

## Observations on a Year of Extremes

This has certainly been a year of extremes, weather-wise. At our house, I recorded 20.4 inches of rain from January through June, including 9.8 inches in May and 3.3 inches in June. Then for the next 119 days (from June 23 through October 20) I recorded only four rainfall events, none greater than about a half inch, for a total of only about 1.5 inches. And finally, beginning on October 21, we have had over 7 inches through this writing on Nov 8.

Historically, a graph of rainfall amounts by month in the Hill Country shows a bump of higher precipitation in April, May and June and another smaller bump in September and October.

This year's spring bump was, however, truly exceptional, amounting to nearly 16 inches. And all of our vegetation responded in a pretty exceptional way with more new growth on trees and shrubs, bountiful blooms on all of our wildflowers and record-setting amounts of native grasses, especially Texas wintergrass. Some grasses put up seed heads much earlier than usual.

But then the rains stopped, like someone turned off the faucet. And from the third week in June through all of July and August and September and the first three weeks of October we only got a few sprinkles of less than half an inch—certainly not enough to soak deep enough into the ground to do much for the trees. So throughout all of the hottest days of summer and into the fall, the landscape became more and more parched and dry.

Summer is the most stressful time in the Hill Country for the vegetation. One of the reasons it is suggested that the best time to plant perennials is the fall is because planting in the spring doesn't give new plants enough time to grow enough roots to survive our hot summers.

Of course we are accustomed to long hot summer days, and we don't expect much relief from the rain clouds, but this year's "summer drought" was worse than usual if for no other reason than it lasted around 121 days before our next good rain. And for a lot of those days, the temperatures climbed up to and exceeding 100 degrees.

The results of this prolonged summer drought were that virtually all of the grasses went dormant, many forbs lost leaves and failed to bloom, and many trees began to drop leaves prematurely. Most grasses are greening up with the recent rains and will certainly come back as usual next year. The October rains have stimulated some forbs to bloom and most perennials will come back next year as usual. The annual wildflowers should certainly come back next year. My biggest concern is for some of our trees.

Around our place we have mostly live oaks, blackjack oaks and post oaks. In the drought of 2011 many of these trees were stressed and in 2012 and 2013 we lost several blackjack oaks, all showing signs of hypoxylon, a fungus that usually only infects stressed trees, especially blackjacks, post oaks and Spanish oaks. We lost a much smaller number of post oaks in that time period and no live oaks.

This year, beginning in September, I noticed a number of post oaks losing leaves and turning brown. Generally if a tree begins to lose leaves a few weeks before normal fall leaf drop, it is not much of a concern for the health of the tree. But some of the post oaks were losing leaves almost two months early, showing that they are clearly stressed. So I am concerned that they may become infected with hypoxylon—only time will tell next year.

Interestingly, this year our blackjacks have not shown any obvious stress, nor have the live oaks: only the post oaks. We have seen stress in some shrubs such as Carolina buckthorn, and wafer ash, and some planted trees such as chinquapin oak and Mexican white oak.

What is interesting about this year is that we will probably wind up with near-average rainfall for the year as a whole, and certainly way better than the drought of 2011, but the effect on some trees may be very similar to 2011. It just points out the fact that the total yearly rainfall is not a good measure of how our vegetation has fared. Rather the timing of the various rainfall events can be as important as the total rainfall.

Until next time...

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