

May – Early August

Finally, Rain!

On Sunday, August 1, 2016, the preacher preached: “Do not complain!” Although recalling numerous complaints made by the Old Testament prophets, and in the New Testament more than a few by the apostles, as well as by Jesus himself, I did not argue with a “man of the cloth.” Therefore, this little essay/story is not one of complaint, but of observation.

I do not recall a spring through early summer drought equal to that of 2016. According to the meteorologists, it is not uncommon for a strong El Nino to be followed by a strong La Nina. This one has been one to tell stories about.

From early May through July less than two inches of rain fell on my little farm. The official weather station for Oconee County, South Carolina, located about three air-miles east of me, recorded five inches, the discrepancy a result of the “widely scattered showers” distribution. But even that was only 43% of the 30-year average. At the weather station March had only 29% of the normal rainfall. April had 1.5 times the normal precipitation, but May dropped to 59%, June to 20%, and July to 51% of normal expectancy.

Mean high temperatures fueled the developing drought. In the abnormally dry March, the mean high was 8⁰ above normal. Even the abnormally wet April had a mean high 3⁰ above normal. By July the normal mean high of 90⁰ was exceeded by 7⁰.

The high temperatures reinforced by the almost daily light to moderate winds sucked the land dry of its life-giving moisture. As revealed by two graves that I had to prepare for beloved trail horses in June and July, the soil was as desiccated at six feet as it was at six inches. By mid-July, the meteorologists officially designated a portion of northeastern Georgia and bordering counties in South Carolina as in “severe drought.” It was not news to those of us who live close to the land.

Not only could plants not grow, it was a total mystery as to how they could even stay alive – many didn’t. In the agricultural venue, grain and forage crops and pasture grasses grew slowly if at all. April put a good finishing touch on fescue hay, but the onset of the drought in May simply prevented coastal Bermuda grass hay production. The first cutting of Bermuda grass for square bales should have been made in late May or by mid-June, but there was nothing to harvest even by the end of July. Pastures dried up until the cattle farmers, as well as recreational horsemen, were feeding hay. Short stalks and small ears characterized the corn crop. Soybeans were off to a slow start, if starting at all.

In the orchards, the farmers reported that while the peach crop would be substantially reduced, the individual peaches would be sweeter. My sampling of the crop caused me to be in general agreement.

Honey production was another matter. When I had a 100% over-winter hive survival, the first such success in at least eight years, I was set for a high production season. Nature paid no attention to my expectations. April, the month of normally heavy production from the nectar of tulip poplar flowers, was a bust due to abnormally high amounts of rainfall. The bees could not work in the rain, and when the rain stopped it had washed the nectar from the flowers.

There was the usual lull between the poplar bloom and that of sourwood. The sourwood bloom began in early June. The rains had long been over. If any sourwood honey was made, it was not detectable. (Sourwood honey is easy to detect by its lack of color.)

The bees were moved to an area of 15 to 20 acres of sunflower in early July. Two years ago, my bees had made a great deal of exceptionally high quality honey from these same fields. The bloom was beautiful, but not a drop of honey was made.

At that point I began to wonder if moisture stress in the soil was so great that neither sourwood in the forest nor sunflower in a field could extract enough water to produce nectar in the flowers. I discussed that possibility with a friend who was also a forest physiologist. He corroborated the theory as a possibility and explained some of the technical aspects. Perhaps I will live to test the theory in future years when we get normal rainfall.

In the forest, the El Nino rains followed by a very warm March lead to a dogwood bloom that was at least two weeks early and one of the best in recent years. Wildflowers that typically bloom in Mid-April were blooming early in the month. All signs seemed to point to a beautiful spring. But by early May and full leaf-out by the trees, the weather was turning hot and dry. Low relative humidity exacerbated the rapid loss of soil moisture through evaporation and transpiration by plant foliage. The crescendo of wildflowers that normally burst forth to grace the forest trails in May and early June did not develop. Sightings of butterflies on the wild landscape were uncommon to rare. Even the swallow-tailed tigers, a hardy and abundant tribe, were notable when seen. I did not see a single zebra, my favorite. To see butterflies, one needed to visit a flower garden, preferably one that was being irrigated. If you were going to find wildflowers in significant numbers in the forest, you had to find a spring seep or a bog near a stream.

Among the forest trees and shrubs, the very shallow rooted dogwood was wilting by June. Leaves hung limp and began to curl. Soon foliage turned brown on the outer portions of the limbs of most trees. Some trees, particularly those already greatly debilitated by anthracnose, turned completely brown never again to grace the spring forest with their virginal white flowers. Anthracnose has been decimating the dogwood of the southern Upper Piedmont and Blue Ridge for many years. Aided by the severe drought of 2016, it has made a great leap in its deadly progress towards causing total loss of the species.

The oak species that fall into the category labeled by taxonomists as the red oak group are all shallow rooted. In addition they are all prone to root rot which becomes extensive as the trees reach an advanced age and size. When they reach a large size, the loss of a

mechanically stabilizing root system makes these trees highly susceptible to wind-throw. Under drought stress, they cannot get enough water, thus this year numerous specimens are standing with all of their foliage dead, awaiting the rains and winds of winter to turn them stark and bare. In years to come they will lie prone on the forest floor.

Tulip poplar was another notable story. This tree has a taproot that descends deeply into the ground. It should be able to defend itself against the ravages of drought better than many other species. Yet it seems to be quite sensitive. Poplar is among the first to don itself in green in early spring and put forth its beautiful and astonishingly complex flowers in April. It is also the first to signal the coming fall with leaves turning yellow in September. This year, the poplars had an abundance of yellow leaves in July, undoubtedly a result of moisture stress.

Wild black cherry, itself bearing many yellow leaves in mid-summer 2016, was empathetic with the plight of the tulip poplar. One afternoon in early July, a moderate wind arose associated with a nearby shower from which we received no rain. I looked across the front yard to see black cherry leaves falling in numbers characteristic of late October.

Hickories seem to have an interesting mechanism for self-preservation during major droughts. When the stress reaches a certain level, they begin to cast their nut crop. Nut production requires a substantial investment in water, energy and nutrients. By getting rid of its current crop liability, the tree can invest these same resources in preserving itself and providing for nut production in future years. The ground around the hickories along the edge of my yard and near my barn became littered with immature hickory nuts all of which had been split open by hopeful, but likely disappointed, squirrels.

One wild creature that seems to have benefited from the drought was the wild turkey. Dry springs typically favor turkey reproduction as eggs, hatchlings and young poults are less likely to get chilled by spring rains. I saw more turkey broods this year than in a long time. They foraged for insects frequently in my lower pasture lots. Given the scarcity of green plants for insects to feed on, I was surprised that there were enough to attract the turkeys.

Other wild animals seemed to be generally okay in spite of the drought, although numbers of songbirds in my yard seemed to be down. Squirrels remained abundant.

Some good news, although the forest floor had been like a tinder box, there were no forest fires of significant size in our severe drought area this year.

Finally, the rains began! By late July, some portions of the South Carolina geographical area called the Upstate began receiving significant amounts of rain. Showers were scattered, often dropping one to two inches in one locale while another only a mile or two away received only sprinkles, if anything at all. By the first week of August, the showers were more numerous and more closely spaced. The meteorologists explained that a strong low pressure system stationary over the Florida Panhandle was driving in our direction moisture from both the Gulf and the Atlantic. Helping with the process was a strong high

pressure system to our northeast that was blocking the counterclockwise winds of the low and concentrating rainfall over us.

I never did get the single storm amounts of one to two inches that fell only a few miles away. But I got a total of a couple of inches of soft, slow falling rain, almost every drop of which was captured by my soils. These clay soils can dry and harden to the consistency of concrete. Rain, preferably in small drops slowly applied, is needed to soften the surface and expand the pore space to allow the penetration and percolation of the life-giving water. That happened.

Within a few days the miraculous resilience of nature was witnessed once again. Although the blisters of drought had left numerous scars on the soil surface, the lawn and pasture grasses were being renewed looking healthy and reaching out to garner the summer sun. My horses, who had been on grain and hay rations comparable to those of winter, were relishing fresh, green forage.

The spring and early summer flowers that did not appear in their normal time will not grace the wild landscape of 2016. Those plants that did not survive will not be brought back to life. Some, like the lightly to moderately anthracnose-infected dogwood, will survive for a while longer, although weaker, their lives shortened.

There is still time to grow and harvest substantial amounts of coastal Bermuda hay in which will be stored the energy and nutrients to be fed to livestock in the coming late fall and winter months. Joe Pye Weed, a favorite of butterflies in late summer, will bloom although in smaller than usual numbers. If it keeps on raining, the fall crescendo of wildflowers will form a garland on the landscape by the end of the month.

“Reverend, this is not a story of complaint, but of observation, perhaps even resurrection.”

Gene W. Wood

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