Report of Current Climatic Indicators

September 30, 2014

Prepared for 10/22/14 Georgia EPD Stakeholder Meeting

U.S. Drought Monitor

September 30, 2014

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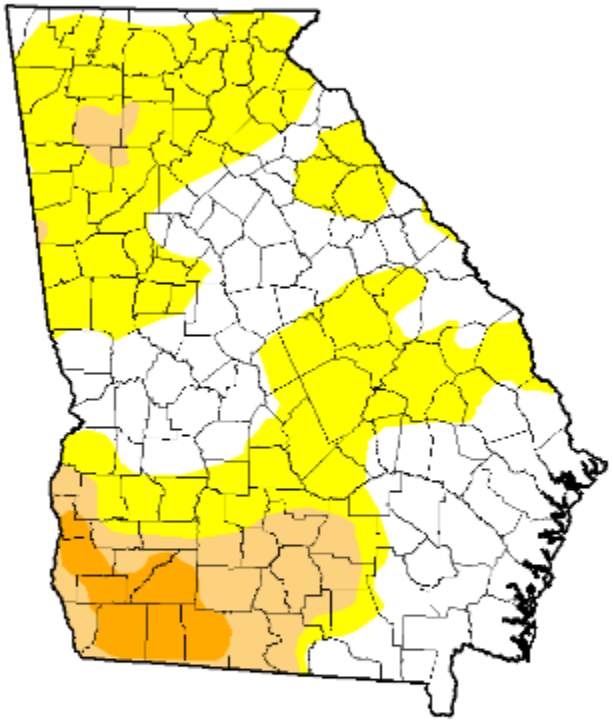
Stakeholder Meeting

U.S. Drought Monitor

Georgia



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September 30, 2014

(Released Thursday October 2, 2014)
Valid 8 a.m. EDT

Statistics type: (•) Traditional (D0-D4, D1-D4, etc.) ( ) Categorical (D0, D1, etc.)

Drought Condition (Percent Area):

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	2014-09-30	41.99	58.01	15.39	4.76	0.00	0.00
Last Week	2014-09-23	49.04	50.96	15.43	6.61	0.00	0.00
3 Months Ago	2014-07-01	97.34	2.66	0.00	0.00	0.00	0.00
Start of Calendar Year	2013-12-31	92.36	7.64	0.00	0.00	0.00	0.00
Start of Water Year	2013-10-01	100.00	0.00	0.00	0.00	0.00	0.00
One Year Ago	2013-10-01	100.00	0.00	0.00	0.00	0.00	0.00

Population Affected by Drought: **792,974** View More Statistics

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.

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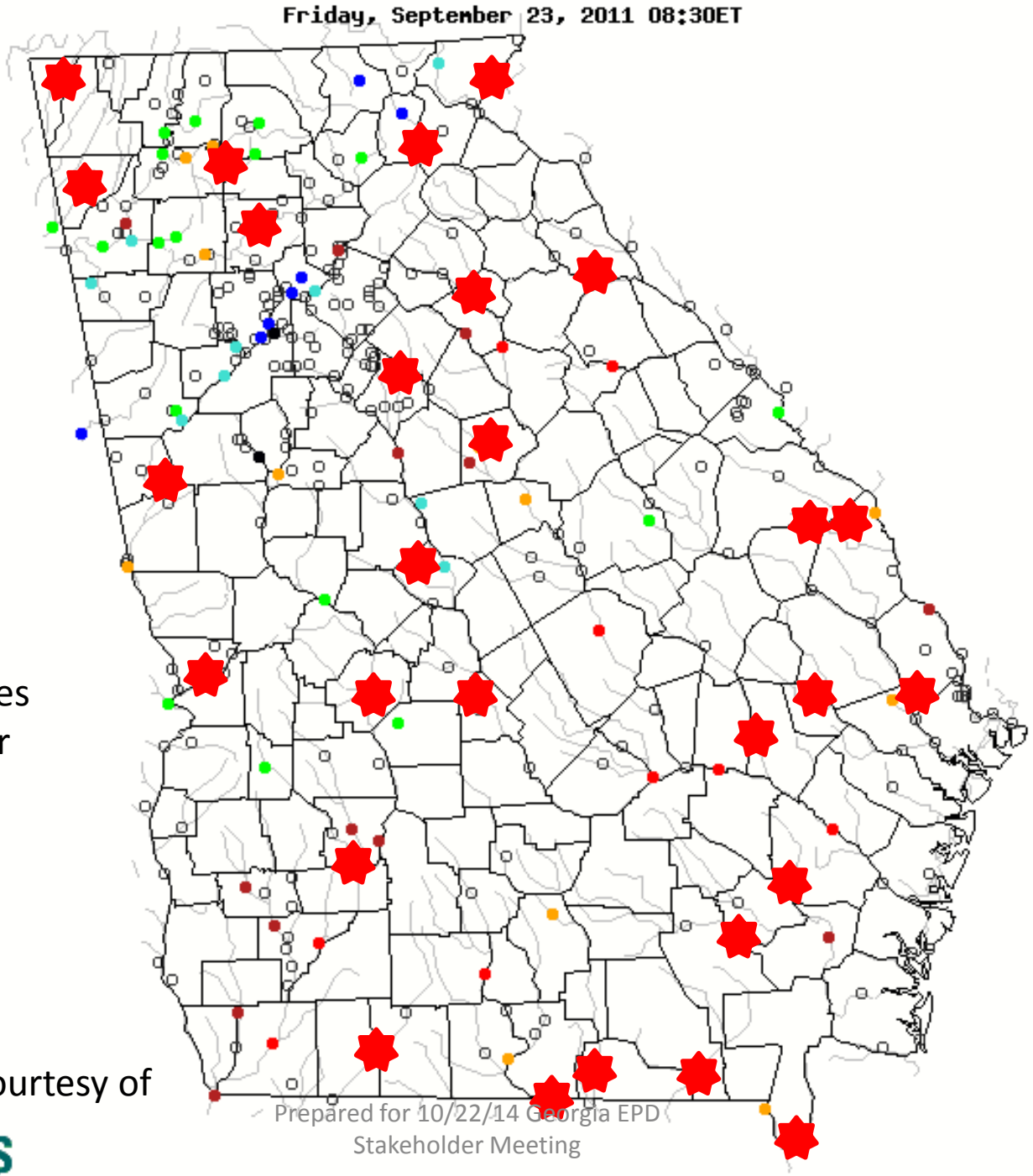
Comparison of Gage Flow in 2014, 2011, 2007, and Historical Statistics

Georgia EPD
Hydrology Unit
September 2014

Prepared for 10/22/14 Georgia EPD Stakeholder Meeting

Twenty-eight USGS Stream Gages

- ACT Basin (3)
- ACF Basin (5)
- Savannah-Ogeechee Basin (6)
- OOA Basin (6)
- OSSS Basins (7)
- TN Basin (1)



USGS Gages Chosen for Analysis

Background map courtesy of USGS

Principles in Choosing Gages

- Existence of long-term records – gages have extensive and relatively complete records in the recent decades
- Lack of anthropogenic impacts – gages are located in streams with relatively low consumptive water use implications and no major flow regulations
- Note: Hydrologic conditions of major rivers with regulations can be assessed by reviewing status of major storage reservoirs

Interpretation of Figures

- Recorded monthly average stream flows are plotted for:
  - 2014 (current and most recent conditions)
  - 2011, and
  - 2007, perceived in many geographic regions in Georgia as the “worst” drought
- 2014 monthly average stream flow is also plotted against statistical background, including:
  - The “driest” 50, 20, 10, and 5 percent of all recorded stream flow quantities at the same gage, and
  - The minimum monthly average flow ever recorded

Example Interpretation of Figures

- Example #1: **Etowah River at Canton** (Slide 8)
  - Average stream flow in May 2011 was 751 cfs
  - Average stream flow in May 2007 was 520 cfs
  - When all data is compiled, May 2011 now ranks as one of the 20% driest Mays with recorded flow at this gage
  - May 2007 now ranks as one of the 5% driest Mays with recorded flow at this gage.

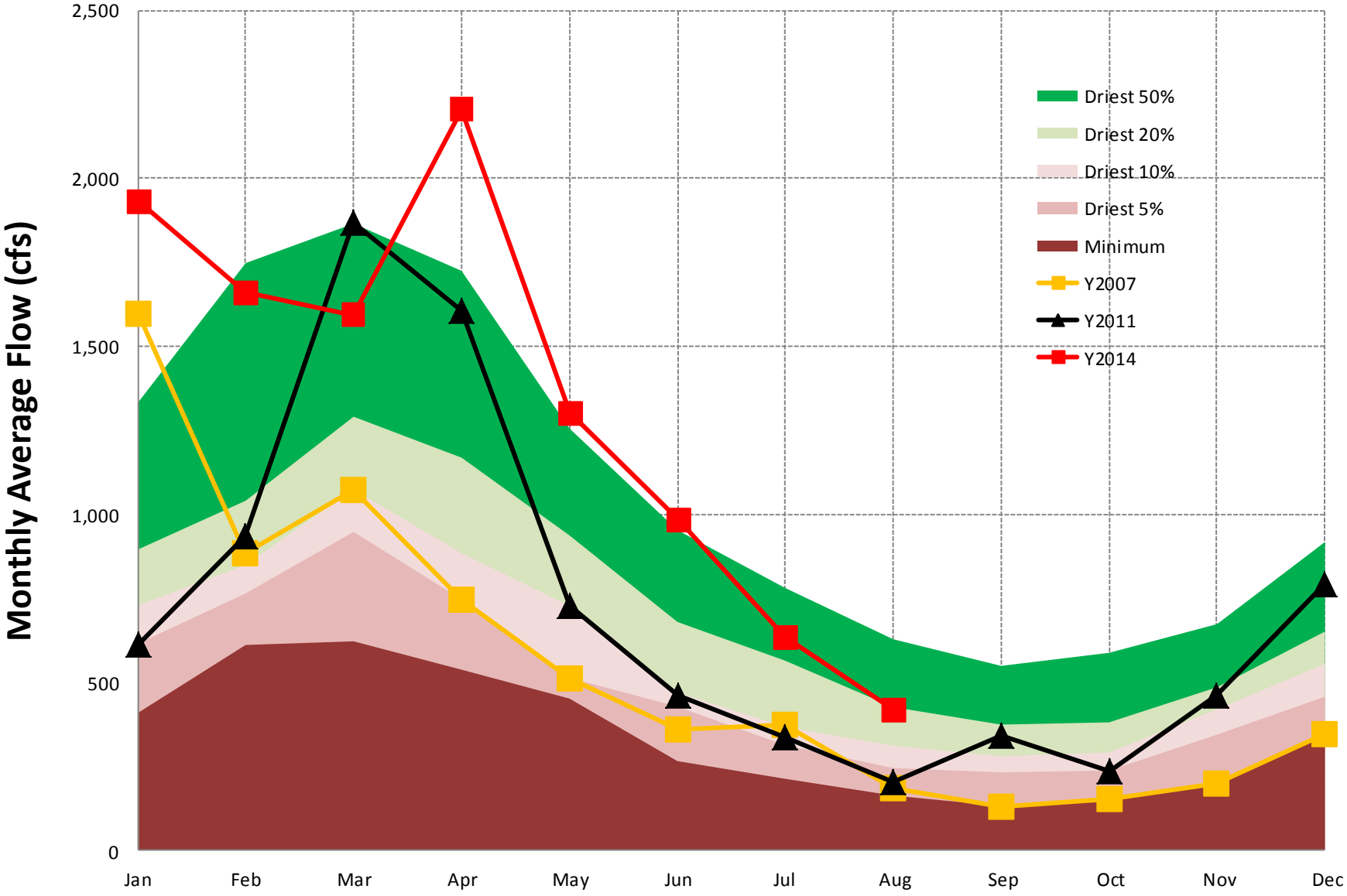
Example Interpretation of Figures (continued)

- Example #2: **Flint River at Albany** (Slide 15)
  - Average stream flow in June 2011 was 759 cfs
  - Average stream flow in June 2007 was 1045 cfs
  - When all data is compiled, June 2011 now ranks as the lowest average stream flow in the recorded history at this location (lower than the record of 814 cfs for the month of June set before 2011)

Back to Example Interpretation

Back to Map

USGS #02392000 ETOWAH RIVER AT CANTON, GA



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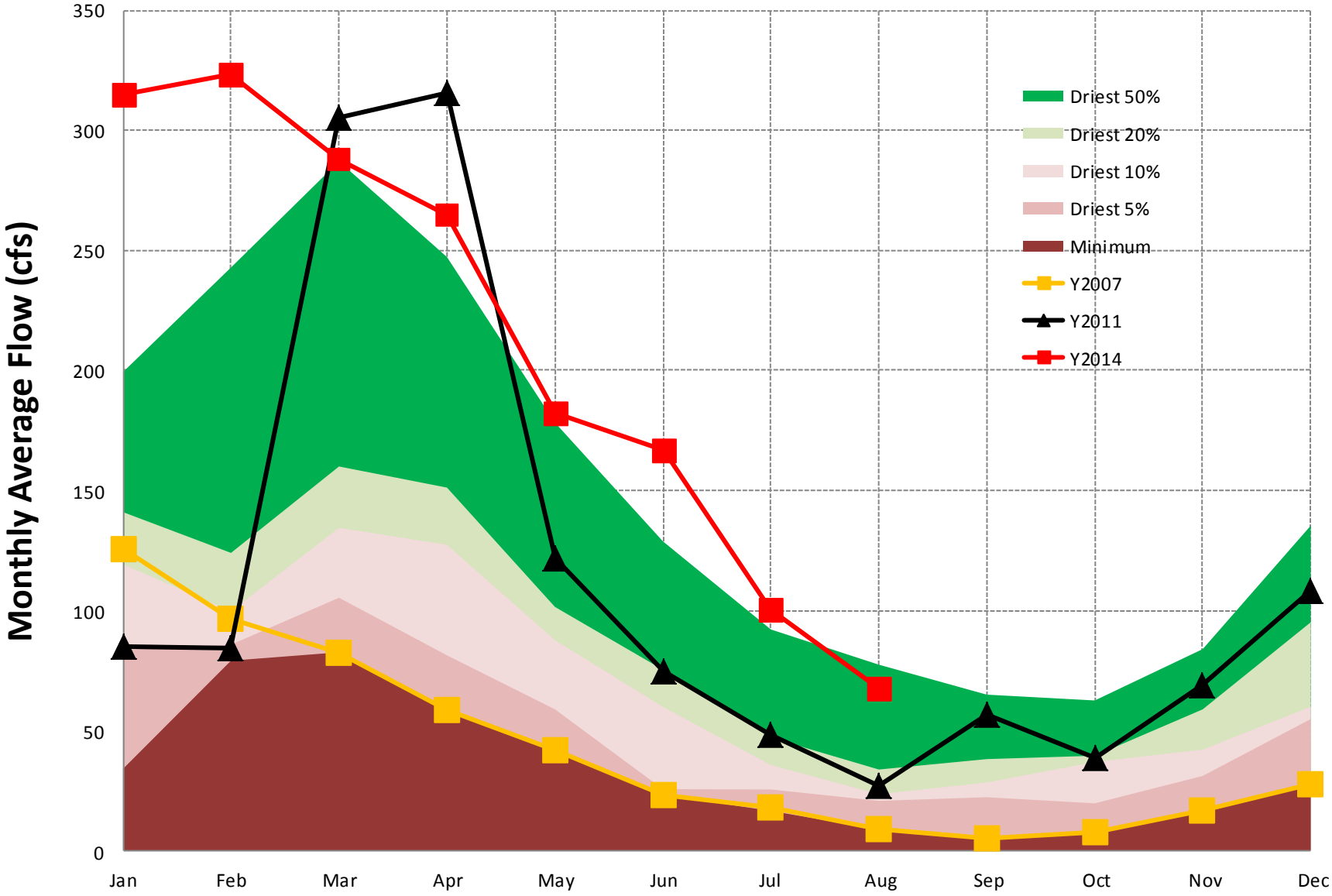
USGS #02382200 TALKING ROCK CREEK NEAR HINTON, GA



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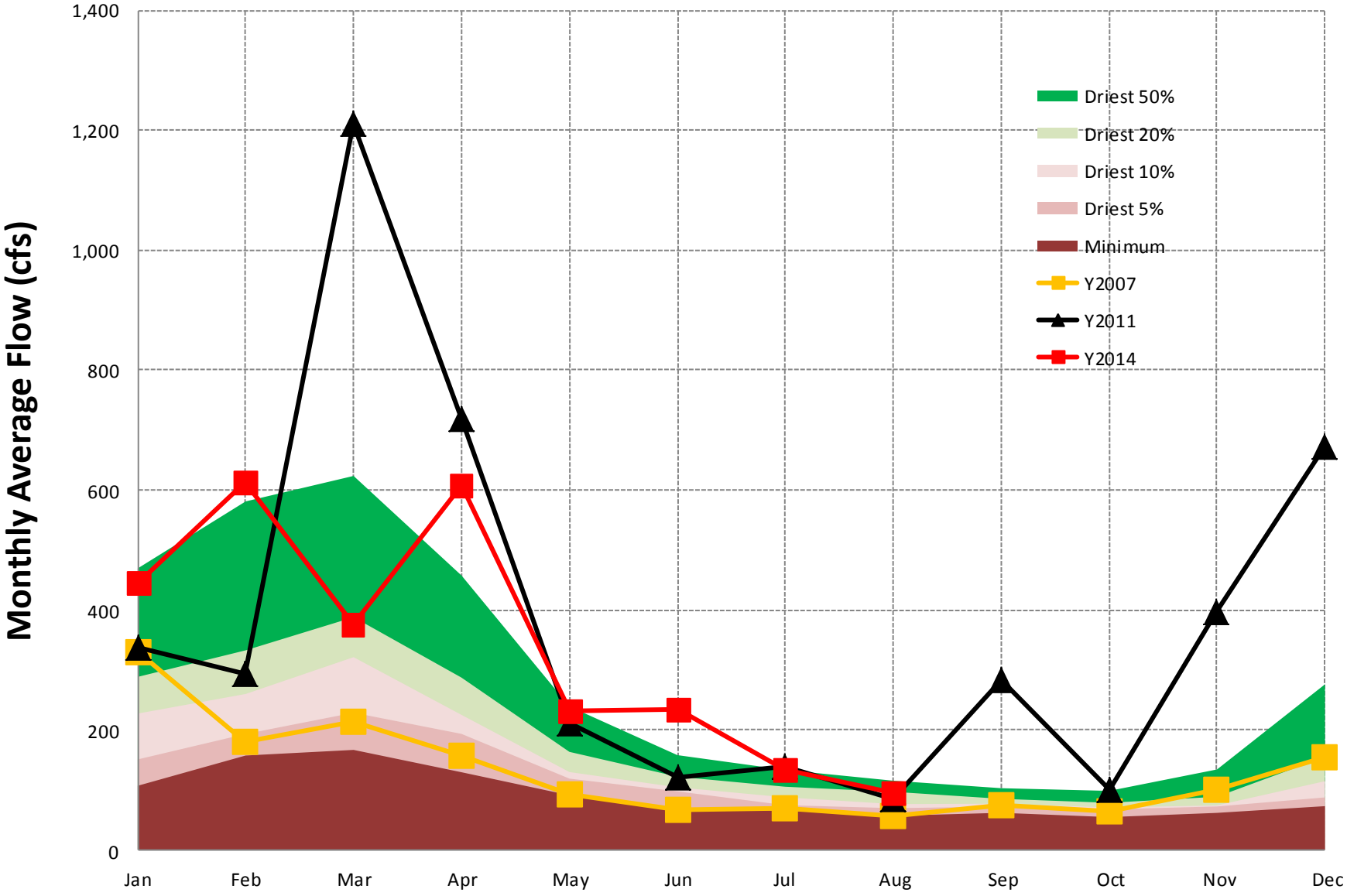
USGS #02398000 CHATTOOGA RIVER AT SUMMERVILLE, GA



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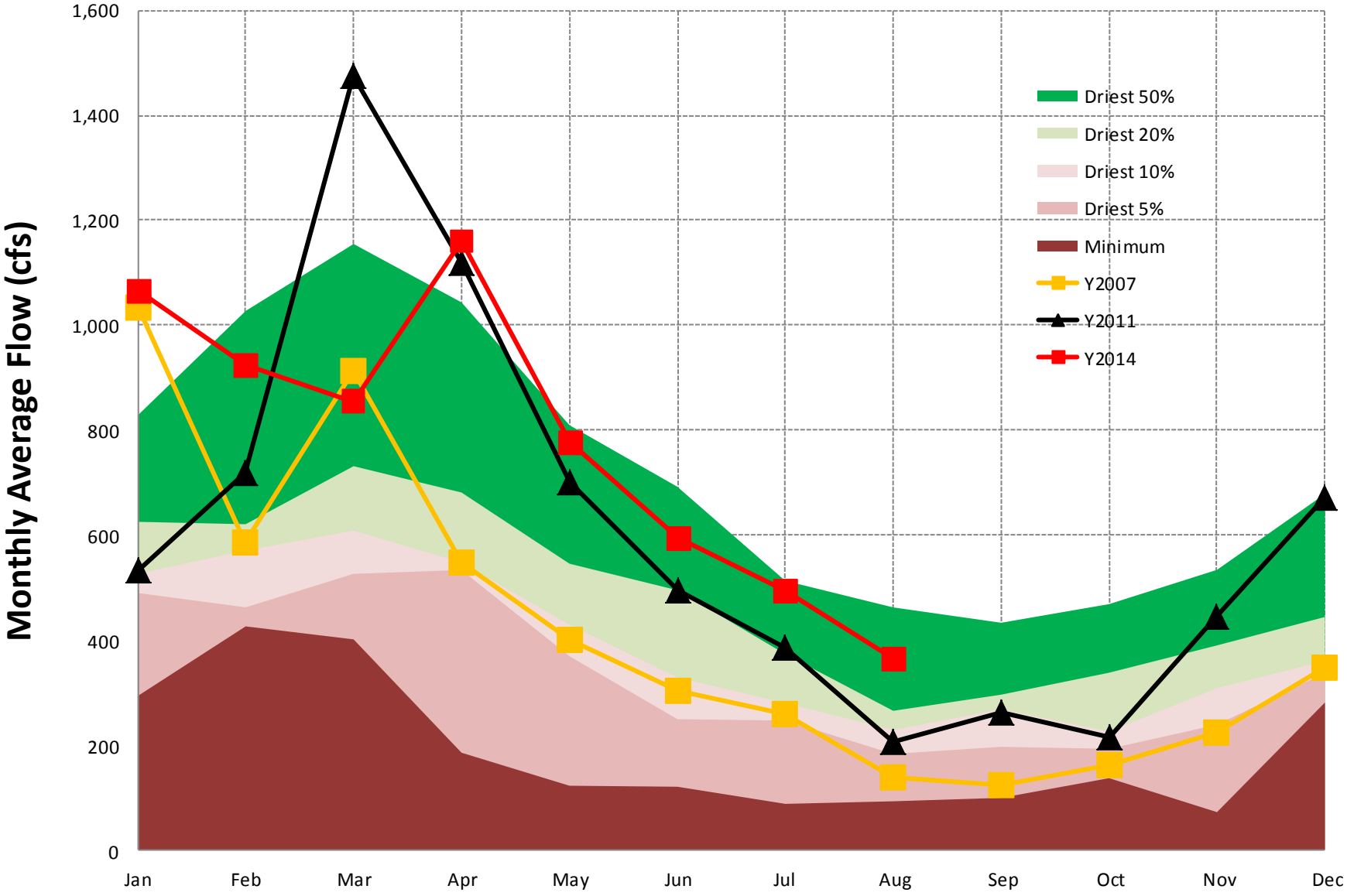
USGS #02331600 Chattahoochee River at Cornelia, GA



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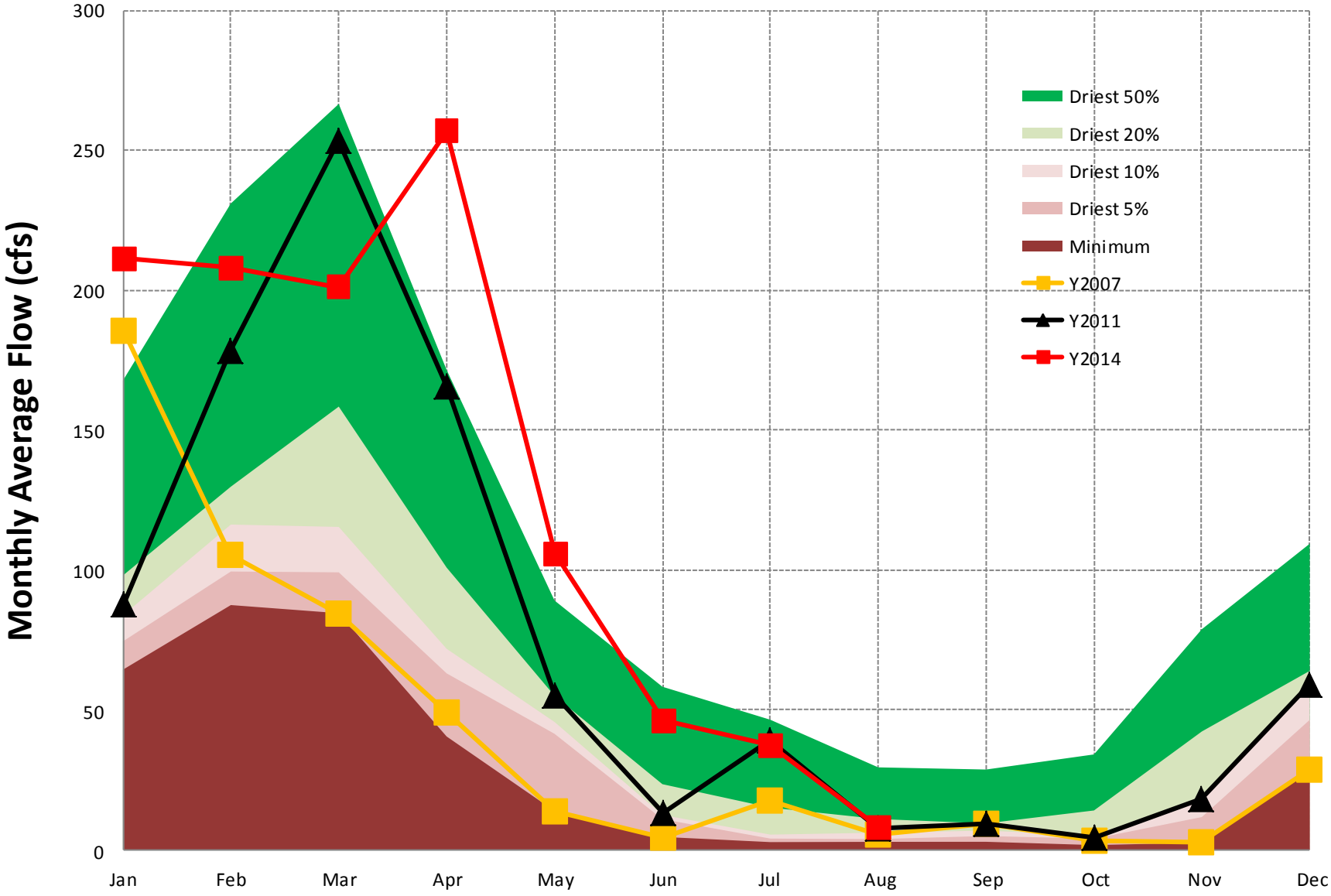
USGS #02338660 NEW RIVER AT GA 100, NEAR CORINTH



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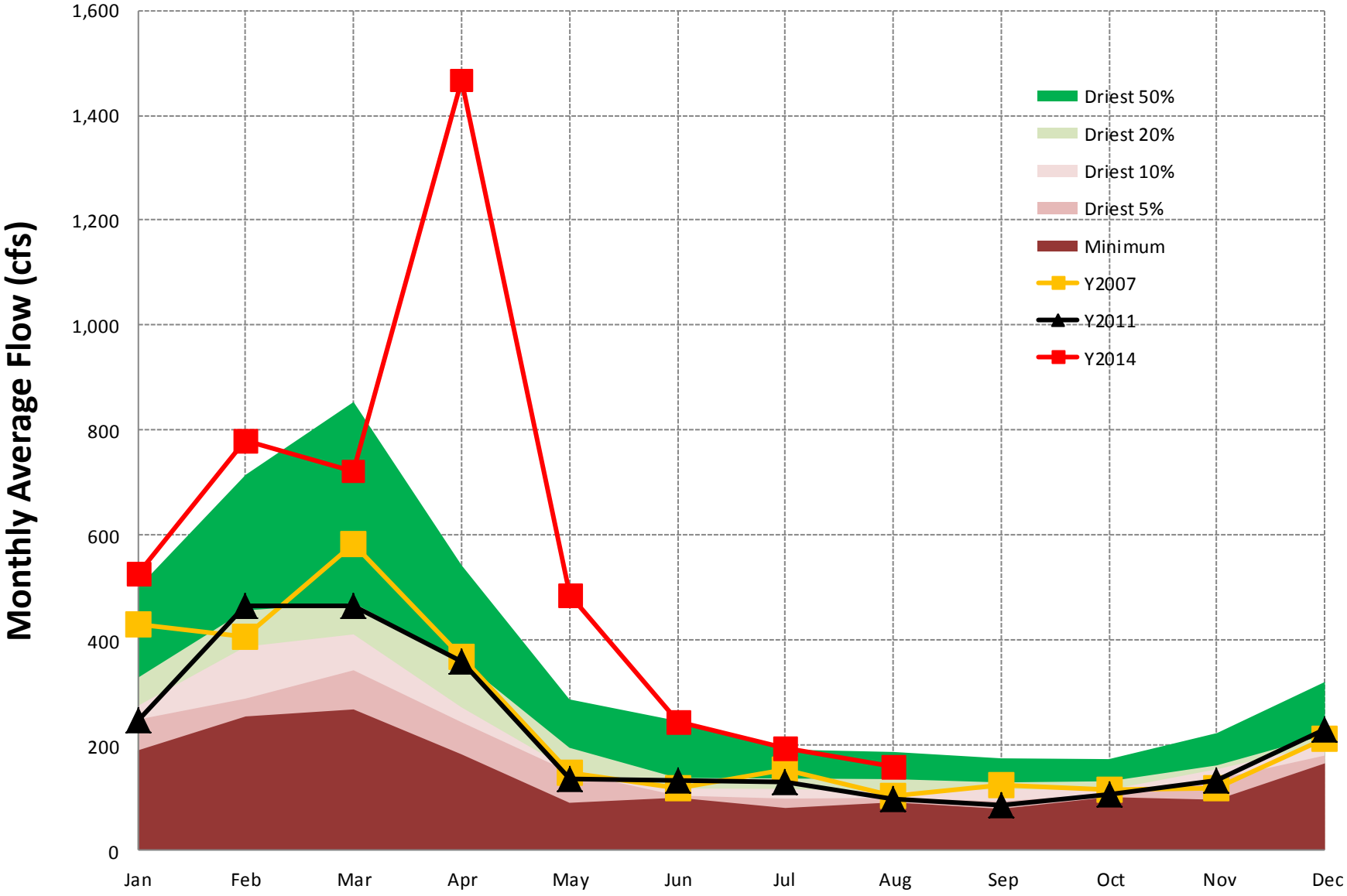
USGS #02341800 UPATOI CREEK NEAR COLUMBUS, GA



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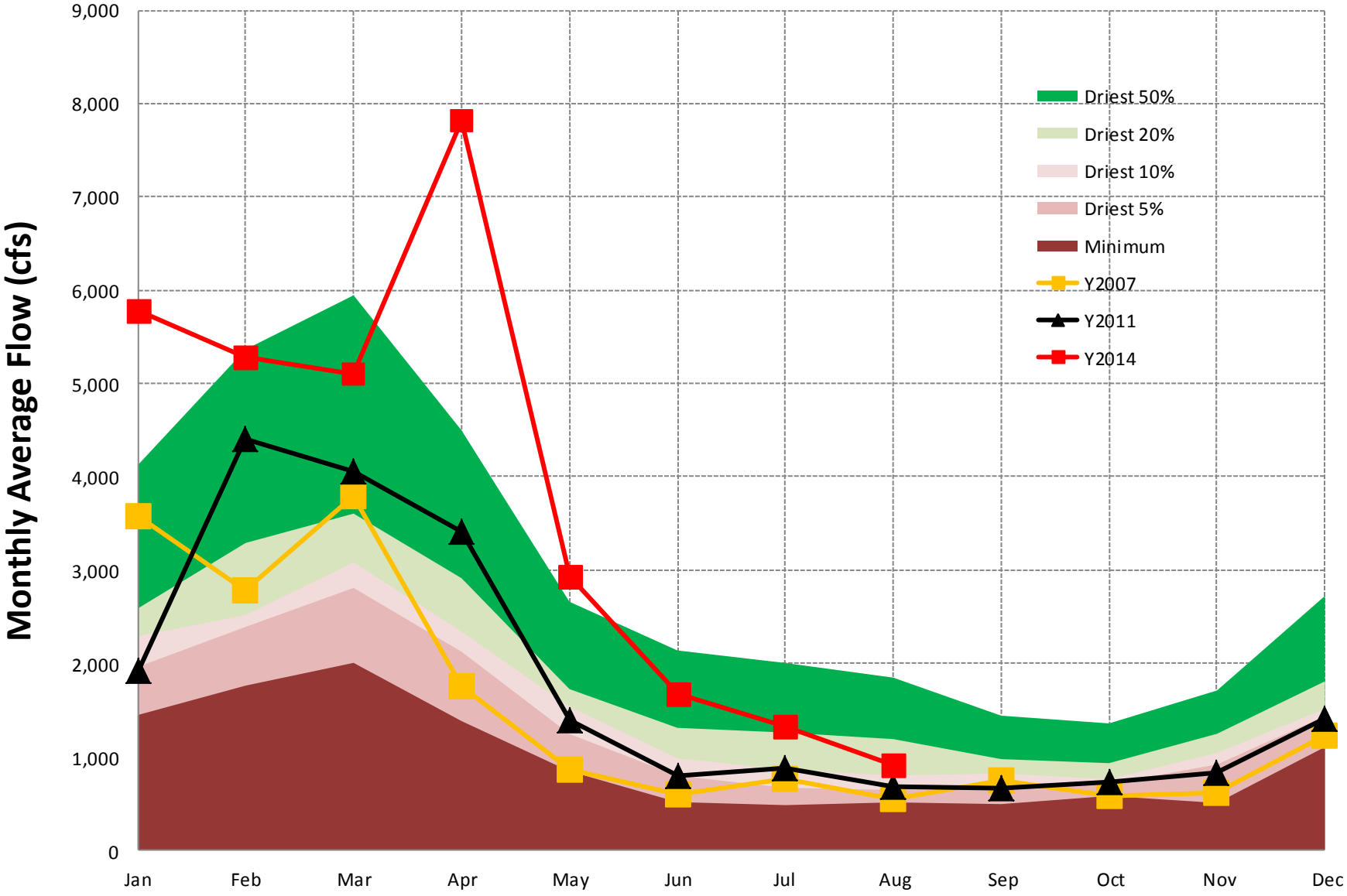
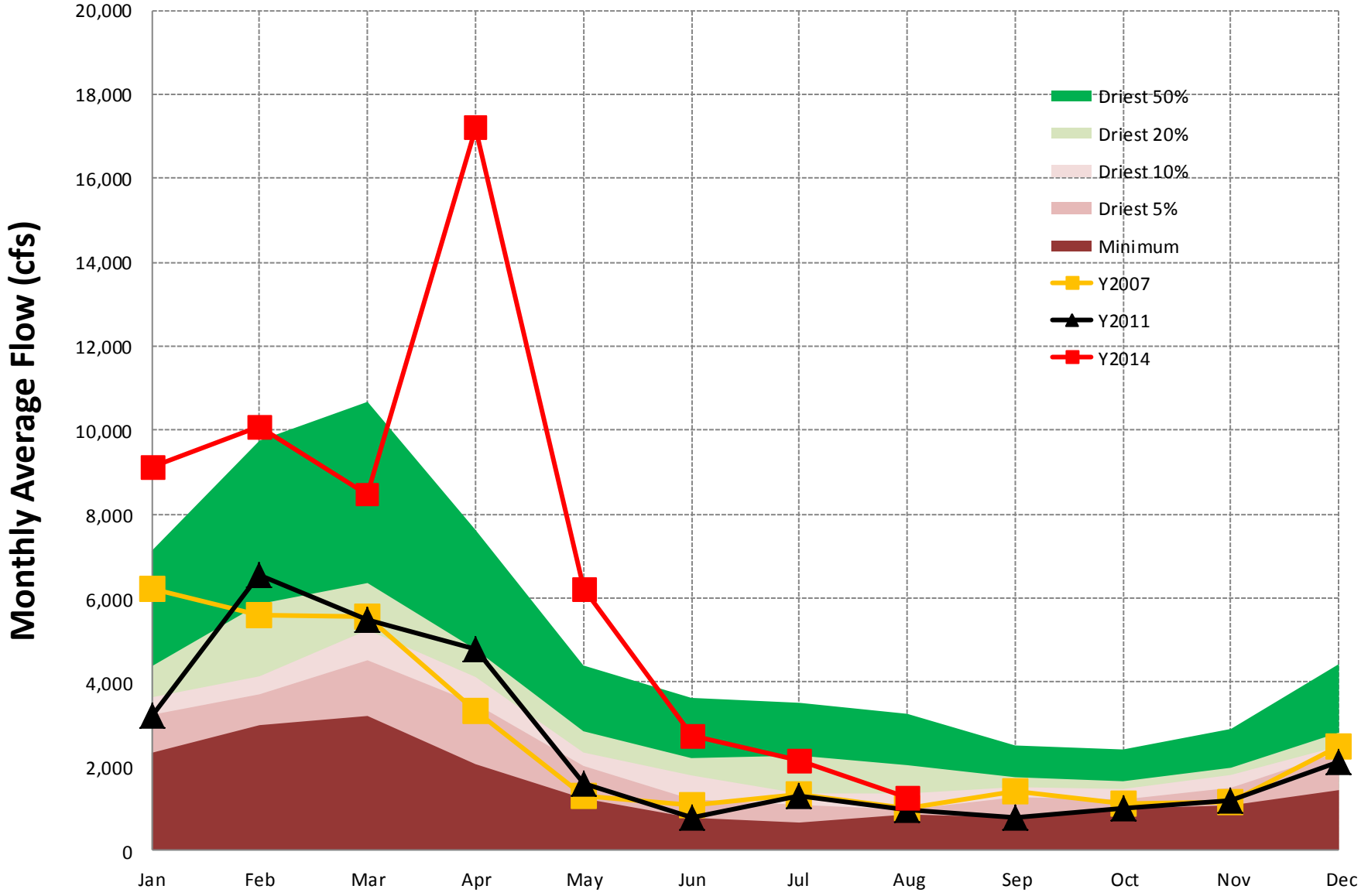
USGS #02349605 FLINT RIVER AT GA 26, NEAR MONTEZUMA, GA



Back to Example Interpretation

Back to Map

USGS #02352500 FLINT RIVER AT ALBANY, GA



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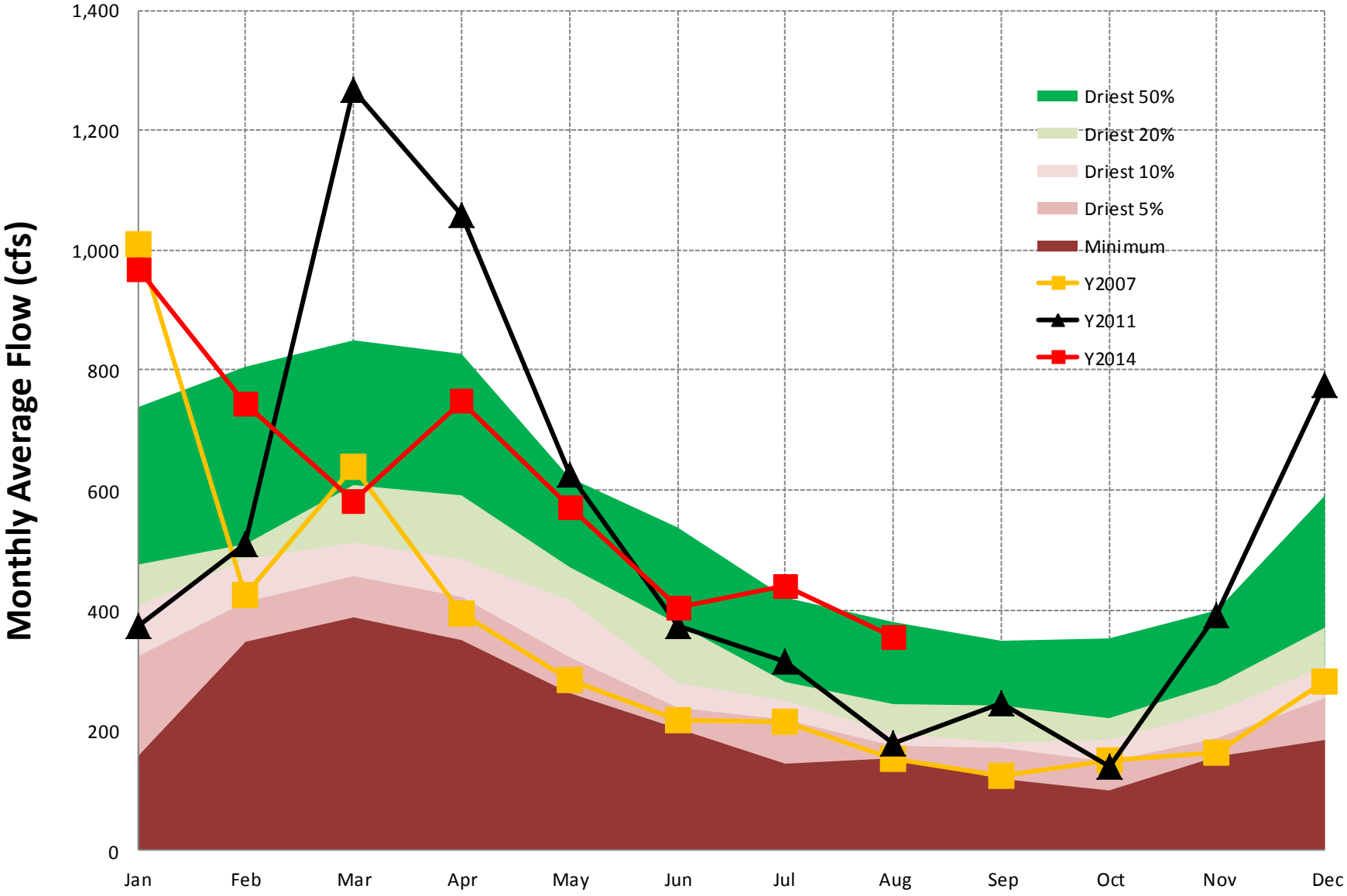
USGS #02177000, SO Basin - CHATTOOGA RIVER NEAR CLAYTON, GA



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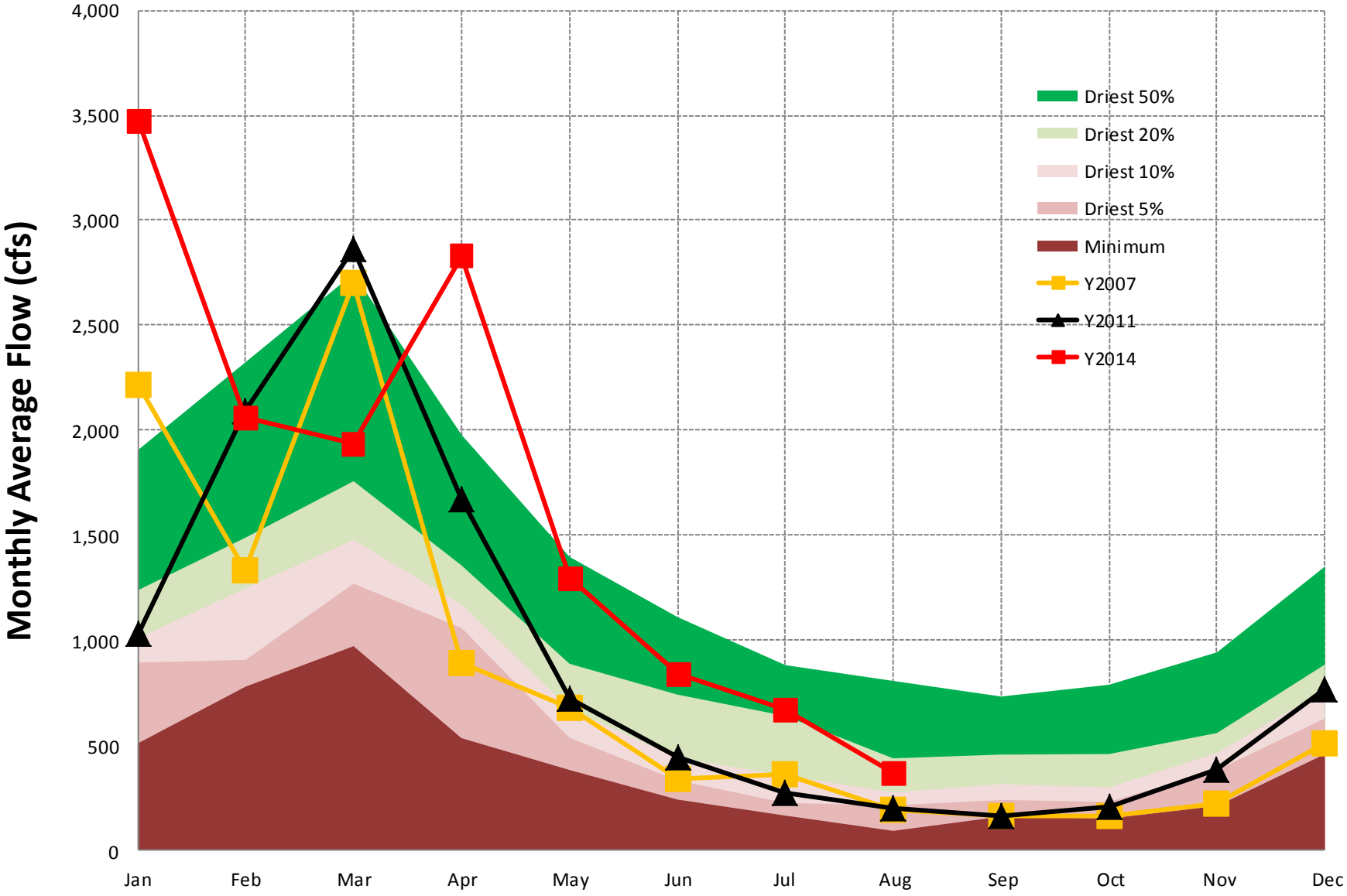
USGS #02192000 BROAD RIVER NEAR BELL, GA



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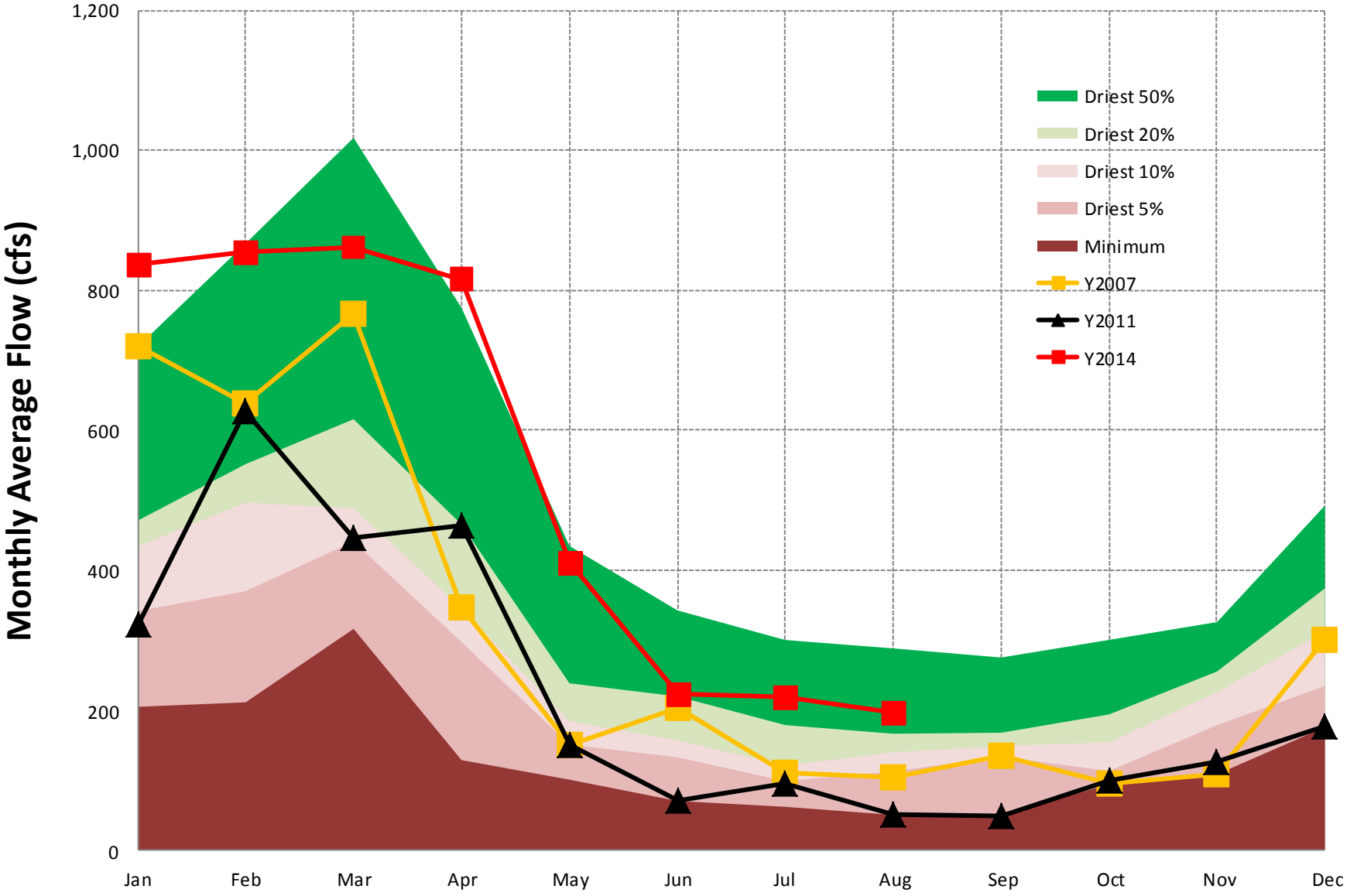
USGS #02198000 BRIER CREEK AT MILLHAVEN, GA



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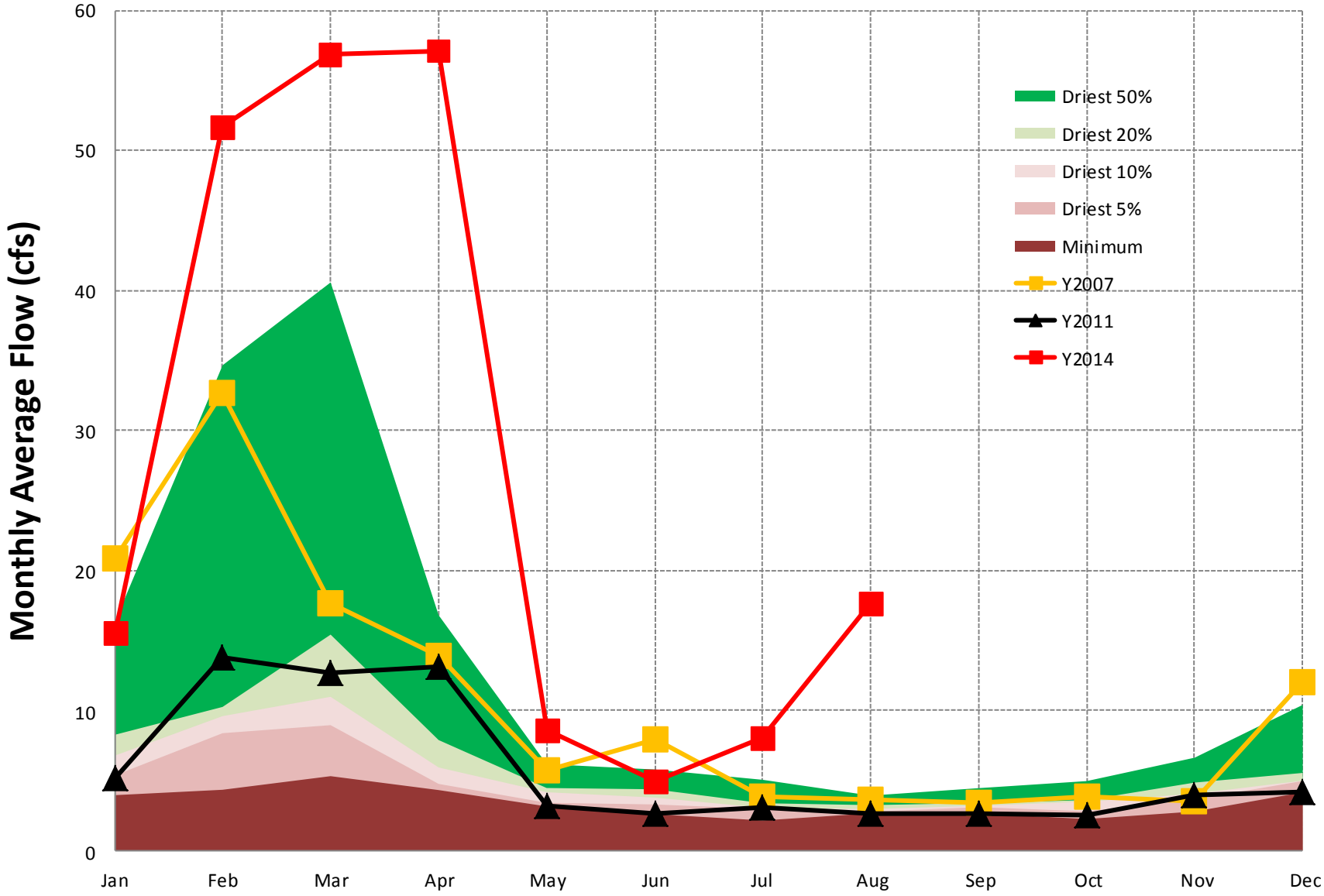
USGS #02198100 BEAVERDAM CREEK NEAR SARDIS, GA



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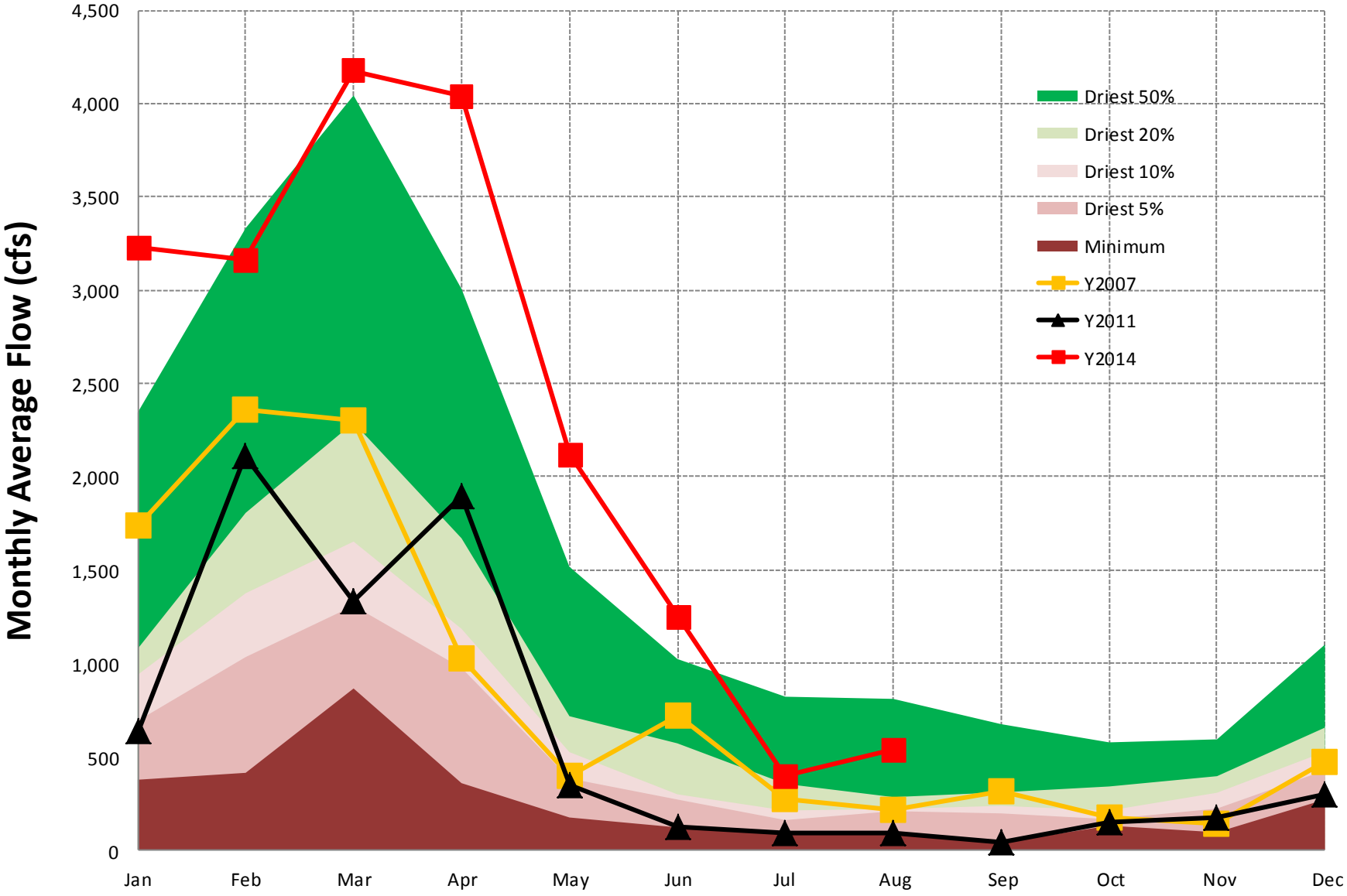
USGS #02202500, SO Basin - OGEECHEE RIVER NEAR EDEN, GA



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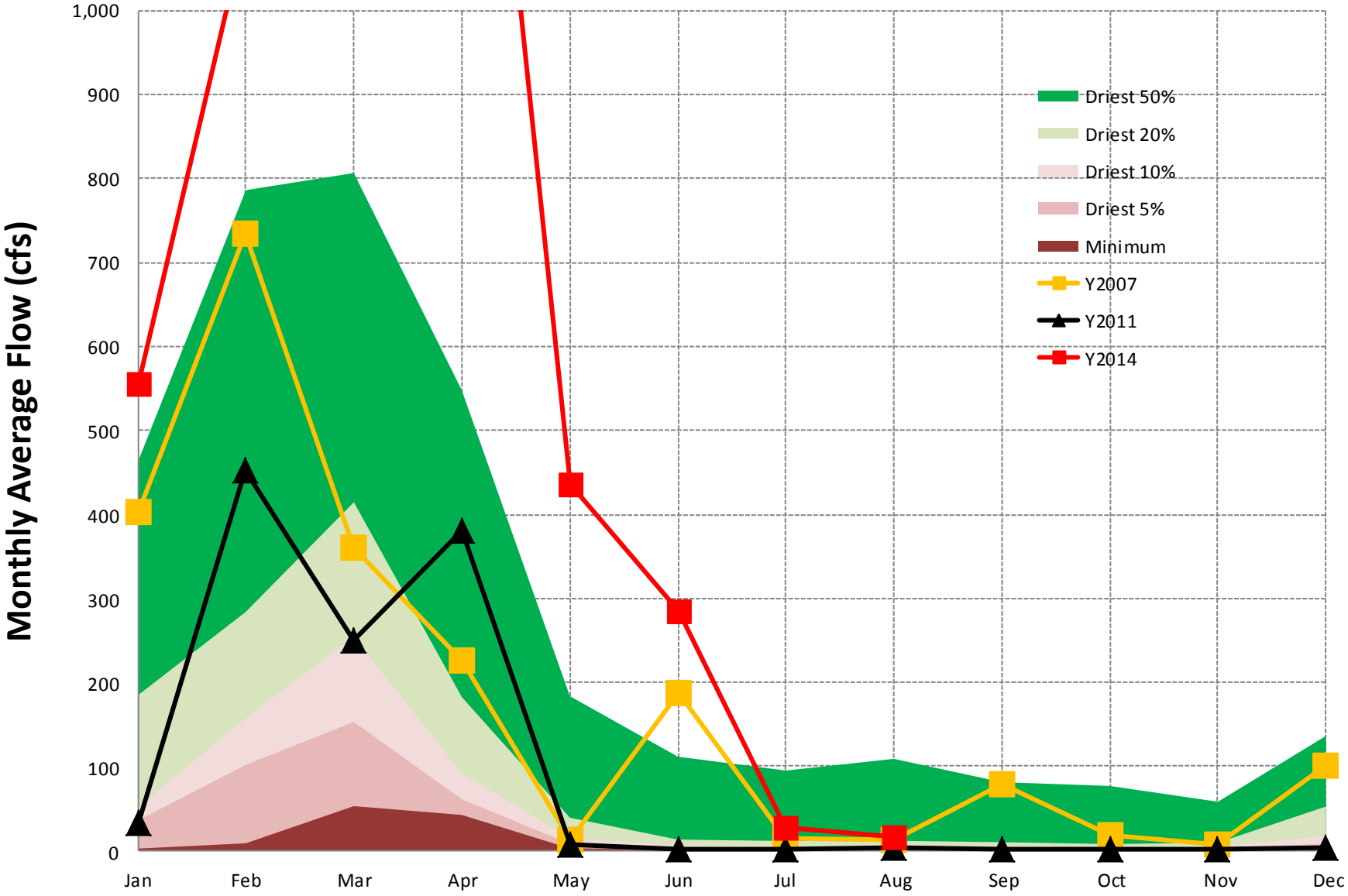
USGS #02203000 CANOOCHEE RIVER NEAR CLAXTON, GA



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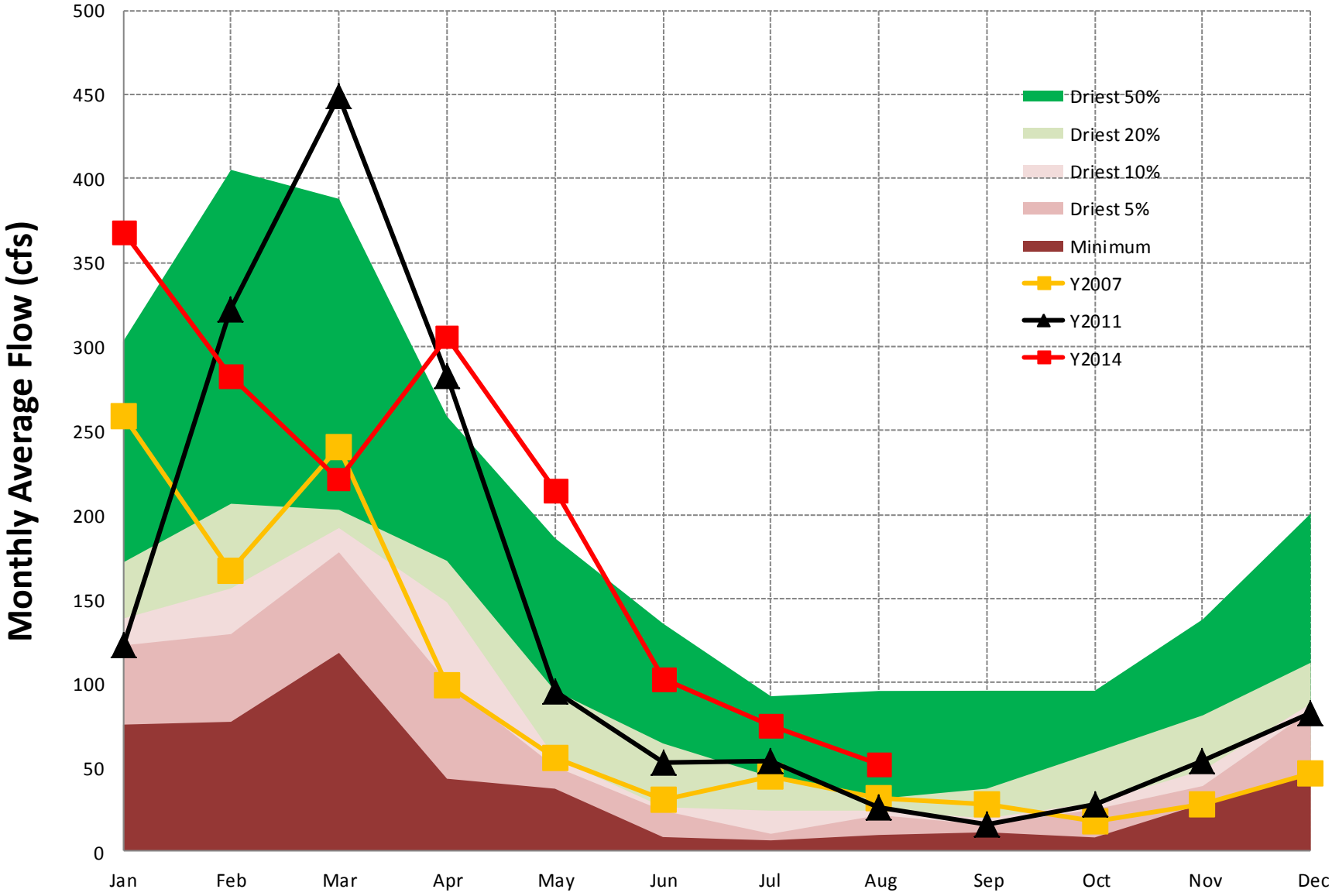
USGS #02208450 ALCOVY RIVER ABOVE COVINGTON, GA



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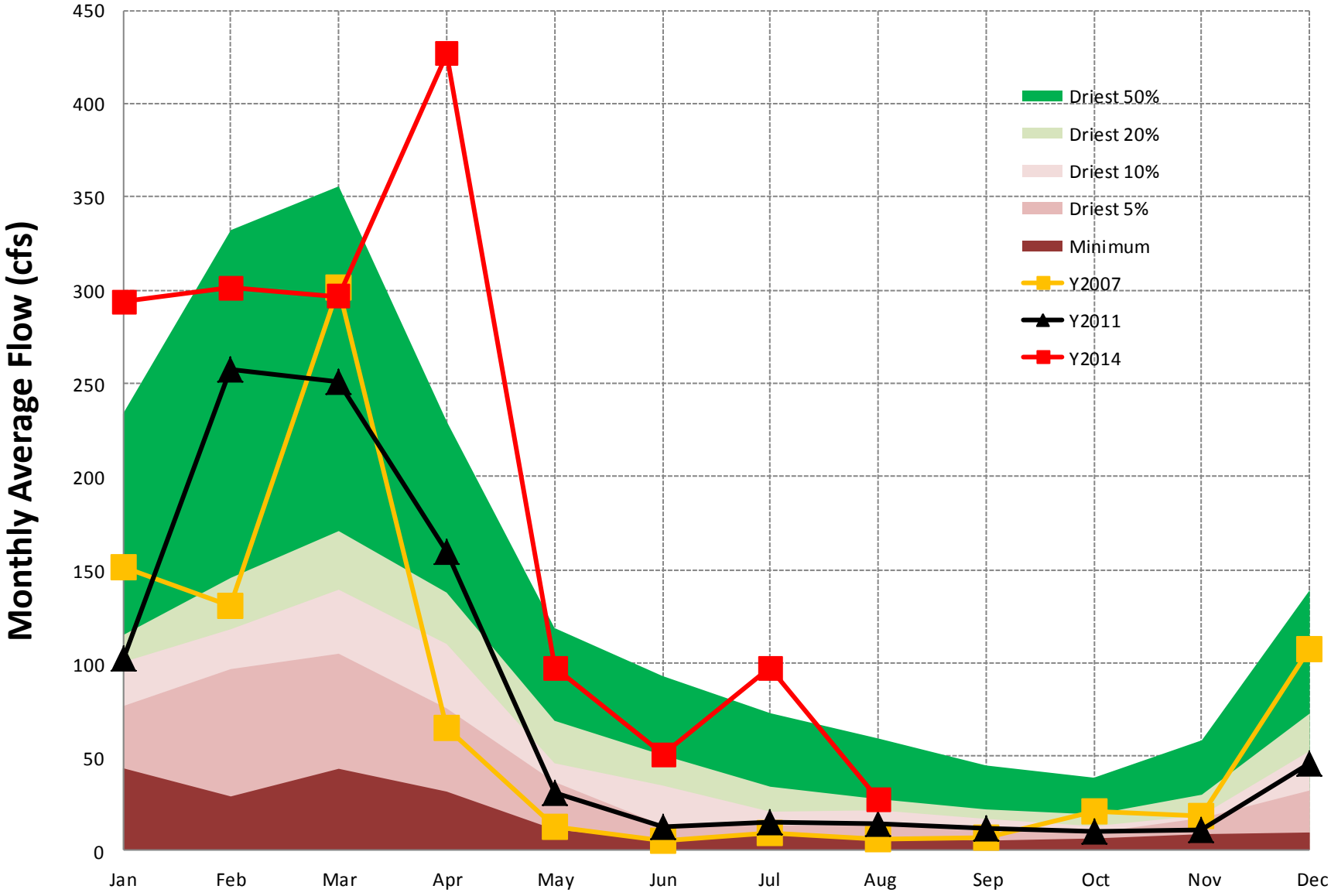
USGS #02213500 TOBESOFKEE CREEK NEAR MACON, GA



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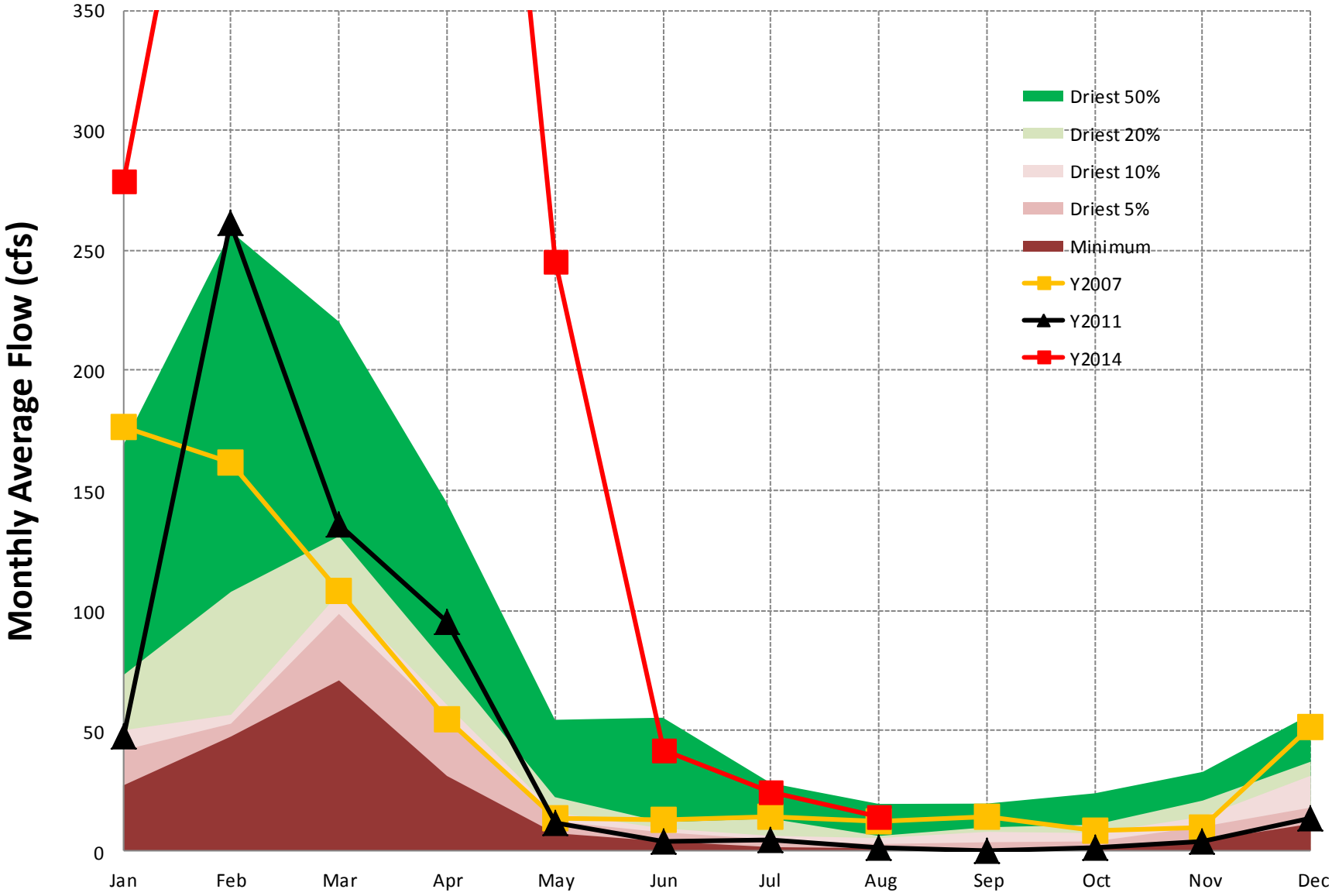
USGS #02215100 TUCSAWHATCHEE CREEK NEAR HAWKINSVILLE, GA



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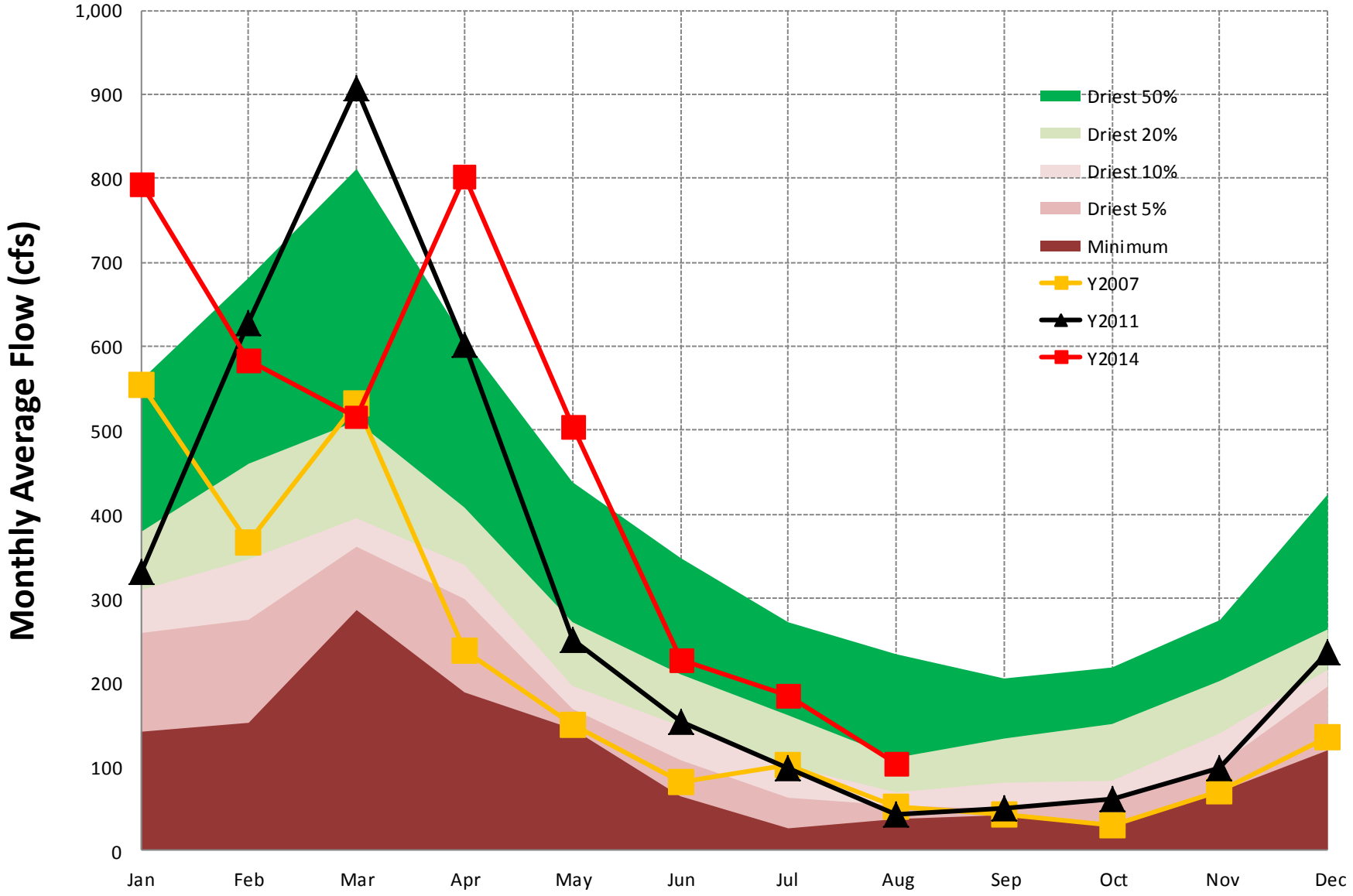
USGS #02217500 MIDDLE OCONEE RIVER NEAR ATHENS, GA



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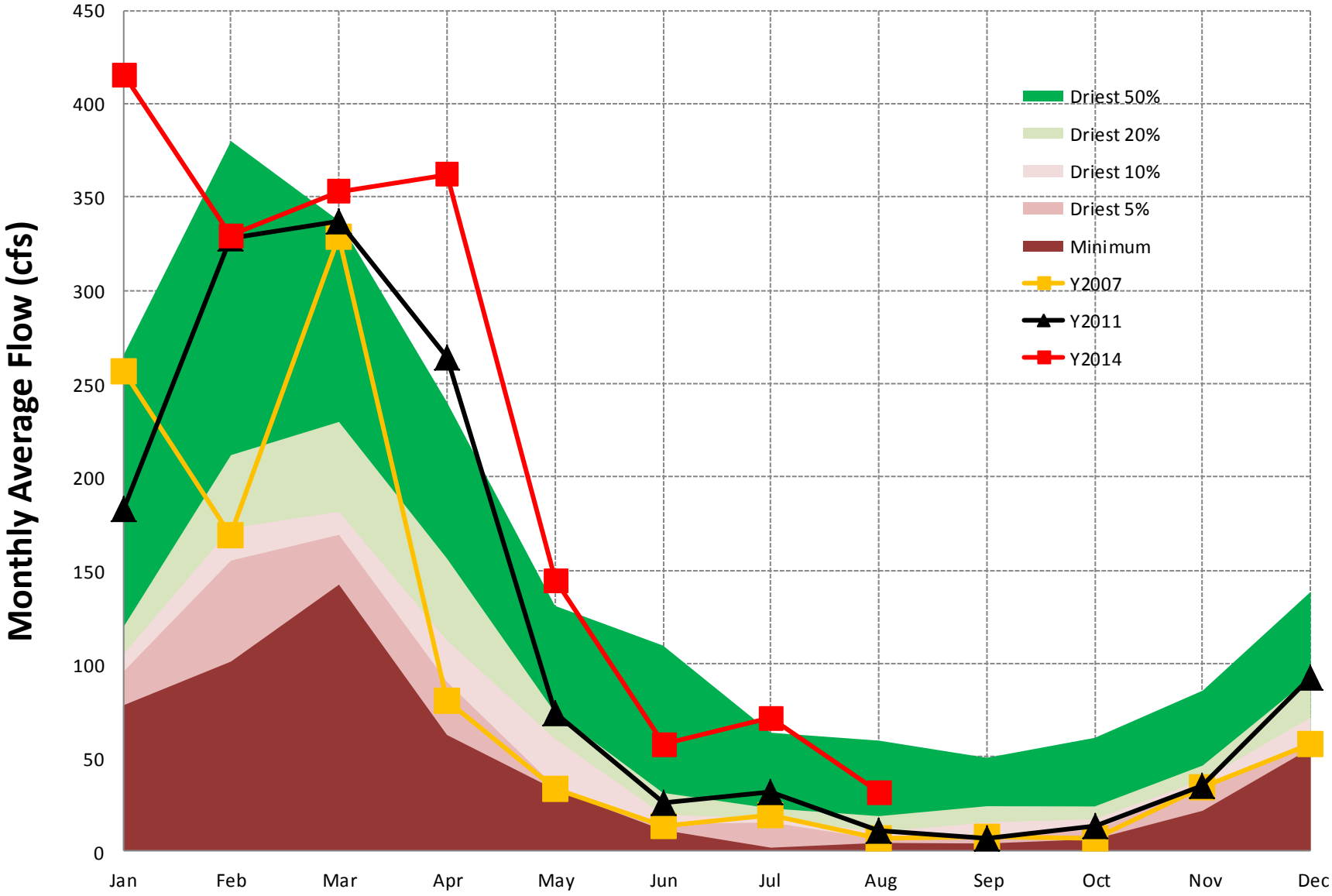
USGS #02220900 LITTLE RIVER NEAR EATONTON, GA



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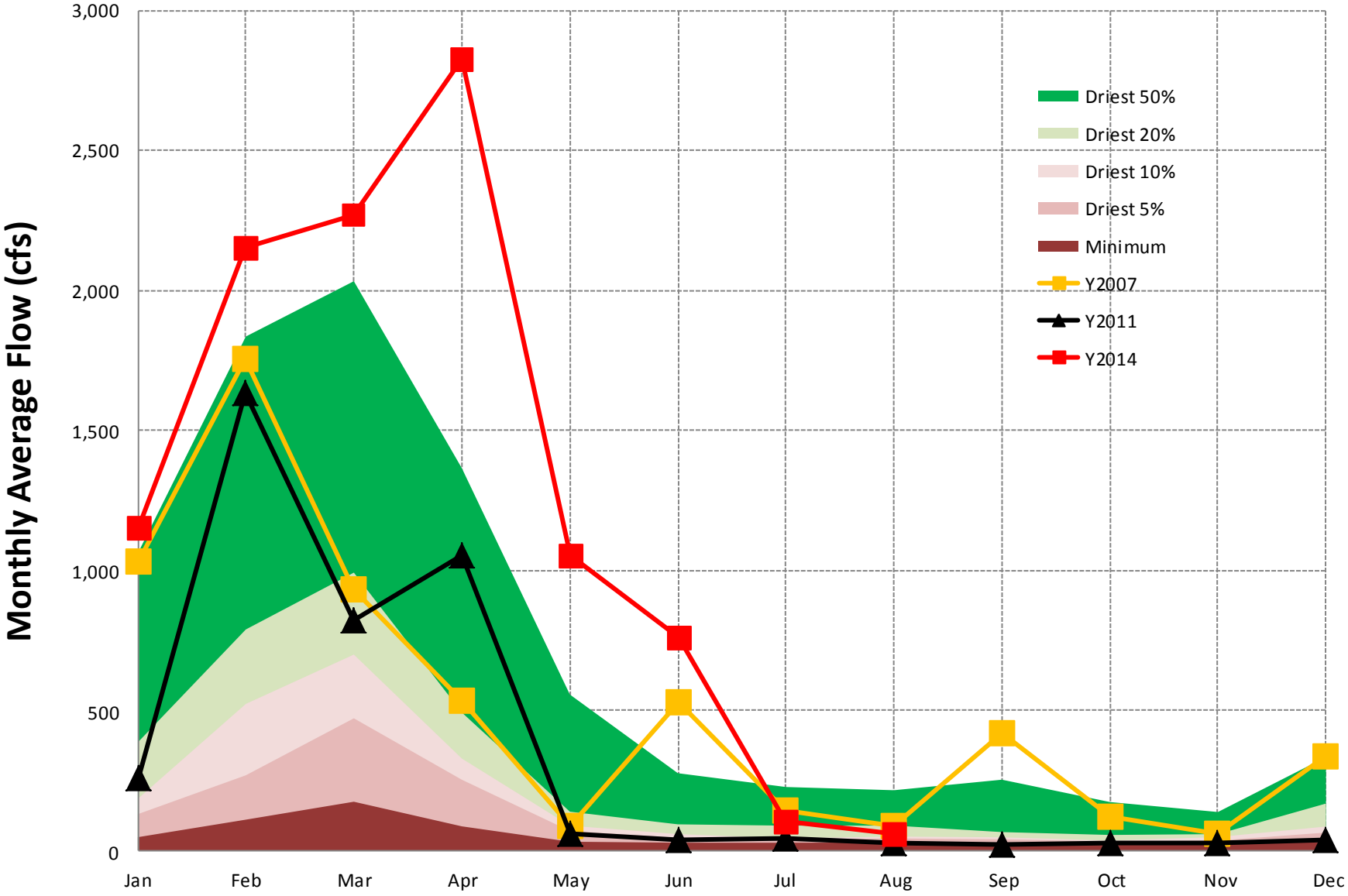
USGS #02225500 OHOOPEE RIVER NEAR REIDSVILLE, GA



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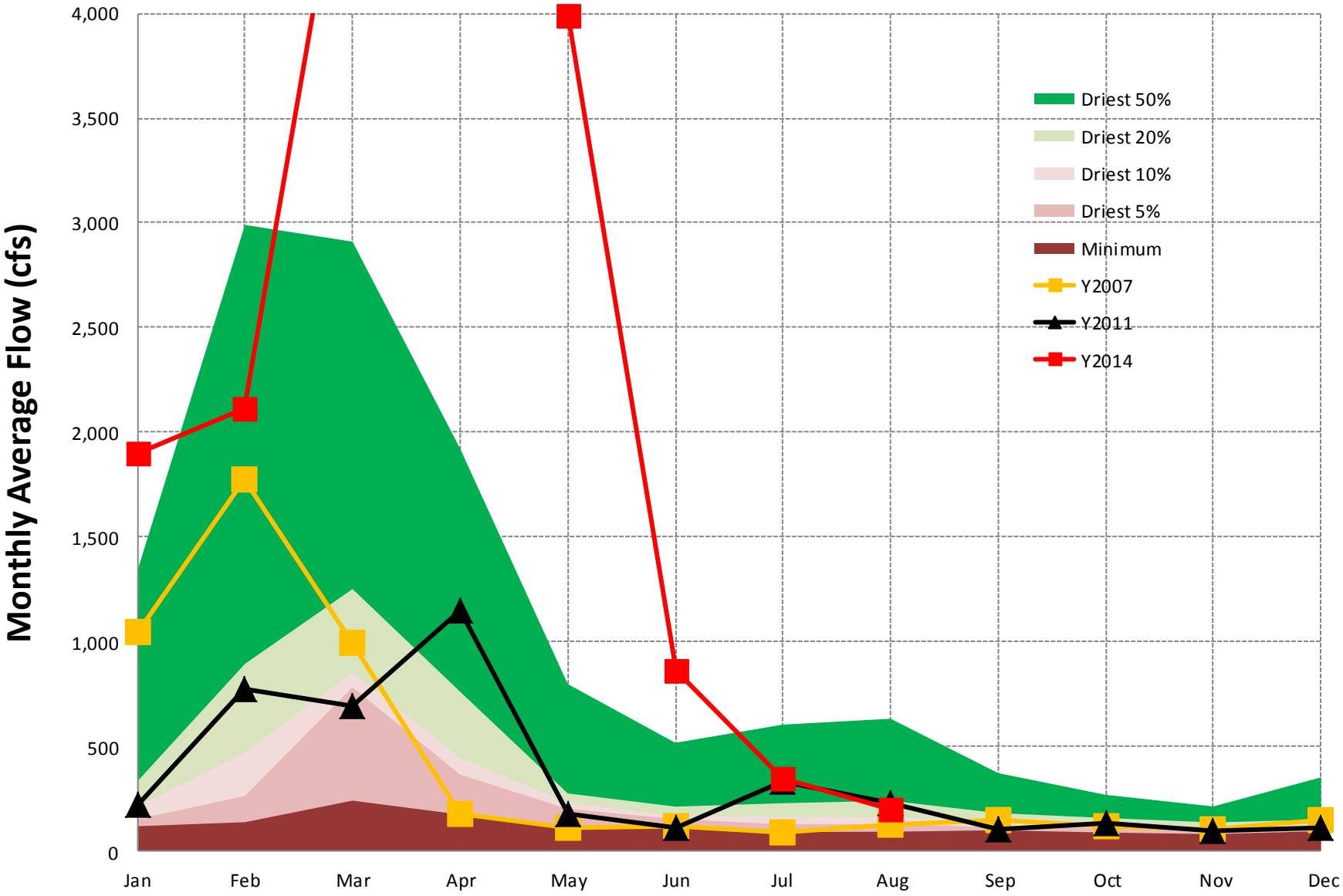
USGS #02319000 WITHLACOOCHEE RIVER NEAR PINETTA, FL



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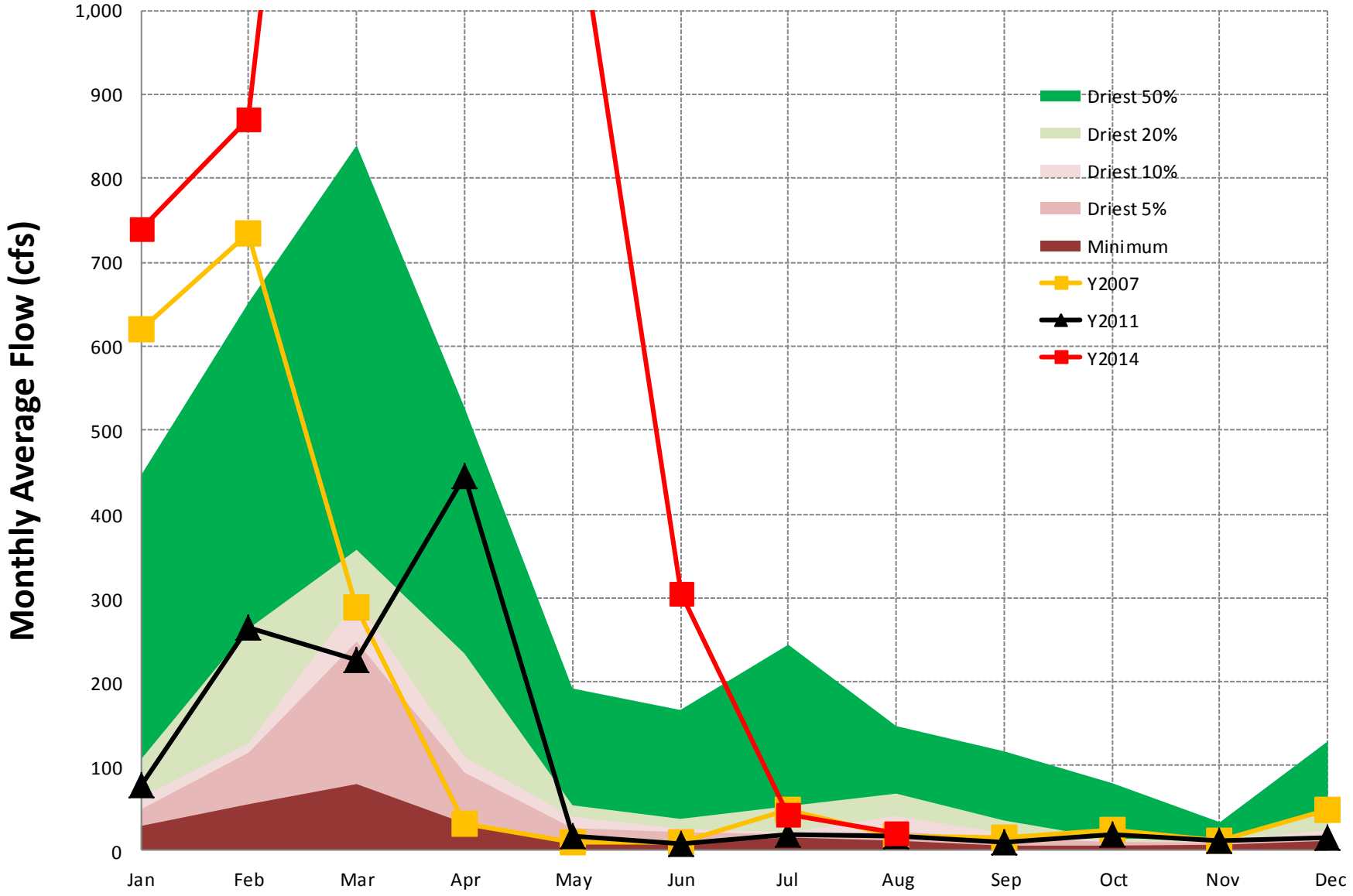
USGS #02327500 OCHLOCKONEE RIVER NEAR THOMASVILLE, GA



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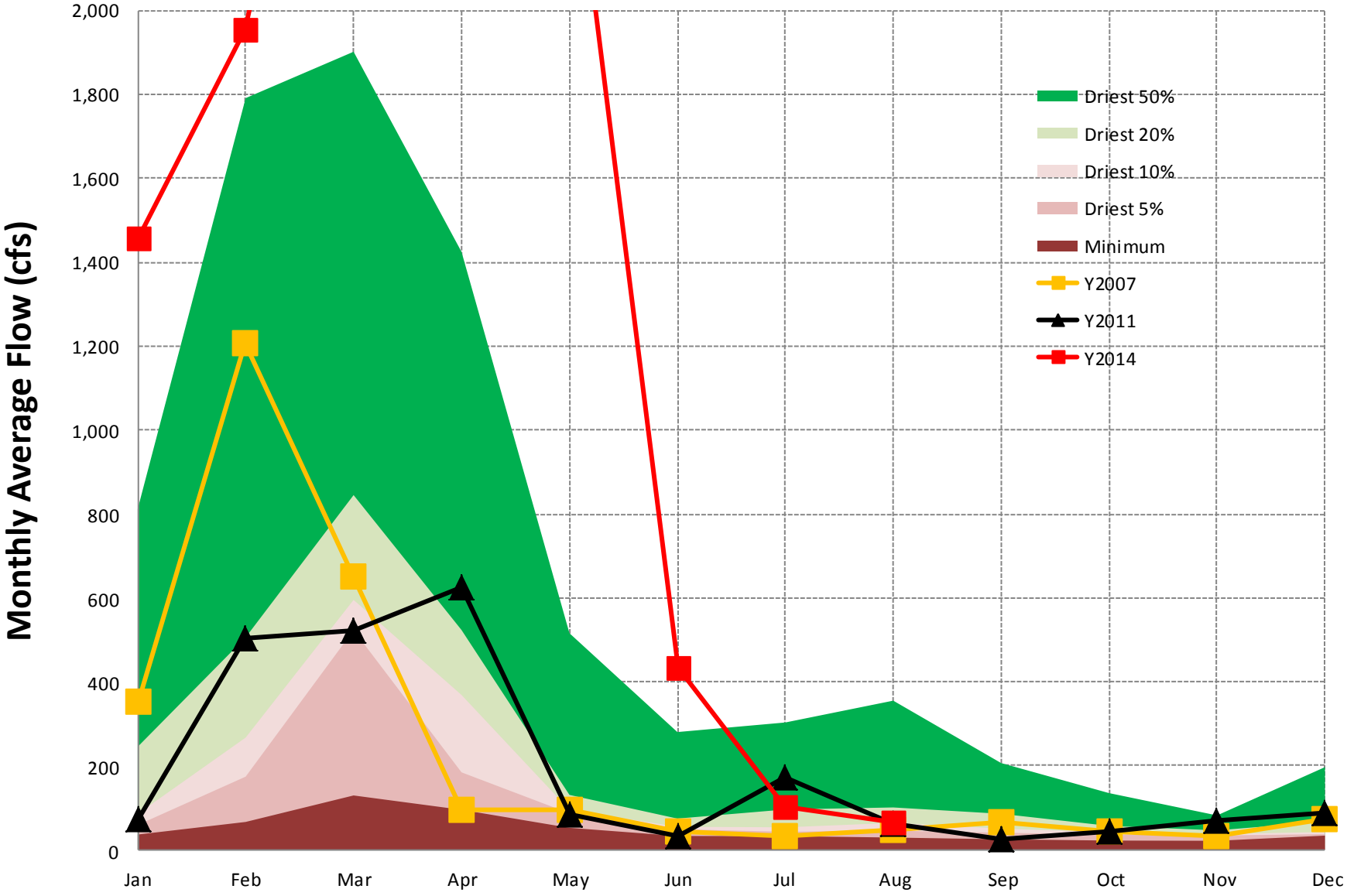
USGS #02317500 ALAPAHA RIVER AT STATENVILLE, GA



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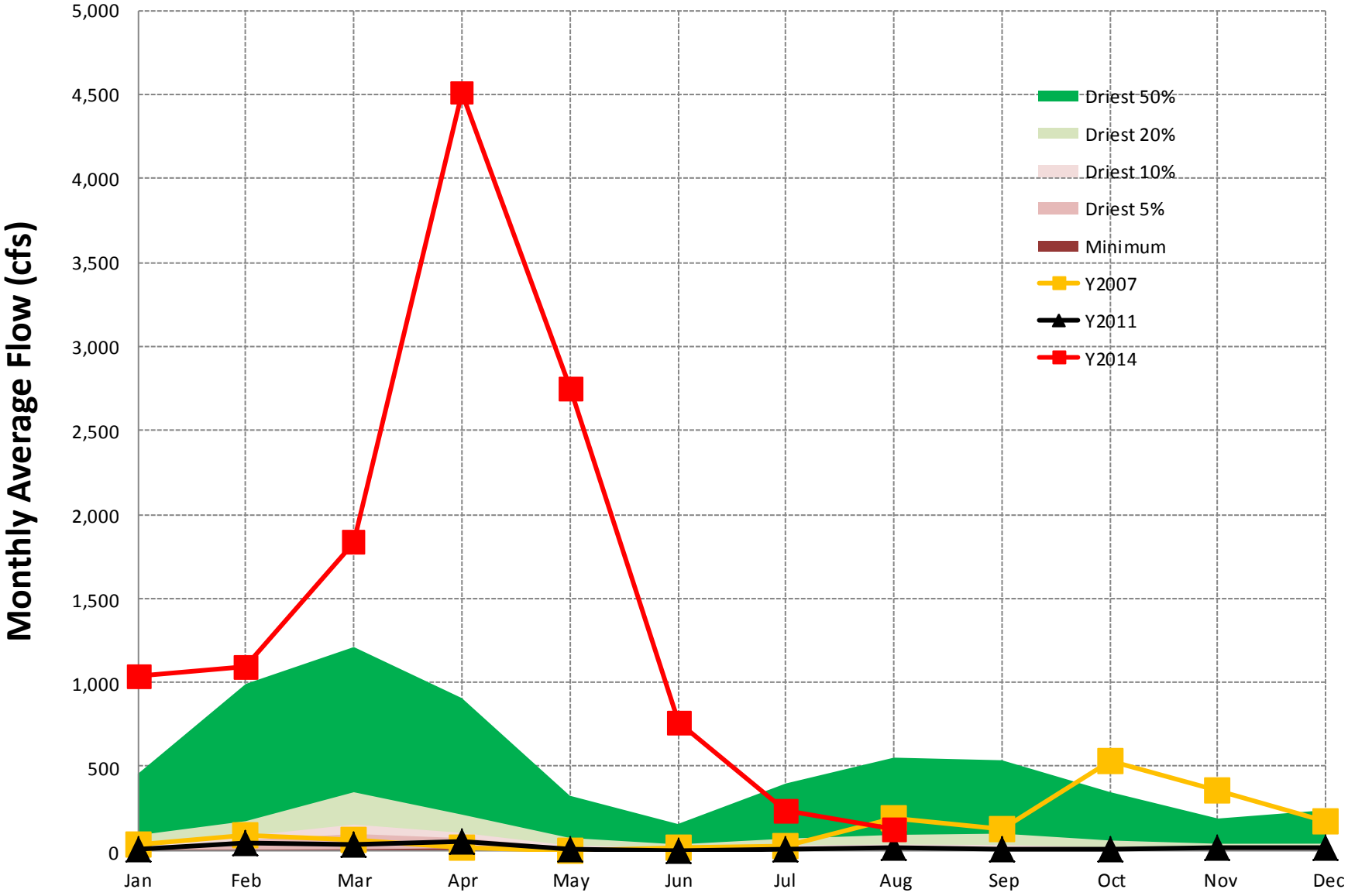
USGS #02314500 SUWANNEE RIVER AT US 441, AT FARGO, GA



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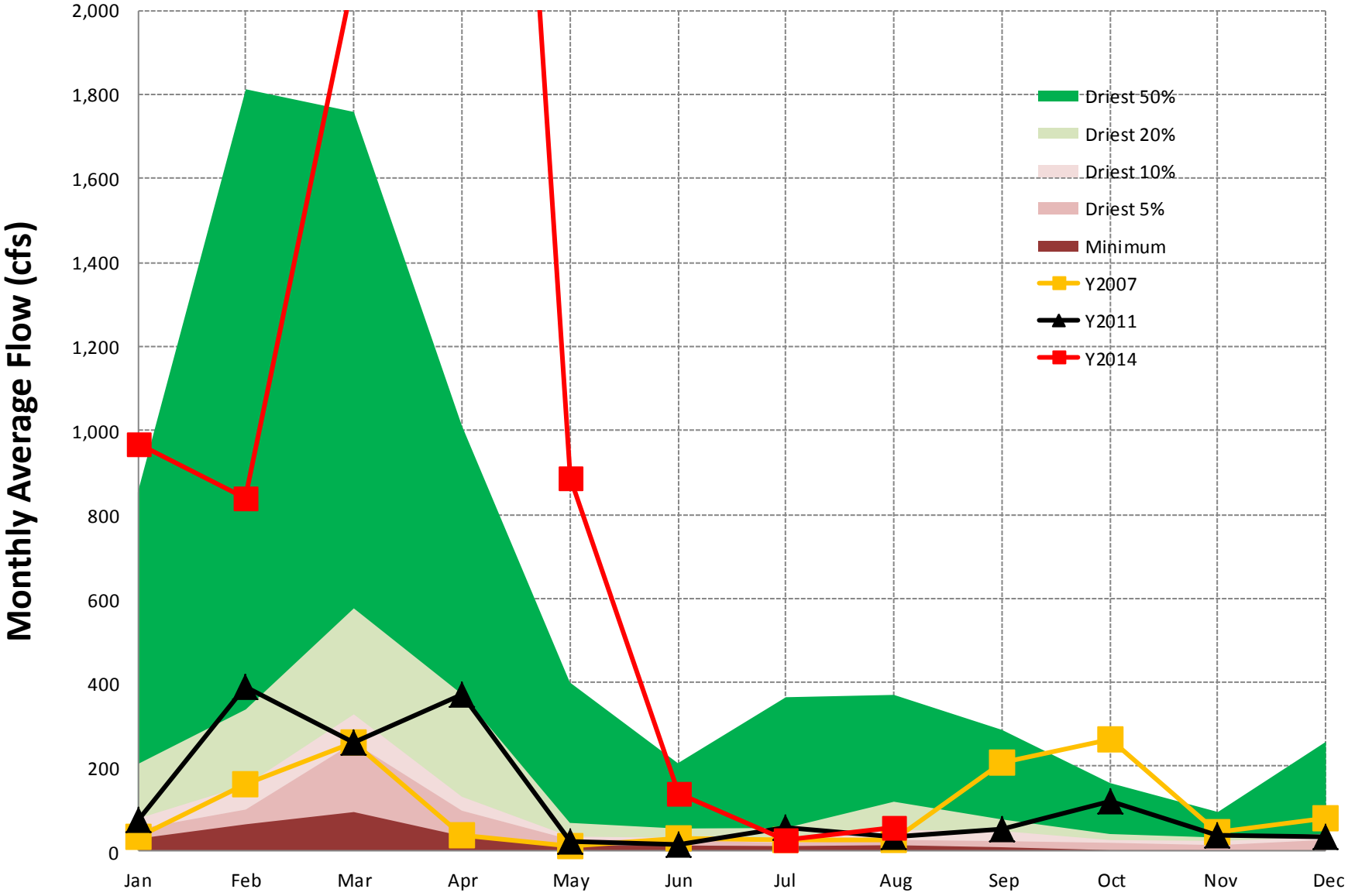
USGS #02226500 SATILLA RIVER NEAR WAYCROSS, GA



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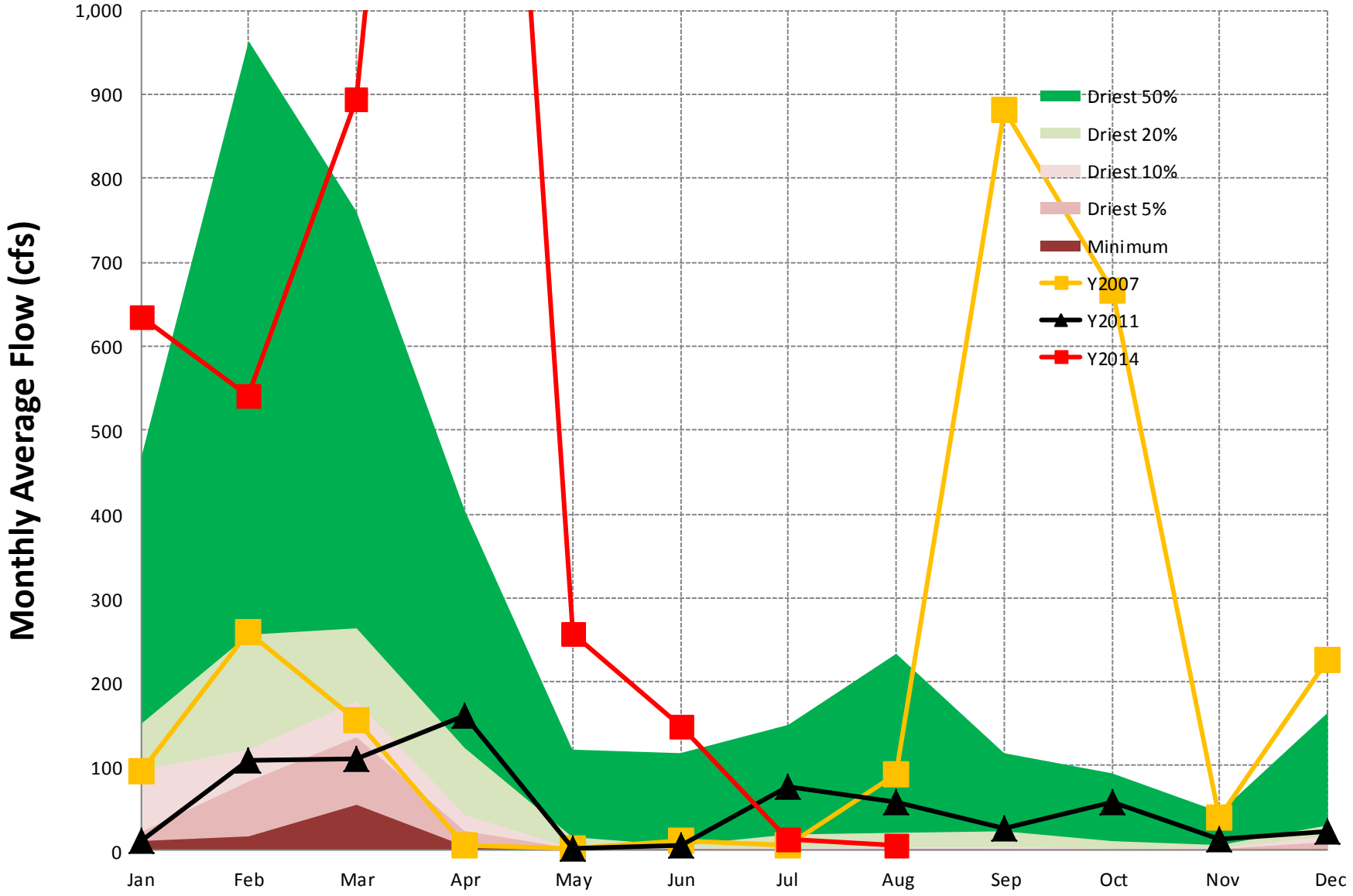
USGS #02227500 LITTLE SATILLA RIVER NEAR OFFERMAN, GA



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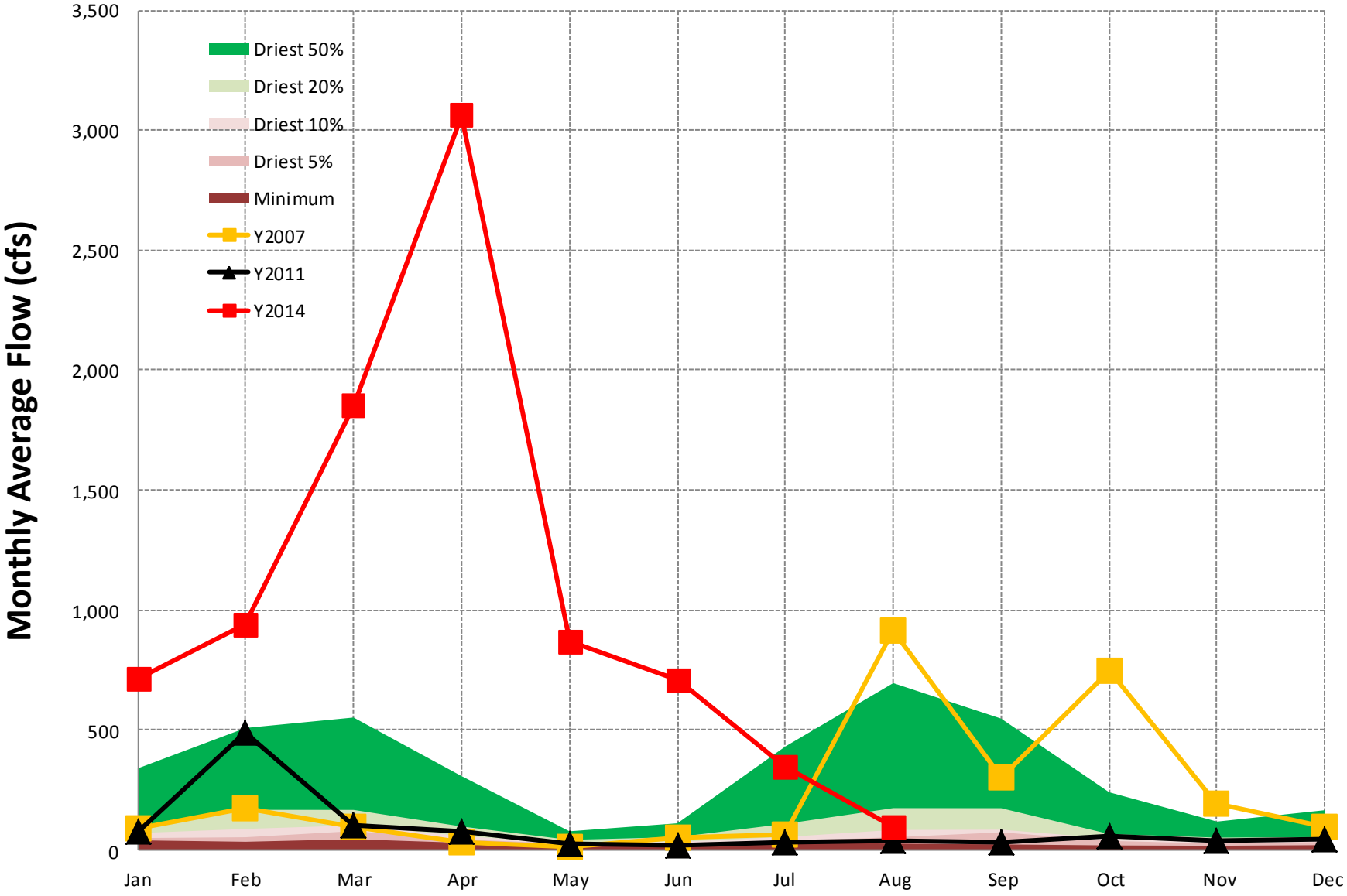
USGS #02231000 ST. MARYS RIVER NEAR MACCLENNY, FL



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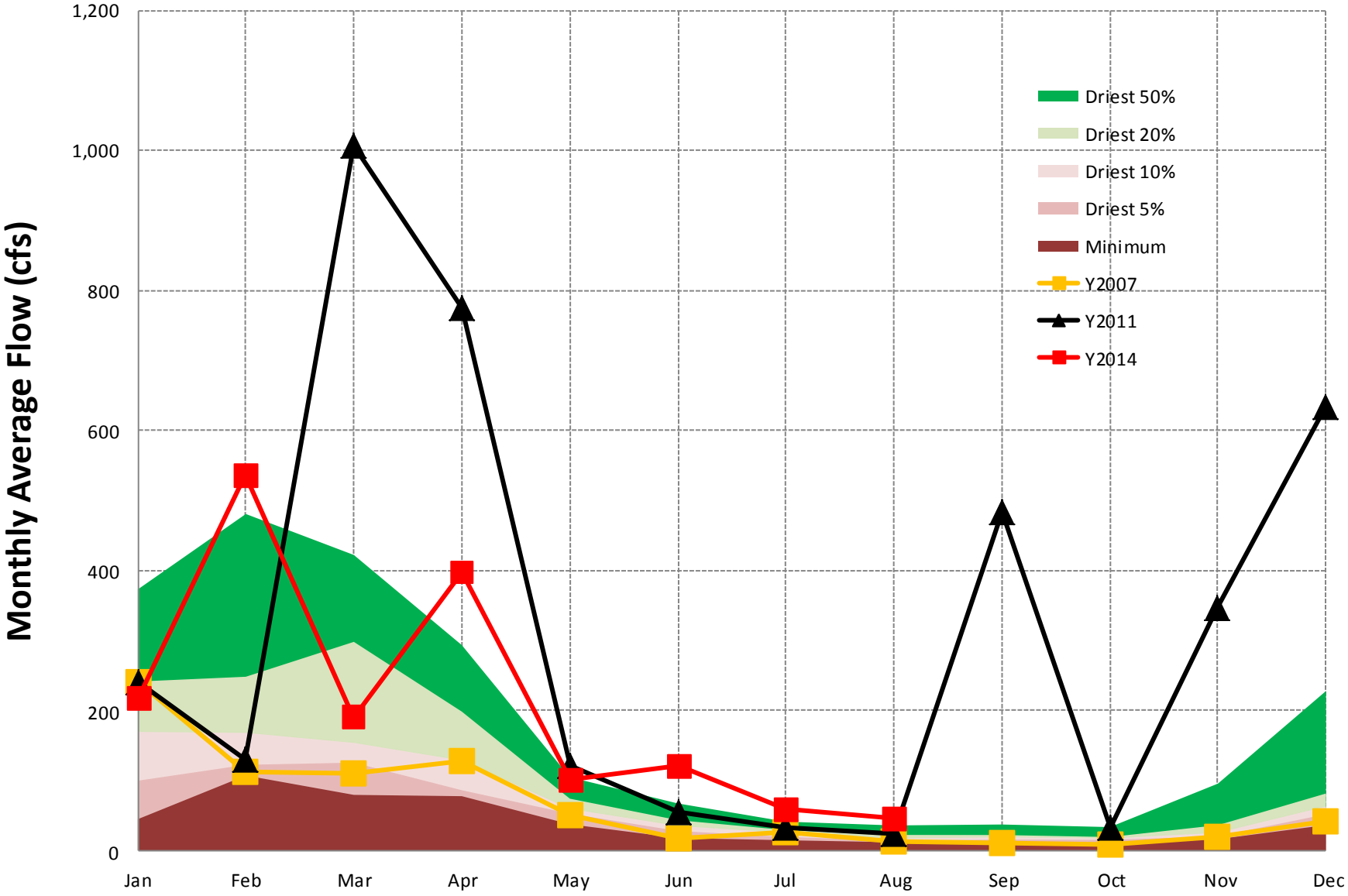
USGS #03568933, TN Basin - LOOKOUT CREEK NEAR NEW ENGLAND, GA



Status of Federal Reservoirs in Georgia

Georgia EPD

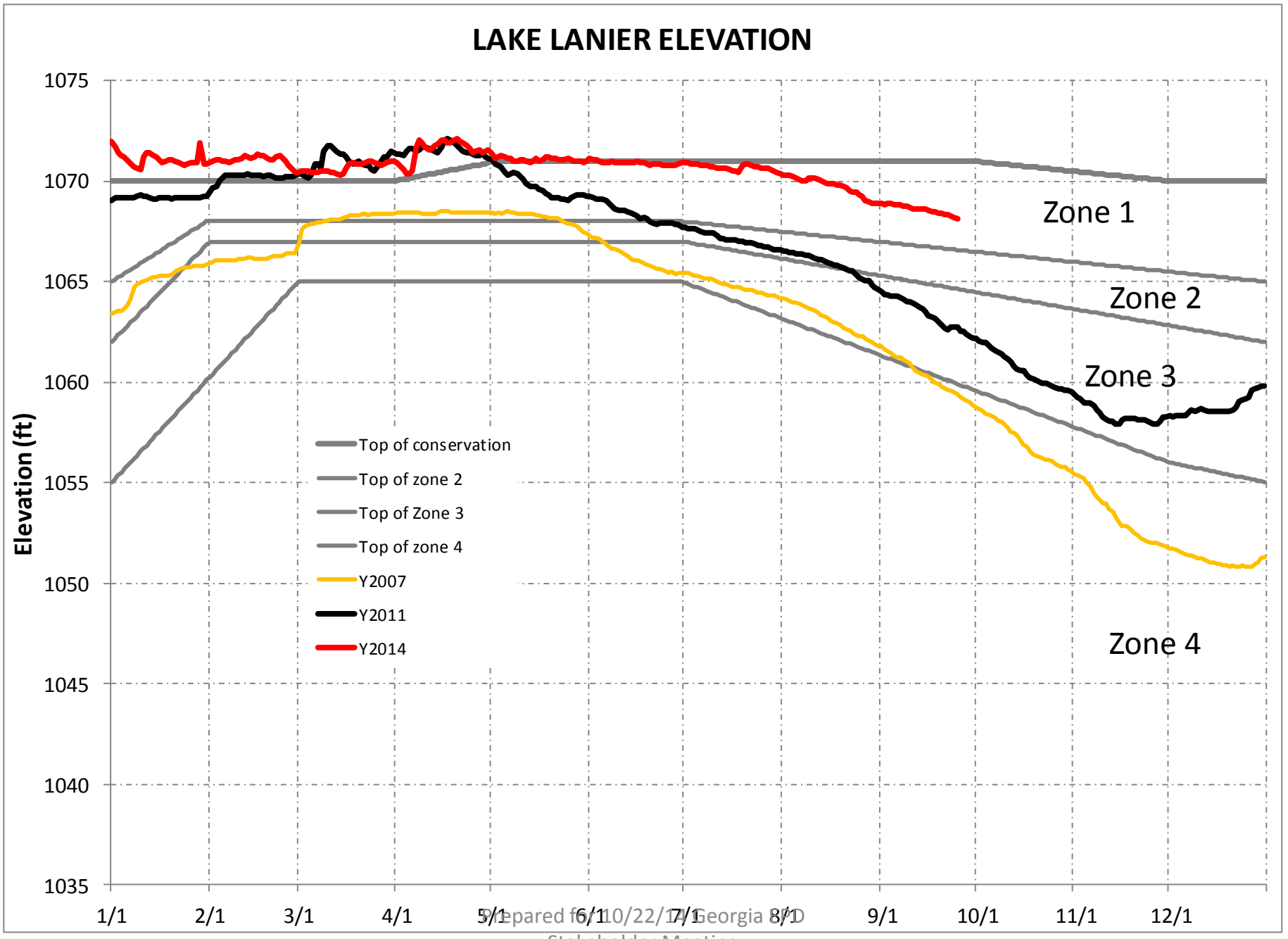
Hydrology Unit

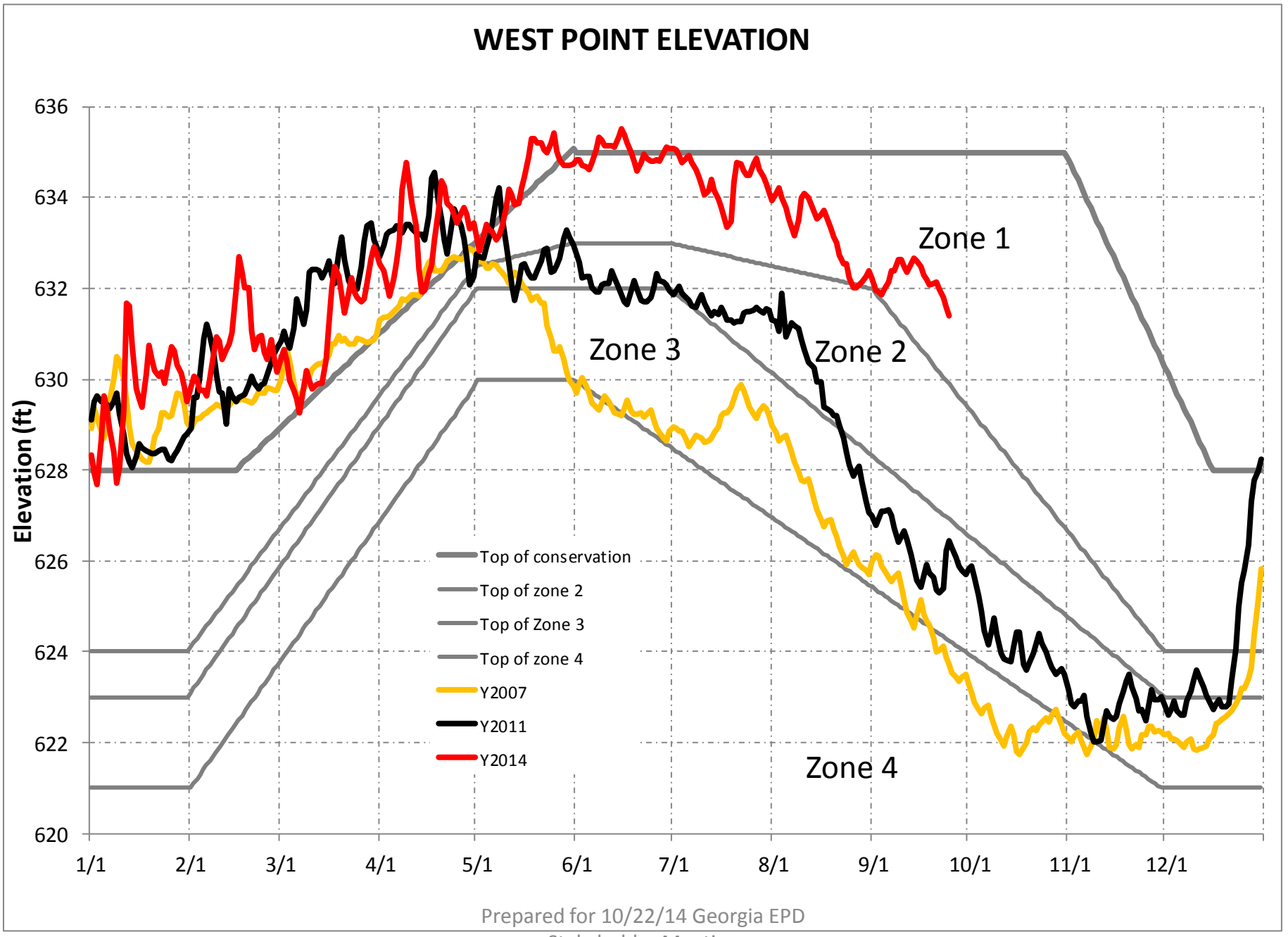
September 2014

Prepared for 10/22/14 Georgia EPD Stakeholder Meeting

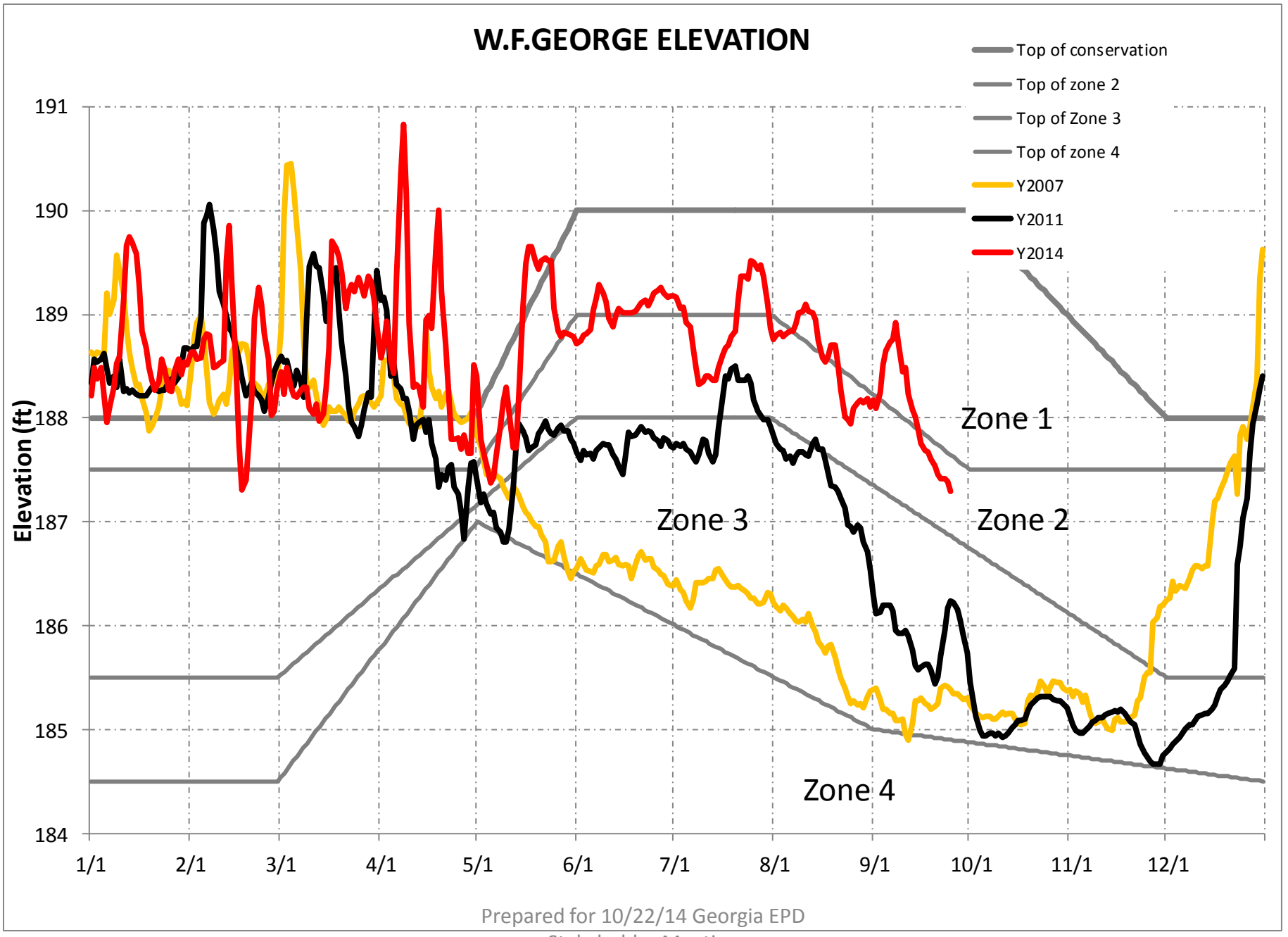
Ways to Read the Figures

- Reservoir elevation curves of 2014 are provided with the background of Action Zone Divides (or Levels)
  - 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
- Conditions recorded in 2007 and 2011 have been provided for comparison

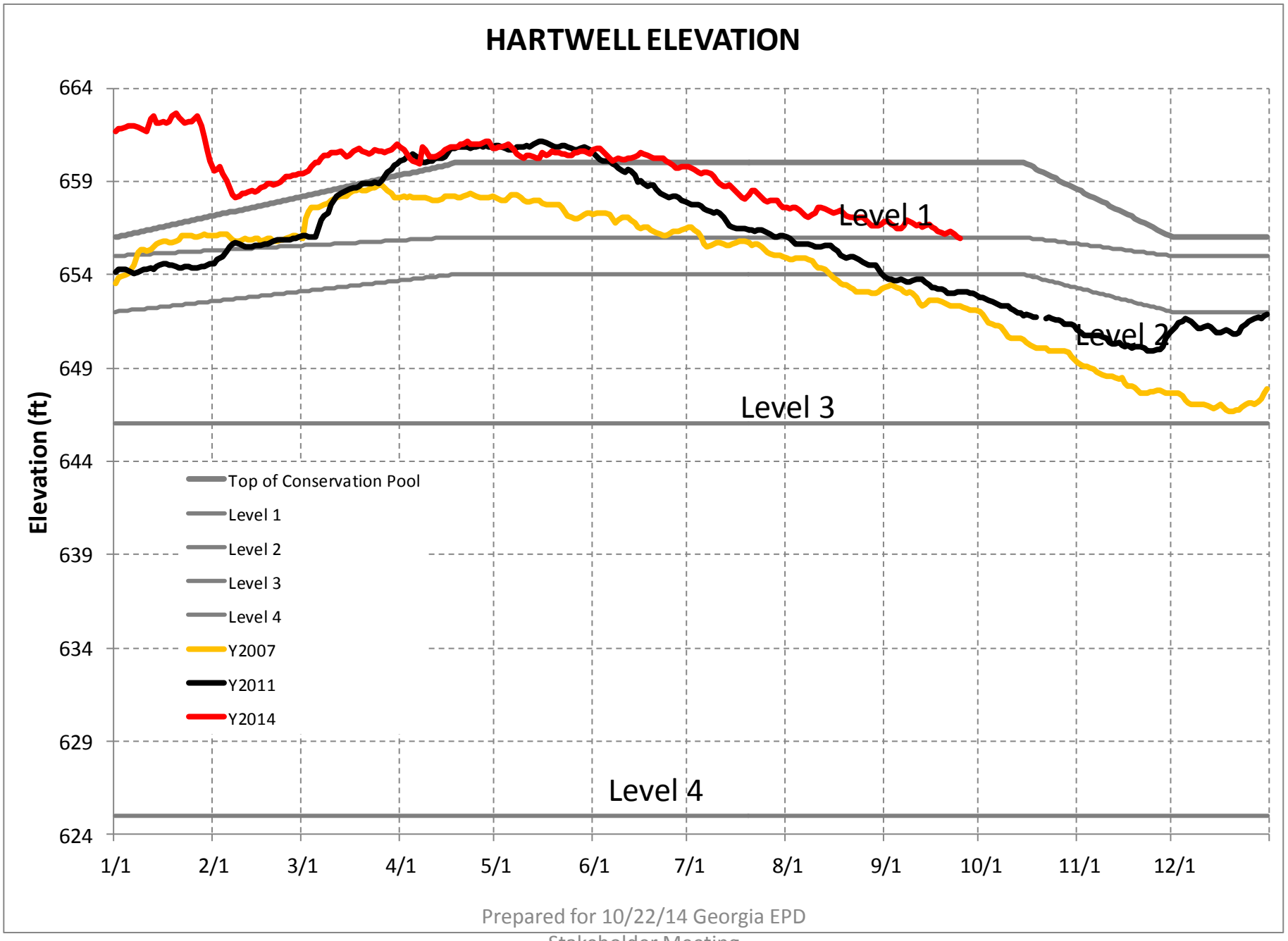

LAKE LANIER ELEVATION
Elevation (ft)
1075
1070
1065
1060
1055
1050
1045
1040
1035
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Top of conservation
Top of zone 2
Top of Zone 3
Top of zone 4
Y2007
Y2011
Y2014
Zone 1
Zone 2
Zone 3
Zone 4



Prepared for 10/22/14 Georgia EPD Stakeholder Meeting



Prepared for 10/22/14 Georgia EPD Stakeholder Meeting



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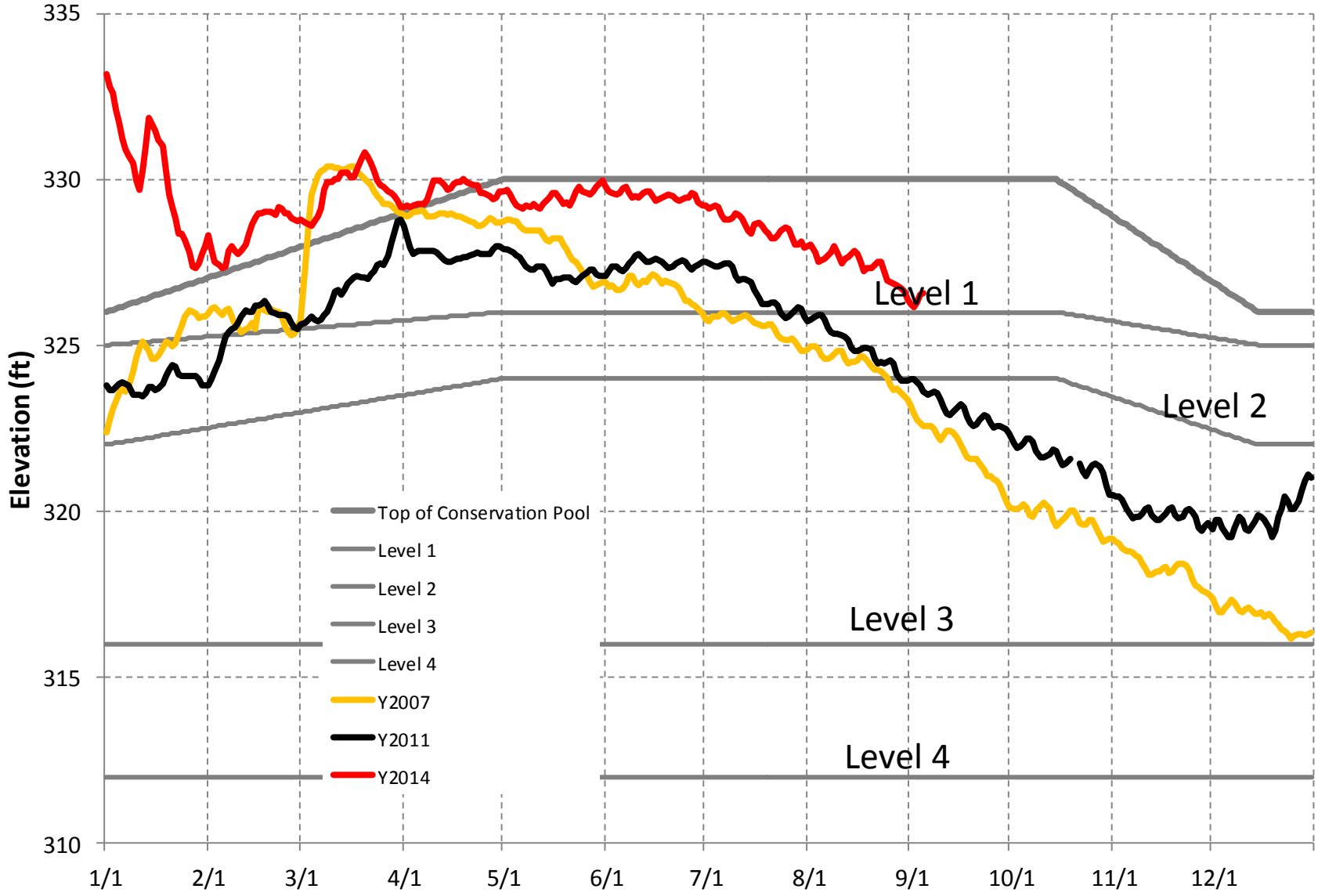
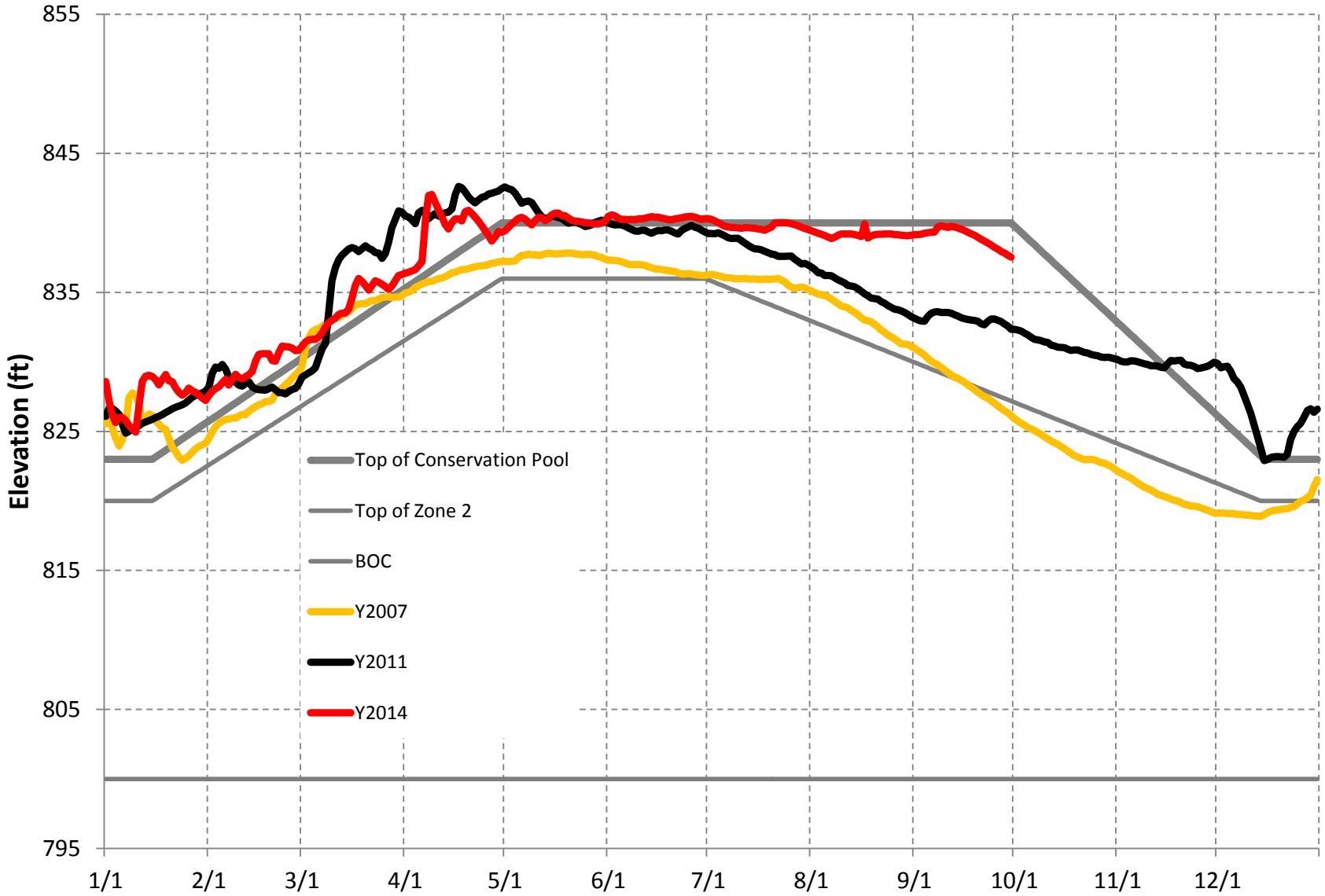
THURMOND ELEVATION



Prepared for 10/22/14 Georgia EPD Stakeholder Meeting

ALLATOONA ELEVATION



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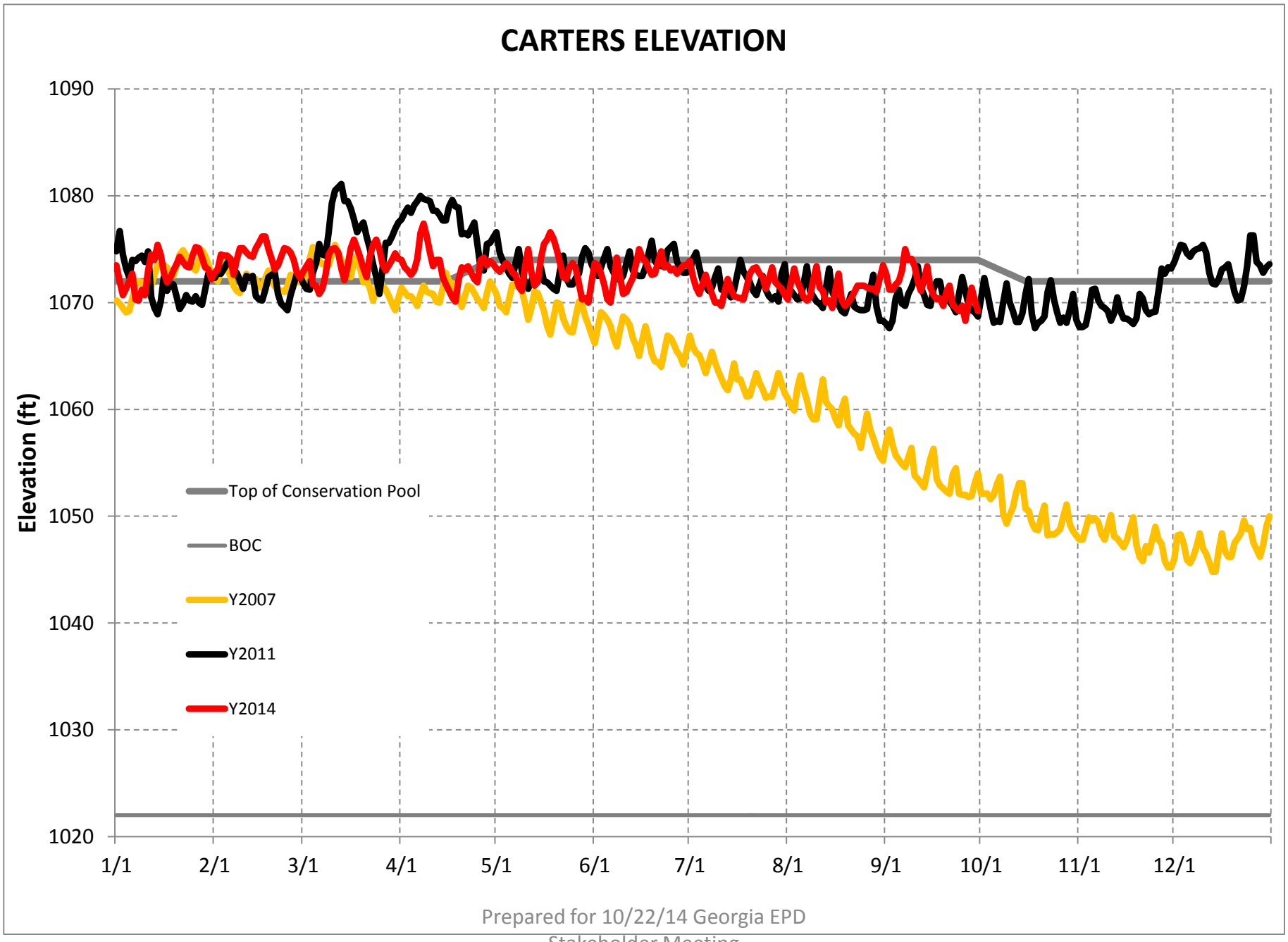


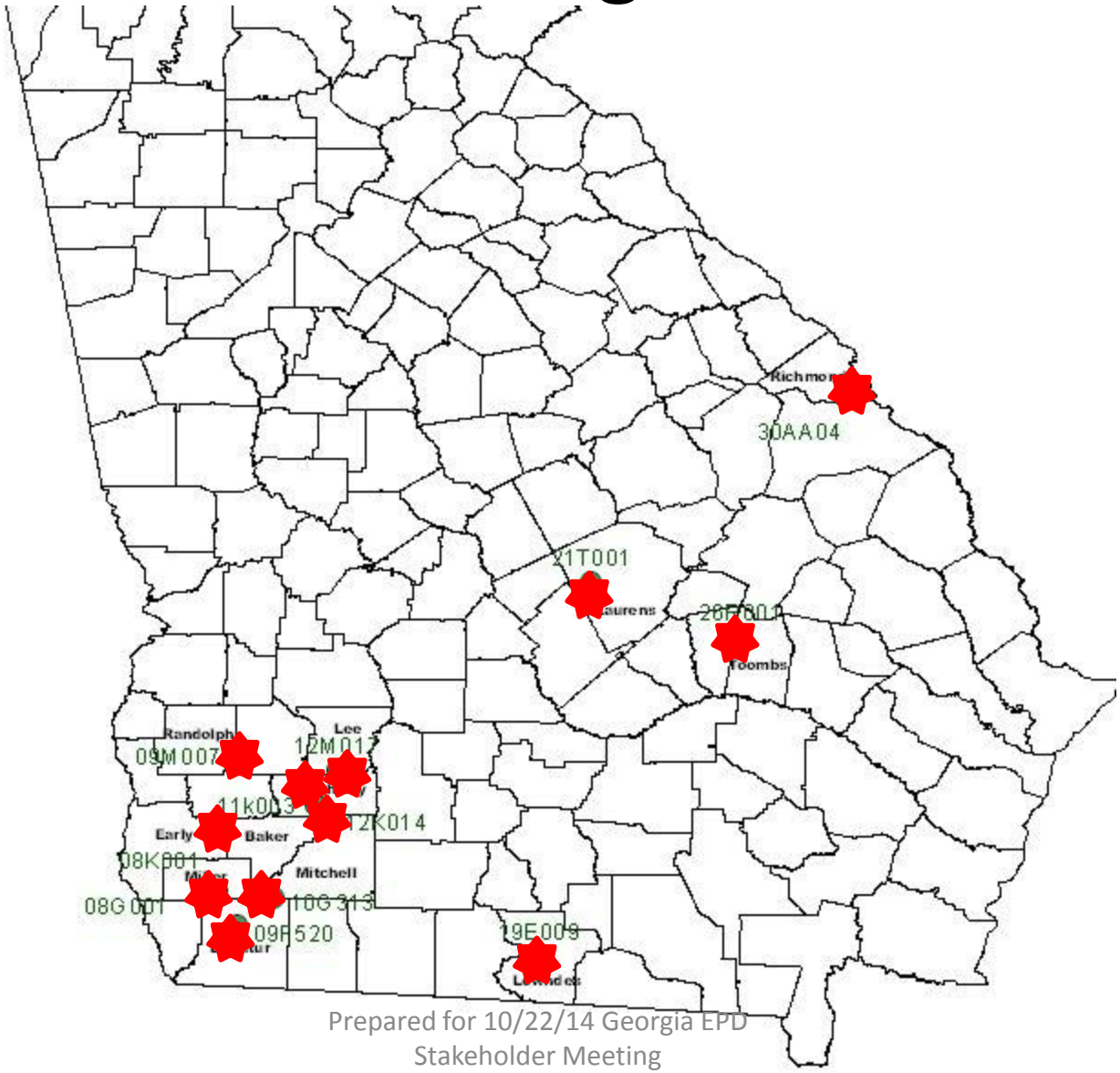
Prepared for 10/22/14 Georgia EPD Stakeholder Meeting

Groundwater Conditions in 2014, 2011, 2007 and Long-term Statistics

Georgia EPD
Hydrology Unit
September 2014

Prepared for 10/22/14 Georgia EPD Stakeholder Meeting

Locations of USGS Real-time Monitoring Wells



Principles in Choosing USGS Monitoring Wells

- Availability of long-term monitoring record – all of the chosen wells have three decades of data or more
- Availability of real-time monitoring record – all of the chosen wells have real-time monitoring data up to date

Interpretation of Figures

- Monthly average well depth is depicted in red curve for 2014, black curve for 2011, and yellow curve for 2007
- Statistical background of depth is depicted in areas
  - Deepest 5, 10, 20, and 50 percent of all recorded data are depicted in areas with solid colors
  - If a curve (red or yellow) borders the Deepest 5% and the white area, it means that the curve sets a historic record of well depth

Interpretation of Figures (continued)

- Current (2014) conditions can be compared to those of 2011, 2007, and the statistical background
- For example, at well 09F520 (Slide 6), depth of water surface has been generally lower than in 2007, with record-setting lows in June; for 10 of the 12 months, the 2011 depths have been among the deepest 5 to 10 percent of recorded quantities

Groundwell #09F520 Monthly Averagae Depth Below Land Surface

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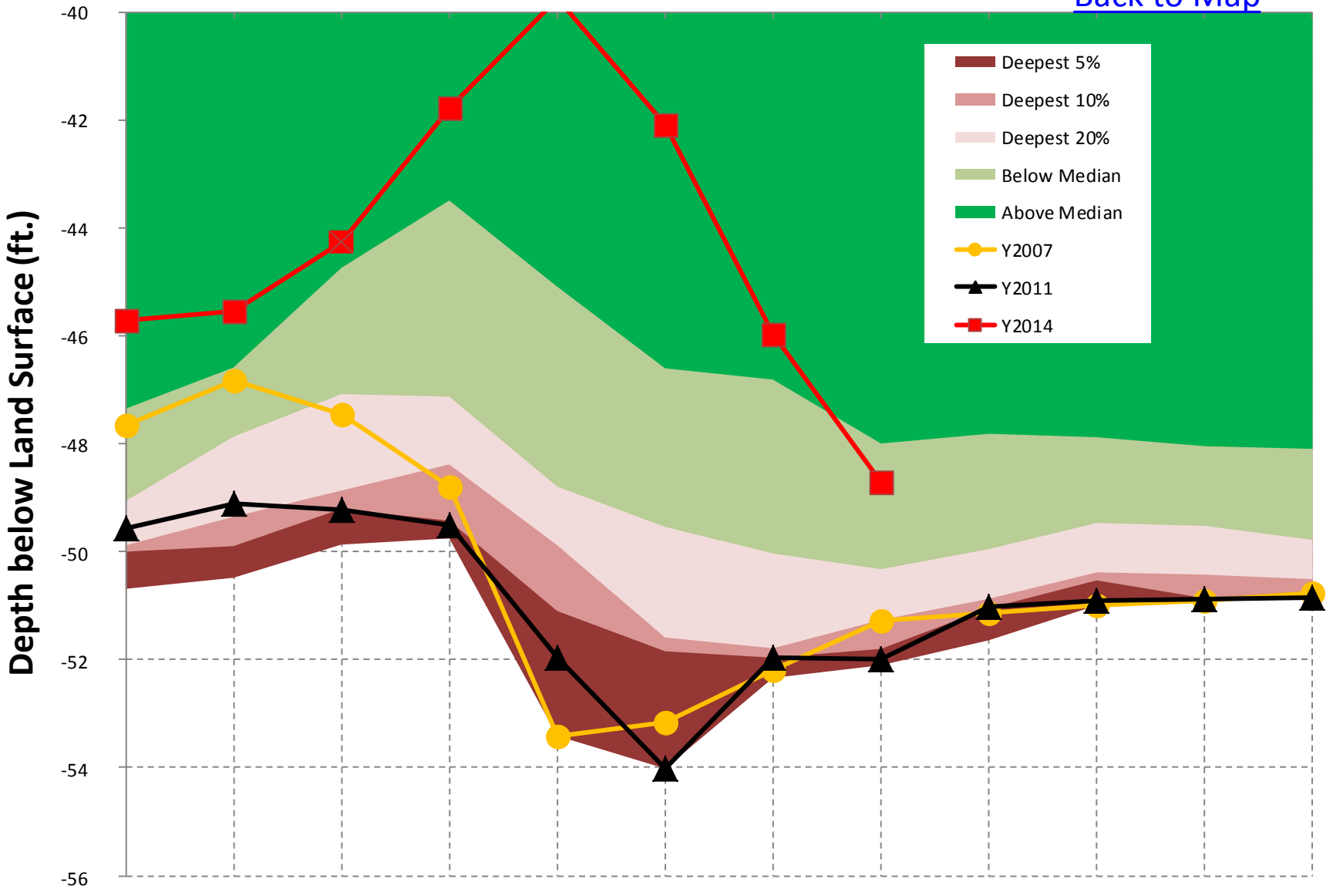

Groundwell #12K014 Monthly Averagae Depth Below Land Surface

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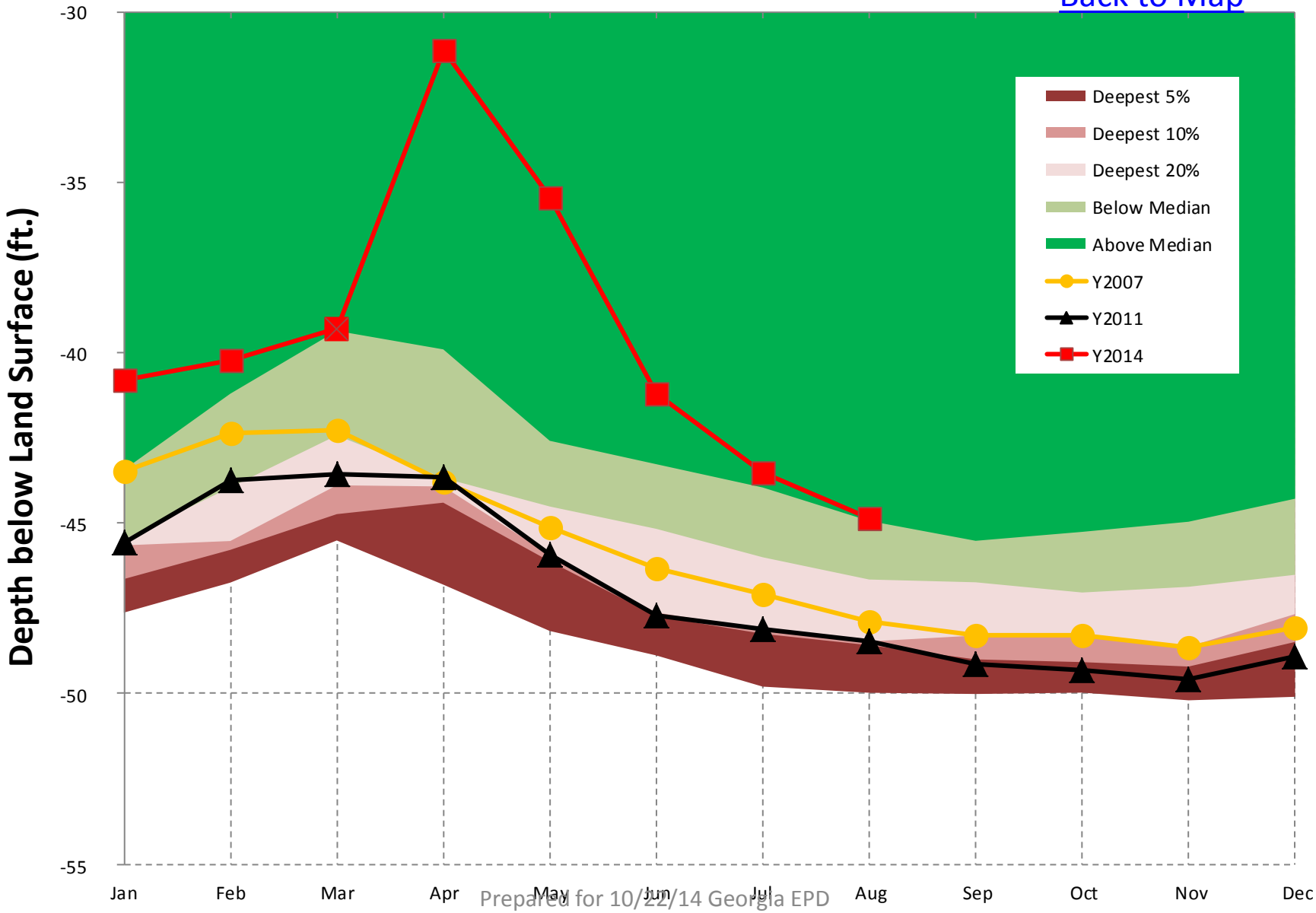

Groundwell #11K003 Monthly Averagae Depth Below Land Surface

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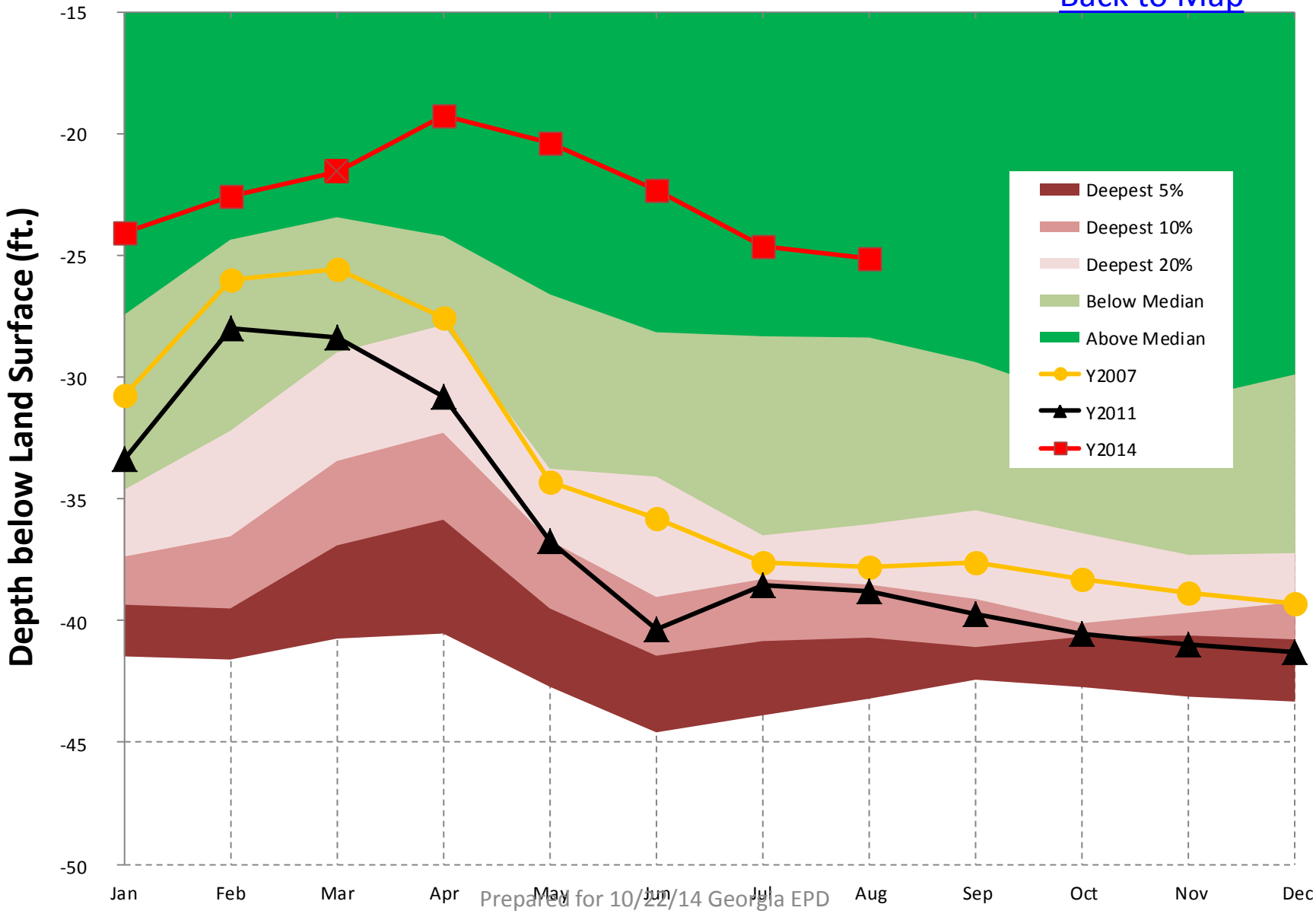

Groundwell #08K001 Monthly Averagae Depth Below Land Surface

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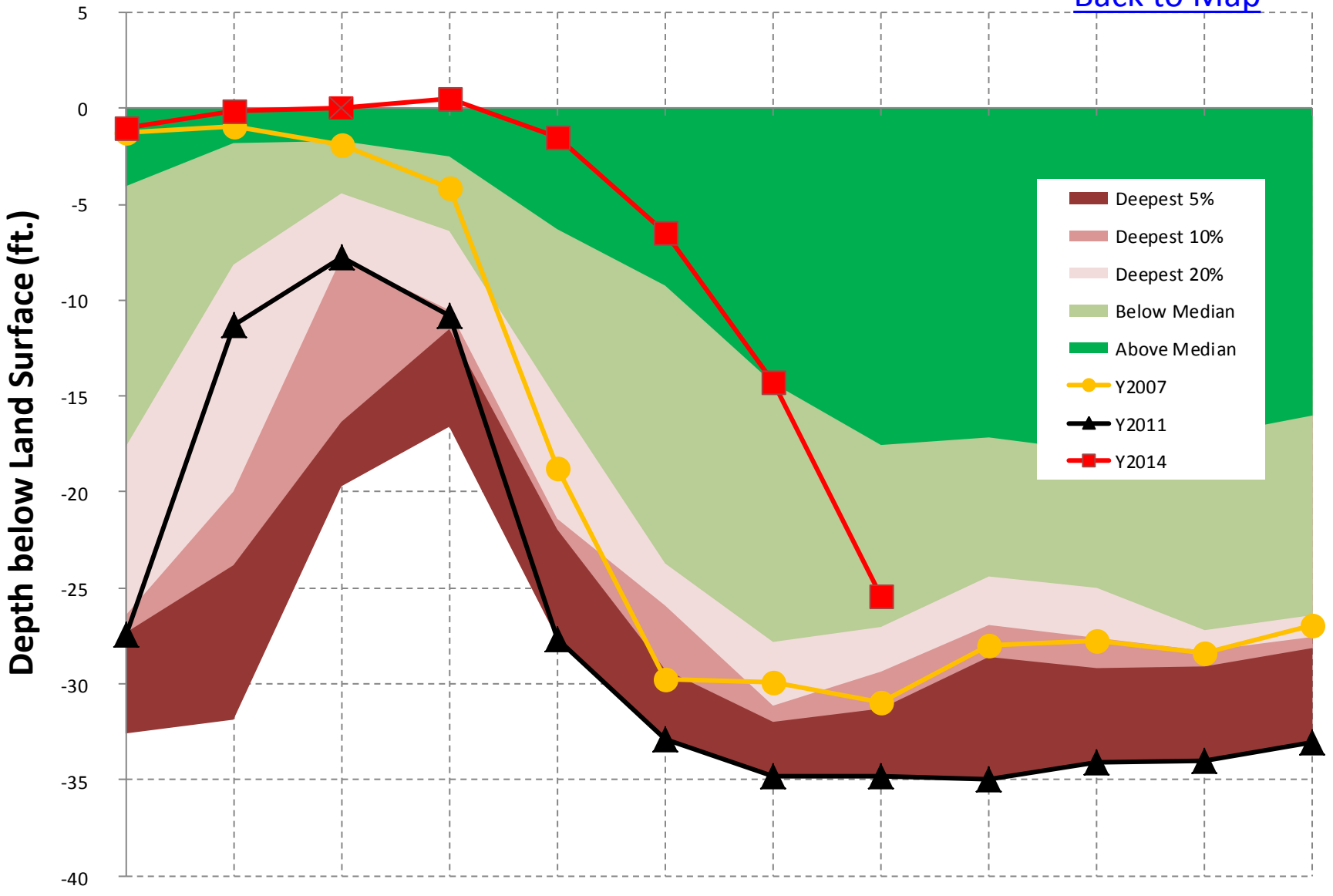

Groundwell #21T001 Monthly Averagae Depth Below Land Surface

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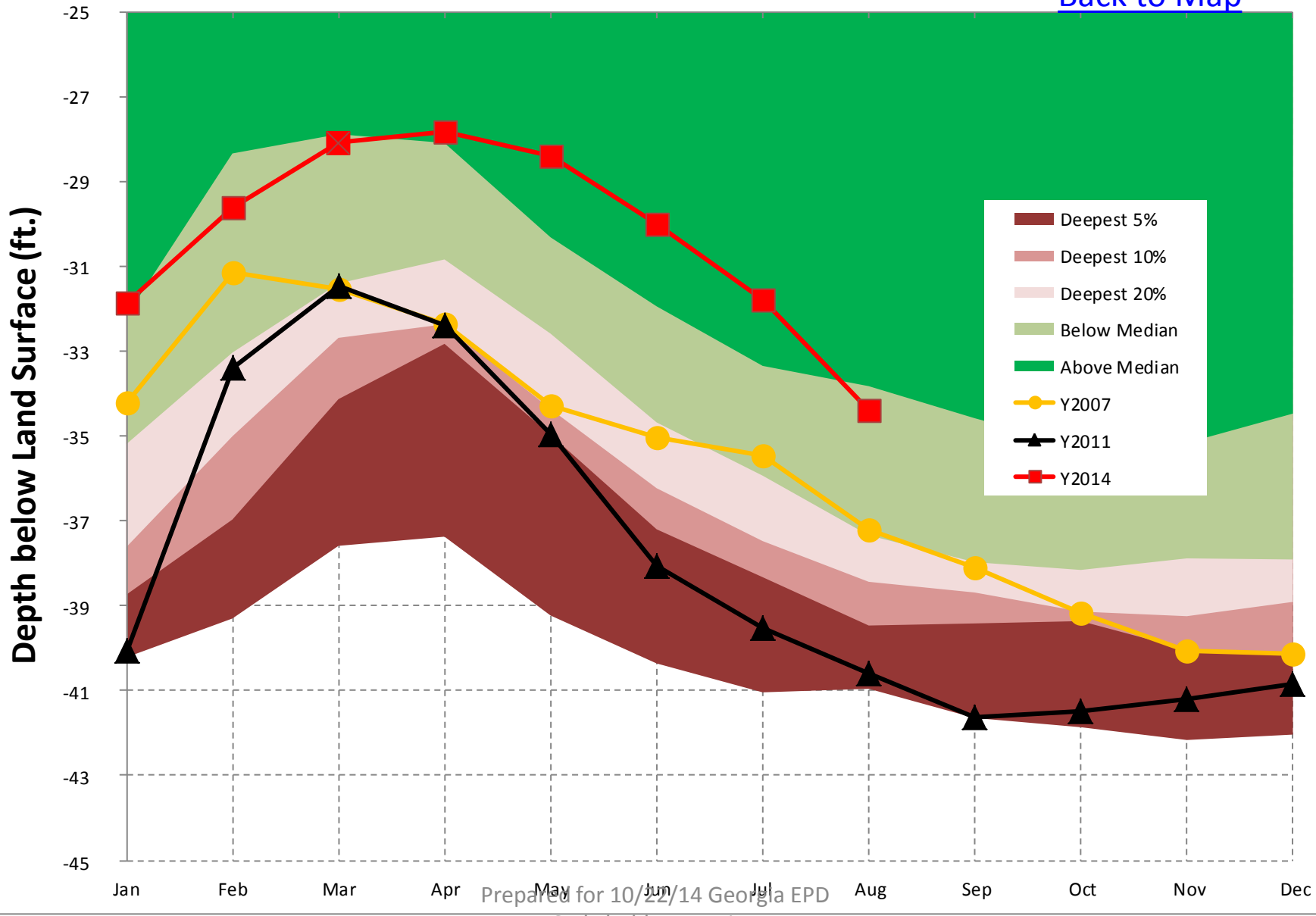

Groundwell #12M017 Monthly Averagae Depth Below Land Surface

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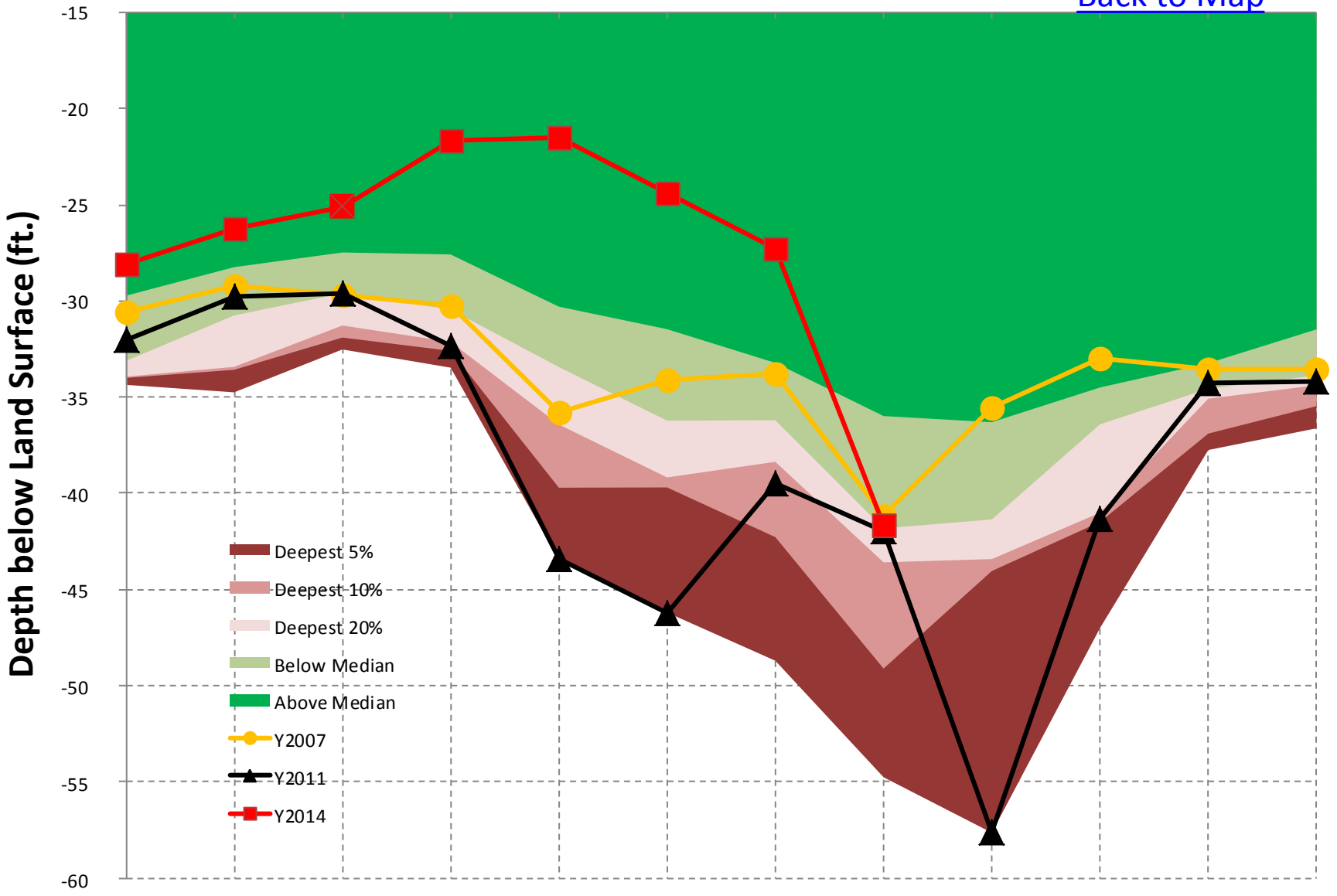

Groundwell #19E009 Monthly Averagae Depth Below Land Surface

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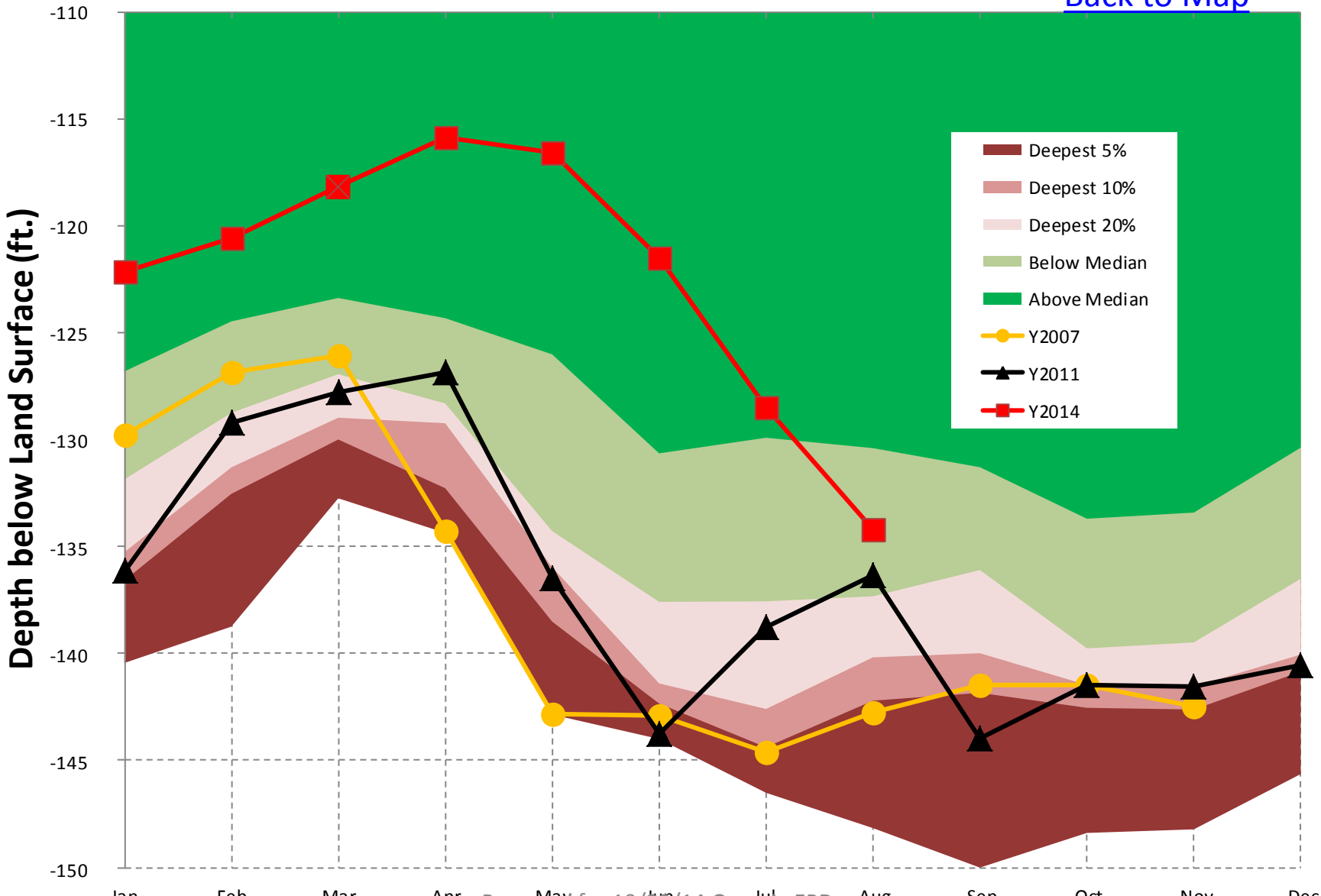

Groundwell #08G001 Monthly Averagae Depth Below Land Surface

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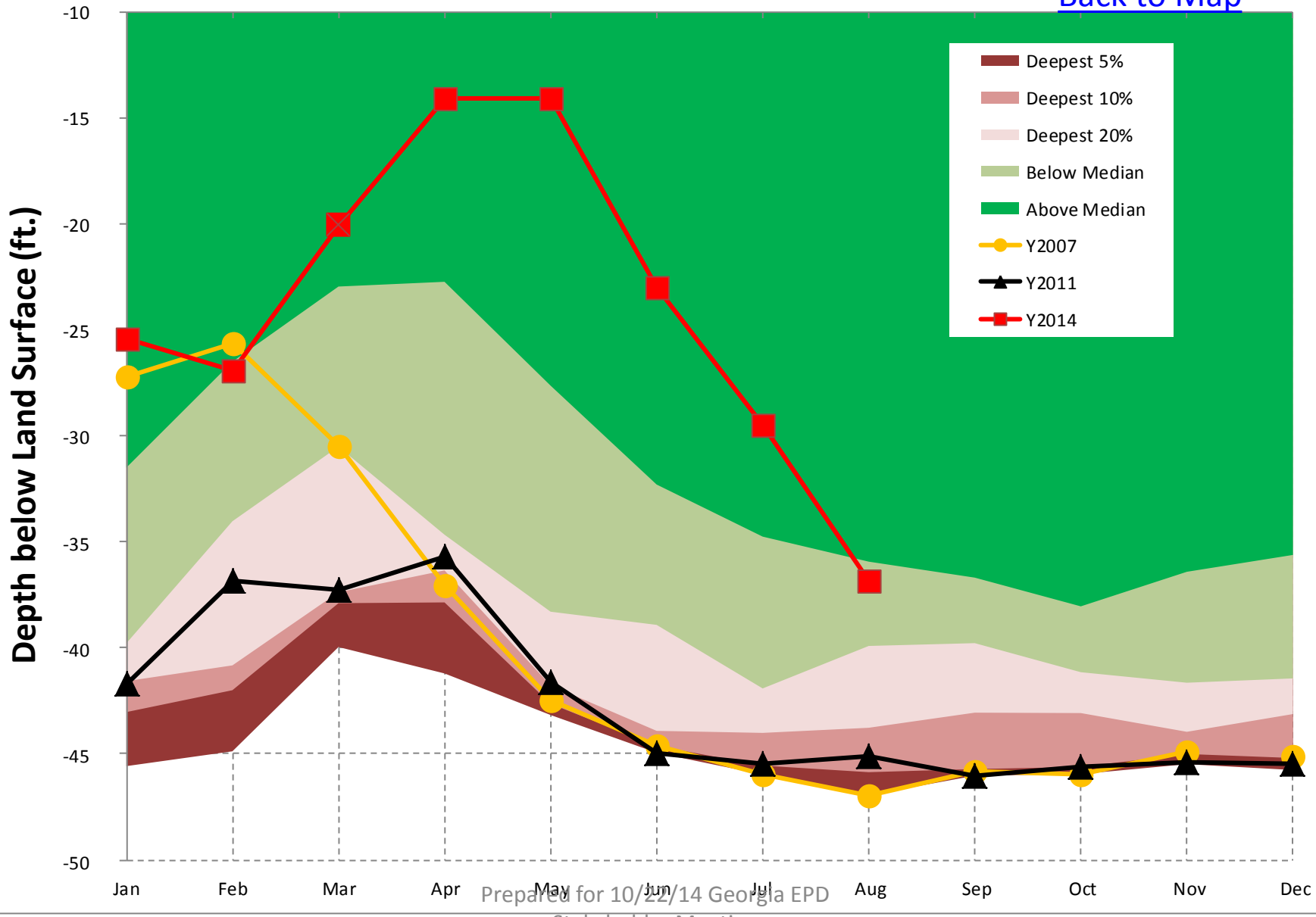

Groundwell #10G313 Monthly Averagae Depth Below Land Surface

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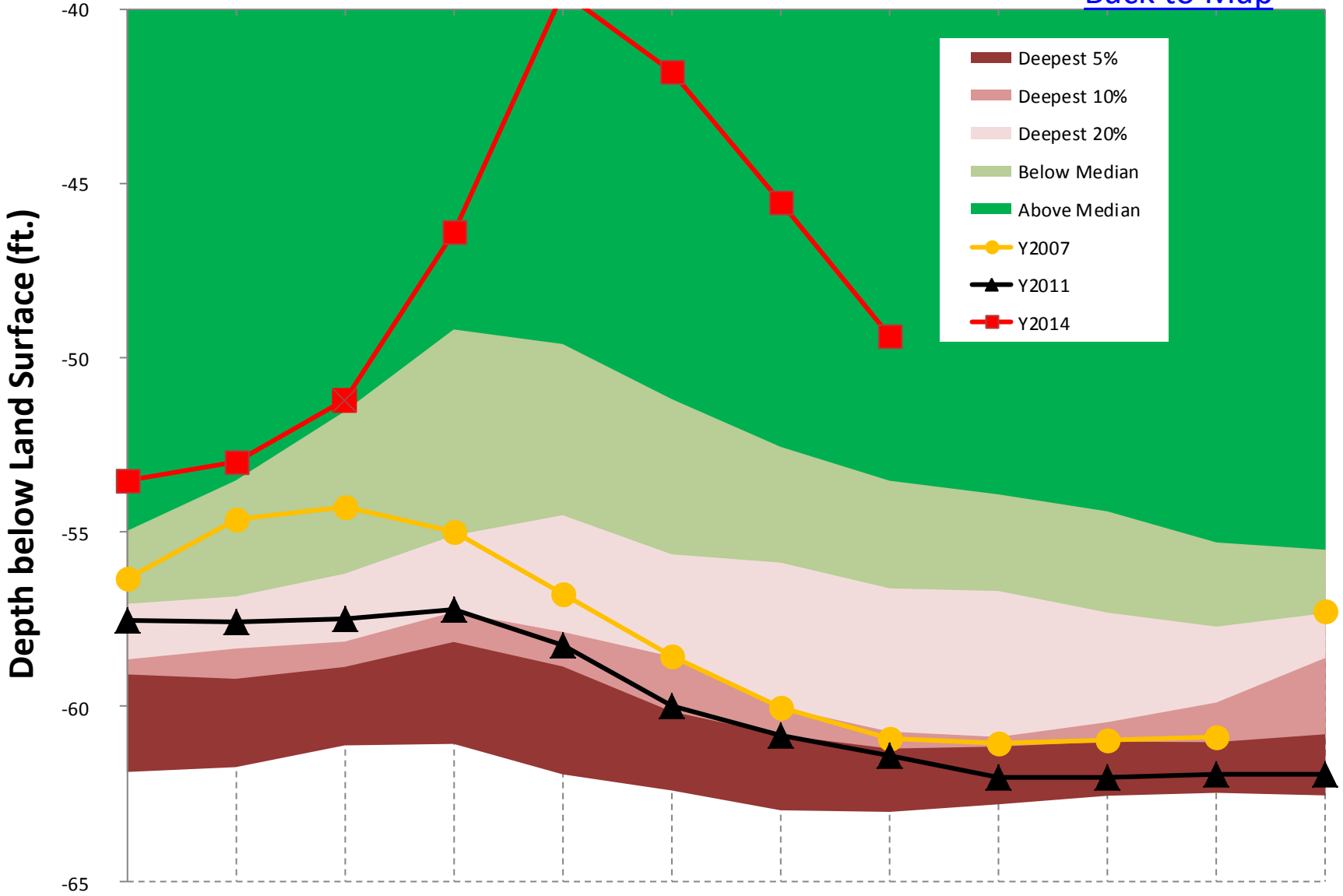

Groundwell #09M007 Monthly Averagae Depth Below Land Surface

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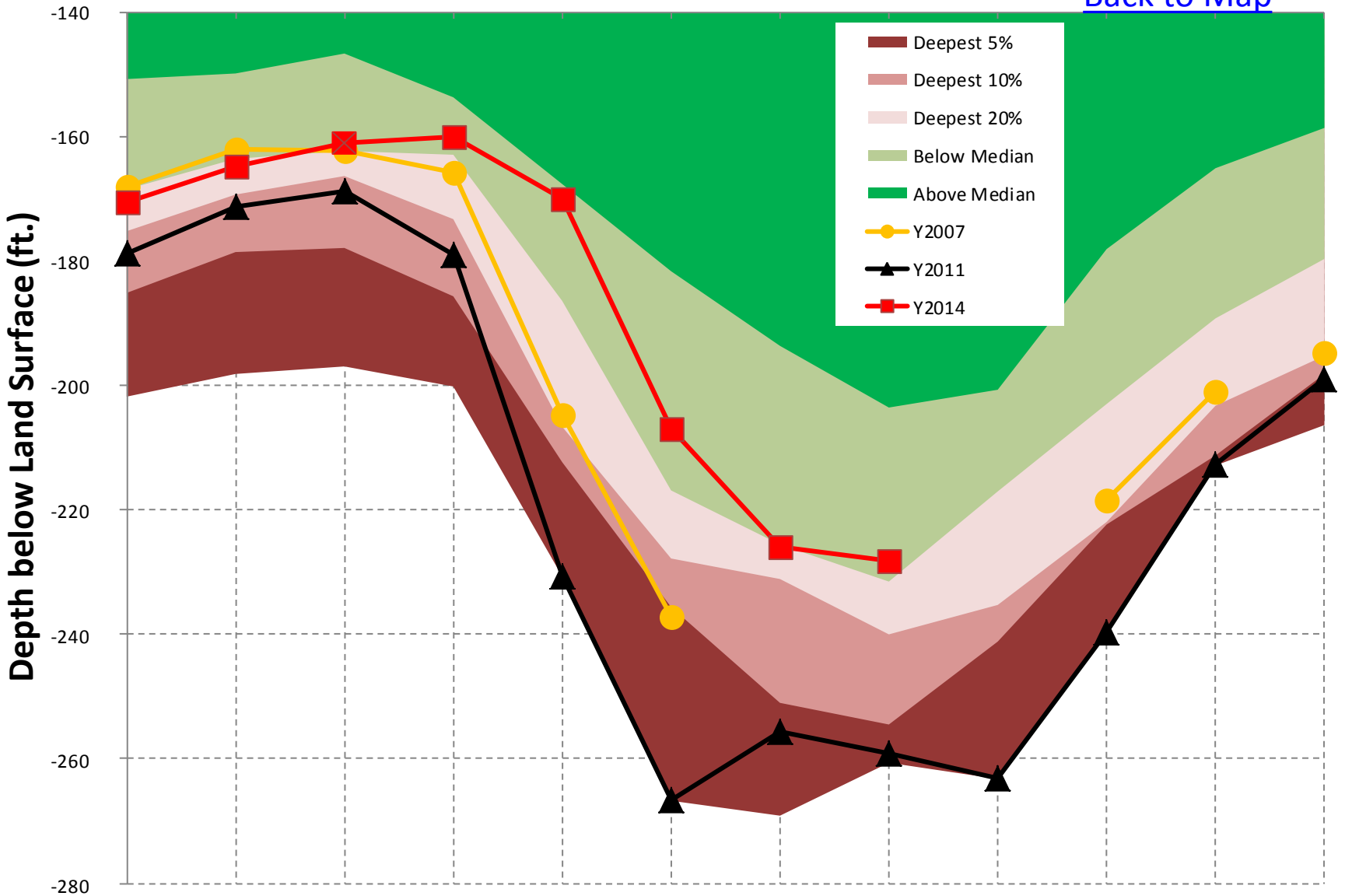

Groundwell #30AA04 Monthly Averagae Depth Below Land Surface

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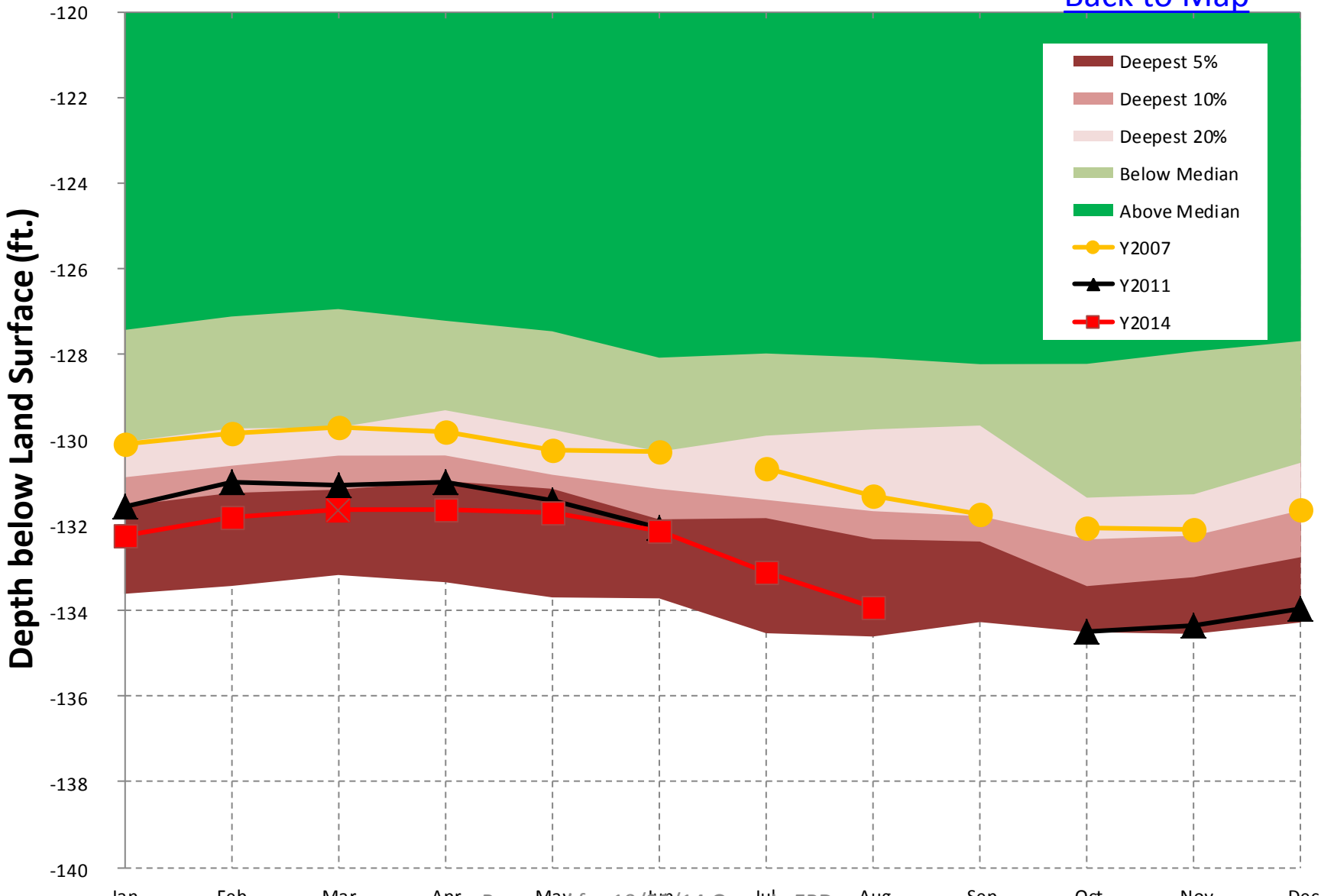

Groundwell #26R001 Monthly Averagae Depth Below Land Surface

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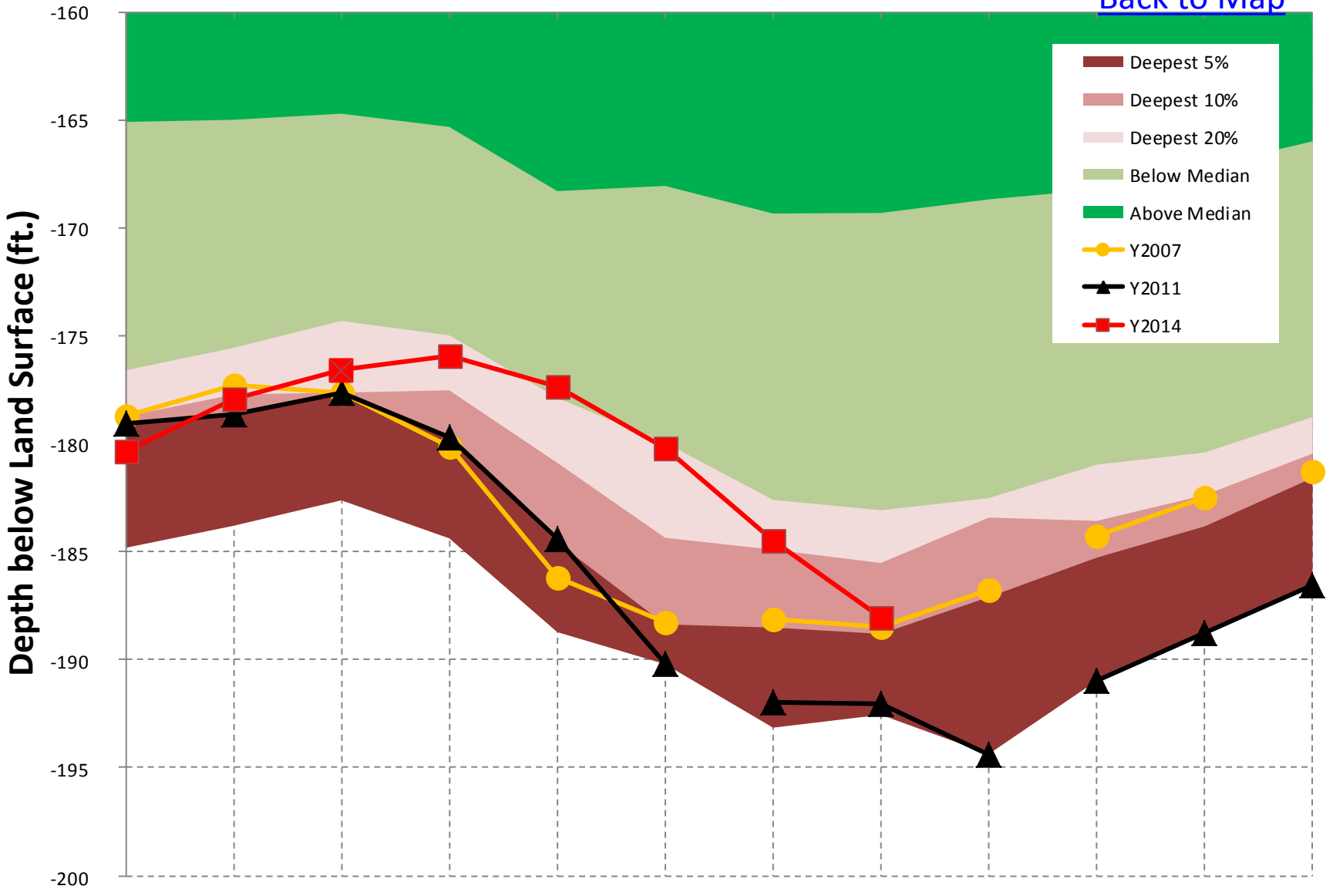

Standardized Precipitation Index

(To be posted at a later date)