Drought Indicators Report

Georgia Environmental Protection Division

December 2017

Background

Pursuant to the Rules for Drought Management, Section 391-3-3-.04 Drought Indicators and Triggers, the Director of EPD monitors climatic indicators and water supply conditions to assess drought occurrence and severity, and its impact upon the ability of public water systems to provide adequate supplies of water. These indicators and conditions November include, but not be limited, to the following:

- U.S. Drought Monitor;
- Precipitation;
- Streamflow;
- Groundwater;
- Reservoir levels;
- Short term climate predictions;
- Soil moisture; and
- Water supply conditions.

Background

- The Rules require EPD to report on current climatic indicators at least semi-annually or monthly when any part of the state has experienced at least two consecutive months of severe drought.
- This reports compare current conditions to historical levels (and/or reservoir rule curves) for each of the following indicators:
  - Precipitation during the prior 3, 6, and 12 months;
  - Streamflow at the select United States Geological Survey gages;
  - Groundwater levels at select United States Geological Survey monitoring wells; and
  - Reservoir levels at Allatoona Lake, Lake Hartwell, Clarks Hill Lake, and Lake Lanier.
- The following sections of this presentation provide the data and information sources analyzed by EPD in developing this drought indicators report for conditions as of December 7, 2017.

Drought Indicator Analysis Summary (slide 1 of 2)

- U.S. Drought Monitor - Moderate drought conditions (D1, the least intense drought level) is in a majority of the counties south of the fall line.
- Precipitation – The 3 month records show much of the state at slightly to moderately below normal rainfall, with exceptions in the west central and extreme south east parts of the state showing above normal precipitation. The 6 month records show much of the state experiencing normal or near normal conditions with the areas north of the fall line generally slightly above normal, and the areas below generally below normal. The 12 month records reflect much of the pattern in the 6 month records except for more intense deficits in the southwestern part of the state.
- Soil Moisture - Soil moisture conditions are moderately dry in most parts of the state.
- Stream Flows – 10 of the 34 observation sites are at or below 2007 and/or 2011 level. No gages show flows at or lower than the 5th percentile.

Drought Indicator Analysis Summary (slide 2 of 2)

- Groundwater - Groundwater levels vary by location. 12 of the 14 monitoring wells EPD uses to track drought conditions are at or below median levels. 12 are at or above the 20th percentile and 1 is below the 5th percentile of the historical record.
- Reservoir Levels - In the ACT, Allatoona and Carters are both at rule curve. In the ACF, Lanier is zone 2, WestPoint and George are both in zone 1. ACF Composite storage is in Zone 2. In the Savannah Basin, both Hartwell and Thurmond are in Level 3 and remain in Corps drought level 2 operations.
- Short Term Climate Prediction – Three month outlook indicates below average precipitation and above average temperatures.
- Water Supplies - Many systems are reporting that local water supplies have recovered or nearly recovered. Lanier is the primary exception, and it is approximately 4 feet down. Systems are still generally advising a cautious approach to discretionary water use.

US Drought Monitor

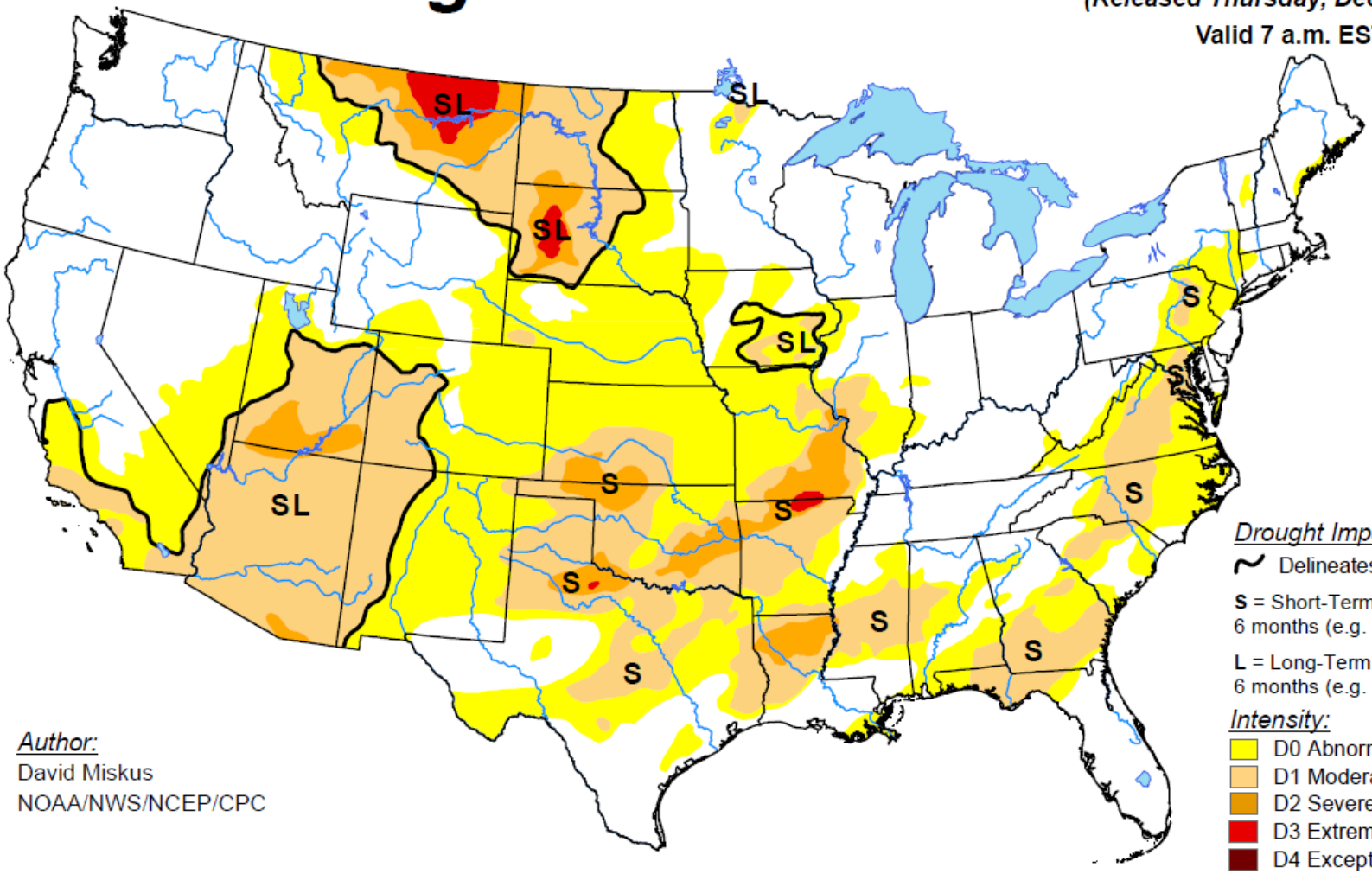
Data Source:
http://droughtmonitor.unl.edu/

U.S. Drought Monitor

December 26, 2017

(Released Thursday, Dec. 28, 2017)

Valid 7 a.m. EST



Author:
David Miskus
NOAA/NWS/NCEP/CPC

Drought Impact Types:

~ Delineates dominant impacts

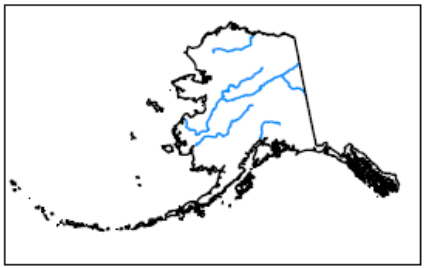
S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)

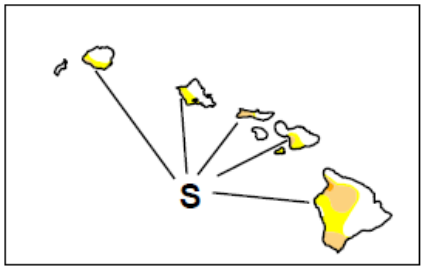
L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

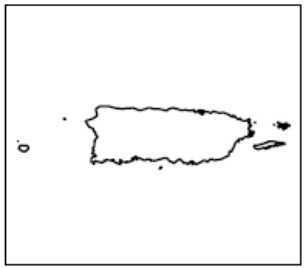
Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.







USDA NDMC

http://droughtmonitor.unl.edu/

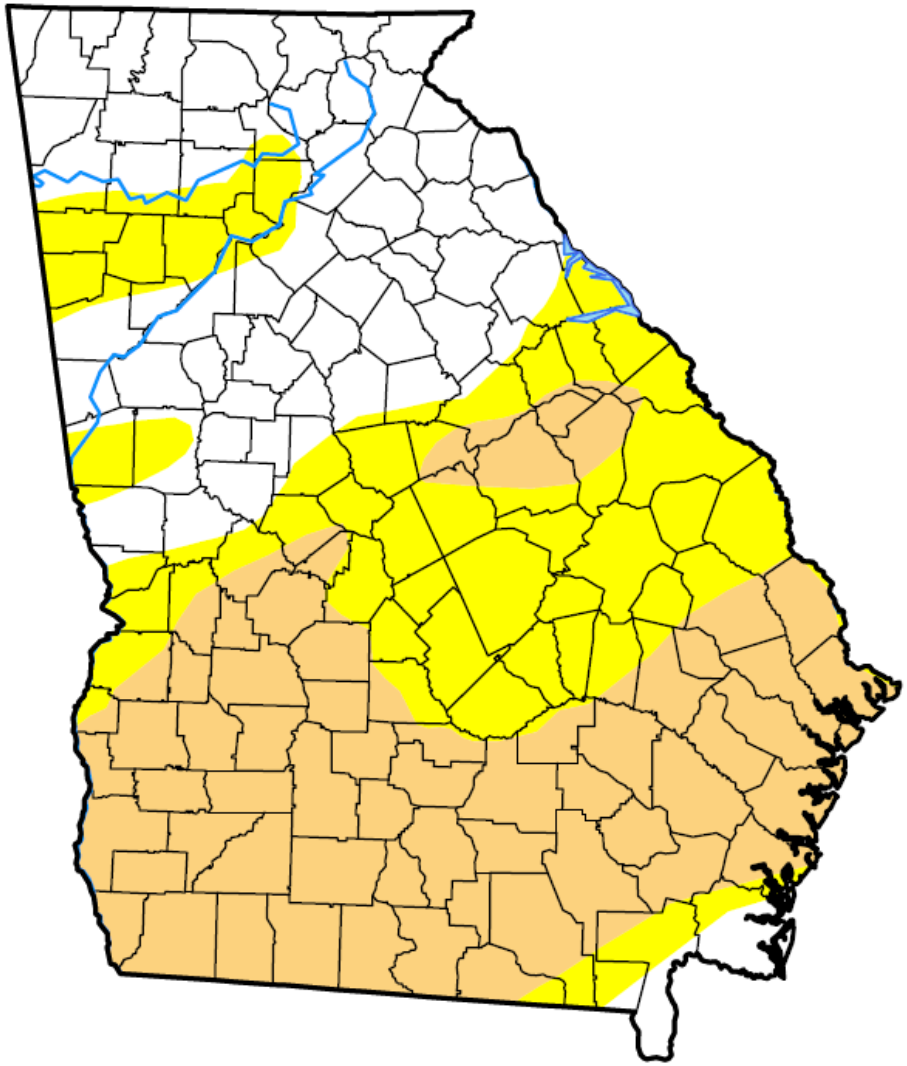
U.S. Drought Monitor

Georgia

December 26, 2017

(Released Thursday, Dec. 28, 2017)

Valid 7 a.m. EST



Intensity:

- D0 Abnormally Dry
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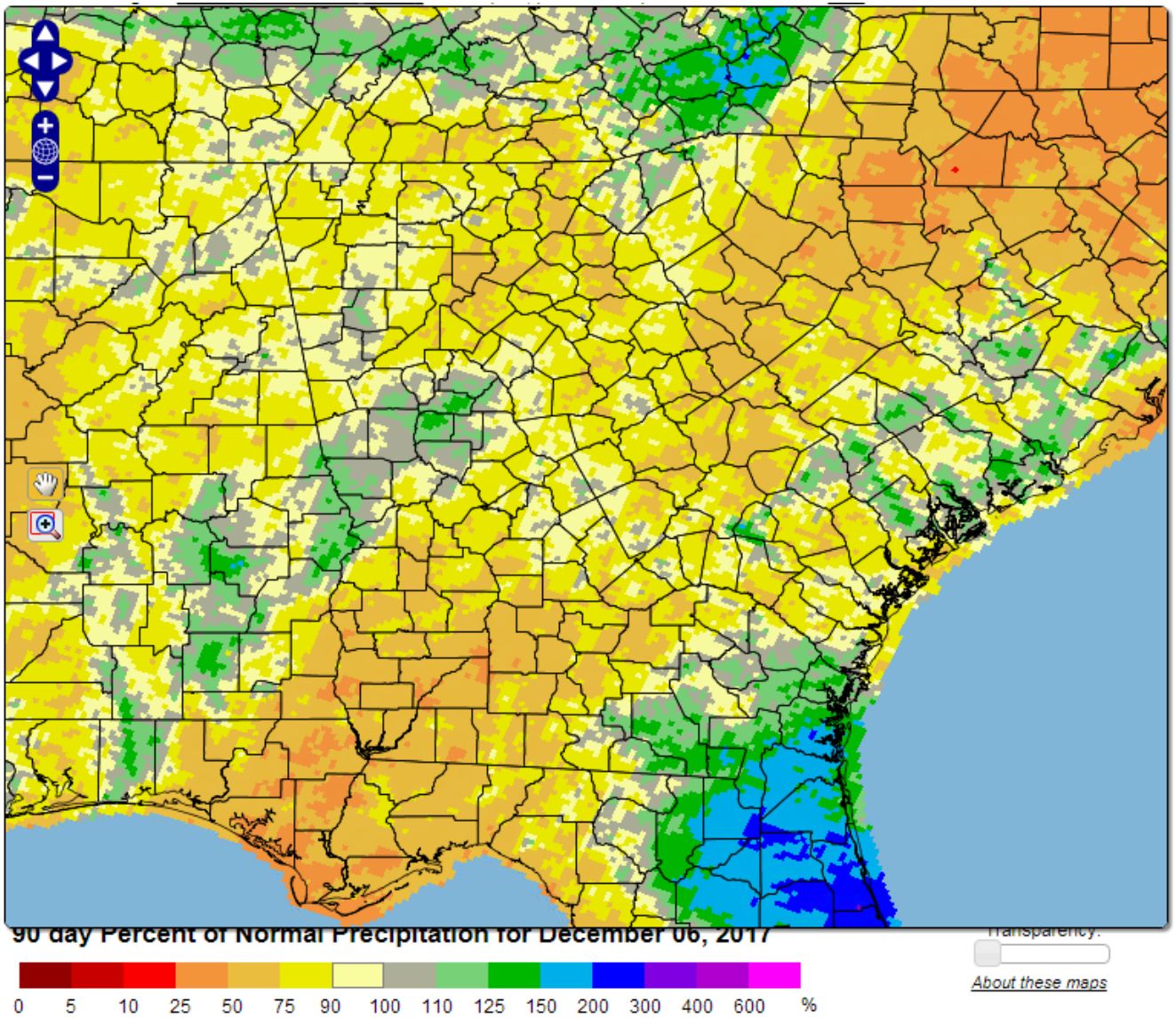
http://droughtmonitor.unl.edu/

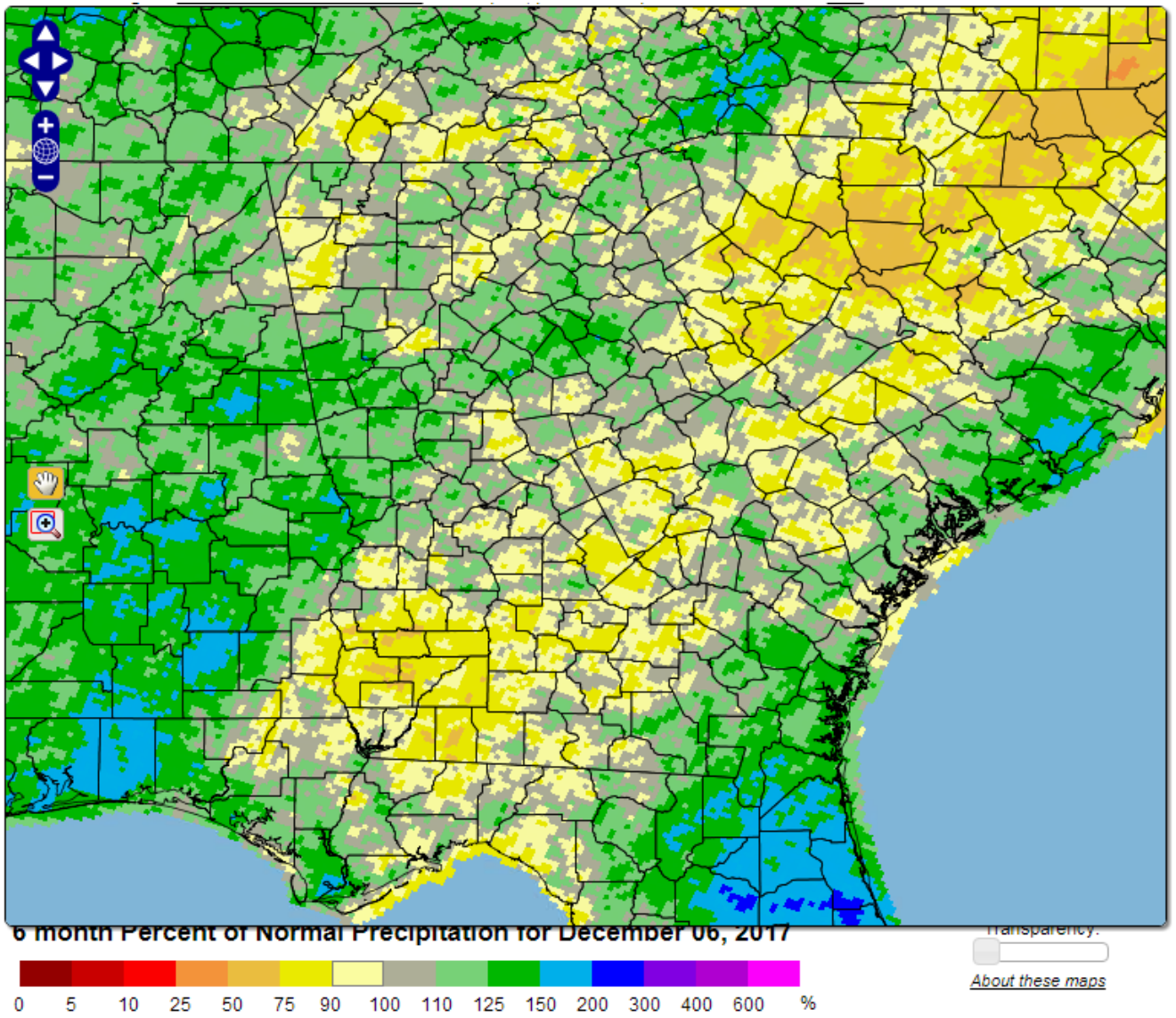
3, 6, and 12 Month
Percent of Normal Precipitation

Data Source:
http://climate.ncsu.edu/drought

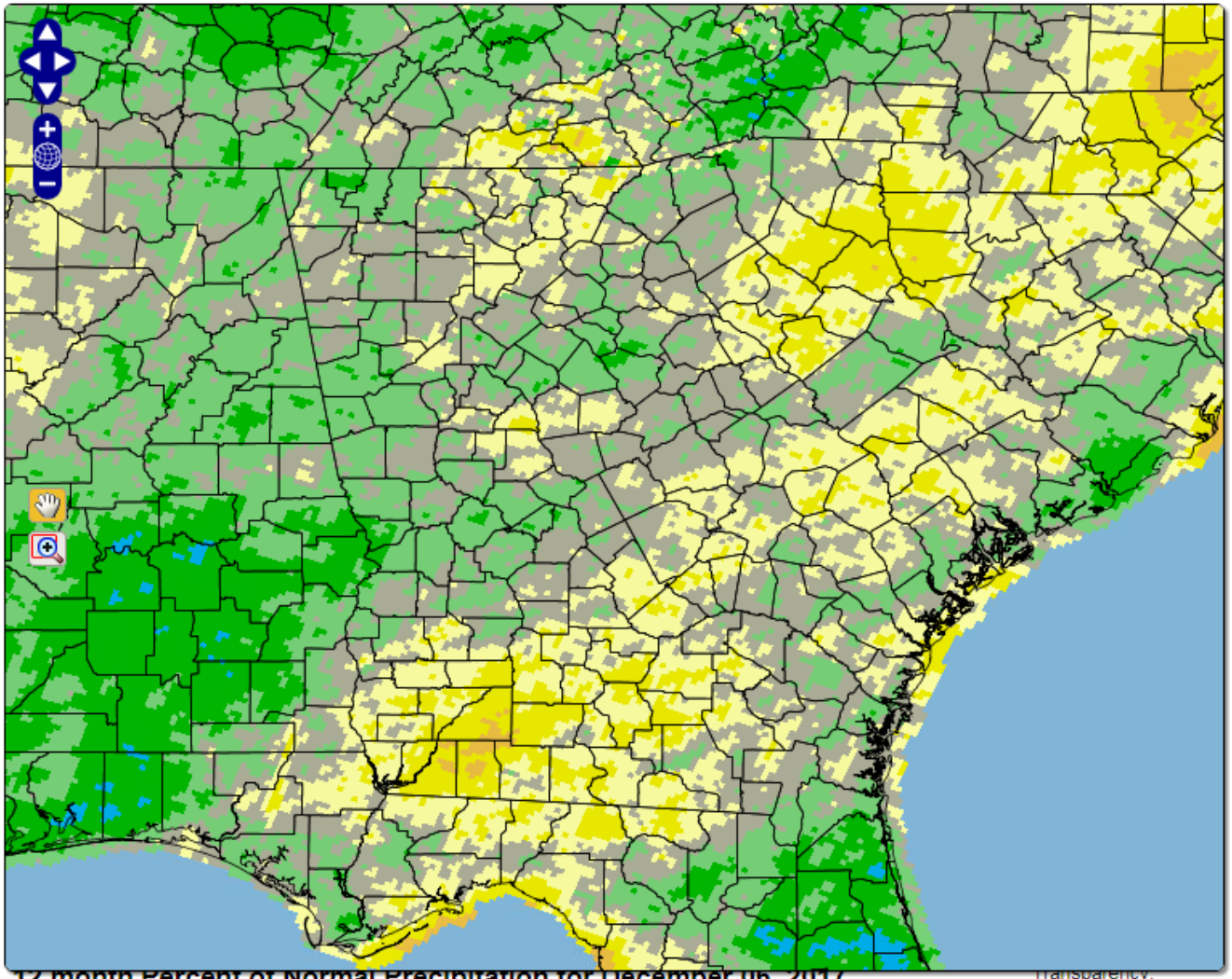
3 Month Percent of Normal Precipitation



6 Month Percent of Normal Precipitation

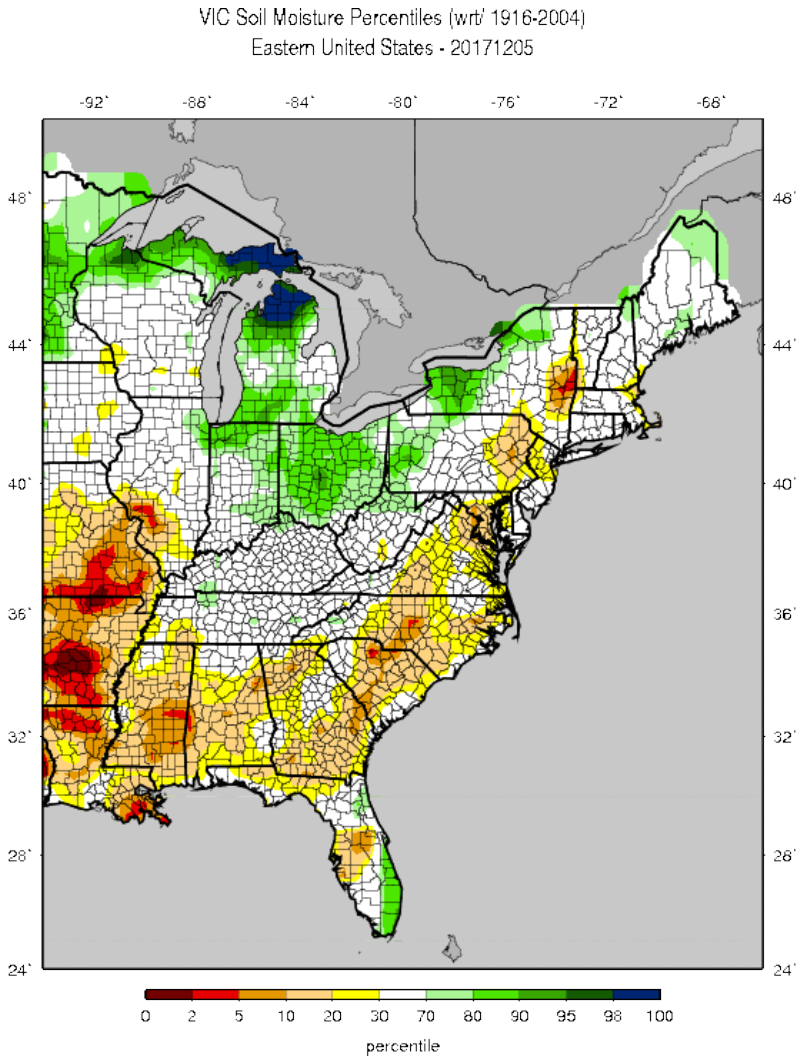


12 Month Percent of Normal Precipitation



Soil Moisture Conditions

Data Source:
http://www.hydro.washington.edu/forecast/monitor/curr/conus.mexico/east.vic.sm_qnt.gif



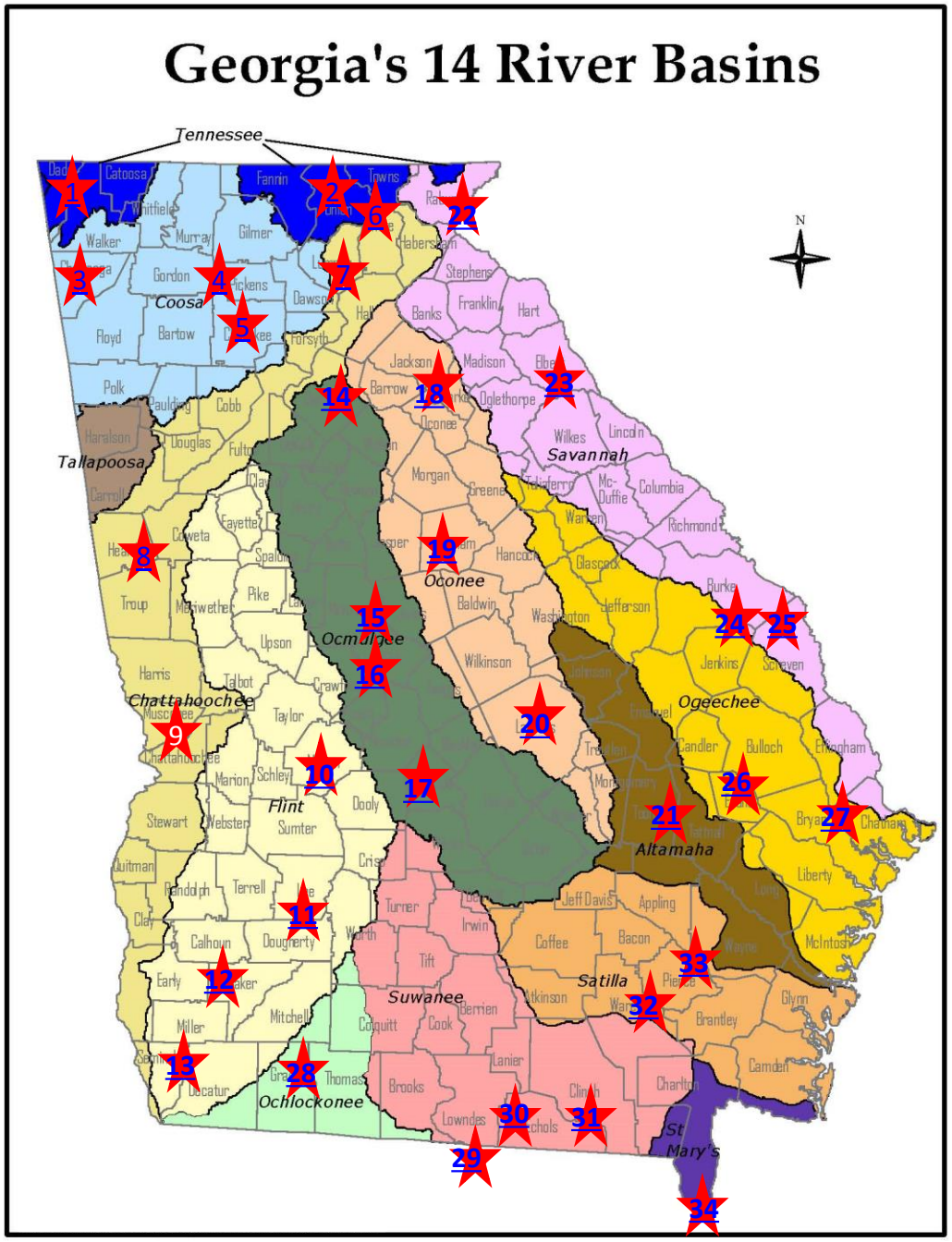
Current (daily updated) percentiles for soil moisture (SWE) with respect to the climatological period (1916-2004).

Streamflow Conditions

Data Source: USGS

Streamflow Monitoring

- As shown on the following slide, EPD Monitors 34 USGS stream gages in 13 of the State's major river basins to assess drought conditions.
- These gages were selected because each has:
  - Long-term and relatively complete records for recent decades; and
  - Relatively low consumptive water use implications and streamflows are not heavily influenced by dams.
- Note: Hydrologic conditions of major rivers with streamflows that are heavily influenced by dams can be assessed by reviewing status of major storage reservoirs



USGS Stream Gages Monitored by EPD to Assess Drought Conditions

GAGE#	BASIN	GAGE NAME
1	TENNESSEE	LOOKOUT CREEK NEAR NEW ENGLAND
2	TENNESSEE	NOTTELY RIVER NEAR BLAIRSVILLE
3	COOSA	CHATTOOGA RIVER AT SUMMERVILLE
4	COOSA	TALKING ROCK CREEK NEAR HINTON
5	COOSA	ETOWAH RIVER AT CANTON
6	CHATTAHOOCHEE	CHATTAHOOCHEE RIVER AT CORNELIA
7	CHATTAHOOCHEE	CHESTATEE RIVER NEAR DAHLONEGA
8	CHATTAHOOCHEE	NEW RIVER AT GA 100 NEAR CORINTH
9	CHATTAHOOCHEE	UPATOI CREEK AT COLUMBUS
10	FLINT	FLINT RIVER AT GA26 NEAR MONTEZUMA
11	FLINT	FLINT RIVER AT ALBANY
12	FLINT	ICHAWAYNOCHAWAY CREEK AT MILFORD
13	FLINT	SPRING CREEK NEAR IRON CITY
14	OCMULGEE	ALCOVY RIVER ABOVE COVINGTON
15	OCMULGEE	OCMULGEE RIVER AT MACON
16	OCMULGEE	TOBESOFKEE CREEK NEAR MACON
17	OCMULGEE	TUCSAWHATCHEE CREEK NEAR HAWKINSVILLE
18	OCONEE	MIDDLE OCONEE RIVER NEAR ATHENS
19	OCONEE	LITTLE RIVER NEAR EATONTON
20	OCONEE	OCONEE RIVER AT DUBLIN
21	ALTAMAHA	OHOOPEE RIVER NEAR REIDSVILLE
22	SAVANNAH	CHATTOOGA RIVER NEAR CLAYTON
23	SAVANNAH	BROAD RIVER NEAR BELL
24	SAVANNAH	BEAVERDAM CREEK NEAR SARDIS
25	SAVANNAH	BRIER CREEK AT MILLHAVEN
26	OGEECHEE	CANOOCHEE RIVER NEAR CLAXTON
27	OGEECHEE	OGEECHEE RIVER NEAR EDEN
28	OCHLOCKONEE	OCHLOCKONEE RIVER NEAR THOMASVILLE
29	SUWANEE	WITHLACOOCHEE RIVER NEAR PINETTA FL
30	SUWANEE	ALAPAHA RIVER AT STATENVILLE
31	SUWANEE	SUWANNEE RIVER AT US 441, AT FARGO
32	SATILLA	SATILLA RIVER NEAR WAYCROSS
33	SATILLA	LITTLE SATILLA RIVER NEAR OFFERMAN
34	ST MARY	ST MARYS RIVER NEAR MACCLENNY FL

Streamflow Graphs

- For each of the 34 gages, EPD has prepared a graph that shows monthly average streamflow from January, 2017 through November, 2017;
- To help put these streamflow conditions into perspective, for comparison purposes, each graph also shows:
  - Monthly average streamflows for the years 2007 and 2011 when streamflows were at or near recorded low levels across much of the state; and
  - A statistical composite of historical conditions showing the “driest” 50, 20, 10, and 5 percent of all recorded monthly average stream flows at the same gage.

How to Read the Streamflow Graphs
Example #1: **Etowah River at Canton**

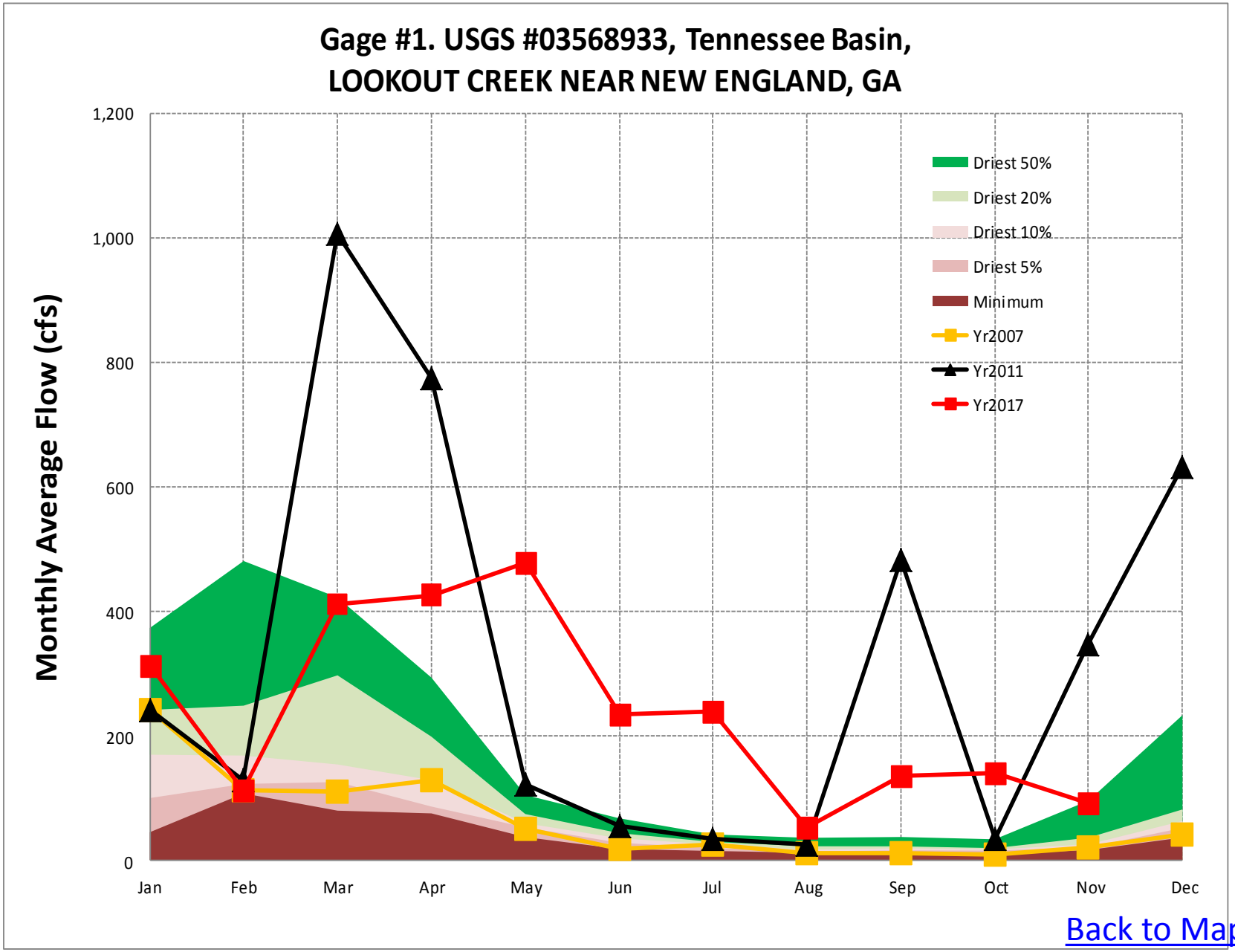
The streamflow graph for Gage #5, USGS Etowah River gage at Canton shows :

- Average stream flow for November 2017 was 558 cfs. The statistical composite of all historical data for this gage shows that average streamflow in November has historically been lower than November 2017 about 60% of the time; about 40% of the time in November it has been higher.
- Average stream flow in November 2011 was 461 cfs. The statistical composite of all historical data for this gage shows that average streamflow for November has historically been lower than November 2011 only 15% of the time; 85% of the time in November it has been higher.
- Average stream flow in November 2007 was 197 cfs. The statistical composite of all historical data for this gage shows that average streamflow for November has historically been lower than November 2007 only 1% of the time; 99% of the time in November it has been higher.

How to Read the Streamflow Graphs
Example #2: **Flint River at Albany**

The streamflow graph for Gage #11, USGS Flint River gage at Albany shows:

- Average stream flow for November 2017 was 1,959 cfs. The statistical composite of all historical data for this gage shows that average streamflow in November has historically been lower than November 2017 about 80% of the time; about 20% of the time in November it has been higher.
- Average stream flow in November 2011 was 1,171 cfs. The statistical composite of all historical data for this gage shows that average streamflow for November has historically been lower than November 2011 about 2% of the time; about 98% of the time in November it has been higher.
- Average stream flow in November 2007 was 1,119 cfs. The statistical composite of all historical data for this gage shows that average streamflow for November has historically been lower than November 2007 about 1% of the time; about 99% of the time in November it has been higher.


Gage #1. USGS #03568933, Tennessee Basin,
LOOKOUT CREEK NEAR NEW ENGLAND, GA
Monthly Average Flow (cfs)
1,200
1,000
800
600
400
200
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2017

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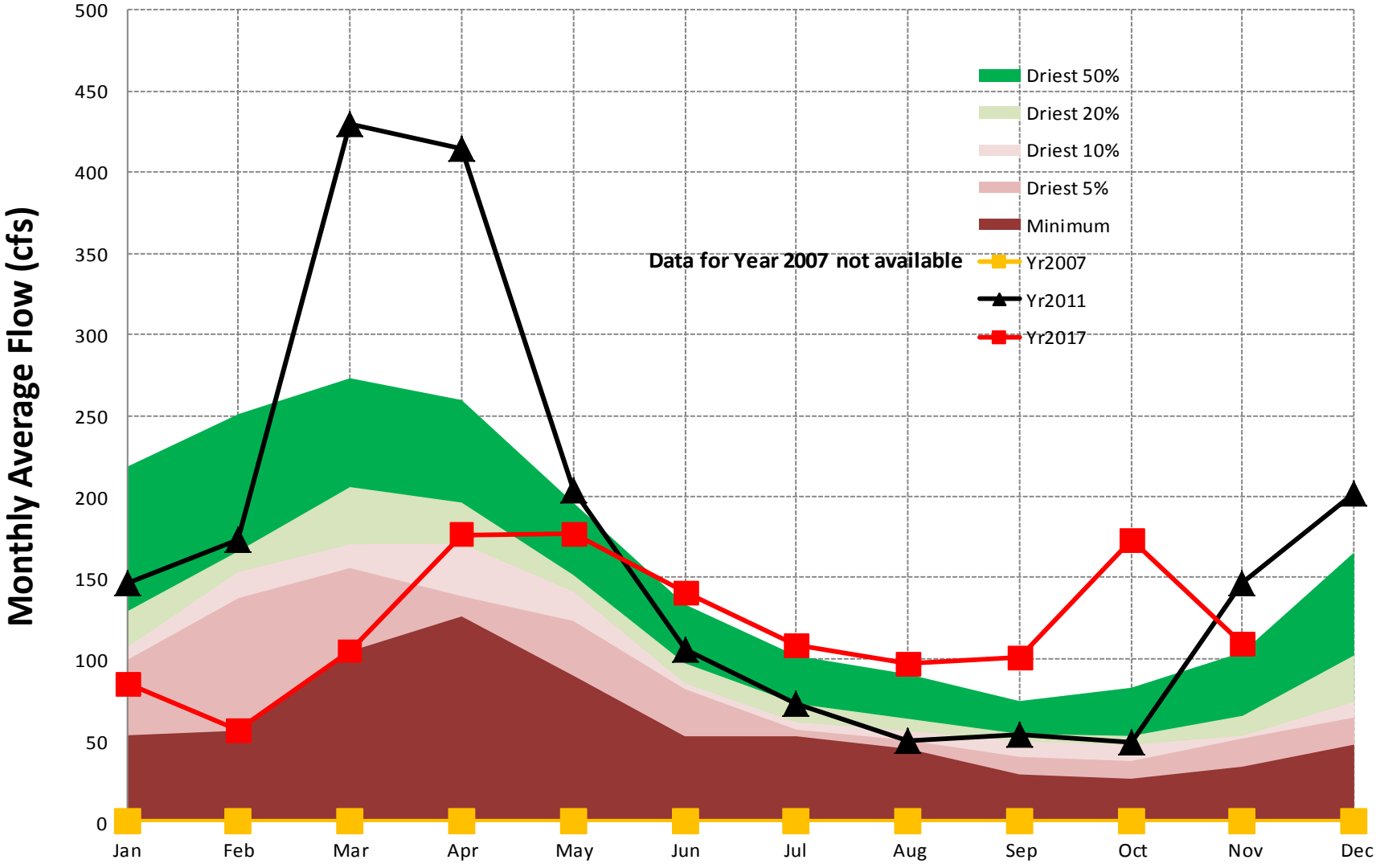
Gage #2, USGS #03550500, Tennessee Basin, NOTTELY RIVER NEAR BLAIRSVILLE, GA



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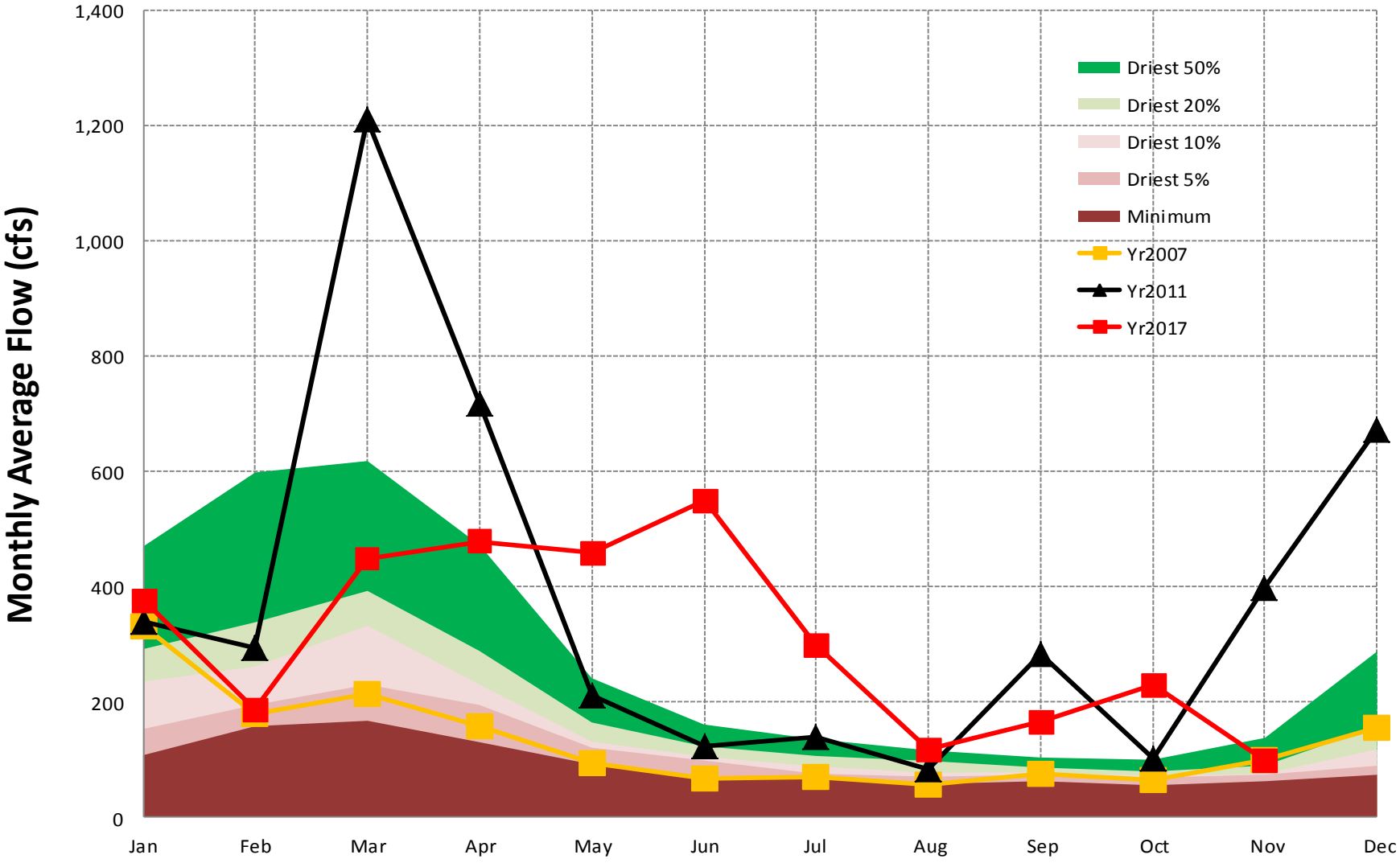
Gage #3. USGS #02398000, Coosa Basin, Chattooga River at Summerville, GA



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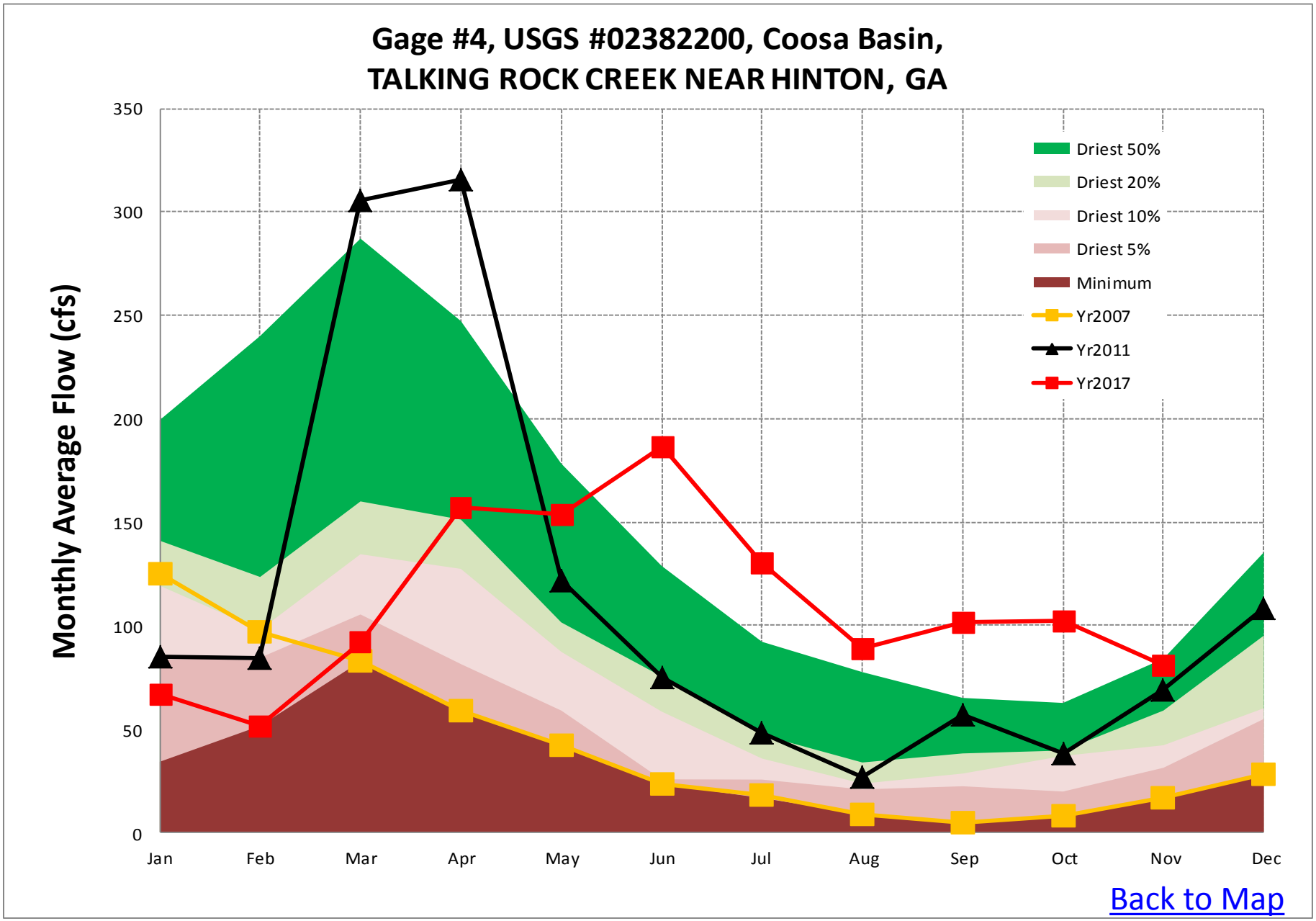
Gage #4, USGS #02382200, Coosa Basin,
TALKING ROCK CREEK NEAR HINTON, GA
Monthly Average Flow (cfs)
350
300
250
200
150
100
50
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2017

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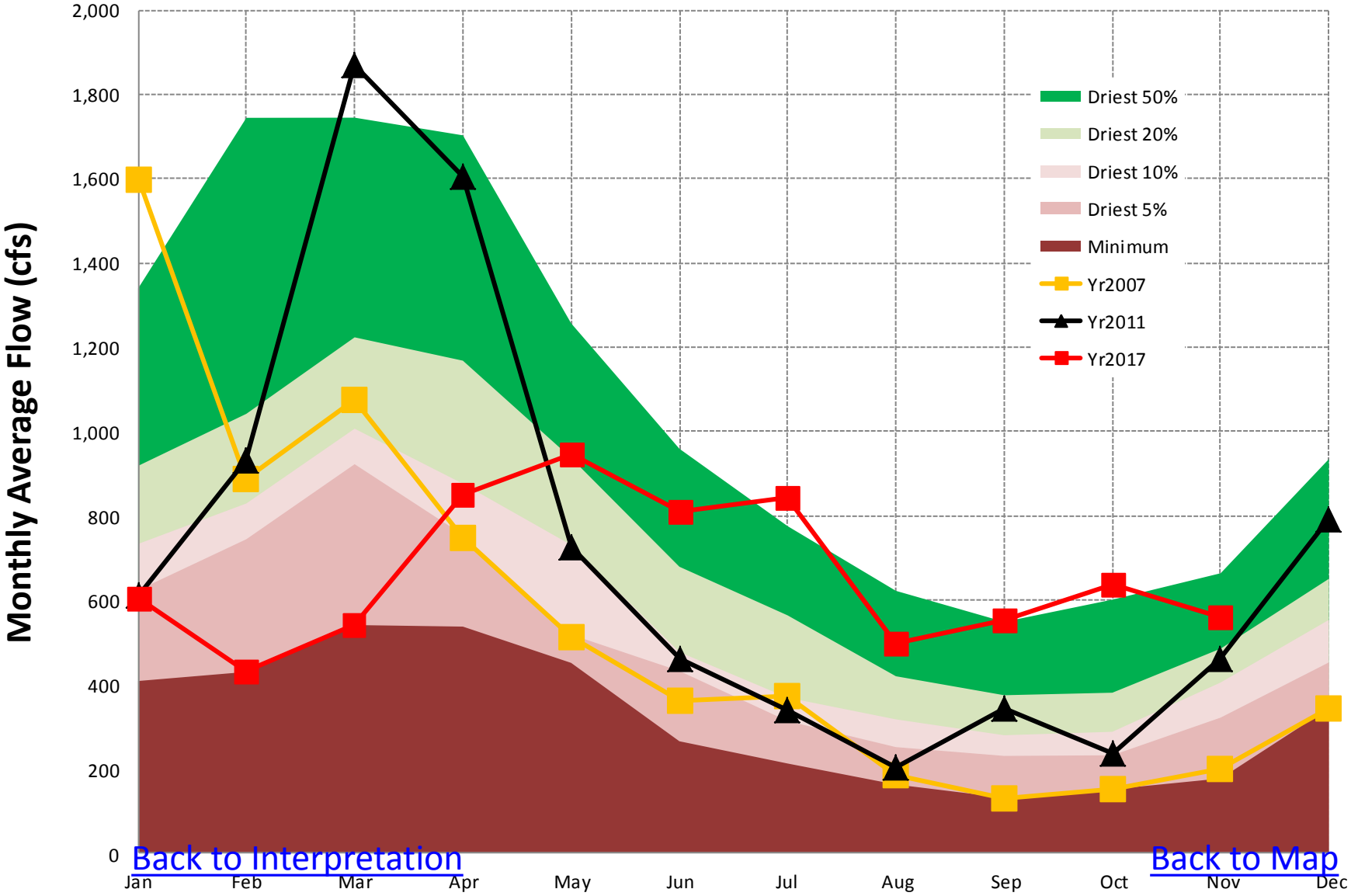
Gage #5, USGS #02392000, Coosa Basin, Etowah River at Canton, GA



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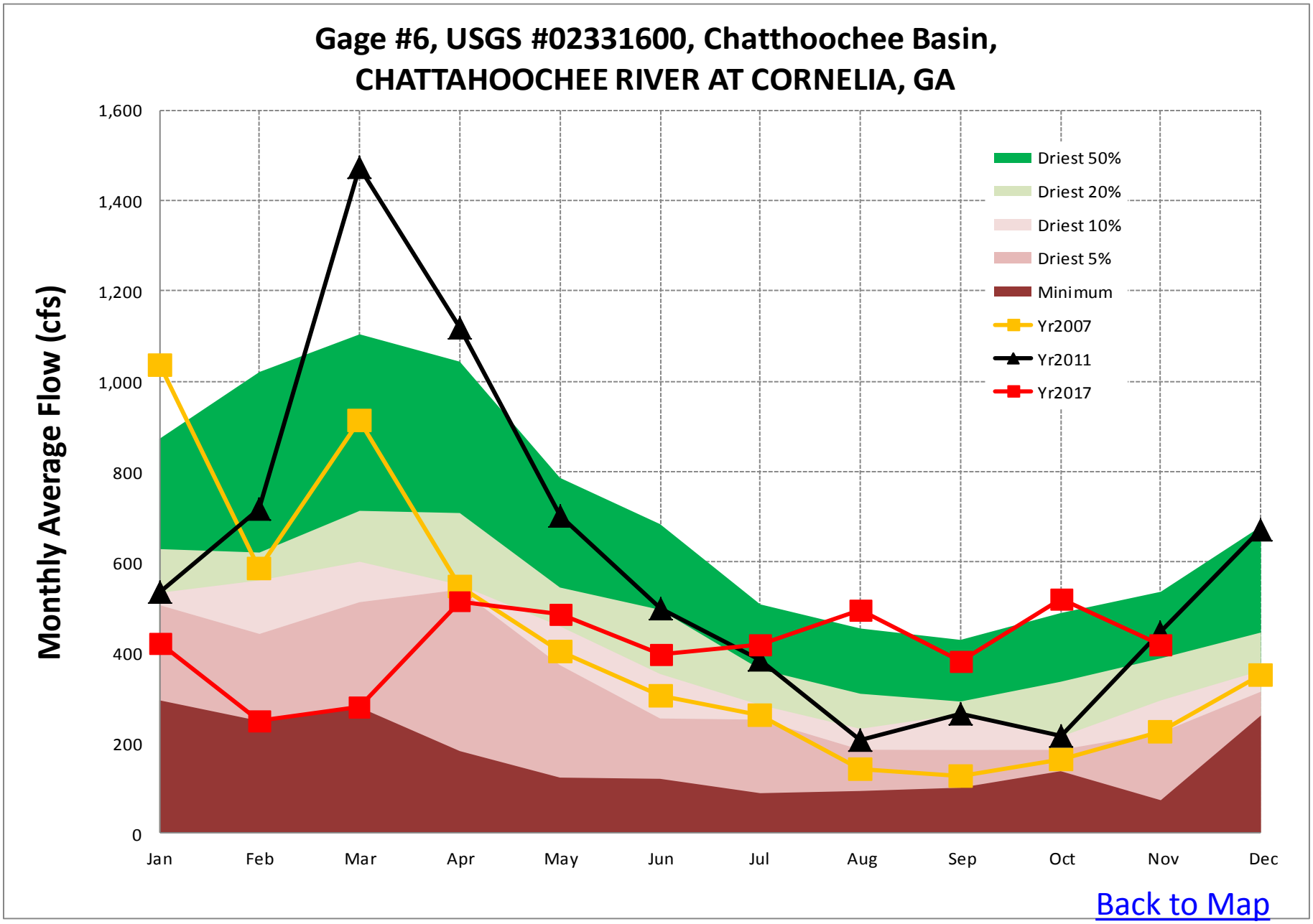
Gage #6, USGS #02331600, Chatthoochee Basin,
CHATTAHOOCHEE RIVER AT CORNELIA, GA
Monthly Average Flow (cfs)
1,600
1,400
1,200
1,000
800
600
400
200
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2017

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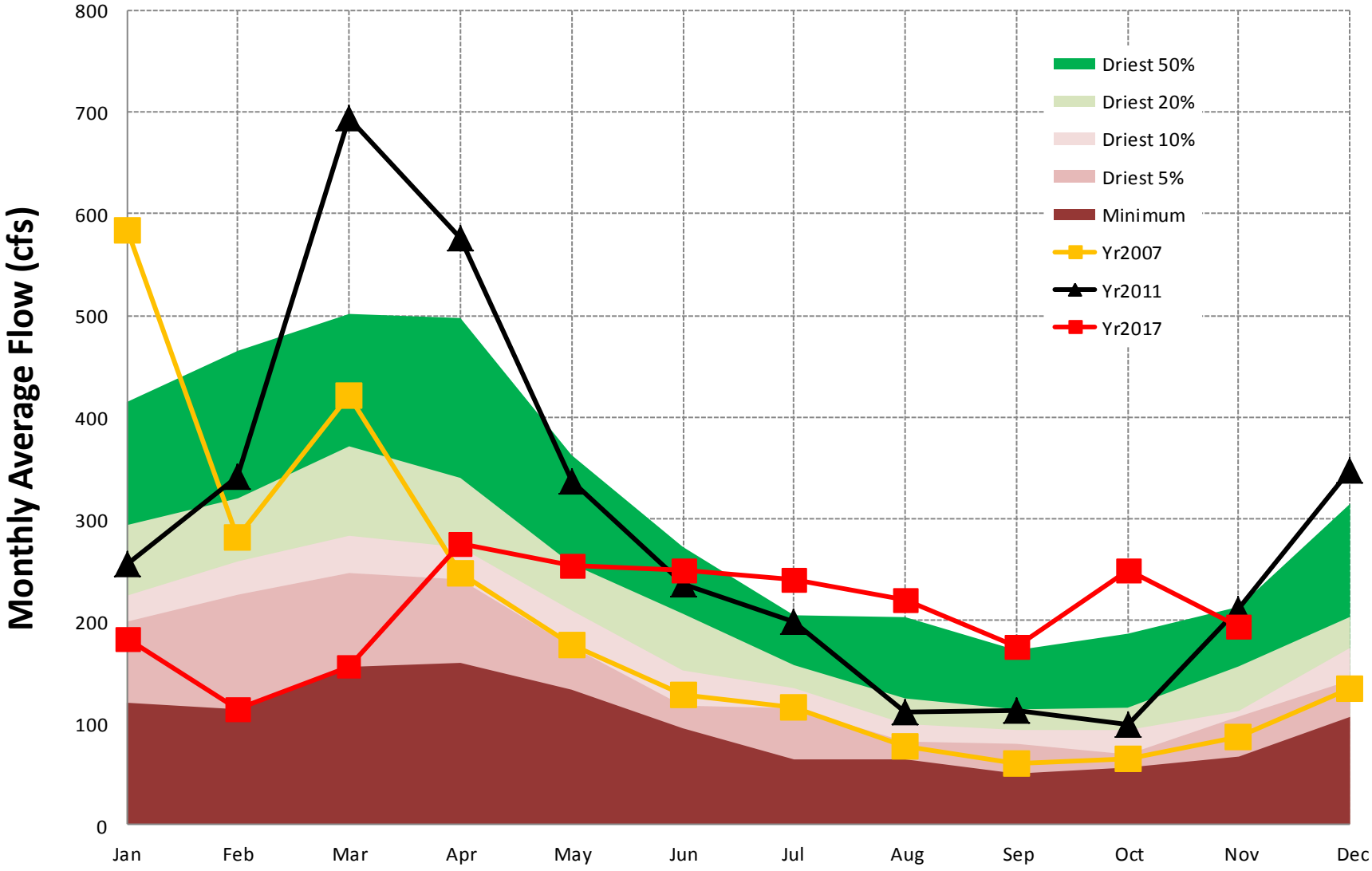
Gage #7, USGS #02333500, Chatahoochee Basin, CHESTATEE RIVER NEAR DAHLONEGA, GA



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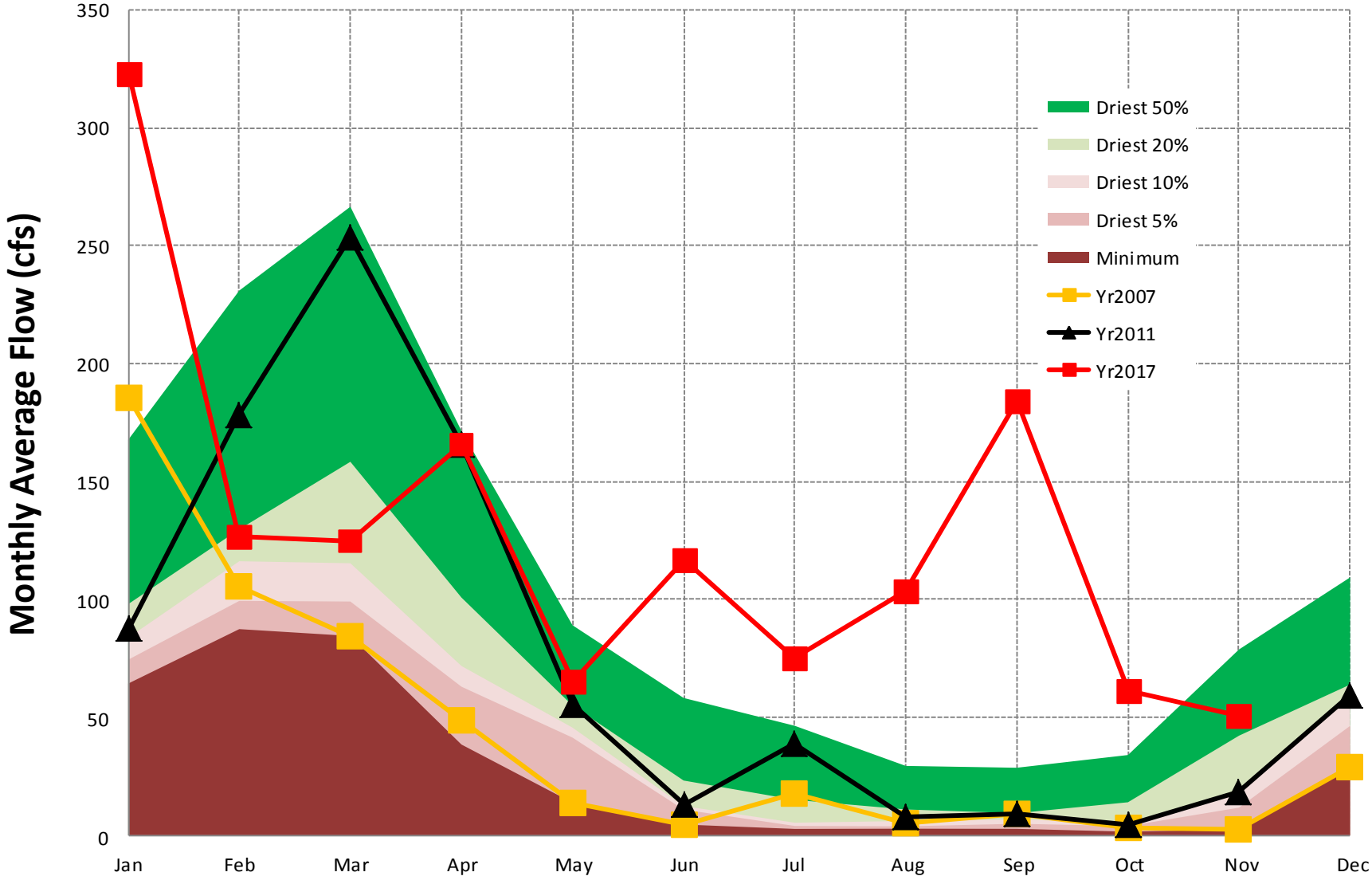
Gage #8, USGS #02338660, Chattahoochee Basin, NEW RIVER AT GA 100, NEAR CORINTH



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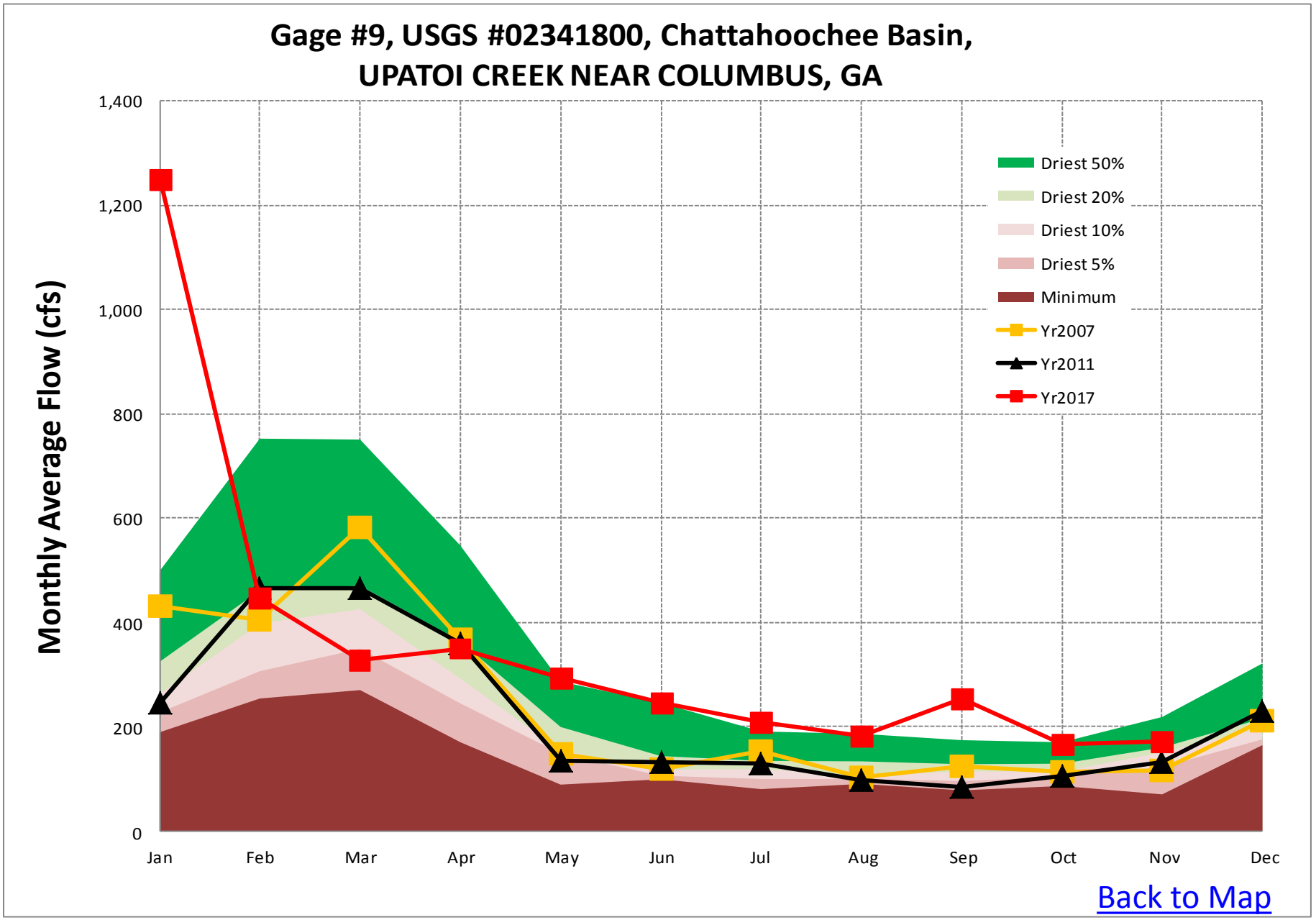
Gage #9, USGS #02341800, Chattahoochee Basin,
UPATOI CREEK NEAR COLUMBUS, GA
Monthly Average Flow (cfs)
1,400
1,200
1,000
800
600
400
200
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2017

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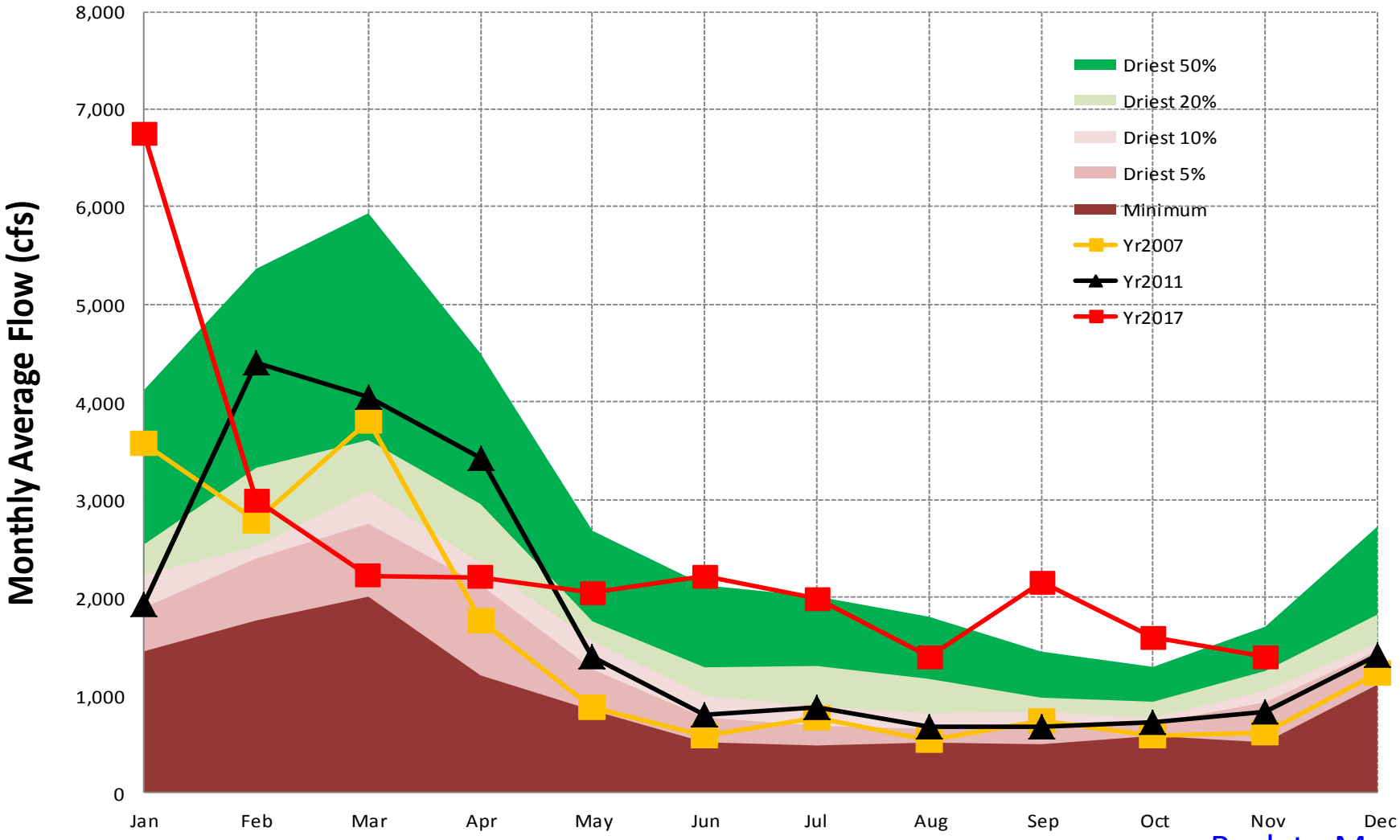
Gage #10. USGS #02349605, Flint Basin,
FLINT RIVER AT GA26 NEAR MONTEZUMA, GA



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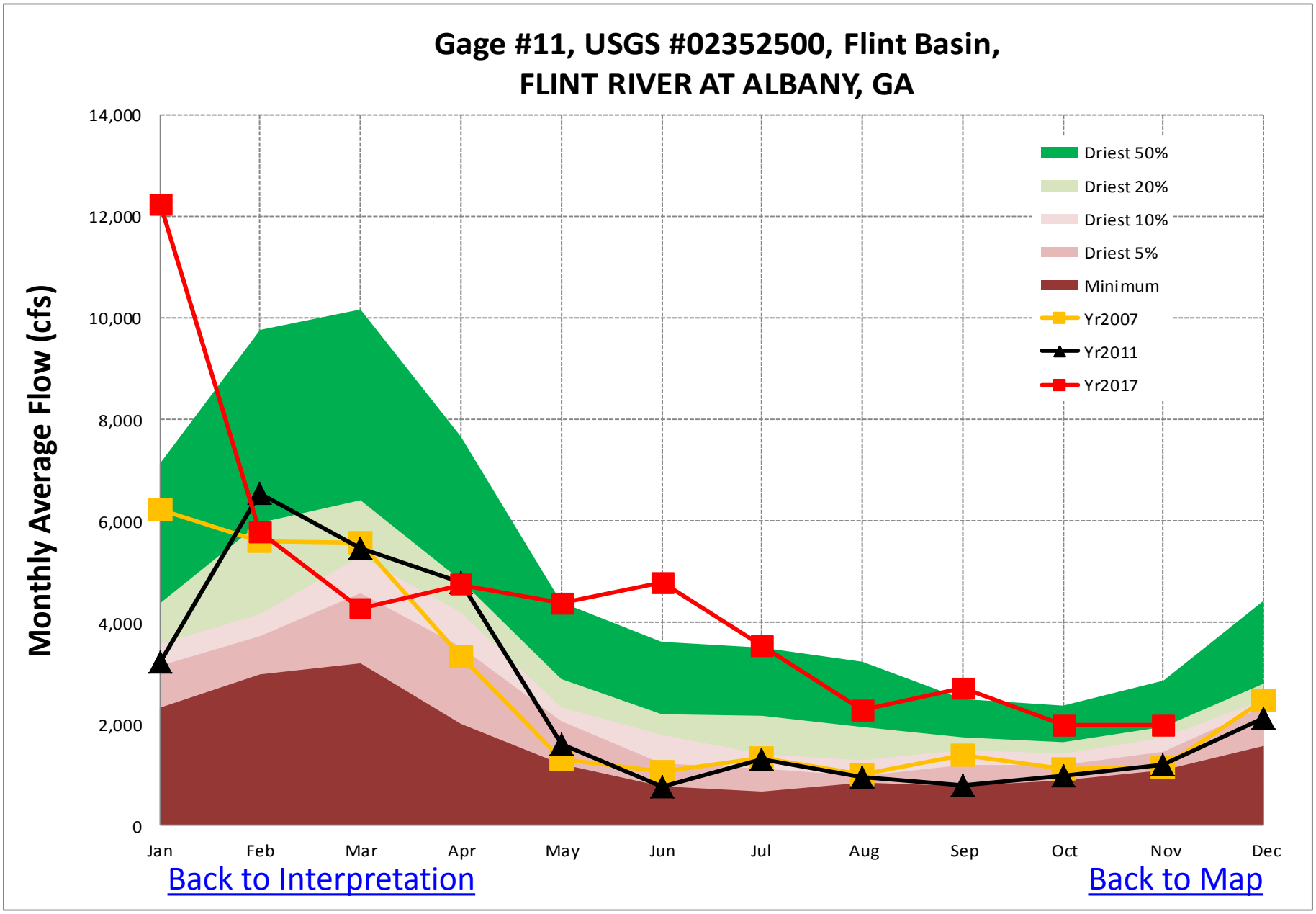

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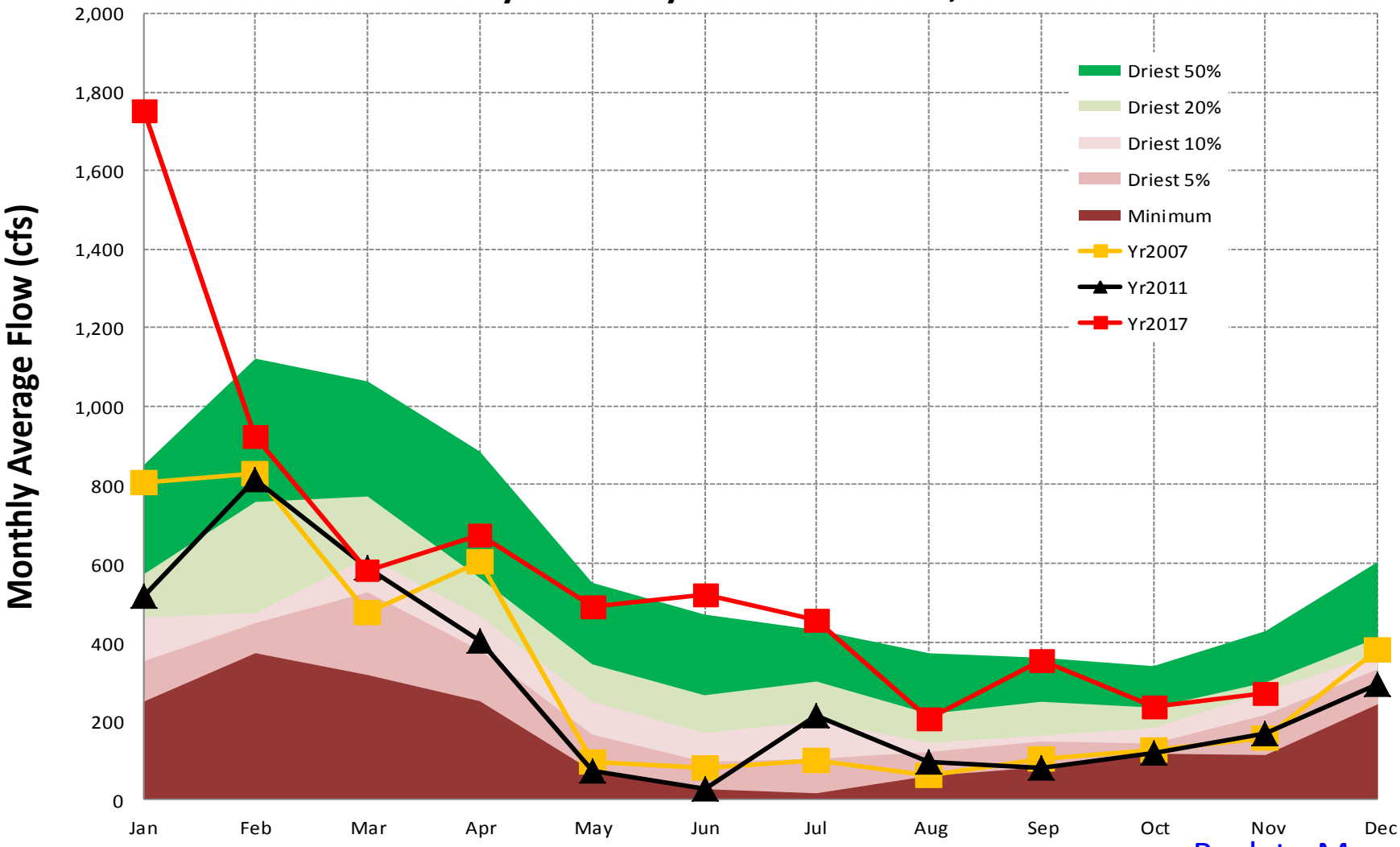
Gage #12. USGS #02353500, Flint Basin, Ichawaynochaway Creek at Milford, GA



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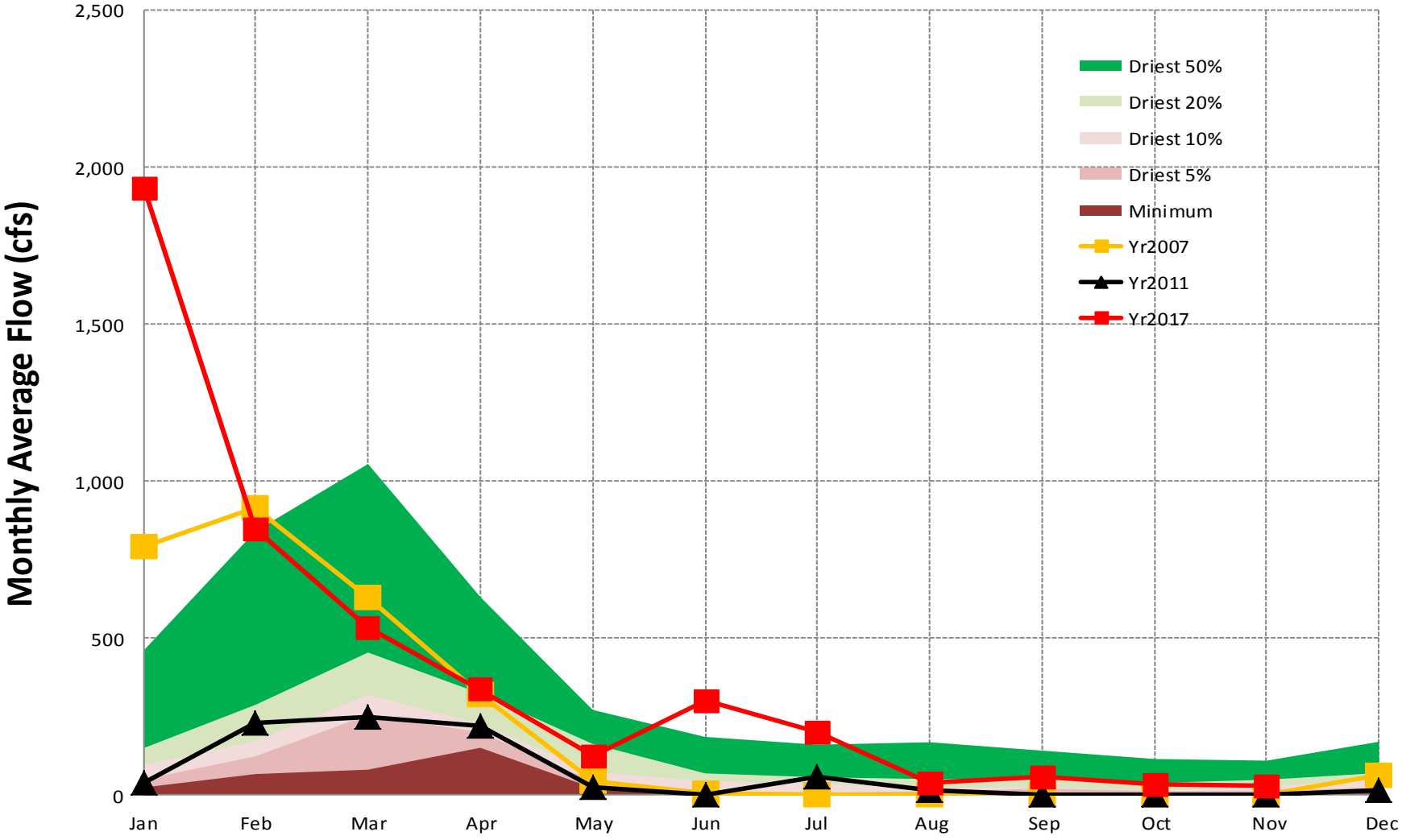
Gage #13. USGS #02357000, Flint River, Spring Creek near Iron City, GA



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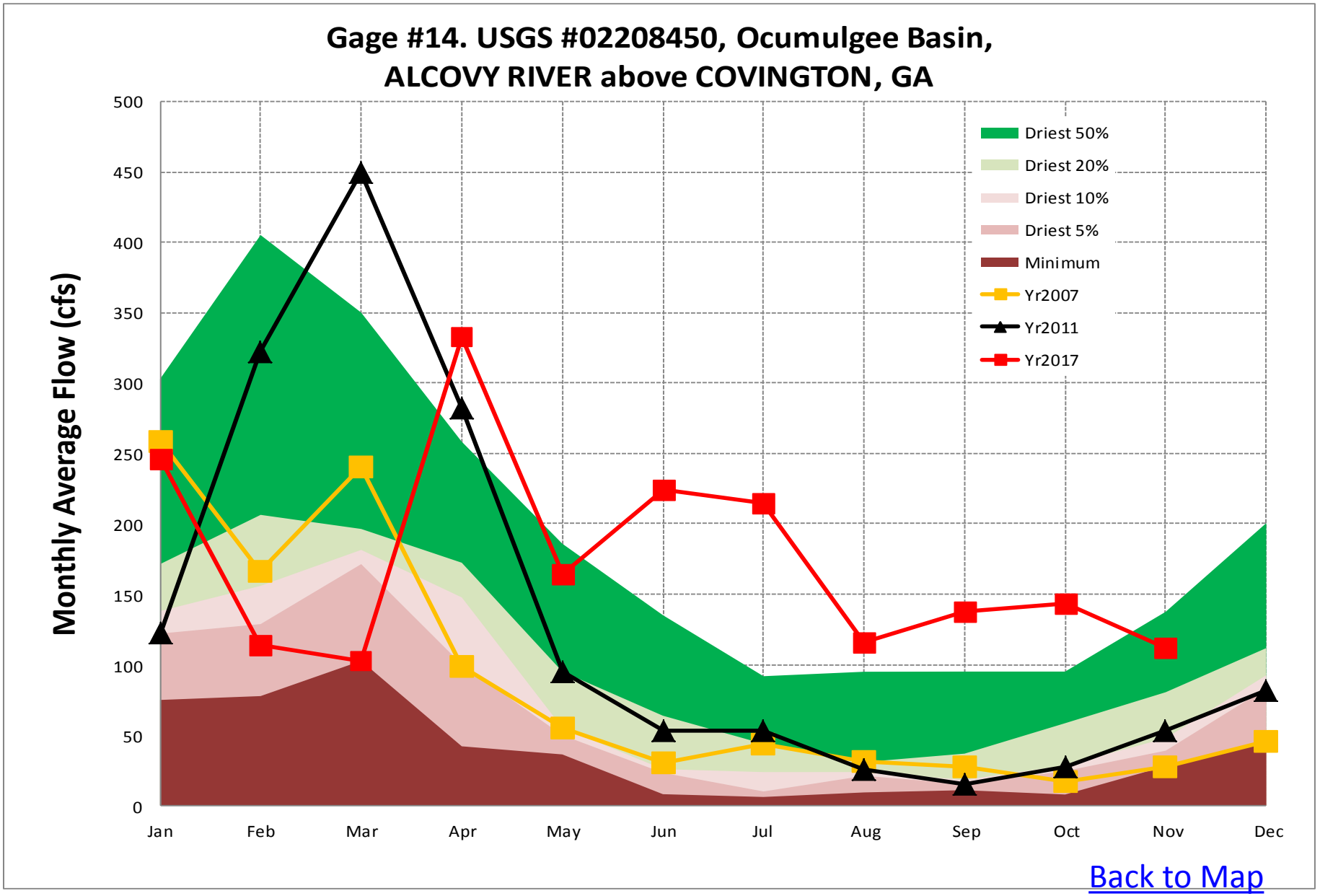
Gage #14. USGS #02208450, Ocumulgee Basin,
ALCOVY RIVER above COVINGTON, GA
Monthly Average Flow (cfs)
500
450
400
350
300
250
200
150
100
50
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2017

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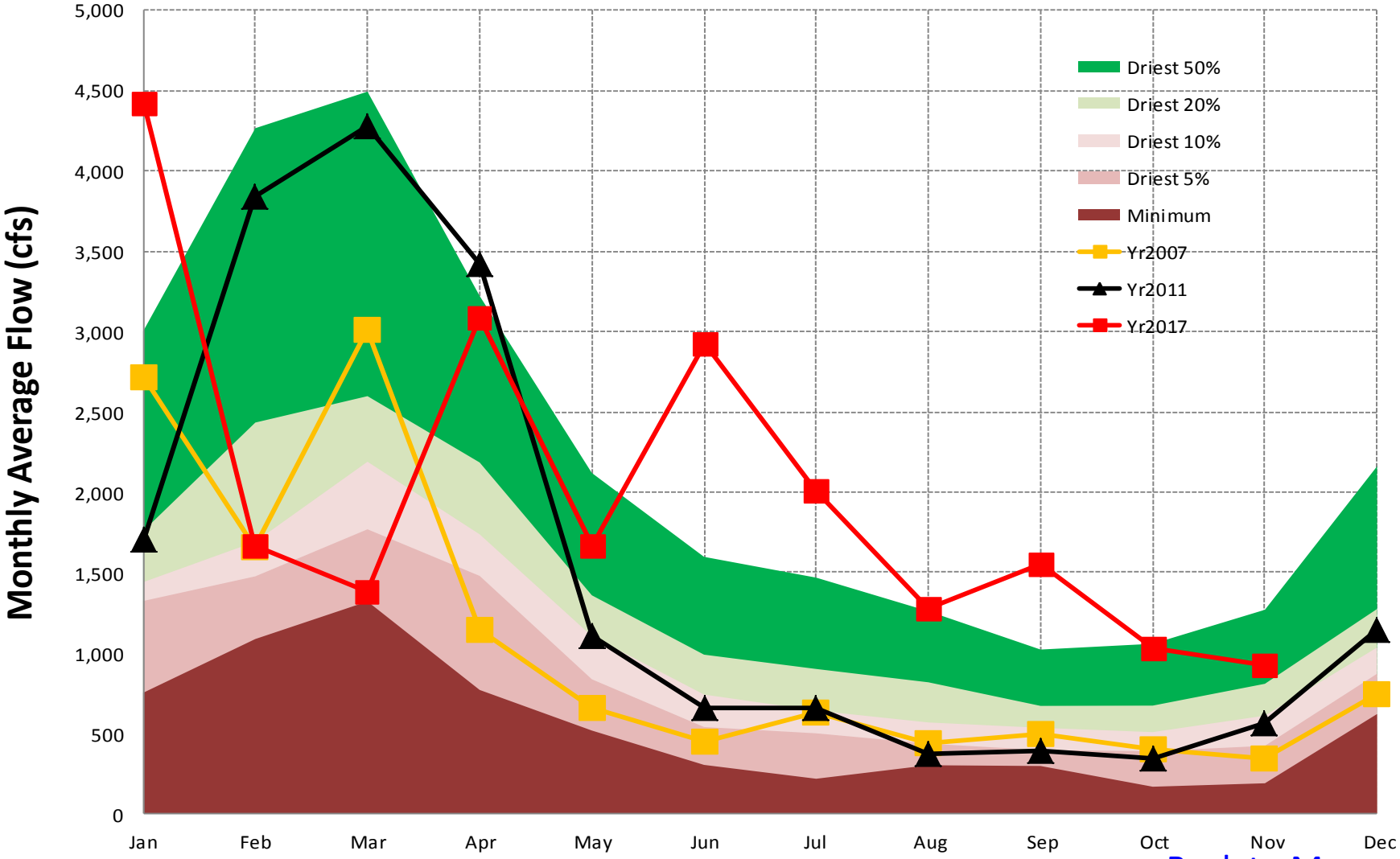
Gage #15. USGS #02213000, Ocmulgee Basin, Ocmulgee River at Macon, GA



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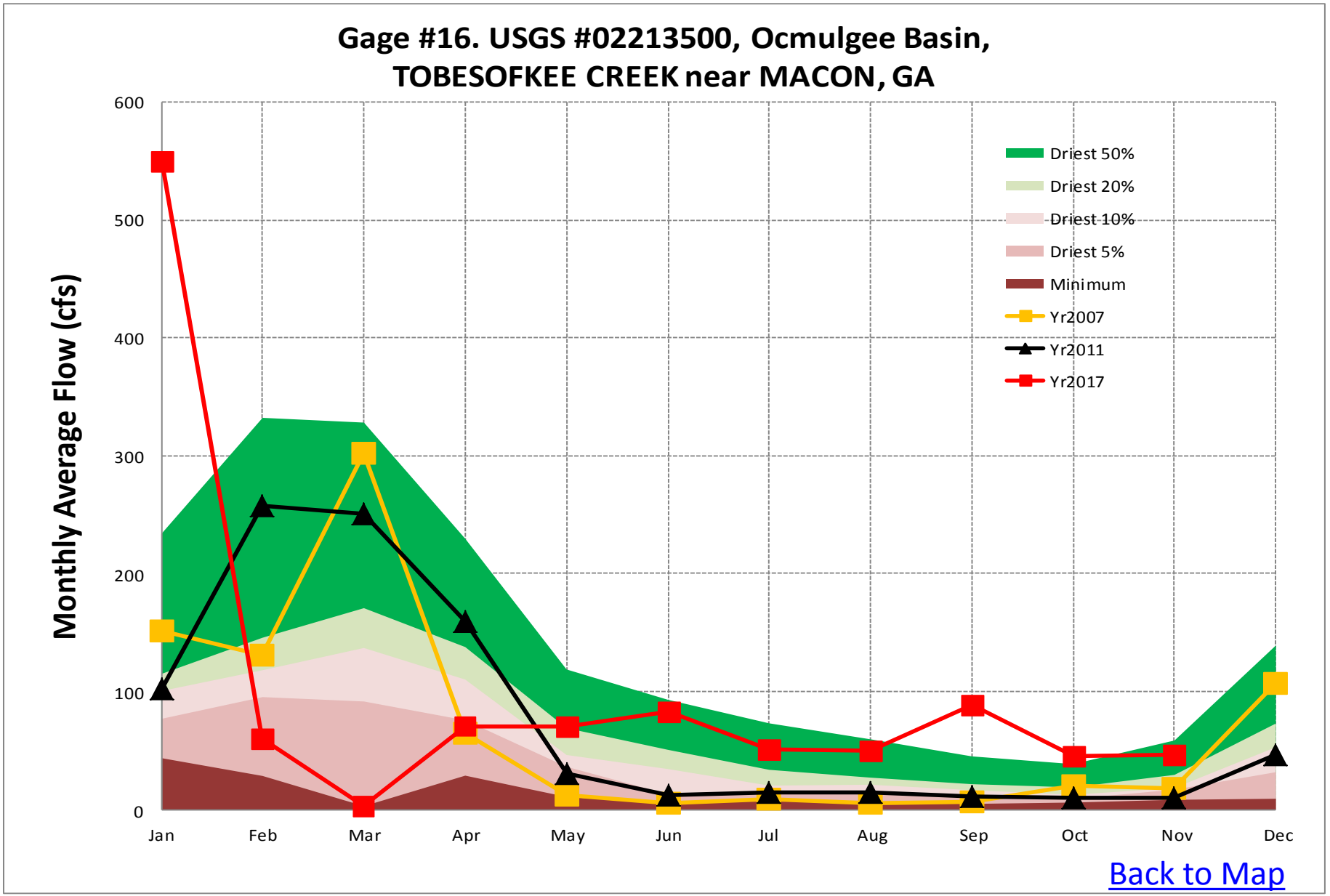
Gage #16. USGS #02213500, Ocmulgee Basin,
TOBESOFKEE CREEK near MACON, GA
Monthly Average Flow (cfs)
600
500
400
300
200
100
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2017

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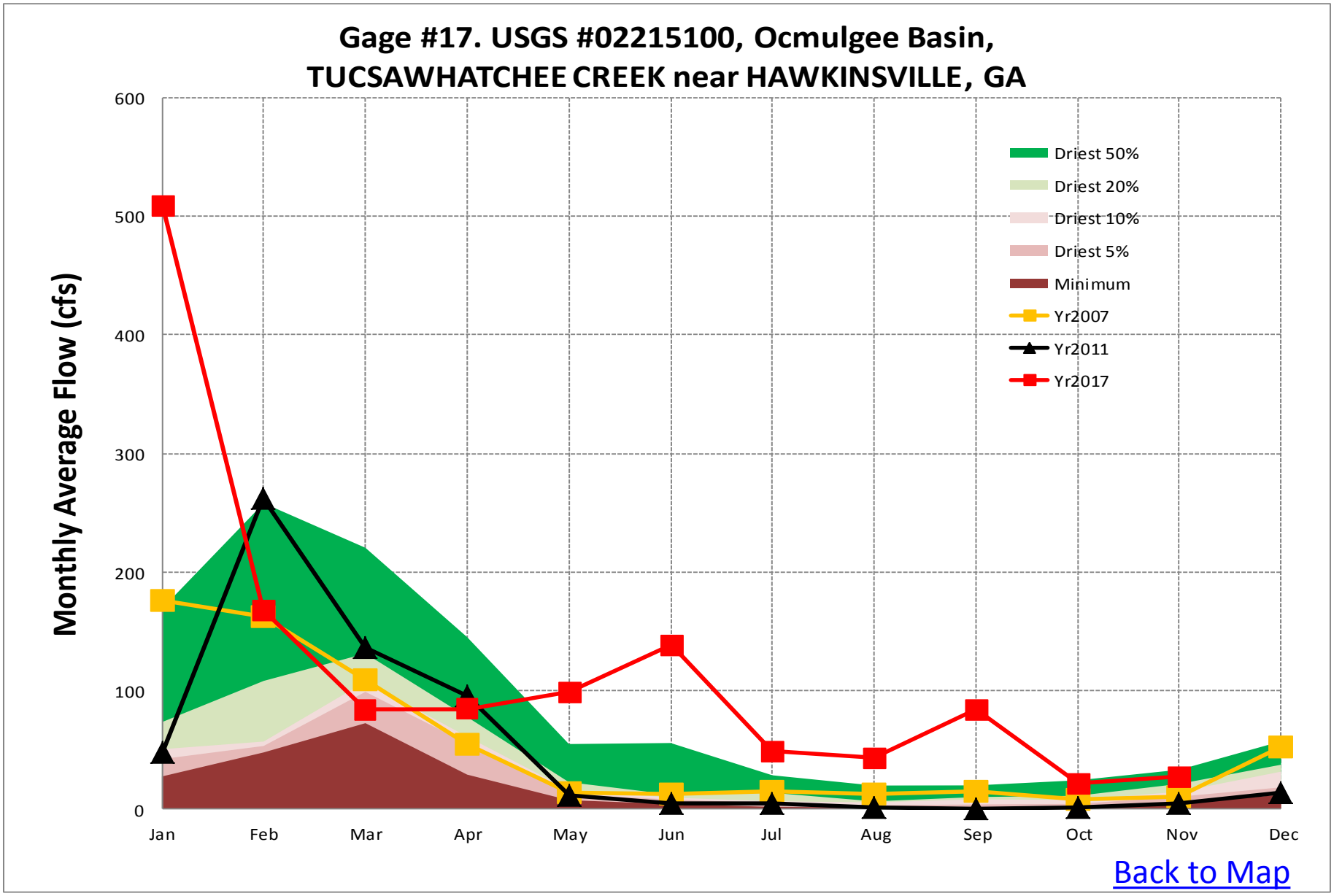
Gage #17. USGS #02215100, Ocmulgee Basin,
TUCSAWHATCHEE CREEK near HAWKINSVILLE, GA
Monthly Average Flow (cfs)
600
500
400
300
200
100
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2017

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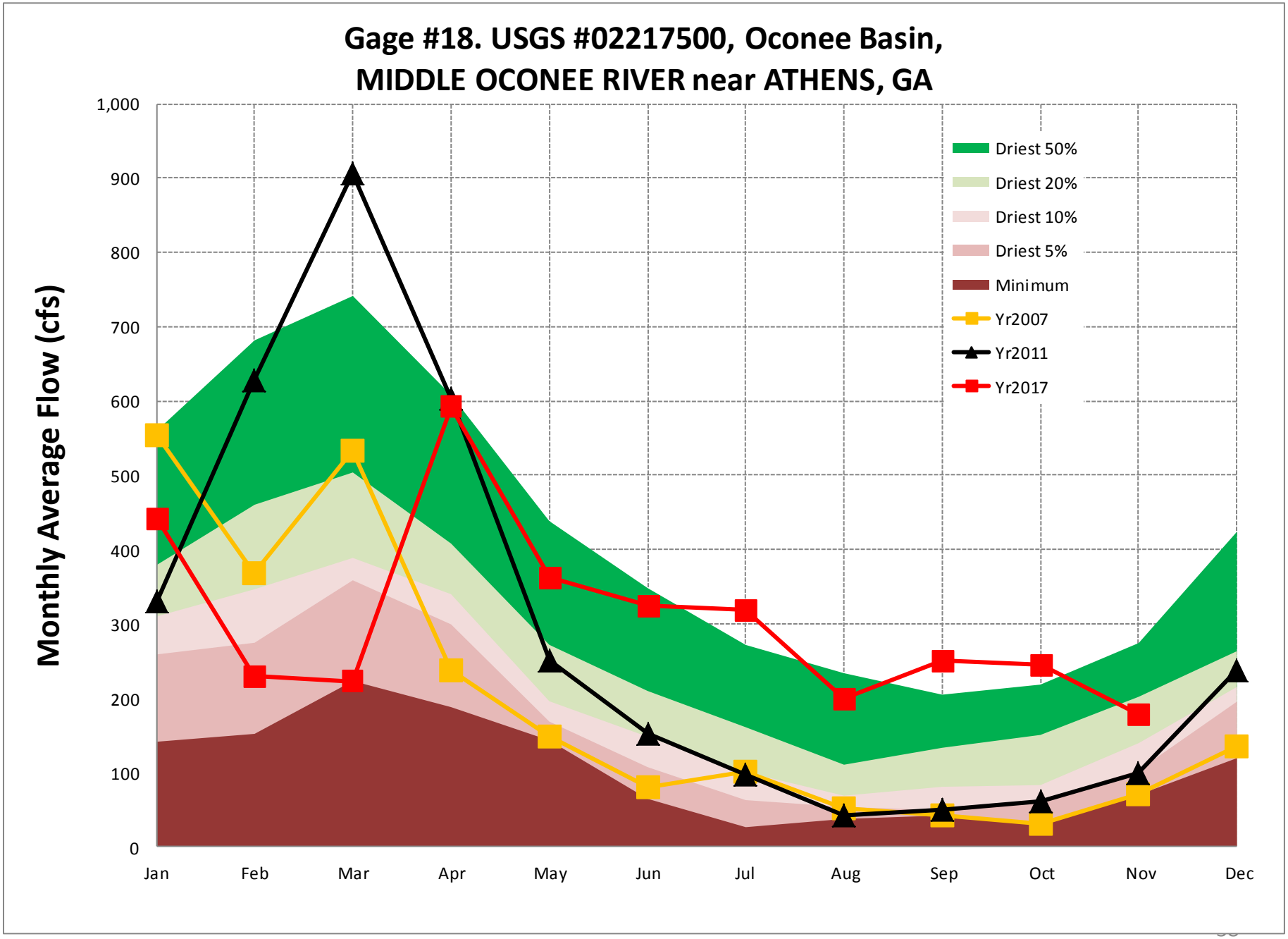
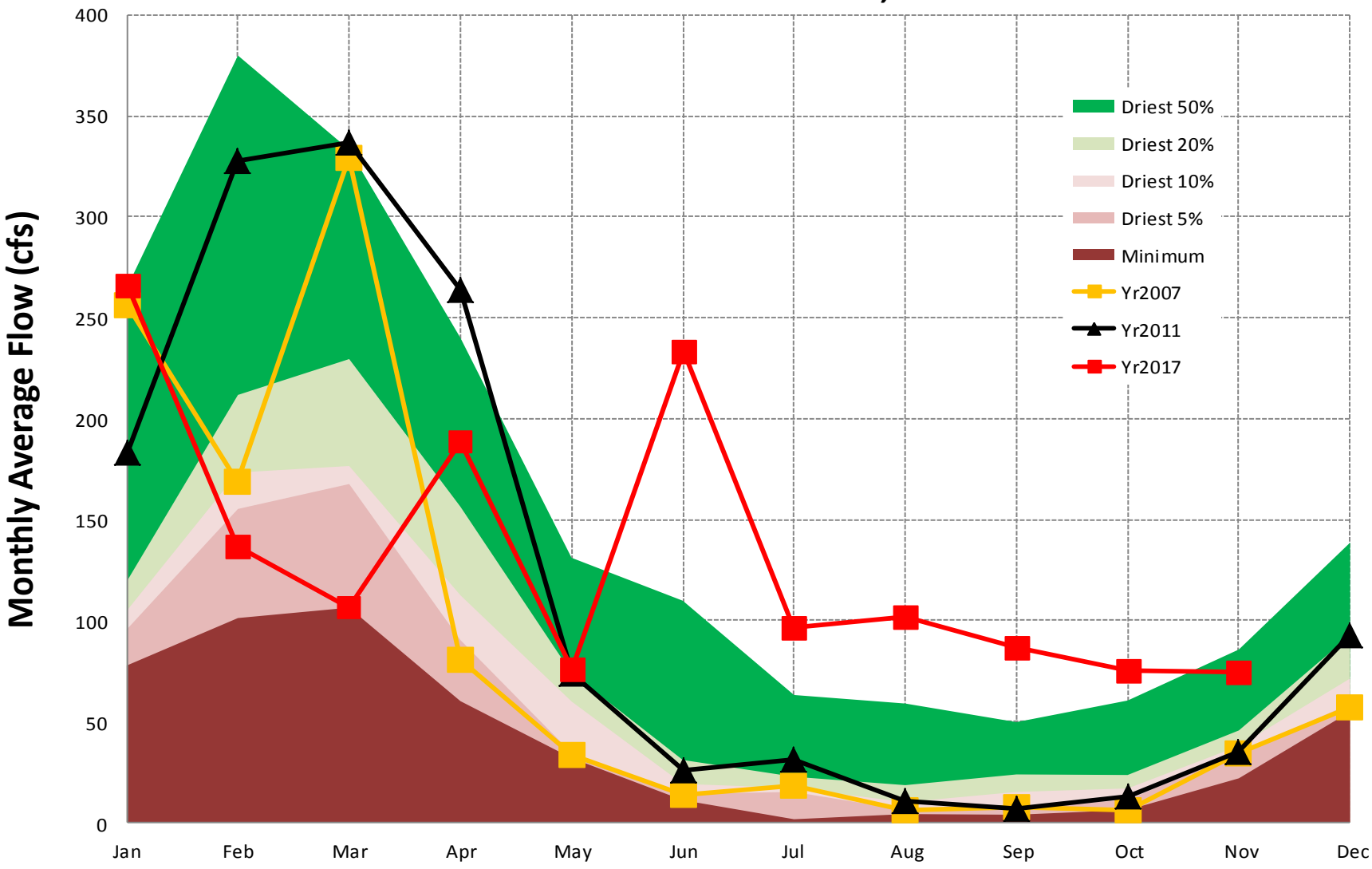

Gage #18. USGS #02217500, Oconee Basin,
MIDDLE OCONEE RIVER near ATHENS, GA
Monthly Average Flow (cfs)
1,000
900
800
700
600
500
400
300
200
100
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2017

Gage #19. USGS #02220900, Oconee Basin, LITTLE RIVER near EATONTON, GA



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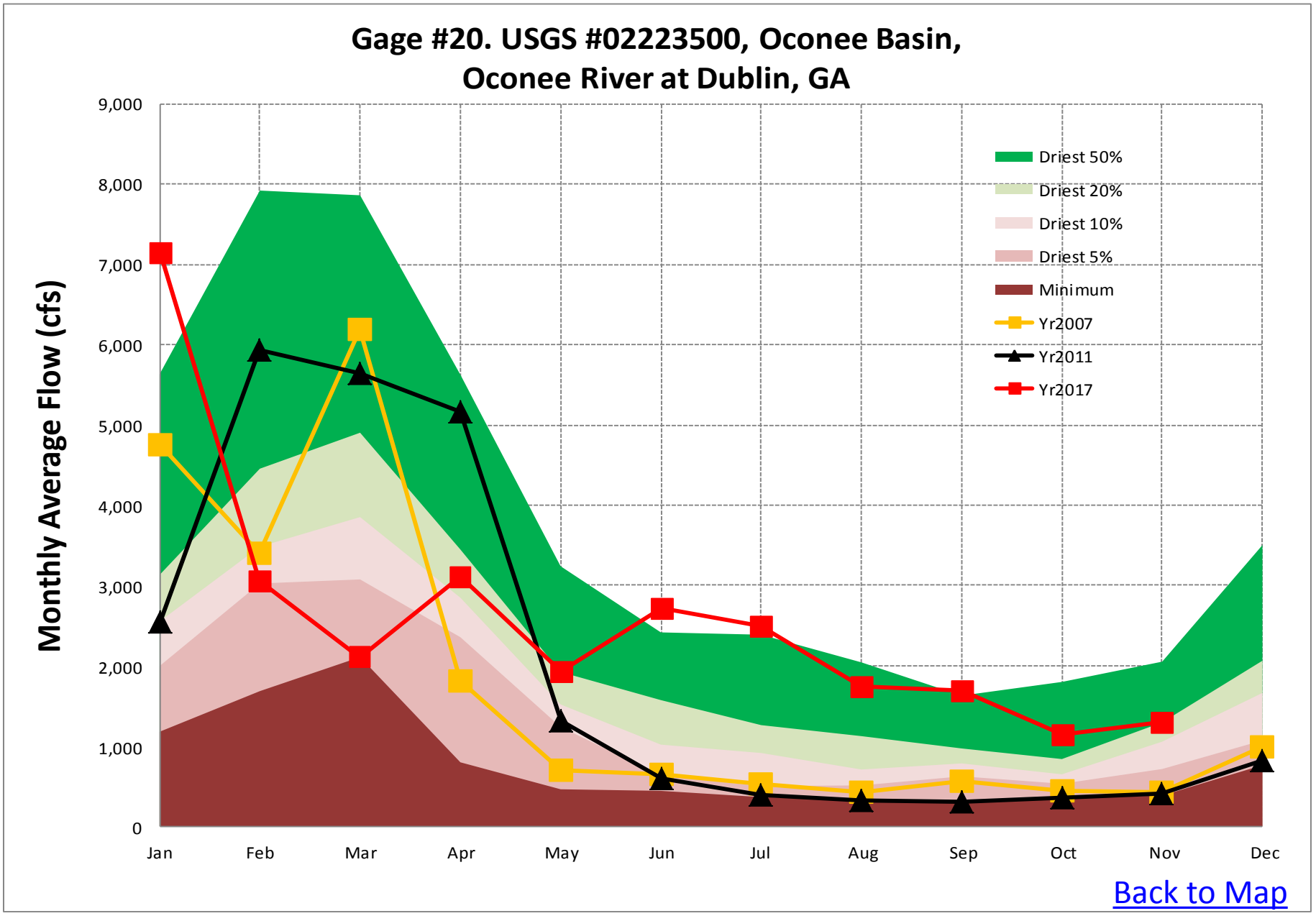
Gage #20. USGS #02223500, Oconee Basin,
Oconee River at Dublin, GA
Monthly Average Flow (cfs)
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2017

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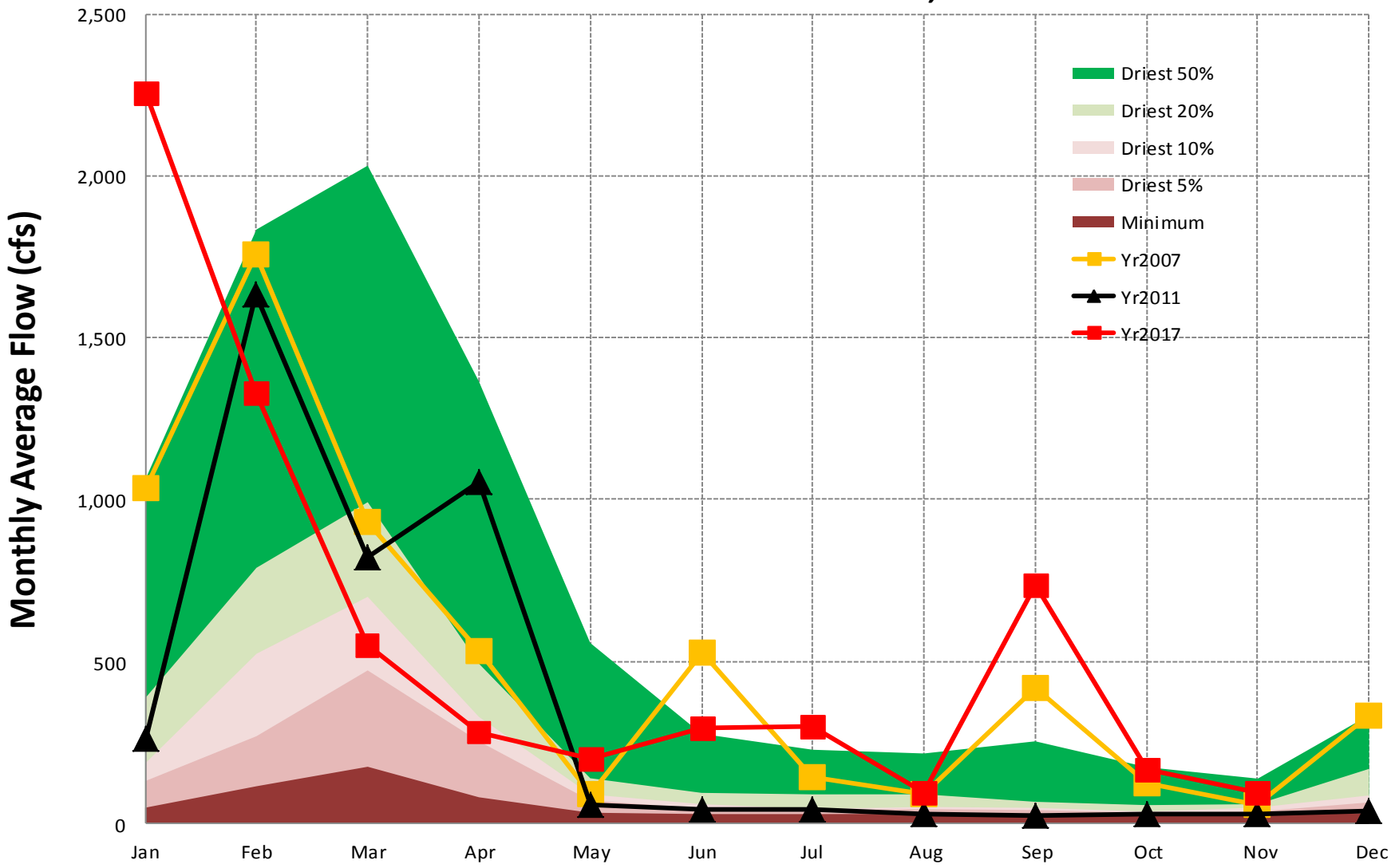
Gage #21. USGS #02225500, Altamaha Basin, OHOOPEE RIVER near REIDSVILLE, GA



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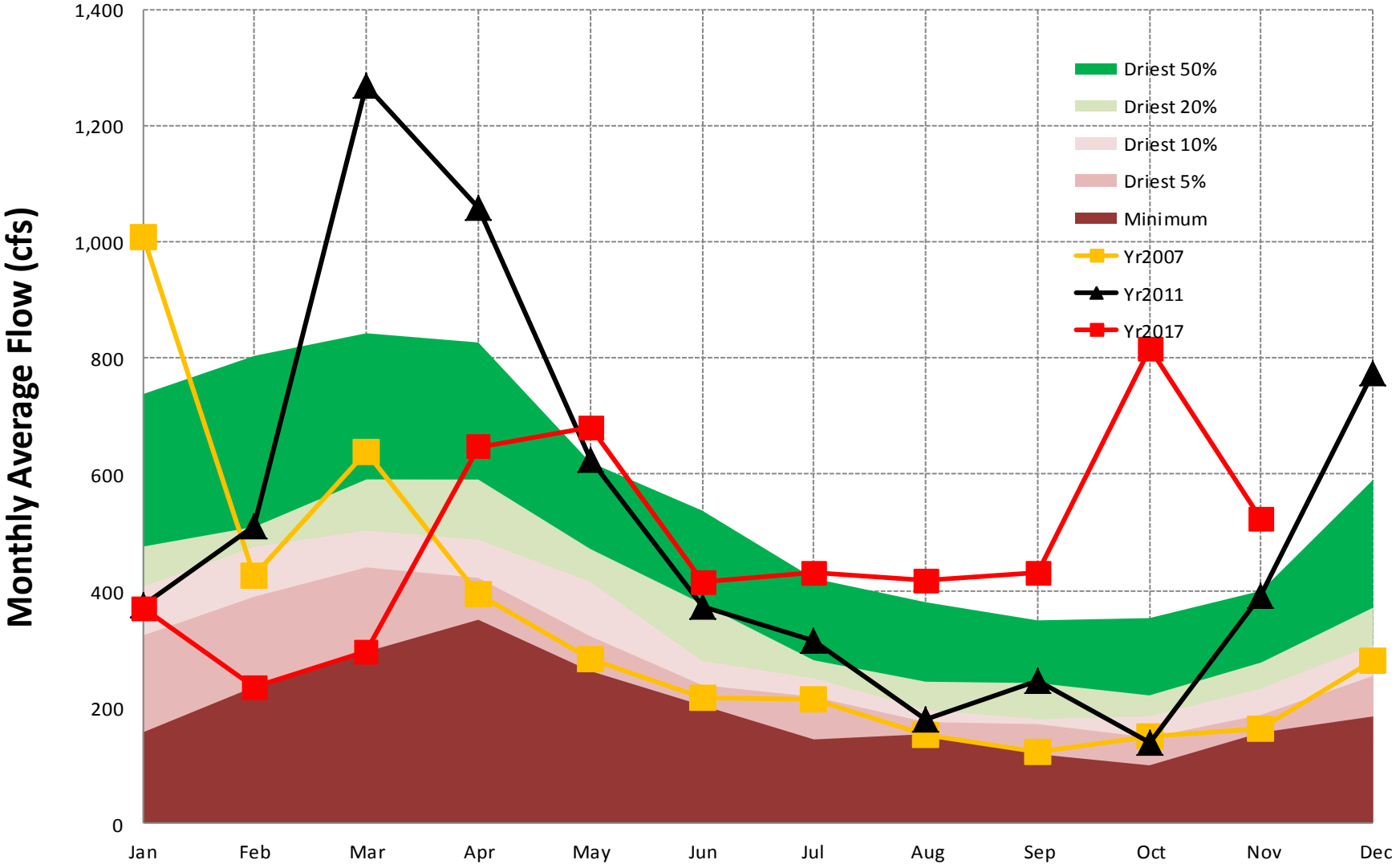
Gage #22. USGS #02177000, Savannah Basin, CHATTOOGA RIVER near CLAYTON, GA



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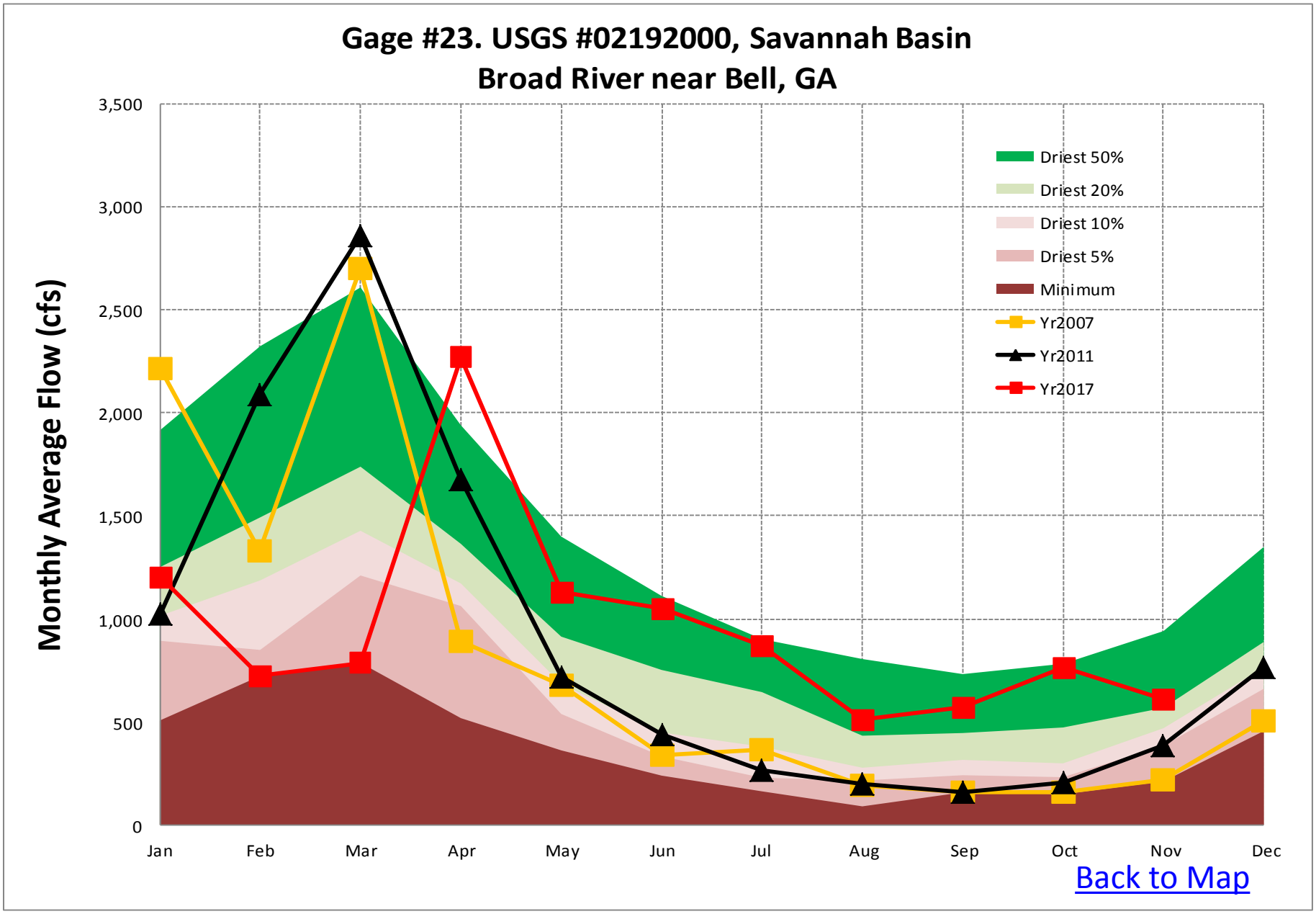
Gage #23. USGS #02192000, Savannah Basin
Broad River near Bell, GA
Monthly Average Flow (cfs)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2017

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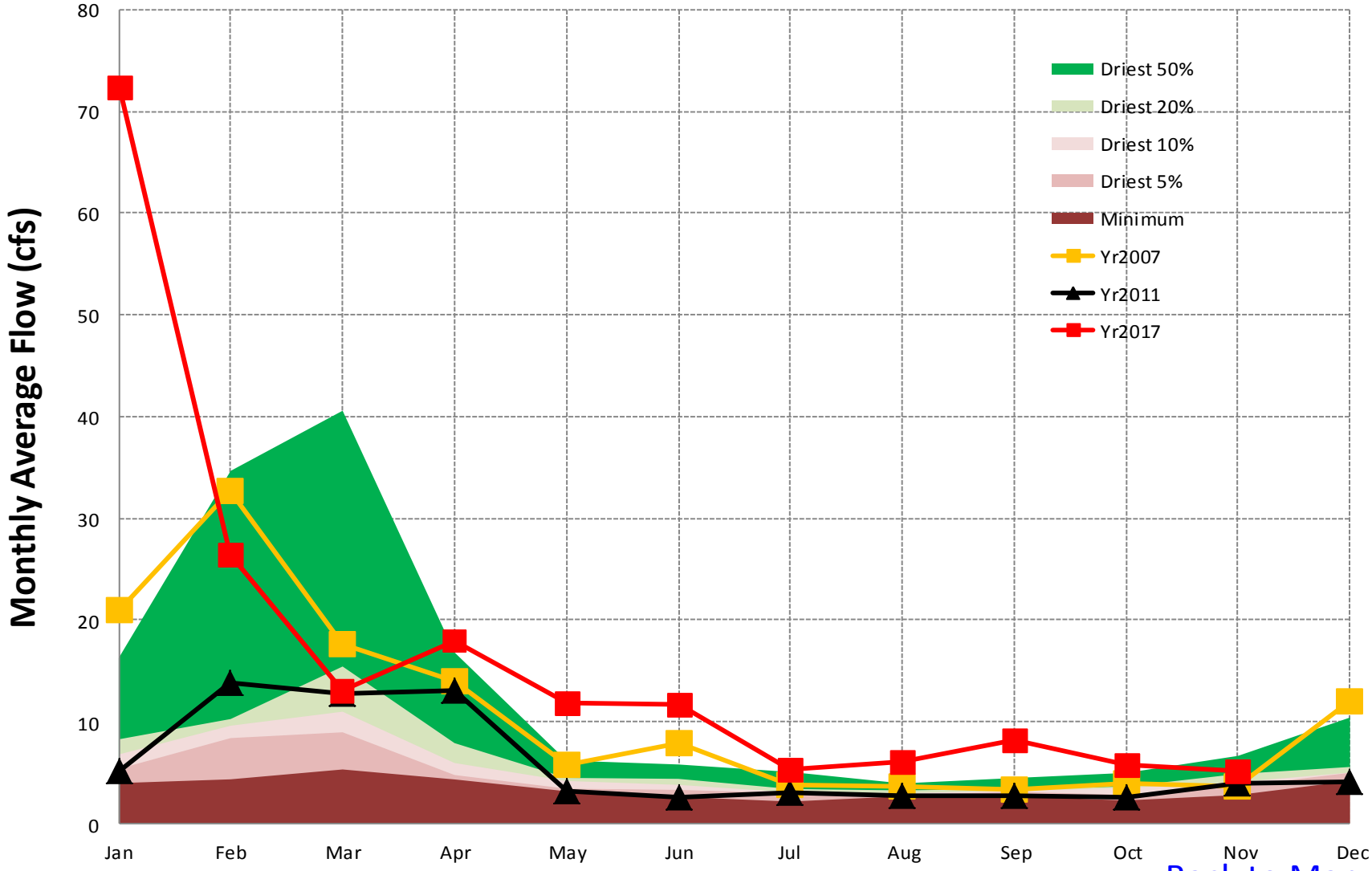
Gage #24. USGS #02198100, Savannah Basin, BEAVERDAM CREEK near SARDIS, GA



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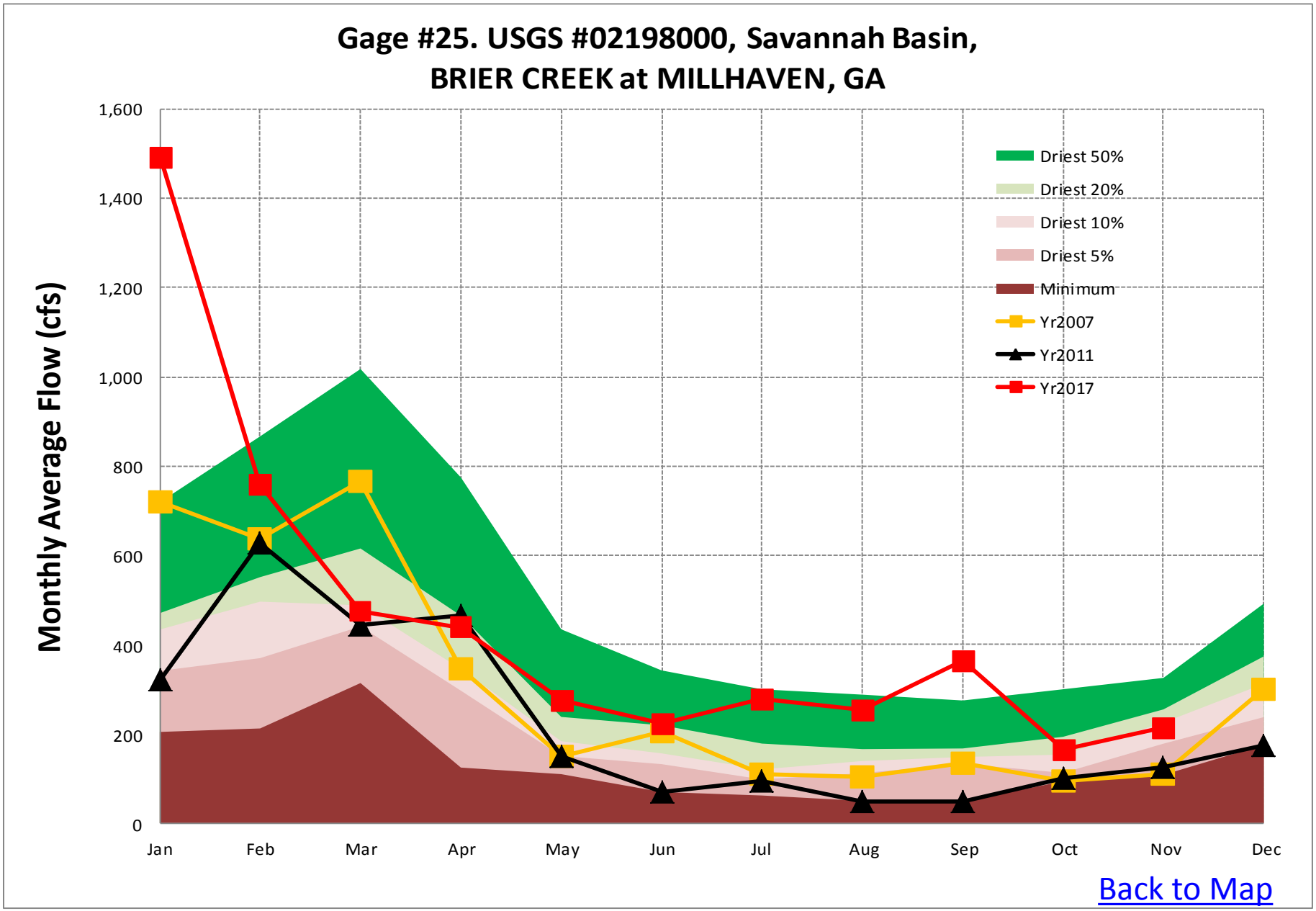
Gage #25. USGS #02198000, Savannah Basin,
BRIER CREEK at MILLHAVEN, GA
Monthly Average Flow (cfs)
1,600
1,400
1,200
1,000
800
600
400
200
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2017

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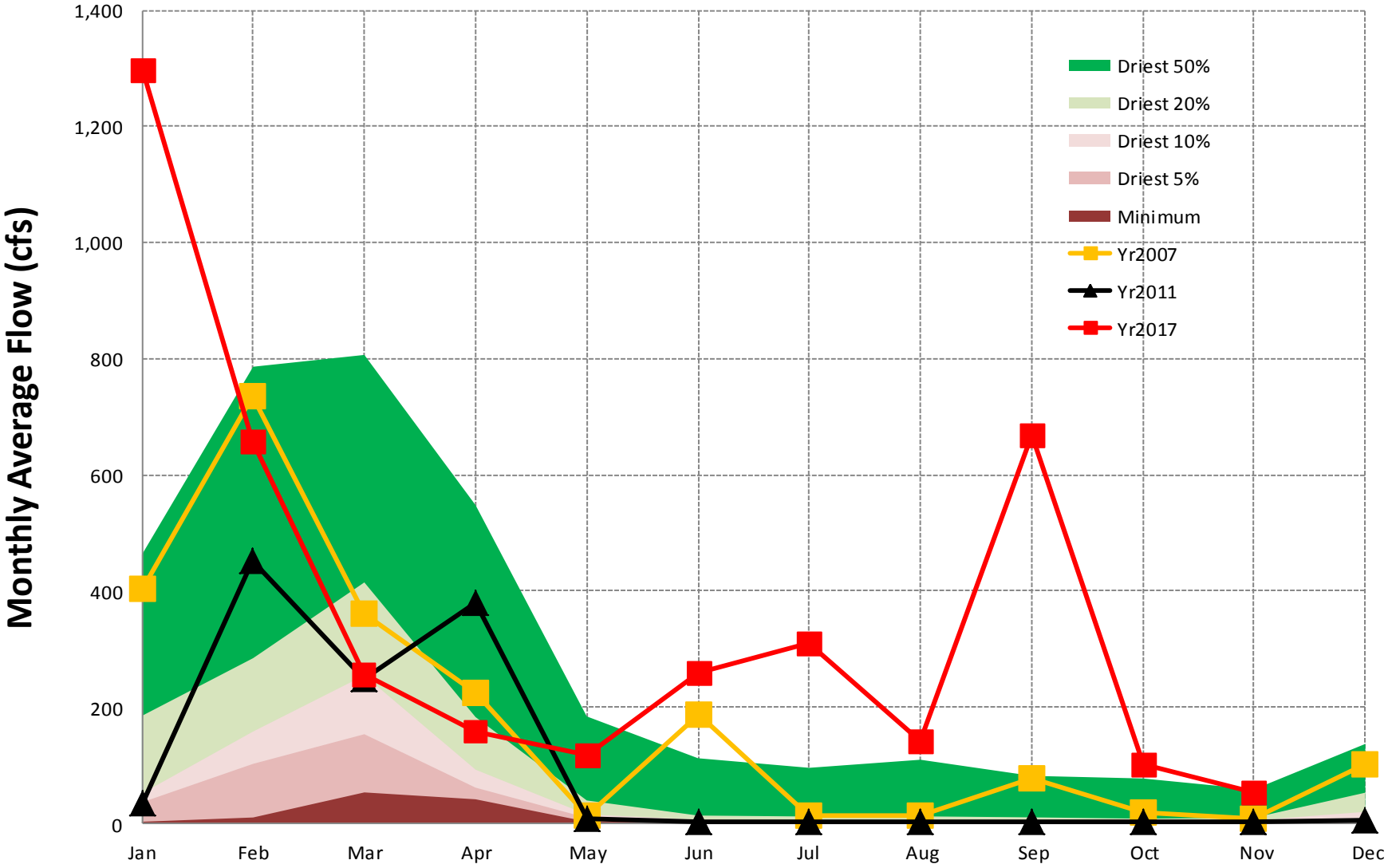
Gage #26. USGS #02203000, Ogeechee Basin, CANOOCHEE RIVER near CLAXTON, GA



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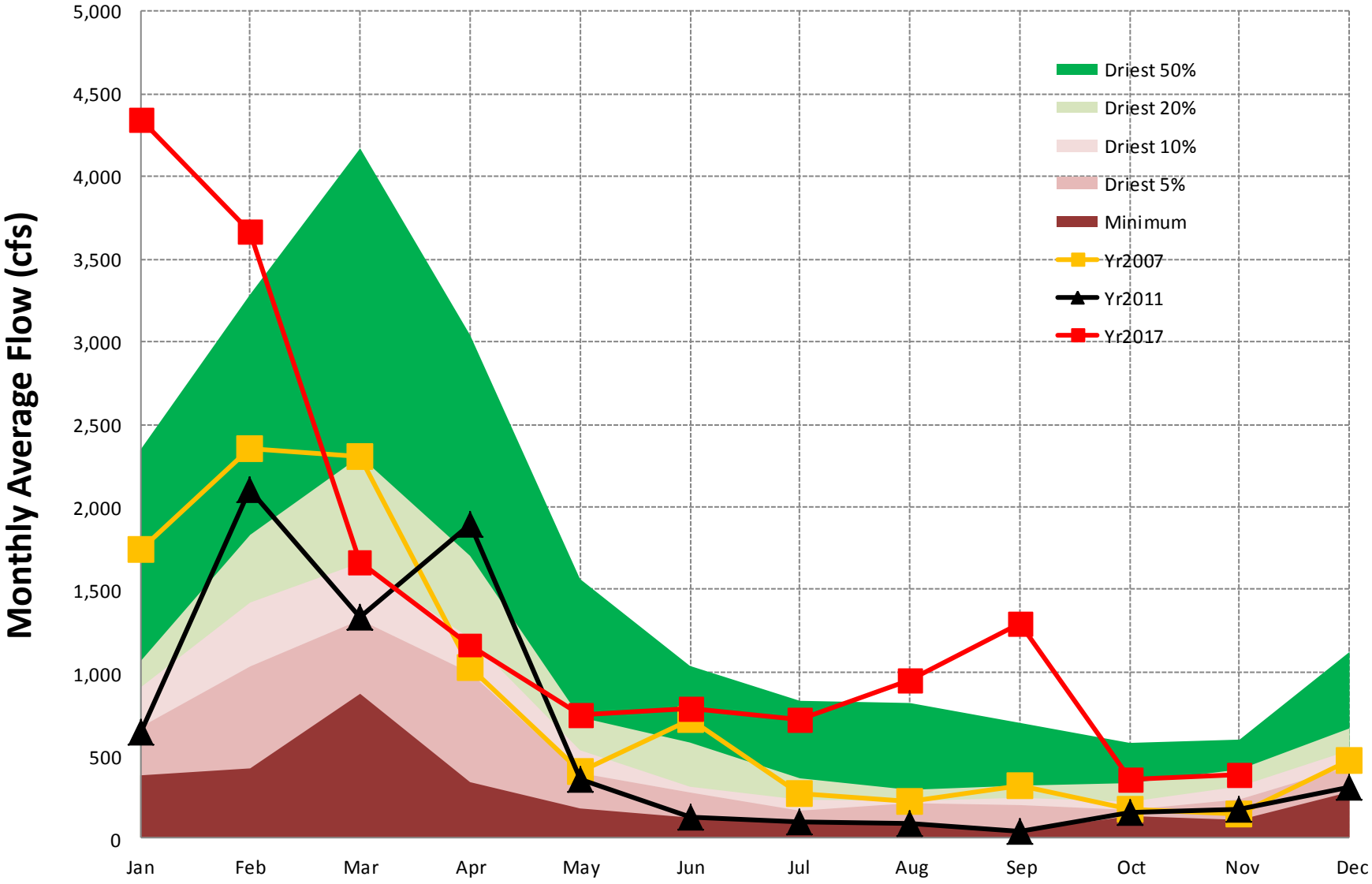
Gage #27. USGS #02202500, Ogeechee Basin, Ogeechee River near Eden, GA



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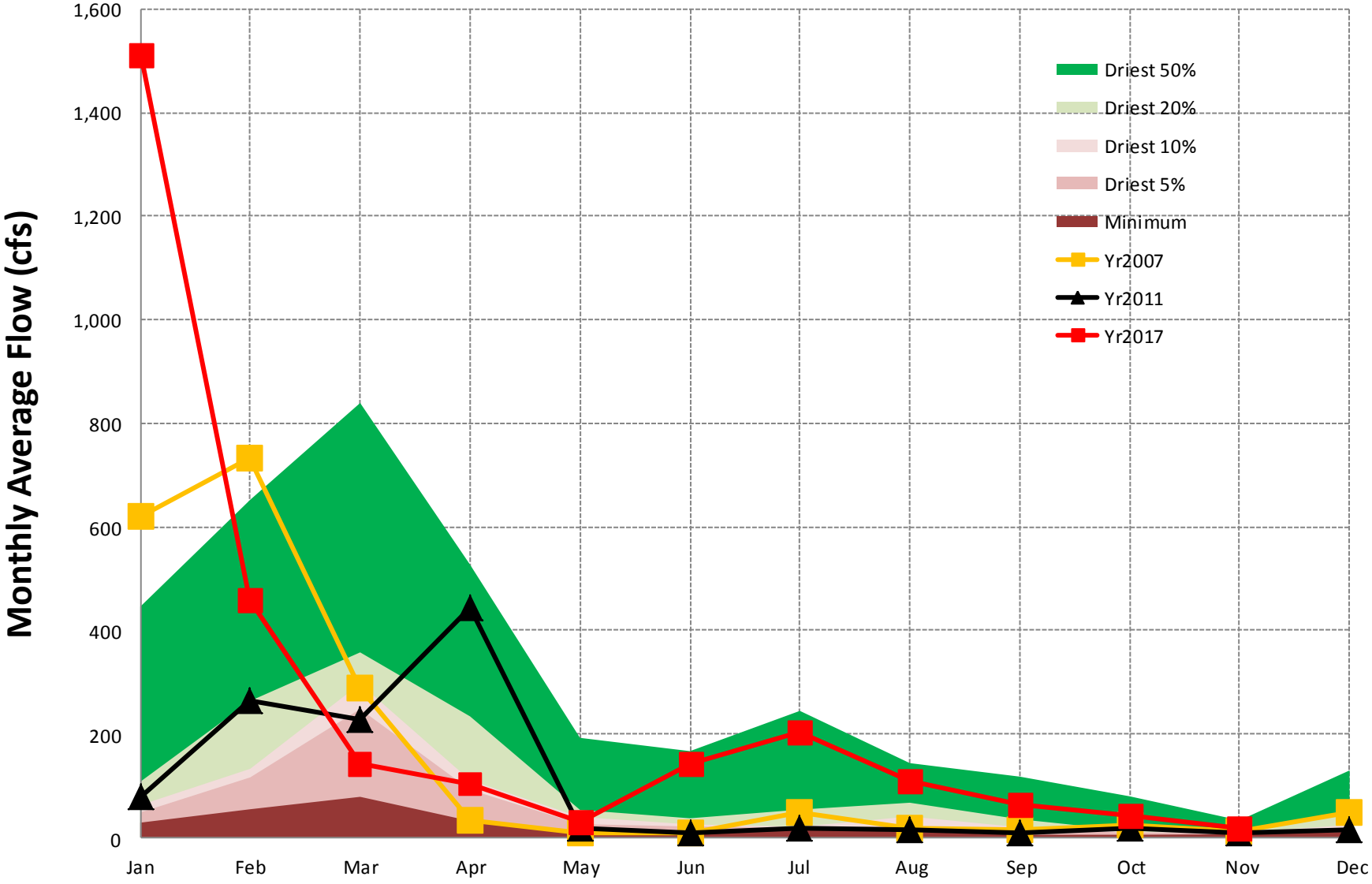
Gage #28. USGS #02327500, Ochlockonee Basin, OCHLOCKONEE RIVER near THOMASVILLE, GA



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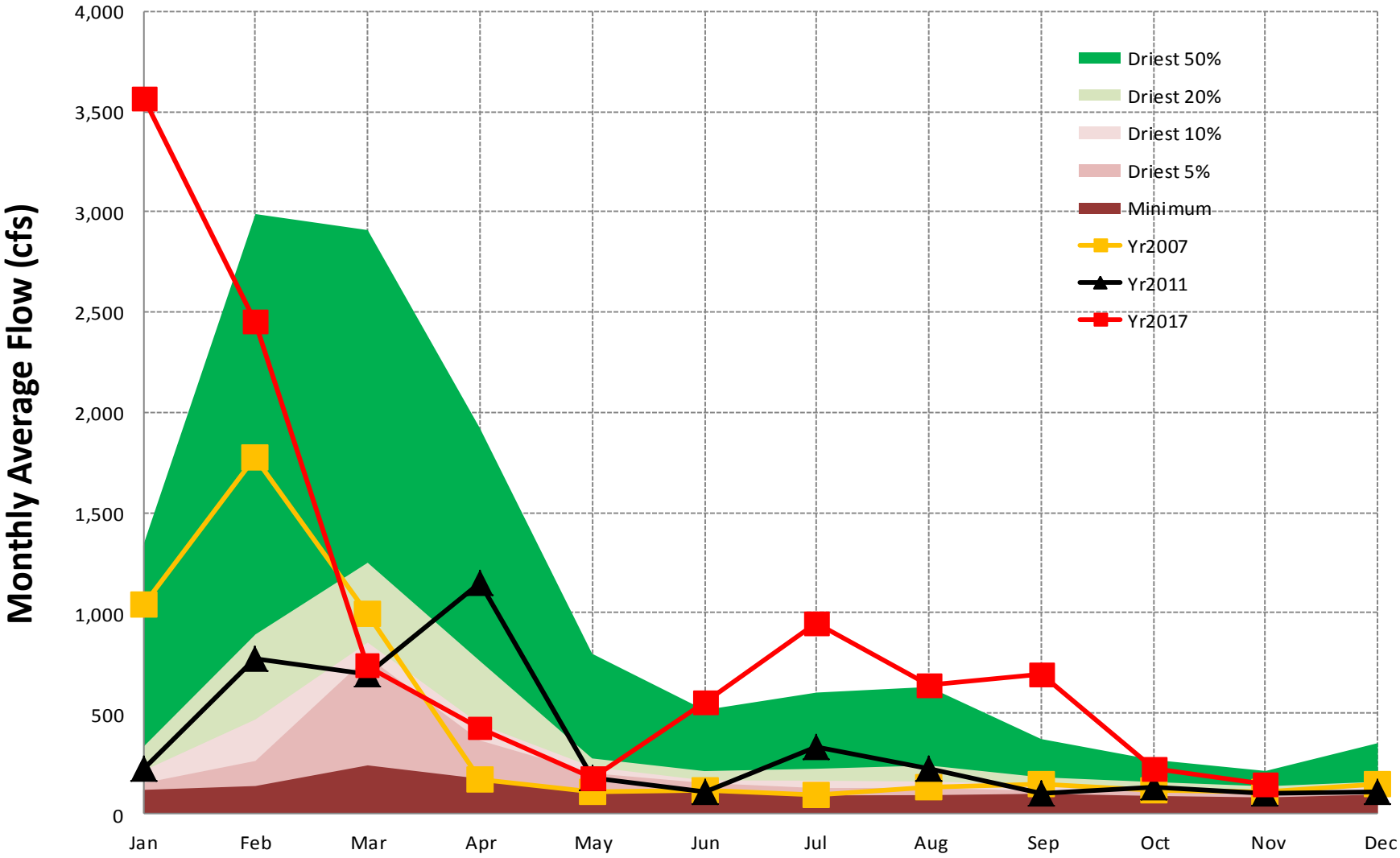
Gage #29. USGS #02319000, Suwanee Basin, WITHLACOOCHEE RIVER near PINETTA, FL



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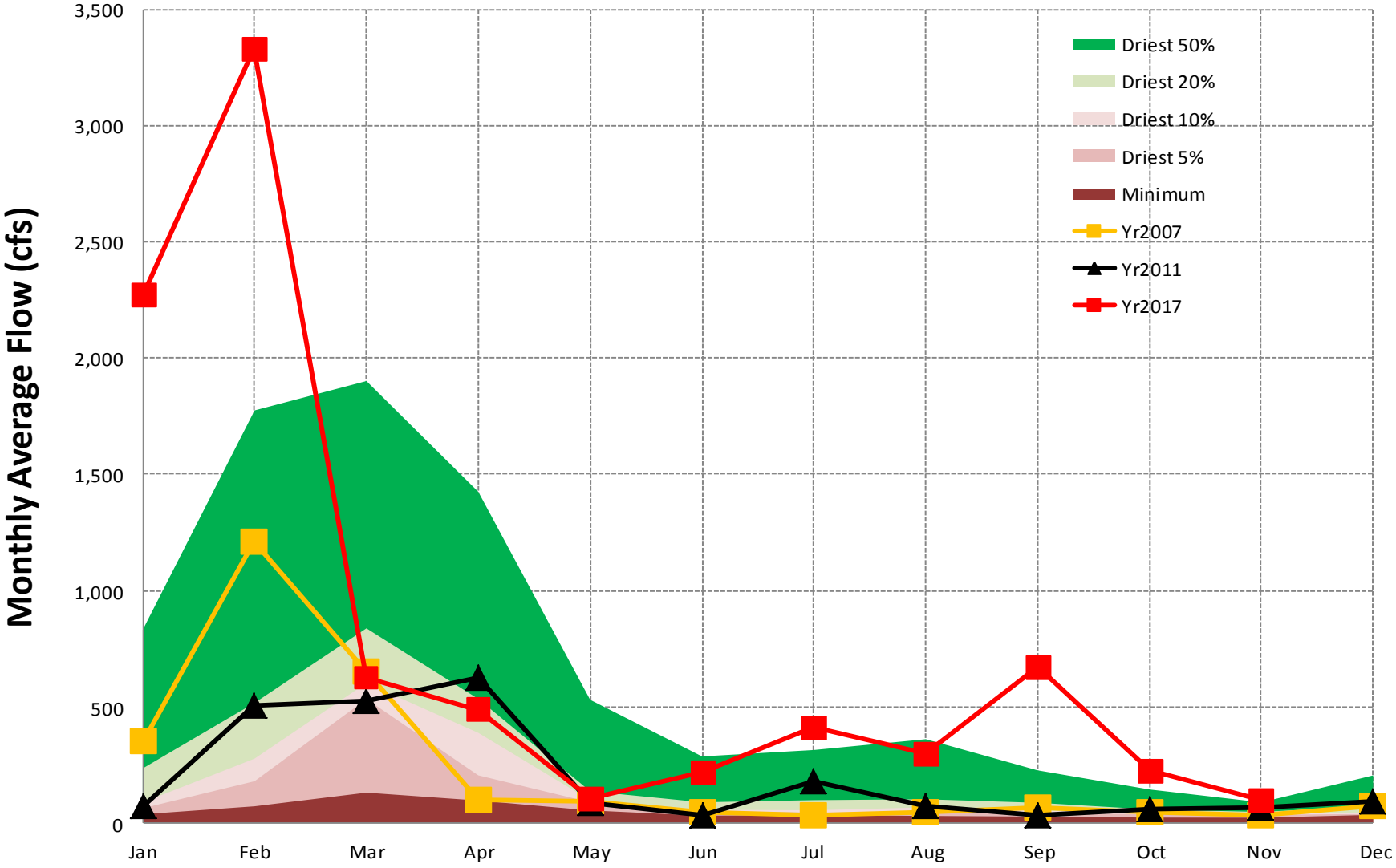
Gage #30. USGS #02317500, Suwanee Basin, Alapaha River at Statenville, GA



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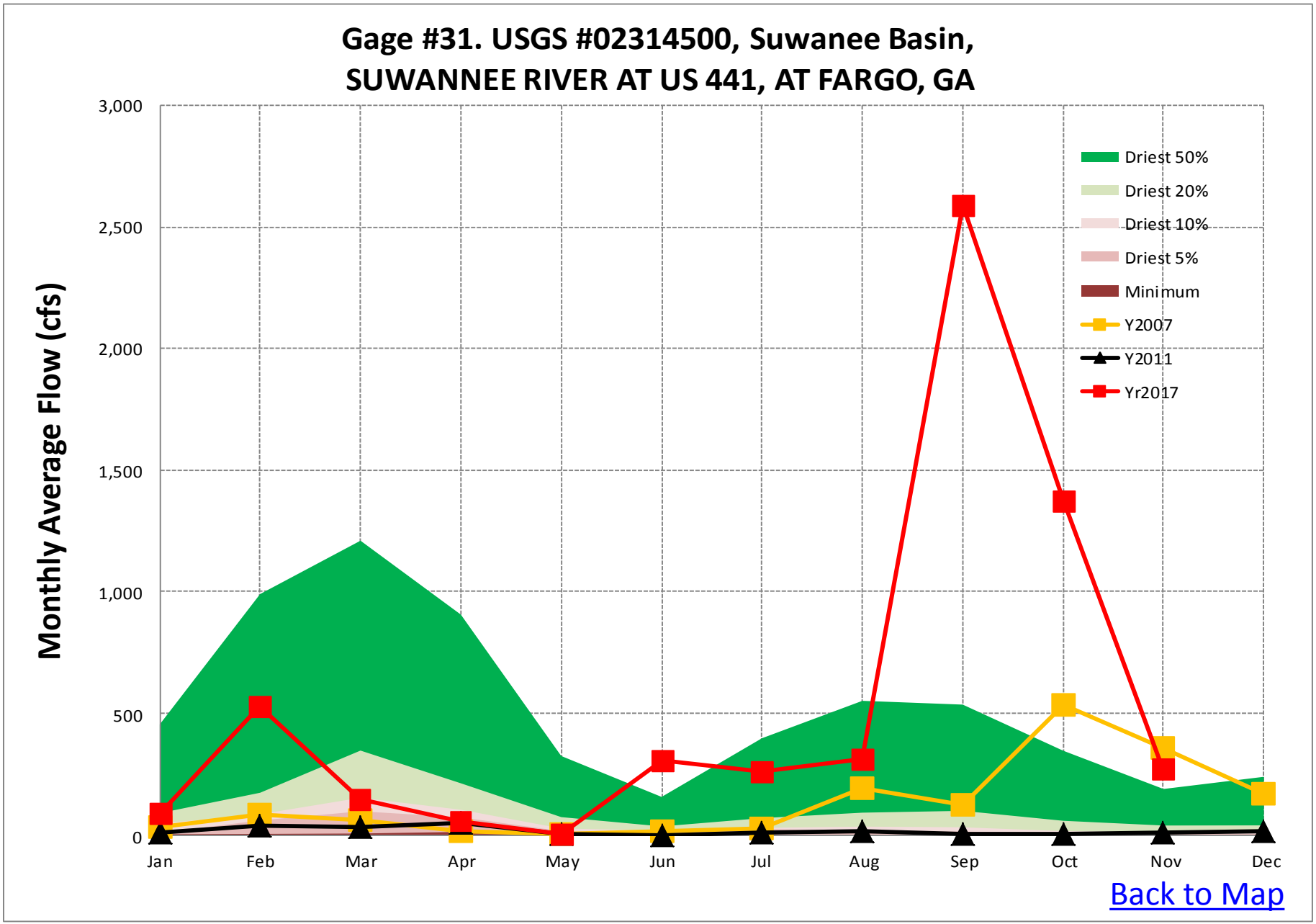
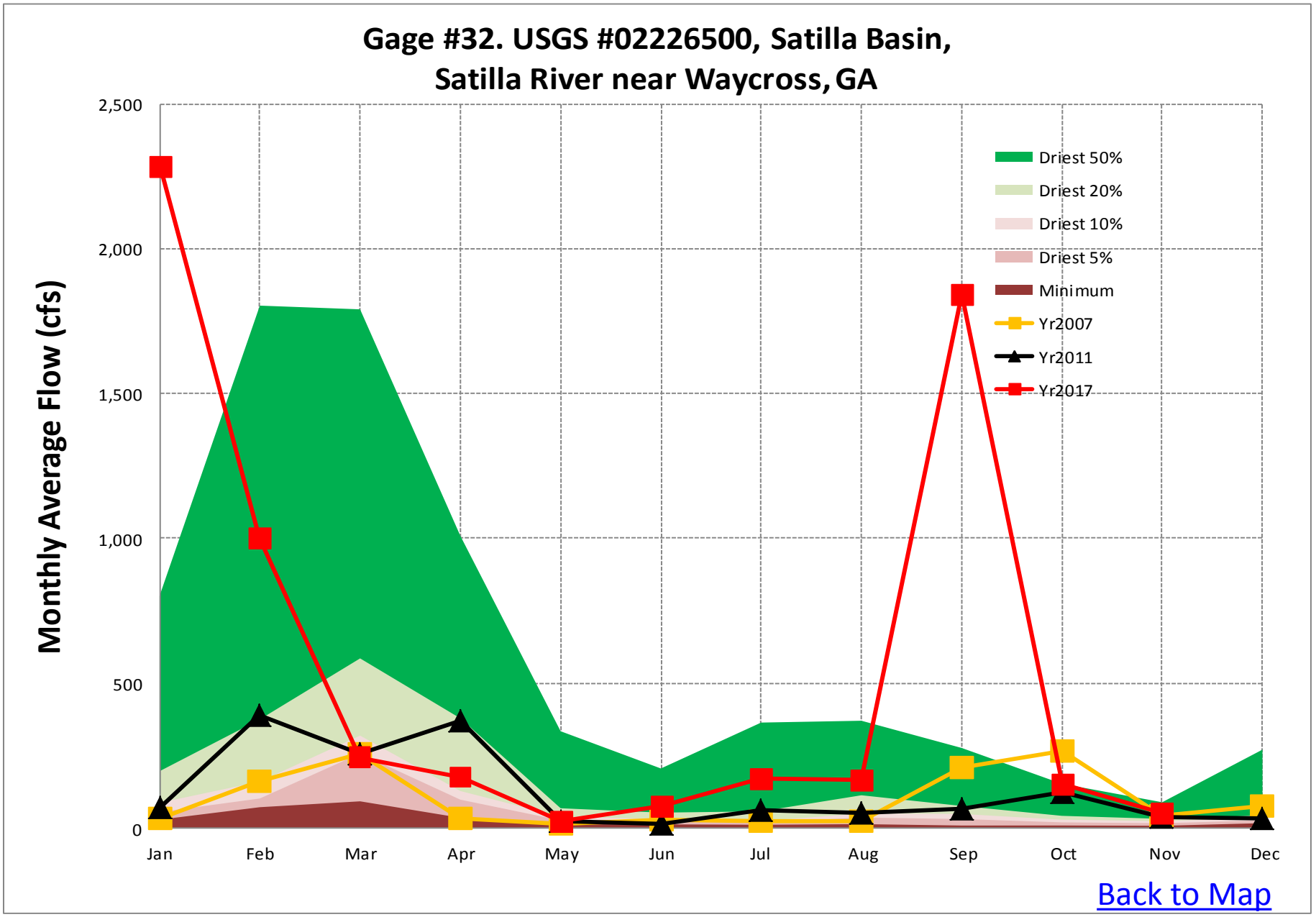

Gage #31. USGS #02314500, Suwanee Basin,
SUWANNEE RIVER AT US 441, AT FARGO, GA
Monthly Average Flow (cfs)
3,000
2,500
2,000
1,500
1,000
500
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Y2007
Y2011
Yr2017

Back to Map


Gage #32. USGS #02226500, Satilla Basin,
Satilla River near Waycross, GA
Monthly Average Flow (cfs)
2,500
2,000
1,500
1,000
500
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Driest 50%
Driest 20%
Driest 10%
Driest 5%
Minimum
Yr2007
Yr2011
Yr2017

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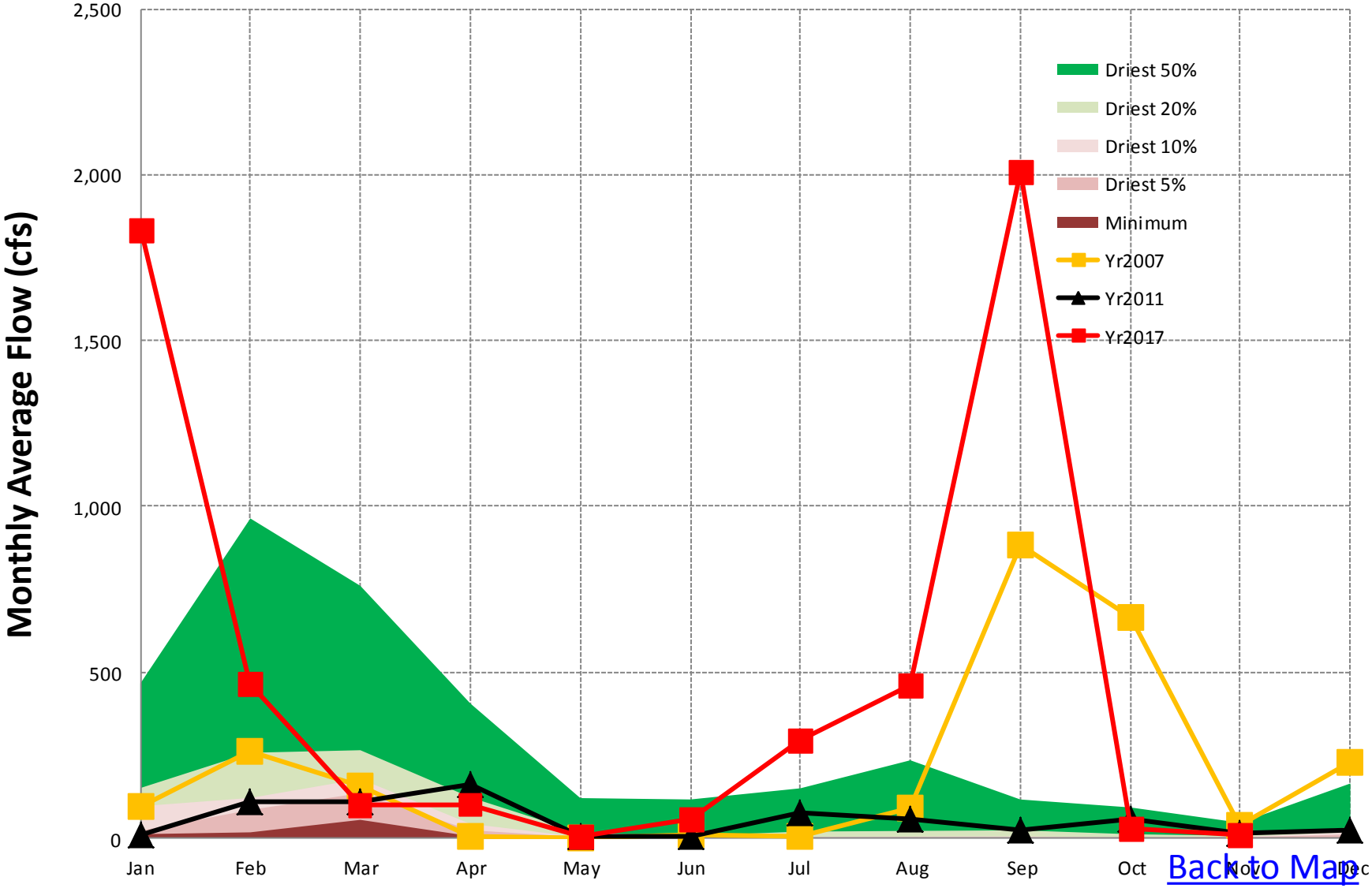
Gage #33. USGS #02227500, Satilla Basin, LITTLE SATILLA RIVER near OFFERMAN, GA



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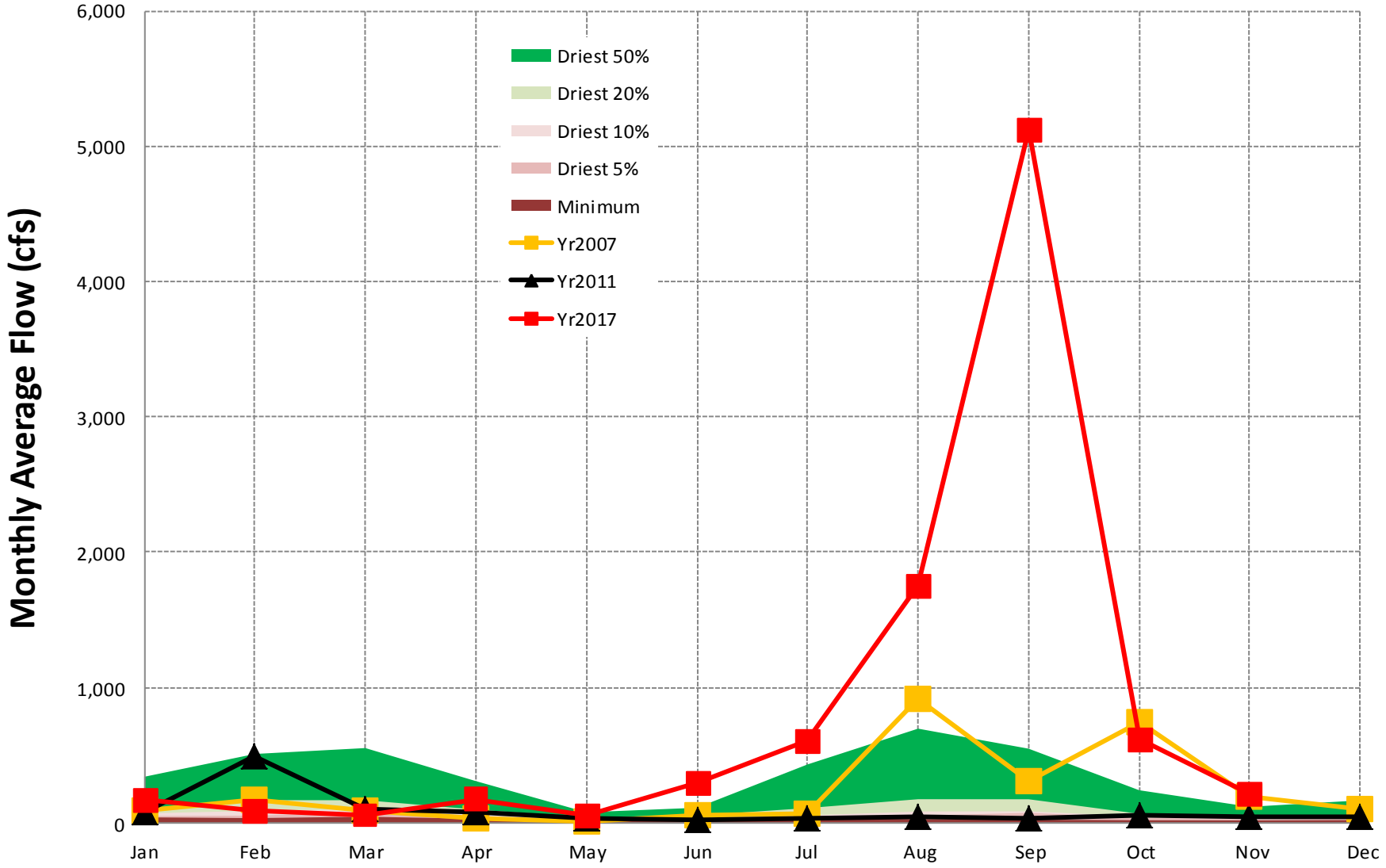
Gage #34. USGS #02231000, St Mary Basin, ST. MARYS RIVER near MACCLENNY, FL



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Groundwater Levels

Data Source: USGS

Rationale for Choosing USGS Monitoring Wells

EPD monitors 14 groundwater USGS monitoring wells shown on the following slide to assess drought conditions. These wells were selected for monitoring because they have:

- Long-term monitoring records consisting of three decades or more of data; and
- Real-time monitoring that represents the most up-to-date conditions.

USGS Wells Monitored by EPD to Assess Drought Conditions

Savannah Basin
1. 30AA04

Flint Basin
2. 11AA01
3. 13L180
4. 12M017
5. 08K001
6. 11K003
7. 12K014
8. 13J004
9. 08G001
10. 10G313
11. 09F520

Oconee Basin
12. 21T001

Altamaha Basin
13. 26R001

Suwanee Basin
14. 19E009

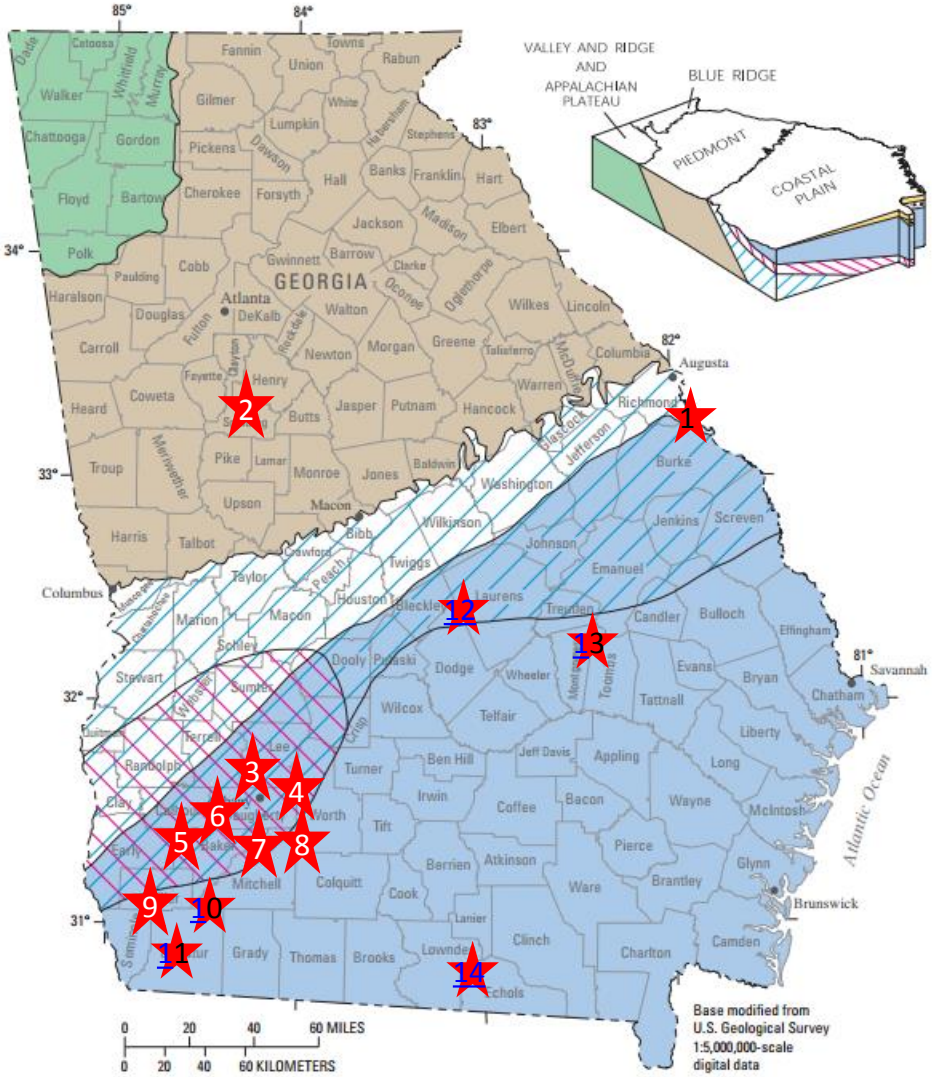


Figure 2. Area of use of principal aquifers and physiographic provinces in Georgia (modified from U.S. Geological Survey, 2006).

Groundwater Level Graphs

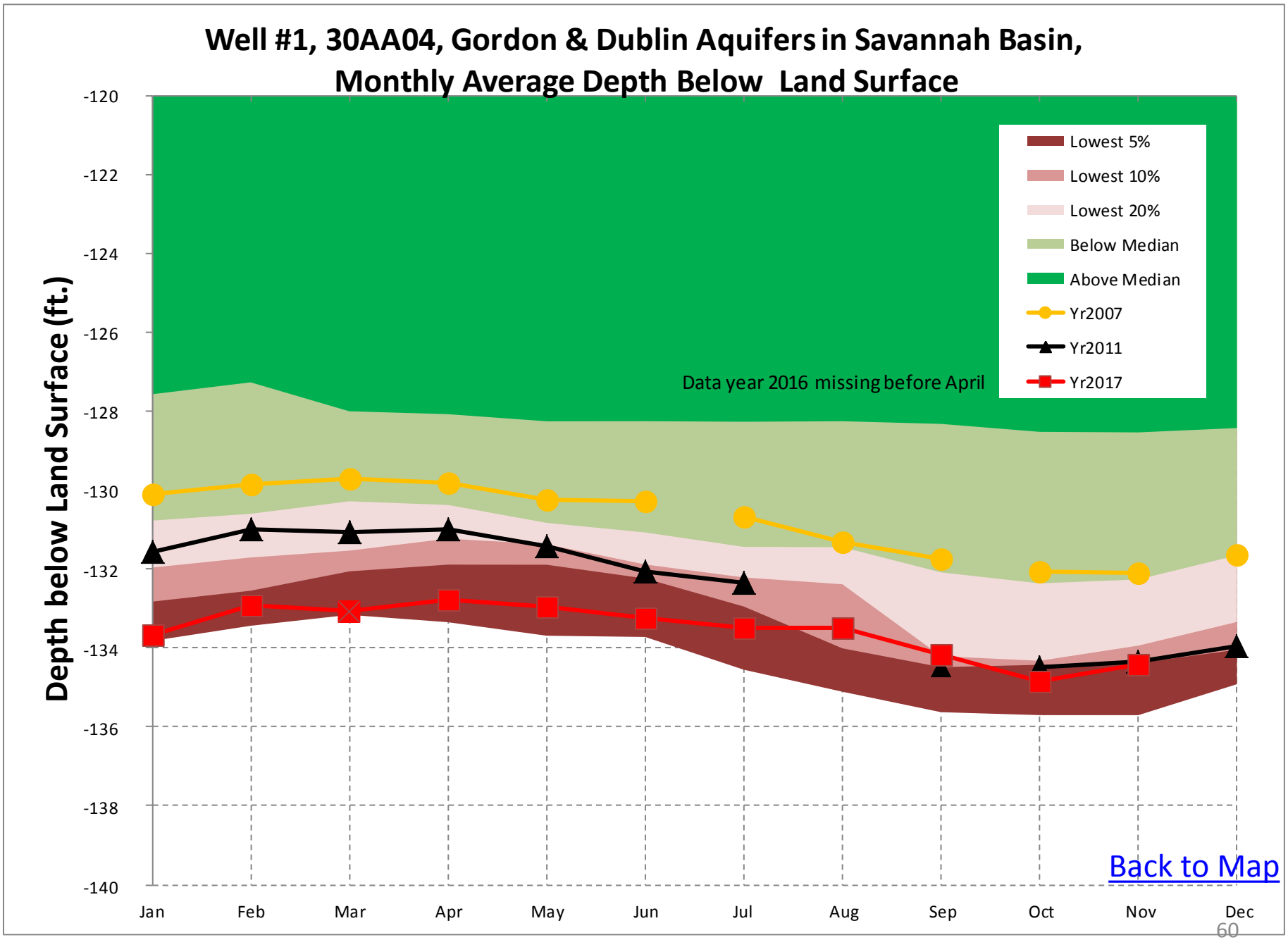
- For each of the 15 groundwater wells, EPD has prepared a graph that shows monthly average groundwater levels from January, 2017 through November, 2017;
- To help put these levels into perspective, for comparison purposes, each graph also shows:
  - Monthly average levels at that same well for the years 2007 and 2011 when groundwater levels were at or near recorded low levels across much of the state; and
  - And a statistical composite of historical conditions at that same gage showing the "lowest" 50, 20, 10, and 5 percent of all recorded monthly average levels at the same well.

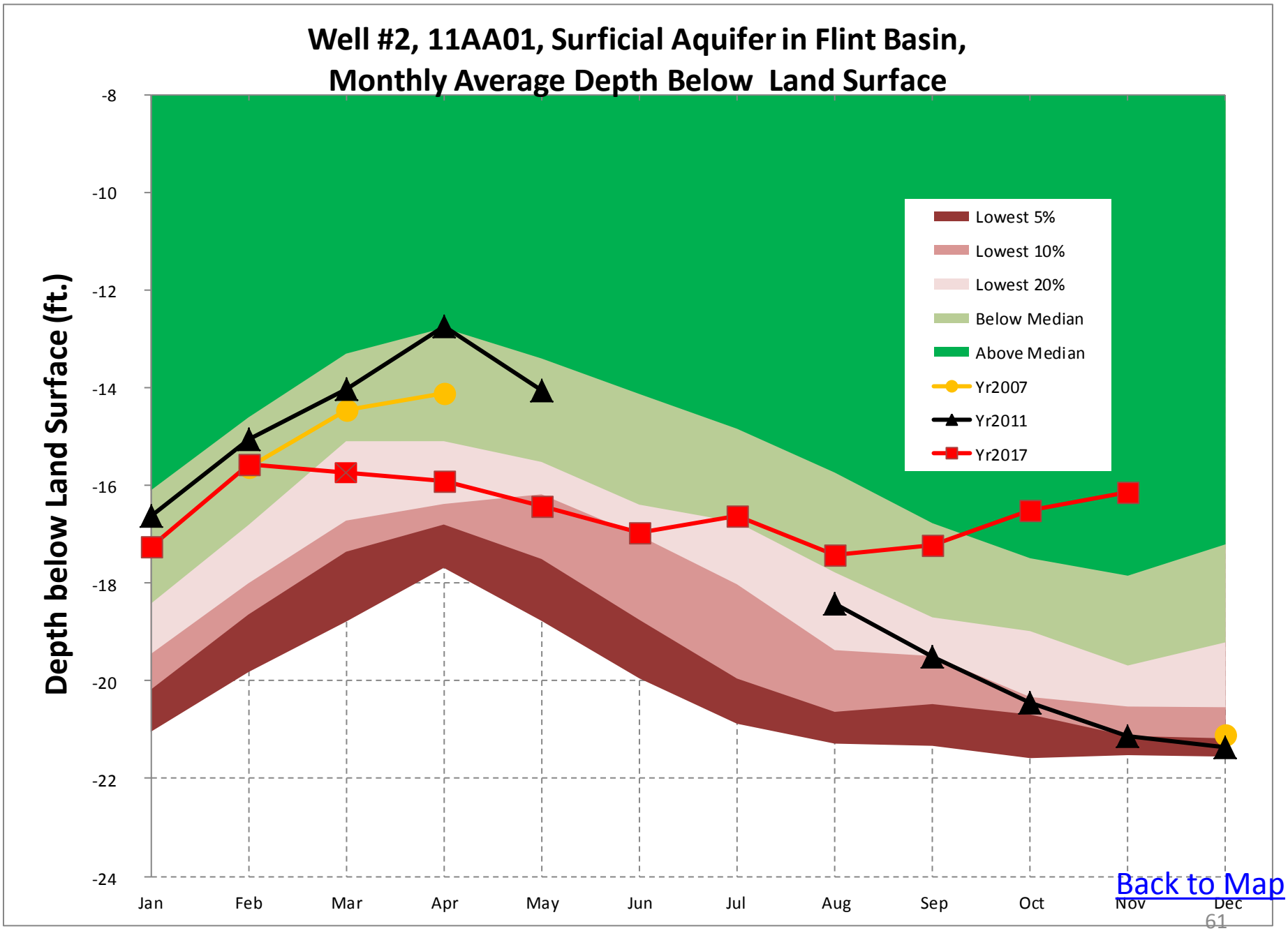
How to Read the Groundwater Level Graphs

Example: **Well #11, 09F520, Flint River Basin**

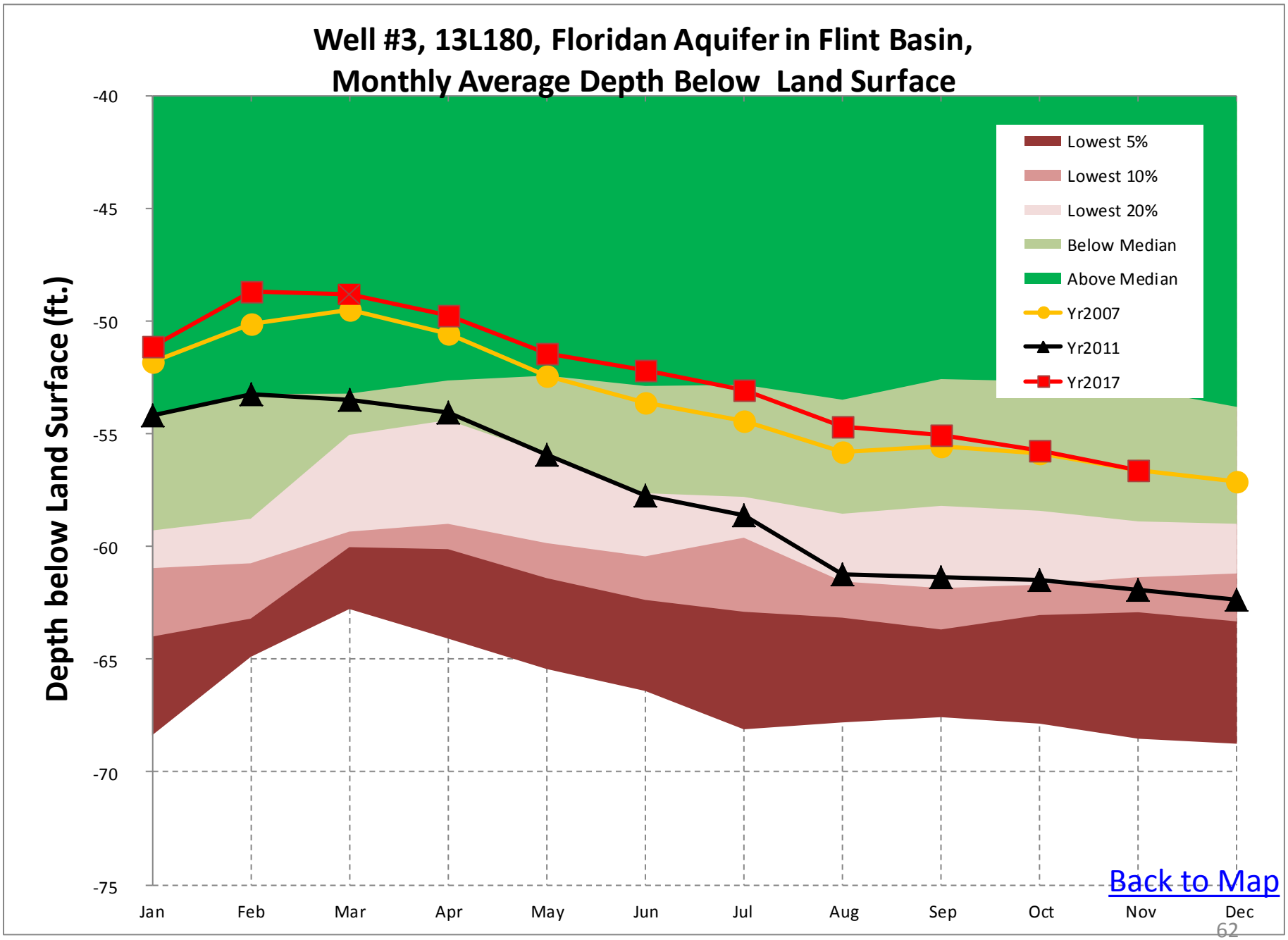
The groundwater level graph for Well #11, USGS 09F520 shows:

- The average monthly groundwater level for November 2017 was 49ft below land surface. The statistical composite of all historical data for this well shows that monthly average groundwater levels in November have historically been lower than November 2017 about 30% of the time; about 70% of the time in November they have been higher.
- The average monthly groundwater level in November 2011 was 51ft below land surface. The statistical composite of all historical data for this well shows that monthly average groundwater levels in November have historically been lower than November 2017 about 2% of the time; about 98% of the time in November they have been higher.
- The average monthly groundwater level in November 2007 was 51ft below land surface. The statistical composite of all historical data for this well shows that monthly average groundwater levels in November have historically been lower than November 2017 about 2% of the time; about 98% of the time in November they have been higher.

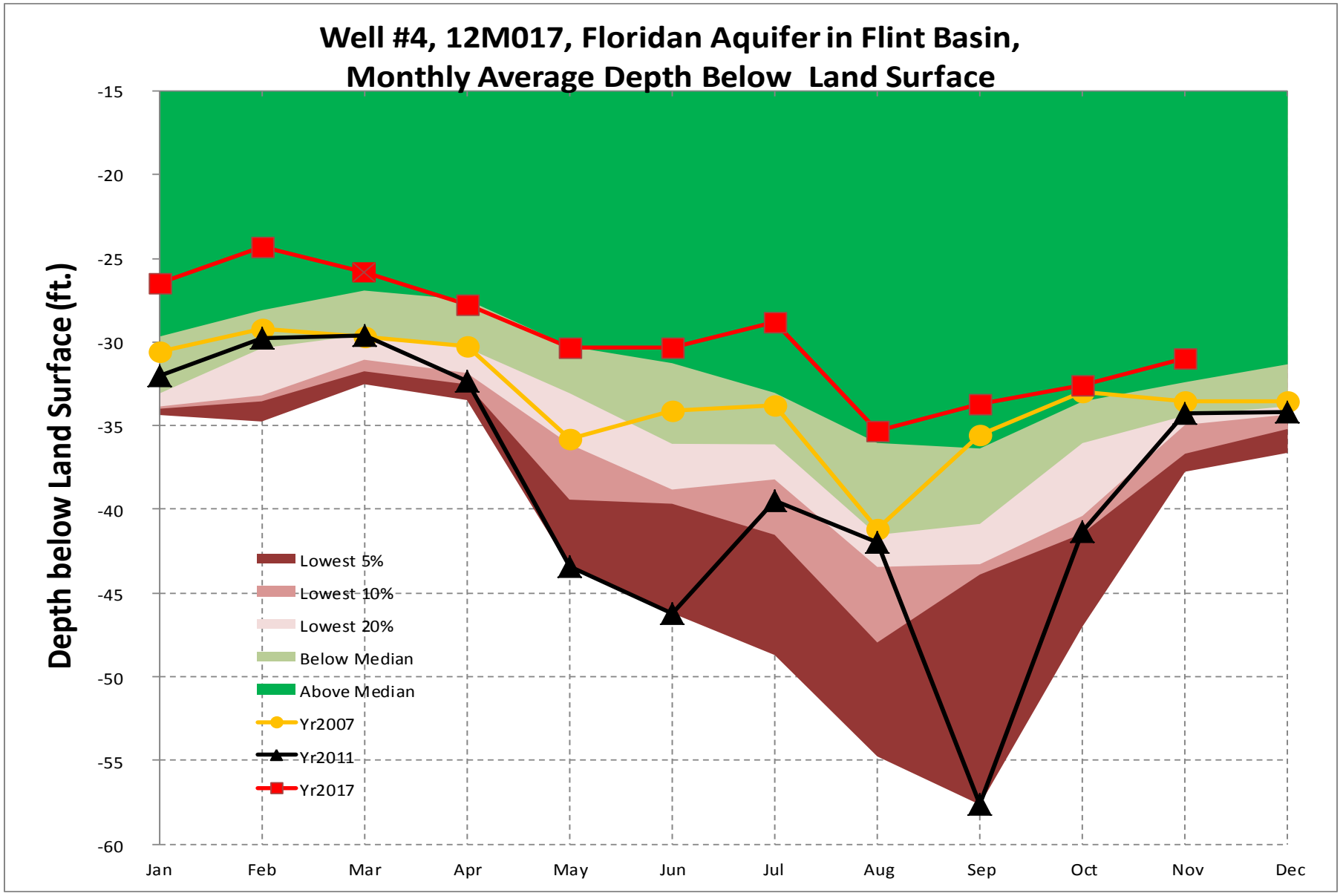

Well #1, 30AA04, Gordon & Dublin Aquifers in Savannah Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-120
-122
-124
-126
-128
-130
-132
-134
-136
-138
-140
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2017
Data year 2016 missing before April
Back to Map


Well #2, 11AA01, Surficial Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-8
-10
-12
-14
-16
-18
-20
-22
-24
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2017

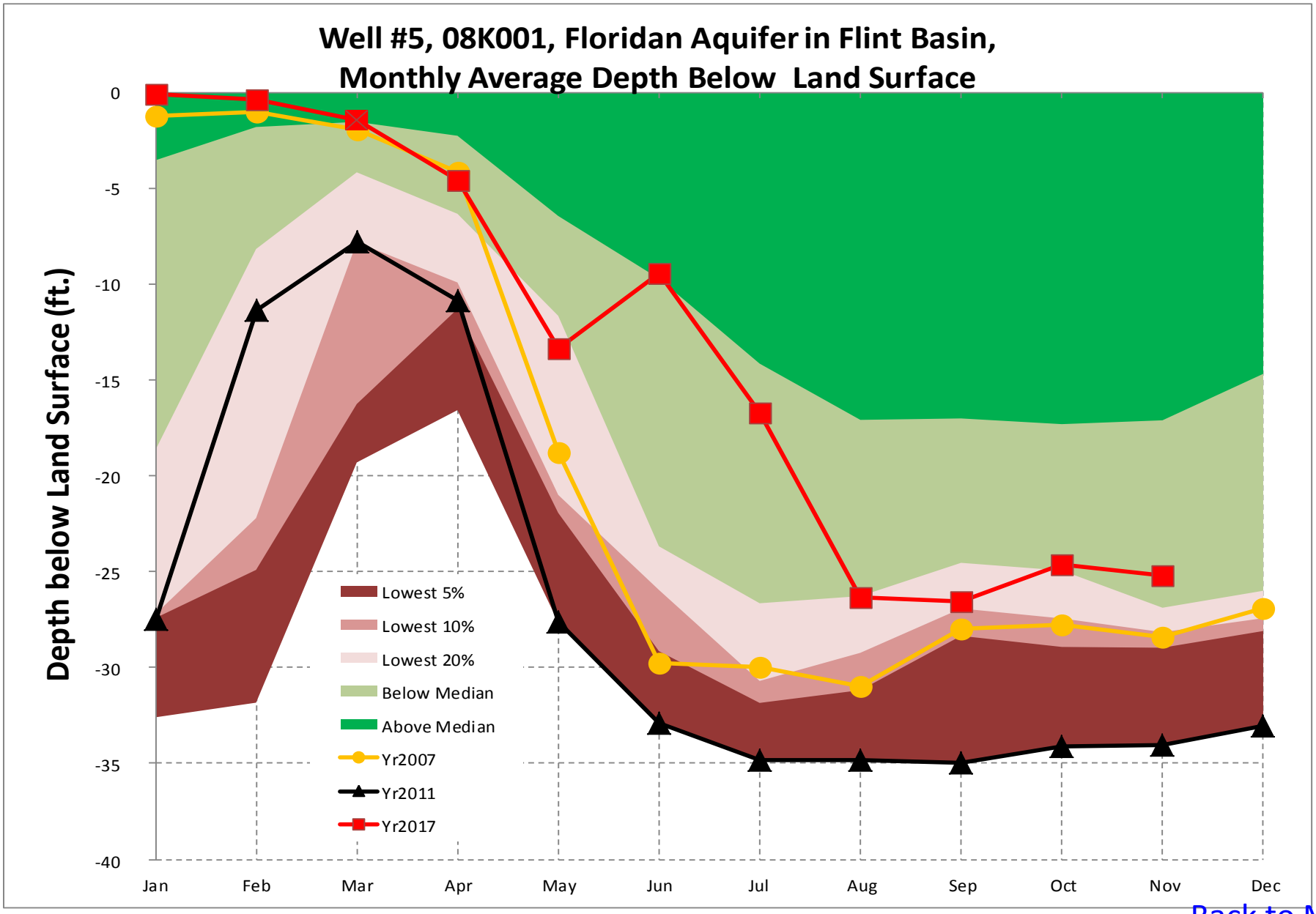
Back to Map


Well #3, 13L180, Floridan Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-40
-45
-50
-55
-60
-65
-70
-75
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2017

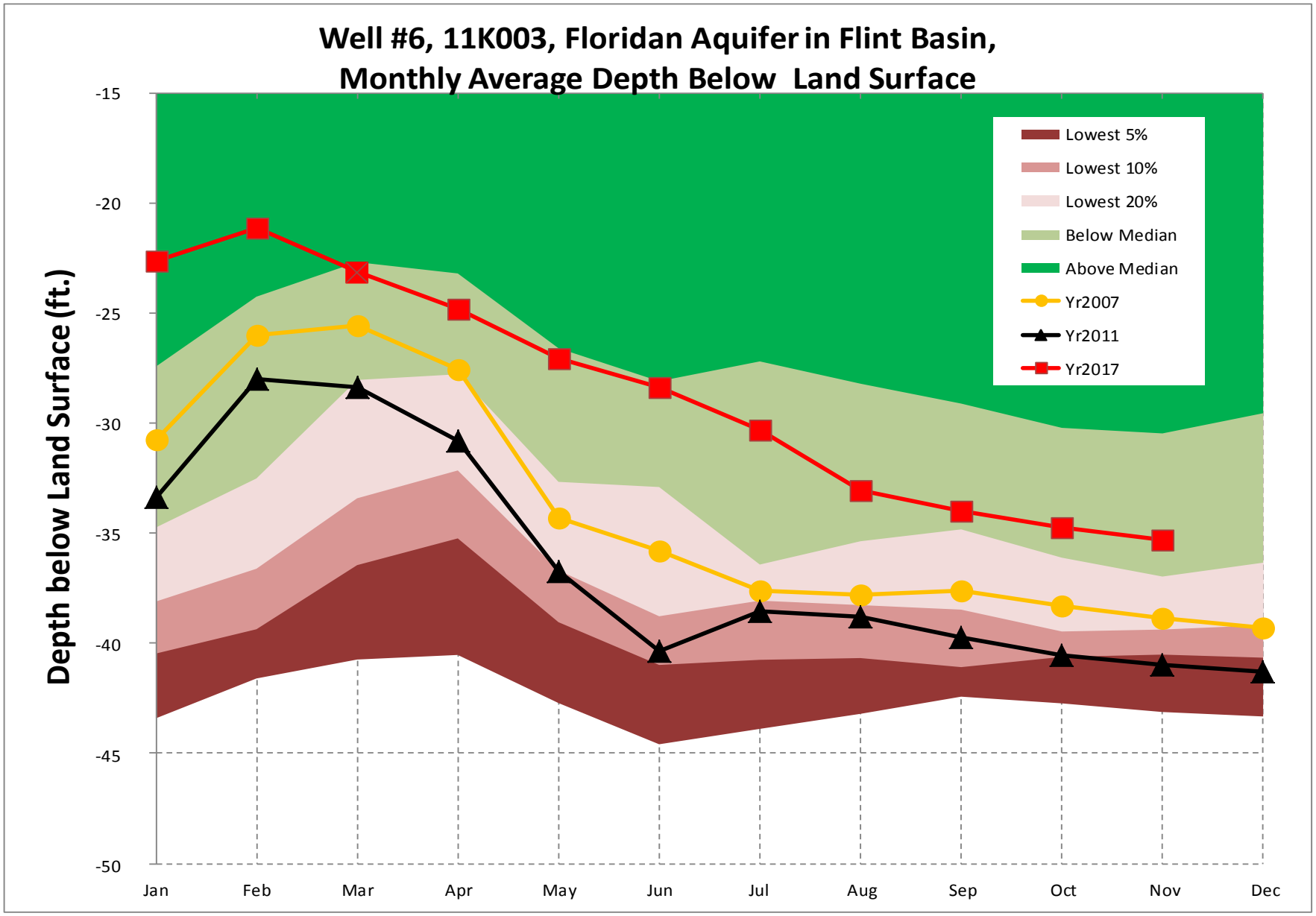
Back to Map


Well #4, 12M017, Floridan Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-15
-20
-25
-30
-35
-40
-45
-50
-55
-60
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2017

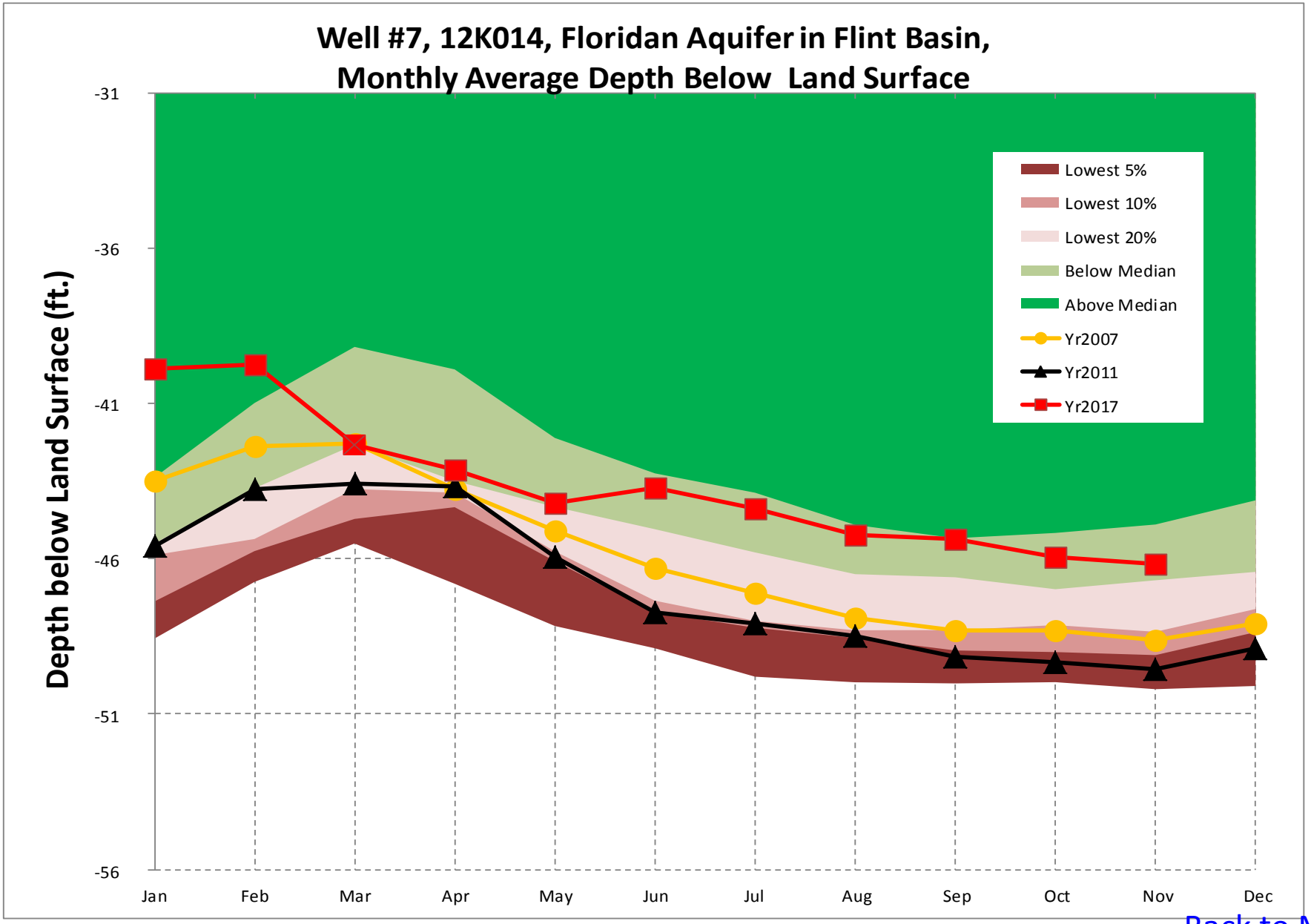
Back to Map


Well #5, 08K001, Floridan Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
0
-5
-10
-15
-20
-25
-30
-35
-40
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2017

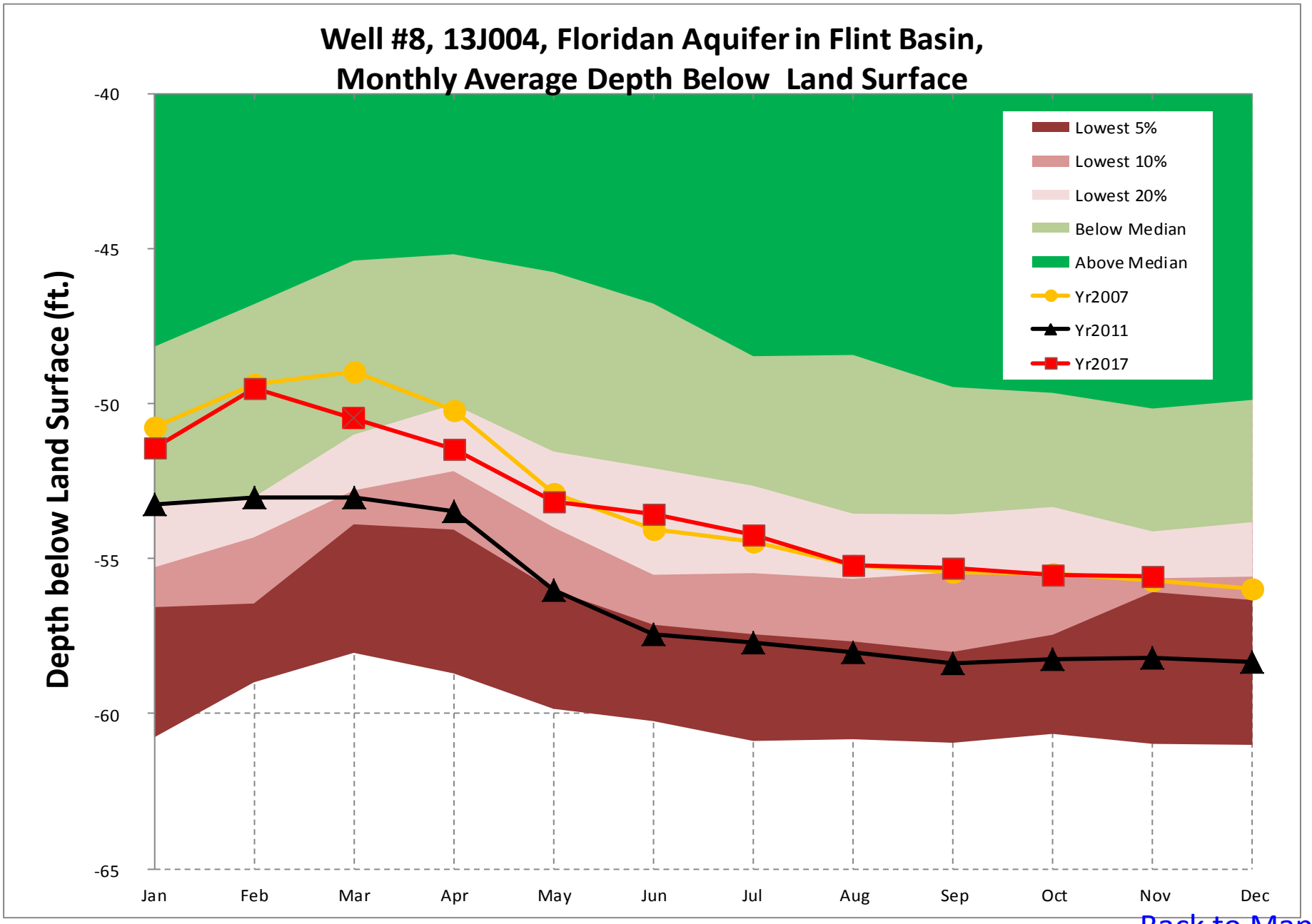
Back to Map


Well #6, 11K003, Floridan Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-15
-20
-25
-30
-35
-40
-45
-50
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2017

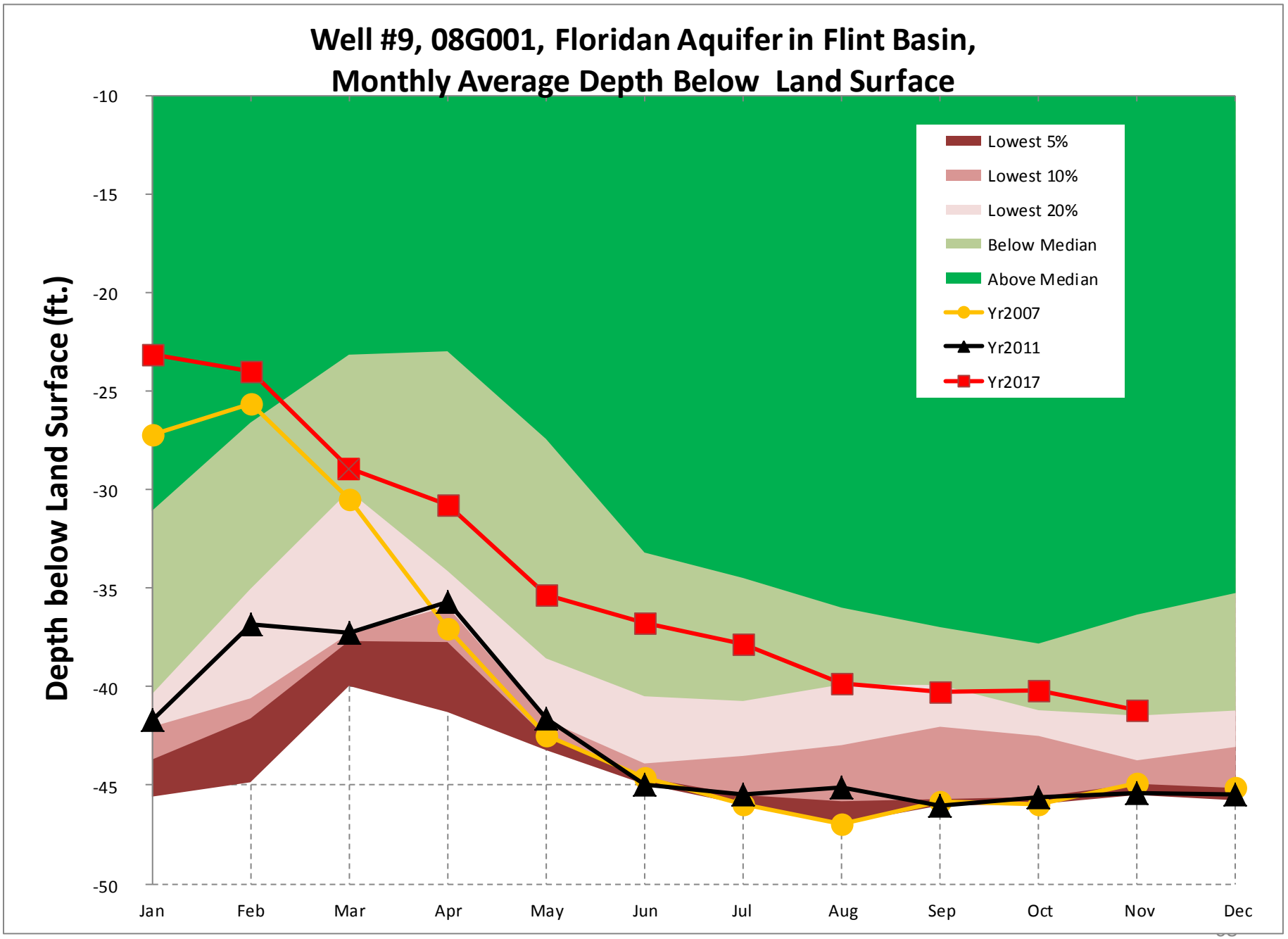
Back to Map

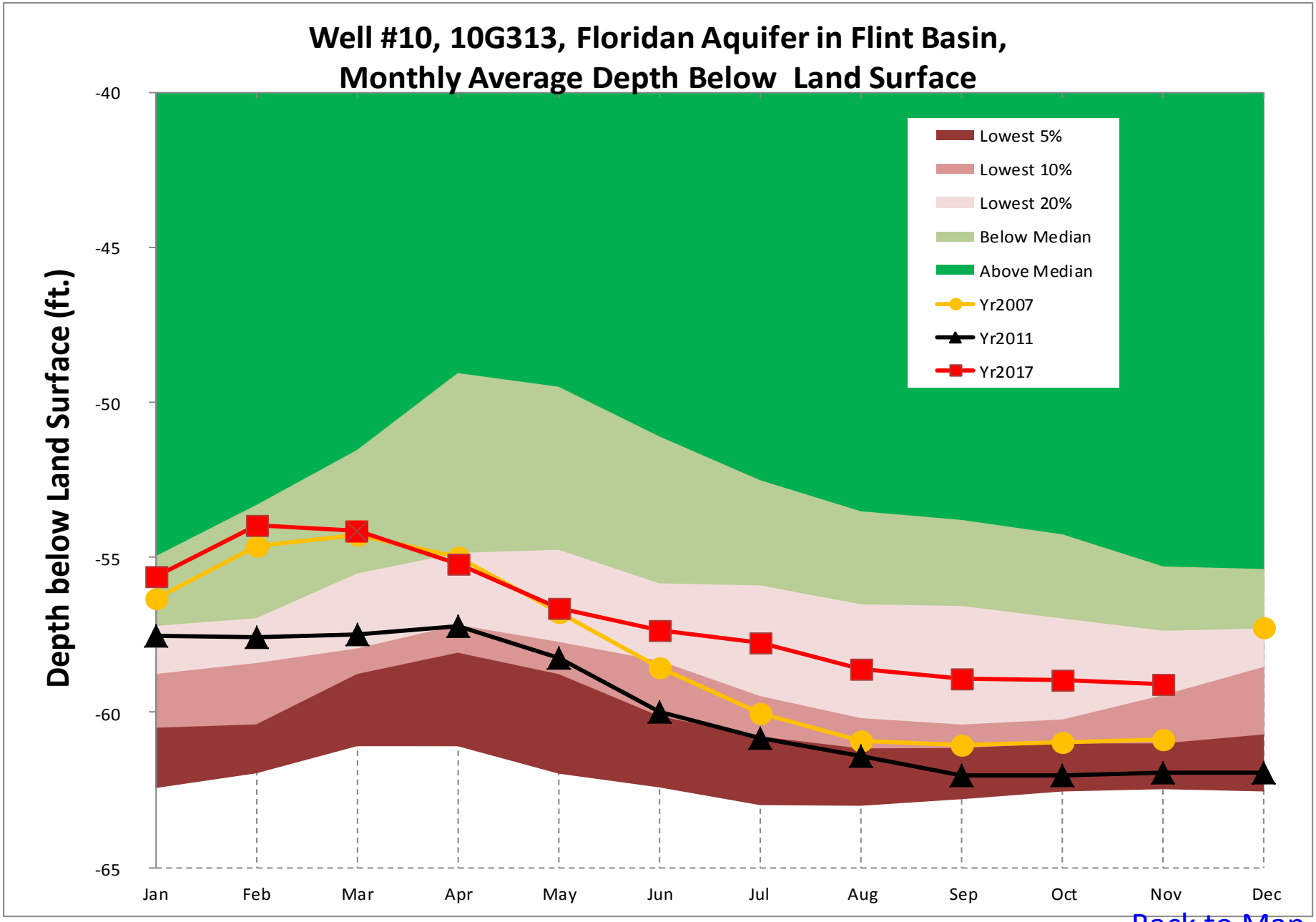

Well #7, 12K014, Floridan Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-31
-36
-41
-46
-51
-56
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2017

Back to Map

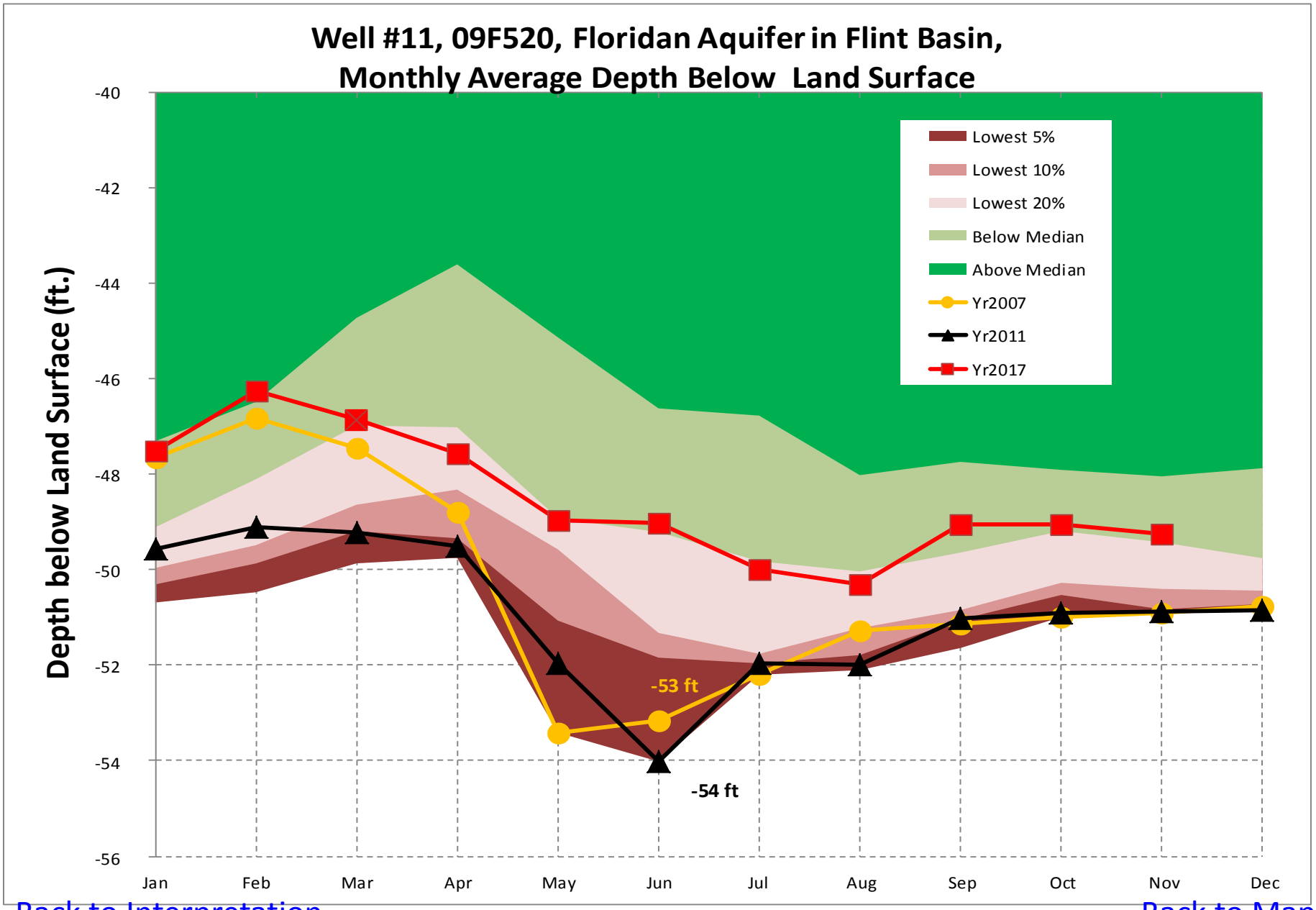

Well #8, 13J004, Floridan Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-40
-45
-50
-55
-60
-65
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2017

Back to Map


Well #9, 08G001, Floridan Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-10
-15
-20
-25
-30
-35
-40
-45
-50
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2017


Well #10, 10G313, Floridan Aquifer in Flint Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-40
-45
-50
-55
-60
-65
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2017

Back to Map



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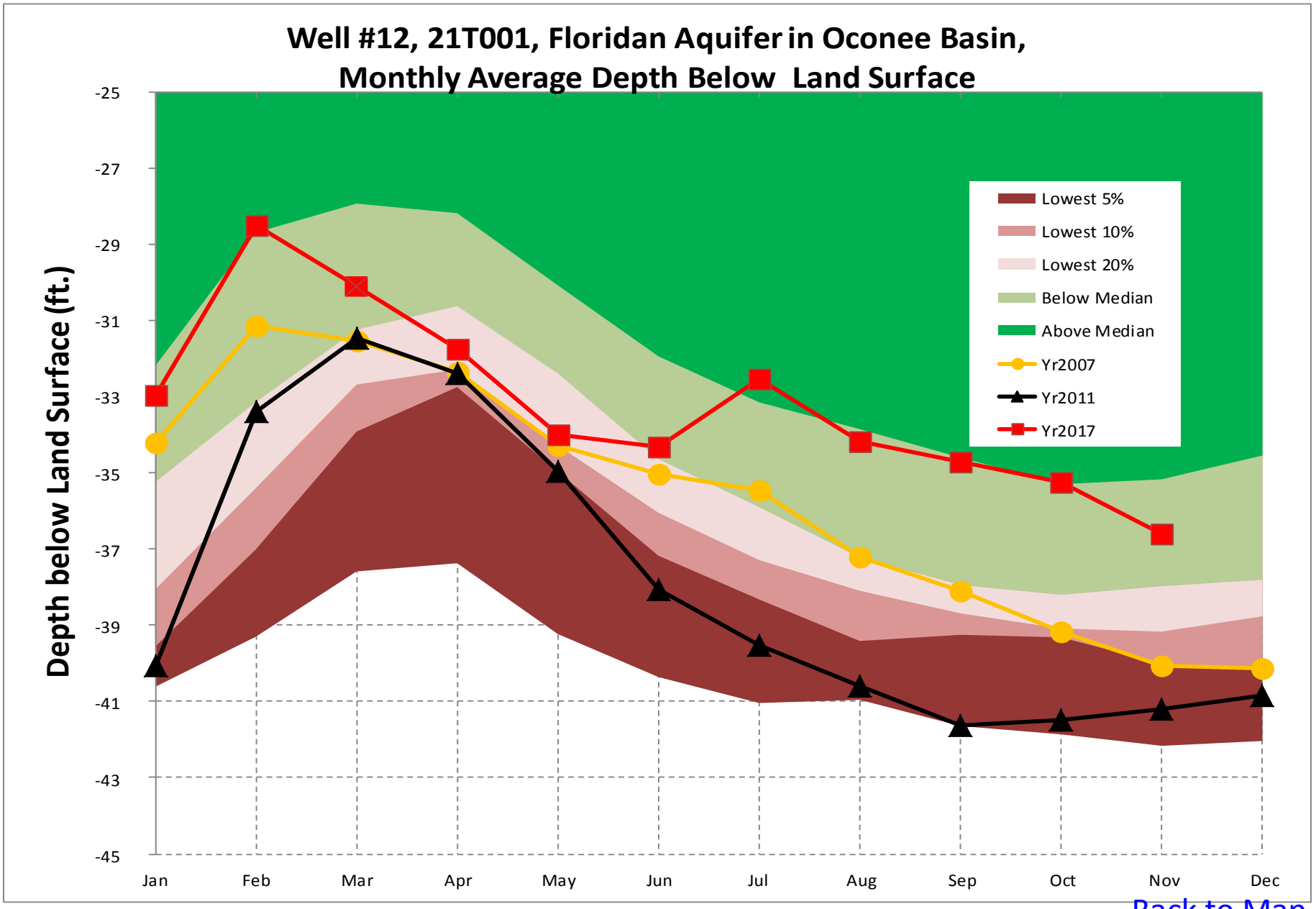
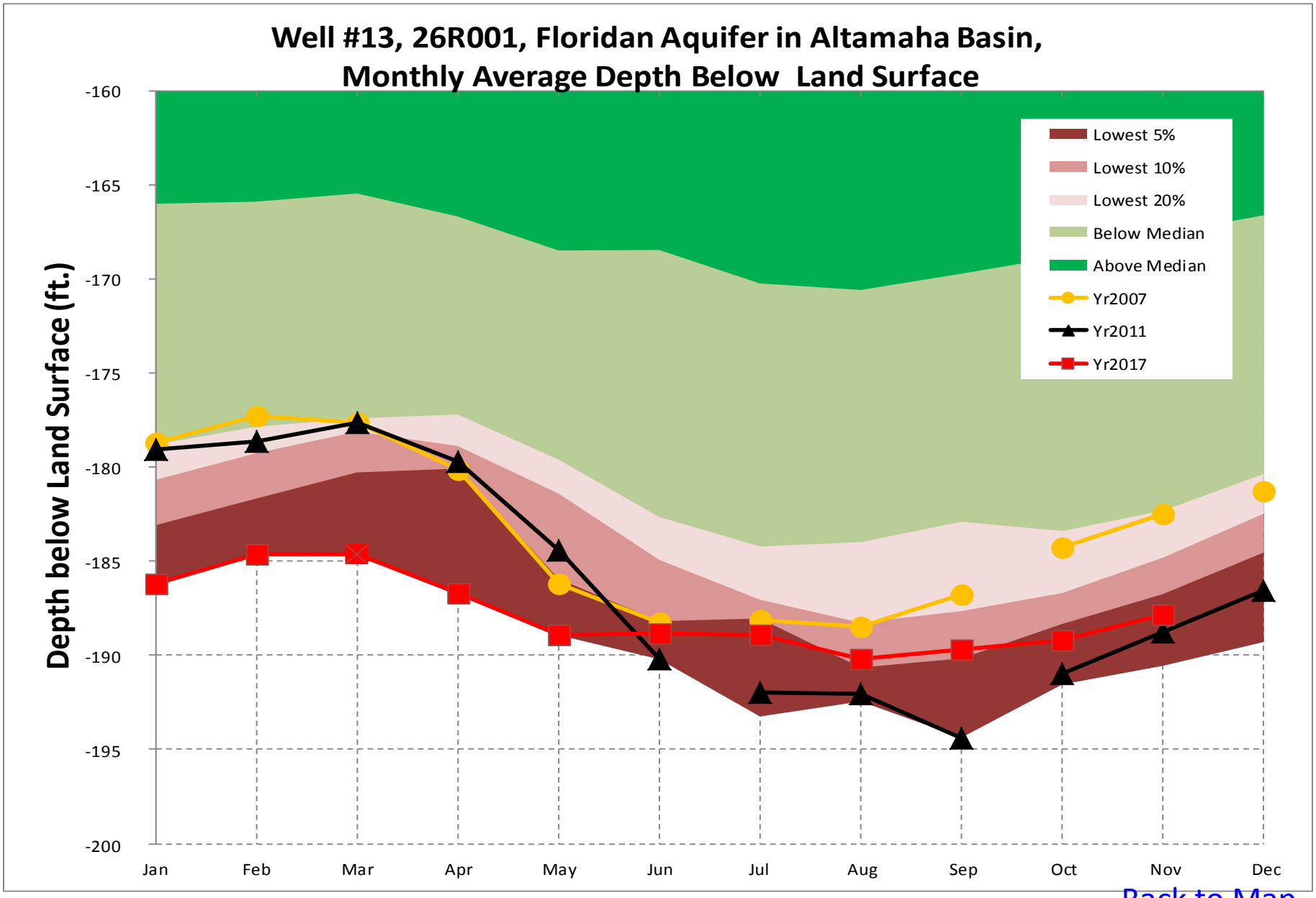
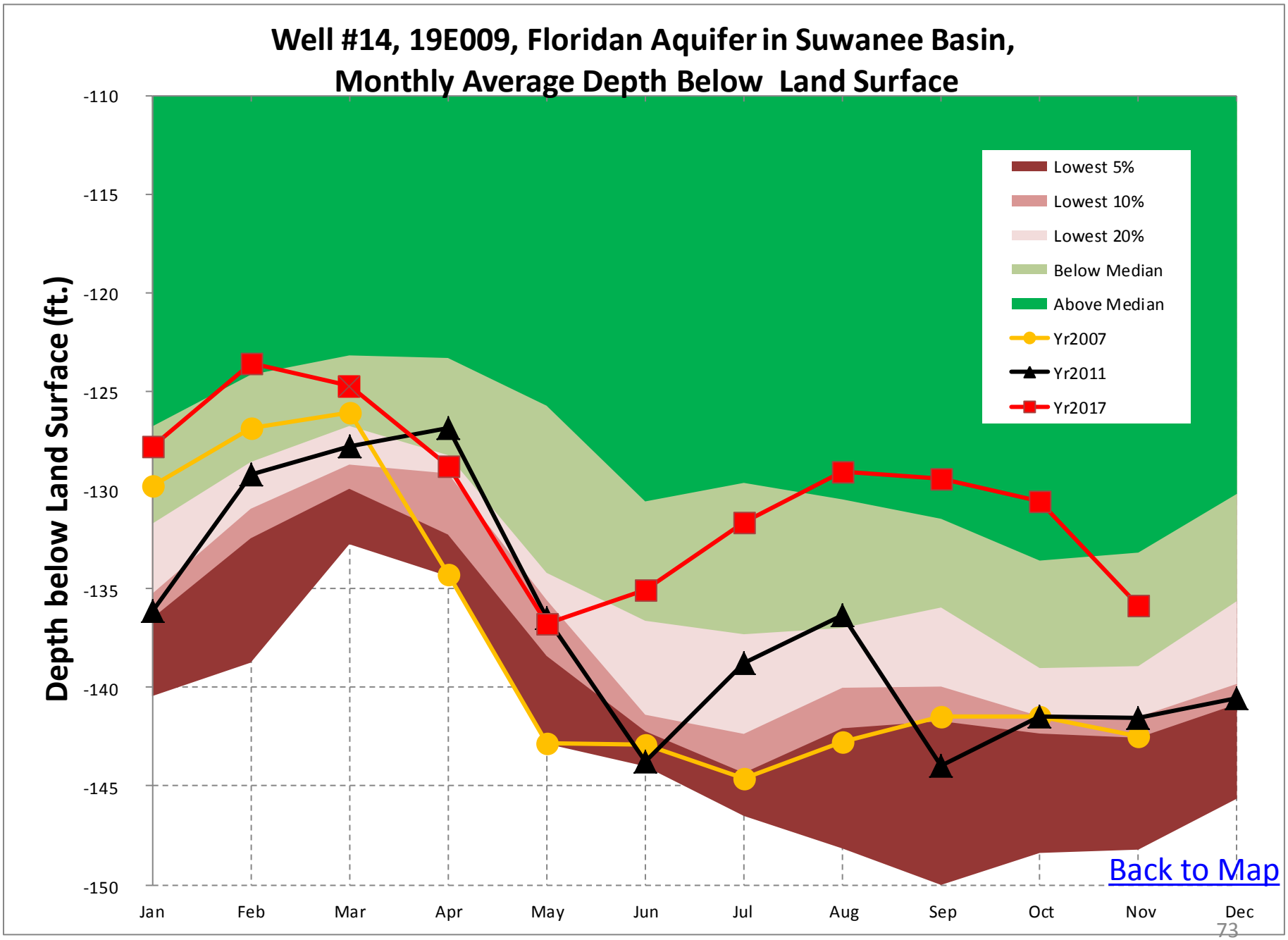

Well #12, 21T001, Floridan Aquifer in Oconee Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-25
-27
-29
-31
-33
-35
-37
-39
-41
-43
-45
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2017

Back to Map


Well #13, 26R001, Floridan Aquifer in Altamaha Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-160
-165
-170
-175
-180
-185
-190
-195
-200
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2017

Back to Map


Well #14, 19E009, Floridan Aquifer in Suwanee Basin,
Monthly Average Depth Below Land Surface
Depth below Land Surface (ft.)
-110
-115
-120
-125
-130
-135
-140
-145
-150
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Lowest 5%
Lowest 10%
Lowest 20%
Below Median
Above Median
Yr2007
Yr2011
Yr2017
Back to Map

Reservoir Levels

Data Source:
US Army Corps of Engineers

Coosa Basin
1. Carters
2. Allatoona

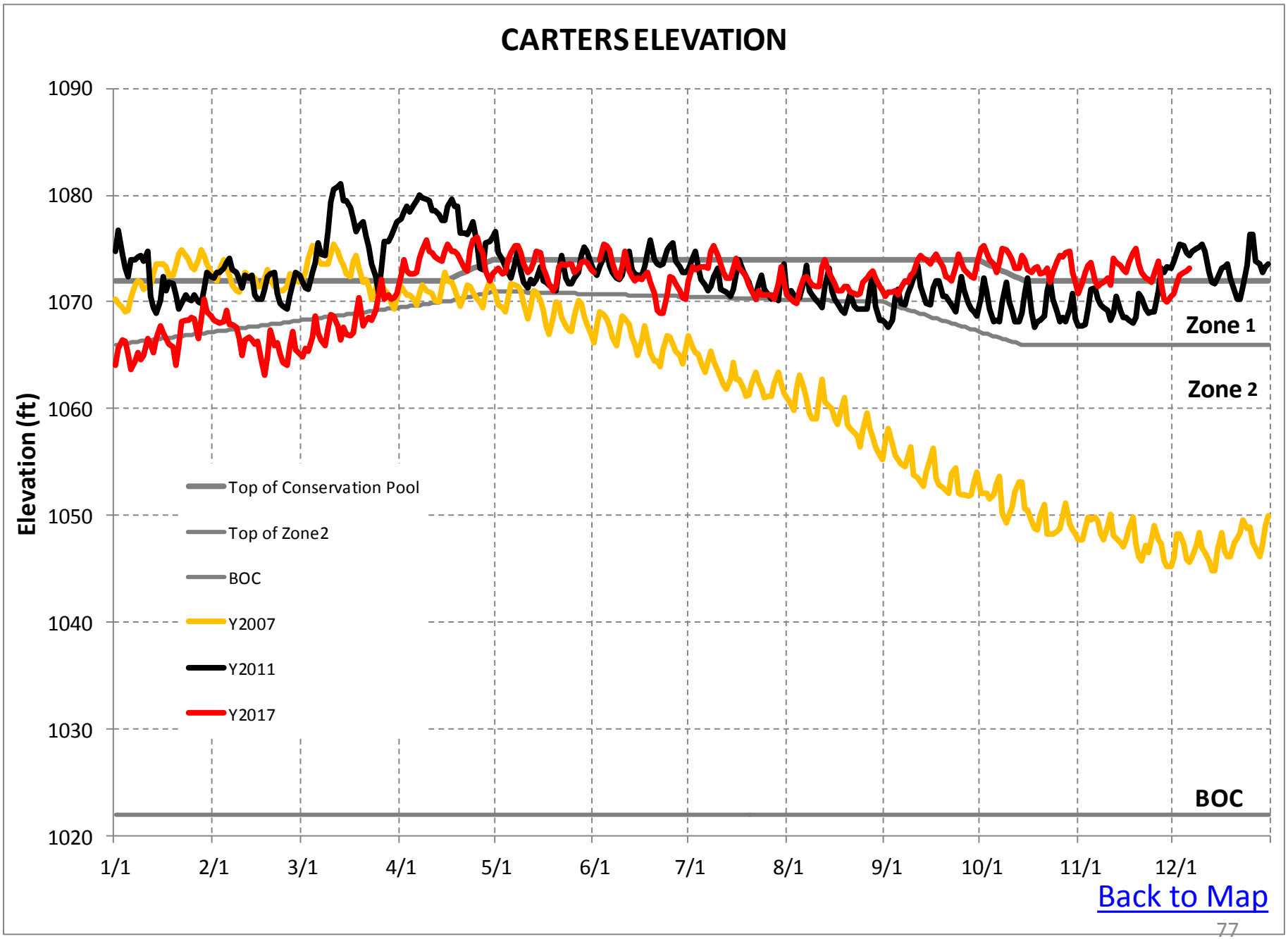
Chattahoochee Basin
3. Lanier
4. West Point
5. W.F. George

Savannah Basin
6. Hartwell
7. Thurmond

EPD monitors the water levels of seven reservoirs to assess drought conditions.

Reservoir Elevation Graphs

- The following graphs show the reservoir elevation curves for January, 2017 through November, 2017.
- Each graph also shows the Action Zone Divides (or Levels) for each reservoir
  - Zone 1 is the top layer of the conservation pool
  - Zone 2 is the layer below Zone 1
  - Zone 4 is the lowest layer in the conservation pool
  - There is no conservation storage below the bottom of Zone 4
- To put 2017 reservoir elevations into perspective, elevations for 2007 and 2011 are also shown.


CARTERS ELEVATION
Elevation (ft)
1090
1080
1070
1060
1050
1040
1030
1020
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Top of Conservation Pool
Top of Zone2
BOC
Y2007
Y2011
Y2017
Zone 1
Zone 2
BOC

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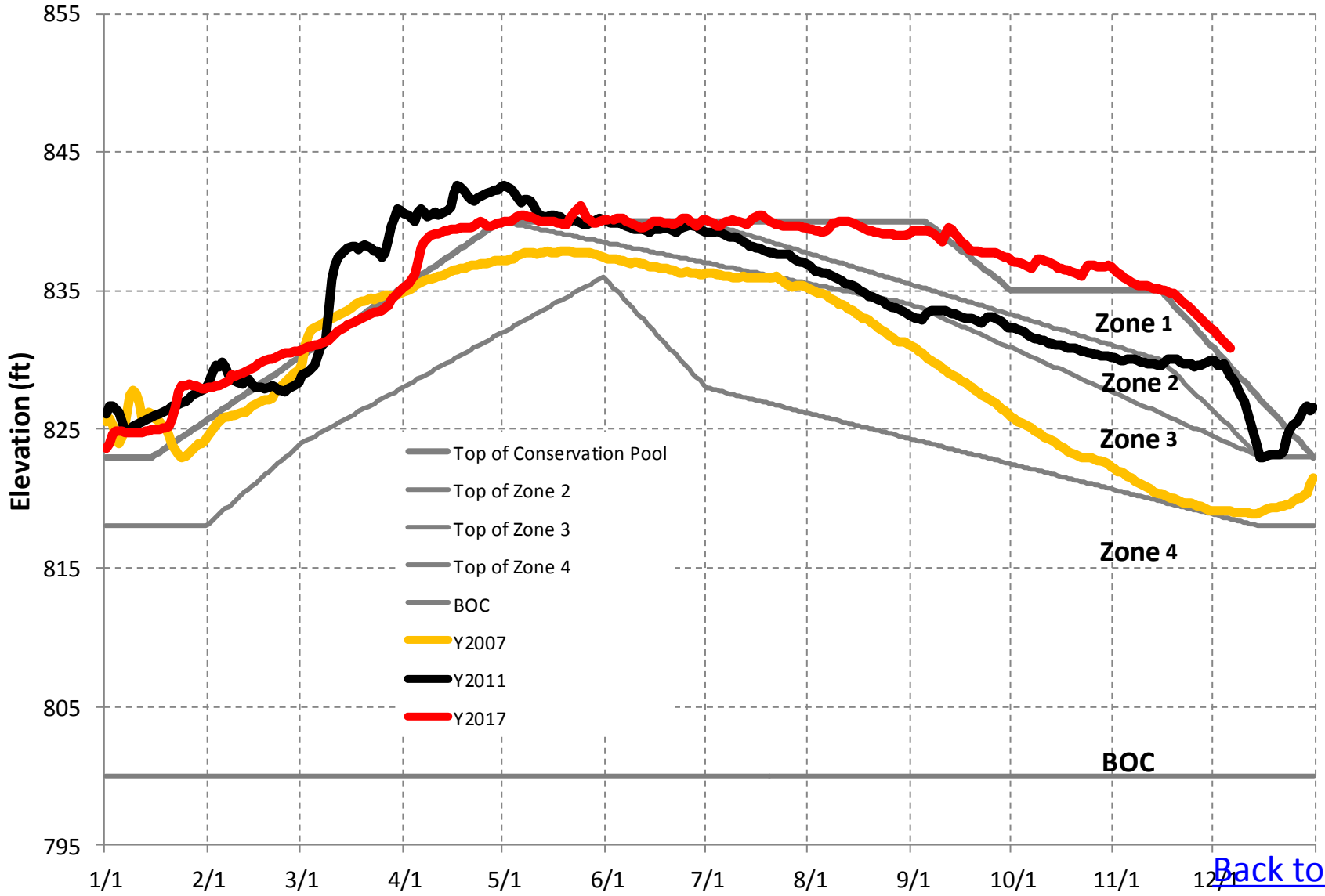
ALLATOONA ELEVATION



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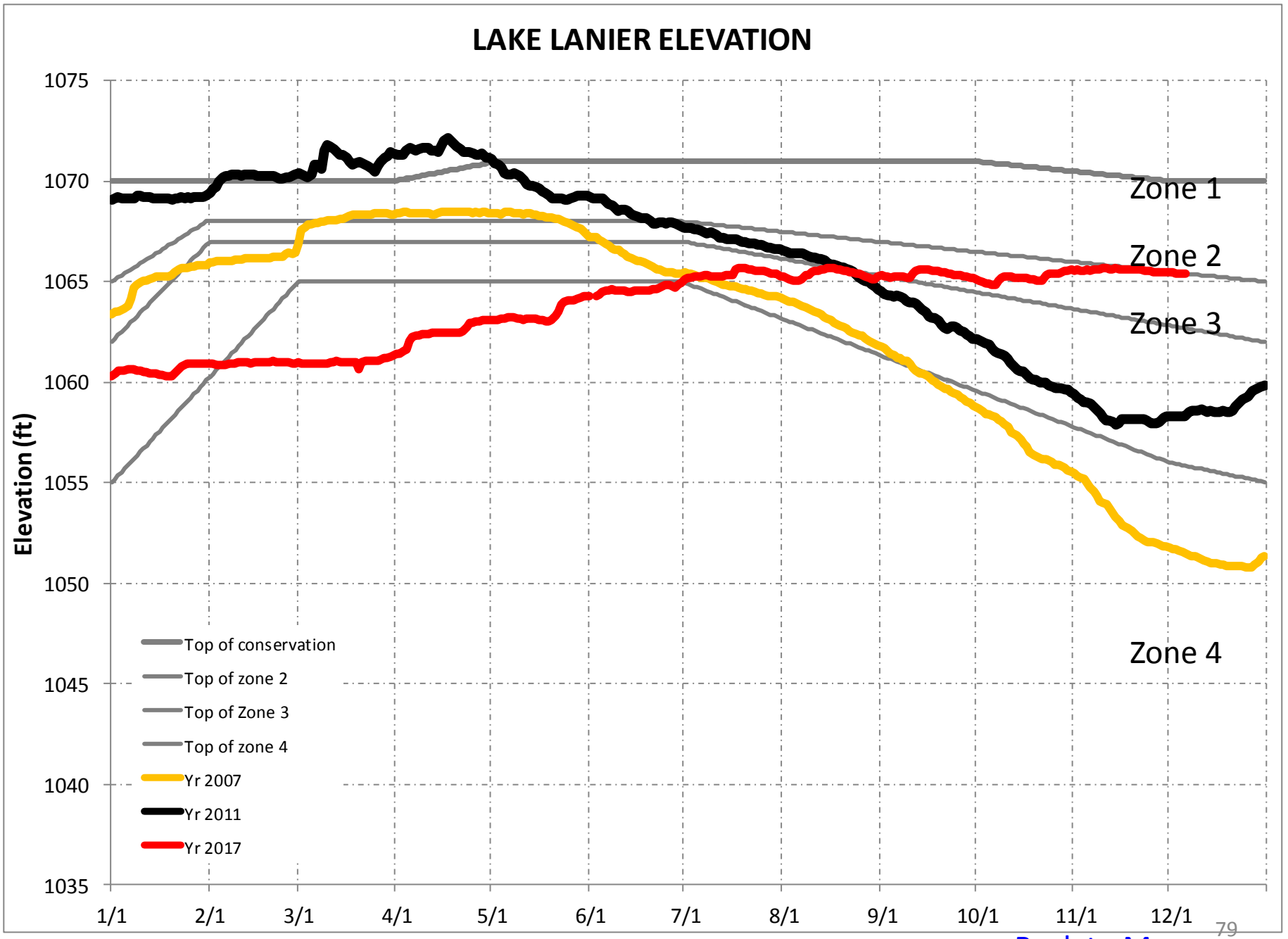
LAKE LANIER ELEVATION
Elevation (ft)
1075
1070
1065
1060
1055
1050
1045
1040
1035
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Zone 1
Zone 2
Zone 3
Zone 4
Top of conservation
Top of zone 2
Top of Zone 3
Top of zone 4
Yr 2007
Yr 2011
Yr 2017

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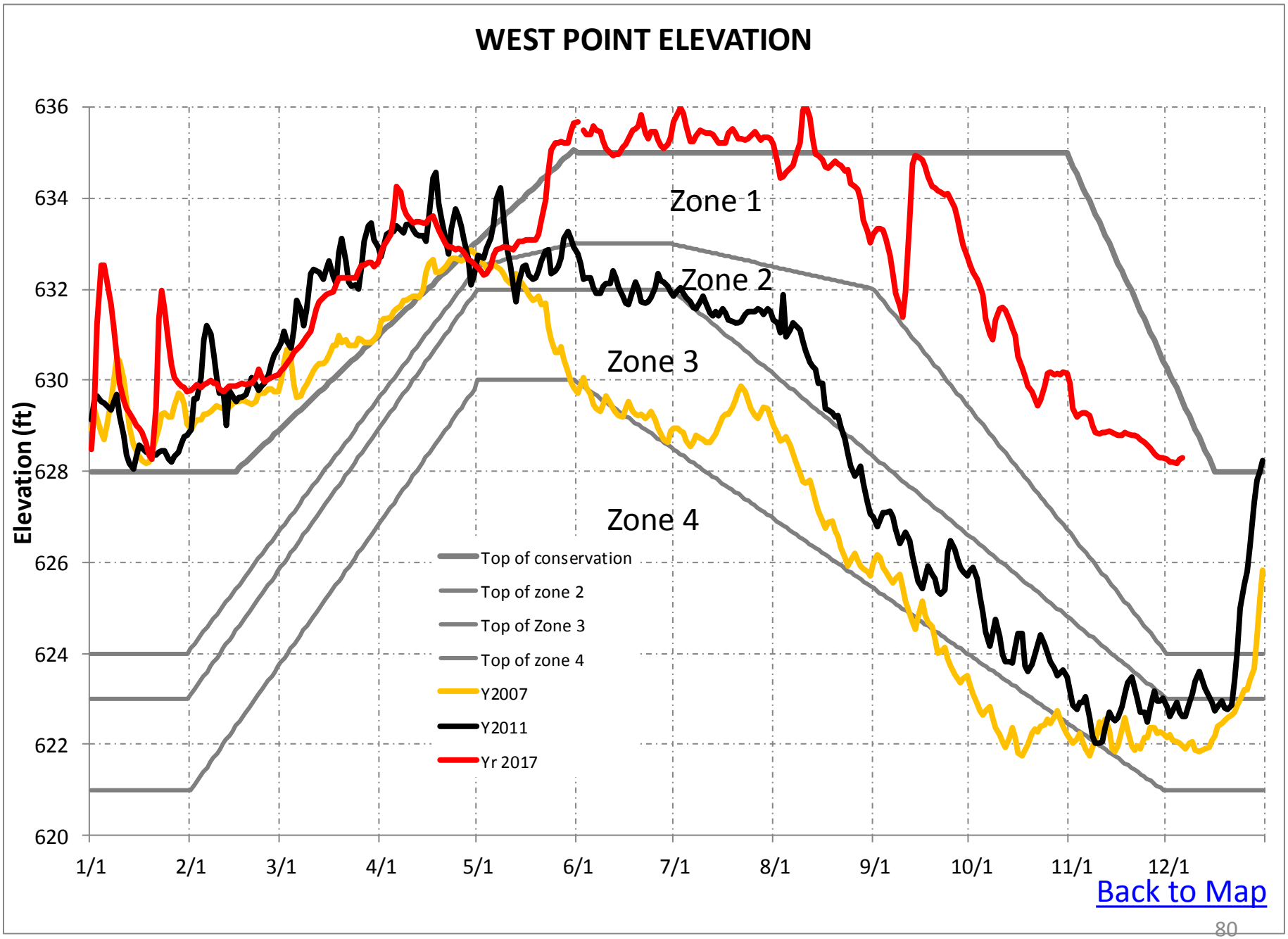
WEST POINT ELEVATION
Elevation (ft)
636
634
632
630
628
626
624
622
620
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Zone 1
Zone 2
Zone 3
Zone 4
Top of conservation
Top of zone 2
Top of Zone 3
Top of zone 4
Y2007
Y2011
Yr 2017

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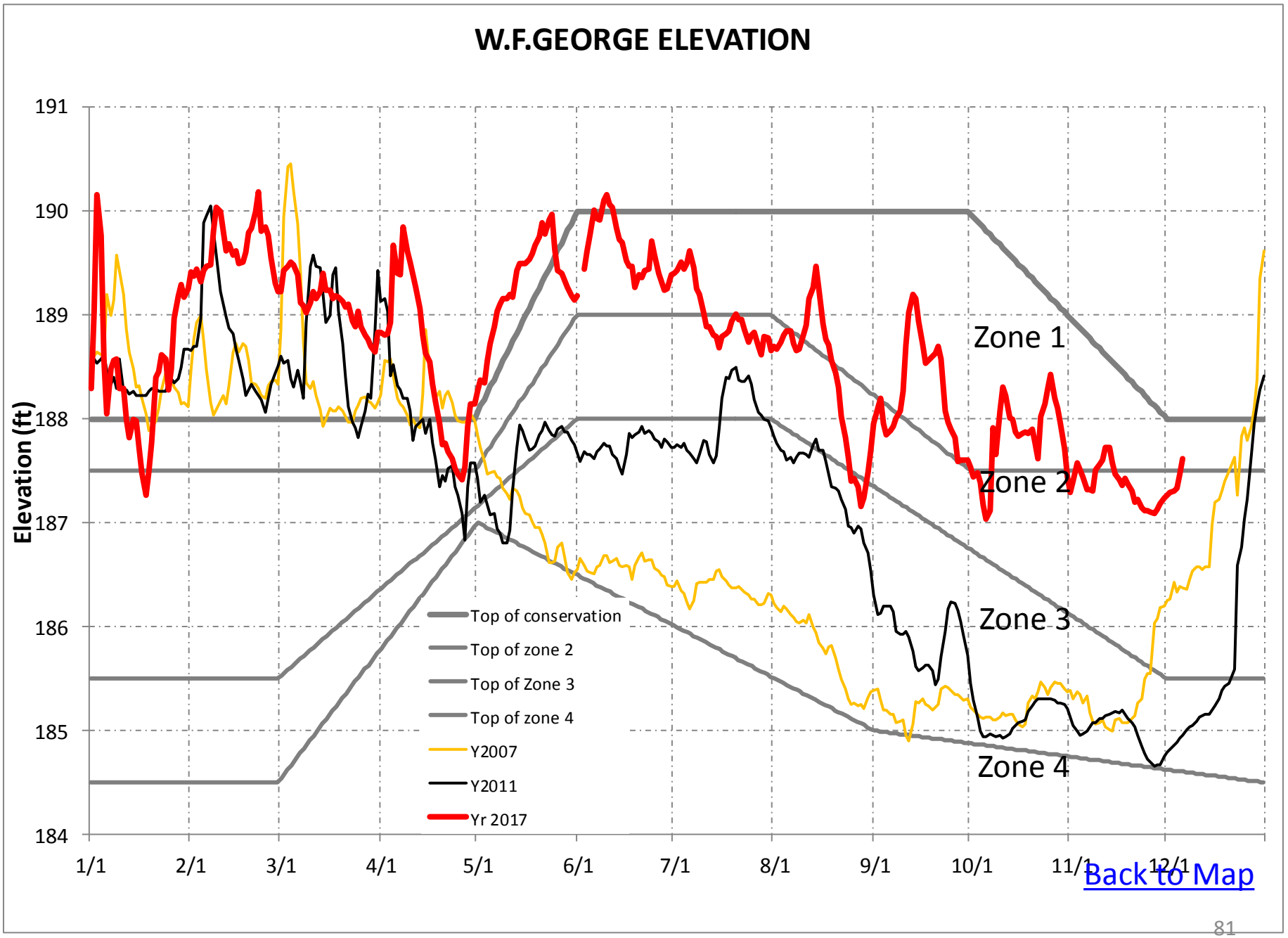
W.F.GEORGE ELEVATION
Elevation (ft)
191
190
189
188
187
186
185
184
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Zone 1
Zone 2
Zone 3
Zone 4
Top of conservation
Top of zone 2
Top of Zone 3
Top of zone 4
Y2007
Y2011
Yr 2017

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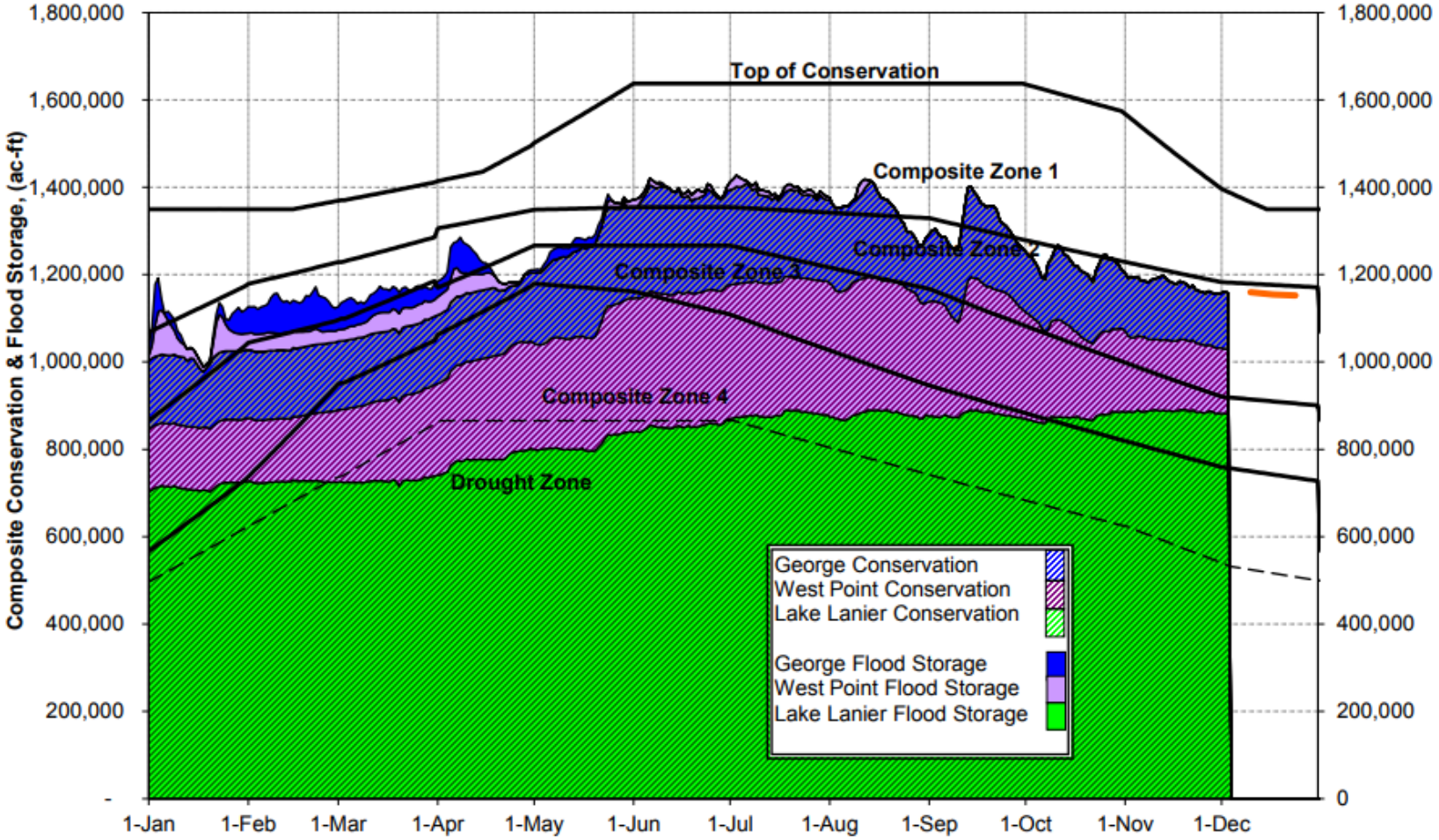
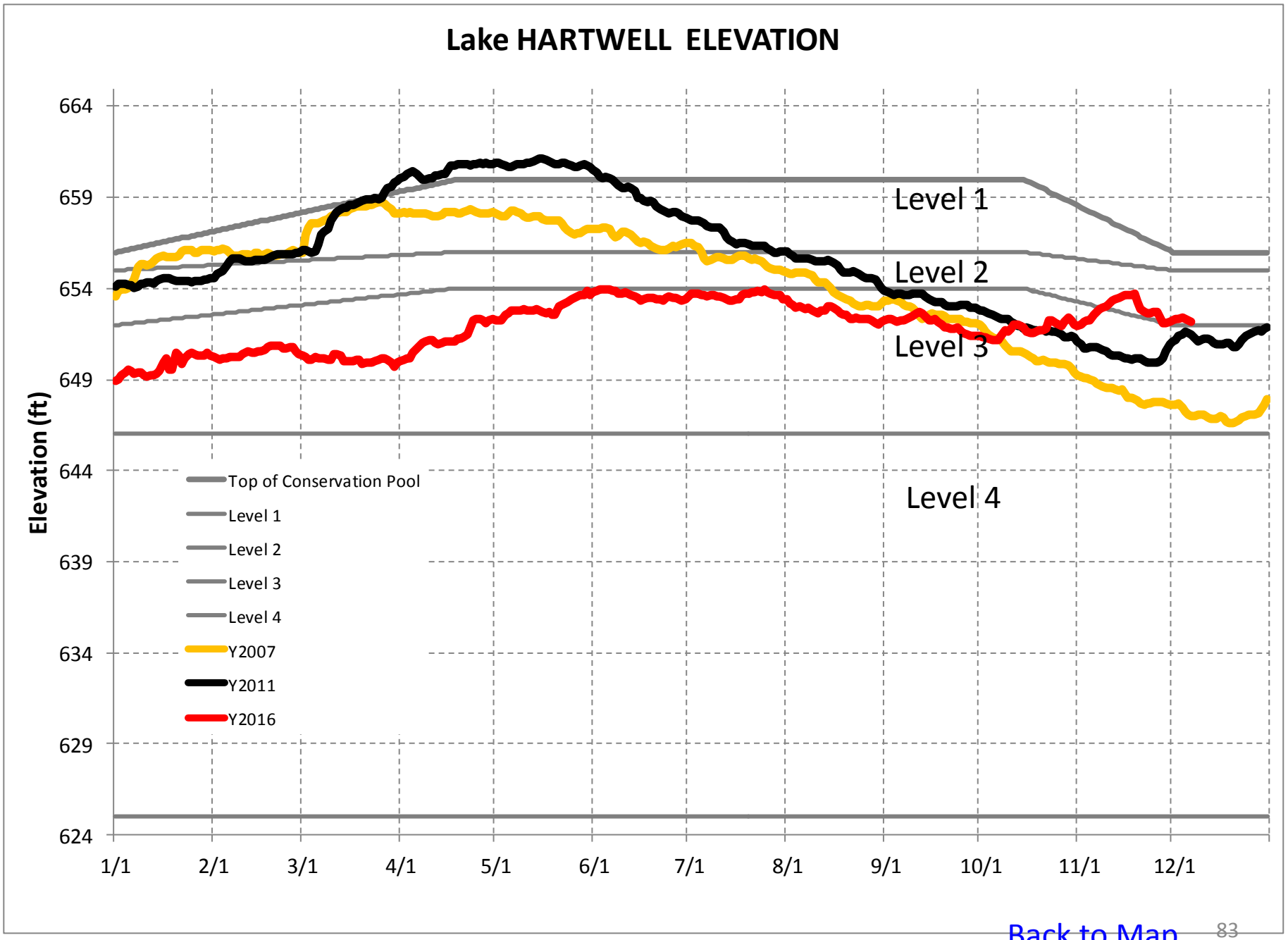
2017 ACF Basin Composite Conservation and Flood Storage



Actual data thru 12-4-2017

Add value of 1,856,000 acre-ft to include inactive storage.


Lake HARTWELL ELEVATION
Elevation (ft)
664
659
654
649
644
639
634
629
624
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Level 1
Level 2
Level 3
Level 4
Top of Conservation Pool
Level 1
Level 2
Level 3
Level 4
Y2007
Y2011
Y2016

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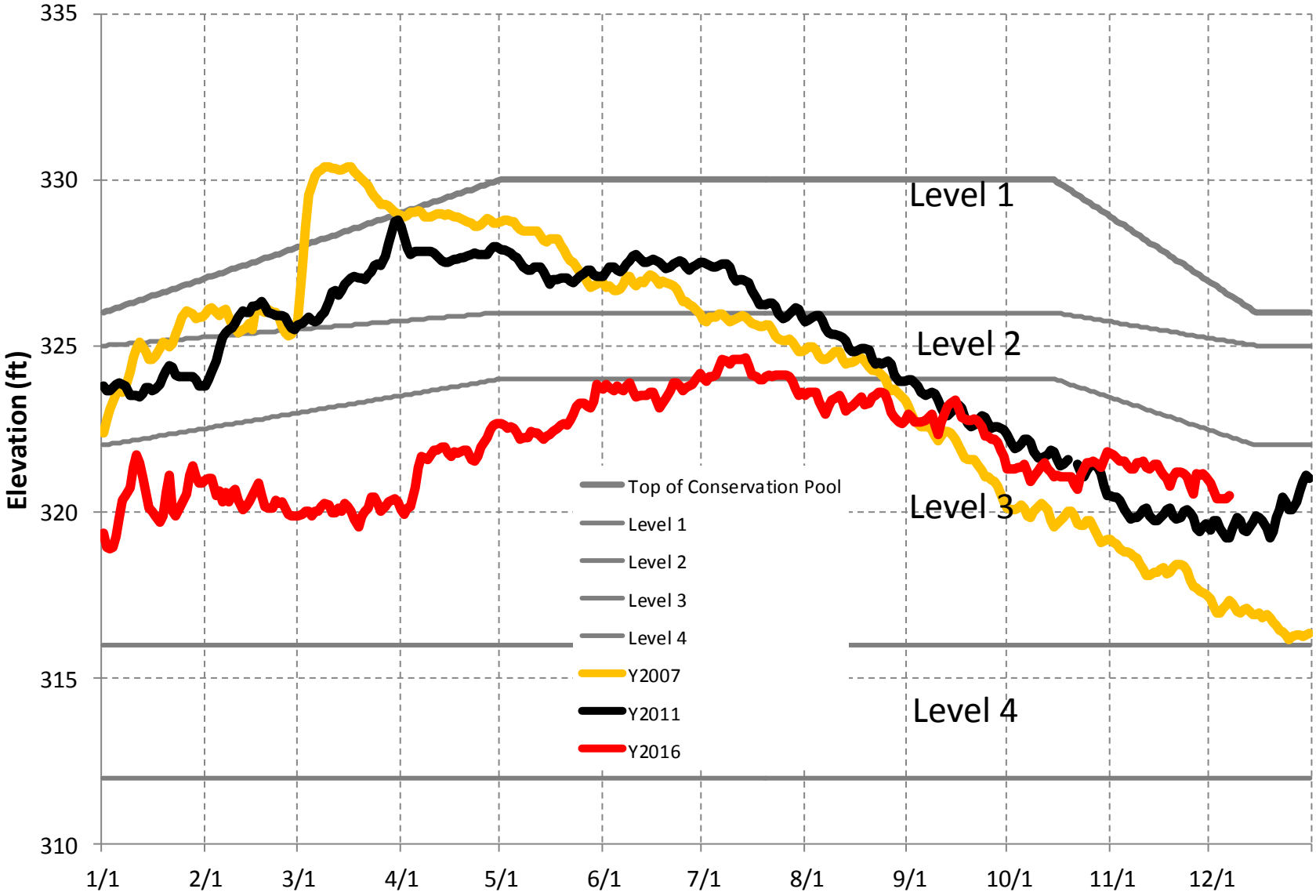
LAKE CLARK HILL (THURMOND) ELEVATION



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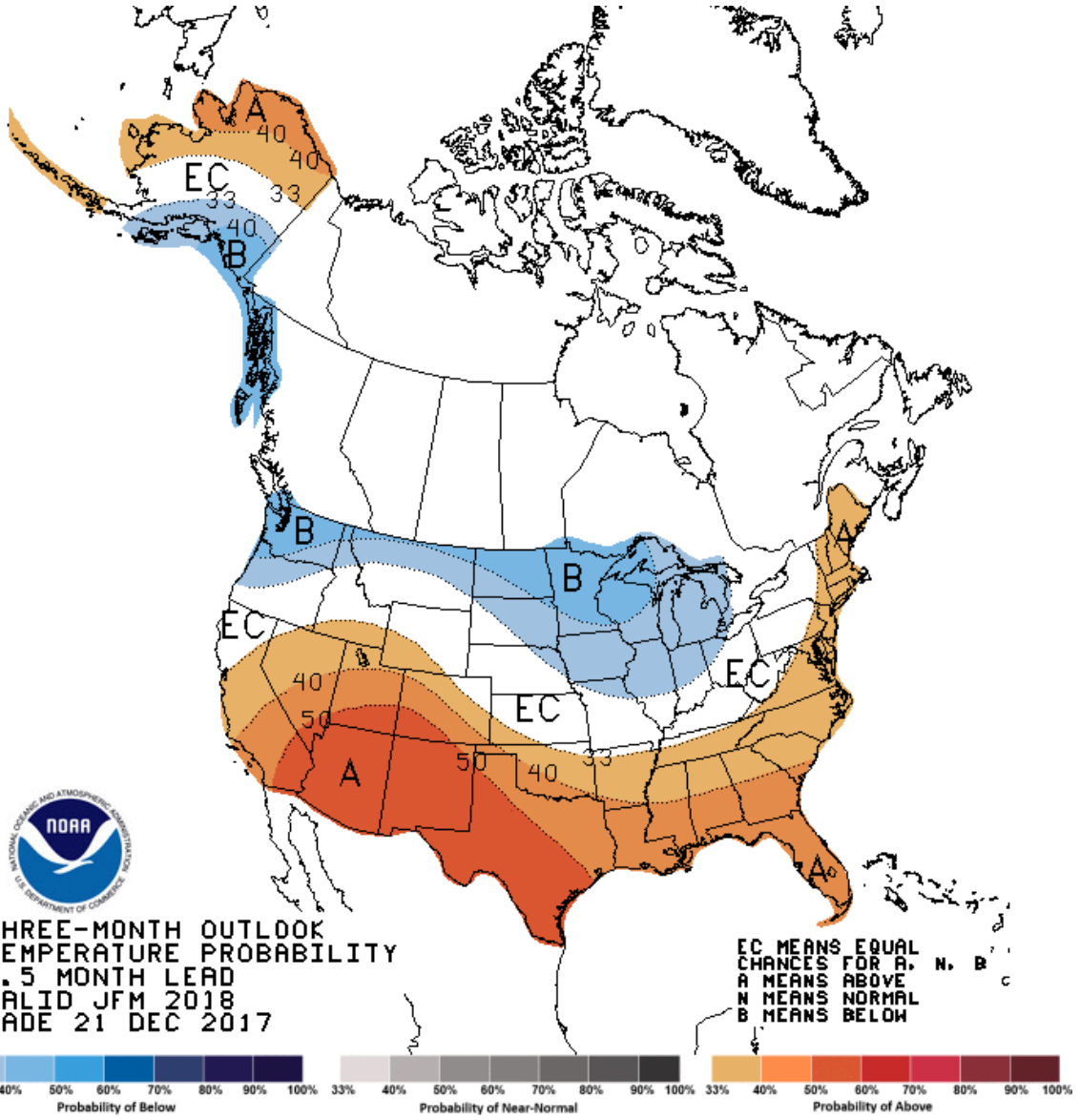
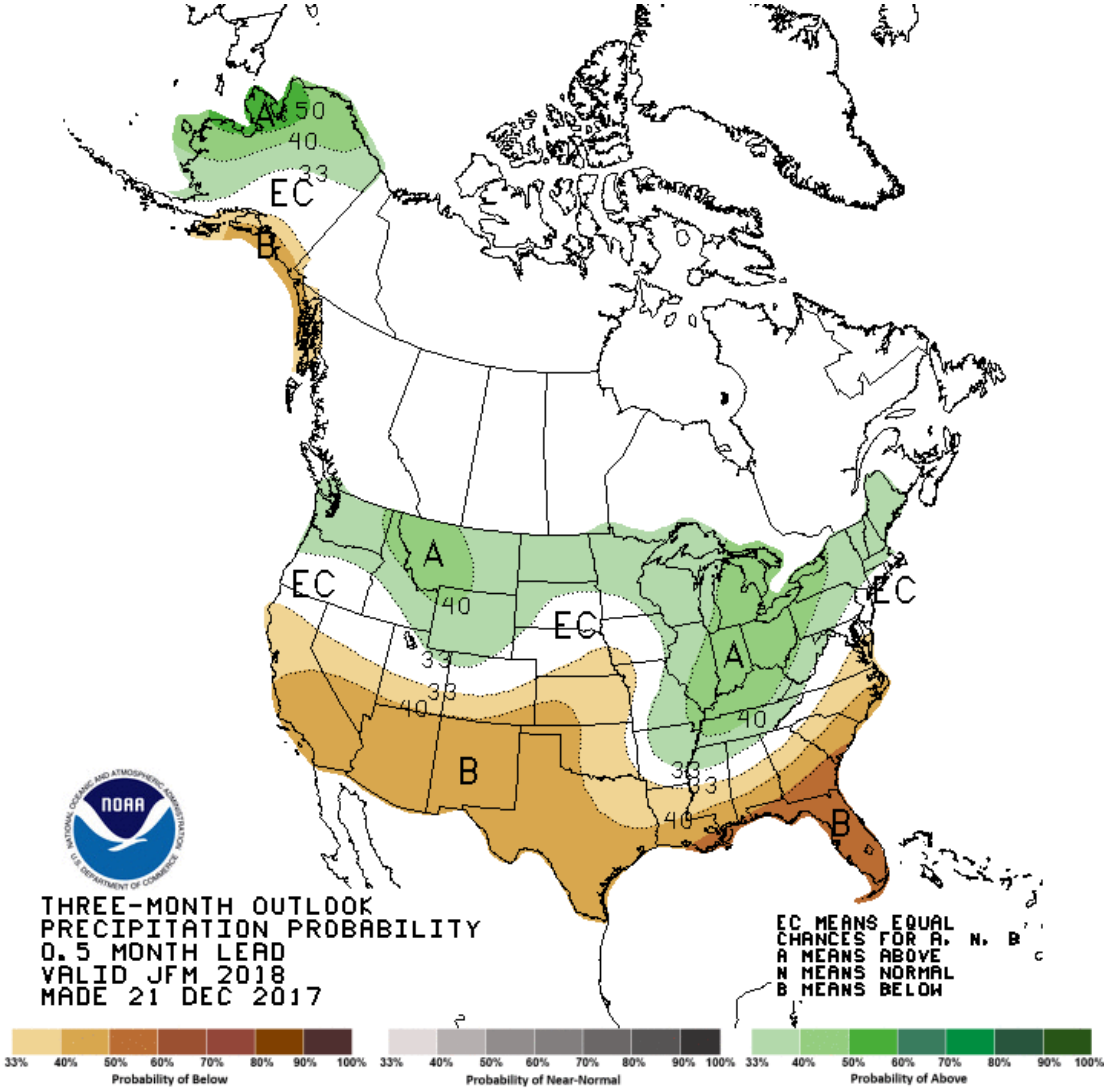
Climate Prediction Center 3-month Temperature and Precipitation Probability Outlook and Seasonal Drought Outlook

Data Source:
http://www.cpc.ncep.noaa.gov/

Temperature Outlook



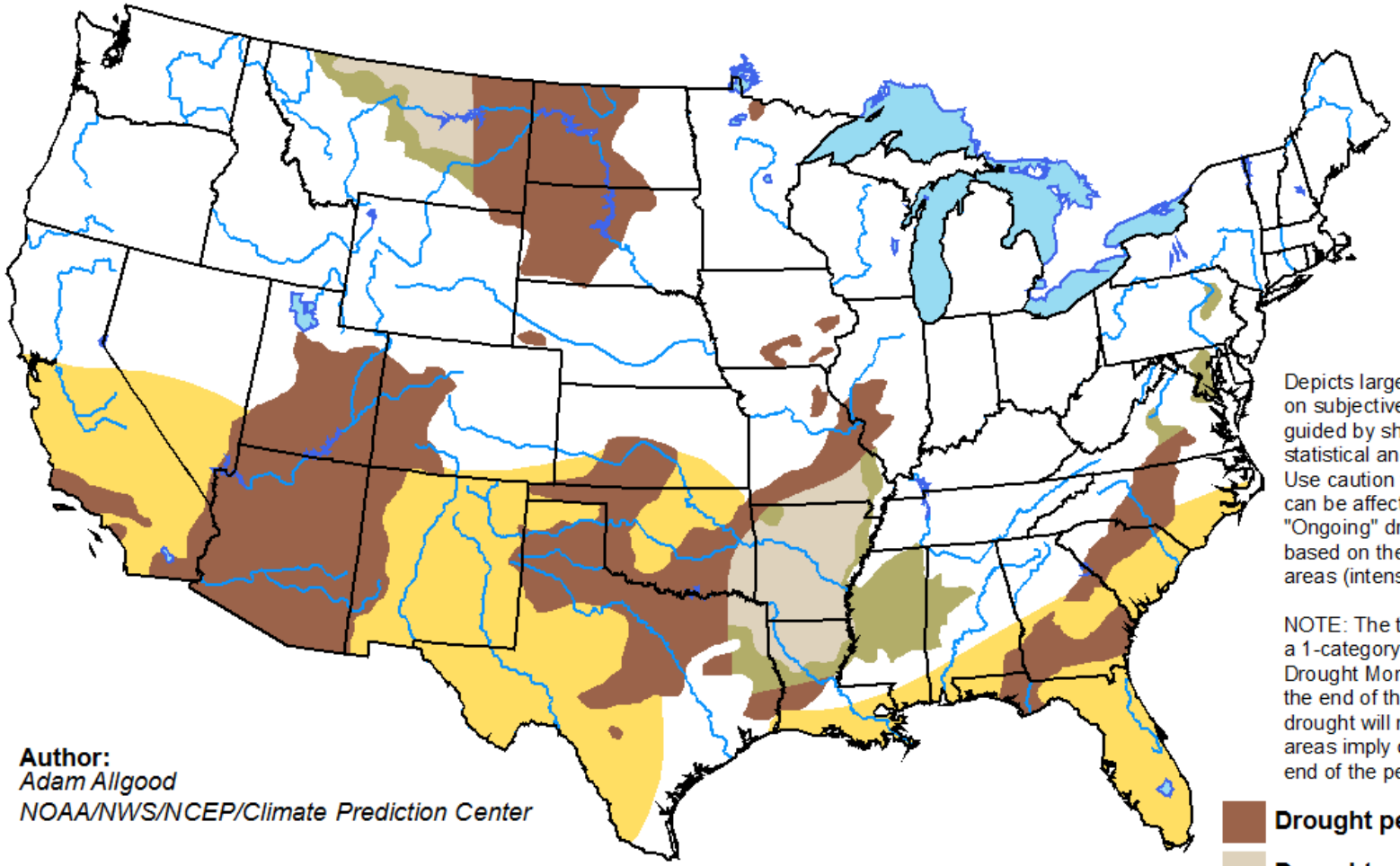
Precipitation Outlook



U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for December 21 - March 31, 2018
Released December 21, 2017



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

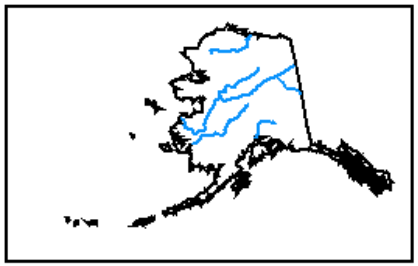
Drought persists

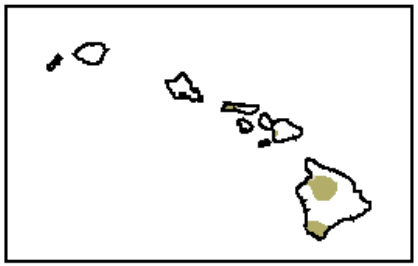
Drought remains but improves

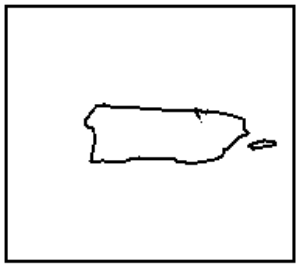
Drought removal likely

Drought development likely

Author:
Adam Allgood
NOAA/NWS/NCEP/Climate Prediction Center







http://go.usa.gov/3eZ73