



SOUTH SUDAN

CLIMATE VULNERABILITY PROFILE

US Foreign Assistance: ¹ (thousands USD)	Requested FY 2012	Requested FY 2013
Estimated total:	470,206	426,598
Agriculture:	19,855	26,000
Malaria:	4,500	4,500
Water:	11,000	11,850
Priority Adaptation Country in 2011:	NO	
Key Climate Stressors:	Heat	

INTRODUCTION

South Sudan is a landlocked country located in the east-central region of Africa. South Sudan gained independence in July 2011. The country has about 8.26 million people, most of whom live in rural areas. South Sudan is heavily dependent on agricultural activities and exports timber. It is also rich in other natural and mineral resources, including oil, iron ore, gold, silver, and copper. South Sudan is home to the world's largest swamp, the Sudd, and the Nile River flows across the country. As a newly independent country, South Sudan faces several serious development challenges, including the absence of reliable infrastructure (e.g., lack of roads and airport) and skilled labor; heavy dependency on oil revenues, corruption, and limited governing capabilities.

PROJECTED WEATHER AND CLIMATE CHANGES

The South Sudanese terrain is covered with thick equatorial vegetation and savannah grasslands. The country has mountainous ranges along the border it shares with Uganda. It experiences an equatorial climate with high humidity and precipitation. The wet season generally spans between April and November. Because South Sudan is a relatively new country, many of the projections provided here are for Sudan as a whole.

TEMPERATURE: Average temperatures range between 18°C and 30°C, with the coldest temperatures experienced in elevated areas. The hottest month is generally March, whereas the coldest is August. Available climate projections indicate that temperatures could increase by 0.6 -1.7°C by the 2030s and by 1.1 -3.1°C by the 2060s compared to the 1961-1990 baseline.

PRECIPITATION: Most of South Sudan experiences monsoons between April and November, while the extreme southern section of the country generally experiences two peaks in the rainy season. Annual rainfall ranges from 500 mm to 2,000 mm. Available climate projections do not indicate a clear change in precipitation, and models show both increases and decreases across the country and seasons.

EXTREME EVENTS: South Sudan experiences both widespread and localized droughts and floods. Widespread events are a result of either above- or below-normal rainfall across the country, while localized events are caused by concentrated above- or below-normal rainfall in a certain region. Flash floods often occur when the Nile River and its tributaries overflow during the months of August and September.

KEY CLIMATE IMPACTS AND VULNERABILITIES

Much of the country's agricultural and forestry production comes from small farms and is rain-fed. Because rainfall projections are not conclusive, precise vulnerabilities and impacts on agriculture and forestry are unknown. However, temperature indicators show that the country will experience higher heat stress in the future, which would impact the viability of crops and forestry production. Furthermore, as home to the world's largest swamp, increasing temperatures and uncertain rainfall in South Sudan could harm the viability of a biodiversity treasure.

KEY USAID PROGRAM VULNERABILITIES

ECONOMIC GROWTH: Nearly 87 percent of the South Sudanese population depends on agriculture, livestock, and forestry, yet the sector contributes very little to the economy and food imports support most of the urban population. USAID/South Sudan is investing in agricultural development projects to diversify the economy, alleviate poverty, and reduce food insecurity through promotion of inclusive agriculture-led growth, linkage of communities to markets, construction of critical infrastructure, and provision of policy and governance training. Agricultural production, livestock, and forest resources are expected to be impacted by higher temperatures, while both drought and flooding will also result in negative implications for these activities. Furthermore, it is likely that climate change impacts will also affect investments in transport infrastructure that facilitate trade, potentially disrupting the supply chain.

DEMOCRACY AND GOVERNANCE: USAID/South Sudan is currently building governance capacity within the country through supporting key institutions, processes, and stakeholders. The stability of the country is dependent on the ability of the government to meet public demands and communicate effectively to its citizens. Therefore, USAID/South Sudan's projects focused on strengthening core governance institutions are some of the most important to achieving development objectives. Climate hazards are projected to impact key sectors that the South Sudanese rely on, such as agriculture and forestry. If the government cannot effectively address food security emergencies or other situations exacerbated by climate changes, increased distrust in government may drive civilian unrest and impede progress in strengthening governing institutions.

HEALTH: The Government of the Republic of South Sudan, its Ministry of Health, and USAID are currently working together to enact a "Basic Package of Health and Nutrition Services" that comprises interventions for disease prevention, health promotion, and maternal and child health. Some aspects of these programs will be vulnerable to changes in climate, specifically USAID activities that address nutrition, malaria, and clean

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.

water and sanitation. For example, future interactions between rising temperatures and rainfall may result in more areas of the country being suitable for malaria transmission. Furthermore, nutrition, clean water, and sanitation projects may experience more frequent and larger setbacks as agricultural production is threatened, water availability is reduced, and water quality is diminished due to changes in climate.

ACTIONS UNDERWAY²

Some aspects of USAID's programs are focused on environmental protection and biodiversity conservation; however, no projects in USAID/ South Sudan's portfolio directly address the impacts of climate change. Little information available on current adaptation actions underway in South Sudan by other donors (this is likely due to the recent independence of the country), although South Sudan is involved in a handful of regional projects. For example, South Sudan is part of the Global Environment Facility-funded Great Green Wall Initiative to improve the climate resiliency of resource-based livelihoods and ecosystem functions in West African and Sahelian countries.

CHALLENGES TO ADAPTATION

South Sudan is challenged by its relative newness as an independent country. As such, the country is still establishing its governance institutions and building its economy. Further, the country's land area is still in flux. These institutional and governance challenges hinder concrete adaptation action. Moreover, it is important to note that South Sudan lacks basic infrastructure needed to monitor weather and climate patterns. There is a significant lack of climate data and understanding of climate projections and sensitivity of the relationship between impacts on key sectors and socio-economic conditions. The impacts of climate change may exacerbate South Sudan's existing instability, making effective responses more difficult to achieve and ultimately leaving the country more vulnerable to shocks of all types.

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>.