

One of the world's key regions for freshwater supply, the Intertropical Convergence Zone (ITCZ), is expected to change with global warming, but is unclear. In order to test current theories, we need observational data series that reach farther back in time than are currently available. The VW exploration project DOLDRUMS therefore aims at reconstructing the historical Atlantic ITCZ at the end of the Little Ice Age through the yet-to-be-uncovered traces in historical ship log data. During the late 18th/early 19th century, exceptional interdecadal climatic conditions at global and regional scales coincided with a peak period of the Transatlantic Slave Trade. The shipping of enslaved Africans across the Atlantic relied heavily on the surface winds associated with the Atlantic ITCZ. We hypothesize that we can reconstruct the position, strength, and width of these winds from ship logs, during a period when the climate was significantly different from today. To link ship tracks to surface winds, we will develop a routing model for sailing ships to sail a fleet of virtual ships across the Atlantic through present-day and historic storm-resolving simulations to map ship tracks to the properties of the ITCZ. If successful, we will have provided the first viable test case demonstrating the value of historical log books for climate modelling and a narrative, how the ITCZ in general and the doldrums in particular shaped the Transatlantic Slave Trade.