

## **Cenozoic evolution of sediment routing systems in the southwestern Pyrenean foreland**

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The southwestern Pyrenean foreland corresponds to the wedge-top Jaca basin separated from the southern Ebro foredeep depocenter by the “Sierrras Exteriores” frontal thrust. It has been extensively studied these latter decades as the outcropping sedimentary formations recorded the complete history of a marine then continental foreland basin system (FBS).

The review and crossed analysis of published magnetostratigraphic sections, basin-scale seismic lines together with paleocurrents and sediment provenance datasets results in the : 1) reappraisal of the tecto-sedimentary temporal framework for the whole southwestern Pyrenean foreland and 2) characterization of its paleogeographic and sediment routing evolution through the Pyrenean orogeny.

The Jaca basin were the early foredeep depocenter fed by E-sourced deep marine turbidites varying southward to shallow-marine carbonates during (Ypresian-Lutetian). They are followed-up by a transitionnal, pro-delta marls then deltaic sandstones sequence (Bartonian-Priabonian) that record the progressive uplift of the FBS. The change toward a continental environment is diachronous between the northern margin fed by short-term, N-sourced alluvial fans (ch18) and the southern margin fed by a long-term, E-sourced fluvial system (ch16). The foredeep depocenter migrated southward in the Ebro basin as the Jaca basin were incorporated in the orogenic wedge during Rupelian (ch12). It were fed first by E-sourced fluvial system then replaced by N-sourced alluvial systems since Chattian (ch7).

This long-term evolution of the South-Pyrenean paleogeography and sedimentary routing systems records complex interferences between global (climate & geodynamic) and local (tectonic and sedimentation) control factors and allow us to propose a model for the tectono-stratigraphic evolution of overfilled peripheral foreland basins systems.

**Mots-Clés** : foreland basin systems, south-western Pyrenees, souce-to-sink, Cenozoic, magnetostratigraphy, seismic