

Collector(s): Estuarine Monitoring Team (WaRO)

Locations and Date: Albemarle Sound between Harvey and Mills Points (M610000C)

Reason Collected: Suspected bloom on 9/11/2019

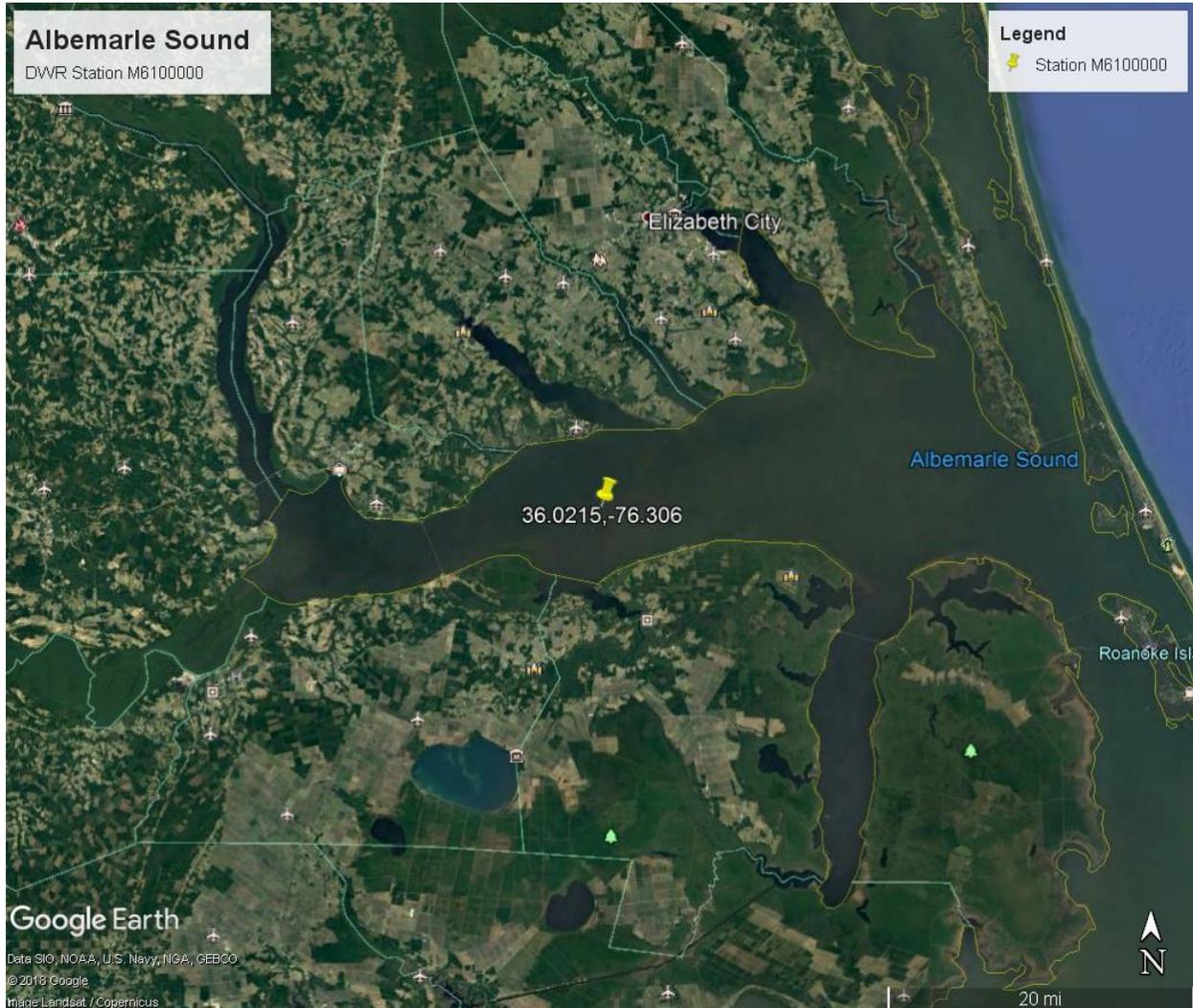


Figure 1: Station M6100000 on Albemarle Sound

Sample Information: The Estuarine Monitoring Team investigated an algal bloom in progress during regular monitoring on the Albemarle Sound (Figure 1).

Results of Analysis: This was a bloom of the cyanobacteria *Pseudanabaena*, *Chroococcus* and *Cylindrospermopsis* (Figures 2-4).

Physical data and algal results from the site can be found in Tables 1 and 2. DWR definitions of an algal bloom include dissolved oxygen concentrations at or above 9 mg/L (110% saturation), pH higher than 8. Additional DWR definitions of algal blooms include algal concentrations at or

above 10,000 units/ml (unit density) or 5,000 mm³/m³ (biovolume). Physical and algal data confirmed the presence of an algal bloom.

Ecological Significance: The phytoplankton community was similar to the bloom at this location on July 31st. The Chowan River and Albemarle Sound experienced cyanobacteria blooms during the summers of 2015-2018. Cyanobacteria and other types of algae can grow quickly in summer when the daylight is more intense and temperatures are higher. Cyanobacteria are known to form blooms that discolor water and may cause taste and odor problems. Some cyanobacteria, such as *Cylindrospermopsis*, may produce cyanotoxins. These blooms are commonly referred to as harmful algal blooms (HABs) and can cause illnesses in humans and have been attributed to the death of pets and livestock. No human or animal illnesses have been attributed to this bloom.

Table 1: Physical parameters

Location	Time	Cond (µS/cm)	Temp (C°)	DO (mg/L)	pH (su)	Salinity (ppt)
M610000C	12:20 PM	1115	27.3	9.9 (123%)	8.8	0.56

Table 1: Algal concentrations

Location	Dominant Algae	Cell density (cells/ml)	Unit density (units/ml)	Biovolume (mm ³ /m ³)
M610000C	<i>Pseudanabaena</i>	657,200	65,600	5,000



Figure 2: *Chroococcus*

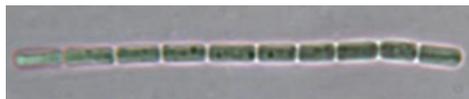


Figure 3: *Pseudanabaena*



Figure 4: *Cylindrospermopsis*

Report prepared by:

Elizabeth Fensin, Algal Ecologist, NC DWR; Contact: (919) 743-8421, elizabeth.fensin@ncdenr.gov