



PERU

CLIMATE VULNERABILITY PROFILE



US Foreign Assistance: ¹ (thousands USD)	Requested FY 2012	Requested FY 2013
Estimated total:	83,550	73,665
Adaptation:	3,000	3,000
Priority Adaptation Country in 2011:	YES	
Key Climate Stressors:	Heat, Drought, Flooding, Sea level rise	

INTRODUCTION

Peru is a large country on the western coast of South America with a population of over 29 million people. Despite recent economic growth, Peru faces challenges to reduce poverty and protect its natural and cultural resources. Peru also has significant income disparity: more than 30 percent of the population lives on less than US\$2 per day and about 12 percent live on less than US\$1 per day. Poverty is even more pronounced in rural areas, with approximately 60 percent of rural residents living in poverty. Illegal mining, coca production, deforestation, and poaching are major concerns that development projects seek to minimize. USAID programs in Peru are largely focused on providing economic alternatives to coca cultivation.

PROJECTED WEATHER AND CLIMATE CHANGES

Peru has three distinct climates: desert coastal lowlands along the Pacific Ocean, the Andes Mountain range, and the Andean highlands. The desert coastal lowlands are the location of the country's major cities and much of the mechanized agriculture. To the east, the Andes Mountain range runs north-south through Peru. In the Andean highlands, agriculture is rain-fed and dependent on precipitation cycles. Sixty percent of the land in Peru is east of the Andes and falls within the Amazon Basin, an expansive rainforest where illegal logging, poaching, and deforestation are concerns.

TEMPERATURE: Observed temperatures in Peru have already been increasing over the past few decades. According to the Second National Communication, since 1960, on average, high temperatures increased by 0.2°C per decade. This was accompanied by a decrease in the number of nights with freezing temperatures. The SNC projects that by 2030, high temperatures will increase by 1.6°C and low temperatures will increase by 1.4°C, with the greatest increases along the northern coast, north central highlands, and the Amazon. By 2050, the increases are projected to reach up to 2°C, according to the SENAMHI Global Circulation Models. The IPCC Fourth Assessment Report projects an increase of 1-4°C in temperatures in the Amazon by 2050. Additionally, by mid-century, ocean water temperature along the Peruvian coast is projected to rise about 3-4°C above current levels.

PRECIPITATION: Rainfall projections vary by region. According to a synthesis report from the Adaptation Partnership, rainfall projections range from a 30 percent decrease to a 30 percent increase by 2030. Conversely, information from the World Bank's Climate Change Knowledge Portal (CCKP) projects that precipitation will decrease by 2050 in all regions: 10 percent in the north, 29 percent in central Peru, and 14 percent in the southern part of the country.

SEA LEVEL RISE: Precise sea level rise projections for the Peruvian coast are not available. However, the CCKP states that sea level rise by 2050 could lead to flooding in low lying areas, increased erosion, salt water intrusion, and increased damage along the coast.

EXTREME EVENTS: Flooding, landslides, droughts, frost, and hailstorms are ongoing concerns in parts of Peru. Some of these events are related to El Niño South Oscillation (ENSO). The CCKP suggests that climate changes may result in an increased frequency of ENSO occurrences.

KEY CLIMATE IMPACTS AND VULNERABILITIES

Climate changes will likely impact several aspects of Peru. Freshwater resources, glaciers, marine ecosystems, agriculture, infrastructure, and human health and wellbeing could all be affected by projected changes. In particular, the availability of freshwater resources has cascading impacts on other sectors. Increased glacial melt, which is associated with climate change, is projected to cause significant reductions in water flow as early as 2030. In addition, changes in precipitation are expected to have a significant impact on highland populations that rely on rain-fed agriculture.

KEY USAID PROGRAM VULNERABILITIES

AGRICULTURE: A significant portion of USAID Development Assistance Fund supports initiatives to replace coca production with alternative agricultural production or other economic activity. The potential effect of climate changes on these programs has not been systematically assessed country-wide, but the regional adaptation initiatives underway indicate that the effect of changing temperatures and precipitation patterns are of concern. Anticipated changes in precipitation and temperature may influence the efficacy of USAID programs by affecting agricultural production of alternative crops and stressing water supplies supporting public health.

HEALTH: USAID health projects in Peru may be subject to climate change impacts. Even if current programs are not affected, changes to the freshwater supply and reductions in agricultural production and nutrient availability may create future needs for additional health projects in Peru. Any such changes will be evaluated as necessary and in the context of USAID's current Country Development Cooperation Strategy and strategic priorities.

¹ US foreign assistance includes both USAID and Department of State program funding, but in most cases the bulk of this funding is implemented through USAID. In order to have comparable figures in these categories, all country profiles use figures from the Congressional Budget Justification (CBJ) (see <http://transition.usaid.gov/performance/cbj/1185016.pdf> and <http://transition.usaid.gov/performance/cbj/1158269.pdf>). Between the time of the budget request and the 653(a) report to Congress, these figures can change significantly.

ENVIRONMENT AND NATURAL RESOURCES: USAID is building the capacity of the Government of Peru to enforce environmental laws, primarily related to illegal logging, and training community members and municipal officers to ensure sustainable fresh water. Committed environmental management will be increasingly important as natural resources become stressed under a changing climate.

ACTIONS UNDERWAY²

Peru is recognized as one of the most advanced countries in Latin America in terms of planning for climate change. The Inter-American Development Bank and several other international development agencies are funding a wide variety of projects in collaboration with the Government of Peru. USAID is working with communities in the Andean highlands to help them adapt to changes in freshwater availability. For example, USAID worked with The Mountain Institute to train 200 community members and municipal officials to establish water conservation areas in the upper watersheds. USAID has also partnered with the local NGO AEDES to continue climate change adaptation work in the south. The program helps rural farmers incorporate climate change risk management into development decisions.

CHALLENGES TO ADAPTATION

Challenges to adaptation in Peru may include distrust between vulnerable communities and the government. Some of USAID's work in Peru has centered on improving the public perception of the government and promoting public participation in local climate change policy. In addition, there is a gap in downscaled climate models that can project local impacts of climate change. These fine-tuned projections, particularly in regard to precipitation changes, will be necessary since Peru is a geographically and climatically diverse country. Many organizations, countries, and development agencies are involved in climate adaptation projects in Peru. A key challenge will be to promote effective coordination of efforts and understand how USAID can most effectively complement those efforts or address remaining gaps.

RESOURCES

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² Actions underway include those from direct adaptation funds and indirectly attributed funds. More information on U.S. climate finance can be found at <http://www.state.gov/e/oes/climate/faststart/index.htm>.