

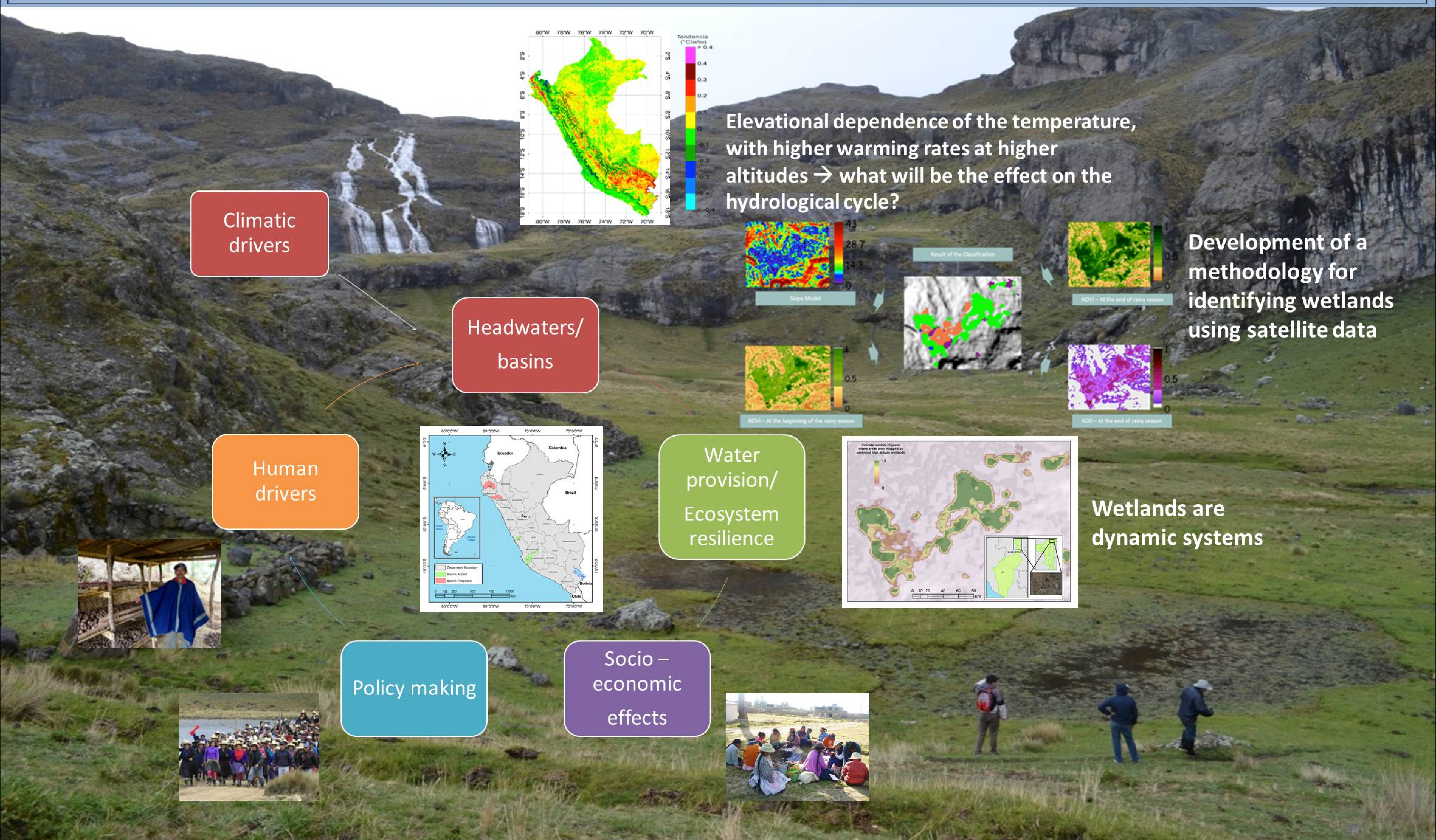
Introduction: Andean headwaters contain glaciers, páramos and puna wetlands, ecosystems that play a fundamental role in the hydrological cycle. Over the past decades, coupled natural and human processes like drought, flooding, water use and impoundment in reservoirs for irrigation, and mining act together to destabilize and threaten water availability and quality for human and ecosystem purposes.

Our research is designed around the following questions:

1. Which characteristics of Andean river-basin headwaters make them vulnerable to global change?
2. How can the effects of changes in vulnerable headwaters be addressed through adaptive water resources management in order to strengthen the social and ecological resilience of Andean basins?

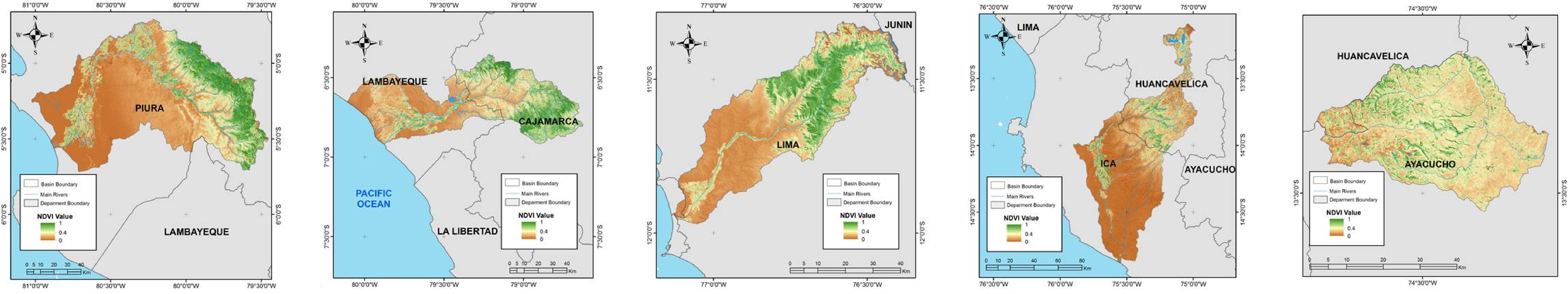
Combining remote sensing techniques, hydro-climatic modeling and field work, we perform attribution studies of climatic forcing – wetland dynamics – water provision downstream. On the other hand, the project aims to identify the interrelation between natural drivers and the socio-economic and institutional processes that takes place along the basin, in so far these affect the headwaters.

The project is contributing to the National Water Authority (ANA), upon developing a satellite based monitoring system for assessing the headwaters and decision scenarios.



Study areas

The study areas increased from 2 to 5 basins by establishing synergies with academic, governmental, NGO and international cooperation programs.



Capacity building



Training of students in specialized techniques



Field work with students, researchers and stakeholders



Workshops with stakeholders

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