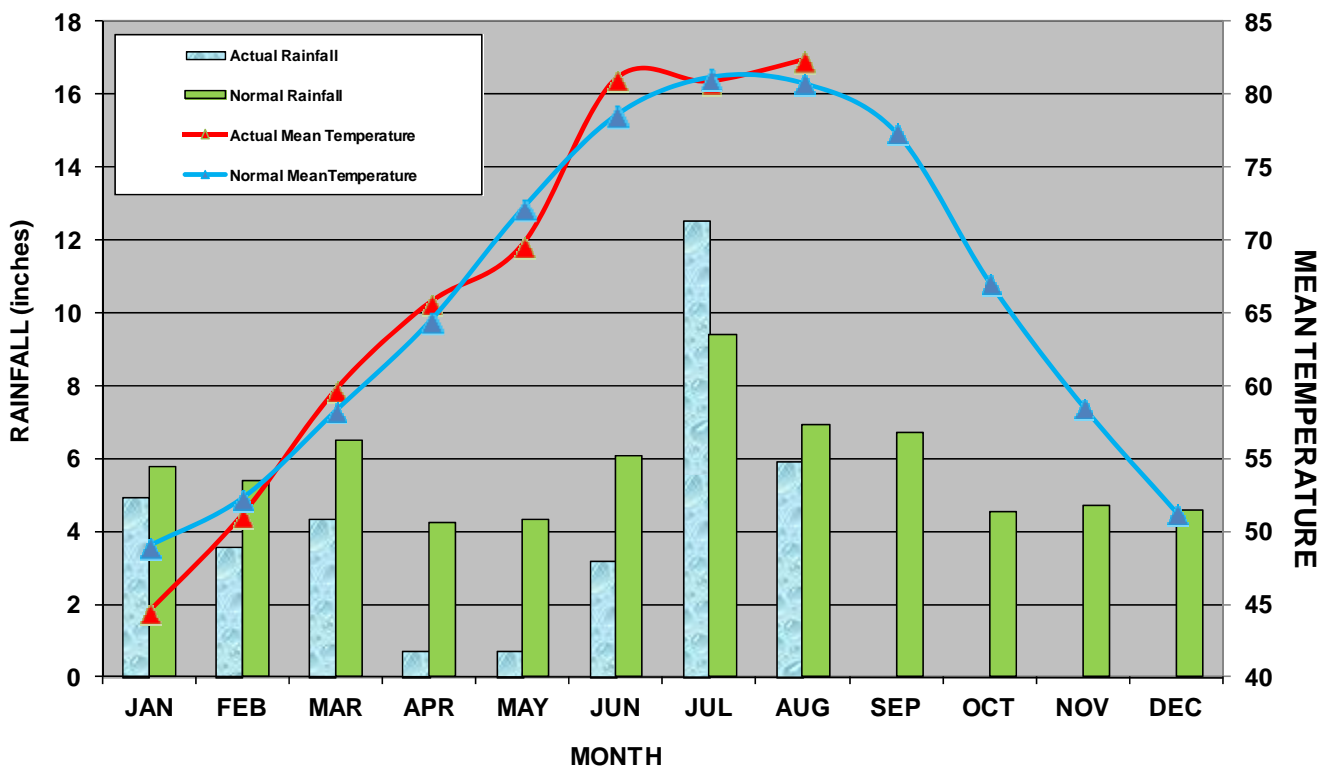


## Introduction

August 2011 produced *above normal* temperatures and *below normal* precipitation for Niceville, FL. Hurricane Irene highlighted the effects of inland flooding from torrential rainfall from North Carolina to Vermont, but brought a brief period of drier continental air to the local area. Temperatures averaged the highest of the summer season. Rainfall over the Gulf Coast was 4 inches (or more) below normal in some cases; this represented only 25% of normal rainfall for August. Weather was dominated by high pressure over the Gulf of Mexico for the first half of the month with hot, muggy temperatures and daily afternoon thunderstorms. A thunderstorm on the 7<sup>th</sup> August downed trees in the Bluewater Bay community east of Niceville, (Okaloosa County, FL) and wind gusts to 50 m.p.h. broke off tree limbs near Eucheeanna (Walton County, FL) on 10<sup>th</sup> August. A weak stationary front entered the Gulf Coast on 12<sup>th</sup> August and was followed by a strong cold front that cleared the area on 15<sup>th</sup> August. Dry continental air and cool morning lows in to the mid 60's°F were observed on 17<sup>th</sup>-18<sup>th</sup> August. Gulf moisture returned with scattered thundershowers during the third week with a thunderstorm downing trees in the Pleasant Ridge community southwest of DeFuniak Springs (Walton County, FL) on 22<sup>nd</sup> August. The arrival of major hurricane Irene in the Bahamas during 24<sup>th</sup>-25<sup>th</sup> August pulled down drier continental air through the Gulf coast. This event allowed another frontal passage to clear the area on 27<sup>th</sup> August. Drought relief stalled and river levels remained very low as high temperatures reached into the upper 90's to low 100's°F without any rainfall falling during the last week of the month.

**2011 Jackson Guard Rainfall/NVOC Temperature  
1971-2000 Climatic Normal (Niceville, FL)**



## August 2011 Climate Summary

Jackson Guard rainfall for August totaled **5.93** inches and the Niceville (NVOC) Regional Sewer Board, Inc. recorded **5.78** inches. Eglin AFB recorded **4.32** inches for the month, *2.61* inches *below* the normal of 6.93 inches. Pensacola, FL recorded **2.27** inches, which is *4.49* inches *below* the normal of 6.76 inches. There were 15 days with measurable precipitation in Niceville, which is 3 days *above* normal. There were 15 thunderstorm days recorded at Eglin AFB, which is 1 day *above* normal. The heaviest rainfall of the month was 1.30 inches in Niceville measured on 8<sup>th</sup> August. Year to date rainfall at NVOC is **37.28** inches,

which is 11.40 inches below the normal of 48.68. Year to date rainfall at Eglin AFB is **42.91** inches, which is 0.58 inches below the normal of 43.49 inches. Year to date rainfall at Pensacola, FL is **30.81** inches, which is 13.96 inches below the normal of 44.77 inches.

The [Keetch-Byram Drought Index](#) (KBDI) in early September 2011 was *severe* except for Gulf County where the index was *moderate*. Normal values of the KBDI are an indication that [wildfire](#) conditions are increasing across the western Florida panhandle due to a much drier airmass and the lack of rain since the start of September. When the index exceeds **420** during the fall months of September-October-November in north Florida, the wildfire danger becomes moderate. The values below are an indicator of soil moisture conditions in the counties containing Eglin AFB natural resources.

Florida County	Average KBDI (1 September 11)	Florida County	Average August 2011 Rainfall (inches)
Santa Rosa	631	Santa Rosa	1.58
Okaloosa	603	Okaloosa	3.68
Walton	628	Walton	4.09
Gulf	520	Gulf	3.21

For more information on daily KBDI values, visit the Florida Forest Service: [KBDI index](#).

The monthly mean temperature was **82.3°F** which was 1.5°F *above* normal. The average high temperature at Niceville NVOC was **92.5°F** (1.6°F *above* normal). Whiting Field (Milton NAS) recorded 103°F on the 26<sup>th</sup> August with record highs of 99°F at Eglin AFB and Pensacola 100°F. Another record high of 98°F at Eglin and Pensacola 100°F was recorded on 27<sup>th</sup> August. The highest temperature of the month at Niceville was 98°F recorded on the 27<sup>th</sup> August which *tied* the record for this date in 1998. There were 29 days when the maximum temperature reached 90°F or above, which was 9 days *above* normal. The average low temperature was **72.2°F** (1.5°F *above* normal). The lowest temperature of the month was 64°F observed on 17<sup>th</sup> August which established a new record. Below are four minimum temperatures that were tied or set new records during August 2011:

New Tie Date	Tie Record	Previous Tie Record	Previous Years	New Record Date	New Record	Old Record	Previous Year
8/7/11	77°F	77°F	2007, 2010	8/9/11	78°F	77°F	1999
8/27/11	74°F	74°F	1987, 2010	8/17/11	64°F	65°F	1989

The table below is the summer summary conditions for June through August 2011:

Niceville, FL (NVOC)	<b>Normal Summer (June-August) Temperature (1971-2000)</b>	80.2°F
	<b>June 2011-August 2011 Average Temperature-9<sup>th</sup> Warmest</b>	81.4°F (+1.2°F)
Eglin AFB (KVPS)	<b>Normal Summer (June-August) Temperature (1940-2009)</b>	81.3°F
	<b>June 2011-August 2011 Average Temperature</b>	82.9°F (+1.6°F)
Niceville, FL (NVOC)	<b>Normal Summer (June-August) Rainfall (1971-2000)</b>	22.39 inches
	<b>June 2011-August 2011 Total Rainfall-39<sup>th</sup> Wettest</b>	21.88 inches (-2.3%)
Eglin AFB (KVPS)	<b>Normal Summer (June-August) Rainfall (1940-2009)</b>	20.31 inches
	<b>June 2011-August 2011 Total Rainfall-18<sup>th</sup> Wettest</b>	24.93 inches (+22.7%)

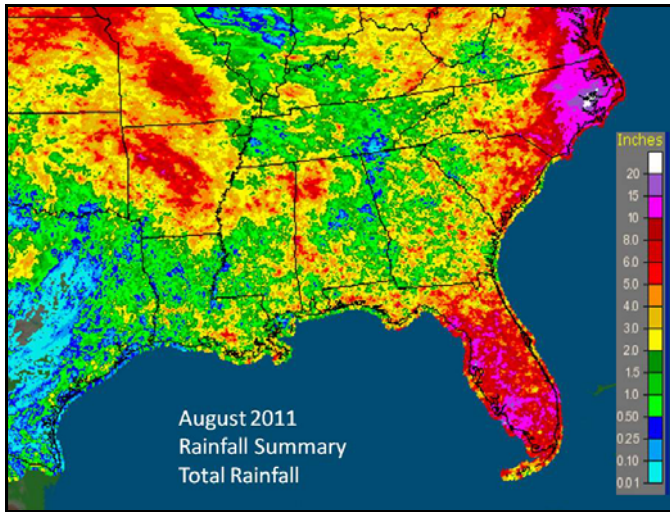


Figure 1. Total August Rainfall (inches). West FL panhandle ranged between 1 inch (green) to 5 inches (orange) rainfall.

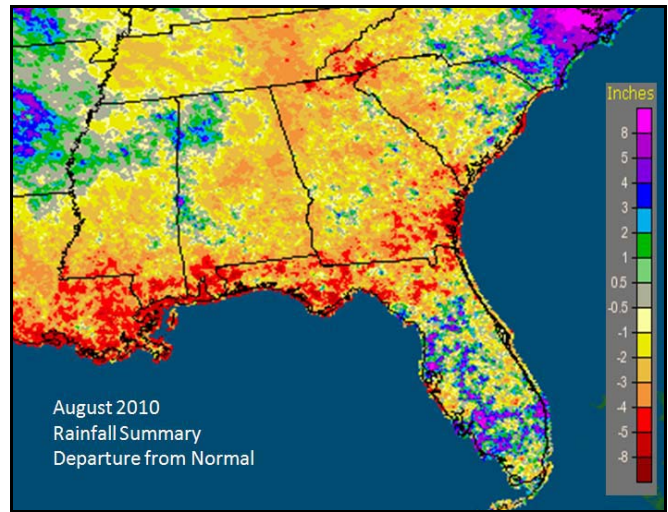


Figure 2. August Rainfall Departure from Normal. West FL panhandle has 2 inches (yellow) to 5 inches (dark orange) below normal rainfall. Parts of south FL have 8 inches (violet) above normal rainfall.

### Tropical Storm Summary

Seven tropical cyclones and one tropical depression formed in the Atlantic basin of which two storms reached hurricane status (Irene and Katia). The number of named storms was well above the long-term (1944-2010) average of four, but the number of hurricanes (2) was below average. The combined strength and duration, known as the accumulated cyclone energy (ACE), for August was near normal.

Hurricane Irene became the first major hurricane (120 m.p.h.) of the season (23<sup>rd</sup>-25<sup>th</sup> August) as the storm moved through the Bahamas. Irene weakened to a Category 1 storm (85 m.p.h.) prior to landfall near Cape Lookout, NC (27<sup>th</sup> August) and made a second landfall as a hurricane (75 m.p.h.) at Little Egg Inlet, NJ on 28<sup>th</sup> August. This was the first hurricane to strike the state since 1903. Irene was downgraded to a tropical storm as it made its third U.S. landfall in Brooklyn, NY later that day. Irene was one of the most expensive Category 1 hurricanes with \$10.1 billion, following the record Hurricane Agnes in 1972 which caused \$11.8 billion (2010 dollars). Overall, 45 fatalities were attributed to the storm in the U.S. The greatest property damages resulted from inland flooding affecting six northeastern states when more than 10 rivers measured record flood heights. The effects upon Florida's Atlantic coast were minimal, but waves as high as 12 feet and rough surf injured 8 people and two surfers drowned offshore of Volusia County, FL.

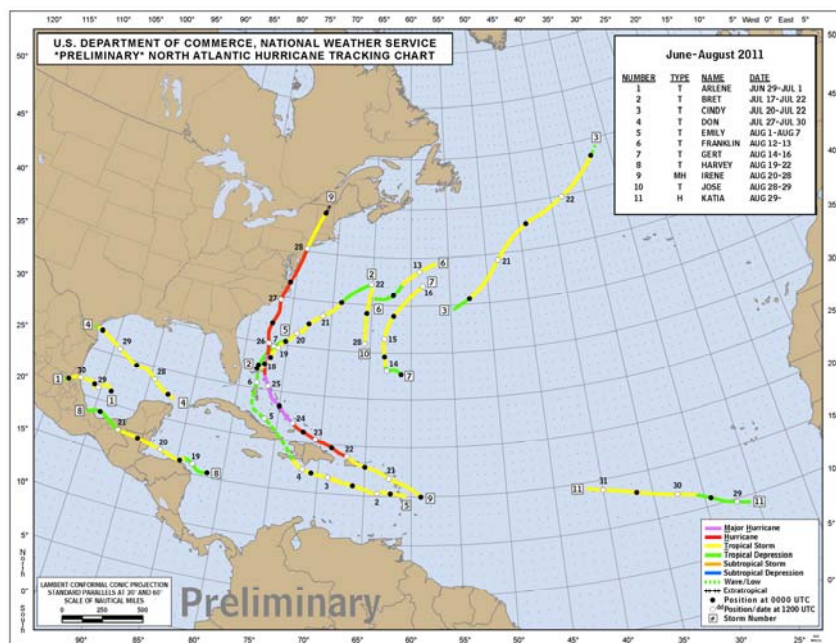


Figure 3. Atlantic tropical cyclone tracks of June-August 2011.

## September Climatology

The Climate Prediction Center <http://www.cpc.ncep.noaa.gov/products/predictions/30day/> outlook for September 2011 predicts normal temperatures and above normal rainfall for the northwest FL.

September transitions slowly into meteorological fall as the Atlantic hurricane seasons peaks by September 10<sup>th</sup>. The sea breeze phenomenon of afternoon showers and thunderstorms fades as cold fronts return to the Gulf Coast. Thunderstorm frequency averages 8 days with 9 days of measurable rain. Rainfall averages **6.60** inches at Eglin AFB (climatic period 1940-2010) and **6.72** inches at Niceville recording stations (climatic normal 1971-2000). The maximum 24-hour Eglin AFB rainfall is *10.20* inches recorded on 28<sup>th</sup> September 1998 during Hurricane Georges. Record September rainfall is 28.63 inches (1998) and this is an all time record for any month of any year of record at Eglin AFB. Niceville also set a similar record of 31.41 inches for September 1998. The driest September produced only 0.03 inch in 1984.

Average monthly temperatures range from **66°F** to **88°F** for Niceville. The record high is 102°F (1<sup>st</sup> September 1954) and the record low is 37°F (30<sup>th</sup> September 1967). High temperatures warm to 90°F or above an average 11 days and rarely exceed 95°F during September. Low temperatures rarely fall below 50°F during the month.

Relative humidity (RH) averages 73%. RH > 70% occurs 59 percent of the time. The highest hourly humidity (average RH = 85%) occurs between the hours of 3 and 5 a.m.

Surface winds are calm or northerly during the nighttime and early morning hours. Winds shift to southerly winds by midmorning with the speed averaging between 8 to 11 m.p.h. Highest September wind gust was 111 m.p.h. in 1975 from the west-northwest at Eglin AFB.

This information was compiled from Jackson Guard rainfall observations. Other reports were obtained from Eglin AFB 46<sup>th</sup> Weather Squadron, Mobile National Weather Service, NOAA Climate Prediction Center, National Hurricane Center-Tropical Prediction Center, Community Collaborative Rain, Hail, & Snow Network ([cocoarhs.org](http://cocoarhs.org)) and Florida Forest Service websites. NVOG Regional Water Sewer Board, Inc. in Niceville, FL provided the temperature and rainfall data.