

MEMORANDUM

TO: Governing Board

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

THRU: Jerry A. Scarborough, Executive Director *JAS*
Kirk B. Webster, Deputy Executive Director *KBW*

DATE: February 8, 2008

RE: January 2008 Hydrologic Conditions Report for the District

The monthly 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 rainfall estimate), groundwater levels (89 wells), surfacewater levels (17 lakes and 11 rivers), river flows (6 stations on 4 rivers), and general hydrological/meteorological information (drought indices and weather forecasts). Rainfall and surfacewater data are provisional, and subject to revision. Statistics are updated as revised data become available.

RAINFALL

- Average District-wide January rainfall was 3.66 inches, which is equal to the long-term average monthly rainfall (Table 1, Figure 1). Levy and Madison Counties received over 4 inches of rain, with isolated areas receiving more than 7 inches (Figure 2).
- The 12-month average rainfall deficit is 15.21 inches (Figure 3). The 24-month rainfall deficit is 28.31 inches.

GROUNDWATER

- Groundwater levels monitored in 89 wells in January remained extremely low (Figure 4), but increased by an average of 0.21 feet since December. Eighty-two percent were below the 10th percentile, and 51 percent were below the 2nd percentile for the month. The percentile is the percentage of the monthly levels that are equal to or below this month's level.
- Forty-five wells set new January lows, and 5 wells set new historic lows. Monthly statistics for a representative sample of wells are shown in Figure 5.
- The District issued 17 emergency permits for dry wells in January, for a total of 174 issued between April 1 and January 31. Permits for dry wells were 6.9% of the total number of water well permits issued in this period.

SURFACEWATER

- Lake levels remained below normal, but increased by an average of 0.23 feet in January (Table 2). No record lows were observed.
- River levels increased at all monitored sites, but record monthly lows were observed at the Santa Fe River near Fort White and the Econfina River near Perry (Table 3). Levels at the Withlacoochee River near Pinetta and the Suwannee River at Branford increased by 2.5 feet during January.
- Flows in the upper Suwannee River and upper Santa Fe River basins were within the normal range (between the 25th and 75th percentile). Flows in the middle Suwannee River remained below normal (10th-24th percentile). The lower Suwannee River, the Fenholloway River, and the Econfina River were low (below the 5th percentile), while the Steinhatchee River was much below normal (below the 10th percentile) (Figure 6). Discharges for six river stations are presented in Figure 7.

HYDROLOGICAL/METEOROLOGICAL INFORMATION

- U.S. Drought Monitor, as of January 29: District is abnormally dry.
- U.S. Geological Survey, as of January 31: Streamflow conditions are categorized in the Suwannee River Basin as normal, and in the Waccasassa and Coastal Rivers Basins (including the Steinhatchee, Fenholloway, Econfina, and Aucilla Rivers) as severe hydrological drought.
- The National Weather Service Climate Prediction Center predicts below-normal precipitation through May 2008, and that drought development is likely.

WATER CONSERVATION

On January 8, 2008, the Governing Board approved a Phase II Water Shortage Order that includes mandatory water restrictions for all use categories including residential, commercial, industrial and agricultural. The Water Shortage Order and accompanying water-use restrictions will become effective April 7, 2008.

The District urges that water conservation be an ongoing activity for all water users, and has a variety of free water conservation information available to the public. Water is conserved by using the minimum amount needed for specific applications and by irrigating lawns, plants, and crops 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.

/dd

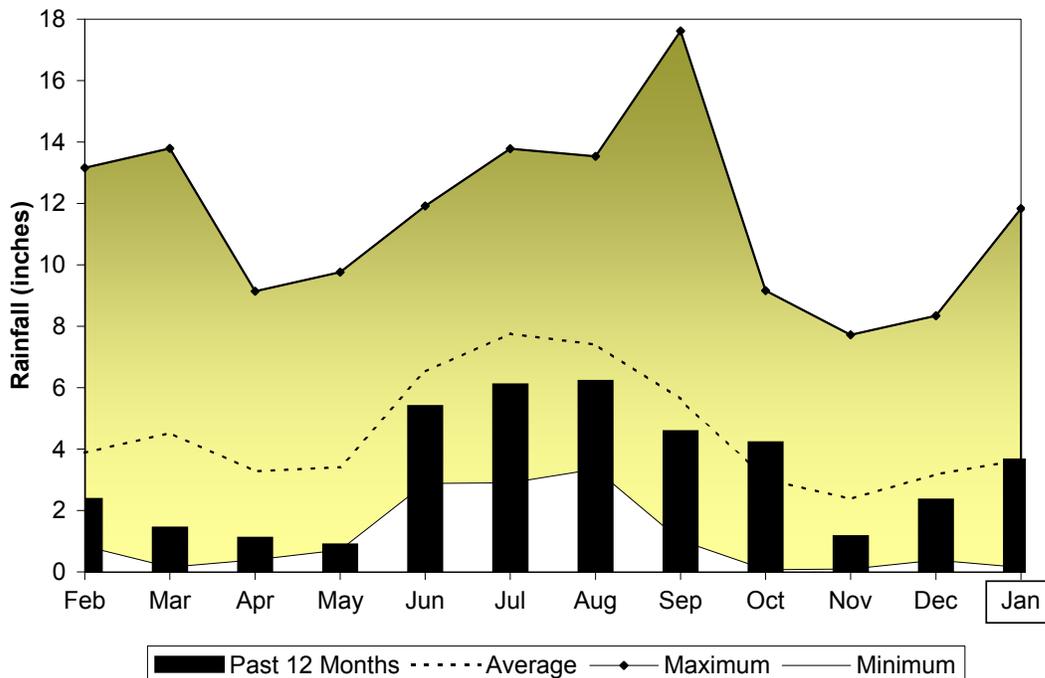
Table 1. Estimated Rainfall Totals

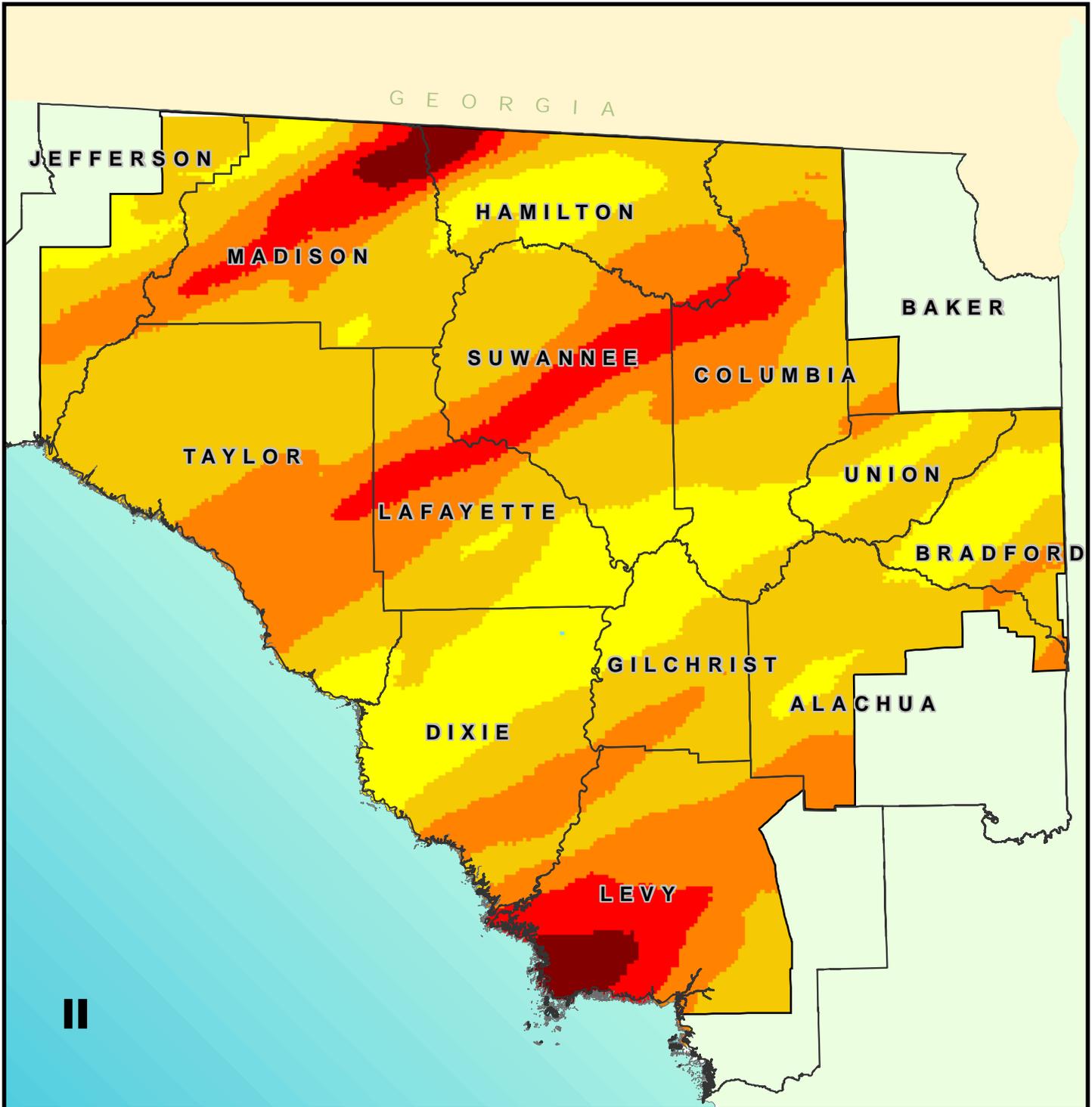
County	Jan-2008	Jan-2007	Last 12 Months	January Average
Alachua	3.56	3.64	42.16	3.73
Baker	3.64	4.24	38.09	3.89
Bradford	3.15	3.02	40.91	3.93
Columbia	3.79	4.20	37.55	3.97
Dixie	3.25	3.63	42.24	4.23
Gilchrist	3.33	3.74	39.06	4.58
Hamilton	3.72	3.88	35.76	4.65
Jefferson	3.46	3.31	40.70	4.87
Lafayette	3.67	3.91	33.68	4.62
Levy	4.67	3.50	50.79	4.32
Madison	4.17	4.01	40.60	4.99
Suwannee	3.98	4.08	35.00	4.76
Taylor	3.75	3.75	36.00	4.72
Union	3.15	3.89	38.00	4.00

January 2008 Average: 3.66
 Historical January Average: 3.66
 Historical 12-month Average: 54.71
 Past 12-Month Total: 39.50
 12-month Rainfall Deficit: -15.21

(Rainfall reported in inches)

Figure 1: Comparison of District Monthly Rainfall





Rainfall in inches

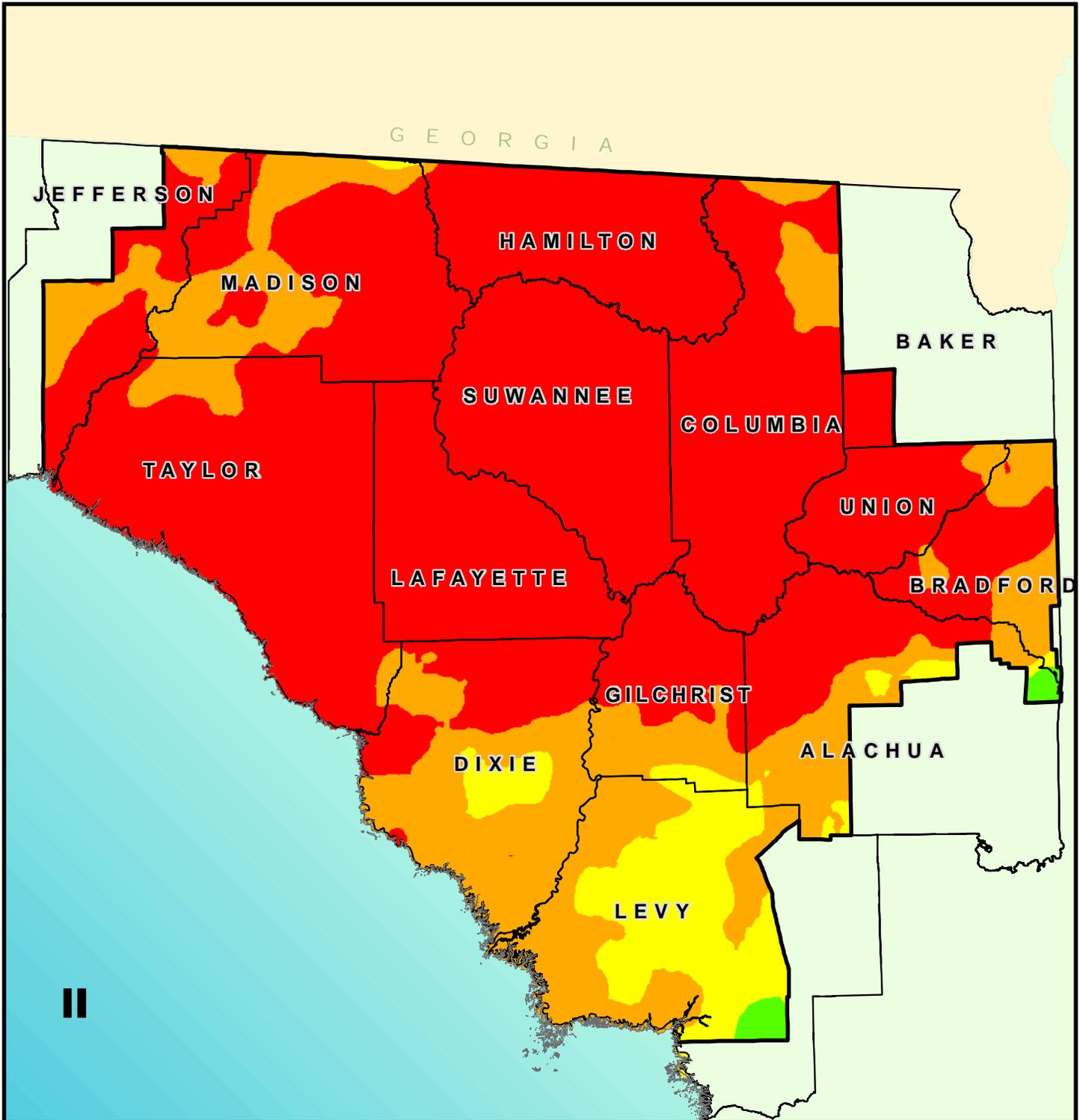
- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 6
- 6 - 8
- 8 - 10
- More than 10

**January 2008
Estimated Rainfall**

Figure 2



Note: This map was created by the Suwannee River Water Management District (SRWMD) to be used for planning purposes only. SRWMD shall not be held liable for any injury or damage caused by the use of data distributed as a public records request regardless of their use or application. SRWMD does not guarantee the accuracy, or suitability for any use of these data, and no warranty is expressed or implied. For more information please contact the SRWMD at 386-362-1001.



**Estimated 12-Month Rainfall Deficit
February 2007 through January 2008
Figure 3**

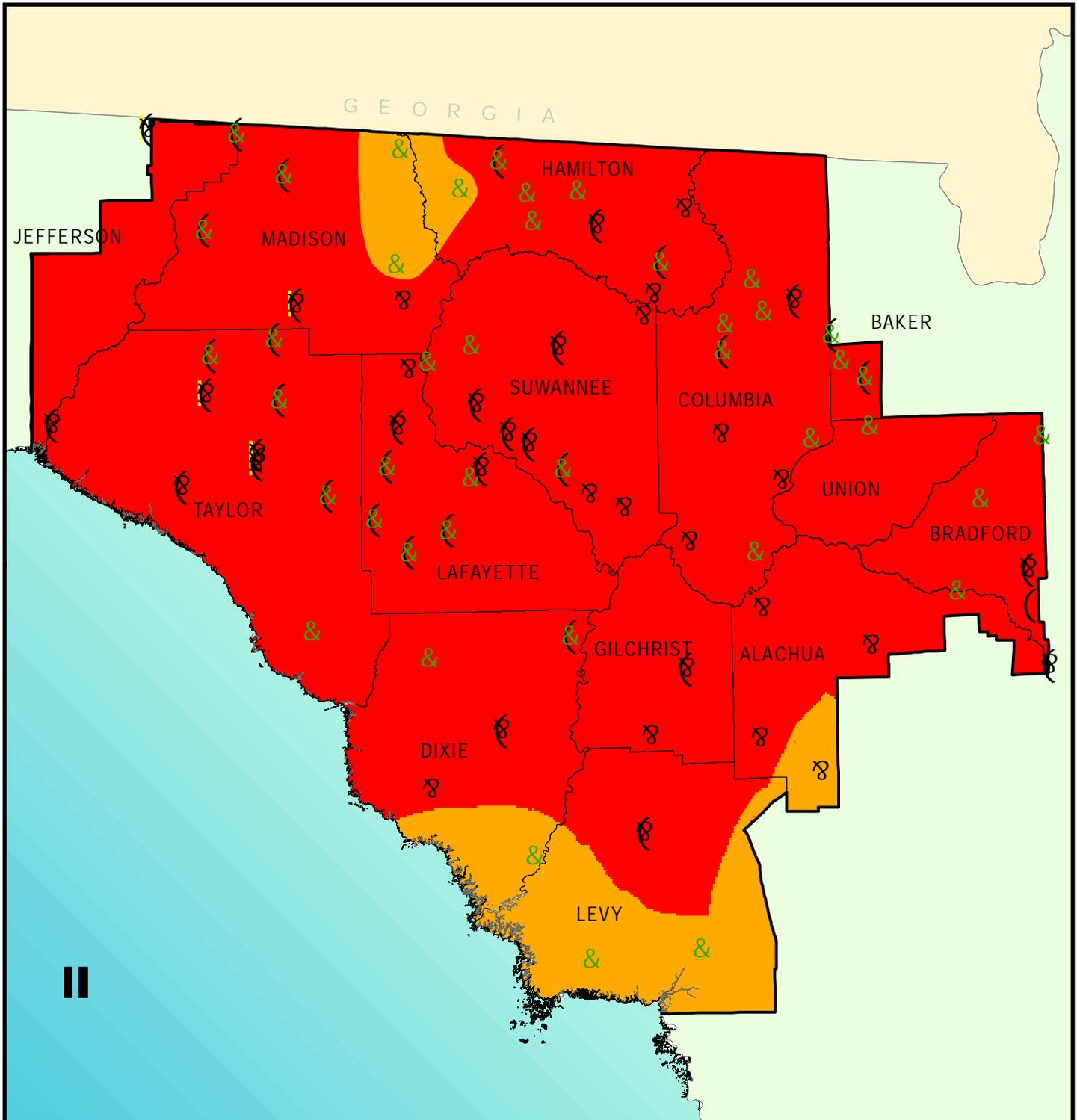
Rainfall below Annual Average

- Less than 8 inches below average
- 8 to 14 inches below average
- 14 to 20 inches below average
- More than 20 inches below average

- District Boundary
- County Boundaries



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**Groundwater Levels
January 2008
Figure 4**

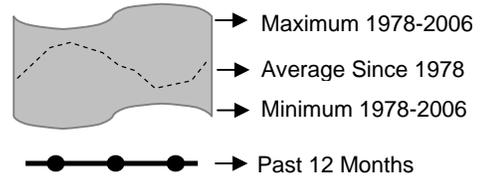


- High
(Greater than 75th Percentile)
- Normal
(25th to 75th Percentile)
- Low
(10th to 25th Percentile)
- Extremely Low
(Less than 10th Percentile)
- & Well Level Increase Since Last Month
- & Well Level Decrease Since Last Month
- (Record Monthly Low
- (Historic Low

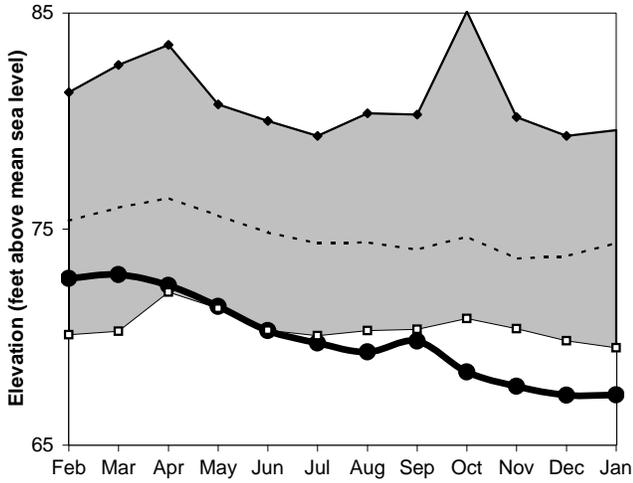
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Figure 5: Monthly Groundwater Level Statistics

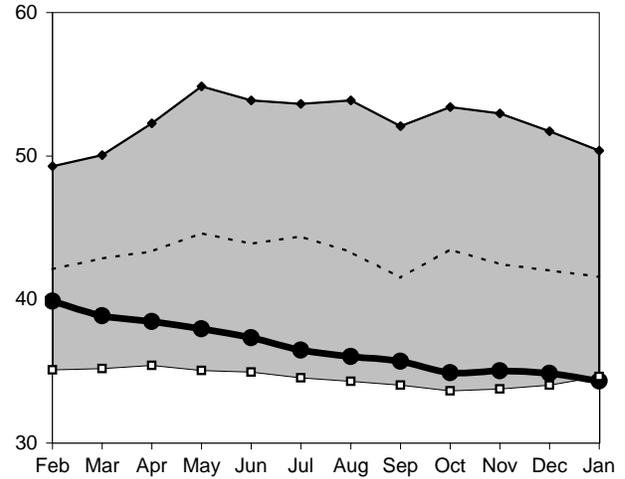
Levels February 1, 2007 through January 31, 2008
 Period of Record Beginning 1978



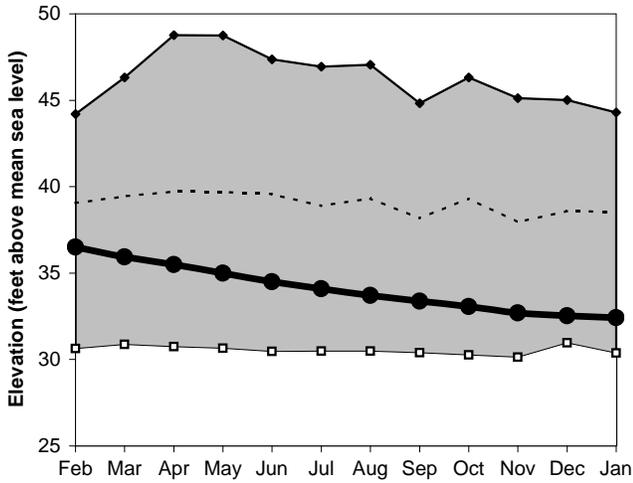
Madison County N010719001



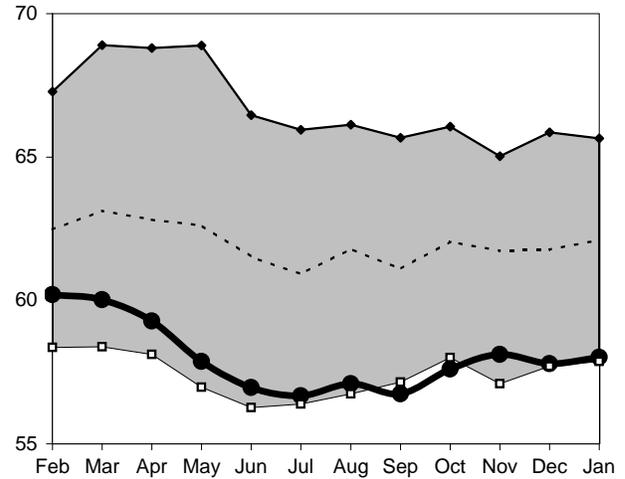
Suwannee County S021335001



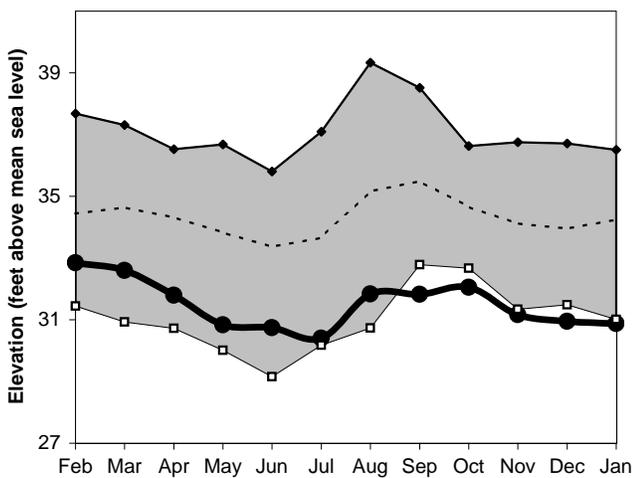
Columbia County S041625001



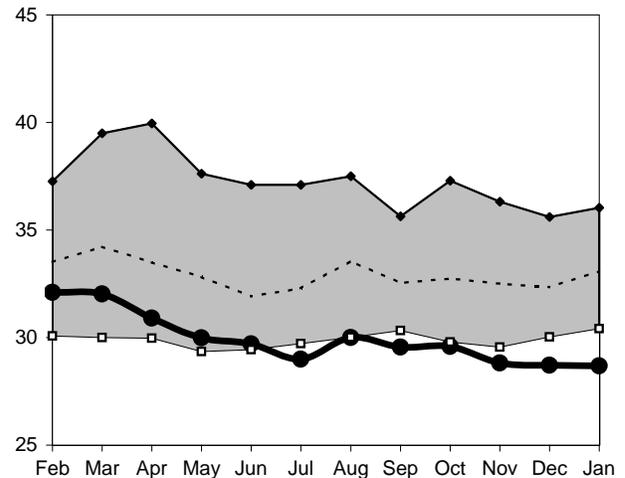
Bradford County S072132001

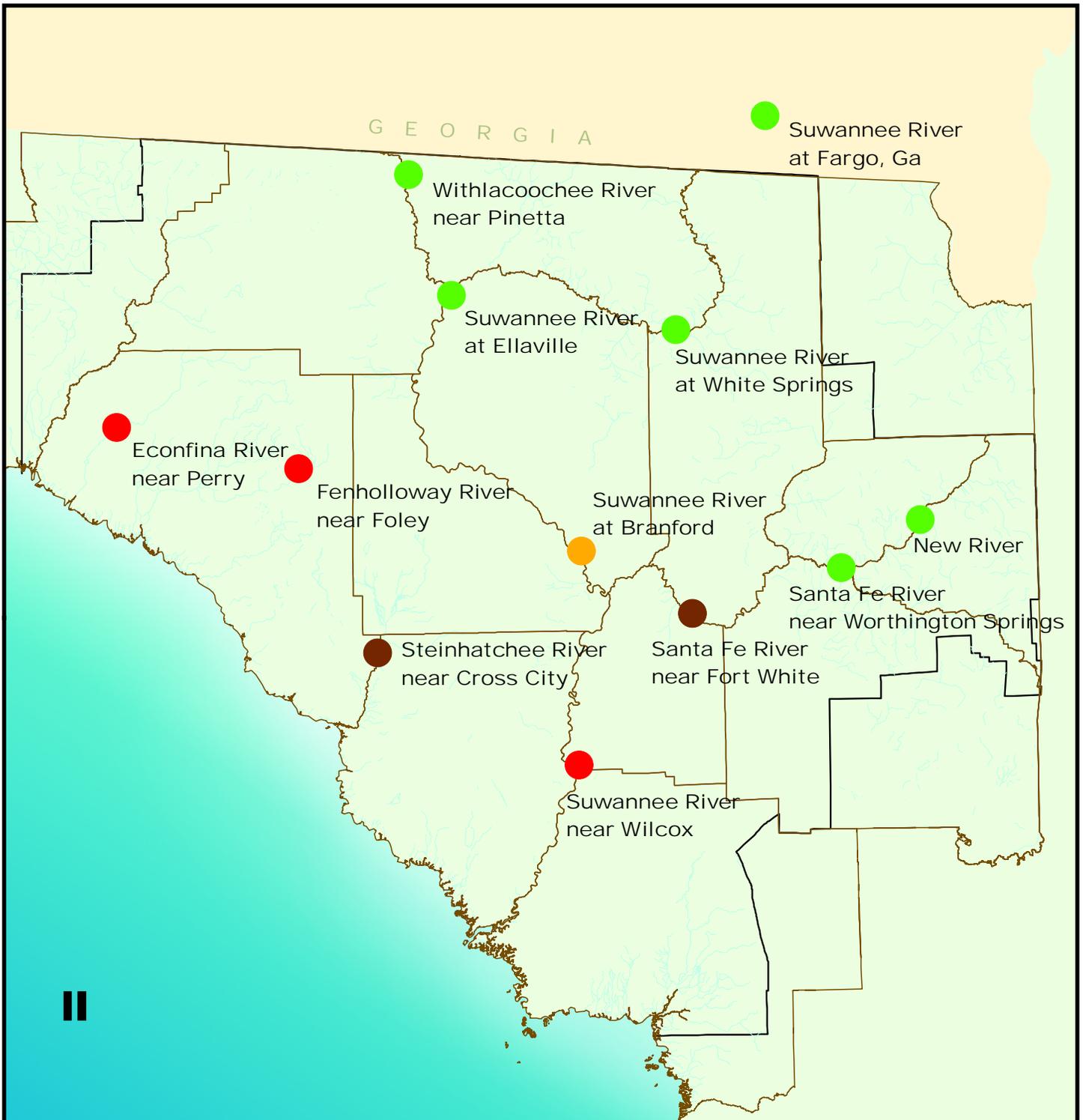


Dixie County S101210001



Taylor County S050701001





**Streamflow Conditions
(Percentile Classes)**

- Low
- Much Below Normal (<10th Percentile)
- Below Normal (10 - 24)
- Normal (25 - 75)
- Above Normal (76 - 90)
- Much Above Normal (>90)
- High

**Streamflow Conditions
January 31, 2008
Figure 6**



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Figure 7: Daily River Flow Statistics

February 1, 2007 through January 31, 2008



RIVER FLOW, CUBIC FEET PER SECOND

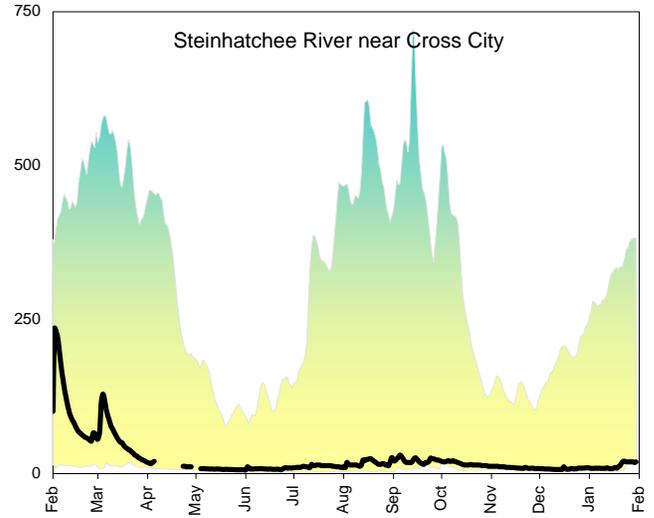
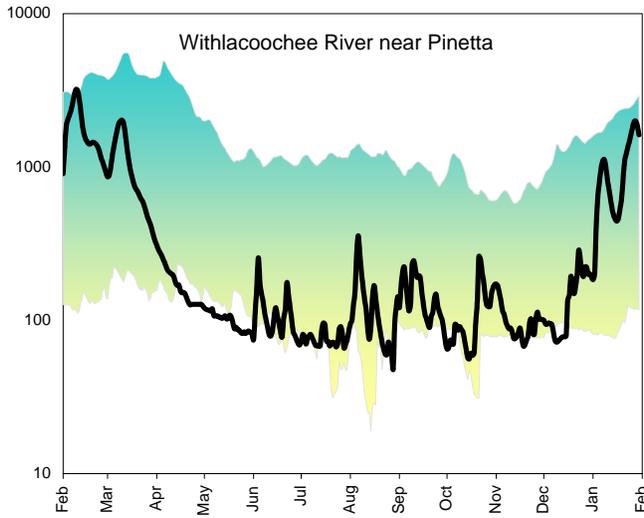
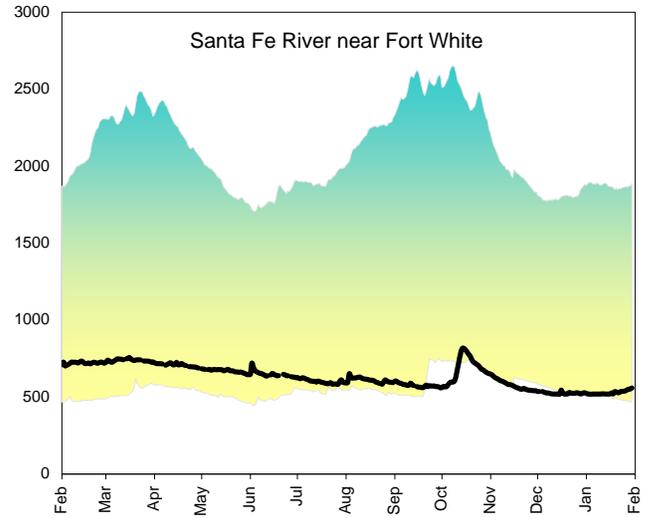
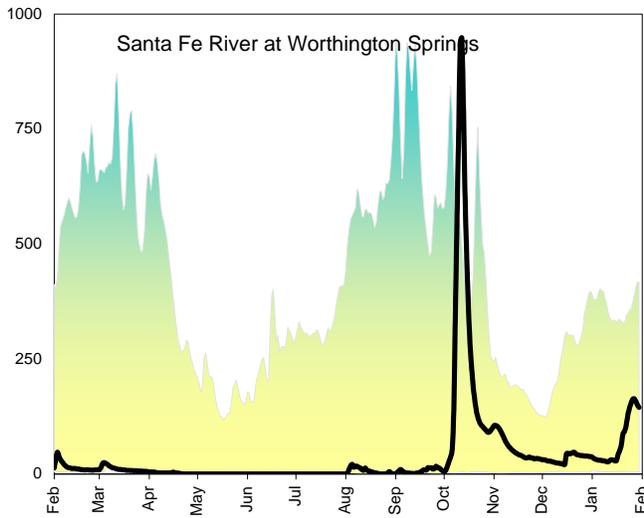
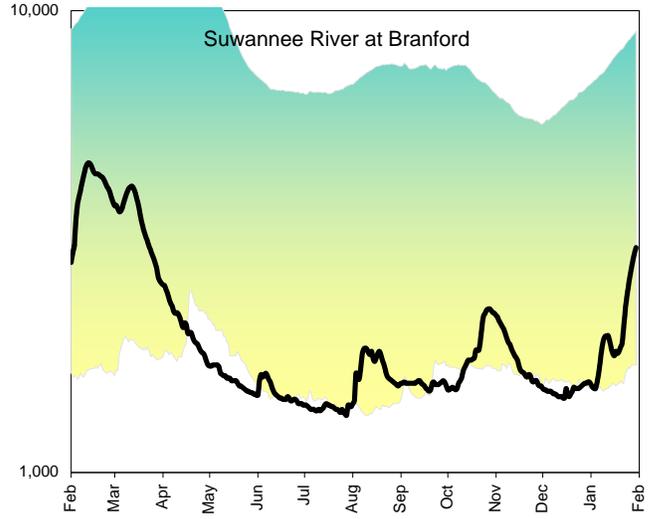
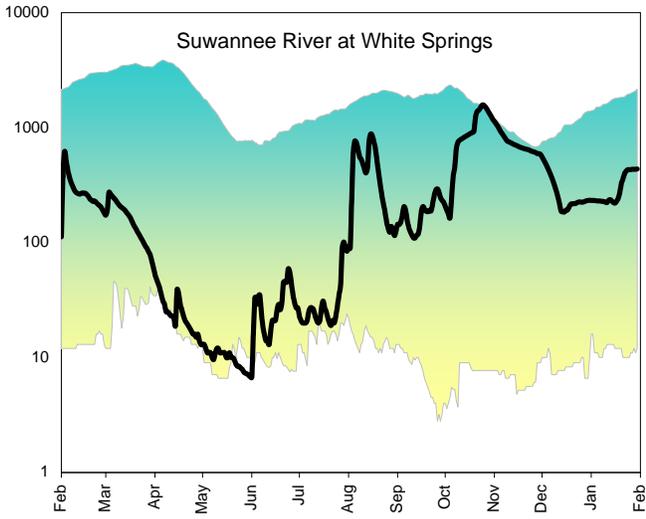


Table 2. Lake Levels

	2008 January	Change Since December 07	Change Since January 07	2007 December	2007 January	Mean Level	Record Low	Record High
Lake Octahatchee (1974)	102.37	0.14	0.38	102.23	102.0	103.05	95.55 (3/89)	107.9 (3/05)
Cherry Lake (1974)	151.08	0.07	-0.59	151.01	151.67	152.52	150.78 (05/07)	154.0 (9/75)
Andrews Lake (1974)	73.78	0.05	-3.11	73.73	76.89	76.77	73.32 (12/01)	78.4 (12/94)
Palestine Lake (1984)	140.74	0.28	-1.16	140.46	141.90	142.89	139.30 (11/02)	145.2 (10/92)
Ocean Pond (1974)	151.54	0.06	-1.28	151.48	152.82	154.52	150.85 (8/02)	156.6 (2/98)
Governor Hill Lake (1984)	BG	BG	BG	BG	48.02	51.39	45.29 (06/07)	54.3 (2/98)
Alligator Lake (1965)	93.08	0.22	-1.34	92.86	94.42	95.87	90.23 (4/68)	100.8 (9/04)
Lake Francis (1999)	139.88	0.58	-0.55	139.30	140.43	140.28	138.81 (05/07)	141.7 (9/04)
Lake Butler (1953)	127.40	0.15	-1.15	127.25	128.55	130.10	126.75 (7/02)	134.0 (9/64)
Hampton Lake (1988)	127.59	0.22	-0.59	127.37	128.18	129.04	124.48 (5/02)	133.4 (3/98)
Lake Sampson (1953)	131.69	0.29	1.43	131.40	130.26	131.24	127.87 (05/07)	136.2 (3/59)
Lake Crosby (1988)	129.15	0.42	-0.02	128.73	129.17	131.47	127.46 (9/07)	135.4 (10/04)
Waters Lake (1972)	BG	BG	BG	BG	BG	70.38	59.68 (3/82)	79.7 (9/04)
Low Lake (1975)	147.61	0.65	-0.74	146.96	148.35	148.29	146.80 (7/00)	150.3 (6/94)
Santa Fe Lake (1957)	138.58	0.15	-0.04	138.43	138.62	140.32	135.71 (10/02)	142.8 (1/98)
Lake Altho (1976)	138.06	0.19	-0.03	137.87	138.09	139.71	136.78 (7/01)	141.5 (2/98)
Snead's Smokehouse Lake (1972)	78.23	-0.06	-1.77	78.29	80.00	80.42	77.71 (11/07)	85.4 (4/84)

Reported in feet above mean sea level
(Year) indicates beginning of record

Bold indicates record measurement.

BG- Lake level below gage.
N/A - Data missing

Table 3. River Levels

	January 2008	Average January	January 2007	January Lowest	January Highest	Historic Low	Historic High
SUWANNEE RIVER at White Springs (1927)	52.40	55.96	50.80	49.78 1950	78.75 1942	49.59 Nov-79	88.54 Apr-73
SUWANNEE RIVER at Ellaville (1927)	30.80	33.83	30.19	28.74 2002	55.09 1948	28.48 Jun-07	67.99 Apr-48
SUWANNEE RIVER at Branford (1931)	9.95	13.35	9.43	6.78 1956	31.38 1948	6.74 Jul-02	38.84 Apr-48
SUWANNEE RIVER at Wilcox (1930)	2.29	4.26	2.09	0.40 1957	14.27 1948	-1.08 Sep-99	21.79 Apr-48
WITHLACOOCHEE RIVER near Pinetta (1931)	56.35	57.20	55.19	53.40 2002	82.35 1991	53.26 Aug-02	85.41 Apr-48
SANTA FE RIVER near Fort White (1927)	20.98	22.18	21.14	21.15 2002	27.76 1965	21.02 Nov-02	36.20 Sep-64
ALAPAHA RIVER near Jennings (1976)	64.58	66.95	63.88	61.62 2000	83.40 1987	61.27 Oct-06	90.06 Feb-86
AUCILLA RIVER at Lamont (1950)	46.02	49.19	47.46	43.89 1957	56.40 1991	43.49 Feb-57	59.44 Apr-73
STEINHATCHEE RIVER near Cross City (1950)	10.46	12.26	11.23	10.29 2002	20.61 1986	9.83 Aug-83	26.55 Sep-64
ECONFINA RIVER near Perry (1950)	15.35	18.82	18.20	15.88 1991	25.02 1987	14.35 Jan-76	27.08 Sep-57
FENHOLLOWAY RIVER near Foley (1955)	54.56 (1/25/08)	56.54	54.64	54.30 2000	63.10 1991	54.16 May-01	68.80 Sep-64

Bold indicates new (provisional) record set during the month.
 (Year) indicates beginning of record

Levels given in feet above mean sea level
 Reported level occurred on the last day of the month, unless indicated otherwise