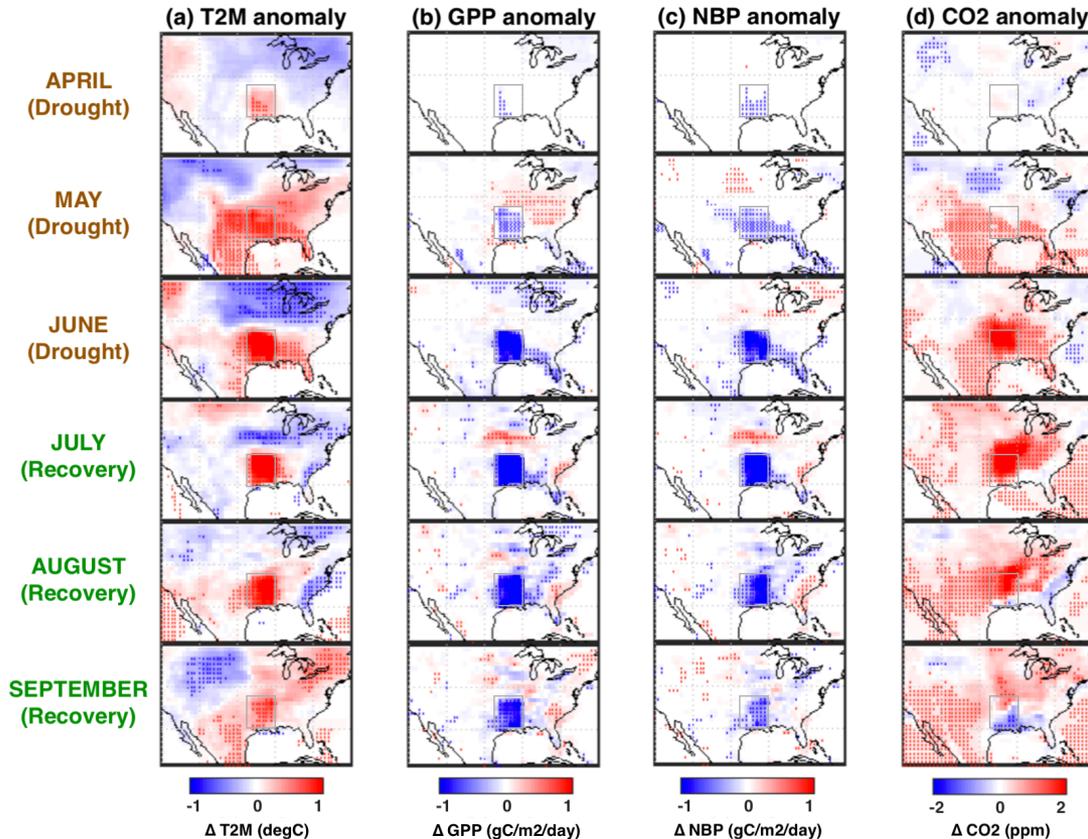


# Impact of a Regional US Drought on Land and Atmospheric Carbon



Regional droughts affect the amount of carbon absorbed by the land biosphere and the amount of CO<sub>2</sub> remaining in the atmosphere. Using GMAO's Global Earth Observing System (GEOS) Earth System Model that couples the carbon, water, and energy cycles across the land and the atmosphere, we are assessing the impact of a regional US drought on land and atmospheric carbon.

In this graphic, monthly anomalies caused by the imposed drought are shown in four columns: (a) 2-meter air temperature, (b) gross primary production, (c) net biosphere production, and (d) surface CO<sub>2</sub> in the lowest atmospheric model layer (about 50 m). Hatched areas indicate the anomalies that are statistically significant.