

PROJECTS INVOLVEMENT

The E.T. Joshua Airport Aeronautical Meteorological Service is working along with the St. Vincent and the Grenadines Bureau of Standards (SVGBS) as we establish a Quality Management System; an International Civil Aviation Organization (ICAO) requirement by 2012. To this end, the Finnish Meteorological Institute and the Association of Caribbean States as part of the Strengthening Hydro-meteorological Operations and Services in the Caribbean- Small Island States (SHOCS-SIDS) project has been organizing Quality Management Training Workshops for Aeronautical Meteorology.

In collaboration with the Caribbean Institute of Meteorology and Hydrology (CIMH), and Kinetic Analysis Corporation (KAC), the Caribbean Catastrophic Risk Investment Fund (CCRIF) provided training on the Real-Time Forecasting System (RTFS). CCRIF-RTFS provides additional information such as wind, wave, and storm surge footprints, impacts on airports, ports and building damage estimates; based on NHC forecasted tracks.

As part of the Caribbean Agro-Meteorological Initiative (CAMI), we produced our first farmer's bulletin in early September 2011. The overarching goal is to increase and sustain agricultural productivity at the farm level in the Caribbean region through improved dissemination and application of weather and climate information using an integrated and coordinated approach. Similarly, the Caribbean Drought and Precipitation Monitoring Network (CDPMN), launched in January 2009 under the Caribbean Water Initiative (CARIWIN) is creating a culture of rainfall monitoring to combat the negative impacts of climate extremes and future climate change. The pilot program for Climate Resilience (PPCR) is pioneering Climate Resilience Development at a national level. The Disaster Vulnerability Reduction Project (DVRP) has a number of small civil works activities proposed for funding. We work along with the National Emergency Management Organization (NEMO) to send weather related information to the public. To improve such, St. Vincent and the Grenadines has been selected for Output 1 of the Enhancing Resilience to Reduce Vulnerability in the Caribbean Regions (ERC) Project.

ATLANTIC BASIN HURRICANE SEASON

According to the National Oceanic and Atmospheric Authority (NOAA), the 2011 Atlantic hurricane season from June 1 to November 30, produced a total of 19 tropical storms of which 7 became hurricanes, including 3 major hurricanes. This level of activity matched NOAA's predictions and continues the trend of active hurricane seasons that began in 1995. The number of hurricanes and major hurricanes is only slightly above the average of 6 hurricanes and 2 major hurricanes.

From Arlene to Sean, Hurricane Season 2011 has been very active. None of the first eight tropical storms reached hurricane status. Hurricane Irene's effects in the Caribbean and the United States lead to 55 deaths and accounted for the bulk of this season's damage, more than \$10 billion. The strongest storm of the season was Ophelia, which reached category four strength east of Bermuda.

This year's total included a post-storm upgrade of Tropical Storm Nate to hurricane status, and the addition of a short-lived, unnamed tropical storm that formed in early September between Bermuda and Nova Scotia. NOAA will issue its initial outlook for the 2012 hurricane season in May 2012.

RAINFALL EVENTS

During the hurricane/wet season, October and November are usually the wettest months. However, for the year 2011 thus far, rainfall records show October dipping below the average.

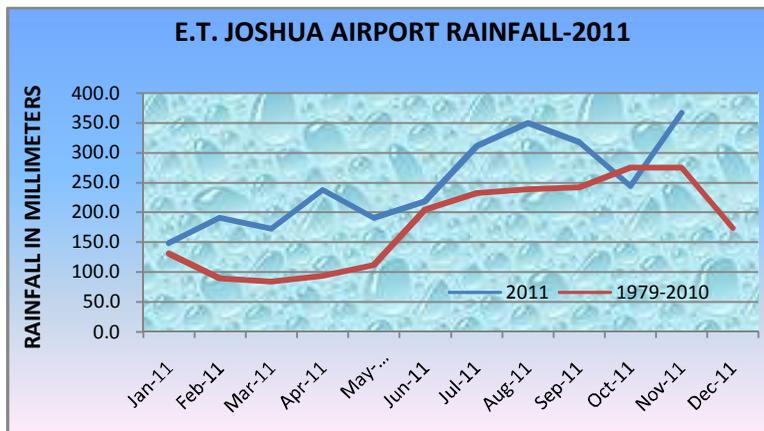


Figure1.E.T.Joshua Airport, Arnos Vale –Rainfall

The islands of the Eastern Caribbean were normal to above normal for the period June 1 to November 30, with St. Vincent and the Grenadines (SVG) being moderately wet due to a combination of troughs, Inter-tropical Convergence Zone (ITCZ) activity, tropical waves, storms, and hurricanes in our vicinity. One such system was a vigorous tropical wave with an associated low pressure. The wave which separated from the low dumped over 6 inches of rainfall in the Arnos Vale area. There were various landslides and flooding across the islands. The low pressure system was named Emily as it passed to the north of SVG on the evening of August 1. From July 31 at 2pm to August 3 at 2pm, over 9 inches of rainfall was recorded at the E.T.Joshua Airport.



Figure 2.Murray Village Road- Photo courtesy Searchlight

Early in September, Hurricane Katia generated large waves on the east coast of mainland St. Vincent. Then Tropical Storm Maria spiked the rainfall on the 8th and 9th, and also generated rough seas at ports hampering normal sea operations throughout SVG. Heavy rains in the north of the mainland resulted in landslides in Fancy as well as a disruption to the water supply. In November, a combination of troughs and unstable conditions associated with Tropical Storm Sean, resulted in landslides in the north of the mainland again. The suburbs were also affected as a large boulder was dislodged in the Arnos Vale area, causing traffic delays. Another combination of troughs approaching from the east and west, along with ITCZ activity resulted in two consecutive days (26th, 27th) having over 2 inches of rainfall.

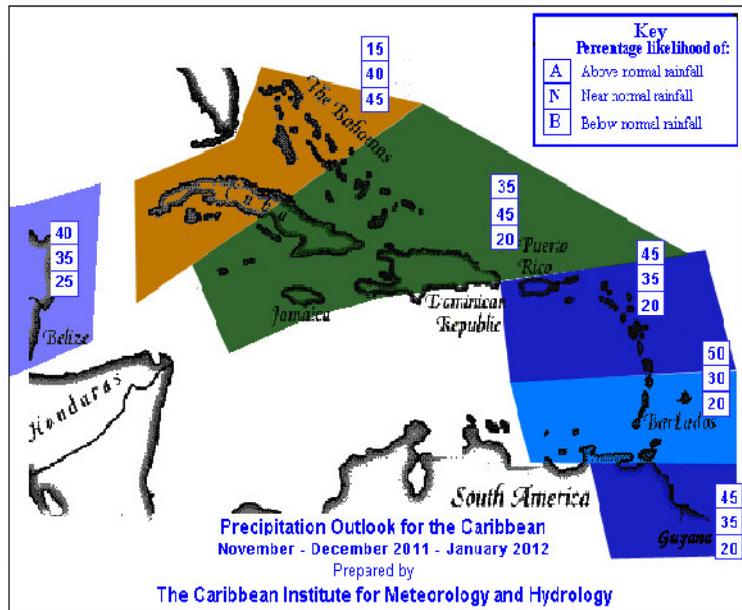


Figure 3. Caribbean Precipitation Outlook - courtesy CIMH

RAINFALL OUTLOOK

Until January 2012.....Above normal rainfall

TEMPERATURE OUTLOOK

Air temperature Above normal
 SST Near normal to above normal

- A 5.0 earthquake occurred just after midnight on the 7th August. The United States Geological Service (USGS) stated that the quake was felt in the island chain from Puerto Rico to St. Lucia.
- Planet hunters led by astronomers at the University of California, Santa Cruz and the Carnegie Institution of Washington, and supported by the National Science Foundation (NSF) and National Aeronautics and Space Administration (NASA), announced the discovery of earth-like planets.
- Parts of the mechanism that encased a Russian-built Soyuz rocket, used to launch two Galileo satellites for the European Space Agency on October 21, from Kourou- French Guiana, landed in the Tobago Cays.
- Throughout 2011 – “The International Year of Forests”, the World Agro-forestry Centre has been celebrating and promoting the planting and nurturing of trees, both inside and outside forests. (<http://www.worldagroforestry.org/>)
- Droughts can range in intensity, duration (weeks to years) and spatial extent. It is a slow, creeping disaster in the making. Drought impacts are normally cumulative, and the effects are magnified when occurring from one season to the next.
- We are approaching the traditional dry season (December to May) - **USE WATER WISELY!!!**

OUTLOOK – November 2011 to April 2012

The distinction in rainfall between the south eastern and the northwestern Caribbean continues during the period, with the Bahamas, Cuba and Belize experiencing, in general below normal rainfall and the Eastern Caribbean Island chain and Guyana receiving above normal rainfall. The above average air temperatures experienced in the basin for the majority of the year will make way to normal to below normal conditions with some dominance of the below normal, particularly in the western Caribbean. Above normal Sea Surface Temperatures (SSTs) will peter out toward the southern portion of the eastern chain by February 2012 and result in normal SST across the basin.

ENSO Conditions:

La Niña conditions are present across the equatorial Pacific and are expected to strengthen and continue through the Northern Hemisphere winter 2011-12. Atmospheric circulation anomalies are consistent with La Niña. These developments may have implications for climate conditions in the Caribbean basin.

Our website-www.meteo.vc Telephone: 4584011 ext. 229

Prepared by the E.T. Joshua Airport Meteorological Service: 16th December 2011



E.T. JOSHUA AIRPORT METEOROLOGICAL OFFICE 2011 HURRICANE SEASON BULLETIN

June 1 - November 30, 2011

Airports Department
 Ministry of National Security, Air and Sea Port Development
 Amos Vale
 St. Vincent and the Grenadines