

2011 Exceptional Drought

Guadalupe-Blanco River Authority



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Requirements

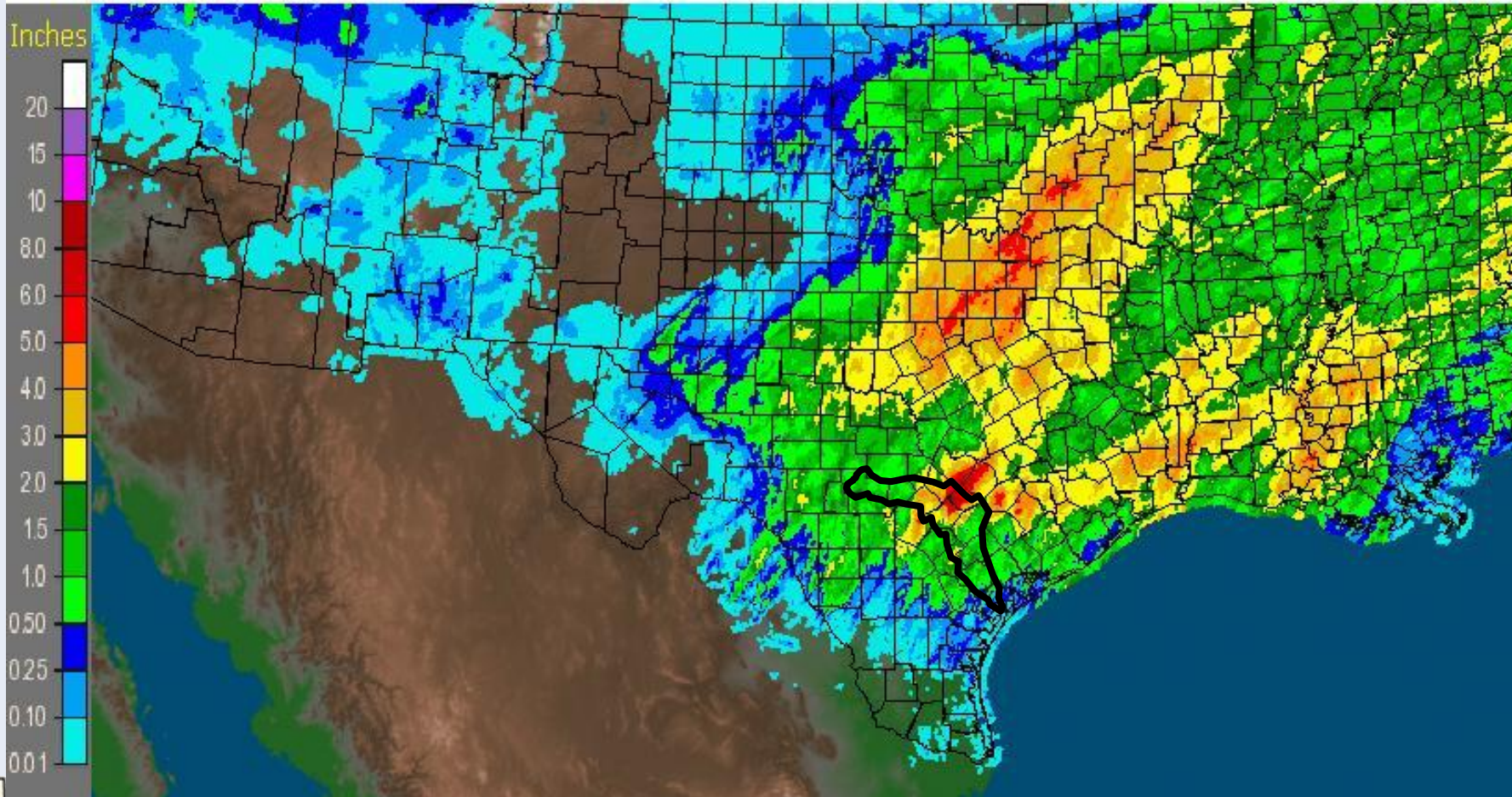
- **Municipals are required by the State Water Code to provide water supplies that are derived from “firm” sources.**
- **Firm sources are defined as being available throughout repeat of the “drought of record” for the area. In this part of Texas, the drought of record is 1947 – 1957. The firm yield calculations for reservoirs and other water sources are based on availability of water for that period.**



Rainfall –Last 3 Days

Texas: Current 7-Day Observed Precipitation

Valid at 1/26/2012 1200 UTC– Created 1/26/12 21:55 UTC

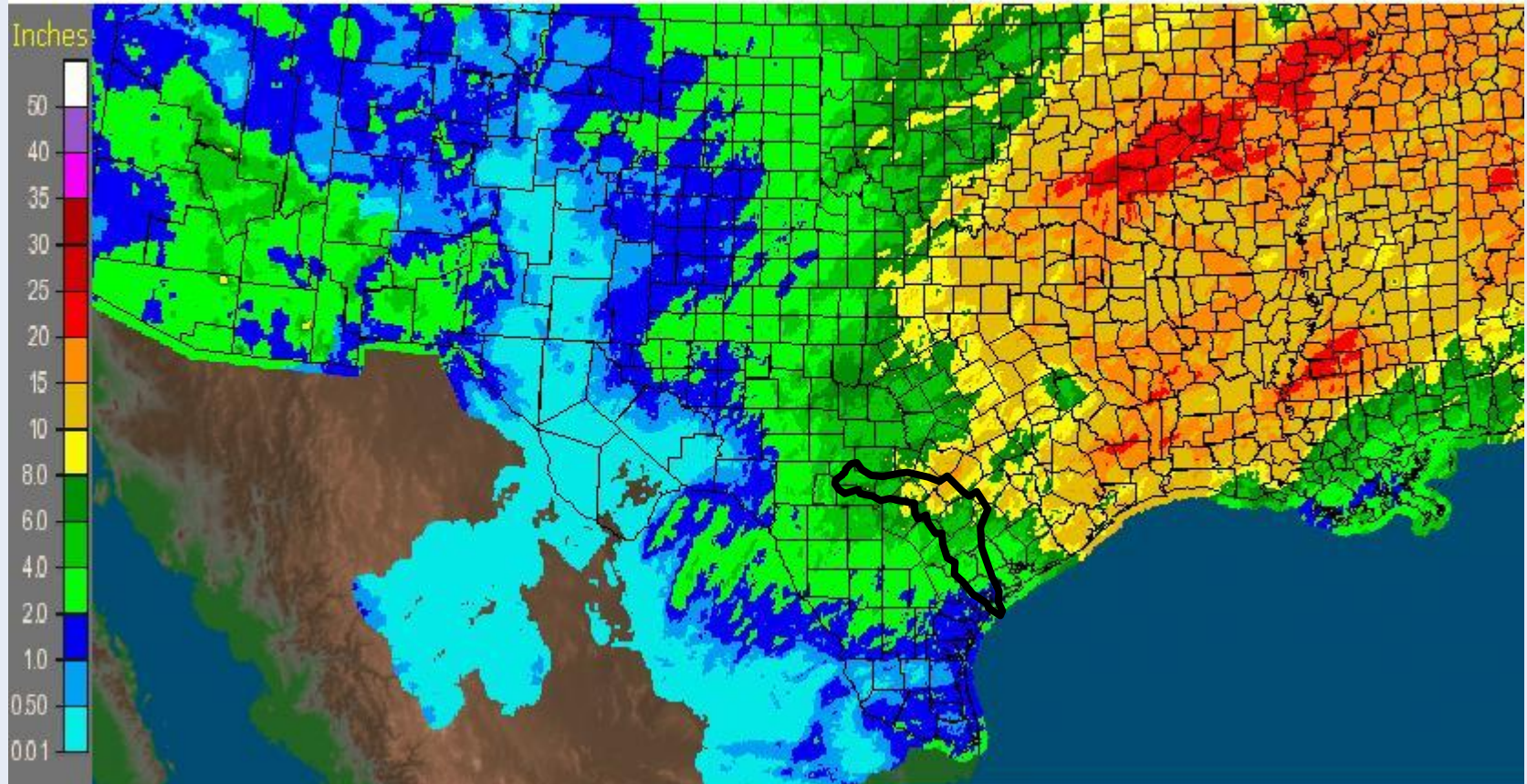


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Rainfall -Last 90 Days

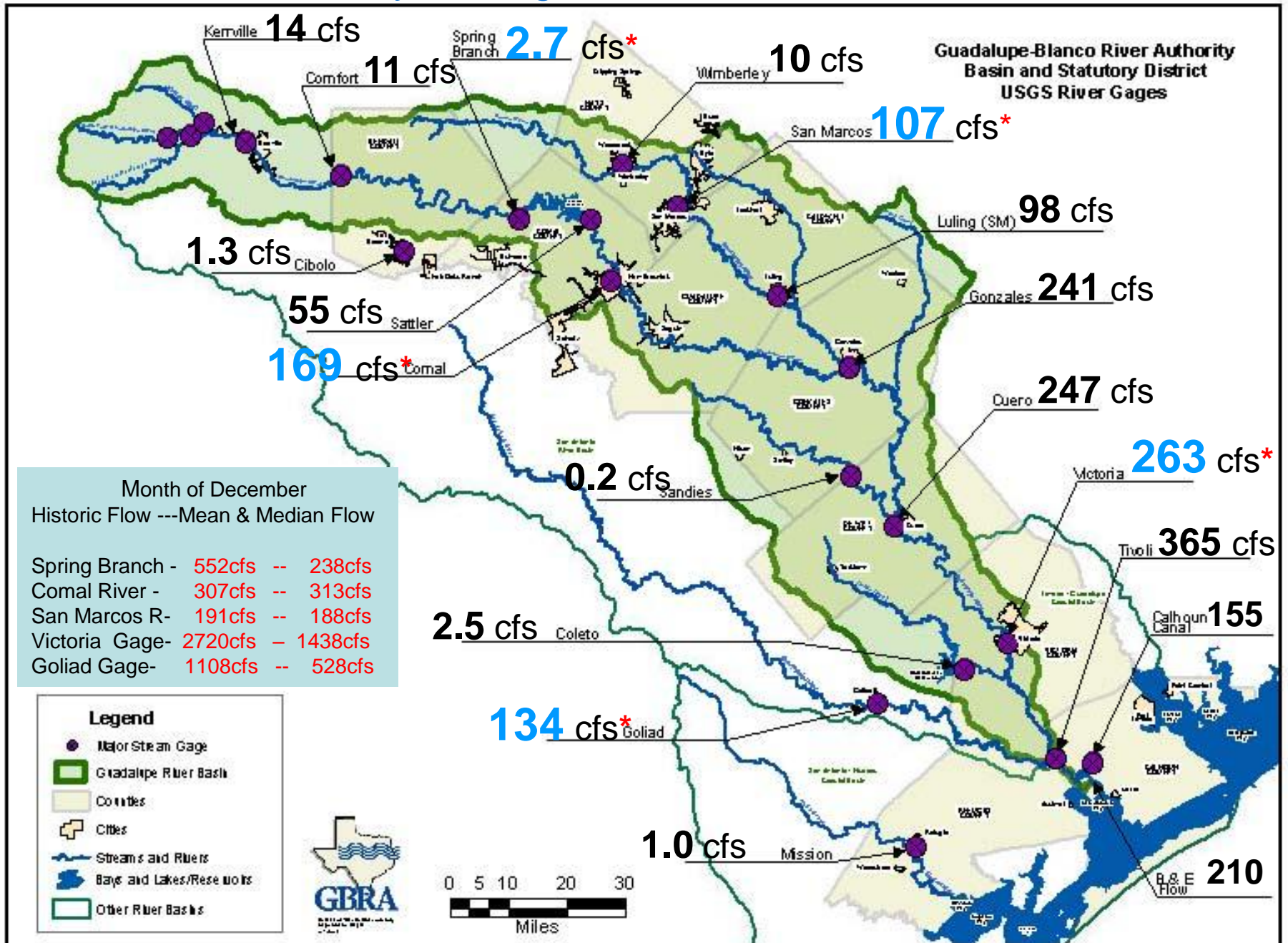
Texas: Current 90-Day Observed Precipitation

Valid at 1/26/2012 1200 UTC- Created 1/26/12 20:13 UTC



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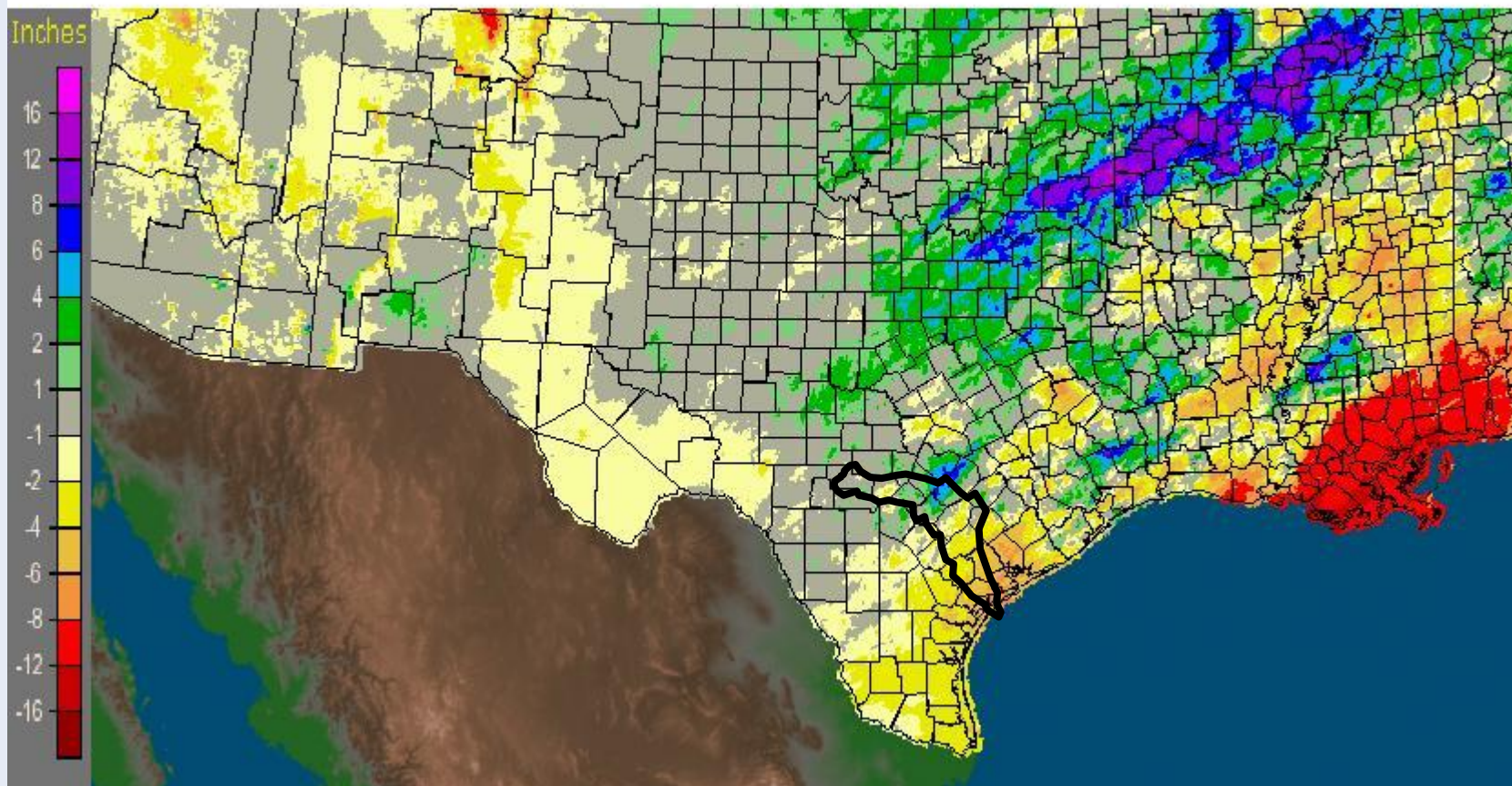
Daily Average Flow - June 20, 2011



Rainfall Departure From Normal – 90 day

Texas: Current 90-Day Departure from Normal Precipitation

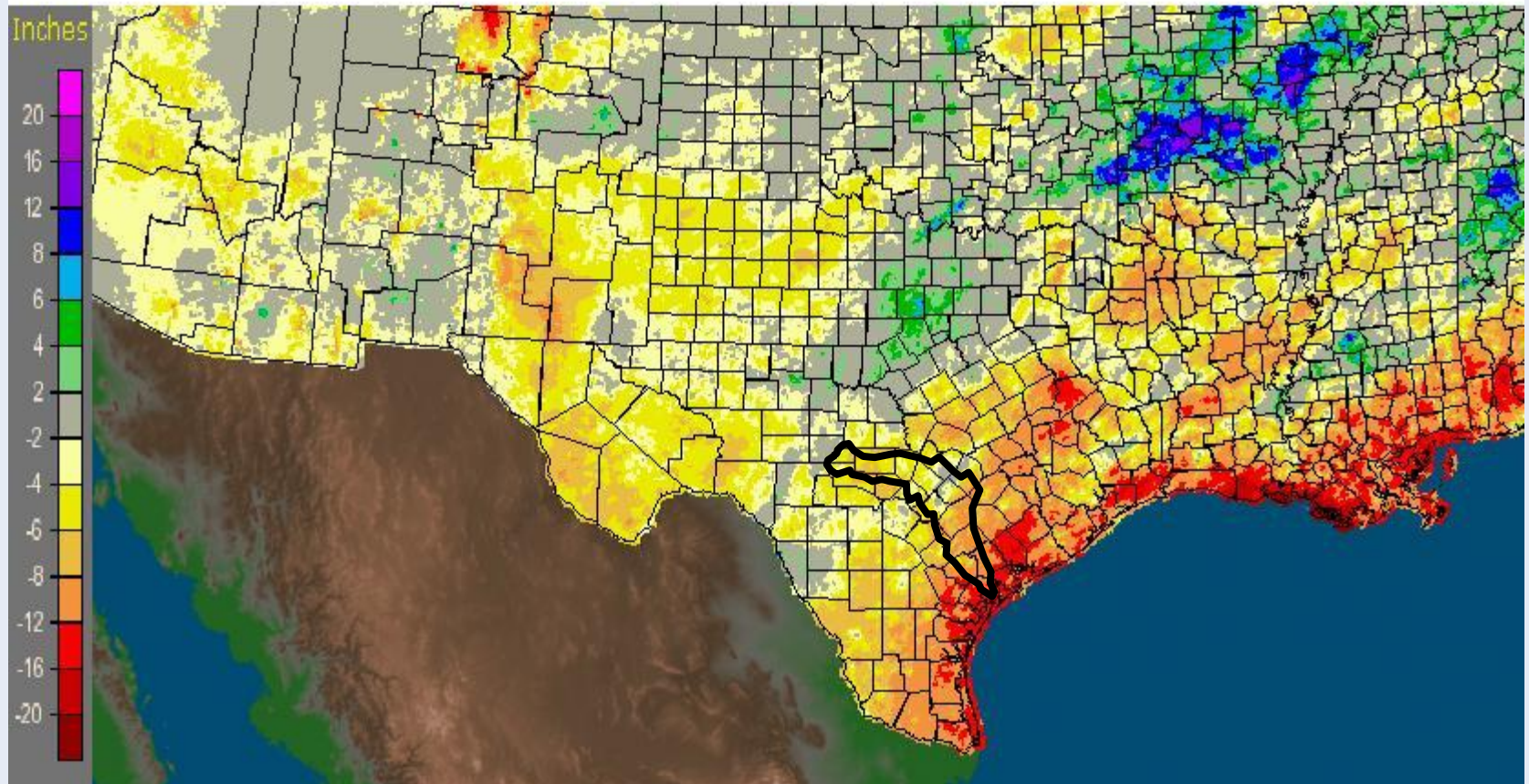
Valid at 1/26/2012 1200 UTC– Created 1/26/12 20:16 UTC



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Rainfall Departure From Normal -180 Days

Texas: Current 180-Day Departure from Normal Precipitation
Valid at 1/26/2012 1200 UTC- Created 1/26/12 20:20 UTC

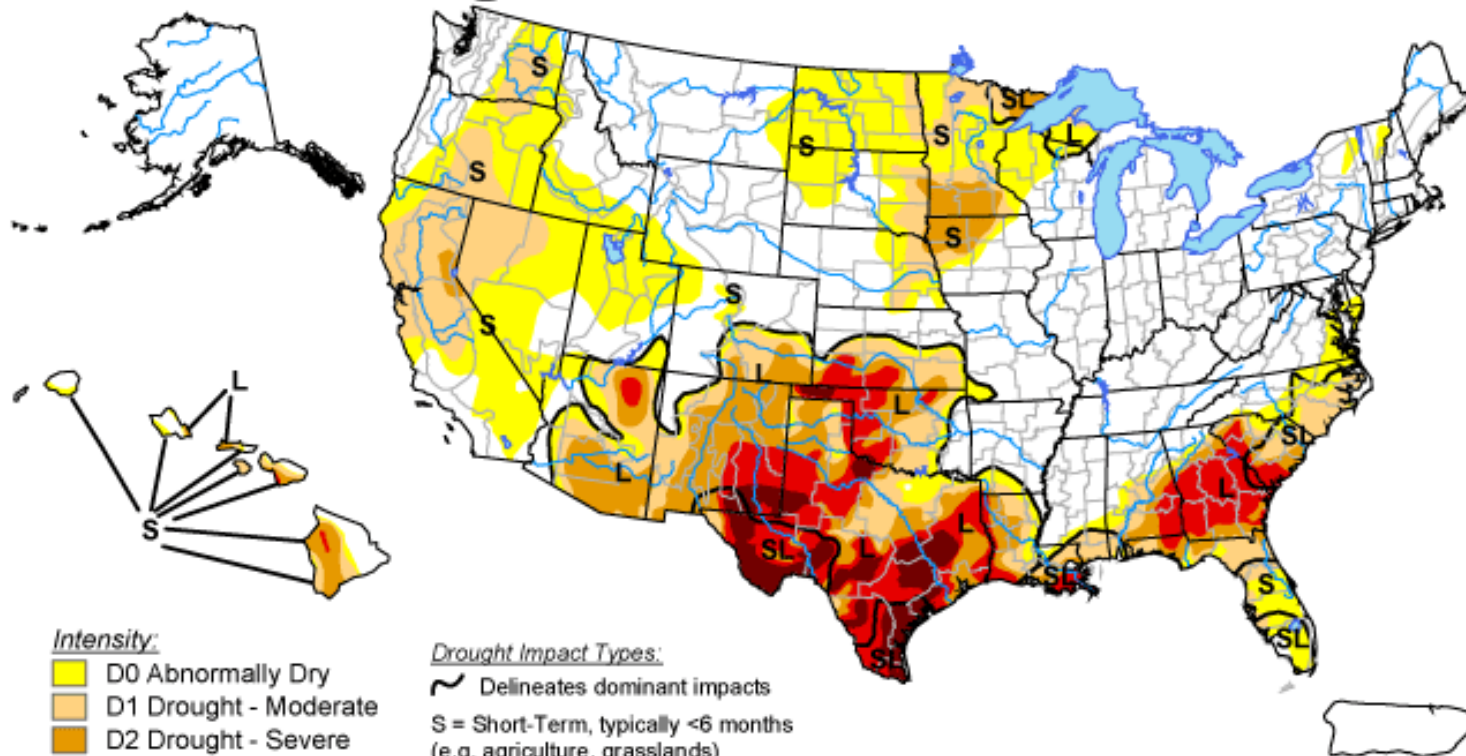


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U.S. Drought Monitor

January 10, 2012


Valid 7 a.m. EST



Intensity:

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

Drought Impact Types:

-  Delineates dominant impacts
- S = Short-Term, typically <6 months
(e.g. agriculture, grasslands)
- L = Long-Term, typically >6 months
(e.g. hydrology, ecology)

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

<http://droughtmonitor.unl.edu/>



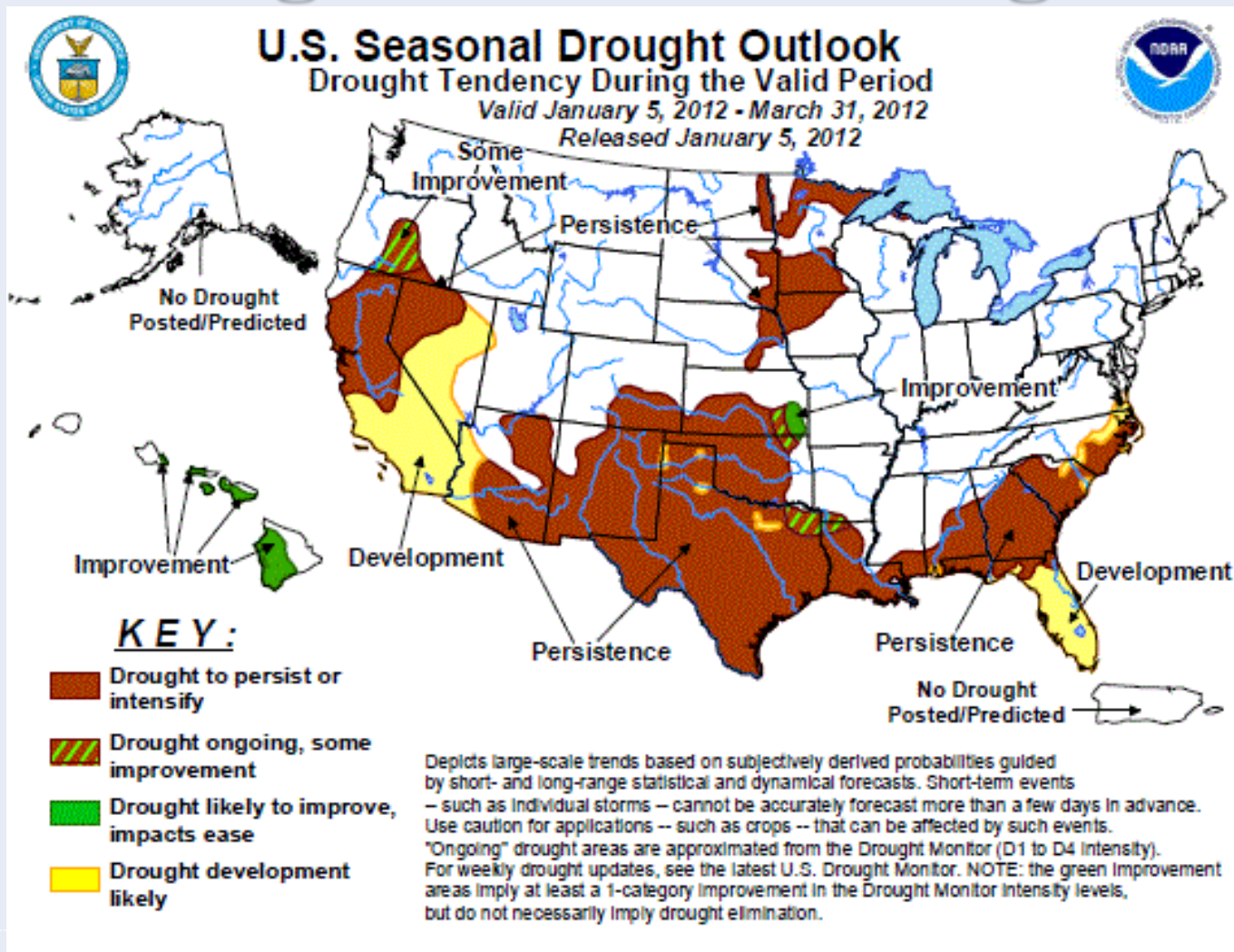
Released Thursday, January 12, 2012

Author: Laura Edwards, WRCC, South Dakota State University



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Drought Outlook through March



Sharing – How ?

- **The State Water Code requires that in the event of a drought worse than the “drought of record,” all users of a source(s) must “share and share alike” the remainder of the supply.**
- **HOW WOULD THAT WORK?**



How Would It Work @ GBRA

- **GBRA is a political subdivision of the State of Texas created in 1933 to provide “conservation and reclamation” on the Guadalupe River.**
- **Canyon Reservoir is the main “firm” water supply on the Guadalupe River that supplies water for GBRA’s statutory district.**
- **Most drought management plans have two sections of procedures – a set of operating procedures for typical drought that is less than DOR and another set of operating procedures for drought that is more severe than the DOR.**



How Would It Work @ GBRA

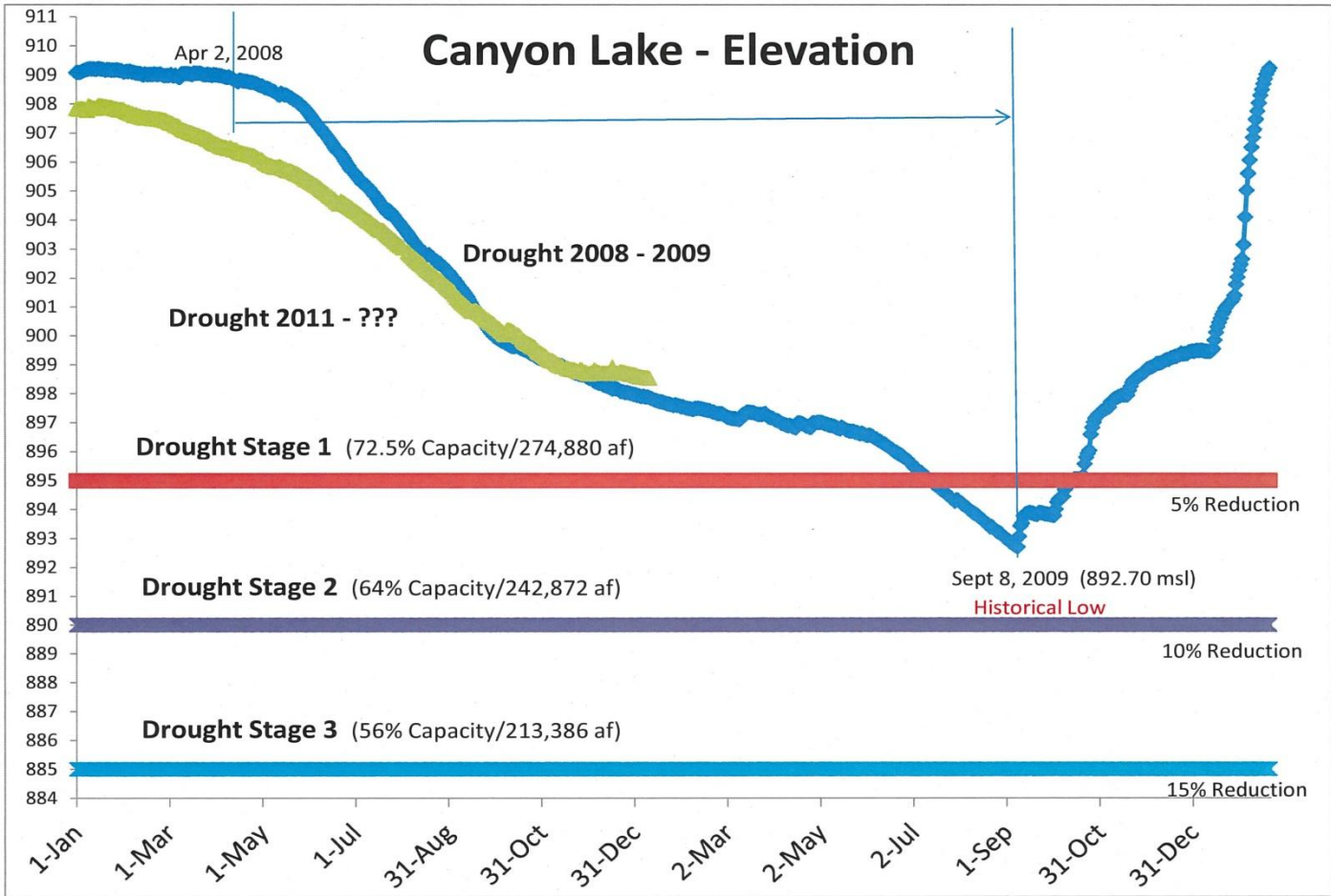
- **The major components of the drought criteria for a reservoir are:**
 - 1. Inflow into the reservoir**
 - 2. Storage**
 - 3. Duration of the drought**
- **When all three of these conditions are less than historical minimums, then a new DOR is being established.**



Curtailment

- **Typically when this condition occurs, mandatory curtailment of firm contract customers is initiated when the supply is depleted by 50 percent or when only half the supply is remaining.**
- **As the drought continues, the level of curtailment increases so as to protect the remaining supply as long as possible.**
- **Usually, droughts are broken by floods.**





GBRA Water Conservation & Drought Contingency Plan

Customers are asked to voluntarily reduce average use (based on previous 6 month's use) by:

- | | | |
|-----------------|--|--|
| STAGE 1: | 5% | (Canyon Lake level at 895' msl) |
| STAGE 2: | 10% | (Canyon Lake level at 890' msl) |
| STAGE 3: | 15% | (Canyon Lake level at 885' msl) |
| STAGE 4: | GBRA will curtail distribution of water to its customers on a pro rata basis whenever the river system experiences a drought more severe than the Drought of Record. This is determined when the following three conditions are simultaneously met: | |
- ▶ **24 mos. since Canyon Lake was full at 909' msl**
 - ▶ **If the inflow for 6 consecutive months is 5% less than the cumulative inflow of the Drought of Record**
 - ▶ **Level of Canyon Lake is less than 885' msl**



PRO RATA Water Allocation

In the event that **STAGE 4** emergency water shortage conditions are met, water allocation will be based on:

- ▶ **Customer's previous one year's usage**
- ▶ **Percentage of curtailment will be determined by GBRA Board of Directors based on severity of water shortage conditions**

Once pro rata allocation is in effect, water deliveries to each customer shall be limited to the allocation established for each month.

For details, see GBRA's Water Conservation and Drought Contingency Plan online at www.gbra.org

July 2011



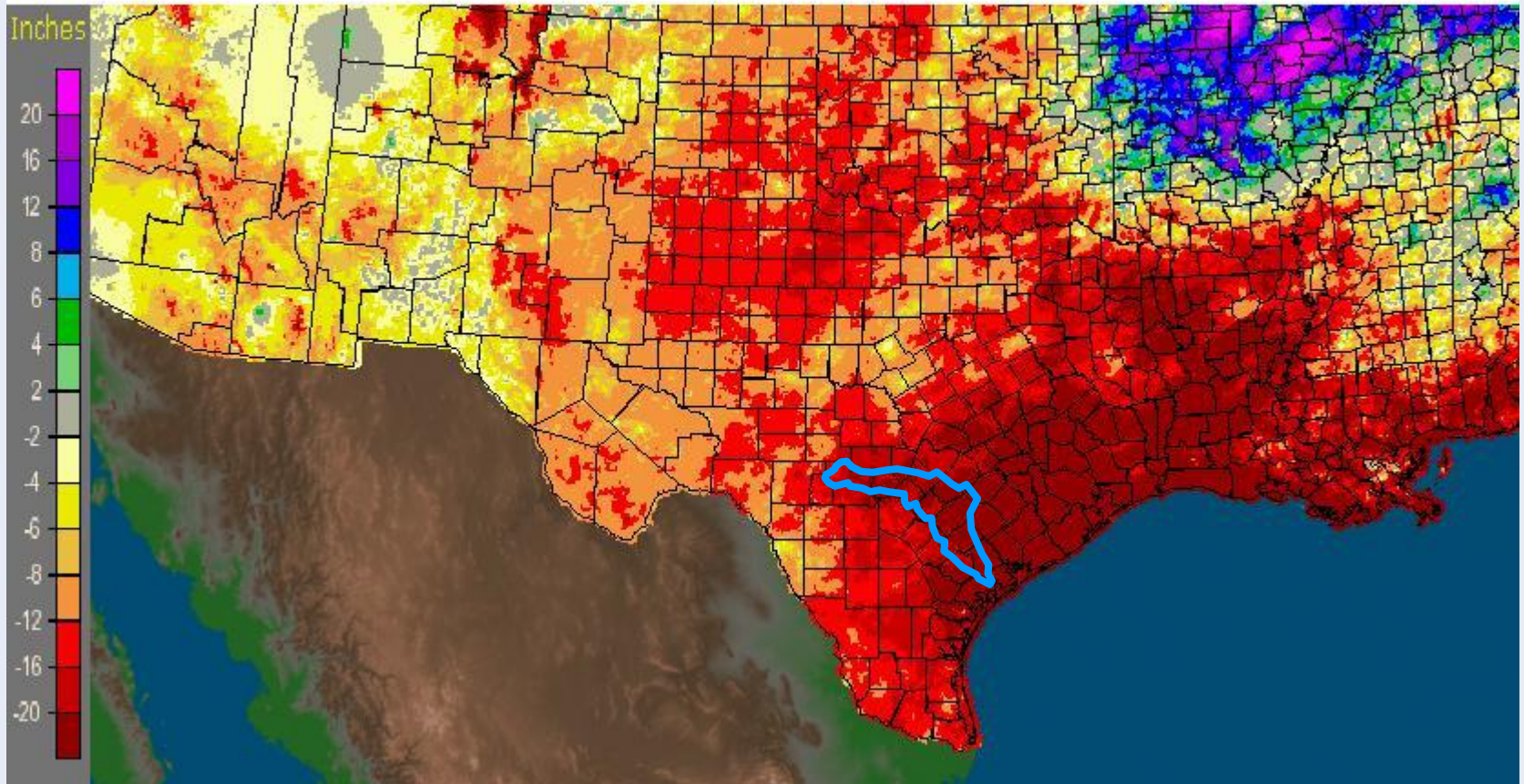
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Q & A



Rainfall Departure From Normal -11 Month

Texas: Current Year to Date Departure from Normal Precipitation
Valid at 12/5/2011 1200 UTC- Created 12/5/11 15:48 UTC



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