



Environment and  
Climate Change Canada

Environnement et  
Changement climatique Canada

## Country Profile:

### Saint Lucia



## 1. PHYSICAL GEOGRAPHY

Saint Lucia is located at 13° 59' Latitude and 61° W within the Lesser Antilles in the Eastern Caribbean (UNFCCC 2011), and is one of the Windward Islands. The land area is 616 km<sup>2</sup> (42 km long and 22 km at its widest point) and is situated on a volcanic ridge that connects it with to the north (UNFCCC 2011). Saint Lucia has very steep, rugged landscape, characterized by a centrally located north-south oriented mountain range, deep valleys and fast flowing rivers (UNFCCC 2011). The highest point on the island is Mount Gimie, which stands 950m above sea level, while the most spectacular landmarks are the Pitons. These two volcanic spires rise side by side from the sea to heights of 770m and 743m respectively, and are the focal points of the Pitons Management Area, World Heritage Site (UNFCCC 2011).



Figure 1 Map of Saint Lucia. (Credit: Wiki Commons)

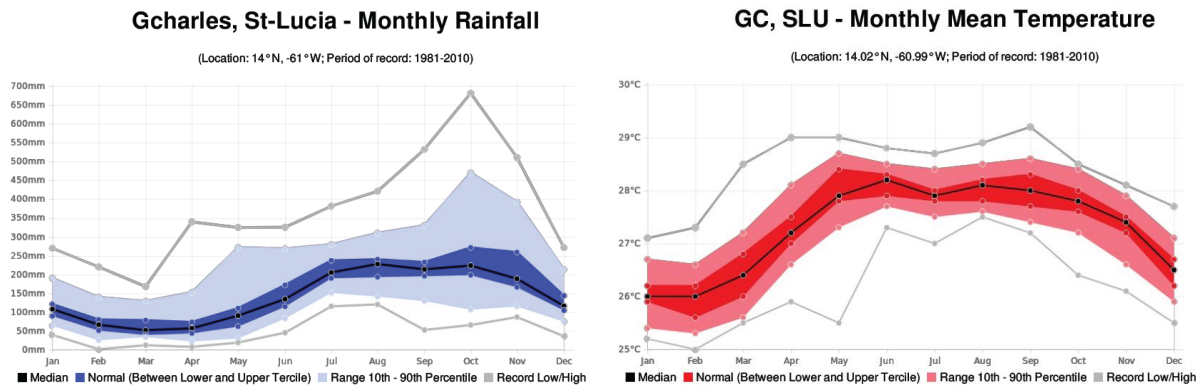
The climate is tropical marine, ranging from humid in the inland and west coast areas, to semi-humid in the extreme south and portions of the east coast. The annual rainfall totals 1500 mm in the extreme south to 2000 mm on the west coast and more than 3000 mm in highest elevations inland. The wet season spans June to November, with July to November each totaling around 200 mm. Annual near-surface air temperature at sea level averages out at 27.3°C, running at 28°C from May till October and dropping by 2°C during January and February. (<http://rcc.cimh.edu.bb/>). Rich, volcanic soils and the

elevated rainfall allow for dense rainforest over much of the inland regions, especially in the center and south, with a more drought tolerant natural vegetation type in the extreme south.

## 2. CLIMATOLOGY

The Saint Lucia Meteorological Service (<http://www.slumet.gov.lc/>) monitors two weather stations located at the two airports on the Island. These are namely, the GFL Charles Airport and the Hewanorra Airport. Summarized rainfall and temperature climatology for the GFL Charles Airport station is given in Table 1.

The rainfall and temperature climatology at GFL Charles Airport (1981-2010) are presented in Figure 2, with summary statistics presented in Table 1. As a rugged island located between the Atlantic Ocean and the Caribbean Sea, annual precipitation totals are high in most places and averaging 1911.2 mm at the GFL Charles Airport, though this is somewhat less so that the taller St. Vincent or Dominica. In some years, the wet season starts in May, a month with large variability (over 200 mm difference between the 10<sup>th</sup> and 90<sup>th</sup> percentiles). From July onwards, rainfall commonly hovers around 200 mm each month, with a range between the 10<sup>th</sup> and the 90<sup>th</sup> percentile increasing after July up to more than 300 mm in October. Accordingly, the wettest months on record have occurred in October. The annual temperature range is between 26°C in February and 28.1°C in June, with little fluctuation from May to October.



**Figure 2 1981-2010 reference climatology of monthly rainfall totals (left) and mean near-surface air temperature (right) at the GFL Charles airport station in Saint Lucia. Source: rcc.cimh.edu.bb (data from Saint Lucia Meteorological Service)**

**Table 1. Summary statistics of rainfall and temperature for the GFL Charles Airport in St. Lucia**

Station Name	GFL Charles Airport (Year/Month of Occurrence)
<b>Mean Annual Rainfall</b>	1869.3 mm (1971-2015)
Wettest year / Month / three month period	2693.6 mm (2010) / 681.5 mm (Oct. 2010) / 1361 mm (Sep. to Nov. 2010)
Driest Year / Month / three month period	1148.6 mm (2015) / 1.7 mm (Feb. 2010) / 37.9 mm (Feb. to Apr. 1987)
<b>Mean Temperature</b>	27.3 °C (1979-2015)

Warmest Year / Month / three month period	28.1 °C (1998) / 29.2 °C (Sep. 2005) / 28.8 °C (Aug. to Oct. 2005)
Coldest Year / Month / three month period	26.7 °C (1985) / 25°C (Feb. 1986) / 25.3 °C (Jan. to Mar. 1985)

Source: <http://rcc.cimh.edu.bb/>

### 3. SOCIO-ECONOMIC LANDSCAPE

In 2014, Saint Lucia's population was estimated at around 183,600 (<http://data.worldbank.org/country/St.Lucia>). The island's 2012 HDI of 0.725—puts Saint Lucia in the high human development category—positioning the country at 88 out of 187 countries and territories (UNDP 2013). The (2014) GDP was estimated by the World Bank at USD 1.404 billion (USD 7647/ capita). Tourism is the most important economic sector both in terms of its contribution to GDP, foreign exchange revenue and employment of the labour force.

### 4. KEY NATIONAL STAKEHOLDERS AND THEIR NEEDS

A 2015-2016 survey of user climate information needs in the Caribbean captured responses from 21 sectoral users representing a range of climate-sensitive sectors including agriculture, disaster risk management, water, health and tourism sectors, as well as, others such as planning, fisheries and forestry. There were no responses from the energy sector. Three users from the tourism (n=2) and agriculture (n=1) sectors participated in stakeholder interviews while two stakeholders from the DRM and health sectors participated in focus group discussions convened in May 2016.

Climate information users in Saint Lucia obtain their seasonal climate forecasts from a variety of sources including the National Meteorological and Hydrological Services, government agencies and departments and by the Caribbean Institute for Meteorology and Hydrology. Users believe that climate services are of high value in their organisation's operations and planning and as such, they routinely try to integrate climate information considerations into their professional decisions to inform day-to-day strategic planning in their organisations. Users integrate climate information in a number of ways:

- “The Wet Days Outlook is used to plan for land preparation and to plan for irrigation...” (Agriculture stakeholder).
- “...to inform the farming public of the activities needed to mitigate the risk of crop failure and animal deaths...” (Agriculture stakeholder).
- “The Drought Bulletin provides an indication of need for water security options and provides justification for establishing rainwater harvesting retrofits in vulnerable and water-stressed communities...” (Health stakeholder).

In addition, users in Saint Lucia perceive potential benefits associated with their use of climate information as follows:

- “Forecasting products can be used to adequately advise producers on management practices to mitigate against the impact of droughts and other disasters” (Agriculture stakeholder).

- “The Caribbean Coral Reef Watch can be used to generate awareness and inform tour operators, water base sector and hotel sector of what is happening” (Tourism stakeholder).
- “The Temperature Outlook can be used to guide tour operators, site owners, so guests can be guided on the usage of clothing, sunblock etc ...” (Tourism stakeholder).

Users reported barriers to the use of climate information. These include a lack of knowledge of available climate information, available information not being user friendly and of climate information having an inappropriate level of detail to support organisational decisions.

## 5. RANGE OF CLIMATE SERVICES

The Saint Lucia Meteorological Service classified itself as a Category 2 climate service provider offering a basic range of climate services and products, as well as, climate predictions. The Met Service has been delivering climate information for 1 to 3 years. The organisation tailors 1 of the 7 regional climate products for the national context namely the Caribbean Standardised Precipitation Index (SPI) Outlook. The organisation uses this to verify the national SPI Outlook. Other climate products available at the national level include the National Agrometeorological Bulletin.

The socio-economic sectors that currently benefit from climate services in Saint Lucia are the agriculture, water, disaster risk management, the health and tourism sectors, as well as the public at large. Specific organisations with which the Saint Lucia Meteorological Service interacts<sup>1</sup> are:

- The Water and Sewerage Company Inc.;
- The Water Resource Management Agency;
- The Ministry of Agriculture, Fisheries, Physical Planning, Natural Resources and Co-operatives;
- The Ministry of Health;
- The Physical Planning Section, Ministry of Economic Development, Housing, Urban Renewal, Transport and Civil Aviation;
- The National Emergency Management Organisation;
- The Insurance Council of Saint Lucia; and
- Belle Vue Farms.

The Saint Lucia Meteorological Service believes that the financial sector could potentially benefit from climate services in the future. The level of interaction between the Saint Lucia Meteorological Service and climate information users has been reported to be moderate. Feedback is routinely collected from users through mediums such as e-mail and telephone hotline. In addition, the Met Service convenes monthly flood and drought meetings<sup>2</sup>. However, to date, no National Climate Outlook Forum has been convened in Saint Lucia.

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<sup>1</sup> Information gleaned from participant lists from 6 regional meetings, namely: 1) the 2014 Wet Season CariCOF, May 2014; 2) the 2014 Dry Season CariCOF, November 2014; 3) the 2015 Wet Season CariCOF, May 2015; 4) the 2015 Dry Season CariCOF, November 2015; 5) the Workshop on Enhancing Climate Indices for Sector-specific applications in the Caribbean, 15-19 February, 2016; and 6) the 2016 Wet Season CariCOF, May 2016.

<sup>2</sup> These meetings are convened weekly if there is a situation that requires this.

Recommendations for improving the climate services capability of the Saint Lucia Meteorological Service include:

1. Procurement of new equipment, as well as funding for maintenance and routine replacement of equipment;
2. Training and capacity building of new and existing staff to develop new products, to produce long-range forecasts and to conduct climate impact assessments;
3. Re-establishment of the climate section with dedicated staff assigned for product development and refinement;
4. Establishment of a dedicated research division with a clear long term research strategy and strong links to established research institutions;
5. Improvement to the Met Service website; and
6. Opportunities for routine interaction climate information users.

## 6. REFERENCES

United Nations Development Programme (UNDP). 2013. Human Development Report 2012. The Rise of the South: Human Progress in a Diverse World. Explanatory note on 2013 HDR composite indices-St. Lucia

### Web Sites

<http://carogen.cimh.edu.bb/>

<http://rcc.cimh.edu.bb/>

<http://www.slumet.gov.lc/>

<http://data.worldbank.org/country/St.Lucia>