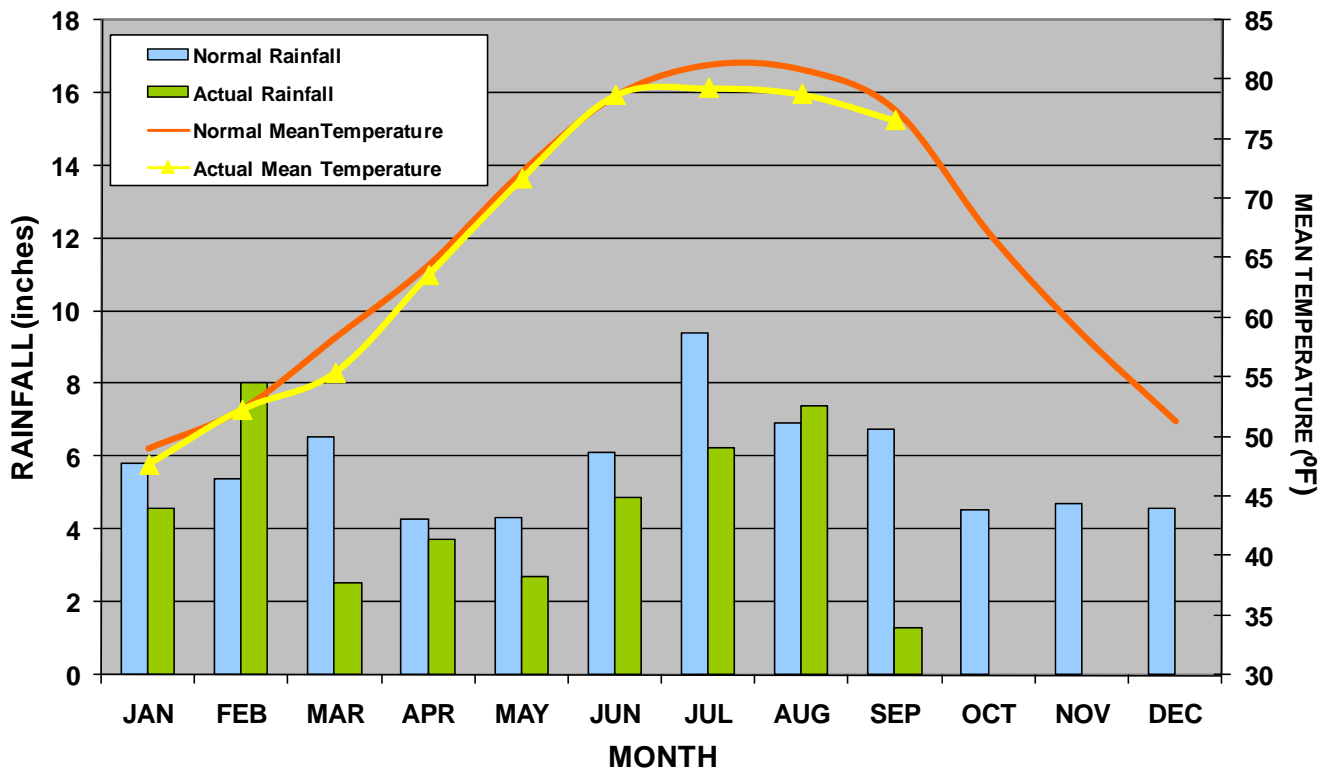


## Introduction

September 2008 produced below normal temperatures and precipitation for Niceville, FL. The month was evenly divided between a humid, tropical air mass during the first half and a cool, dry continental air mass during the last half. Tropical systems dominated the local weather pattern bringing breezy conditions, but very little rainfall fell during the month. On the morning of 1<sup>st</sup> September (Labor Day), Hurricane Gustav brought a strong feeder band of training thunderstorms that resulted in two tornado touchdowns at the Naval Air Station (Whiting Field) near Milton, FL and one at Eglin AFB, FL. Trees were uprooted and minor building damage occurred, but no injuries were reported. Hurricane Ike caused extensive coastal flooding in Okaloosa County resulting in the temporary closure of US Hwy 98 on 11<sup>th</sup>-12<sup>th</sup> September. Two weak fronts cleared the FL panhandle on the 7<sup>st</sup> & 15<sup>th</sup> September produced light rainfall amounts. After 16<sup>th</sup> September, no rainfall fell as the sea breeze phenomenon was effectively suppressed as a persistent offshore flow brought nearly uninterrupted sunshine and unseasonable dry air into the region. The lack of rainfall resulted in Niceville recording the sixth driest September and Eglin AFB recorded the eight driest September since record keeping began in 1940.

2008 Jackson Guard Rainfall/NVOC Temperature  
1971-2000 Climatic Normal (Niceville, FL)



## September 2008 Climate Summary

Jackson Guard rainfall for September totaled **1.28** inches and the Niceville (NVOC) Regional Sewer Board, Inc. recorded **1.19** inches. Eglin AFB recorded **1.57** inches for the month, 5.18 inches below the normal of 6.75 inches. Pensacola, FL recorded **4.90** inches, which is 0.85 inches below the normal of 5.75 inches. There were 3 days with measurable precipitation in Niceville, which is 5 days below the September average. There were 3 thunderstorm days which is 5 days below normal. Year to date rainfall at NVOC is 43.91 inches, which is 11.49 inches below normal of 55.40 inches. Year to date rainfall at Eglin AFB is 33.57 inches, which is 16.68 inches below the normal of 50.25 inches. Year to date rainfall at Pensacola, FL is 42.71 inches, which is 9.01 inches below normal of 51.72 inches.

The [Keetch-Byram Drought Index](#) (KBDI) at the end of September 2008 was *severe*; except for Gulf and Santa Rosa Counties where the index was *moderate*. The lack of rainfall during the second half of the month caused a dramatic rise in the drought index. The Florida Division of Forestry's [fire weather outlook](#)

for the fall 2008 season will be updated in October. Severe values of the KBDI are an indication that [wildfire](#) conditions are possible across the western Florida panhandle, especially under conditions of low humidity and high winds. When the index exceeds **540** during the fall months of September-October-November for north Florida, the wildfire threat becomes high. The values below are an indicator of soil moisture conditions in the counties containing Eglin AFB natural resources.

Florida County	Average KBDI (30 September 08)	Florida County	Average August 2008 Rainfall (inches)
Santa Rosa	528	Santa Rosa	3.32
Okaloosa	577	Okaloosa	1.17
Walton	579	Walton	1.21
Gulf	501	Gulf	0.66

For more information on daily KBDI values, visit the Florida Division of Forestry: [KBDI index](#).

The monthly mean temperature was **76.6°F** which was **0.8°F above** normal. The average high temperature at Niceville NVOC was **85.7°F** (**2.7°F below** normal). The highest temperature of the month was 90°F observed on the 8<sup>th</sup> & 9<sup>th</sup> September. There were 2 days when the maximum temperature reached 90°F or above, which was **9 days below normal**. A record high minimum temperature 75°F was recorded on 14<sup>th</sup> September which broke the previous record of 74°F set back in 1973. The average low temperature was **67.4°F** (**1.0°F above** normal). The lowest temperature of the month was 53°F observed on the 27<sup>th</sup> September. There were 15 mornings when the minimum temperature did not fall below 70°F occurring entirely during the first half of September 2008.

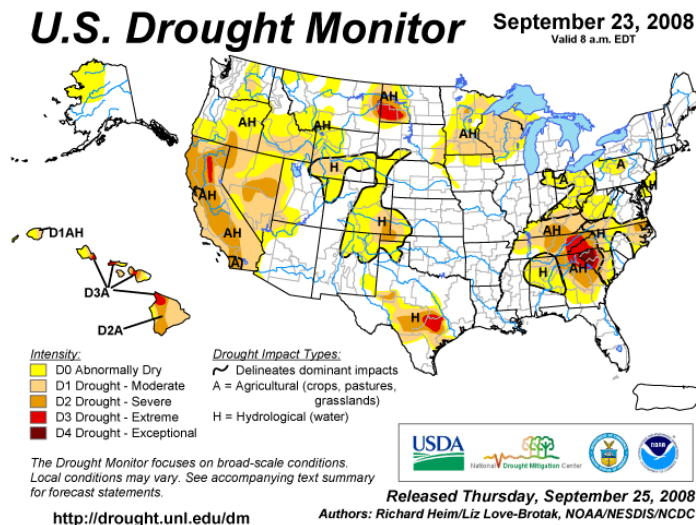


Figure 1. Latest U.S. Drought Monitor features persistent drought over the southeast U.S. since 2007.

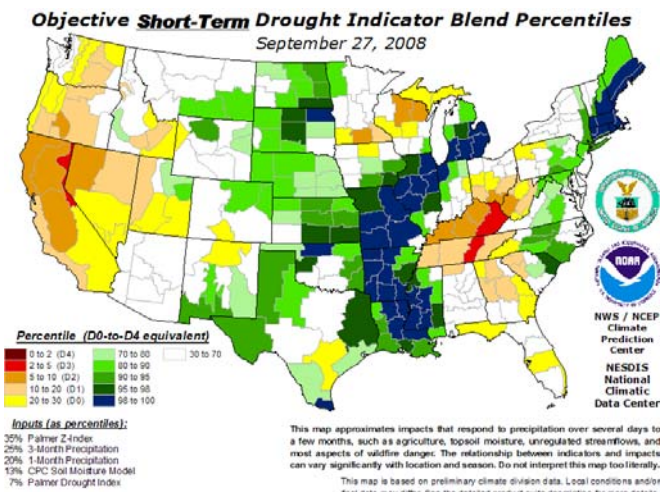


Figure 2. Current drought (D0) indicated for northwest FL.

### Tropical Summary September 2008

Tropical cyclone activity during September was average with four named tropical cyclones. Two tropical storms formed (Josephine, Laura); two were hurricanes (Hanna, Kyle), and one a major hurricane (Ike). On average, four named tropical cyclones form during September with two becoming hurricanes and one strengthening into a major hurricane. Hurricanes Gustav and Hanna formed in August were also active during the month of September.

Gustav made landfall along the Louisiana coast near Cocodrie on 1<sup>st</sup> September as a category 2 hurricane and by 2<sup>nd</sup> September weakened to a tropical depression over northwest Louisiana. Hanna that made landfall as a strong tropical storm during the morning hours of 6<sup>th</sup> September near the North and South Carolina border moving into eastern VA before turning out to the Atlantic and making another landfall at Long Island, NY and exited the coast of Massachusetts. Ike was the major Cape Verde hurricane of the

season that caused extensive damage and numerous deaths in the Caribbean and along the coasts of Texas and Louisiana. Ike developed a large wind field (larger than Hurricane Katrina in 2005) as it moved northwestward across the Gulf of Mexico during its three day passage (9<sup>th</sup>-13<sup>th</sup> September). Ike made landfall as a category 2 hurricane with maximum sustained winds of 110 mph along the north end of Galveston Island, TX during the morning hours of 13<sup>th</sup> September. The destruction from storm surge was the most significant aspect of the hurricane, particularly along the Bolivar Peninsula, east of Galveston, TX. Preliminary media reports indicate that there were 8 direct deaths from Ike with 6 fatalities due to drowning in the storm surge. The remnants of Ike also caused wind damage and extensive flooding across the Mississippi and Ohio valleys.

### **October Outlook**

The Climate Prediction Center <http://www.cpc.ncep.noaa.gov/products/predictions/30day/> outlook for October 2008 predicts near normal temperatures and above normal rainfall for the northwest FL.

### **October Climatology**

October is the driest month of the fall season. High pressure predominates as cooler and drier continental air masses lower average temperatures 8°F over September's mean temperature. Thunderstorm frequency averages 3 days with 5 days of measurable rain. Rainfall averages **3.81** inches at Eglin AFB (climatic normal 1940-2007), which is their second driest month (after May) of the year and Niceville averages **4.53** inches (climatic normal 1971-2000). The maximum 24-hour Eglin AFB rainfall is 6.87 inches recorded on October 4, 1995 during Hurricane Opal and Niceville recorded 6.25 inches on October 31, 1967. The greatest October rainfall is 14.97 inches (1959) and trace rainfall in 1952, 1961 & 1963.

Average monthly temperatures range from **59°F** to **79°F**. Temperatures rarely exceed 90°F and have never fallen below 32°F at Eglin AFB. The Eglin AFB record high is 95°F (October 8, 1941) and the record low is 33°F (October 30, 1952). The Niceville record high is 99°F (October 4, 1954) and the record low is 27°F (October 30, 1952).

Relative humidity (RH) averages 70%. RH > 70% occurs 53 percent of the time. The highest hourly humidity (average RH = 81%) occurs between the hours of 3 and 5 a.m.

Surface winds tend to remain calm, or light and variable, or northerly during the nighttime. Easterly winds tend to prevail in the morning with wind speeds averaging up to 9 mph. During the afternoon, winds are evenly distributed between northerly and southerly averaging 9 m.p.h. Highest October wind gust estimated at Eglin AFB is 100 m.p.h. in 1995 from Hurricane Opal while Hurlburt Field recorded a peak wind gust of 125 m.p.h.

This information was compiled from Jackson Guard rainfall observations. NVOC Regional Water Sewer Board, Inc. in Niceville, FL provided the temperature and additional rainfall data. Other reports were obtained from Eglin AFB 46<sup>th</sup> Weather Squadron, Duke & Hurlburt Fields, Mobile National Weather Service, NOAA Climate Prediction Center, Southeast Regional Climate Center, Florida Division of Forestry and the National Hurricane Center websites.