

May 2014

At the start of the 2014 growing season, it is drier than ever across much of the Southern High Plains. The last of the flood waters from the fall rains are gone, and all of the basins we're monitoring are dry. We plan to make the most of these conditions to wrap up surveying activities, catch up on maintenance, and do some sampling while we can access the playa basins. And hopefully the summer season will bring some rain!

The 2014 Farm Bill update was finally passed in February, and language allowing playa modifications as part of the TWDB project was included in the legislation. This clears the way for us to proceed with Phase 2 of the project, pending approval of funds by the Texas Legislature during the 2015 session.

In response to inquiries from some of our participants, we are starting to put monitoring data on the internet. We are reconfiguring the cell modems on each weather station to act as web servers. As the modems are converted, we will get information out on how to access the data using a web browser.

We can't say when wetter conditions may return to the Panhandle, but for now we know

You may see some new faces out in the field this summer. Mark Olden has joined the TWDB playa project team. He will be helping on field work and on computer modeling tasks. We are also hiring a summer intern, who will be starting on June 2.

As always, we welcome your continued participation in and input to this project. Feel free to contact Andrew Weinberg at 512-463-3210 or by e-mail at andrew.weinberg@twdb.texas.gov with any comments or questions.



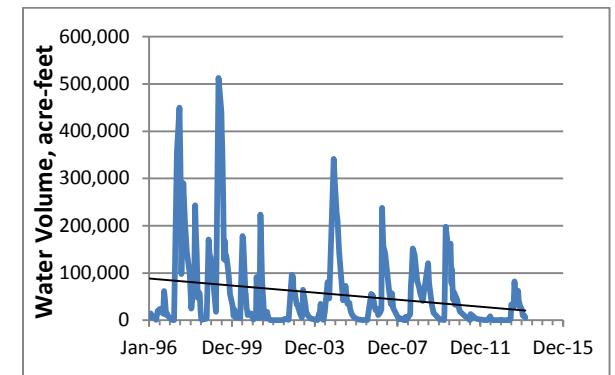
Playa Monitoring

One of the main questions the TWDB project is trying to answer is "How much water do playas collect on average?" Various estimates have been published over the years, but none of them have been based on a long-term observational record. Since we have been in drought ever since the project got going, we turned to Landsat satellite data to get an answer.

The Landsat family of satellites has been collecting images of the Earth for over 30 years. that recharge enhancement will need to concentrate on the playas that catch the most

We used 275 images from 1996 through 2014 to estimate the amount of water in a sample of 72 playas in an area stretching from Lamb County in the southwest to Gray County in the northeast.

We found that the amount of water collected in playas averages about half an acre-foot per acre of playa area. The amount of water collected in individual playas varies widely, with some averaging almost two acre-feet per acre per year and others getting only a few inches. The average daily water volume in Texas playas declined from nearly 90,000 acre-feet to about 20,000 acre-feet over the 18-year period studied. This decline is probably the result of cyclical changes in large-scale Pacific and Atlantic Ocean circulation patterns. Changes in irrigation technology and land management likely also affect the playas.



Estimated water volume in Texas playas, 1996 to 2014

water. In favorable locations we may be able to recharge up to an acre-foot of water per acre of

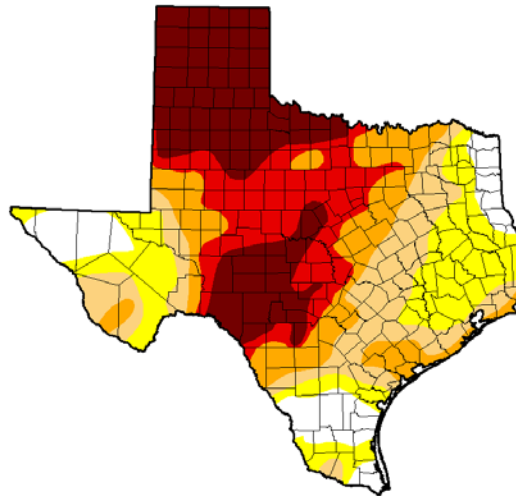
playa per year. That won't irrigate a section of cotton, but it could support smaller-scale, intensive cultivation of high-value produce to supplement income from dry-land farming or ranching.



Drought

Drought conditions continue to worsen across the Panhandle, as shown in the US Drought Monitor map of the most recent conditions for Texas below. Storms forecast for the Memorial Day weekend may bring some relief, and El Niño conditions are expected to develop this fall, increasing the likelihood of above normal precipitation over the winter months.

U.S. Drought Monitor May 20, 2014



More information on climate and drought is available from the Office of the Texas State Climatologist at <http://climatexas.tamu.edu/>.

Week	Date	Nothing	D0	D1	D2	D3	D4
Current	5/20/2014	9.82	17.87	16.21	15.76	15.30	25.05
Last Week	5/13/2014	8.82	18.13	16.95	16.22	19.15	20.73
3 Months Ago	2/18/2014	11.96	29.84	30.72	18.94	7.82	0.71
Calendar Year	12/31/2013	28.48	27.68	22.69	15.33	5.03	0.79
Water Year	10/1/2013	6.62	22.43	45.87	21.08	3.89	0.12
One Year Ago	5/21/2013	2.84	7.46	22.61	31.72	17.36	18.02

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.

Author: Michael Brewer, NOAA/NCDC

