VALENCIA GULF CONTINENTAL SHELF (SPAIN):

EXTENSIONAL FEATURES IN NEOGENE AND QUATERNAIRES

SEDIMENTS.

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RESUME

      L'analyse de l'information sismique obtenue à partir des résultats d'une prospection géologique marine a permis d'étudier, en détail, la plate-forme continentale du golfe de Valence. Les résultats permettent de préciser la connaissance de la tectonique récente et les conséquences morpho-structurel-les rapportées avec les structures tensionnelles découvertes dans les sédiments néogènes et quaternaires. La distension néogène se poursuit jusqu'à l'actuel produisant des structures propres qui conditionnent la morphologie détaillée de cette plateforme.

ABSTRACT

Valencia Gulf is one of the marine areas making up the Western Mediterra-nean Basin. These areas have been formed in the early Miocene, following the welding of African and European Plates.
The formation of these marine areas has been the culmination of a disten-sive process, the effects of which can be observed inland in the subsident Neogene and Quaternaire areas in the Eastern Iberian Peninsula.
Valencia Gulf is a Basin that defines the eastern end of the Iberian Penin-sula, opening Northward to the Gulf of Leon. To the South it conects with Alboran Sea, through the threshold linking the Iberic Chain and the Balea-ric Promontory.
The generative rifting process is a by-product of the interaction between both plates, due mainly by a compresive system which a splitting event is superimposed.
Valencia Gulf Continental Shelf represents the extension seaward of the Neogene-Quaternaire Valencia Basin. Therefore, its origin will be linked to the tectonic evolution of the Basin. As a geological unit it's under a structural control by the Betic Chain External Zone(Prebetic) and the Iberic Chain. The structure of the shelf is determined by a Plioquaternaires transgressive sequences, very thick and decreasing progressively to the South.

The Bathimetric map shows that the sea floor is formed by a smooth surface
that slopes gently seaward. The bathimetric isolines adapts to the actual
coast line. The morphological elements are distributed unevenly along the
shel, although the largest genetic variety occurs at the inner shelf. These
elements are tha following:(1) alluvial fans;(2) terraces and beach-rocks;
(3) sand bars and sand ridges. In the outer shelf another type of structu-
res is found, producing waves in the bottom, related to gravitational liftings
in Holocene materials.

Data collected indicate the existence of steps-like structures correspon-
ding to faults that affect the Neogene Basement. The parallel 39 that
crosses between Cullera and Denia acts like a diffuse border between
two regions with different structural directions. The Southern sector
corresponds on land to the extension of Betic Chain External Zone, that
has structural directions ENE-WSW(Betic Direction). Morphological steps
associated to faulting Northward, it seems to define two divergent systems:
one NNW-SSE direction and another of NNE-SSW direction. Both systems
correspond to the structural directions of the Neogene Basin located inland
inside the Iberic Chain. The fault's escarpments curvature on the outer
continental shelf, seems to adapt to the limit between Betic Chain Exter-
nal Zone(Prebetic) and Iberic Chain. This curvature could be interpreted
as a drag effect produced by splitting.

The Neogene-Quaternaire events described in this paper, help us to esta-
blish that the Neogene distension process is still active at the present
time. In fact, some of the step-like structures detected in this study
correspond to faults that affect the Neogene Basement, in such a way that
they exceed the filling effect of the most recent sedimentation. The actual
distension is a continuation from the Neogene distension producing recent
structures and imposing the morphologic character of the shelf.