

# Comments about the new « Carte géologique et structurale des bassins tertiaires du domaine méditerranéen »

*par*

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This map of tertiary basins in the Mediterranean realm tries to situate marine data now available within the onshore geological framework. It shows that the Mediterranean Sea, located between the african craton and the alpine mobile belt or inside of this latter, has a certain unity related to recent geological history. Before the Upper Miocene, several Mediterranean basins must be distinguished, with different age, structure and genesis.

The map is compiled in two sheets (W and E) along a Mercator projection (scale 1/2 500 000 at 40° N latitude).

1. *Onshore*, sedimentological, stratigraphic and cartographic data are represented :

- tertiary Series (Paleocene-Eocene, Oligocene, Miocene, Plio-Quaternary) and their basement (undifferentiated Mesozoic, Paleozoic, Precambrian);
- boundaries between gentle post-tectonic basins and their tectonized basement (Tertiary or older);
- main structural units, gravity phenomena, extension of volcanism and ophiolitic series;
- type of deposits in these basins (marine or continental).

2. *Offshore*, the analysis of published data and the study of seismic profiles permit to distinguish :

- the general bathymetry (200, 500, 1000, 1500 meters) and the escarpments and recent faults which determine the bottom topography;
- the location of thickening of recent deposits (Plio-Quaternary) related to the great deltas and special structural conditions;
- the extension of Upper Miocene salt basins;
- the prolongation of the main structural onshore trends, particularly gravity nappes, recent overthrusts and the location of some structural elements.

3. *On the margin of the map* have been drawn :

- about one hundred synthetic logs indicating the facies, thickness and kind of deposits in the tertiary Series in each onshore area or basin;
- three seismic profiles giving an idea of marine data;
- a detailed caption for onshore and marine areas with two block-diagrams and a table of the main structural units.

This attempt at a synthesis tries to give a general diagram of the Mediterranean Sea in the form of a working document for all persons interested in the problem of offshore tertiary basins.

4. *Some particular features* must be emphasized :

- the generality of the *Plio-Quaternary foundering* which does not exclude local compressional trends;

*Rapp. Comm. int. Mer Médit.*, 23, 4a, pp. 119-120 (1975).

- the *importance of the recent delta* (Nile, Pô, Ebro, Rhône);
- the *widespread distribution* of the Upper Miocene evaporites and the basinal location of the salt in the basin;
- the *importance of large gravity nappes* offshore (Cyprus Arc, Mediterranean ridge?, Messina Cone, West Gibraltar) and their onshore prolongation. Some of them can be related to the possible prolongation. Some of them can be related to the possible existence of insular arc systems between Africa and Europa of different ages (Upper Cretaceous to Actual). The area affected by gliding is wider in front of the maximum of curvature.

This last subject will be more commented in relation with the recent tectonic features of the Mediterranean area. It is noticed that the collision between Europa and Africa is different of typical Pacific subduction zones : during Cenozoic time the thickness of sediments and the extension of continental crust in Mediterranean oblige us to imagine an intermediate scheme between Pacific and Himalaya; the importance of foundering and its bathymetric implications can explain the widespread distribution of gravity nappes.

#### References

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