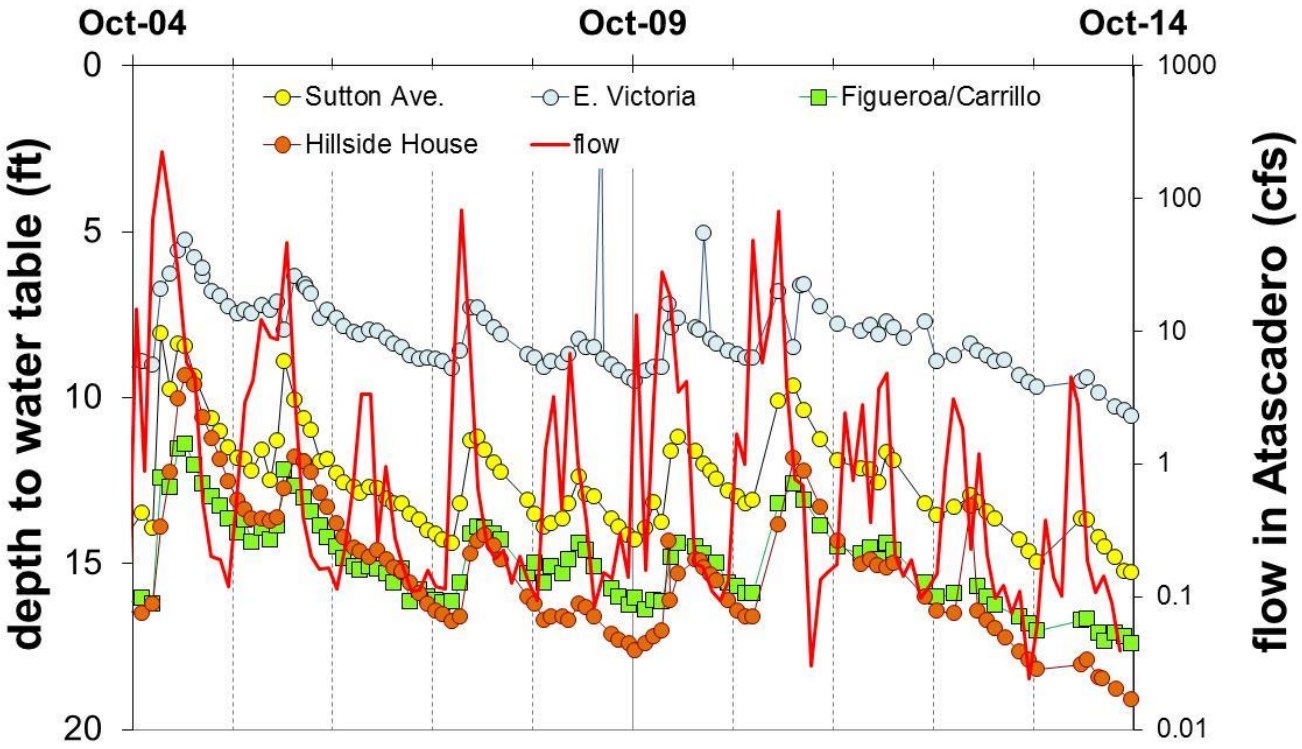

This is depth to groundwater data (as measured from the surface) for four shallow wells in Santa Barbara (USGS data available on-line; the USGS maintains and posts lots of Santa Barbara County well data). The Sutton Ave., Figueroa/Carrillo and E. Victoria wells are downtown, just to the east of Highway 101 (in the Mission Creek drainage). The Hillside House well is near me, at the bottom of Victoria Springs Road, adjacent to Arroyo Burro Creek. Also shown on the graph are average monthly flows in Atascadero Creek (as measured at the USGS gauge at Patterson).

As you can see, flow in Atascadero Creek and the groundwater depths correlate rather nicely—as we might expect since both are governed by the amount of winter rainfall, which contributes flow for one and recharge for the other. I've shown flow on a log scale so small differences in line height represent very large differences in flow. A peak monthly average flow of less than 10 cfs represents a very dry year with little rainfall: water-years 2007, 2009, 2012, 2013 and 2014 were such years.

That was the old story I used to tell with this data. The new story is that the groundwater table underlying Santa Barbara is now lower than at any time since 2005. The lower the groundwater table the less flow there will be in local streams during the dry season—the stream bottom has to intercept the local groundwater table for the creek to gain any water from this source. Absent this, it can only contain water if someone (or something) upstream is directly dumping it in—and that source will quickly disappear as flow leaks through the stream bottom and disappears below the creek as it heads for the water table.

The present groundwater levels (the last measurements shown on the graph were taken at the end of September so levels are even lower now) are also lower that the points shown at the beginning of the graph. The beginning points represent the height of the groundwater table at the beginning of water-year 2005, i.e. in October 2004. This is significant because October 2004 represents the end of the 2002-2003-2004 drought, our most recent previous dry spell. So things are worse now than they were then. If it's any consolation, the present situation is, as far as I can tell (the data that far back are incomplete), not as bad as it was in 1990, the last big drought.