

Hurricane Dorian & Our Trees: Minor Immediate Impact, Implications for Long-term Impacts to Tree Health

After devastating the Bahamas and other Caribbean Islands before turning north and skirting the eastern U.S. coast, Hurricane Dorian made landfall on Cape Hatteras in North Carolina on Sept. 6, 2019 as a Category 1 storm. A four-to-seven-foot storm surge flooded many homes and roadways. In addition, powerful waves caused beach erosion that reshaped many parts of North Carolina's beloved Outer Banks.

Erosion from the storm washed out and reshaped beaches on North Carolina's beloved Outer Banks, such as Cape Lookout National Seashore, shown here

However, when it comes to forestland, North Carolina dodged a bullet. Wind is the primary cause of immediate storm-related tree loss or damage and two areas within North Carolina fell within the swath of hurricane force winds (winds greater than 74 mph):

The day after the hurricane, the N.C. Service did an aerial survey to assess impacts to trees in the areas most impacted by the storm. While sustained winds of 81 mph with gusts up to 94 mph were recorded at Cape Lookout, little wind damage to trees was observed. Scattered trees blown over from the hurricane were observed, primarily on the Outer Banks. Surveyors also noticed many storm-toppled trees that did not occur recently and likely occurred when Hurricane Florence slammed into North Carolina almost a year ago, on Sept. 14, 2018.

On September 7, the N.C. Forest Service did an aerial survey to assess impacts from Hurricane Dorian to tree health.

The major effects from this storm will more likely be from flooding. Aerial surveyors visually documented standing water throughout the region. While these floodwaters will recede and independently may not usually be of concern, the timing is bad luck for the already stressed trees. Trees in this area are already water stressed from a period of excessive rainfall followed by a mini-drought that occurred from September 2018 through this summer. With Hurricane Dorian following close behind, adding up to 12 more inches of rainfall in some areas, these ongoing water stress issues will only be exacerbated.

Flooding will likely have significant impacts on trees, primarily because many trees in this area are already stressed from a hurricane-wet season-dry season cycle. Here, standing water was observed in forest stands near Swanquarter.

Forest and landscape trees should be monitored as a routine practice and management recommendations made to maintain tree health. While not much can be done in a forested situation for individual trees experiencing prolonged water stress, landscape trees can be given adequate water and nutrition to aid in their recovery from these conditions. NC Forest Service personnel can aid in these recommendations and can be reached at your local county N.C. Forest Service Office (https://www.ncforestservice.gov/contacts/contacts_main.htm).