OPOKA - Surface and Intermediate Water hydrography, planktonic and benthic biota in the Caribbean Sea – Climate, Biosphere and Geosphere linkages

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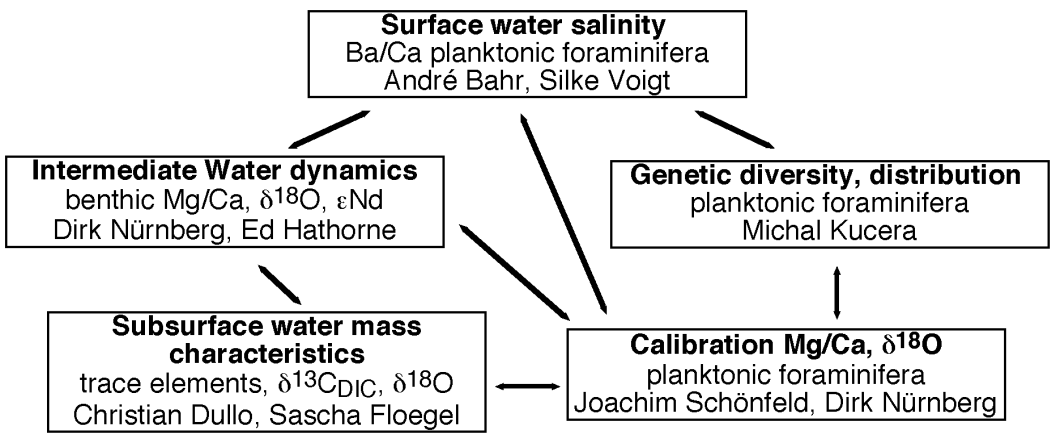

Fig. 1. Structure and relationships between the OPOKA projects.

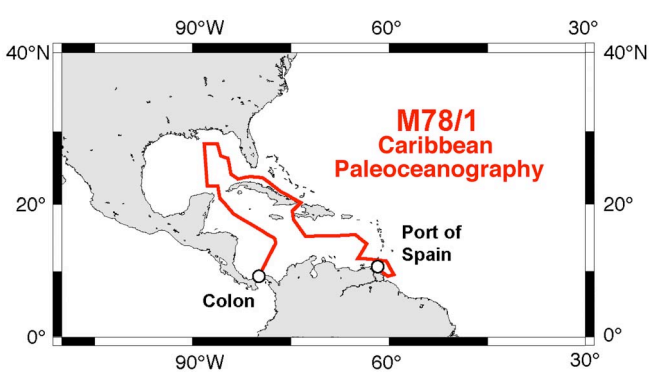

Fig. 2. Track of R/V "Meteor" cruise M78/1 (Feb-Mar 2009).

The Caribbean is the source region of the Gulf Stream and acts as a conduit of surface and intermediate water masses on their way from the Equatorial to the North Atlantic Ocean. Our main hypothesis is that river shedding exerts a substantial freshwater influence on the Caribbean water balance as well as on the salt and heat budget preconditioning source waters of the Gulf Stream with consequences for the stability of the Meridional Overturning Circulation and Northern Hemisphere climate at centennial to millennial timescales. The secondary hypothesis is that the surface-water hydrological balance of the Caribbean can be reconstructed from geological records through a multi-proxy approach combined with a better understanding of the ecology of the proxy carriers.