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Developing multi-centennial shell-based records from the Mid-Atlantic region

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Warming in the North Atlantic Ocean has been heterogeneous in recent decades, with locations along the eastern United States seaboard (northwestern Atlantic) seeing some of the largest and fastest warming in the last 100 years. In order to provide a longer temporal context for these changes, we are in the process of developing several master shell growth chronologies and associated geochemical records from the Mid-Atlantic coast using the shells of the long-lived marine bivalve *Arctica islandica*. Based on the shell collection locations (shelf regions off Ocean City, Maryland in ~ 61 m water depth and Long Island, New York in ~47 m water depth) and shell geochemistry measurements, we will be able to better ascertain hydrographic spatial and temporal variability of subtropical Atlantic water moving northward through time. These findings will be integrated with similar sclerochronology datasets previously published from the Gulf of Maine region and several others from the Mid-Atlantic region that are currently being constructed. Collectively, this network of sclerochronology records will allow us to better characterize changes in the northwestern Atlantic and provide hydrographic insights beyond the relatively short instrumental record and evaluate potential dynamical forcings through time.