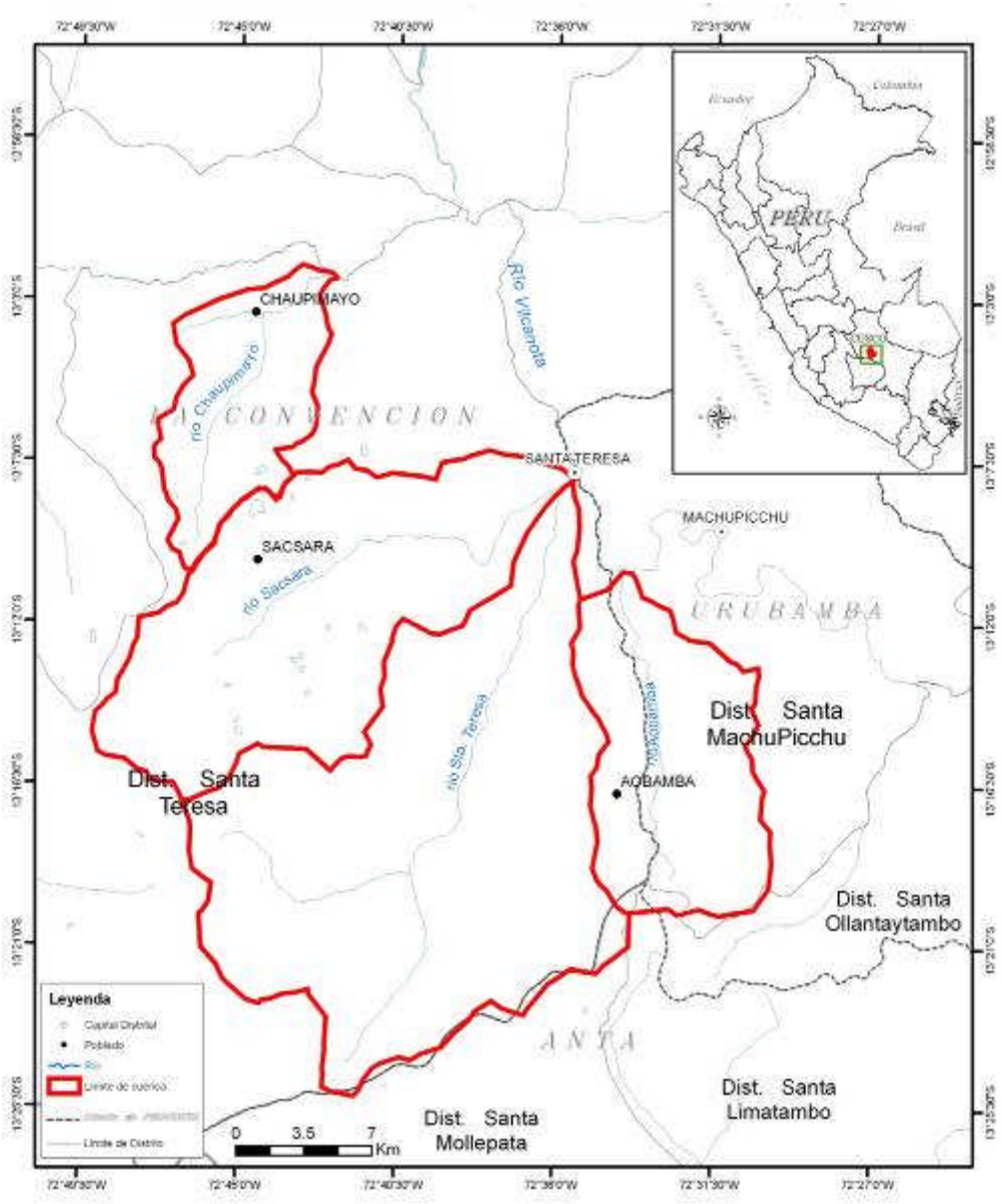
Shullcas river basin Junin - Peru



GLACIAR SALKANTAY



Selected basins in Cusco Peru



Project components

- **Detailed design of key selected adaptation measures**
  - Design of glacierized basin impact map
  - Detailed design of specific adaptation measures
  - Public outreach and dissemination of information
- **Implementation of pilot adaptation measures**
  - Implementation of pilot adaptation measures in selected communities and sectors highly vulnerable to the effects of glacier retreat

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Project components

- **Monitoring of glacier retreat in the region**
  - Design and set-up of field stations to monitor tropical glaciers
  - Use of high-precision remote sensing to monitor tropical glaciers
  - Analysis and monitoring of the behavior of tropical glaciers and their associated mountain wetlands
- **Project management**

Main interventions

- **Recuperation of water storage capacity**
  - Build and operate small ponds to cope with water scarcity induced by loss of water regulation as glaciers retreat.
  - Reforestation (soil conservation and water infiltration)
- **Water supply to agriculture**
  - Upgrade irrigation infraestructure and its management
  - Enhance production to ensure food security
- **Ecosystem integrity**
  - Integrated basin management plan in the paramo wetlands in Antisana

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Main interventions

- **Water supply to urban areas**
  - Adaptation to the impacts of glacier retreat in the water supply plan for Quito;
    - Accelerated construction of existing expansion plan;
    - Diverting water from watersheds with complementary hydrology (time distribution)
  - Adaptation for La Paz and El Alto
    - Increase hydraulic flexibility in the existing system
    - Replace natural regulation capacity

Main interventions

- **Energy**
  - Protect and conserve the hydrological system of the glaciers and associated reservoirs
  - Hydraulic consolidation of river basins
  - Mantainance of the water catchment infrastructure
- **Transectoral actions**
  - Social development
  - Upgrade of water catchments and enforcement of efficient use of water
  - Stregthening of institutional capabilities
  - Difusion strategy and users education

Thank you
for your attention !!

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Muchas Gracias