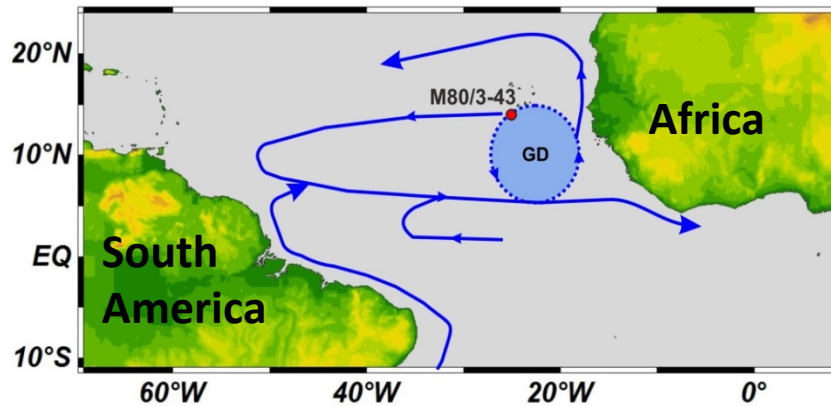


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# Sea surface temperature and salinity development in the Guinea Dome upwelling region

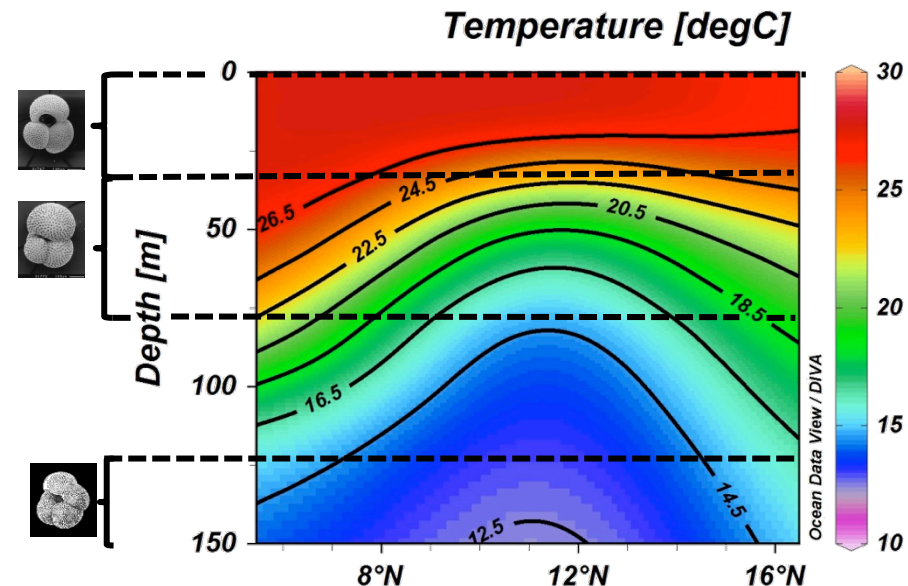


**Fig. 1:** Guinea Dome upwelling region (GD) with the major tropical currents in 0-100 m water depth and the sediment core location.

- The **Guinea Dome** upwelling region is characterized by seasonal upwelling of cold and nutrient rich water masses. The upwelling leads to a seasurface temperature (SST) anomaly in the northeastern subtropical Atlantic, which is intimately linked to the Atlantic Meridional Mode (AMM) with its interannual and decadal climate variations.
- The AMM influences rain fall over northeast Brazil and the Sahel region and is closely linked to the hurricane activity in the Atlantic Ocean due to its effect on the migration of the Intertropical Convergence Zone.
- The air-sea interaction, the SST distribution and the AMM are primary linked with upwelling of cold water masses in the region of the Guinea Dome.

## Research objectives:

- Decipher the movement and intensity of the Guinea Dome upwelling over the last glacial/interglacial changes
- Reconstruct seasurface and subsurface temperature and salinity conditions from multiple proxy data from different planktonic foraminiferal species



**Fig. 2:** North-South profile showing the water temperature distribution in the Guinea Dome upwelling region during September. The dotted lines display the habitat depth of three analyzed planktonic foraminifera species.