

## 1.0 Belize

AusAID	Australian International Development Agency
BEST	Belize Enterprise for Sustainable Technology
CARICOM	Caribbean Community
CCAD	Central American Commission for Environment and Development (Comisión Centroamericana de Ambiente y Desarrollo)
CCCCC	Caribbean Community Climate Change Centre
DFID	U.K. Department for International Development
ECLAC	United Nations Economic Commission for Latin America and the Caribbean
IADB	Inter-American Development Bank
MACC	Mainstreaming Adaptation to Climate Change
NMS	National Meteorological Service
SICA	Central American Integration System (Sistema de la Integración Centroamericana)
SIECA	Sistema de Integración Económica Centroamericana (Central American Economic Integration System)
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
USDS	United States Department of State
WWF	World Wildlife Foundation / World Wide Fund for Nature

Belize is a small Central American state with a long, low-lying coastline. The national territory encompasses over 1,000 small islands and the second longest barrier-reef in the world. Three-quarters of its land is covered by forests that support fragile ecosystems. The country lies in the hurricane belt and, on average, is affected by a hurricane every three years (Belize 2002). These hurricanes have adversely affected the people and economy of Belize, as demonstrated by the damage to its agriculture sector in late 2007 and late 2010. The country's agriculture sector generates 71 per cent of its foreign exchange earnings and employs about 29 per cent of its labor force. Key export crops include citrus, sugar, bananas and marine products (such as shrimp). Belize's largest source of foreign exchange, however, is tourism—a sector of the economy that the government has designated as being a priority for further development (USDS, 2011).



### **A. Adaptation Needs and Priorities**

Recent climatic trends in Belize include minor temperature increases and statistically insignificant rainfall reduction over the last 50 years. In the future, temperatures are projected to continue to increase by 1.5° to 2°C by 2090. Projected changes in rainfall patterns are highly uncertain, but the median values of all scenarios show decreasing trends. An additional concern for Belize is sea level rise. According to different climate models, sea levels could rise by 0.18 to 0.56 meters until 2090 (UNDP 2009).

These projected changes have encouraged the government of Belize to better understand its vulnerabilities to the impacts of climate change. Vulnerability assessments elaborated as part of the country's preparation of a Second National Communication to the United Nations Framework Convention on Climate Change (UNFCCC) have focused on coastal zones, fisheries and aquaculture, tourism, agriculture and health. Each assessment paper identifies a set of adaptation measures for the respective sector. In the water sector, Belize has also established a National Adaptation Strategy. It recommends a number of adaptation measures involving awareness raising, capacity building, changes in institutional structures and collaboration between stakeholders (BEST, 2009).

### **B. National Level Policies and Strategic Documents**

A handful of Belize's national policies address the issue of climate change and climate change adaptation. Its "Medium Term Development Strategy" for 2010 to 2013, for example, acknowledges climate change as a relevant part of Belize's development context. Within the strategy, climate change is mentioned in the context of disaster preparedness, but "adaptation" is not referenced (Belize, 2010). A second document, the "Government of Belize Policy on Adaptation to Global Climate Change," recommends the mainstreaming of adaptation into all sectors and government ministry plans. The policy seems to date from around 2003, and it is unclear to what extent the policy has been implemented as it is not mentioned in subsequent documents. In a more recent exercise, a consultancy elaborated a "National Adaptation Strategy to Address Climate Change in the Water Sector" (BEST, 2009) as part of the "Mainstreaming Adaptation to Climate Change" (MACC) project implemented by the Caribbean Community Climate Change Centre (CCCCC), a regional organization with headquarters in Belize. It presents five key adaptation actions for this sector involving integrated water resource management, institution and capacity building, transboundary collaboration and awareness and education.

The National Meteorological Service (NMS) is the focal point for climate change affairs in Belize. As such, the NMS has been responsible for coordinating and submitting National Communications to UNFCCC. An interdepartmental National Climate Change Committee has also been established; however, it does not appear to be very active. Other key adaptation actors in Belize include the CCCCC and the United Nations Development Programme (UNDP), which have supported the elaboration of key documents.



Belize is also a member of the Central American Integration System (SICA), the institutional framework for the integration of Central American states, and of the Central American Commission for Environment and Development (CCAD), a committee which brings together environmental ministries of SICA member states. Under the auspices of SICA and CCAD, a regional climate change strategy has recently been developed (CCAD and SICA, 2010). The strategy summarizes climate information and sectoral vulnerabilities and proposes six strategic areas, of which one is themed “Vulnerability and adaptation to climate variability and change, and risk management.” Nine strategic objectives with over 150 measures relating to disaster risk reduction, agriculture and food security, forest ecosystems and biodiversity, water, health, coastal-marine systems, tourism, indigenous people and public infrastructure are mentioned under this theme. Other strategic areas are: mitigation; capacity building; education, awareness raising, communication and participation; technology transfer; and international negotiations and management.

**Table 1: Key Government Policies and Reports reflecting Adaptation Needs, Priorities and Planned Actions**

Name of Policy Action		Government Division Responsible	Status	Sector(s) of Focus	Summary description
1.	First National Communication to the UNFCCC	Ministry of Natural Resources, the Environment, Commerce and Industry	Released in July 2002	Multi-sectoral	Identifies national circumstances, vulnerabilities of the sectors mentioned, as well as adaptation and mitigation options for a number of sectors.
2.	Government of Belize Policy on Adaptation to Global Climate Change		Dating from around 2003 (exact year unknown)	Multi-sectoral	This document was prepared after the First National Communication. It designates the Chief Meteorologist as the focal point for climate change issues in the country and urges all government departments to mainstream adaptation in to their plans and activities, and presents a few key actions for each sector. It is unclear to what extent the policy has been implemented. The document is not mentioned in any of the subsequent assessments, plans and strategies.
3.	National Adaptation Strategy to Address Climate Change in the Water Sector in Belize	National Meteorological Service, National Climate Change Committee	Published in 2009	Freshwater supply	This strategy was elaborated as part of the MACC project of the CCCCC. It recommends five key adaptation actions for the water sector.
4.	Second National Communication to the UNFCCC	Ministry of Natural Resources and the Environment	Forthcoming	Multi-sectoral	As inputs to <sup>87</sup> the Second National Communication to the UNFCCC, five climate vulnerability and adaptation assessments for coasts, fisheries and aquaculture, tourism, agriculture and health have been prepared.

### C. Current Adaptation Action

Belize has a low number of ongoing adaptation initiatives compared to other countries in Central America and Mexico. Most of these projects are focused on research and capacity building. The majority support the government's capacity to facilitate adaptation to climate change, while also looking at concerns in key sectors such as coastal zones and agriculture. Projects addressing needs related to freshwater resources, tourism, gender and disaster risk management are also being implemented. The most important efforts have been undertaken in the framework of what is today the CCCCC. No concrete implementation of adaptation measures has been observed so far.

**Table 2: Current Adaptation Projects and Programs in Belize**

Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
<b>National Action</b>							
1.	Community Level Climate Change Vulnerability Assessment	Determine the vulnerability of coastal communities and empower those communities to identify functional climate change adaptation strategies	WWF	WWF	Research; Capacity building	2008 - ?	Coastal zone management Placencia, San Pedro
<b>Participation in Regional and Global Actions</b>							
2.	Mainstreaming Adaptation to Climate Change: Caribbean Community (MACC) <sup>48</sup>	The objective of the MACC project is to facilitate an enabling environment for climate change adaptation in the Caribbean Community small islands and coastal developing states participating in this effort. Project components aimed to: (1) build regional capacity to collect and analyze data, thus expand the knowledge base on climate change impacts in order to assess the associated physical and socioeconomic vulnerabilities; (2) build in-country capacity to formulate and analyze adaptation policy options and finalize sectoral adaptation strategies for participating countries; (3) build capacity in preparation for a regional	GEF Trust Fund; co-financing Budget: US\$16 million	CCCCC, CARICOM, World Bank, Government of Canada, GEF, Government of US	Capacity building; Knowledge communication; Policy formation and integration	2003–2009 (closed)	Government <i>Regional:</i> Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, St. Kitts and Nevis, Saint Lucia, St. Vincent and the

<sup>48</sup> GEF, <http://www.gefonline.org/projectDetailsSQL.cfm?projID=1084> and CCCCC, <http://caribbeanclimate.bz/projects/projects.html>

Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
	position for the United Nations Framework Convention on Climate Change; and (4) support public education and outreach programs by strengthening information access and data resources, and foster public awareness through technical assistance and capacity building.						Grenadines, Trinidad and Tobago
		Belize: Among other things, a national adaptation strategy for the water sector was elaborated.					
3.	Global Climate Change Alliance <sup>49</sup>	European Commission, Czech Republic, Sweden, 10th European Development Fund	National Governments	Policy formation and implementation; Knowledge communication	2008–ongoing	Disaster risk management; Government	Global: 17 countries and the Pacific region, <sup>50</sup> including: Jamaica
		Budget: € 140 million	In Belize: In 2010, the European Commission agreed to finance an adaptation project in Belize focused on water and waste management that will take place between 2010 and 2015. Budget: The European Commission is contributing €2.9 million to this project (constituting 90 per cent of the total project budget).				
4.	The Economics of Climate Change in Central America - Phase II <sup>51</sup>	IADB, UK, Denmark, Spain, EU, Germany	ECLAC, CCAD, SIECA	Policy formation and integration; Knowledge communication	2008–2010	Government; Coastal zone management	Regional: Belize, Costa Rica, El Salvador, Guatemala,

<sup>49</sup> GCCA, [http://www.gcca.eu/pages/1\\_2-Home.html](http://www.gcca.eu/pages/1_2-Home.html)

<sup>50</sup> These countries are: Bangladesh, Belize, Cambodia, Ethiopia, Gambia, Guyana, Jamaica, Malawi, Maldives, Mali, Mauritius, Mozambique, Nepal, the Pacific region, Rwanda, Senegal, Seychelles, Sierra Leone, Solomon Islands, Tanzania and Vanuatu.

<sup>51</sup> ECLAC, <http://www.eclac.org/mexico/cambioclimatico/index.html>

Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
	actions and policy options in order that Central America can meet the climate change challenge. In addition, this project includes a component focused on the impact of climate change in coastal areas–C3A (Cambio Climatico en las Coastas de America Latina y Caribe).			n			Honduras, Nicaragua, Panama
		<i>In Belize:</i> A crop impact study for agriculture has been undertaken and published.					
5.	Integrating Climate Change Adaptation into National Development Processes in Latin America and the Caribbean	Spain  <i>Budget:</i> US\$4,375,233	United Nations Environment Programme	Assessment; Knowledge communication; Policy formation and integration	2010–2013	Government; Agriculture; Freshwater supply	LAC Region: Phase 1: 19 RIOCC countries <sup>52</sup>  Phase 2: 3-5 countries (Dominican Republic 1st country selected)
		<i>In Belize:</i> To be identified.					
6.	CARIBSAVE Climate Change Risk Atlas: Phase 1 <sup>53</sup>	DFID; AusAID  <i>Budget:</i> £750,000 + AU \$1,000,000	CARIBSAVE	Research; Capacity building	2010–2011	Tourism; Agriculture; Gender; Government	LAC Region: 13 countries <sup>54</sup> including Belize

<sup>52</sup> The 19 RIOCC countries are Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela.

<sup>53</sup> CARIBSAVE, <http://www.caribsave.org/index.php?id=5>; and DFID, <http://projects.dfid.gov.uk/project.aspx?Project=201634>

<sup>54</sup> Countries are Antigua & Barbuda, Barbados, Belize, The Bahamas, Dominica, Dominican Republic, Grenada, Jamaica, St Kitts & Nevis, Saint Lucia, St Vincent & the Grenadines, Suriname and the Turks & Caicos.



Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
	using climate models, examining sectoral vulnerabilities, assessing adaptive capacity and developing practical response strategies with the countries across the region.”	Belize: Further information required					

#### D. Proposed Adaptation Action

Belize is proposed to be part of three regional programs announced by the United States Agency for International Development (USAID) and the United States Department of State (USDS). Additional projects in preparation have not been identified.

**Table 3: Proposed Adaptation Actions**

Name	Objectives	Type of project	Priority Sector(s)	Geographic focus (if any)
1. Food Security Program	USAID will support food security programs that focus on ways to protect areas of agricultural production likely to be impacted by climate change. The program will work to reduce disaster risks and vulnerability to climatic shocks in Central America by improving information, such as Earth observation data. USAID will help build the capacity for government and community organizations to utilize early warning systems to prepare and plan for disasters.	Capacity building; Knowledge communication	Agriculture; Disaster risk management	Central America
		<b>Notes:</b> From USAID Fast start finance notes; US\$300,000 for the whole of Central America.		
2. Coastal zone adaptation	USAID will invest an additional \$1 million in adaptation projects in the coastal zones of Central America.	Capacity building	Coastal zone management	Central America
		<b>Notes:</b> USAID program for Central America; budget of US\$1 million for the whole of Central America.		
3. Energy and Climate Partnership of the Americas	USDS will provide approximately \$1 million for an Energy and Climate Partnership of the Americas program on adaptation to climate change.	Capacity building	Energy	Latin America
		<b>Notes:</b> Announced on the U.S. Department of State website.		

#### E. Assessment

As a small state with a tiny population, Belize has benefited greatly of being part of the CCCCC. It has provided the basis for in-depth vulnerability assessments in a number of key sectors and provides a space for collaboration with many other small states that face similar issues in the context of climate change. However, besides research and capacity building, no concrete current adaptation projects have





been identified. Furthermore, awareness of gradual changes in climate still seems to be shadowed by attention to extreme events. This is evidenced, for instance, in the medium term development strategy, which mentions climate change only in the context of disaster preparedness. There thus appears to be a need to put the already ample knowledge about impacts and vulnerabilities, especially in sectors such as coastal and marine resources and agriculture, into practice.

### References:

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