

Central High-Atlas Morocco Jurassic System: An overview

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Jurassic sedimentation is marked by a strong differentiation in the Atlas domain with a distinct development of two main regions:

- a western area corresponding to a newly created basin open to the Atlantic but closed in the east along the length of the ancient mountain massif. This represents the coastal region (Essaouira, Agadir Basins).
- a central and eastern part consisting of the intracontinental basins of the central High Atlas and Eastern or Sahara Atlas, separated by the Tamlelt sill. These basins together with the Middle Atlas Basin to the north constitute the western prolongation of the Tethys Ocean.

In the central and eastern Atlas region, we noted the following :

- a transgression in the early Lias, originating from the east and linked to the tethys, reaching its maximum in the Pliensbachian.
- a regression in the early Toarcian
- a new transgression towards the end of the late Toarcian, which reached its peak in the Aalenian-Bajocian, when significant subsidence occurred.
- basin infilling and regression in the Bajocian-Bathonian with widespread development of carbonate reefs, dolomite and deltaic facies.
- In the Callovian-Oxfordian, the regressive megasequence, which started in the previous cycle, kept on accumulating. Deltaic, coarse-grained, quartz dominated sediments were deposited within small subsiding basins.
- In the Kimmeridgian-Portlandian, this cycle registers the ongoing emergence of the High Atlas with the withdrawal of the Tethys to the east in the Sahara Basin.

Structural characteristics of Jurassic basins :

The distribution of facies during the Jurassic is controlled by the structural framework inherited from the hercynian orogeny, in particular by hercynian faults. Episodes of rifting and expansion of the Tethys occurred during this period, and sedimentation became subjected to both eustatic and tectonic control.

Genesis model of Atlas basins :

Finally we discuss many models corresponding of opening of basins will be controversial in touch with the opening of the central Atlantic.