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**Use of Depositional Sequences within the Second Order Neogene Transgressive-Regressive Cycle to Constrain Provence Basin (S-E France) Geodynamic Evolution**

Ten depositional sequences involving marine sediments can be recognised in the South of the Provence Basin and along the Mediterranean coast near Marseille. They belong to the Neogene cycle which starts with Upper Oligocene and Aquitanian peri-reefal and reefal deposits that grade into Burdigalian to Tortonian Foramol facies and siliclastic coastal systems. The recognition of these sequences, their stratal pattern and geometric relationships, allow a better characterisation of the geodynamic evolution of the linkage area between the Gulf of Lion passive margin and the peri-alpine foreland basin. Truncation of the Upper Oligocene to Aquitanian depositional sequences below the Burdigalian sequences in the western part of la Nerthe anticline indicates that this area acts as the footwall of a major normal fault, uplifted prior to the Burdigalian. The geometry and the age can be compared to footwall uplift which characterised tilted fault blocks in the basin during the coeval rifting phase. From Burdigalian to Lower Tortonian depositional sequences are progressively onlapping the pre-existing pyrenean reliefs. The onlap is punctuated and records a diachronous migration of wave cut platforms affecting large anticlines such as la Nerthe and la Fare which are flattened. The maximum marine encroachment is dated Lower Tortonian and creates a wide embayment. This second order maximum flooding is significantly younger than the eustatic Langhian event which is well known in the peri-alpine basin. This diachronism is related to local tectonism, and probably related to post-rift thermal subsidence climax in the Gulf of Lion, obliterating the peri-alpine peripheral bulge effect.