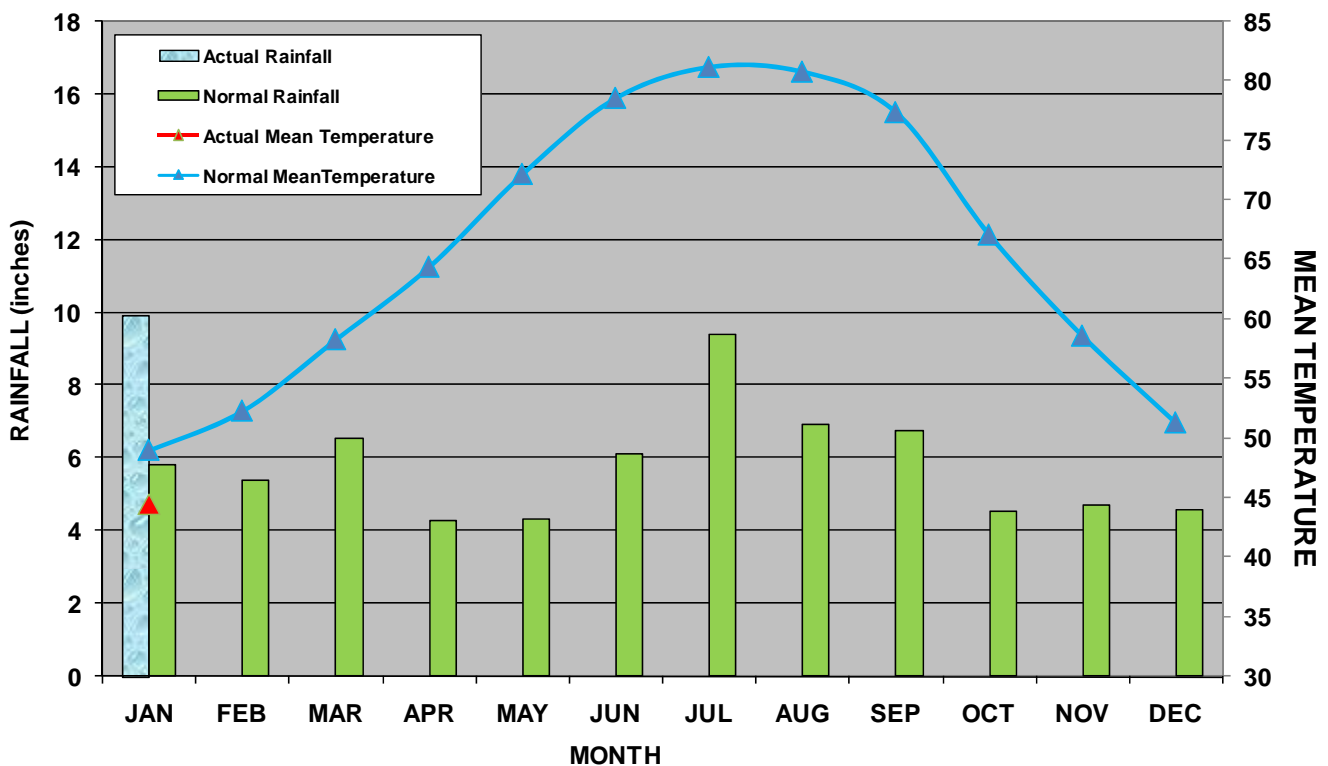


Introduction

January 2010 produced below normal temperatures and above normal precipitation for Niceville, FL. A series of upper-level troughs migrated across the U.S. during December and January as strong ridging aloft over Greenland forced arctic air into the region for a prolonged duration. The weather was unseasonably cold as the arctic air-mass persisted for the first half of the month (January 2-14). Mobile, AL to Tallahassee, FL experienced for nearly two weeks near record to record consecutive minimum temperatures below freezing. The coldest temperatures of the winter season produced morning lows as low as **12°F** in Crestview and **25°F** in Destin, FL on the 11th January 2010. The subtropical jet stream was active as two strong surface lows (16th & 30th January) formed in the vicinity of the Gulf Coast, producing excessive rainfall for the second month in a row. Cold fronts cleared the Florida panhandle on the 8th, 12th, 17th, 22nd, 24th, & 30th January and warm fronts occurred on 16th, 21st, 24th & 30th January. Flash flooding occurred during the nighttime hours of 20-21 January when **8.89 inches** fell at Crestview and **7.96 inches** in Jay, FL with general rainfall of 3 to 6 inches across the western Florida panhandle. Other bands of heavy rainfall of 3 to 7 inches occurred across the eastern Florida panhandle on the 22nd January. Isolated, heavy rainfall of 2 to 4 inches fell across northern Santa Rosa, Okaloosa and Walton Counties, FL during the nighttime hours of the 29-30 January. Despite the frequency of moisture and cold temperatures, no winter precipitation was observed during the month. This cold and stormy pattern of a persistent trough over the southeast U.S. is typical of a moderate to strong El Niño pattern.

**2010 Jackson Guard Rainfall/NVOC Temperature
1971-2000 Climatic Normal (Niceville, FL)**



January 2010 Climate Summary

Jackson Guard rainfall for January totaled **9.93** inches and the Niceville (NVOC) Regional Sewer Board, Inc. recorded **9.30** inches. Eglin AFB recorded **8.38** inches for the month, *3.93 inches above* the average (1940-2009) of 4.45 inches. Pensacola, FL recorded **6.07** inches, which is *0.73 inches above* the normal (1971-2000) of 5.34 inches. There were 9 days with measurable precipitation at the NVOC, which is *1 day above* average. There were 3 thunderstorm days, which is *one day above* normal. Fog obstructed visibility on 19th & 24th January to less than 1 mile. January 2010 total precipitation ranked as the sixth wettest January since record keeping began in 1927 at Niceville, FL.

The [Keetch-Byram Drought Index](#) (KBDI) at the end of January 2010 was *very low*. North Florida is moister than the rest of the state where the greatest indices show moderate fire danger is present in south central Florida. The values below are an indicator of soil moisture conditions in the counties containing Eglin AFB natural resources based upon reported rainfall. Due to limited observations, average rainfall amounts may be under represented in the listed counties. Please refer to Figure 1 for Doppler precipitation estimates.

Florida County	Average KBDI (31 January 09)	Florida County	Average January 2010 Rainfall (inches)
Santa Rosa	6	Santa Rosa	7.18
Okaloosa	8	Okaloosa	9.01
Walton	4	Walton	8.59
Gulf	19	Gulf	6.22

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

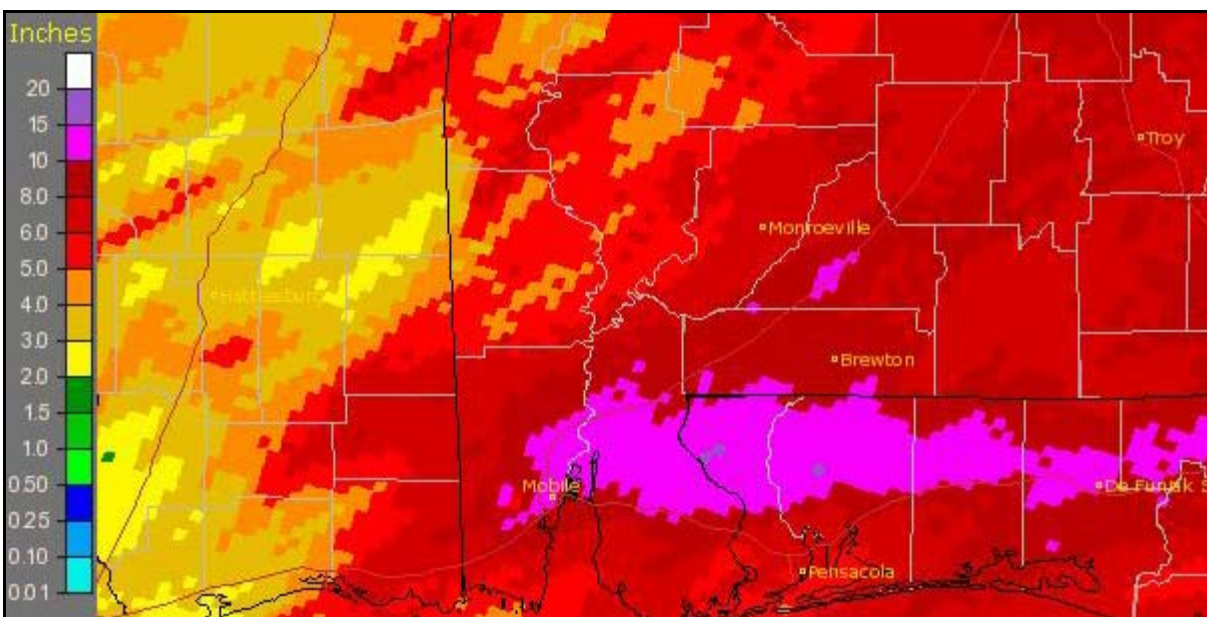


Figure 1. January 2010 total precipitation map showing widespread 5 to 10 inches of rainfall, with isolated areas exceeding 15 inches. Jay, FL recorded 14.36 inches and was the greatest January total reported.

The monthly mean temperature was **44.5°F** which was 4.5°F *below* normal. The average high temperature at NVOC was **55.9°F** (5.4°F *below* normal). The highest temperature of the month was 70°F observed on the 22nd January. January 2010 average temperature ranked as the sixth coolest January since record keeping began in 1940 at Niceville, FL. The average low temperature was **33.1°F** (3.6°F *below* normal). The lowest temperature of the month was 17°F observed on 11th & 12th January. There were 18 mornings when the minimum temperature was ≤32°F, which is 6 days *above* normal. Niceville NVOC recorded 15 consecutive mornings of minimum temperatures ≤32°F from 2nd-16th January.

2009 U.S. Temperature Average

The 2009 average annual temperature for the contiguous U.S. was near the 20th century average. Based on preliminary data from the National Climatic Data Center, the 2009 annual average temperature was 53.1°F; 0.3°F *above* the mean of 52.8°F (Figure 2).

National (Contiguous U.S.) Temperature 1895 - 2009

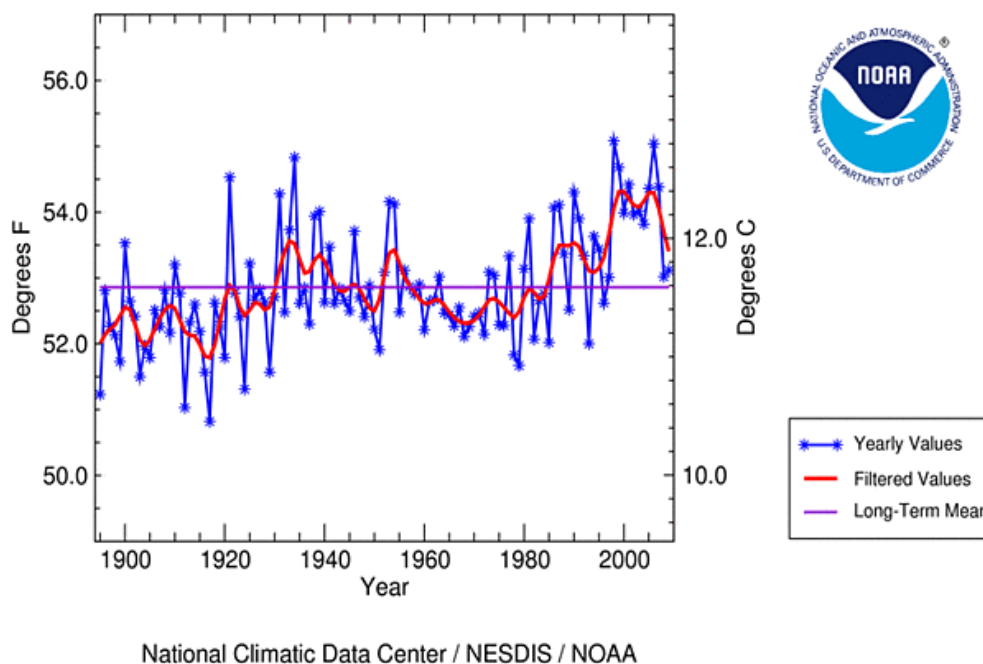


Figure 2. 2009 U.S. annual temperature.

El Niño Outlook

Sea surface temperatures (SST) remained 1.0°C - 2.5°C above average across the equatorial Pacific, but have decreased during the last 30 days across the east-central and eastern Pacific. Latest observations and model forecasts indicate that the current El Niño phase is near its peak and will gradually decrease to a neutral phase by the summer 2010. Based on this trend and the combined effects of surplus soil moisture, an active jet stream will continue above normal precipitation.

February Outlook

The Climate Prediction Center <http://www.cpc.ncep.noaa.gov/products/predictions/30day/> outlook for February 2010 predicts below normal temperatures and above normal rainfall for the Florida.

February Climatology

February is the last winter month with weather systems similar to that of January. Polar fronts arrive every four to five days. Low pressure systems occasionally form when the orientation of the jet stream traverses the Gulf of Mexico or induces a wave along a stationary front. These weather systems result in steady and showery weather producing moderate to heavy precipitation. Severe weather is infrequent, but can occur as a squall line ahead of a cold front producing strong winds or rarely tornadoes. Visibility becomes obstructed due to fog an average of 17 days. Advection or “sea” fog (warm Gulf of Mexico air moving over the cooler coastal region) most often forms during the afternoon and can persist for several days. Morning fog caused by radiational cooling following cold fronts is also common. Low-level stratus clouds usually remain once the surface visibility becomes unrestricted.

Thunderstorm frequency averages 3 days during February and 9 days have measurable rainfall. Average rainfall is 4.77 inches at Eglin AFB (1940-2009) and 5.39 inches is the Niceville normal (1971-2000). The maximum 24-hour Eglin AFB rainfall is 5.86 inches recorded on February 1, 1983. At Niceville the record 24-hour rainfall is 8.30 inches observed on February 16, 1970. Record Niceville February rainfall

is 12.78 inches (1979). The driest February in Niceville produced 0.26 inch in 1951. Snowfall has been recorded only three years since record keeping began in 1940 at Eglin AFB. Maximum Eglin snowfall of 1.3 inches fell February 9, 1973.

Average monthly temperatures for Niceville range from 65°F to 40°F. The record high is 83°F (February 24, 1980) and the record low is 11°F (February 3, 1951). Minimum temperatures below 32°F average eight days during February.

Relative humidity (RH) averages 70%. RH > 70% occurs 54 percent of the time. The highest hourly humidity (average RH = 78%) occurs between the hours of midnight and 8 a.m.

Surface winds are primarily northerly during the day occur with speeds averaging up to 9 mph. Frontal waves and gulf lows alter winds to a easterly or southerly component. Highest February wind gust was 59 m.p.h. in 1983 from the west.

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 46th Weather Squadron, Mobile National Weather Service, NOAA Climate Prediction Center, Southeast Regional Climate Center, Community Collaborative Rain, Hail, & Snow Network, and the Florida Division of Forestry websites. Special thanks given to Major Michael Scott, Meteorologist at the 46th Weather Squadron, Eglin, AFB for providing additional assistance.