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## **Reconstructing wind-driven upwelling during abrupt North Atlantic cooling events**

How do major surface wind systems respond to periods of past abrupt climate change? How do we identify these changes in the paleo-record? Periods of anomalous cooling in the North Atlantic, such as Heinrich events, change the inter-hemispheric temperature gradient and therefore the strength and location of major atmospheric circulation cells. Variations in the surface expressions of these cells (the trade winds and the westerlies) impact inter-hemispheric heat transfer, as well as the strength of wind-driven upwelling at continental margins and in the open ocean. In this talk I will explore changes in the trade winds, the ITCZ, and the westerlies during Heinrich events using multi-proxy sediment records from regions of wind-driven upwelling. I will also draw connections between low- and high-latitude patterns of upwelling during Heinrich events as a means to compare the effects of wind-driven upwelling strength and nutrient supply on paleo-productivity.