

**Museum on Main Street, Smithsonian Institution
Stories: Yes | Student Digital Storytelling Project
Chesapeake Bay Weather and Changing Climates, Maryland**

Zachary Childress: The Chesapeake Bay is a large body of water on the middle eastern shore of the United States. The 4479 square miles of the watershed feeds into the Atlantic Ocean. Even though it is one large body of water, the composition is different depending on where you reside.

Zachary Childress: [0:16] Imagine looking out your window and seeing the bay flooding the streets, destroying roads, and residing on your doorstep. 68.08 inches, this is the largest amount of rainfall Calvert County has ever experienced. The rain destroyed roads, farms and beaches. During the summer of 2018, North Beach was flooded because of the excessive rain. Many roads were closed such as the busy Route 4. Much of the rain ran off into the central body of water called the Chesapeake Bay.

Jeremy: [0:40] My name is Jeremy Testa. I am an Assistant Professor at the Chesapeake Biological Laboratory and I'm an Estuarine Systems Ecologist. I think one of the things that I've done that falls in the realm of discovery is that using a combination of models and past observations, have been able to document how there's feedbacks that occur in these estuarine systems where pressure that we put on the system and pressure that the climate puts on the system can kind of put estuaries like Chesapeake Bay in the states where they may be resistant to kind of getting back to the place where they used to be before they had all this pressure coming from human populations.

Zachary Childress: Thank you Dr. Testa.

Laura Harris: [1:29] My name is Laura Harris. I'm an Associate Professor here at the Chesapeake Biological Laboratory that's part of the University of Maryland Center for Environmental Science. So the research I do here, I'm an Ecologist, I'm actually trained as an Oceanographer though, and my focus is on estuarine and coastal ecology and I'm really excited to be doing that here at CBL. One of the things that I neglected to tell you all earlier, is that the Chesapeake Biological Laboratory is the oldest public laboratory on the East Coast of the United States and it was established here specifically to do work and research that's in service of the State of Maryland. And for me in particular, having an opportunity to apply my research to questions that are useful for society is really important to finding a way to do research and to advance my career.

Laura Harris: [2:21] I finished a project in the Potomac Estuary, which is part of the Chesapeake Bay. The Chesapeake Bay has kind of the main stem of the bay that a lot of us are familiar with and then there are all these tributaries that come into the main stem of the Chesapeake Bay. And the Potomac, the tidal Potomac, begins way up by Washington, D.C. and then comes out by St. Mary's County.

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Laura Harris: [2:43] We saw really significant impacts of climate in the Potomac related to cloud cover and precipitation and that's affected how phytoplankton responds. So phytoplankton need light to be able to grow and with cloud cover we're seeing actual patterns related to that and the light availability the phytoplankton had. So that has actually complicated some of our expected responses of the system to reductions of nutrients. So that's been just one anecdote of some of the things we've seen in terms of how climate has interacted to effect the estuary system.

Zachary Childress: [3:36] The effect of weather on the Chesapeake Bay is extensive and imperative. Forms of precipitation have different effects depending on the type and the amount of said type. The effect is also based upon the season. During the winter rain falls as snow but during the summer, precipitation comes down as rain. The climate of the Chesapeake Bay area is special. The Chesapeake Bay is the largest estuary in the United States, Therefore the area surrounding has a special climate different from the rest of the United States. The area is of great importance to researchers and the average citizen alike. There is always new tests being ran, studies being conducted and discoveries being made. The bay is important and will not disappear at all in the coming years. Therefore, we should try to preserve it for generations to come.