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ARP SUMMARY OF ACTIVITIES: 1987

On April 2 and 3, 1987, the Atlantic Regional Panel (ARP) met at Woods Hole Oceanographic Institution, Woods Hole, MA. This was the only meeting of ARP during calendar 1987.

The ARP had several drilling proposals on its agenda for review, but most of the members felt that it would be appropriate to spend time first on a group consideration of the members' regional/thematic interests in order to develop a viable context for the future consideration of such proposals. Each member was then asked to summarize his personal perspectives on important "Atlantic" problems and the best place(s) to consider their study/solution. The group then summarized and grouped these opinions under a number of major "Atlantic" topics. What follows probably constitutes the ARP's first (only?) attempt at outlining a "white paper".

Topics:

I. Continental Break-Up

A. Sequences of tectonic events (including the effects of episodes of vertical tectonism and the evolution of sedimentary sequences), e.g.'s various (conjugate and non-conjugate) passive continental margins: Galicia (tectonics) and Cape Basin (sediments).

B. Mechanisms of continental crust deformation and extension during rifting, e.g. Galicia.

C. Development, evolution and re-integration of (continental) microplates, e.g. Rockall-Hatton-Greenland.

D. Magmatic events and their evolution (pre-, syn- and post-separation), e.g.'s selected (sediment-starved) margin features: J-Anomaly Ridge and Madeira-Tore Rise.

E. Identifying asymmetries in crustal structure across conjugate passive continental margins, e.g. Galicia-Newfoundland.

F. Ocean-continent boundary structure and evolution, e.g.'s a variety of passive margins of different age and structure: particularly Galicia-Newfoundland.

G. Sheared continental margins, e.g. Gulf of Guinea.

II. Evolution of Oceanic Lithosphere

A. Slow-spreading ridges, including their deformation, hydrogeology and the history of magma chambers, e.g. Kane FZ/MARK area.

B. Transform-ridge discontinuities, e.g.'s large-offset equatorial Atlantic FZ's.

C. Cretaceous-Cenozoic intraplate volcanism, e.g. Venezuelan Basin.

D. Paired aseismic ridges, e.g. Walvis Ridge/Rio Grande Rise.

- E. Emplacement of ultramafics into oceanic crust, e.g. MARK area (Site 670).
- F. Processes of aging in old oceanic crust; comparisons with ophiolites, e.g. Blake-Bahama Basin in vicinity of Blake Spur magnetic anomaly.
- G. Seaward-dipping wedges*, e.g.'s Rockall-Hatton, SE Greenland. *ARP felt that this feature could have been listed under Topic I. as well.

III. Convergence and Collision

- A. Continent-continent, e.g. Hellenic arc/Mediterranean.
- B. Accretionary tectonics on thickly-sedimented oceanic lithosphere with normal convergence, e.g. Barbados.
- C. Strike-slip convergent margins, e.g. North Scotia Ridge [continent-ocean], Azores-Gibraltar Ridge [ocean-ocean].
- D. Fore-arc basin evolution, e.g. Barbados.

IV. Paleoceanography

- A. Gateways
 - opening, e.g.'s from south to north: Agulhas FZ, Walvis Ridge/Rio Grande Rise, equatorial shear zone, Iceland-Faeroes Ridge, Davis Strait and others.
 - closing, e.g.'s eastern Mediterranean, western Caribbean.
- B. Circulation patterns.
 - 1. History of deep circulation, e.g.'s eastern vs. western basins; northern vs. southern basins.
 - 2. Upwelling, e.g.'s northwest Africa, southwest Africa.
- C. Black shales.
 - 1. Pelagic vs. terrestrial signals, e.g. Madeira-Tore Rise.
 - 2. Distribution in space and time.
- D. Deep Stratigraphic Tests and standard reference sections, e.g.'s every major Atlantic depocenter.
- E. Initiation of glaciation--Arctic vs. Antarctic.

V. Eustatic Sea Levels Through Time

- A. Timing and magnitude of eustatic sea level events, e.g.'s eastern U.S. and Canada, Cape Basin.
- B. Controls on the sedimentary record: shelf/slope/rise/abyssal plain continuum, e.g.'s transects of various margins.

VI. Catastrophes

A. Impacts, e.g. Montaignais structure, Scotian shelf off Nova Scotia.

Other Business:

Summary of ARP-endorsed workshop activities:

1. South Atlantic Workshop: funded by JOI-USSAC and conducted April 6-8, 1987, at Woods Hole Oceanographic Institution. Convener: J. Austin. Report to be published fall, 1987.

2. Caribbean Workshop: funded by JOI-USSAC and scheduled for November 17-21, 1987, in Jamaica (Discovery Bay). Convener: B. Speed.

3. Mediterranean Workshop: to be held in Europe (perhaps Greece) in October, 1988. Conveners: J. Mascle, with A. Maldonado (Spain) and Makris (Greece). ARP established an informal subset of itself, consisting of Mascle, Hemleben and Speed, to maintain communication between ARP and the Mediterranean workshop as it develops.

4. Central Atlantic Workshop: proposal not yet written, but Tucholke/Klitgord will either write it themselves or get someone to do it. ARP felt that this workshop should be held no later than late spring-early summer, 1988.

Panel Rotation:

1. After next meeting, K. Klitgord plans to rotate off. Suggested replacements were J. Karson (Duke), J. Fox (U.R.I.) and H. Dick (W.H.O.I.).

Next Meeting:

1. Barring action by PCOM to disband ARP, Austin will request Copenhagen, Denmark as the next meeting spot. Time: mid-late March, 1988. H.-C. Larsen has agreed to host that meeting.