

MEMORANDUM

TO: Governing Board

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

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

DATE: May 8, 2007

RE: April 2007 Hydrologic Conditions Report for the District

The Hydrologic Conditions Report is compiled from data collected from four water resource-monitoring networks. The four networks are rainfall (radar-derived rainfall estimate), groundwater levels (91 wells), lake levels (17 lakes), and river levels (31 stations on 8 rivers).

Data are available to the public via the District's webpage and upon request. In April, staff processed 26 requests for data from the public.

RAINFALL

The District received, on average, 1.15 inches of rain during April. The average April rainfall is 3.33 inches. Total rainfall for the past 12 months is 40.60 inches. The long-term average annual rainfall is 55.62 inches. Eleven of the last twelve months had below-average precipitation. A summary of rainfall by county and a comparison of monthly rainfall versus the long-term average are provided in Table 1 and Figure 1, respectively. Figure 2 shows the April radar-derived rainfall distribution. Figure 3 shows the estimated rainfall deficit distribution. Parts of Union, Bradford, and Alachua Counties had a deficit of over 20 inches. For the 12-month period from May 1, 2006 to April 30, 2007, the District had an average rainfall deficit of 15.02 inches, making this the fourth driest such period since 1932 (Figure 4). Madison, Hamilton, Columbia, Union, and Bradford Counties, along with parts of Jefferson, Suwannee, and Alachua Counties, are experiencing an extreme drought according to the United States Department of Agriculture/U.S. Drought Monitor. The remainder of the District is in a severe drought. Figure 5 shows the 12-month rainfall deficit beginning in April 1999. April rainfall data are provisional, and subject to revision. Statistics are updated as revised data become available.

GROUNDWATER

Groundwater levels in 91 wells monitored in April dropped by an average of 10 inches since March. Nine wells set new lows for April, and two wells set new historic lows. All but one of the groundwater levels within the network were below the 50th percentile of all April readings. Eighty-nine percent of the levels were below the 25th percentile. The percentile is the percentage of the monthly average groundwater levels that are equal to or below this month's level. The District issued eight emergency construction permits for dry wells. See Figure 6 for a generalized representation of District groundwater levels.

SURFACEWATER

Lake levels within the District's monitoring network decreased by an average of 7 inches. Governor Hill Lake in Dixie County was at the lowest level since 1984. Lake levels are shown compared to historic lake data on Table 2.

River levels in the District declined steadily throughout the month. Flows in the Suwannee, Santa Fe, Withlacoochee, Econfina, Steinhatchee, Fenholloway, and Alapaha Rivers fell below the 5th percentile for April. Based on provisional data subject to revision by the United States Geological Survey, the Suwannee River at White Springs, the Withlacoochee River at Pinetta, the Santa Fe River at Fort White, and the Econfina River near Perry fell to record low monthly levels. No all-time historical low levels were observed. River levels at selected monitoring stations are provided in Table 3. Discharge statistics for selected stations are shown in Figure 7.

WATER CONSERVATION

The District recommends that water conservation be an ongoing activity for all water users. The Governing Board declared a Phase I Water Shortage Advisory on November 14, 2006, requesting voluntary reductions in water use. This advisory remains in effect. The District has a variety of free water conservation information available to the public, including a Home Water Use Survey and conservation tips, wastewater reuse, and xeriscape publications. 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

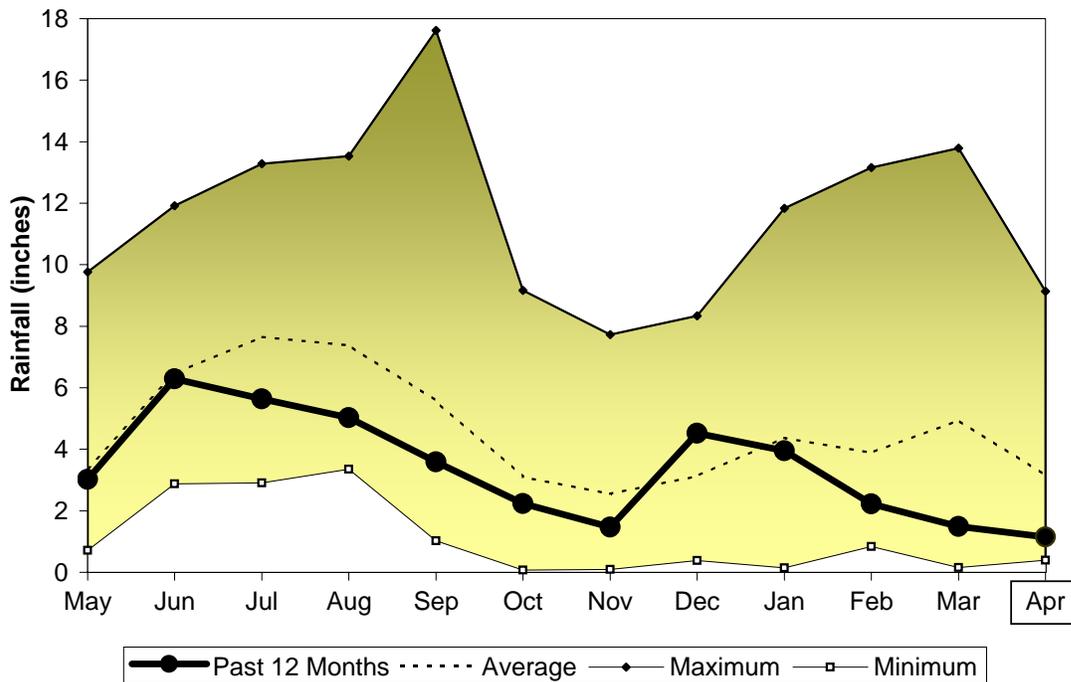
Table 1. Estimated Rainfall Totals

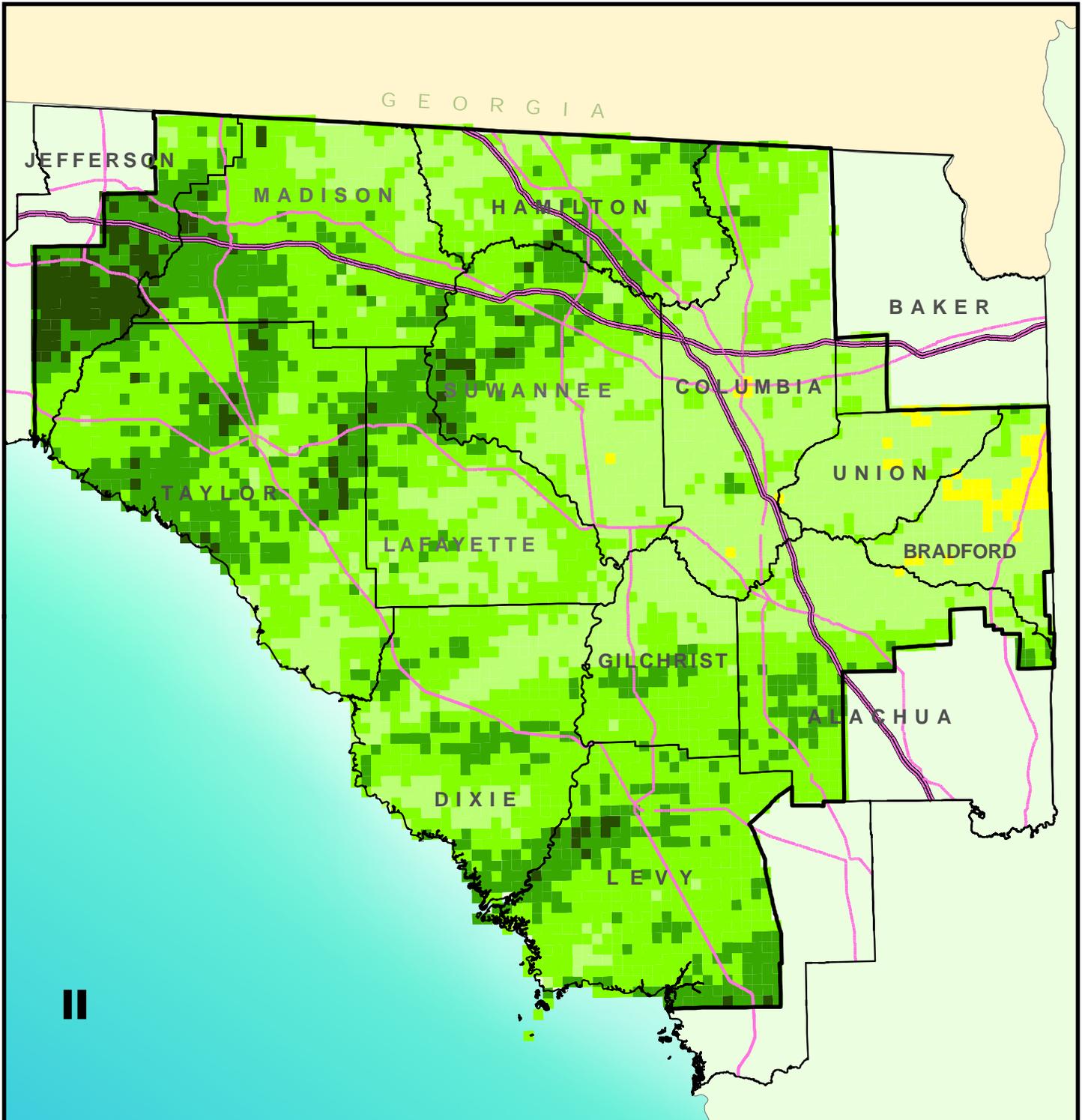
County	April-2007	Apr-2006	Last 12 Months	April Average
Alachua	1.13	2.00	38.00	3.35
Baker	0.86	1.55	37.75	3.07
Bradford	0.70	1.37	33.50	3.16
Columbia	0.91	0.70	40.54	3.10
Dixie	1.20	0.87	45.51	3.35
Gilchrist	1.13	1.33	41.89	3.58
Hamilton	1.17	0.66	40.64	3.21
Jefferson	1.86	2.60	53.51	4.04
Lafayette	1.15	0.83	42.72	3.24
Levy	1.40	1.29	46.06	3.11
Madison	1.33	1.97	46.43	3.23
Suwannee	1.20	0.62	42.45	3.24
Taylor	1.39	1.78	49.68	3.35
Union	0.73	1.87	35.03	3.65

District April 2007 Average: 1.15
 District Historical April Average: 3.33
 District Historical 12-month Average: 55.62
 District Past 12-Month Total: 40.60
 District Rainfall Deficit Since January: -7.15
 District 12-month Rainfall Deficit: -15.02

(Rainfall reported in inches)

Figure 1: Comparison of District Monthly Rainfall





II

**April 2007
Estimated Rainfall
Figure 2**

Major Roads

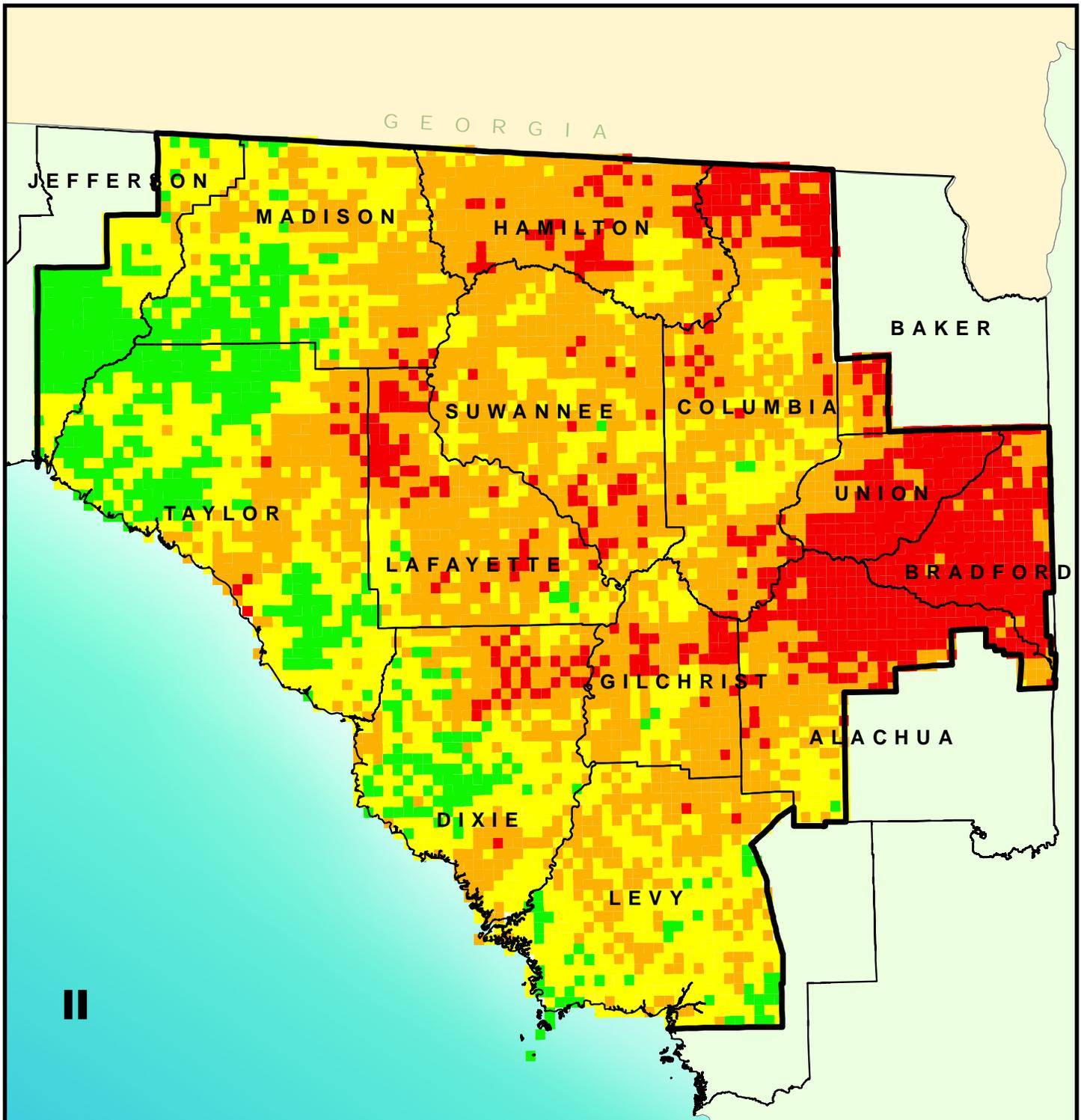
-  Interstate
-  US
-  District Boundary
-  County Boundaries

Rainfall

-  Less than 0.5 inch
-  0.5 to 1 inch
-  1 to 1.5 inches
-  1.5 to 2 inches
-  More than 2 inches



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
May 2006 through April 2007
Figure 3**

Rainfall below Annual Average

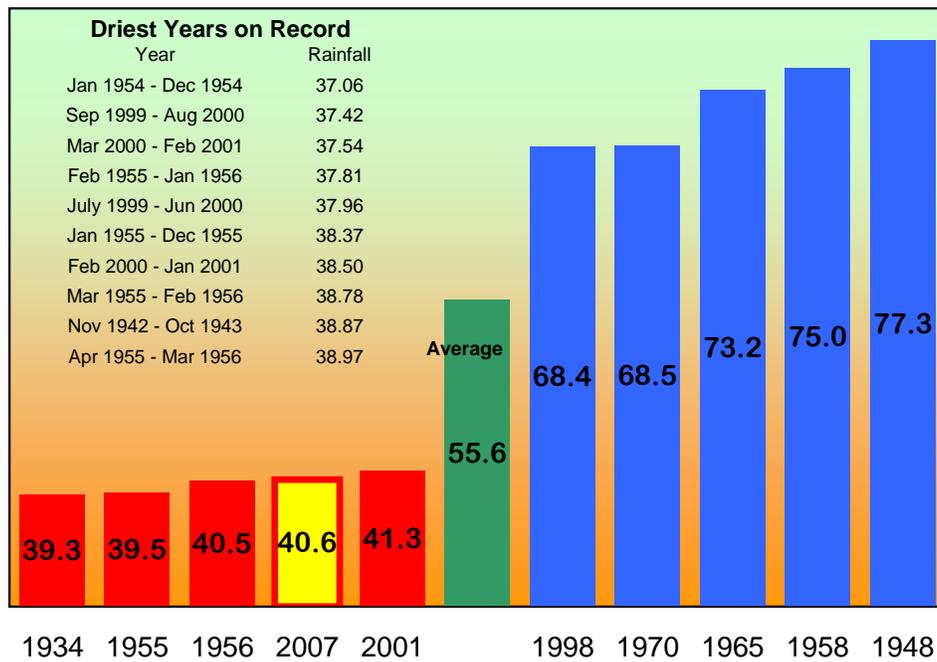
- Less than 8 inches below average
- 8 to 14 inches below average
- 14 to 20 inches below average
- More than 20 inches below average

- District Boundary
- County Boundaries

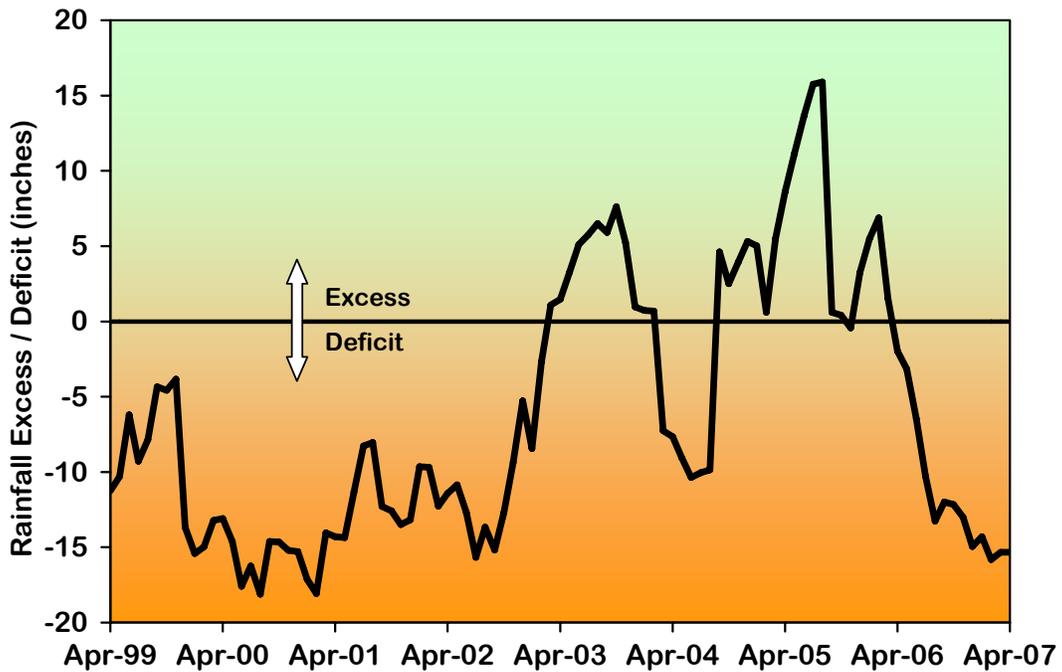


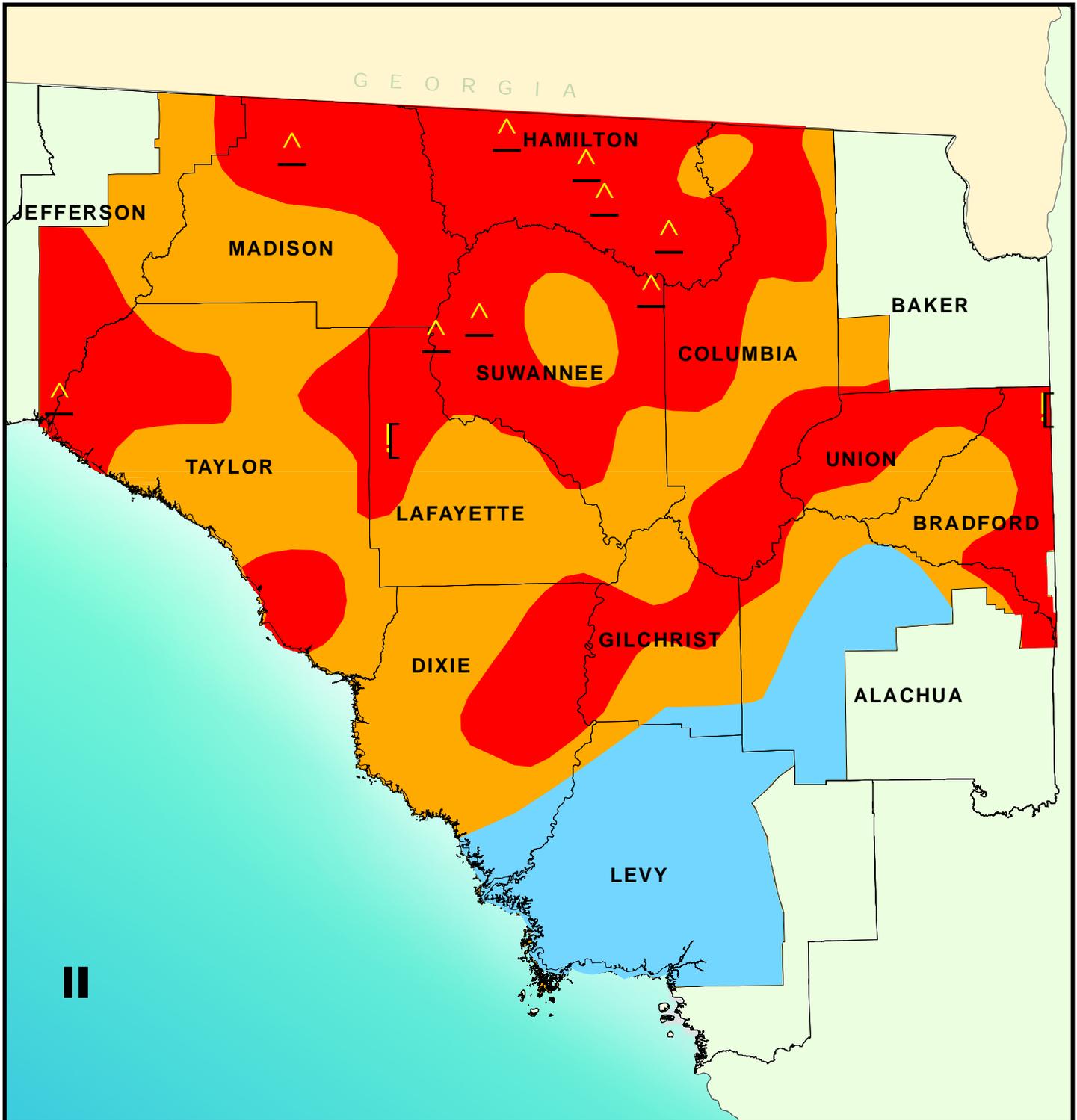
Note: This map was created by the Suwannee River Water Management District (SRWMD) to be used for planning purposes only. SRWMD shall not be held liable for any injury or damage caused by the use of data distributed as a public records request regardless of their use or application. SRWMD does not guarantee 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.

**Figure 4: Annual Rainfall Extremes, May through April
(Records beginning 1932)**



**Figure 5: 12-Month Cumulative Rainfall Deficit
April 1999 - Present**





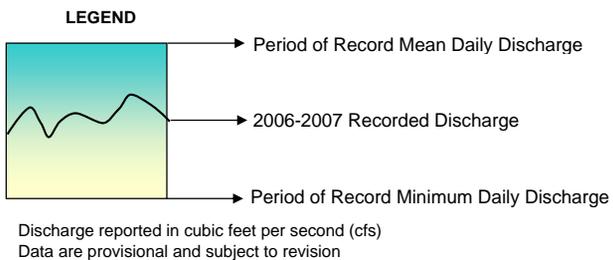
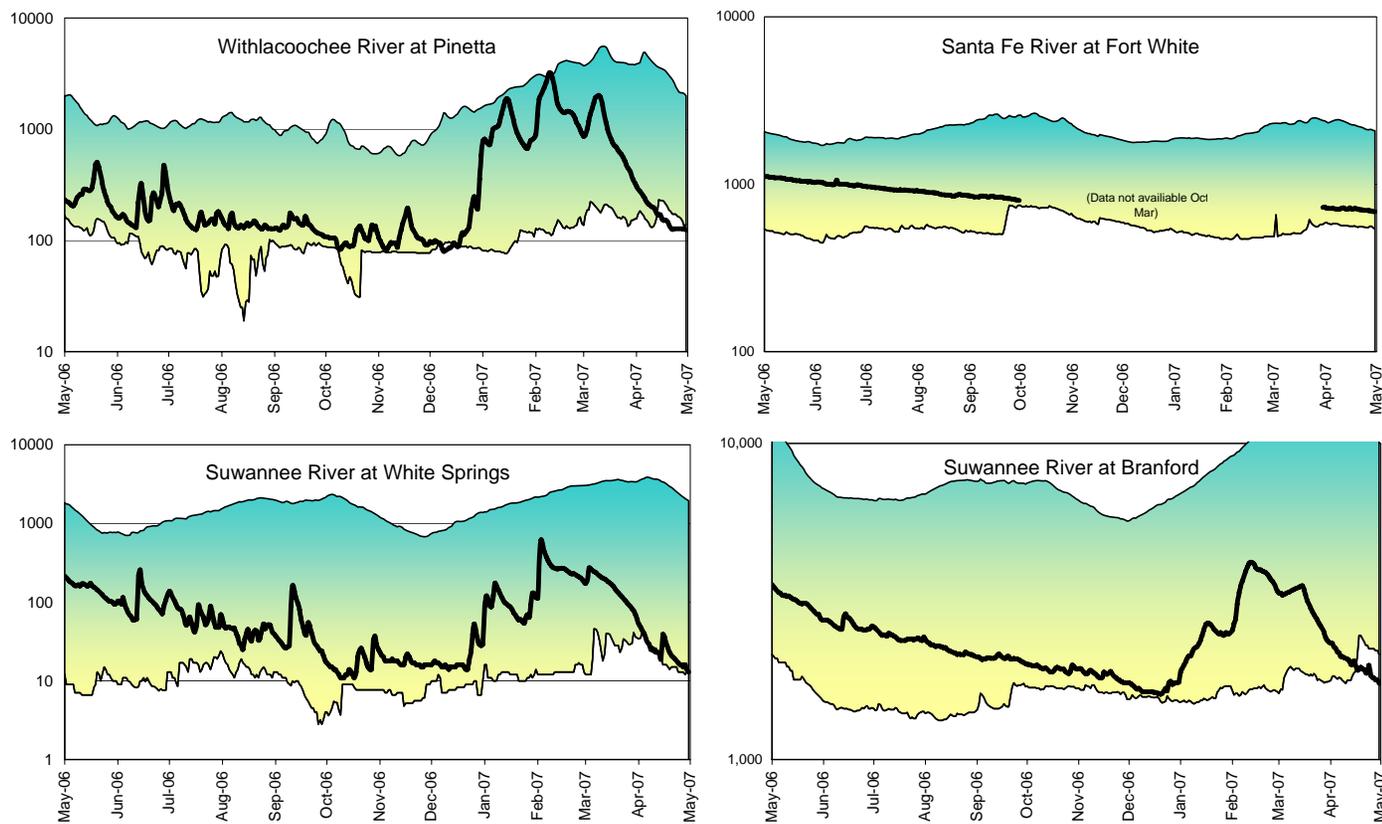
**Groundwater Levels
April 2007
Figure 6**

-  High
(Greater than 75th Percentile)
-  Normal
(25th to 75th Percentile)
-  Low
(10th to 25th Percentile)
-  Extremely Low
(Less than 10th Percentile)
-  April Low
-  Historic Low



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.

Figure 7: Daily Discharge Statistics for Selected River Stations



Station	Period of Record
Withlacoochee River at Pinetta	1932-2005
Santa Fe River at Fort White	1928-2004
Suwannee River at White Springs	1907-2005
Suwannee River at Branford	1932-2006

Table 2. Lake Levels within SRWMD.

Lake	Beginning Record	2007 April	2007 March	2007 February	2006 April	Monthly Change	Record Low	Record High
Lake Octahatchee	Nov-74	102.19	102.29	102.3	102.12	-0.10	95.55 (3/89)	107.9 (3/05)
Cherry Lake	Nov-74	151.25	151.73	151.91	151.83	-0.48	150.81 (11/90)	154.0 (9/75)
Andrews Lake	Nov-74	76.19	76.84	77.06	77.45	-0.65	73.32 (12/01)	78.4 (12/94)
Palestine Lake	Aug-75	141.36	141.97	142.00	143.18	-0.61	139.34 (10/02)	145.2 (10/92)
Ocean Pond	Dec-74	152.29	152.90	153.00	154.52	-0.61	150.85 (8/02)	156.6 (2/98)
Governor Hill Lake	Nov-84	46.47	47.50	47.90	51.97	-1.03	46.82 (1/02)	54.3 (2/98)
Alligator Lake	Sep-65	93.58	94.10	94.34	96.10	-0.52	90.23 (4/68)	100.8 (9/04)
Lake Francis	Jun-99	139.51	140.57	140.66	140.33	-1.06	139.03 (12/01)	141.7 (9/04)
Lake Butler	Jul-57	128.03	N/A	128.74	130.20	N/A	126.75 (7/02)	134.0 (9/64)
Hampton Lake	Feb-89	127.34	127.80	128.07	129.97	-0.46	124.48 (5/02)	133.4 (3/98)
Lake Sampson	Jul-57	129.70	130.23	130.47	131.18	-0.53	129.49 (12/77)	136.2 (3/59)
Lake Crosby	Feb-89	BG	129.05	129.17	131.13	N/A	128.31 (5/01)	135.4 (10/04)
Waters Lake	Jul-72	BG	BG	BG	71.89	N/A	55.10 (2/82)	79.7 (9/04)
Low Lake	Nov-74	147.31	147.88	148.35	147.54	-0.57	146.80 (7/00)	150.3 (6/94)
Santa Fe Lake	Jul-58	138.05	138.42	138.56	140.80	-0.37	135.71 (10/02)	142.8 (1/98)
Lake Altho	Mar-76	137.54	138.02	138.33	139.90	-0.48	136.78 (7/01)	141.5 (2/98)
Snead's Smokehouse Lake	Dec-76	79.59	80.09	80.30	80.21	-0.50	78.40 (5/96)	85.4 (4/84)

Bold indicates record measurement.

* - BG indicates lake level below gage.

N/A - Data missing

Table 3. River Levels within SRWMD.

	April 2007	Average April	April 2006	April Lowest	April Highest	Historic Low	Historic High
<u>SUWANNEE RIVER AND TRIBUTARIES</u>							
SUWANNEE RIVER @ White Springs	49.80	59.98	51.46	49.89 4/28/1935	88.56	49.59 Jun-55	88.56 Apr-73
SUWANNEE RIVER @ Ellaville	29.19	38.45	30.12	29.15 4/11/1955	68.10	28.55 Aug-02	68.10 Apr-48
SUWANNEE RIVER @ Branford	7.83	18.16	11.08 11.08	7.63 4/10/1955	38.88	6.74 Jul-02	38.88 Apr-48
SUWANNEE RIVER @ Wilcox	2.25	8.06	3.07	1.43 4/21/1956	21.79	0.37 Feb-57	21.79 Apr-48
WITHLACOOCHEE RIVER near Pinetta	53.55	58.63	53.90	53.85 4/30/1999	85.85	53.26 Aug-02	85.85 Apr-48
SANTA FE RIVER near Fort White	21.13	23.46	21.71	21.25 4/22/2001	30.28	21.01 Nov-02	36.20 Sep-64
<u>COASTAL RIVERS</u>							
AUCILLA RIVER at Lamont	46.85	50.97	47.38	44.23 4/30/1955	59.47	43.50 Jun-55	59.47 Apr-73
STEINHATCHEE RIVER near Cross City	10.37	12.25	10.43	10.37 4/20/2000	22.75	10.11 Jul-81	26.74 Sep-64
ECONFINA RIVER near Perry	16.41	20.30	16.89	16.54 4/29/1989	26.19	15.85 Jan-76	27.13 Sep-57
FENHOLLOWAY RIVER near Foley	54.51	55.93	54.77	54.23 4/26/2000	58.11	54.17 Aug-77	68.80 Sep-64

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