LATE JURASSIC RIFTING AND DEPOSITIONAL EVOLUTION IN LUSITANIAN BASIN (PORTUGAL).

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The Lusitanian Basin was formed during a late Triassic rifting phase, and belongs to a family of periatlantic basins (e.g. Jeanne d'Arc Basin, Scotian Basin). It is located on the western border of the Iberian plate, and extends some 250 km in a NNE-SSW trend and up to 100 km East-West. The axis of maximum subsidence follows a general NNE-SSW structural orientation. The basin is located between hercynian basement rocks, namely in the east the Iberian Meseta, and to the west a marginal horst system (the Berlenga and Farilhões islands are emerged parts of this system.From the middle Oxfordian to the early Aptian a second rifting phase occurred. This can be separated into two main episodes: Late Jurassic-Berriasian and Early Cretaceous The extensional episode activated hercynian faults coupled with moderate halokinesis and also caused intrusive igneous activity towards the south of Nazaré fault.The Late Jurassic-Berriasian evolution of the Lusitanian Basin is divisible into three tectonic phases. The initial phase (Stage I) was the onset of rifting which resulted in widespread carbonate deposition. Extensional climax was reached during Stage II. This created highly subsident sub-basins and a significant siliciclastic influx. Stage III was a period of thermal subsidence overprinted by sea-level changes of presumed eustatic nature, which resulted in progradation of siliciclastic systems, overall shallowing and infill of the basin. The lithostratigraphic and depositional sequences framework, timing, and interpretation of the depositional controls of each stage were considered. A set of facies associations maps were built, showing depositional evolution inside de basin. The purpose of this work is to present those maps and to discuss the evolution of the basin through the main controls of sedimentation, during Late Jurassic-Berriasian times.