MEMORANDUM

TO: Governing Board

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

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

DATE: March 10, 2008

RE: February 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 (93 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 rainfall in February was 4.83 inches. The long-term average is 3.89 inches (Table 1, Figure 1). The highest totals were seen in Madison County, with some areas receiving between 8 and 10 inches. Dixie, Gilchrist, and Levy counties received below-normal rainfall (Figure 2).
- The twelve-month deficit through February 29 was 12.75 inches (Figure 3). The 24-month rainfall deficit was 27.2 inches.

GROUNDWATER

- Groundwater levels monitored in 93 wells (Figure 4) increased by an average of 0.66 feet since January. Most readings were taken before the February 21-23 storms. Seventy-two percent of the readings were below the 10th percentile, compared to 82% in January. The percentile is the percentage of the monthly levels that are equal to or below this month's level.
- Thirty-six wells set new February lows, and 2 wells set new historic lows. Monthly statistics for a representative sample of wells are shown in Figure 5.
- The District issued 10 emergency permits for dry wells, for a total of 184 issued between April 1 and February 29 (Figure 6).

SURFACEWATER

- Improvements were seen in most District lakes, which increased by an average of 0.60 feet (Table 2).
- The Withlacoochee River near Pinetta crested at 1.4 feet above flood stage on February 29th. The Suwannee River at Branford rose 9.8 feet in the last week of the month. River levels rose at most monitored sites, but a record monthly low was observed at the Santa Fe River near Fort White (Table 3).
- Streamflow at most District gaging stations improved to within normal ranges. The Econfina River remained below normal (10th-24th percentile), while the Fenholloway and Steinhatchee Rivers were much below normal (less than 10th percentile). Discharge statistics for six river stations are presented in Figure 7.

HYDROLOGICAL/METEOROLOGICAL INFORMATION

- U.S. Drought Monitor, as of February 26: Parts or all of Jefferson, Taylor, Lafayette, Dixie, Levy, Gilchrist, and Alachua counties are abnormally dry or in moderate drought. The U.S. Seasonal Drought Outlook as of February 21 indicates that some improvement is likely in these areas.
- U.S. Geological Survey, as of February 29: Seven-day average streamflow conditions were categorized in the Coastal Rivers Basin and the Waccasassa River Basin as severe hydrologic drought (<5th percentile). Suwannee River Basin streamflow conditions were categorized as normal.
- Long-range outlooks from the National Weather Service Climate Prediction Center predict below-normal precipitation through May 2008.

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

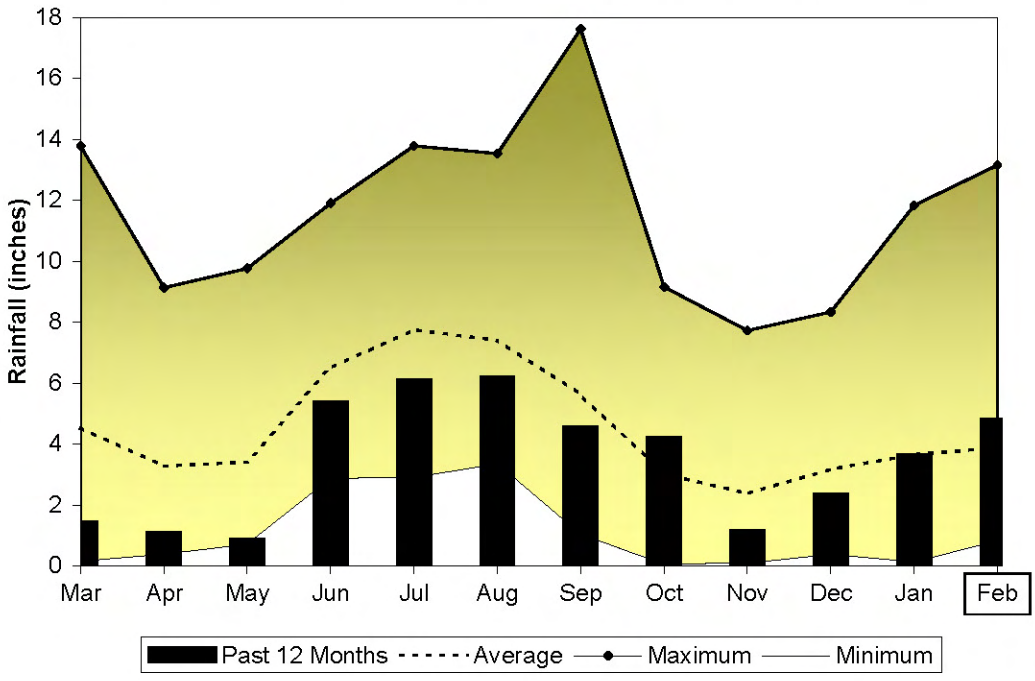
Table 1. Estimated Rainfall Totals

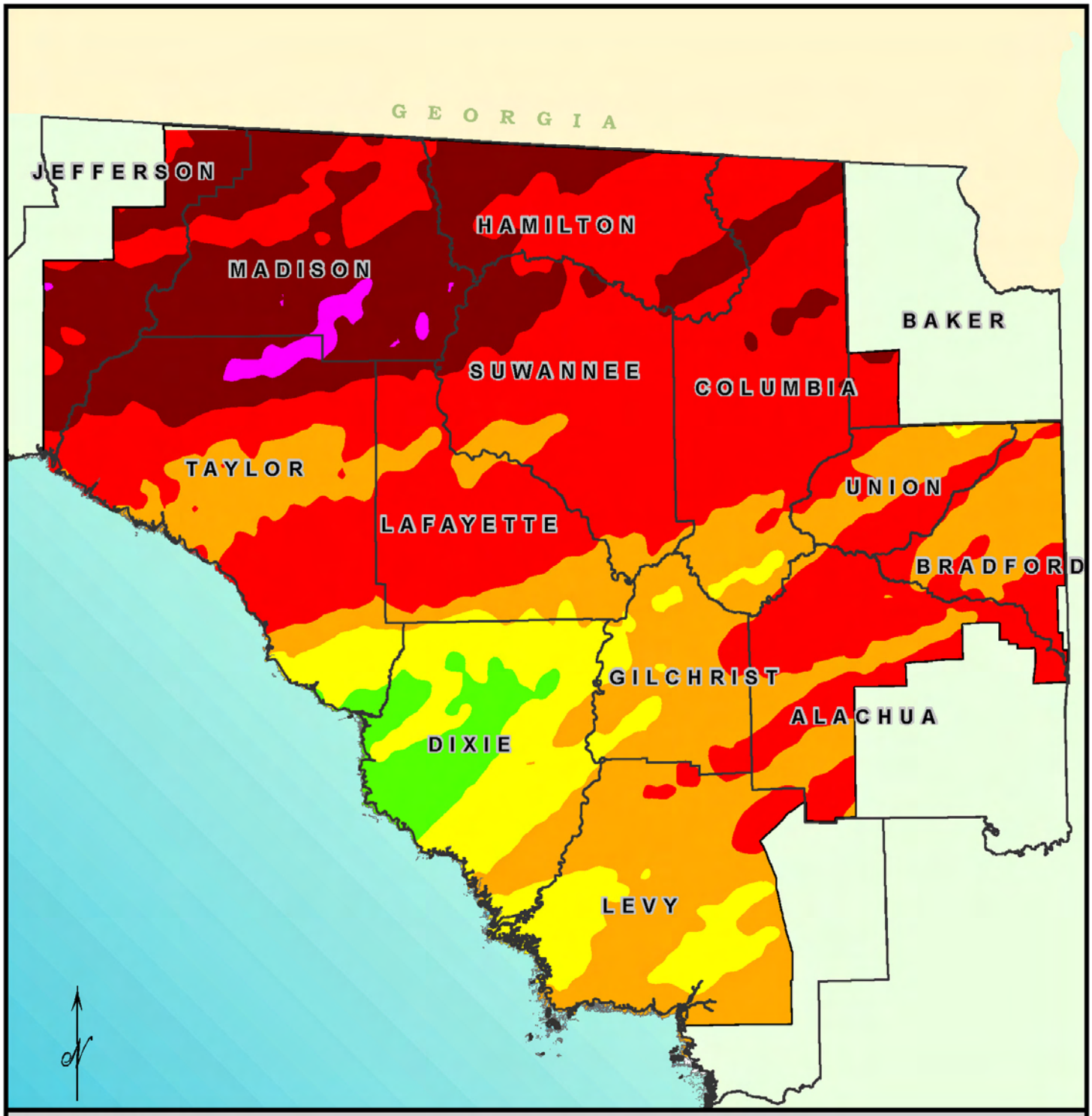
County	Feb-2008	Feb-2007	Last 12 Months	Feb Average
Alachua	4.36	2.45	44.07	3.54
Baker	5.34	2.24	41.19	3.41
Bradford	3.98	1.99	42.91	3.64
Columbia	4.97	2.05	40.48	3.61
Dixie	2.32	1.78	42.78	3.54
Gilchrist	3.35	1.87	40.54	4.18
Hamilton	6.40	2.35	39.82	4.13
Jefferson	7.08	3.28	44.50	4.64
Lafayette	4.50	1.66	36.52	3.66
Levy	3.31	4.54	49.57	3.39
Madison	7.64	3.18	45.05	4.11
Suwannee	5.29	1.81	38.48	4.01
Taylor	5.02	1.89	39.14	3.90
Union	4.02	2.05	39.97	3.63

February 2008 Average:	4.83
Historical February Average:	3.89
Historical 12-month Average:	54.71
Past 12-Month Total:	41.96
12-month Rainfall Deficit:	-12.75
Above/Below normal since January:	+0.94

(Rainfall reported in inches)

Figure 1: Comparison of District Monthly Rainfall





Rainfall in inches

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

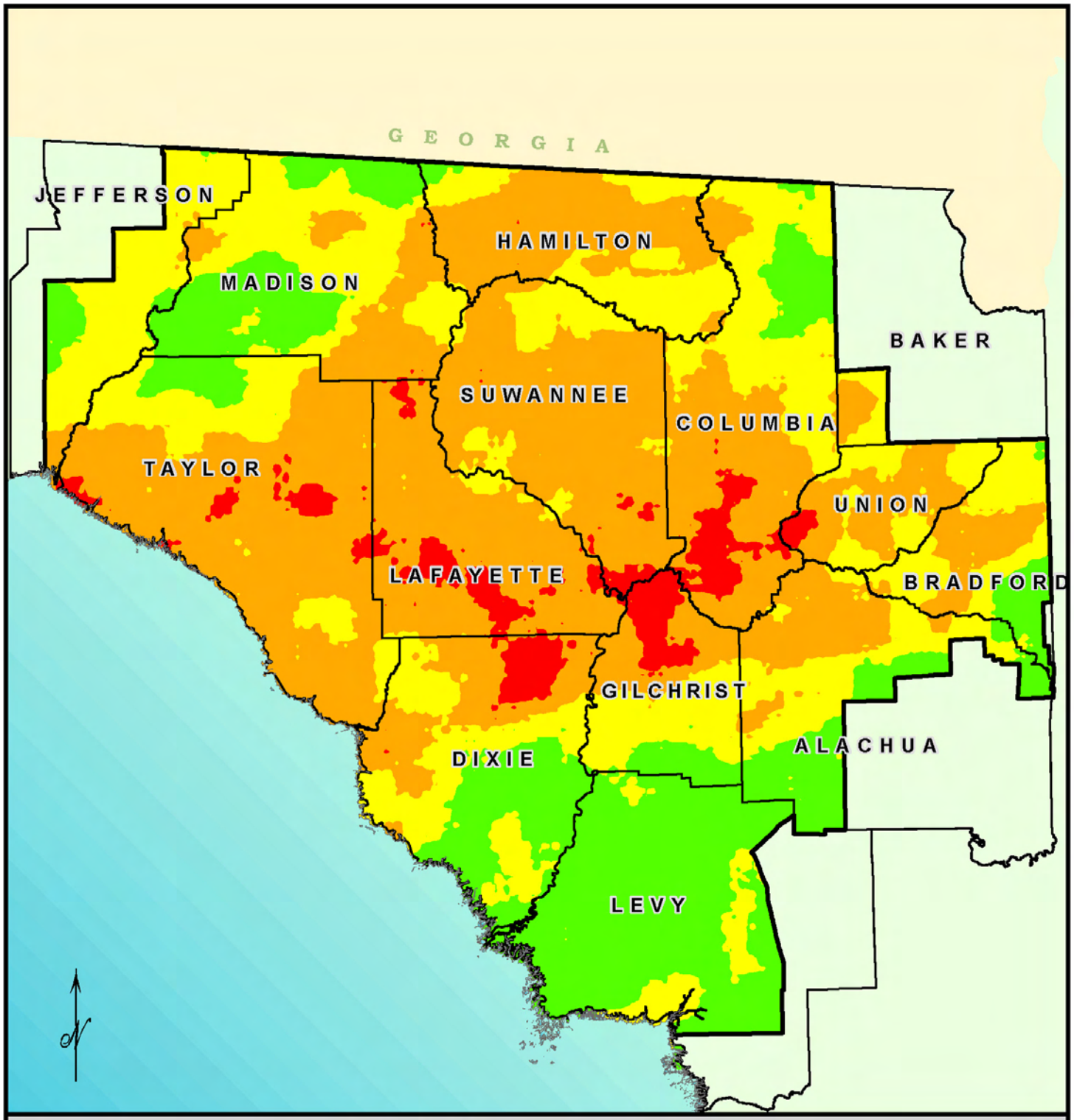
February 2008 Estimated Rainfall

Figure 2

0 10 20

Miles

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
March 2007 through February 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

0 10 20

Miles

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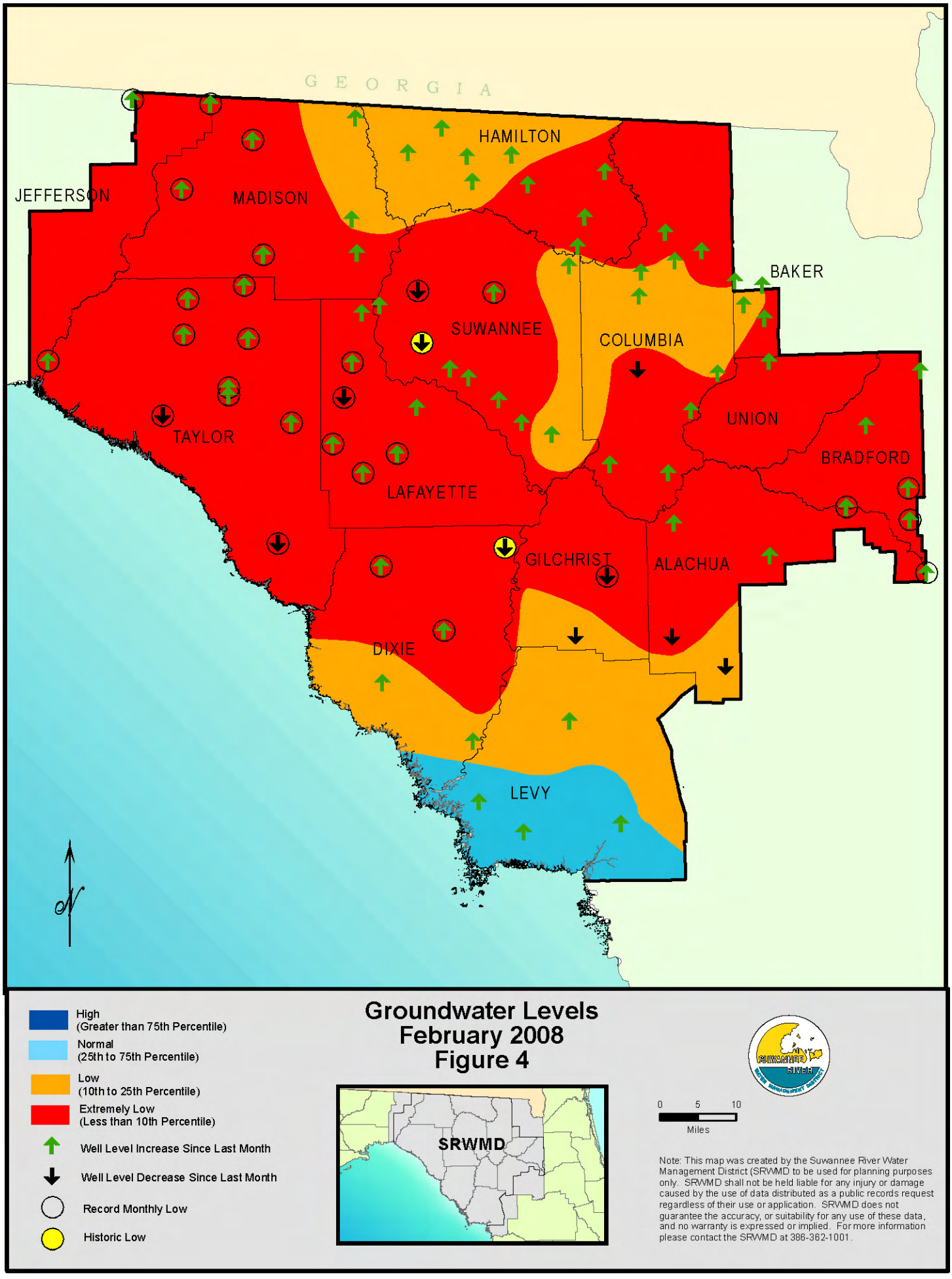

Groundwater Levels
February 2008
Figure 4

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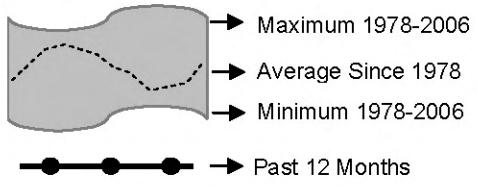
Figure 5: Monthly Groundwater Level Statistics

Levels March 1, 2007 through February 29, 2008
Period of Record Beginning 1978



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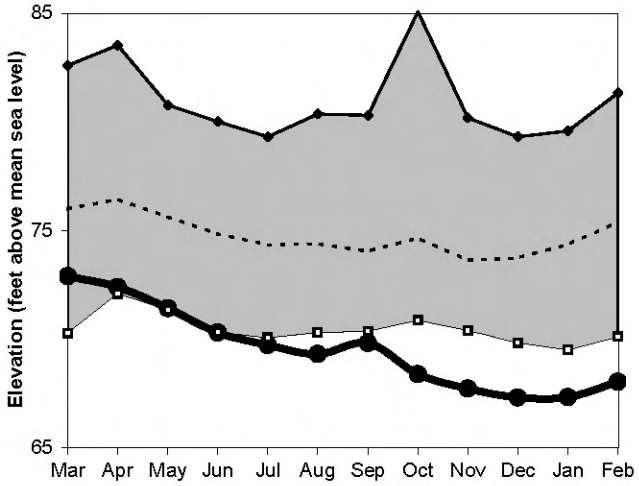
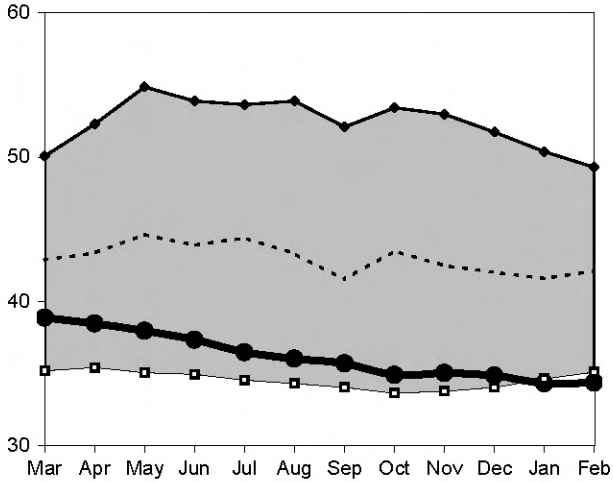
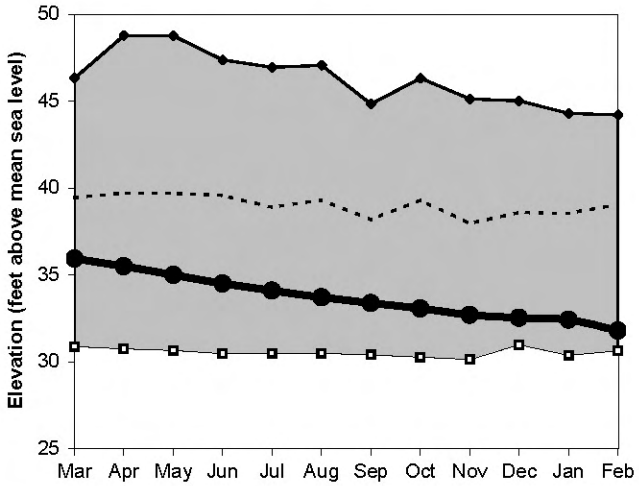


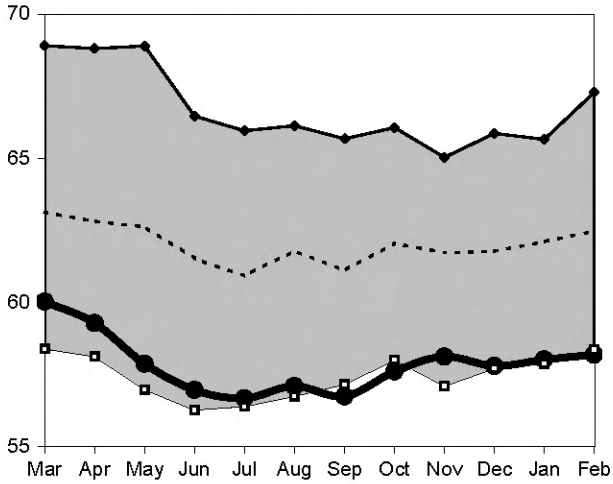
Suwannee County S021335001



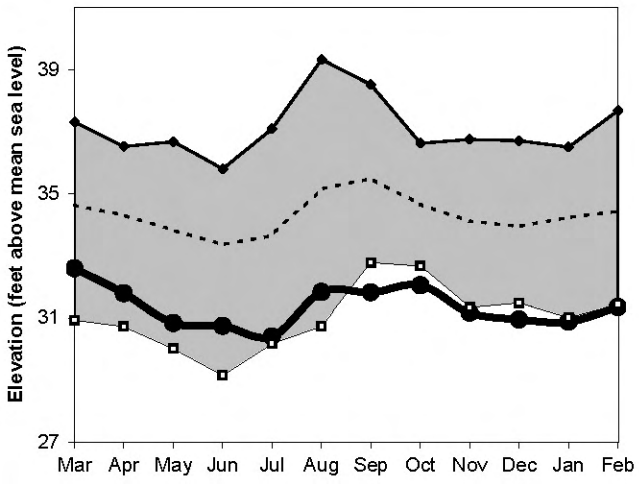
Columbia County S041625001



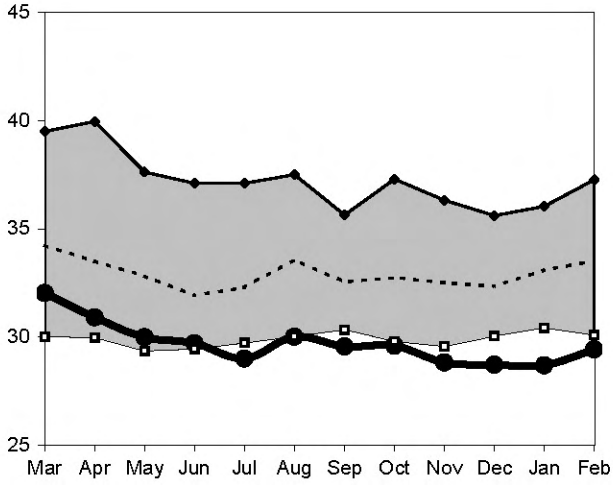
Bradford County S072132001

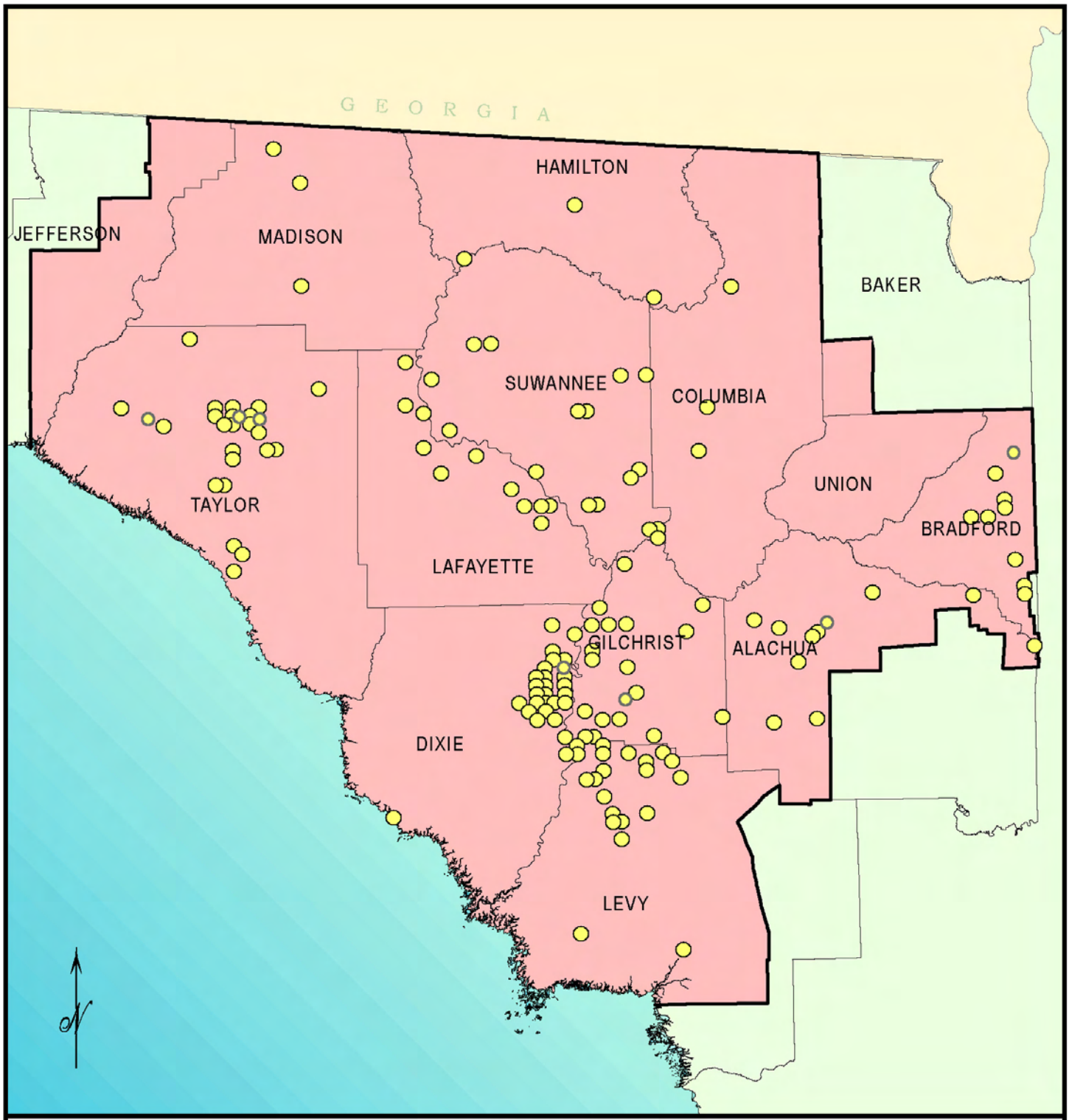


Dixie County S101210001



Taylor County S050701001





Dry Well Permits
April 1, 2007 - February 29, 2008
Figure 6

Dry Well Emergency Permits
Issued by Township/Range/Section

0 5 10
Miles

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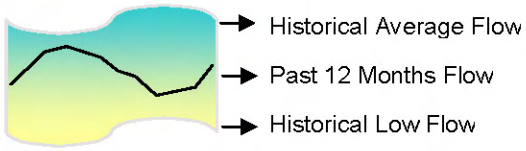
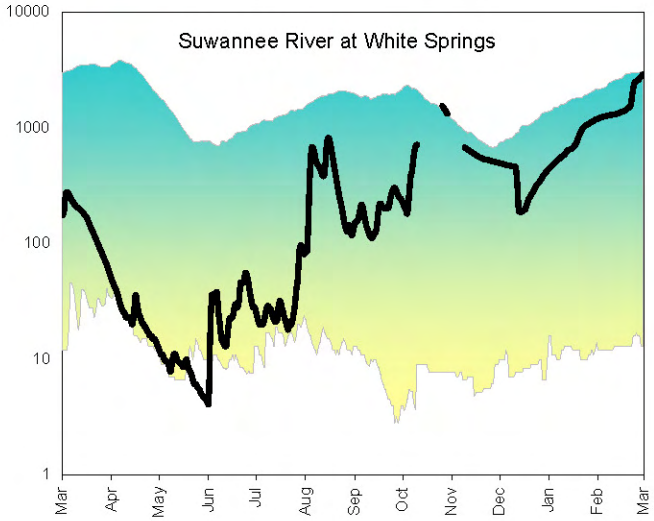
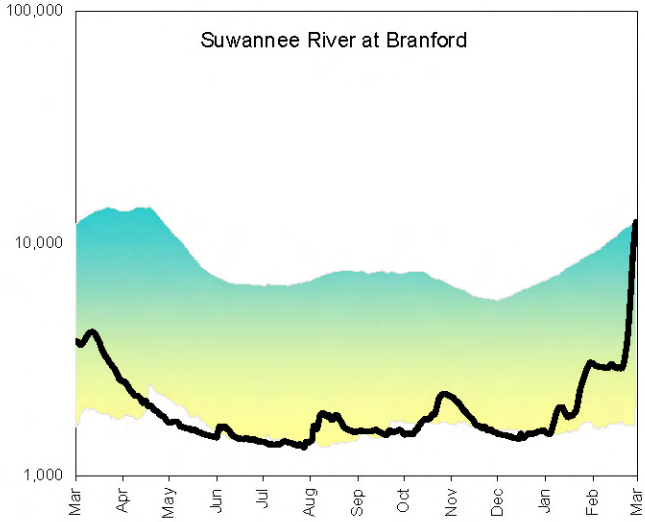
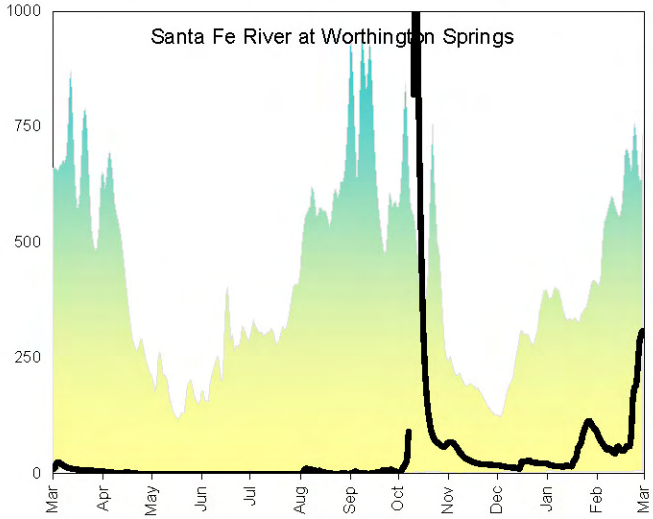
Figure 7: Daily River Flow Statistics
March 1, 2007 through February 29, 2008

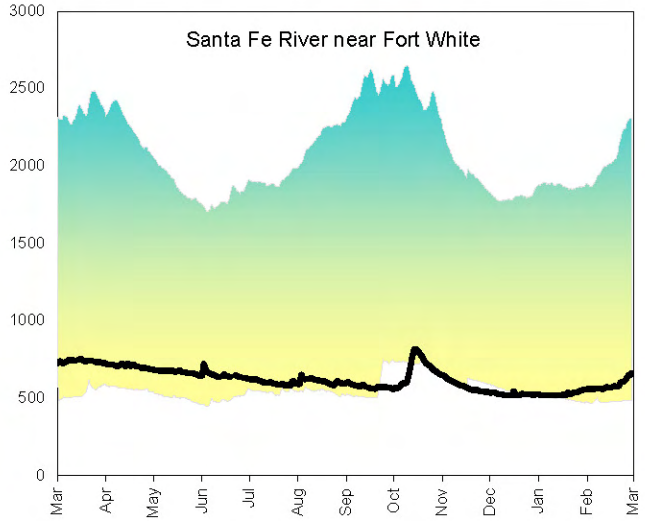


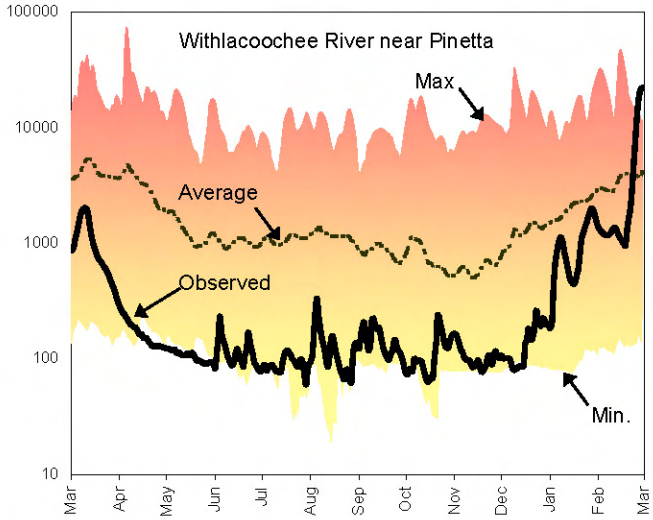
RIVER FLOW, CUBIC FEET PER SECOND











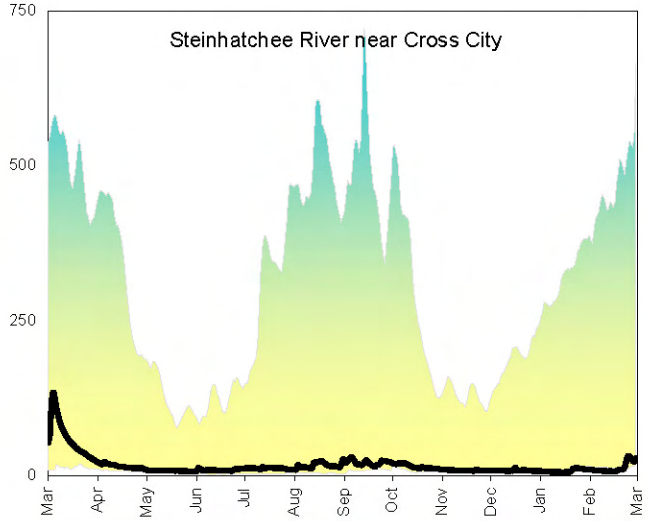


Table 2. Lake Levels

	2008 February	Change Since January 08	Change Since February 07	2008 January	2007 February	Historical Mean	Record Low	Record High
Lake Octahatchee (1974)	102.59	0.22	0.26	102.37	102.33	103.05	95.55 (3/89)	107.9 (3/05)
Cherry Lake (1974)	151.49	0.41	-0.42	151.08	151.91	152.52	150.78 (05/07)	154.0 (9/75)
Andrews Lake (1974)	74.36	0.58	-2.70	73.78	77.06	76.77	73.32 (12/01)	78.4 (12/94)
Palestine Lake (1984)	140.70	-0.04	-1.30	140.74	142.00	142.89	139.30 (11/02)	145.2 (10/92)
Ocean Pond (1974)	151.50	-0.04	-1.50	151.54	153.00	154.52	150.85 (8/02)	156.6 (2/98)
Governor Hill Lake (1984)	BG	BG	BG	BG	47.90	51.39	45.29 (06/07)	54.3 (2/98)
Alligator Lake (1965)	93.50	0.42	-0.84	93.08	94.34	95.87	90.23 (4/68)	100.8 (9/04)
Lake Francis (1999)	140.79	0.91	0.13	139.88	140.66	140.28	138.81 (05/07)	141.7 (9/04)
Lake Butler (1953)	127.40	0.00	-1.34	127.40	128.74	130.10	126.75 (7/02)	134.0 (9/64)
Hampton Lake (1988)	127.77	0.18	-0.30	127.59	128.07	129.04	124.48 (5/02)	133.4 (3/98)
Lake Sampson (1953)	131.99	0.30	1.52	131.69	130.47	131.24	127.87 (05/07)	136.2 (3/59)
Lake Crosby (1988)	129.56	0.41	0.39	129.15	129.17	131.47	127.46 (9/07)	135.4 (10/04)
Waters Lake (1972)	N/A	N/A	N/A	BG	BG	70.38	59.68 (3/82)	79.7 (9/04)
Low Lake (1975)	148.27	0.66	-0.08	147.61	148.35	148.29	146.80 (7/00)	150.3 (6/94)
Santa Fe Lake (1957)	139.07	0.49	0.51	138.58	138.56	140.32	135.71 (10/02)	142.8 (1/98)
Lake Altho (1976)	138.46	0.40	0.13	138.06	138.33	139.71	136.78 (7/01)	141.5 (2/98)
Snead's Smokehouse Lake (1972)	82.34	4.11	2.04	78.23	80.30	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

	February 2008	Average February	February 2007	February Lowest	February Highest	Historic Low	Historic High
SUWANNEE RIVER at White Springs (1927)	59.18 (02/25/08)	58.51	51.33	49.73 1957	84.66 1998	49.59 Nov-79	88.54 Apr-73
SUWANNEE RIVER at Ellaville (1927)	45.02	36.55	30.96	29.10 2002	61.76 1986	28.48 Jun-07	67.99 Apr-48
SUWANNEE RIVER at Branford (1931)	19.33	15.86	10.93	6.98 1957	33.05 1986	6.74 Jul-02	38.84 Apr-48
SUWANNEE RIVER at Wilcox (1930)	4.77	5.44	2.47	0.37 1957	15.08 1986	-1.08 Sep-99	21.79 Apr-48
WITHLACOOCHEE RIVER near Pinetta (1931)	80.38	59.20	55.35	53.69 2002	85.35 1986	53.26 Aug-02	85.41 Apr-48
SANTA FE RIVER near Fort White (1927)	**21.11**	22.41	21.17	21.16 2007	27.97 1986	21.02 Nov-02	36.20 Sep-64
ALAPAHA RIVER near Jennings (1976)	79.18	69.75	65.04	62.24 2002	90.06 1986	61.27 Oct-06	90.06 Feb-86
AUCILLA RIVER at Lamont (1950)	47.64	50.13	48.29	43.49 1957	56.87 1986	43.49 Feb-57	59.44 Apr-73
STEINHATCHEE RIVER near Cross City (1950)	10.67	12.92	10.89	10.38 1950	23.73 1998	9.83 Aug-83	26.55 Sep-64
ECONFINA RIVER near Perry (1950)	17.02	19.75	18.10	16.24 1957	25.90 1986	14.35 Jan-76	27.08 Sep-57
FENHOLLOWAY RIVER near Foley (1955)	54.70	57.16	54.65	54.27 2001	65.51 1998	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