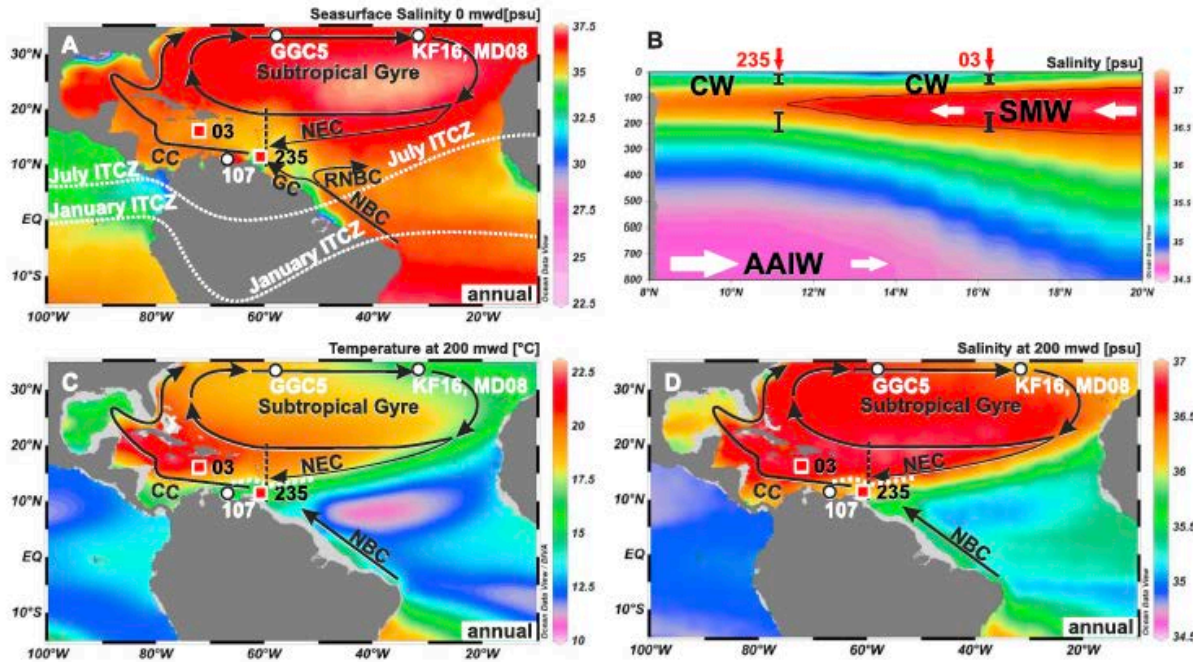


Western Boundary Current in Relation to Atlantic Subtropical Gyre Dynamics During Abrupt Glacial Climate Fluctuations

Dirk Nürnberg, GEOMAR Kiel (PI)

Stefan Reißig, David Poggemann, Tabitha Riff, Lia Brunke, Ed Hathorne, André Bahr, Cyrus Caras



Coupled ocean-atmosphere simulations corroborate the tight relationship between tropical North Atlantic subsurface heat and salt storage driven by Salinity Maximum Water (SMW) and deglacial perturbations of the Atlantic Meridional Overturning Circulation (AMOC). Whether the smaller-scale AMOC variability of the last glacial cycle similarly affected SMW export into the tropical Atlantic remained yet elusive.

We produce century to millennia-resolving foraminiferal based subsurface temperature and salinity reconstructions from Tobago Basin core M78/1-235-1, which allow to decipher the closely related development of the North Brazil Current (NBC) and the North Atlantic Subtropical Gyre (STG) during glacial times of abrupt and rapid climate fluctuations (~37-30 ka BP), and set them in relation to their deglacial to early Holocene developments.