



Environment and
Climate Change Canada

Environnement et
Changement climatique Canada

Country Profile:

Cayman Islands

1. PHYSICAL GEOGRAPHY

The Cayman Islands are located in the northwest Caribbean at 19 °N 81 °W. The Cayman Islands form a British Overseas Territory, comprising three (3) islands, namely Grand Cayman, Cayman Brac, and Little Cayman. Grand Cayman, the largest island, is known for its beach resorts and varied scuba diving and snorkelling sites. Cayman Brac is popular for deep-sea fishing of tuna, marlin and barracuda. Little Cayman, the smallest island, is home to diverse wildlife, from rock iguanas to red-footed boobies (https://en.wikipedia.org/wiki/Cayman_Islands; <http://www.gov.ky/>).



Figure 1 Map of the Cayman Islands. (Credit: Wiki Commons)

The average annual rainfall total is just over 1425mm, with the wet season spanning May to November each year, with more than 100 mm per month during that time. Temperatures are fairly constant throughout the year averaging 27.7°C. (<http://rcc.cimh.edu.bb/>). As coral islands, a nutrient poor soil and brackish groundwater supports mostly salt tolerant vegetation.

2. CLIMATOLOGY

The National Weather Service of the Cayman Islands government established in the 1980s (<http://www.weather.gov.ky/>), provides climate services for the Cayman Islands. The service monitors weather conditions using the station at Grand Cayman.

The rainfall and temperature climatology at Owen Roberts International Airport (1981-2010) are presented in Figure 2, with summary statistics presented in Table 1. As a flat and small island located in the core of the Atlantic Warm Pool (i.e. the warmest portion of the Caribbean Sea), annual precipitation totals are higher than those in the Virgin Islands or the smaller of the Leeward Islands. The peak of the wet season occurs around September / October. However, rainfall totals vary considerably from year to year in May / June and September to November, with the 10th percentile being mostly around 50 mm and the 90th percentile above 280 mm. The annual temperature range is between 25.6°C in January and 29.5°C in July, which makes the seasonal cycle amplified compared to many other Caribbean locations. This is mostly associated with the incurrence of cold fronts from North America, depressing temperatures during the core of the dry season.

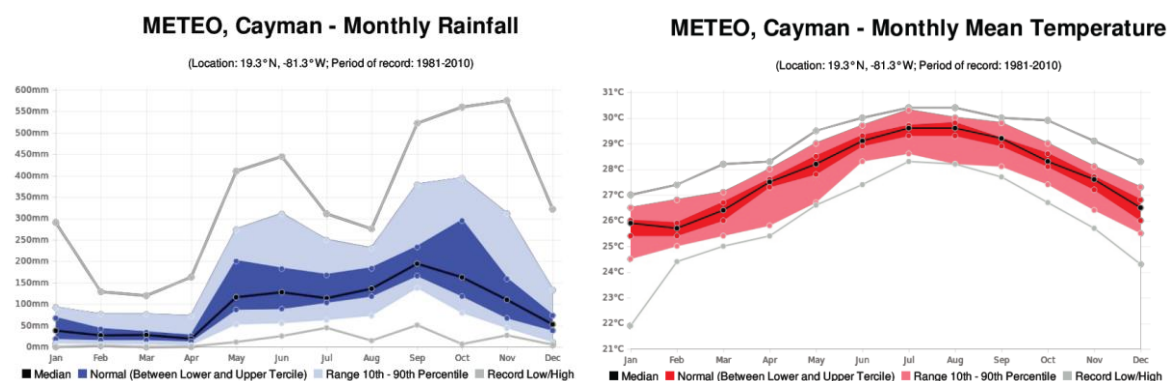


Figure 2 1981-2010 reference climatology of monthly rainfall totals (left) and mean near-surface air temperature (right) at the Owen Roberts airport station on Grand Cayman. Source: rcc.cimh.edu.bb (data from Cayman Islands National Weather Service)

Table 1. Summary statistics of rainfall and temperature for the Owen Roberts International Airport on Grand Cayman

Station Name	Owen Roberts International Airport (Year/Month of Occurrence)
Mean Annual Rainfall	1448 mm (1971-2015)
Wettest year/Month / three month period	2146.3 mm (1979) / 575.3 mm (Nov. 1996) / 1249.7 mm (Sep. to Nov. 1971)
Driest Year/Month / three month period	904.5 mm (1997) / 0 mm (Mar. 2000) / 17.7 mm (Dec. 2004 to Feb. 2005)
Mean Temperature	27.4 °C (1971-2015)
Warmest Year/Month / three month period	28.4 °C (2003) / 30.4 °C (Aug. 2001, Jul. & Aug. 2009) / 30.2 °C (Jun. to Aug. 2001)
Coldest Year/Month / three month period	26.1 °C (1974) / 21.9°C (Jan. 1981) / 23.8 °C (Dec. 1980 to Feb. 1981)

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

3. SOCIO-ECONOMIC LANDSCAPE

In 2014, the population of the Cayman Islands was estimated at 59,170 (<http://data.worldbank.org/country/cayman-islands>). The World Bank (2014) estimates its GDP at USD 3.207 Billion. The Cayman Islands as an Overseas Territory of the United Kingdom operates with considerable political and economic autonomy from the UK, but with a strong degree of support and oversight from the UK. Tourism and International Financial services are the most important economic activities for the Cayman Islands, but the latter is more dominant. Cayman is now the world's sixth biggest banking centre, with banking assets worth US\$1.4 trillion in June 2014; and it hosts over 11,000 mutual and other funds with a net asset value of \$2.1 trillion (Tax Justice Network 2015). It has 200 banks; over 140 trust companies (managing numerous trusts and other arrangements); and over 95,000 registered companies. It is by far the world's leading domicile for hedge funds, and the second leading domicile for captive insurance companies (Tax Justice Network 2015).

4. KEY NATIONAL STAKEHOLDERS AND THEIR NEEDS

A 2015-2016 survey of user climate information needs in the Caribbean captured no responses from sectoral stakeholders in the Cayman Islands. However, one tourism sector representative did participate in stakeholder interviews in 2016. While this may reflect the limitations of the territory's size, population and the potential market for the delivery and use of climate services in this territory, it may also signal that a targeted future research intervention is needed to address this critical data gap.

This user obtains climate forecasts from the local NMHS but relies more broadly on the local NMHS, the CIMH, CDEMA and the CTO for more general weather and climate information. Climate information was viewed as "very useful, very important" for planning, especially for the scheduling of tourism activities. This stakeholder called for reliable climate information in the future.

5. RANGE OF CLIMATE SERVICES

As of August 2015, the Cayman Islands National Weather Service (CINWS) reports that it is a Category 2 climate services provider offering a basic range of climate services and products, as well as, climate predictions. The CINWS further reports that it delivers climate information that is tailored, packaged and delivered to meet specific user needs and has been doing so for 1 to 3 years. Currently, the CINWS tailors 2 of the 7 regional climate products for the national context. These are the CariCOF Precipitation Outlook and the CariCOF Temperature Outlook.

The CINWS interacts with the disaster risk management, agriculture, water and health (particularly the Mosquito Research and Control Unit) sectors. No data is available regarding specific organisations with which the CINWS interacts. The level of interaction between the organization and users of climate information is considered to be moderate, where users are engaged at the later stages of a climate service project. Feedback is not routinely collected from users and the country is yet to convene a National Climate Outlook Forum.

CINWS recommendations for improving its climate services capability include a heavy focus on:

1. Upgraded facilities; and
2. An increase in staff.

6. REFERENCES

Tax Justice Network. 2015. Narrative Report on Cayman Islands. Financial Secrecy Index.

Web Sites

<http://www.weather.gov.ky/>
<http://rcc.cimh.edu.bb/>
<http://data.worldbank.org/country/cayman-islands>
<http://www.financialsecrecyindex.com/>
<http://en.climate-data.org/location/282835/>