Geophysical Research Abstracts
Vol. 18, EGU2016-2935, 2016
EGU General Assembly 2016

Preliminary magnetostratigraphic dating of the South-Pyrenean Molasse (Uncastillo Fm, Oligocene-Miocene)

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The Uncastillo Fm crops out along the southern boundary of the External Sierras, which represents the southernmost limit of the Pyrenean Range. Three sedimentary units (genetic units) related to tectonic pulses have been previously differentiated in this formation. The sedimentary evolution of the Uncastillo Fm is mainly related to the tightening of the WNW-ESE Santo Domingo anticline in the External Sierras during Chattian-Aquitanian times and records the younger tectonic movement of the south Pyrenean sole thrust. These Oligocene-Miocene molasse deposits record the change to overall southward-flowing alluvial and fluvial systems (Uncastillo Fm) as an abrupt transition from overall west-northwest-flowing fluvial systems (Campodarbe Fm). Recent magnetostratigraphic results from the underlying Campodarbe Fm shift to younger ages (from chron 10r to 7r) the base of the Uncastillo Fm in the proximal area of the fluvial system (Luesia fan). In order to check that reassignment and refine the age of the Uncastillo Fm a new magnetostratigraphic study has been conducted in laterally equivalent deposits that represent middle-distal areas located to the east of the Luesia fan. These deposits consist of thick brown to orange mudstones with interbedded brown to grey sandstones. These finer grain size sediments allow for a magnetostratigraphic study. The $\sim$ 1300m long Fuencalderas section comprises 130 new paleomagnetic sites. The new results will yield a complete chronostratigraphic frame to constrain the last tectonic pulses of the Pyrenean Mountain Range building.