

Why has it been so dry?

Weather patterns make drought more likely

Historical droughts

These photos show the effects of three droughts on Lake Buchanan, one of the region's water storage reservoirs: the 1947-57 Drought of Record (the worst drought on record in Texas); the drought of 1982-86; and the current drought.

Lake Buchanan in 1952:



LCRA Archives

Lake Buchanan in 1984:



LCRA Archives

Lake Buchanan in 2013:



Droughts are part of the region's history

- Texas is subject to periodic droughts. Weather patterns have caused droughts in Texas for as long as people have recorded the weather. Tree ring data shows evidence of droughts in Texas as early as 1534.
- At certain times in long-term weather cycles, droughts in Texas become more likely. This is one of those times.

Pacific water temperatures play an important role

- Every 20 to 30 years, water temperatures in the Pacific Ocean switch from warmer to cooler.
- When water temperatures in the eastern Pacific Ocean cool down, droughts become more likely in Texas and the western United States.
- Droughts become more likely because the cooler water makes the air off the West Coast more stable, which pushes the jet stream over the United States farther north.
- A more northerly jet stream makes it less likely for storms to form and stay over Texas.

El Niño and La Niña

- El Niño is a weather condition that makes wet weather in Texas more likely.
- La Niña is the opposite – making dry weather in Texas more likely.
- When the eastern Pacific Ocean is cooler, La Niña occurs more often – causing dry weather in Texas.

Conditions favor drought

- The eastern Pacific Ocean is currently in a cool phase. It changed from warm to cool around 1998.
- From 1975-98, El Niño occurred more often than La Niña, causing more frequent wet weather in Texas.
- Since the eastern Pacific Ocean moved to a cool phase in 1998, La Niña has occurred more often than El Niño, producing more frequent periods of drier weather in Texas.
- Overall weather conditions now are similar to the 1950s, when the lower Colorado River basin experienced the multi-year, historic Drought of Record.