**Naturalist Notes - Drought**

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**The summer and fall of 2025 has been defined by drought in New England. Here in the White Mountain region we are in the epi-center of this drought that has stubbornly persisted since late June. In fact, 2025 was the driest summer on record in New Hampshire. Considering recent summer droughts here and in other parts of the northeast, it is worth asking if this is a trend that amplifies already existing late summer and fall weather patterns.**

**This year’s drought has been particularly noteworthy and concerning because of its impact on our forests. Beginning in mid-August, paper birch trees started dropping their leaves en masse, conserving water by throwing their foliage off to prevent evapotranspiration in favor of hunkering down for an early dormancy. Birch leaves give off a wonderful smell when they fall and slowly decompose, releasing sweet odors from their compounds into the air, a smell of fall. However, the birch leaves that dropped this year had no such smell, or it was barely discernible, as they were already so dried and withered before finally dropping that there was no water left inside the leaves to evaporate the smell compounds into the air.**

**By Labor Day the red maples were dropping at all elevations. Splotches of brownish red that appeared up at the highest elevations of the deciduous forest were primarily dried up red maple leafs. Red maples, so often associated with swamps, actually form a large part of the canopy on our mountain slopes, mingling with paper birch right up to the start of the boreal forest of spruce and fir. By mid-September there are usually vivid dark red patches and veins showing up on the slopes of the mountains, before the sugar maples decorate the mountains with their oranges. One particularly nice display of red maple graces the upper slopes on the east side of Giant Stairs Mountain and its adjacent peaks on the Montalban Ridge, a local landmark as seen from Jackson and environs. This year the color started changing in early September, and was brownish-red in tint. All this is to say of course, the drought has stressed the trees.**

**With creeks running empty, stressed foliage drying out and dropping, and the general lack of rain, the feeling and perception of fall has been different this year. The lack of moisture and very low humidity levels has prevented the fallen leaves from smelling like fall. As mentioned earlier, the leaves have been dropping in a dry and shriveled state, with no moisture to allow for an aromatic decay, that elegant death of fall. The early leaf drop is a conservation method, the trees conserving energy for May.**

**Still the foliage persists for the most part and sunny weather has kept the spirit of fall alive, with individual trees still showing good color and the mountain notches and areas with good soils or that received an extra rain shower or two still looking pretty. Other parts of the northeast received a bit more rain, such as southern New England, northern Maine and the Adirondacks, but all these areas are showing diminished color and signs of stressed trees.**

**All of this gets one to thinking about what is causing the drought. The commonly given and simple answer meteorologically is that storms have been missing us because of large and potent high pressure systems that have been setting up over the eastern U. S. for much of the duration of the drought. But it’s also an explanation that’s not much better than saying a drought is caused due to “lack of rain”. The real question then is why have these areas of high pressure been so persistent and strong, instead of the usual transient nature of our weather systems.**

**There is no published research yet on the causes of this current drought but several studies in other drought stricken regions in the recent past have found that it’s a mistake to just tie drought formation to a low rainfall pattern. Another very important factor, perhaps even more important, is heat. Heat dries out the soil and the ground surface in turn gives off more heat as it dries out, creating a feedback loop. This summer featured an unusual amount of days over ninety degrees, drying out soils that were already dry. It’s been over eighty degrees in the first week of October. Warmer air can hold more moisture, locking it away from some areas and finally dumping it in others when the air cools. Where it’s extremely dry somewhere, it may be extremely wet somewhere else. Warmer air and drier resulting soils is theorized to contribute to the formation of persistent high pressure.**

**There are many other factors involved in drought formation, and many yet to be discovered. Most importantly it’s important to remember to be responsible and conserve water any way you can for the health of our depleted soils and watersheds as we wait for the drought to break.**