

THERMAL STRUCTURES ALONG THE FRANCE-BRAZIL SEA-ROUTE

PIERRE RUAL AND FRANCOIS JARRIGE

Between 20°N and 20°S, along the sea-line between France and Brazil, ships of opportunity have launched XBTs, starting in July 1981. They made two to three sections per month, with a launch every 6 hours (100 miles) at the same synoptic hours where they recorded meteorological surface parameters. Surface salinity samples were also taken for later measurements :

- The sea surface temperature shows a general positive anomaly of the warm season in 1982 and 1983. During the southern summer, the warm Brazilian waters lasted two more months than usual,

- The confluence of the trades can easily be followed and in 1982 and 1983 it started moving northward very early and the equatorial upwelling reached the longitude of 30°W for two months at least, an indication of a strong upwelling at 10°W.

- The topography of the 20°C isotherm, (middle of the thermocline) shows three characteristic regions : the Guinea dôme, the equatorial region and the deep warm mixed layer along the Brazilian coast. The first and last region follow a regular annual cycle, but the equatorial region, which, in 1981-82, was behaving as expected, abruptly, by mid-82, changed its behavior with maxima and minima changing quickly as if wave trains were passing through.

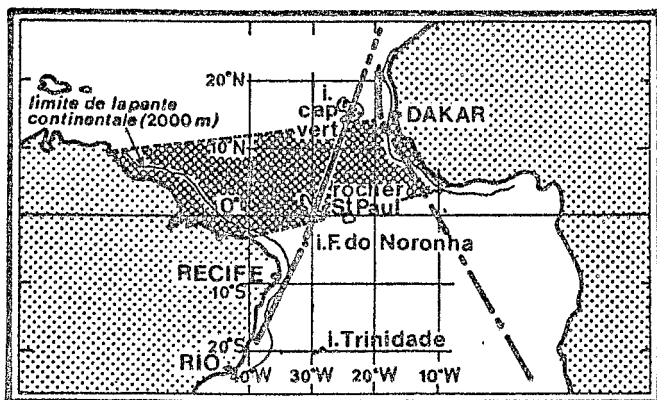


Fig.1. Tropical Atlantic Ocean. Europe-South America ship of opportunity line. Europe-Cape Town ship of opportunity line. ITCZ seasonal variation zone.

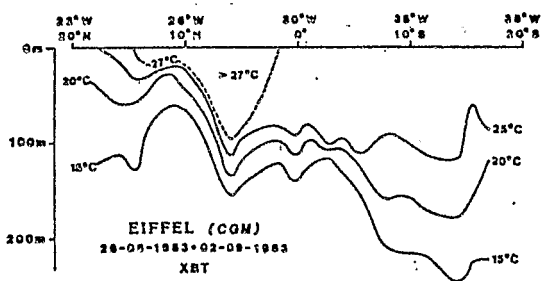


Fig.2. Transequatorial section of temperature, along the "LE HAVRE-RIO" navigation line, from expandable Bathythermographes (XBT) launched by the S.S. EIFFEL (compagnie Générale Maritime), 28-8-83/2.9.83.

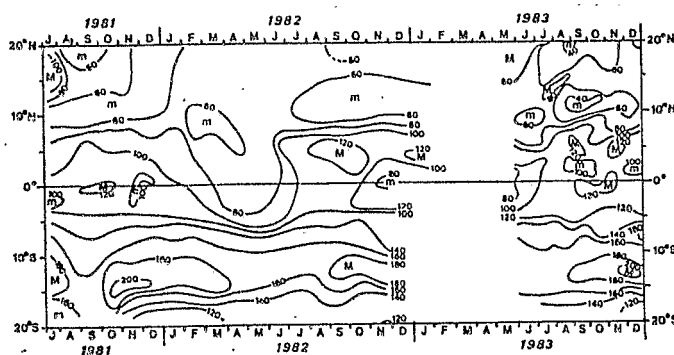


Fig.3. Time-Space diagram of the depth (metres) of the 20°C isotherm on the navigation line, Europe-South America. XBTs launched from CGM ships of opportunity.

SEASONAL VARIATION ON THE GULF OF GUINEA THERMAL STRUCTURE

ROBERT W. HOUGHTON

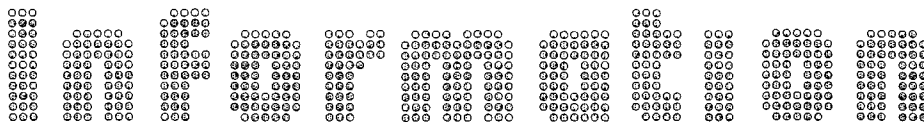
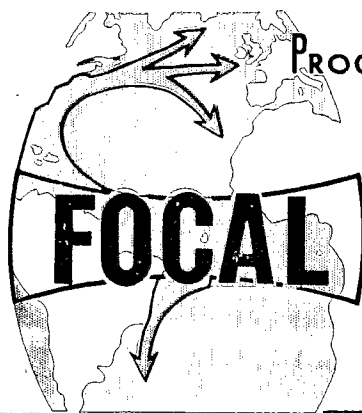
Data from 6 AXBT sections are combined with other SEQUAL/FOCAL sections on 4°W from the coast (5°N) to 3°S to study the seasonal variation of the temperature field in the Gulf of Guinea in 1983. The equatorial upwelling begins mid-April approximately 1 1/2 months before the climatic mean but has a normal amplitude and duration.

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Ce numéro est spécialement consacré au compte-rendu de la réunion des groupes FOCAL et SEQUAL qui a eu lieu à l'UNESCO à Paris, du 27 au 29 février 1984. La langue anglaise ayant été employée au cours de cette réunion les contributions sont publiées dans cette langue.

Ce compte rendu est suivi de la présentation du programme STACS par R. Molinari.



THIRD FOCAL-SEQUAL REUNION

The third F/S reunion opened on February 27th, at 0945 with a welcome speech, from François Jarrige, the ORSTOM representative. Yves Tourre then made the final modifications to the agenda, emphasizing that it was a working reunion with two important Panel Discussions on Tuesday afternoon (modélisation) and Wednesday morning (Data Bank - Bank Exchange).

Eli Katz remarked that the field programs were past their mid-points, and underlined the importance of comprehensive analyses of both historical data and the results of a dense set of response models. This third F/S reunion as well as Sections, GATE, FGGE, EQUALANT, should serve to initiate the following TOGA - Atlantic-CCCO panel.

After Jacques Merle made a brief review of the FOCAL program, other field programs were discussed. (See Agenda and Appendix).

SCIENTIFIC RESULTS

Despite the variety of measurement techniques and the short time available to assess the data, a coherent picture of the Tropical Atlantic circulation during 1983 emerged from the scientific talks. We only present the highlights here ; a complete set of abstracts appears in Appendix A.

The FOCAL/SEQUAL experiment began in July 1982, coincident with the start of a massive