MEMORANDUM

TO: Governing Board

FROM: Megan Wetherington, P.E., Water Resources Engineer MW

THRU: David Still, Executive Director DS
Kirk B. Webster, Deputy Executive Director KBW

DATE: December 4, 2008

RE: November 2008 Hydrologic Conditions Report for the District

The hydrologic conditions report is compiled in compliance with Chapter 40B-21.211, Florida Administrative Code, using water resource data collected from the following: rainfall (radar-derived estimate), groundwater levels (90 wells), surfacewater levels (16 lakes and 11 rivers), river flows (6 stations on 4 rivers), spring flows (6 stations, courtesy of the Florida Department of Environmental Protection and the U.S. Geological Survey), and general hydrological and meteorological information (drought indices and weather forecasts). Data are provisional, and subject to revision. Statistics are updated as revised data become available.

RAINFALL

- Average District rainfall in November (typically the driest month of the year) was 2.02", which is below the long-term monthly average of 2.36" (Table 1, Figure 1). Much of the District received less than 0.5" prior to a frontal system that arrived on the last day of the month. Figure 2 shows the estimated rainfall accumulation across the District, and Figure 3 shows the rainfall totals as a percent of normal November rainfall.
- The average12-month departure from normal rainfall was a surplus of 0.35". Figure 4 depicts the 12-month surplus/deficit across the District. Figure 5 shows the change in annual deficits beginning in 1998. The District's 24-month deficit was 13.7".

SURFACEWATER

- **Rivers**: Streamflow in the Suwannee River above Branford and the Alapaha and Withlacoochee Rivers remained near their monthly average (Figure 6). The Suwannee River near Wilcox fell below the 7-day, 10-year low flow during the last half of the month. Flow in the upper Santa Fe remained near the 25th percentile, but still within its normal range for this time of year. (The percentile is the percentage of flows or levels that are equal to or below the observed value.) The Santa Fe River near Fort

White, in the lower Santa Fe River, remained below record November low flows recorded in 2002. Discharge statistics for six river stations are presented in Figure 8.

- **Lakes**: Levels rose in monitored lakes in Madison and Jefferson counties, and declined elsewhere. Of 16 monitored lakes, only Lake Francis in Madison was above its long-term average level. No record low levels were observed. Figure 7 shows lake levels relative to the long-term average, minimum, and maximum levels for six lakes.
- **Springs:** Spring flows in 5 systems (Figure 9) declined since last month. Flow at Madison Blue Springs increased, due to locally higher rainfall.

GROUNDWATER

- Groundwater levels decreased in 74% of the District's monitored wells, falling by an average of 0.6 feet (Figure 10). Fifty-five percent of the levels were above the 25th percentile (normal range), compared to 58% last month. No record lows were observed. Monthly statistics for a representative sample of wells are shown in Figure 11.

HYDROLOGICAL/METEOROLOGICAL INFORMATION

- The 12-month Standardized Precipitation Index (SPI), based on long-term precipitation patterns that impact streams and groundwater, indicated near-normal conditions throughout the District. The 3-month SPI, which better describes soil moisture deficits, indicated moderately dry conditions.
- As characterized by the US Geological Survey based on seven-day average streamflow, none of the District's major river basins are experiencing hydrologic drought.
- Long-range outlooks from the National Weather Service Climate Prediction Center show drought development is likely through February.

WATER CONSERVATION

A Phase I Water Shortage Advisory requesting voluntary reductions in water use remains in effect. The District urges all water users to eliminate wasteful and inefficient water use. Water is conserved by using the minimum amount needed and by irrigating only when necessary and in the morning before 10 a.m. and in evening hours after 4 p.m., when lower temperature and wind velocity reduce the amount of water lost to evaporation. The District offers a variety of free water conservation information to the public via its website and by request.

/dd

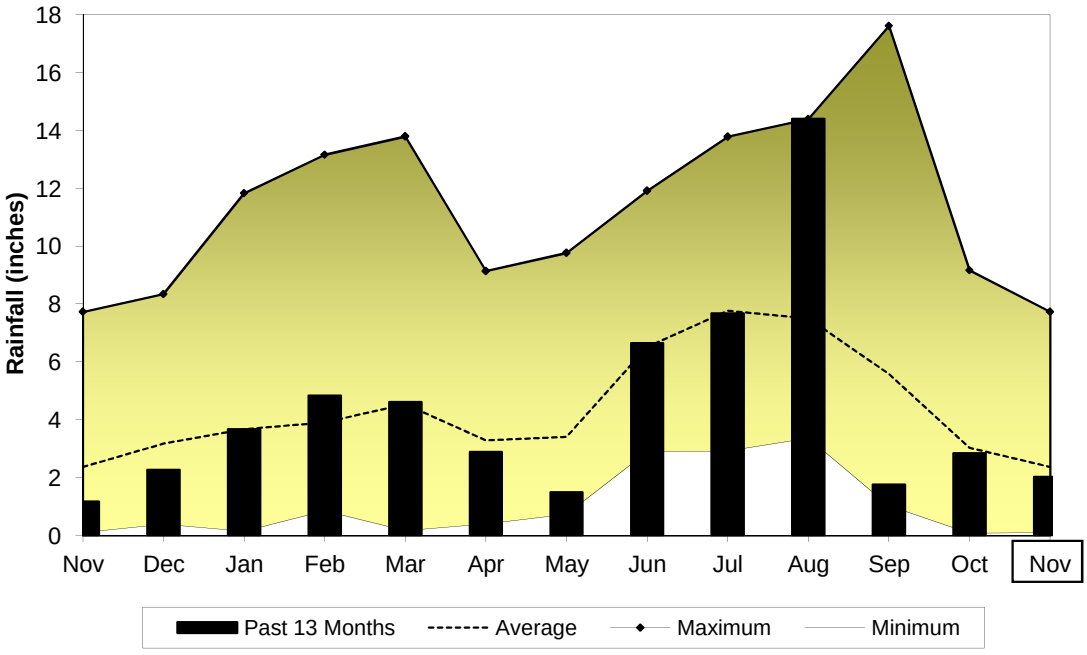
Table 1. Estimated Rainfall Totals

County	Nov-2008	Nov-2007	Last 12 Months	November Average
Alachua	1.68	0.92	50.86	2.23
Baker	1.83	0.65	58.66	2.23
Bradford	1.59	0.46	51.00	2.32
Columbia	1.59	0.99	53.89	2.42
Dixie	1.96	1.23	57.72	2.35
Gilchrist	1.76	1.23	53.46	2.72
Hamilton	2.18	1.17	52.99	2.79
Jefferson	3.16	1.74	56.70	3.63
Lafayette	1.82	1.31	58.35	2.52
Levy	1.84	1.43	57.46	2.64
Madison	2.79	1.61	60.78	3.31
Suwannee	1.97	1.47	58.15	2.43
Taylor	2.18	1.44	55.94	2.71
Union	1.58	0.55	50.04	2.55

November 2008 Average:	2.02
Historical November Average:	2.36
Historical 12-month Average:	54.68
Past 12-Month Total:	55.03
12-month Rainfall Surplus:	0.35

(Rainfall reported in inches)

Figure 1: Comparison of District Monthly Rainfall



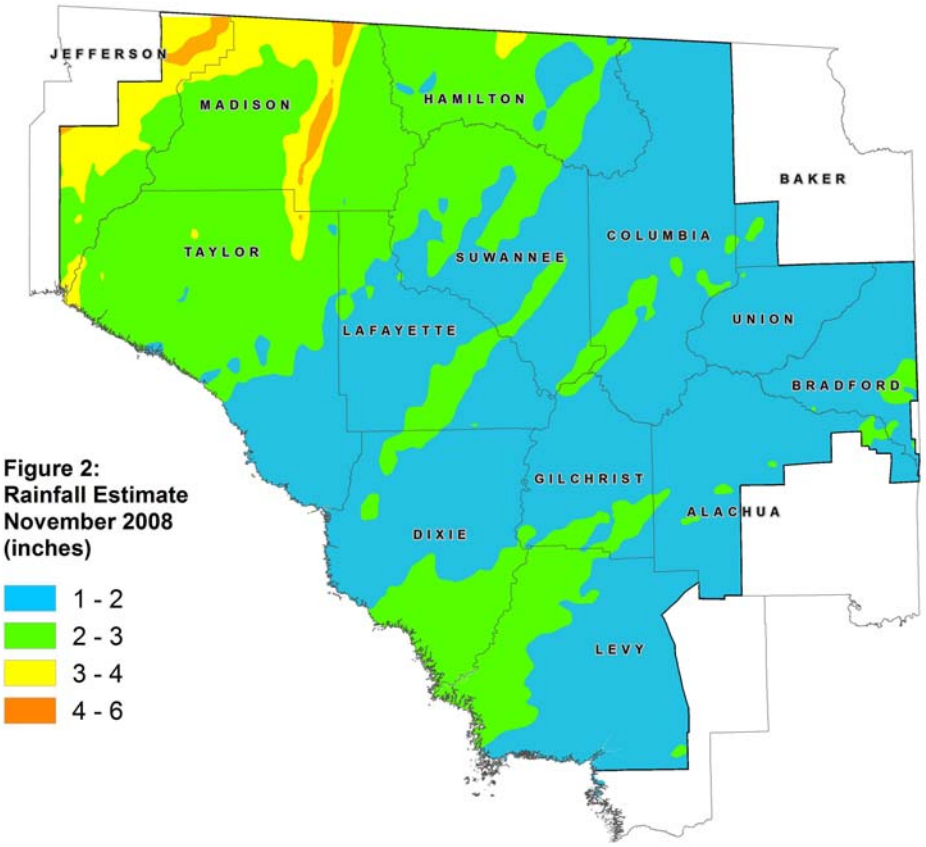


Figure 2:
Rainfall Estimate
November 2008
(inches)

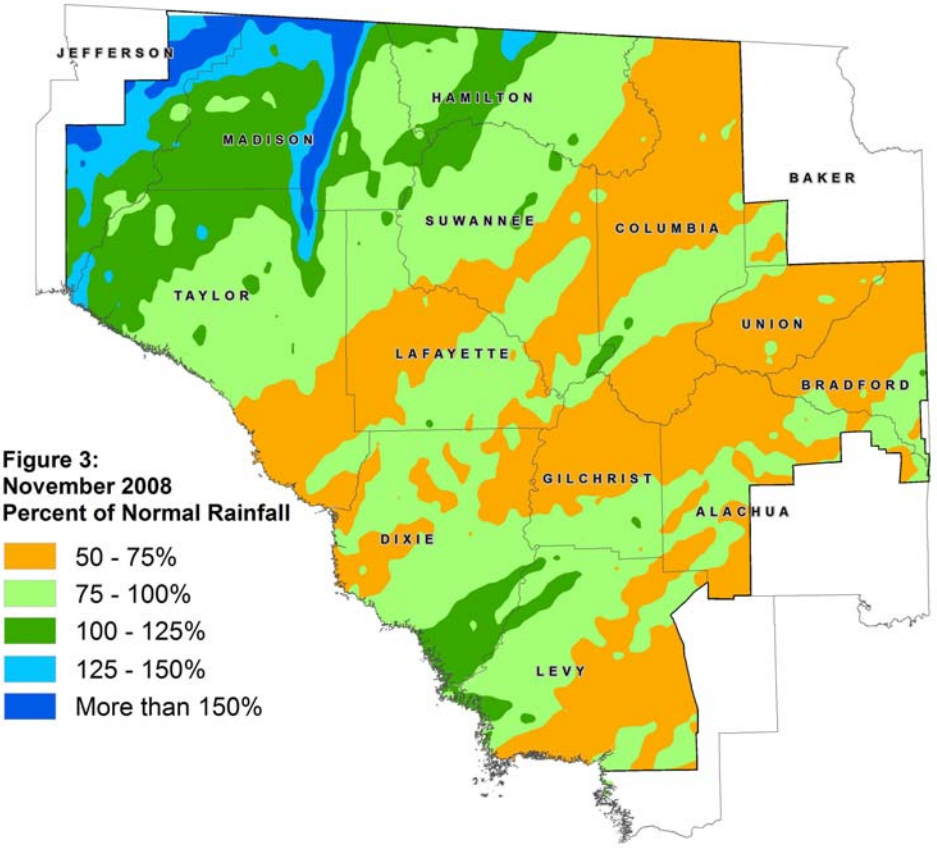
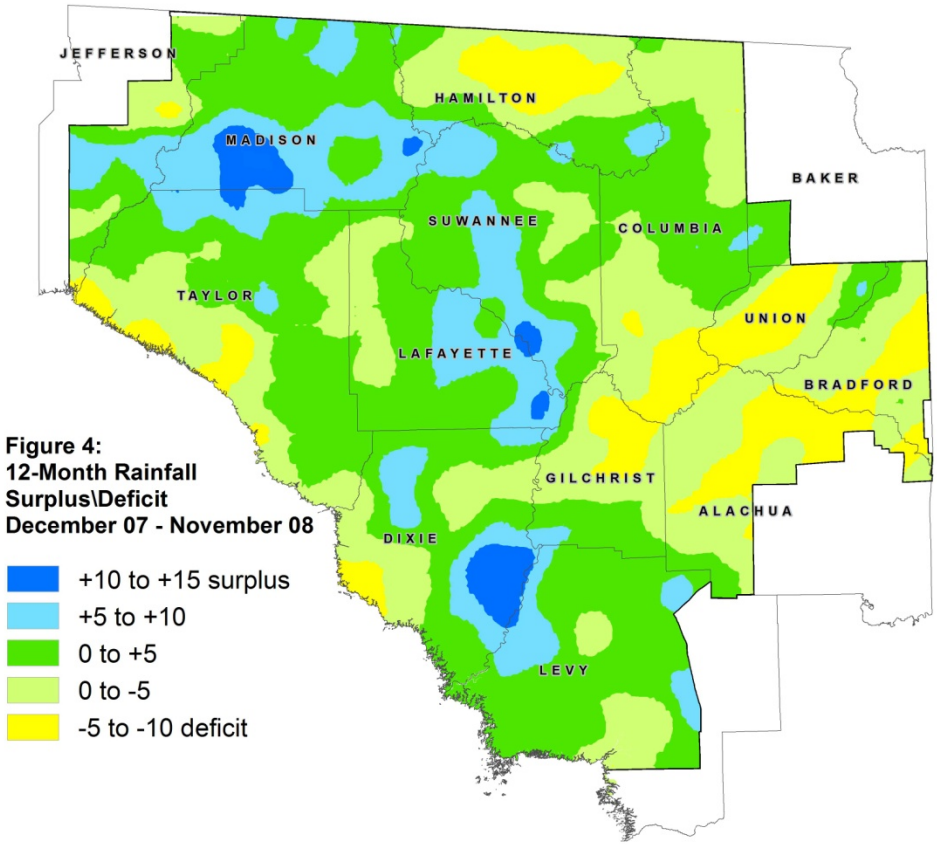


Figure 3:
November 2008
Percent of Normal Rainfall



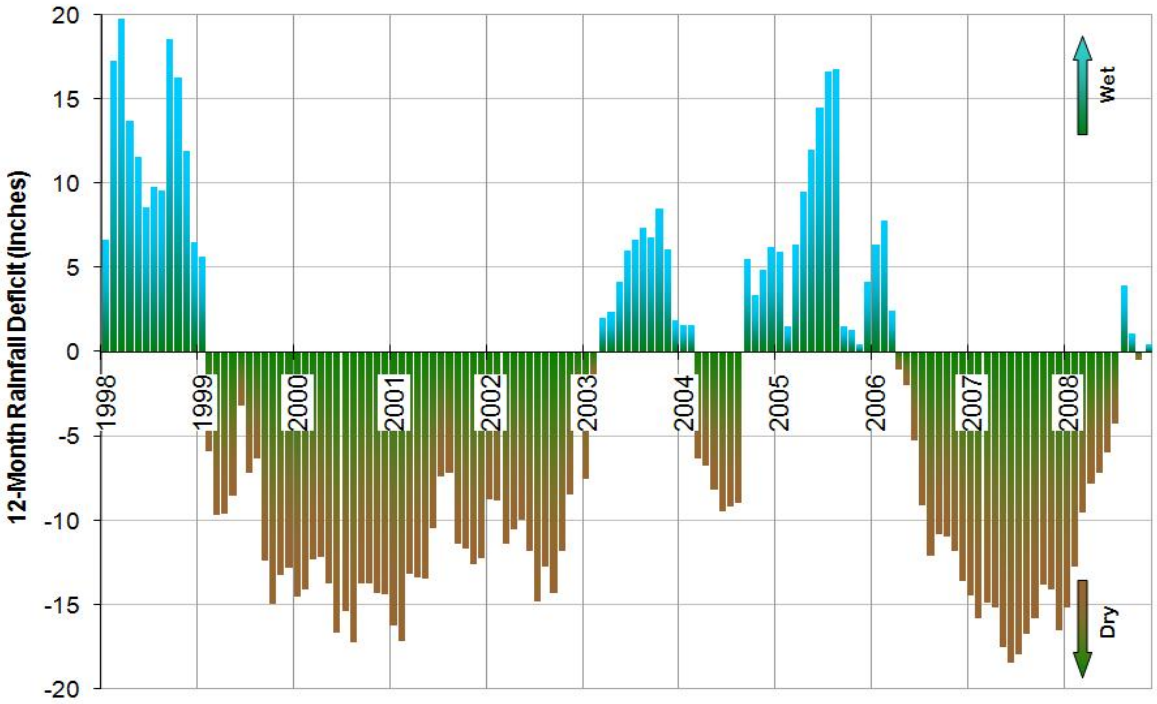
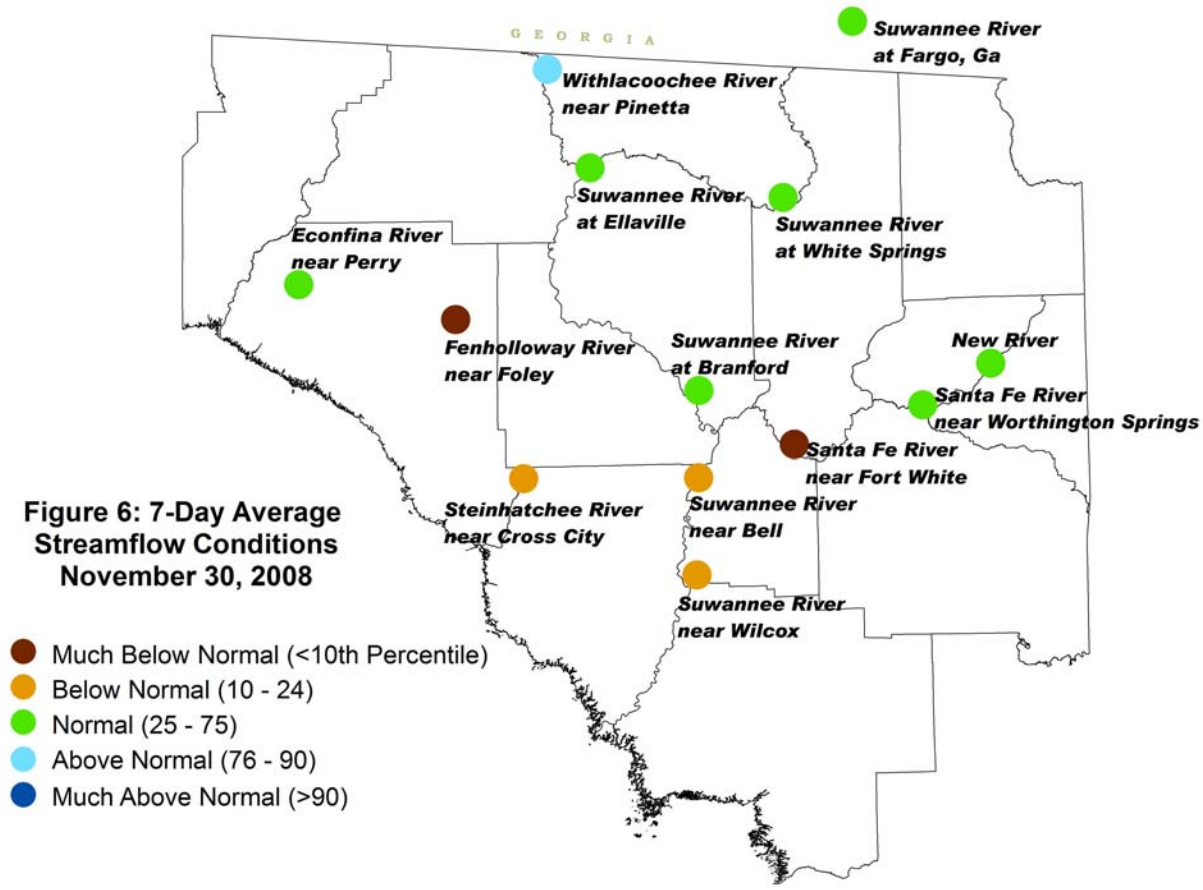


Figure 5: 12-month rolling rainfall deficit (difference between the rainfall that fell during any 12-month period and the long-term average expected over the same period, January 1998-November 2008)



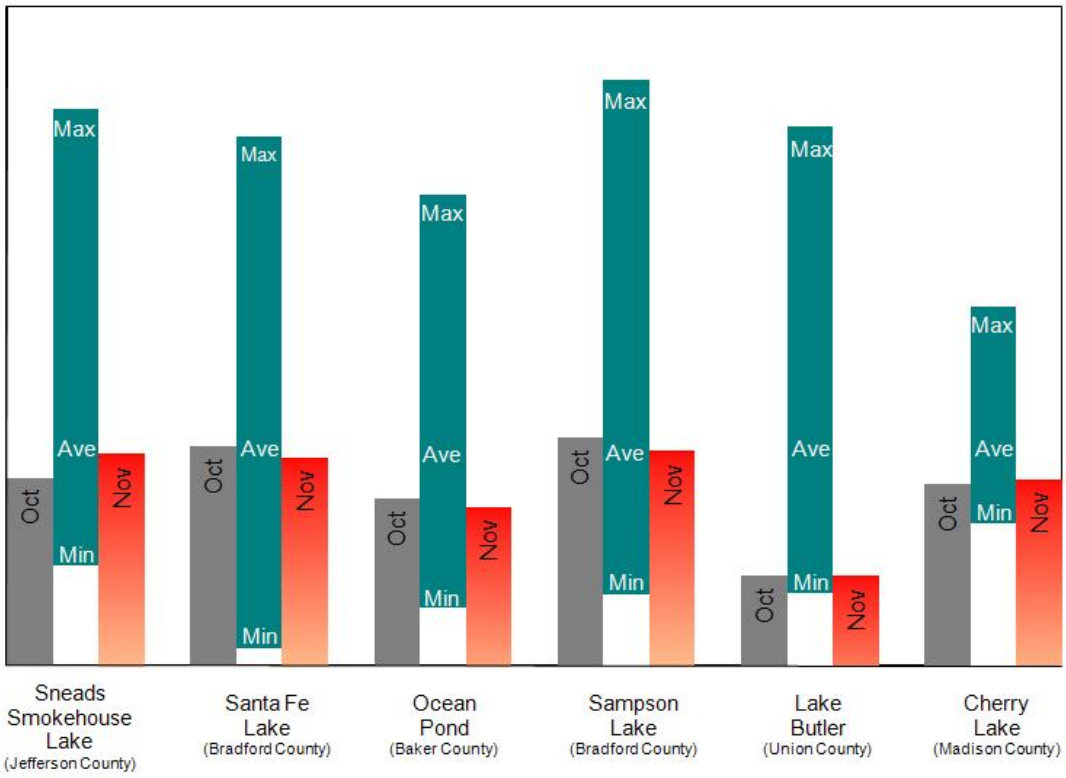
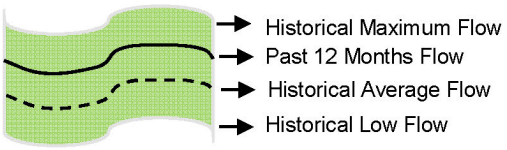
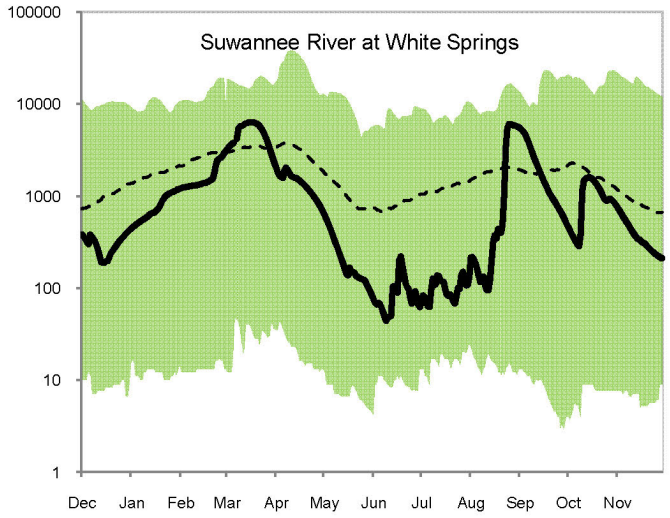


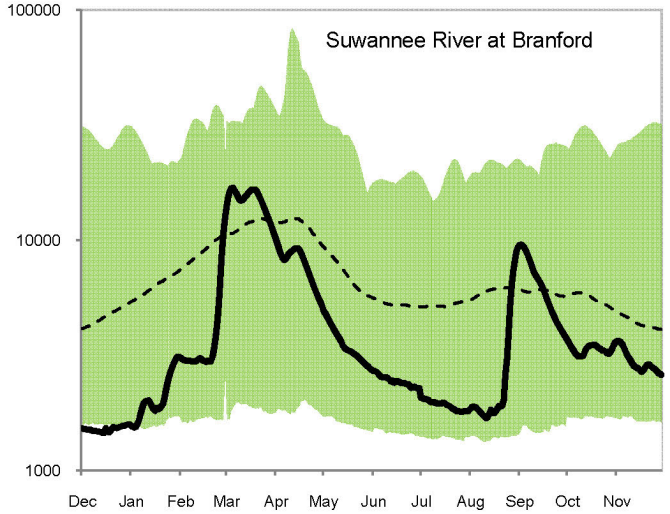
Figure 7: Lake levels, relative to historic maximum, minimum, and average levels.

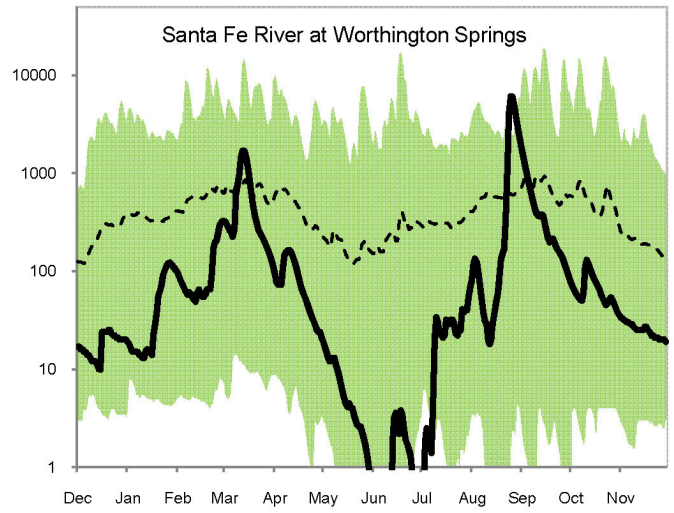
Figure 8: Daily River Flow Statistics
December 1, 2007 through November 30, 2008

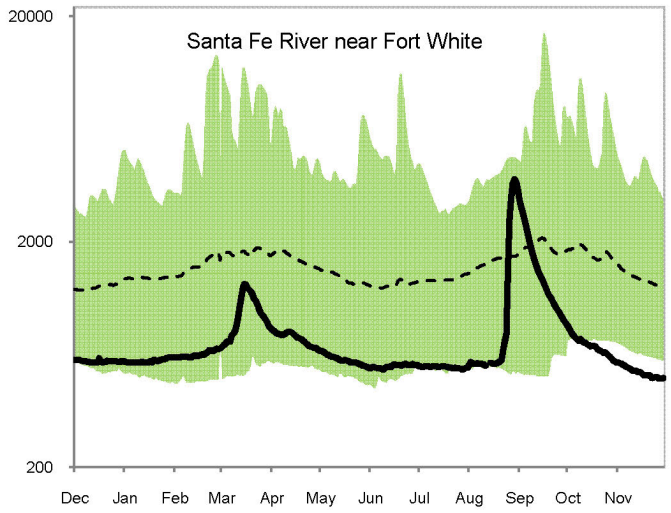


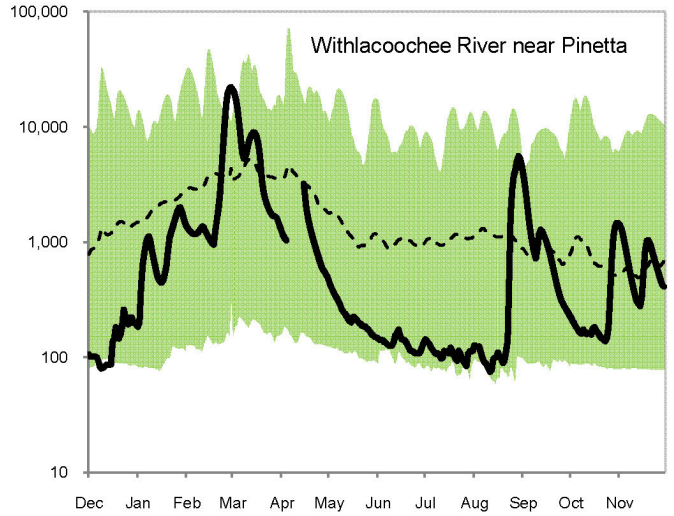
RIVER FLOW, CUBIC FEET PER SECOND











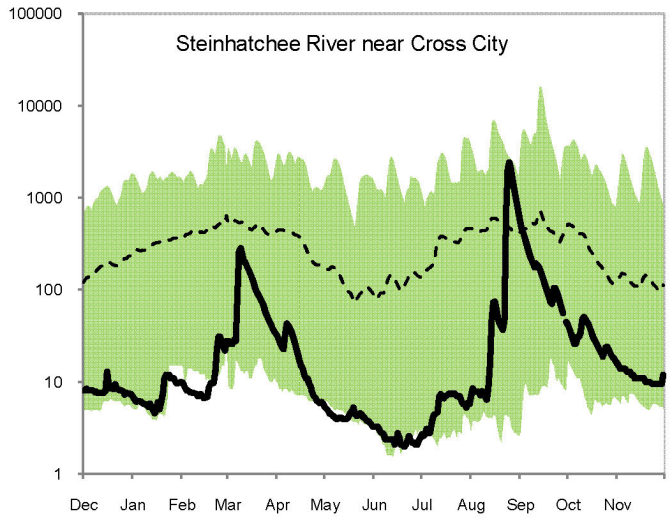
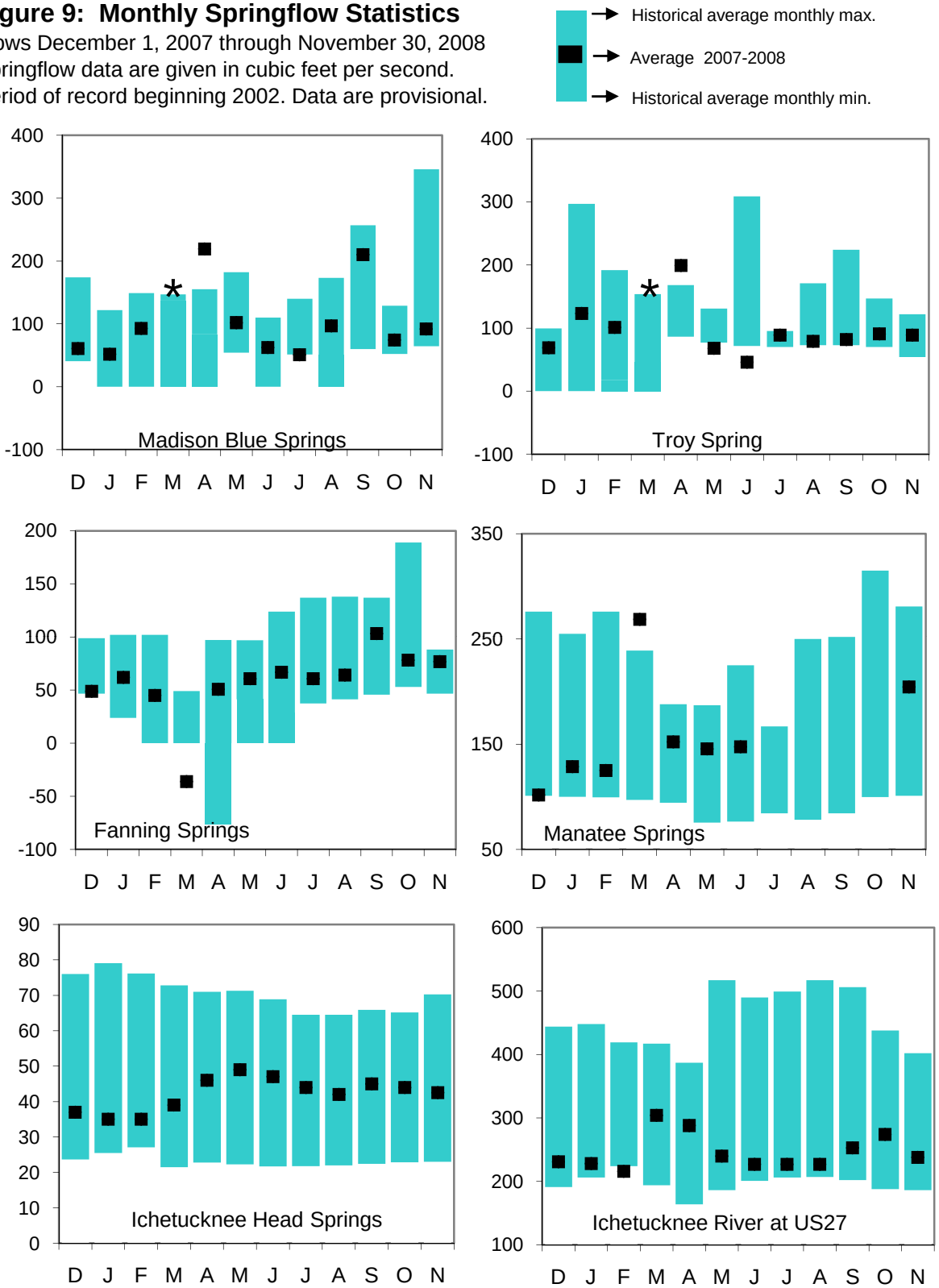


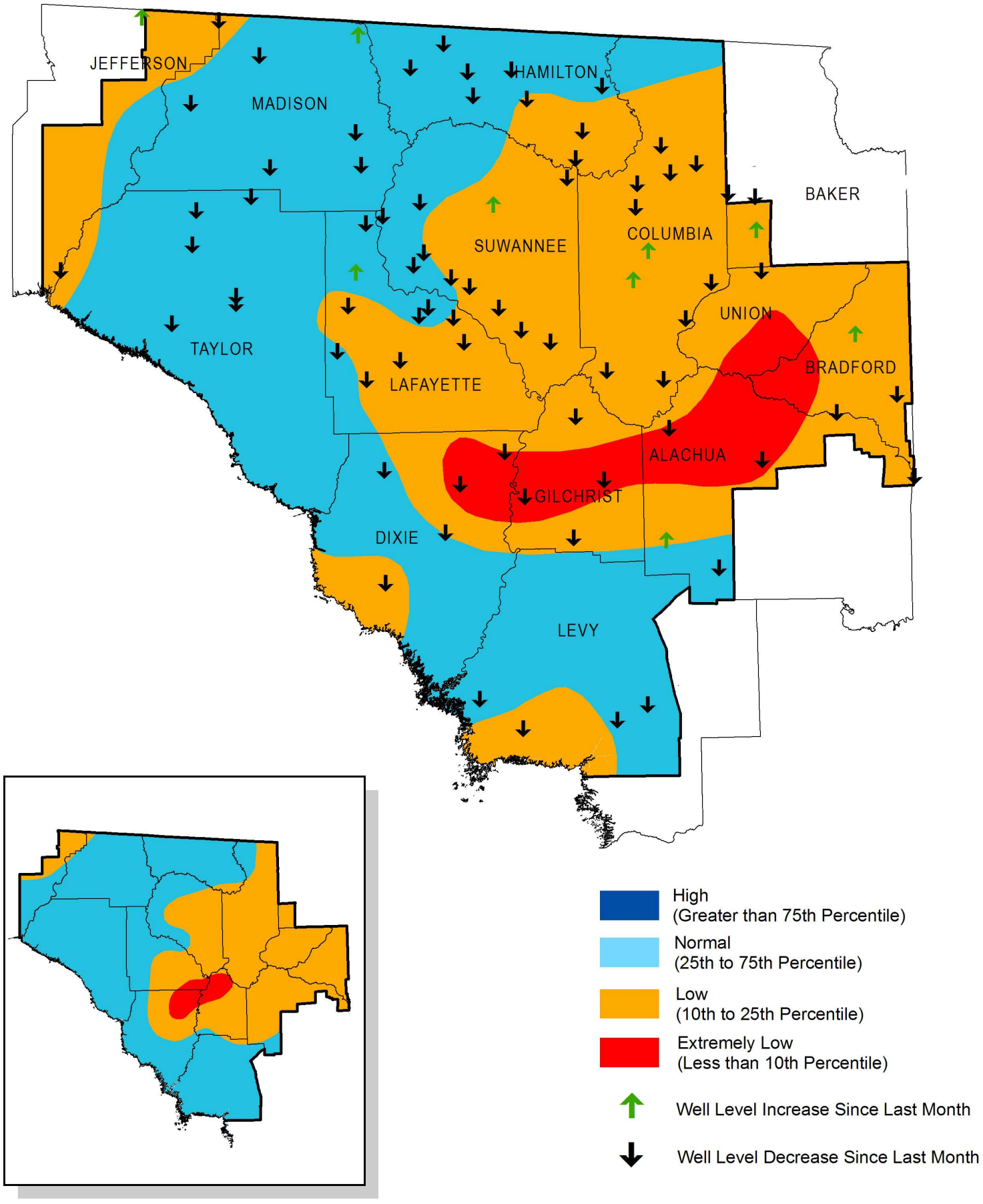
Figure 9: Monthly Springflow Statistics

Flows December 1, 2007 through November 30, 2008
Springflow data are given in cubic feet per second.
Period of record beginning 2002. Data are provisional.



Note: River flooding can cause springflow to slow or even reverse. Springflow for months marked by an asterisk (*) was strongly affected by river conditions. Data for these months will be included once approved and published by the U.S. Geological Survey.

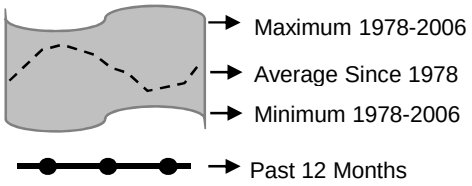
Figure 10: November 2008 Groundwater Levels



Inset: October 2008 Groundwater Levels

Figure 11: Monthly Groundwater Level Statistics

Levels December 1, 2007 through November 30, 2008
Period of Record Beginning 1978



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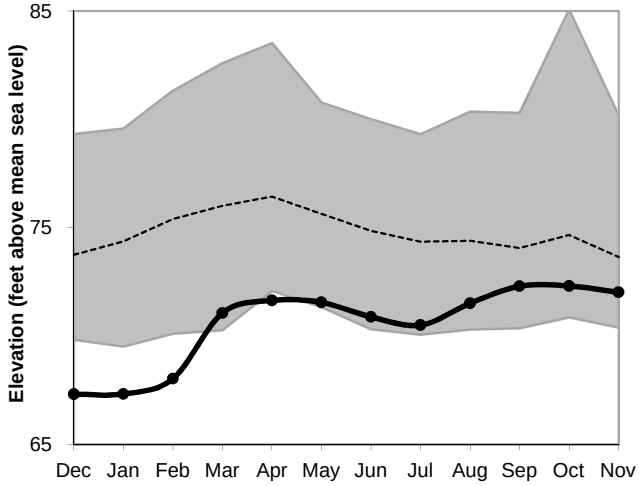

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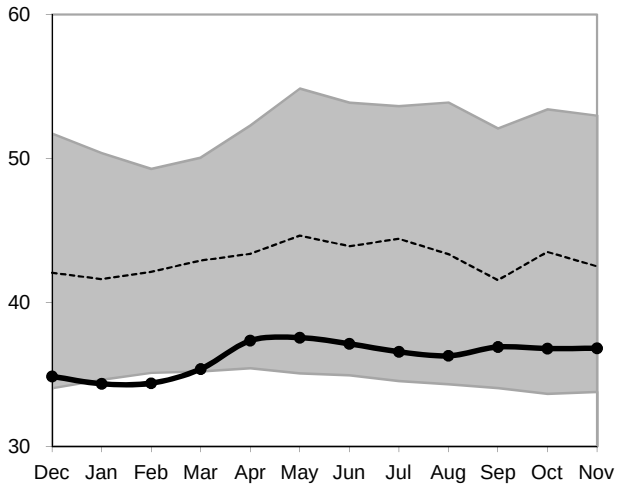

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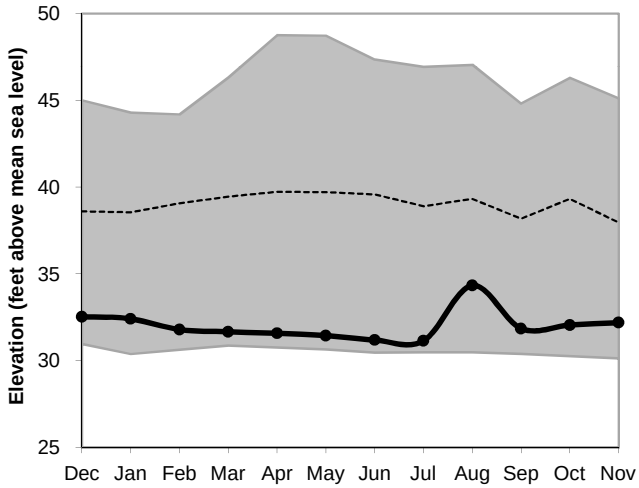

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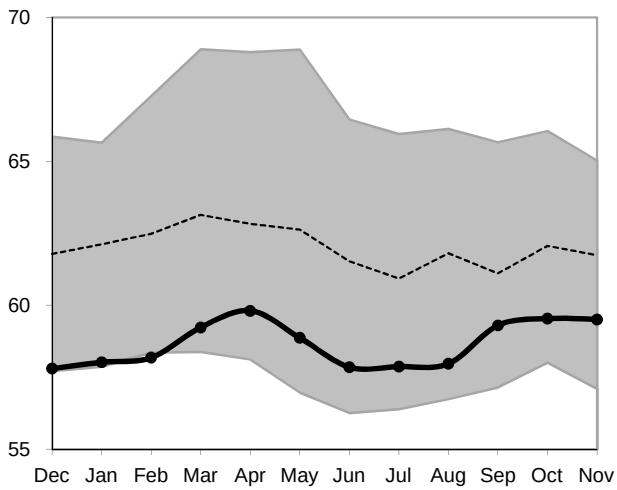

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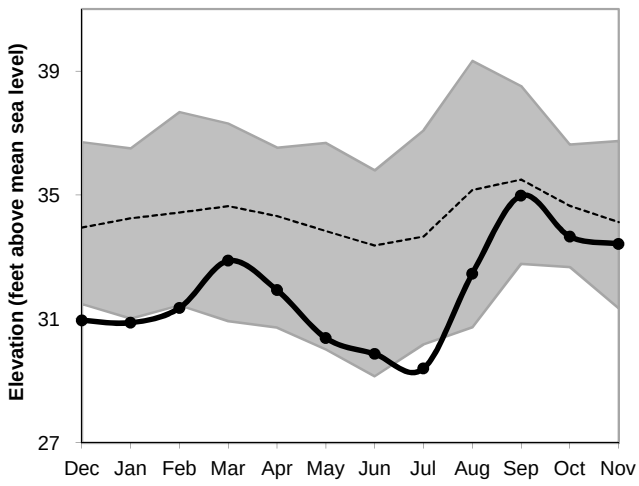

Taylor County S050701001