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FACT SHEET

CLIMATE CHANGE RISK PROFILE
ALBANIA

COUNTRY OVERVIEW

Albania, a small county with a fragile economy reliant on the services, industrial and agriculture sectors, faces a range of challenges in addressing climate change risks. Following the dissolution of the Socialist Republic, free market reforms in the 1990s began opening the country to foreign investment, but economic growth has been uneven. Albania's mostly mountainous landscape is endowed with abundant water resources, a diverse flora and fauna and an extensive coastline on the Adriatic and Ionian Seas. Its terrain is conducive to seasonal flooding. Other challenges include both man-made and natural soil erosion, underregulated coastal development, tenure insecurity and contamination of the water supply, compounded by low public awareness of climate change. The vulnerability of Albania's energy supply and agriculture sector to climatic changes, combined with a series of recent heavy floods and landslides, are elevating climate change preparedness as a priority within Albania's development planning.

CLIMATE PROJECTIONS

2.4°C to 3.1°C increase in temperature by 2050

More extreme weather, with floods, droughts and heat waves

Rainfall variable but summer averages likely to decrease

KEY CLIMATE IMPACTS

Agriculture
Elevated livestock mortality
More pests, weeds, pathogens
Altered crop yields and growing cycles

Water Resources
Decreasing river levels
Increased frequency of floods
Changes in seasonal availability

Human Health
Higher risk of heat stroke
Flooding- and landslide-related direct and indirect impacts

Coastal Zones
Damage to coastal infrastructure
Loss of wetland habitat

Ecosystems
Increased incidence of forest fires
Destruction/shift in habitats

Energy & Infrastructure
Reduced hydropower potential
Disaster-related infrastructure damage

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This document was prepared under the Climate Change Adaptation, Thought Leadership and Assessments (ATLAS) Task Order No. AID-OAA-I-14-00013 and is meant to provide a brief overview of climate risk issues. The key resources at the end of the document provide more in-depth country and sectoral analysis. The contents of this report do not necessarily reflect the views of USAID.

CLIMATE SUMMARY

Albania's climate follows the country's topography, with temperatures and precipitation varying by altitude and distance from the sea. The majority of the country's rainfall occurs between November and March, with lower amounts during the June to September growing season.

HISTORICAL CLIMATE

Historical climate trends since the 1960s include:

- Increase in annual mean temperatures by 1°C.
- Across the eastern Mediterranean, a six- to eight-fold increase in the intensity, duration and number of heat waves.
- A slight but statistically insignificant decrease in annual mean precipitation.
- Rising Adriatic Sea levels, linked to increased storm surges and damage from the Bora, a cold, dry northeasterly wind, and Sirocco, a south-southeasterly wind. (2, 9)

FUTURE CLIMATE

The changing dynamics of rainfall in Albania are uncertain, but the latest scientific evidence suggests a tendency to see milder winters, warmer springs and hotter and drier summers and autumns.

Climate scenarios by 2050 project:

- Intense increases in temperature (2.4°C to 3.1°C) from June to August.
- Decreased annual precipitation (less than 10 percent), with largest decreases from June to September.
- An increase in precipitation falling as rain instead of snow, potentially reducing snowpack.
- Increase in intensive rain episodes.
- Flooding along coastlines from sea level rise of 48 to 60 cm by the year 2100. (2, 7, 11)

SECTOR IMPACTS AND VULNERABILITIES

AGRICULTURE PRODUCTION

Agriculture, a highly climate-sensitive sector, contributes 22.6 percent to GDP and is the main source of employment for Albania's rural population. Farming is predominantly subsistence-level and dedicated to livestock (more than 50 percent of production value), field crops like wheat and maize (around 30 percent) and fruit production. The topography of the landscape limits mechanization potential, and opportunistic land reclamation and pasture conversion have accelerated deforestation and erosion, exacerbating risks from floods and landslides. A 2016 government plan aims to improve irrigation works and drainage to reduce damage from periodic flash floods and landslides. (2, 5, 7, 11)

Climate Stressors and Climate Risks AGRICULTURE PRODUCTION

Stressors	Risks
Increased winter and summer temperatures	Accelerated crop development, shortened growing cycle
	Increased yields of some crops (wheat); reduced yields of others (maize) as well as reduced forage for livestock
Reduced water availability during critical summer months	Increased soil salinization and desertification
	Elevated livestock mortality and reduced productivity
	Increased exposure to new pests and diseases

WATER RESOURCES

Albania has ample freshwater resources, but there are seasonal variations and water use inefficiencies that climate can magnify. Powerful rivers are highly erosive, and seasonal flooding is common – the highest risk is in the western and southern plains. Poor management and lack of investment in flood protection, irrigation and drainage infrastructure exacerbated the damage and losses from heavy rainfall in 2014, 2015 and 2016. (2, 11)

Climate Stressors and Climate Risks WATER RESOURCES

Stressors	Risks
Reduced precipitation and shift from snow to rain	Altered or lowered river flows, especially in summer
	Groundwater affected due to decreased water percolation and loss of soil moisture
More frequent droughts and flooding	Shift in runoff patterns: potential spring decrease, winter increase
	Damage to water infrastructure from flooding

HUMAN HEALTH

The government's Health Vulnerability National Adaptation Process identified extreme weather events, air quality and communicable diseases as priority health risks under a changing climate. Heat-related deaths, especially among the elderly, are the most-researched direct health impact predicted for the Balkans in general; information on other direct or indirect effects of climate change on human health is limited. (12)

COASTAL ZONES

Climate impacts may affect much of the 97 percent of the population that lives within 100 kilometers of the coast. Unregulated urban development up to the shoreline exposes infrastructure and the population to high risk of damages from storms, flooding and – in the future – sea level rise. Deforestation of coastal areas, agricultural development and use of gravel and sand for construction have contributed to coastal erosion, thereby increasing vulnerability. Climate change impacts to the mostly artisanal fishery sector have not been studied in detail, but the sector could be affected by projected sea surface temperature increases. (9)

ENERGY AND INFRASTRUCTURE

Albania relies on the Drini River Basin for more than 90 percent of its domestic hydropower supply. This river basin could see reduced flows due to climate change that would affect energy supply. Albania is already vulnerable to fluctuations in precipitation, evidenced by the 2007 drought that led to severe energy shortages. Along with the damages to coastal infrastructure, landslides and floods in the plains and lowlands caused extensive infrastructure damage in past years. Albania's urban congestion, aging vehicles and dust from gravel roads contribute to air pollution, which may be exacerbated by higher temperatures and longer periods without precipitation. (2, 10, 11, 12)

ECOSYSTEMS

Nearly 10 percent of Albania is terrestrial or marine protected area, but nearly 19 percent of flora and fauna species are endangered, due in part to pollution, overfishing and land conversion. Plant stress and drying due to high temperatures were associated with a record number of forest fires in the summer of 2007. Illegal or underregulated construction, particularly in coastal zones, has increased human and ecosystem vulnerability to storm surges. (3, 4)

Climate Stressors and Climate Risks HUMAN HEALTH

Stressors	Risks
Increased temperatures	Increased mortality from heat stroke and exacerbation of pre-existing conditions
More frequent, longer and intense heat waves	Higher temperatures affect concentration/dispersion of air pollutants
	Increased range of vector-borne disease carriers (e.g., mosquitos)

Climate Stressors and Climate Risks COASTAL ZONES

Stressors	Risks
Rising sea levels	Damage to coastal infrastructure, including tourism facilities and agricultural land
Increased intensity of storm surges	Altered lagoon, wetland and coastal forest ecosystems
Increased sea surface temperature	Increased salinity of coastal freshwater aquifers
	Increased coastal flooding by 2100

Climate Stressors and Climate Risks ENERGY AND INFRASTRUCTURE

Stressors	Risks
	Reduced hydropower potential
Increased temperatures	Changes in seasonal demand for heating and cooling/refrigeration
More frequent droughts	Competition for water resources between hydropower and agriculture (irrigation) sectors
Increased frequency of extreme weather events	Reduced efficiency of transmission and distribution lines with increased heat
	Flood-caused infrastructure damages

Climate Stressors and Climate Risks ECOSYSTEMS

Stressors	Risks
Increased temperatures	Increased risk of forest fires
Increased frequency of extreme weather events	Habitat shifts, loss and fragmentation, disrupting species migration patterns
	Reduced stream flow, threatening wetlands

DISASTERS

Albania currently suffers from heat waves, droughts, landslides and floods, which may be exacerbated by climate change. Soil erosion, deforestation and unregulated construction compound the impact of extreme weather events, as does the concentration of urban migrants in vulnerable informal settlements. Data collection and sharing between institutions to monitor risks and enhance early warning systems is a challenge. Hydrological and meteorological station functioning has declined in recent decades. Albania currently has donor financing aimed at strengthening disaster risk management systems, however. (1, 6)

POLICY CONTEXT

Albania received European Union candidate status in June 2014. The Albania EU accession process is a driving force in reform of the environment sector and of cross-sectoral coordination necessary for climate change adaptation responses. Integration directly implies close cooperation with EU regulations.

INSTITUTIONAL FRAMEWORK

The Ministry of Environment, Forests and Water Administration, through its Climate Change Unit, is the national UNFCCC focal point. The Unit collaborates with an interdisciplinary and inter-institutional technical team to fulfill Albania's duties as a UNFCCC member. The State Environmental Inspectorate identifies and responds to issues related to environment and climate change. The responsibilities of the National Environmental Agency include permitting, environmental impact assessment, and public information. Albania's draft 2014–2018 national strategy for disaster risk reduction and civil protection emphasizes the need to retrofit and expand the existing observational network of weather and hydromet stations.

NATIONAL STRATEGIES AND PLANS

- First National Communication (2002) and Second National Communication (2009). The second communication focuses on the Drini River Cascade area. Preparation of a Third National Communication began in 2014.
- The Ministry of Health's Albanian Strategy for Health System Adaptation into Climate Change (2011) presents an action plan for 2011–2021.
- Climate Change Adaptation in the Drini Mati River Delta and Beyond (2013) proposes policy strategies to mainstream climate change adaptation considerations into national, regional and commune-level development planning.

KEY RESOURCES

1. Besim, I., et. al. 2002. The First National Communication of Albania to the UNFCCC.
2. Besim, I., et. al. 2009. The Second National Communication of Albania to the UNFCCC.
3. Centre for Climate Adaptation. n.d. Albania.
4. European Environment Agency. 2015. State of Environment Report 2015.
5. Food and Agriculture Organization. n.d. Country Pasture/Forage Resource Profile.
6. SIDA. 2011. Albania: Environment and Climate Change Policy Brief.
7. Sutton, W. et. al. 2013. Reducing the Vulnerability of Albania's Agricultural Systems to Climate Change: Impact Assessment and Adaptation Options. World Bank Publications
8. United Nations Environment Program. 2012. Climate Change Adaptation in South Eastern Europe
9. World Bank. 2009. Adaptation to Climate Change in the Coastal Areas of the ECA Region. (Background Paper).
10. World Bank. 2010. An Assessment of Climate Change Vulnerability, Risk and Adaptation in Albania's Energy Sector
11. World Bank. 2011. Albania Climate Change and Agriculture Country Note.
12. World Health Organization. 2009. Protecting Health from Climate Change and Vulnerability Assessment Report

Map Source: Modified from Institute of Hydrometeorology, 1978. Albania Climate. Tirana.

SELECTED ONGOING EXPERIENCES

In addition to the programs below, the February 2016 development cooperation agreement signed between Sweden and Albania identifies environment and climate as a key area of support.

Selected Program	Amount	Donor	Year	Implementer
Third National Communication of Albania to the UNFCCC	$481,018	GEF	2012–2016	UNDP
Institution Building for Enforcing Environmental and Climate Acquis	Unknown	EU	2015–2017	Agrotec with Sweco and CMCC
EU Flood Protection Infrastructure Project	€6.3 million	EU	2015–2017	UNDP
Climate Change Adaptation in the Western Balkans	€3.5 million	GIZ	2012–2018	GIZ and government ministries
Improving Coverage and Management Effectiveness of Marine and Coastal Protected Areas	$2.93 million	GEF/UNDP, Govt. of Albania	2011–2016	Ministry of Environment, Forestry and Water Administration
Environmental Services Project	$12.88 million	World Bank	2014–2019	Ministry of Environment, Forestry and Water Administration
Water Resources and Irrigation Project	$45 million	World Bank	2012–2018	Ministries of Environment and Agriculture
Enhancement of Disaster Risk Reduction and Management (DRRM) capacities and mainstreaming CCA practices into agriculture sector in the Western Balkans	$485,000	FAO	2016–2017	Unknown
Building Local Community Resilience for the Sustainable Development of Watersheds in South Eastern Europe (CRESSIDA)	€440,000	US EPA	2014–2019	Regional Environmental Center for Central and Eastern Europe