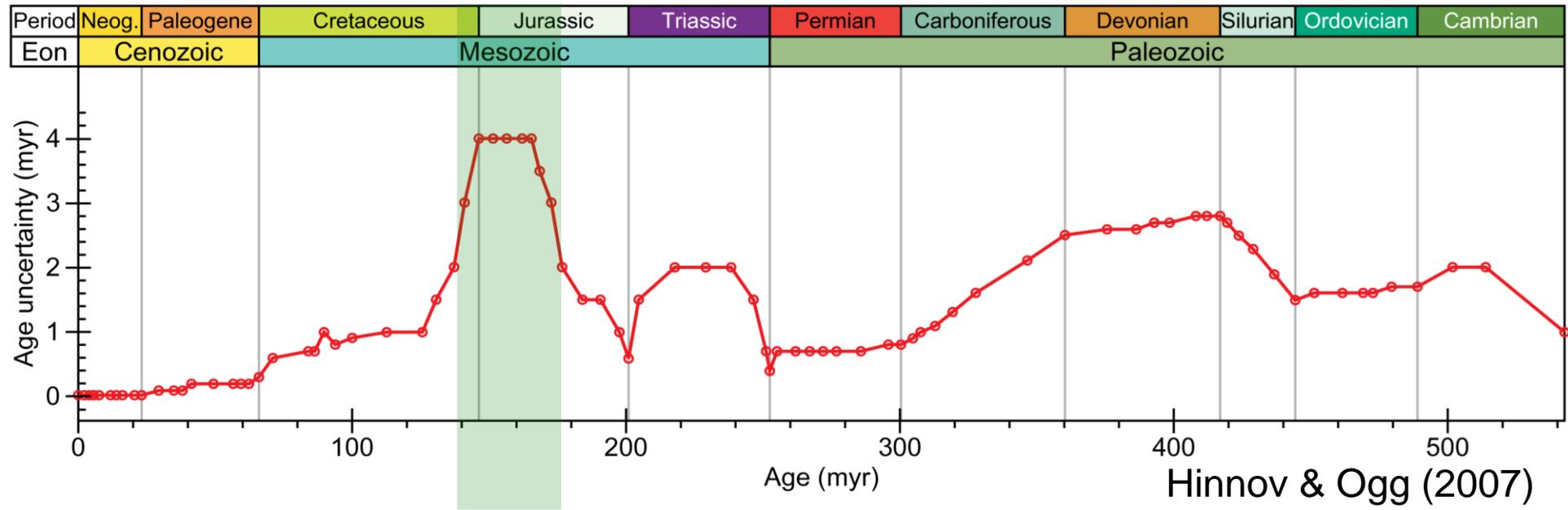


Astrochronology of the Barremian Stage: implications for the dynamics of the anoxic events in the Early Cretaceous

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Jose SANDOVAL, Luis O'DOGHERTY



Uncertainties of the Geological Time Scale



Maximum of age uncertainty reached in the Jurassic-Early Cretaceous Ages and durations can vary up to 5 myr!

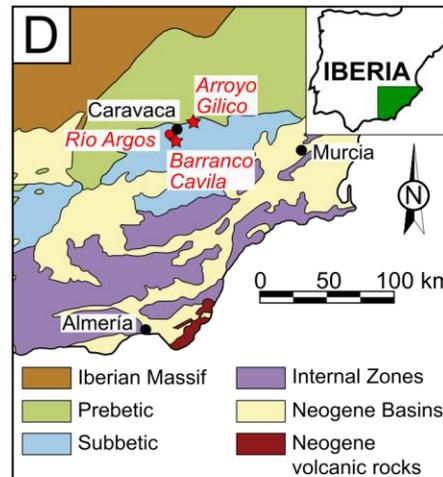
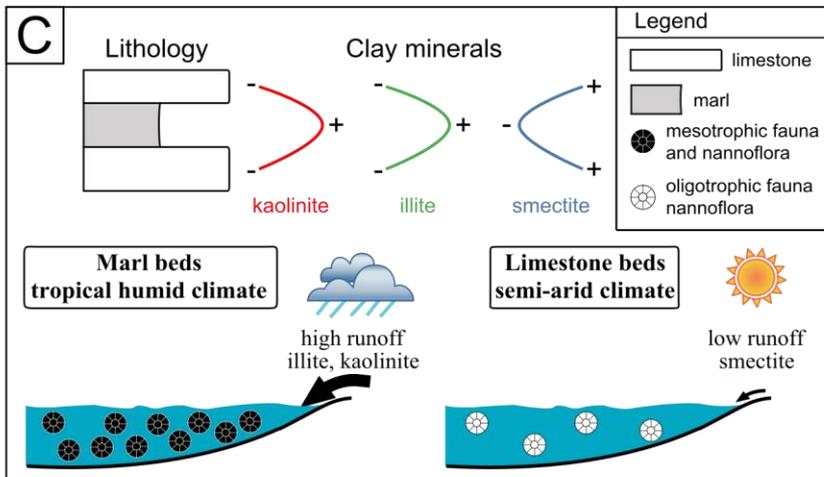
Despite lower levels of uncertainties have been calculated in GTS 2012, recent studies suggest the level of uncertainty shown here is more realistic



Geological setting

Subbetic domain

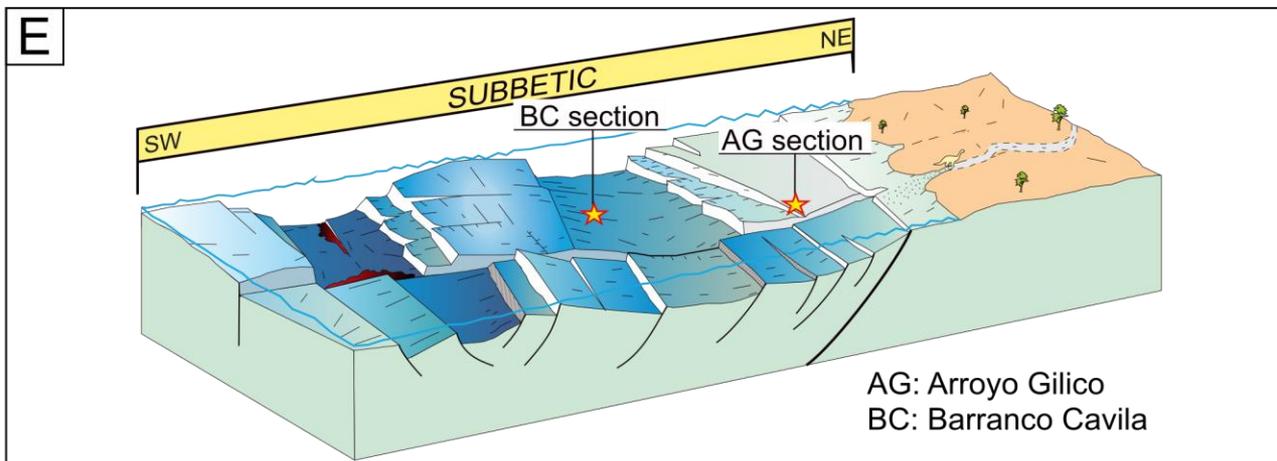
- Hemipelagic marl-limestone alternations



- All ammonite zones and subzones present

- Marl: humid climate; limestone: arid climate

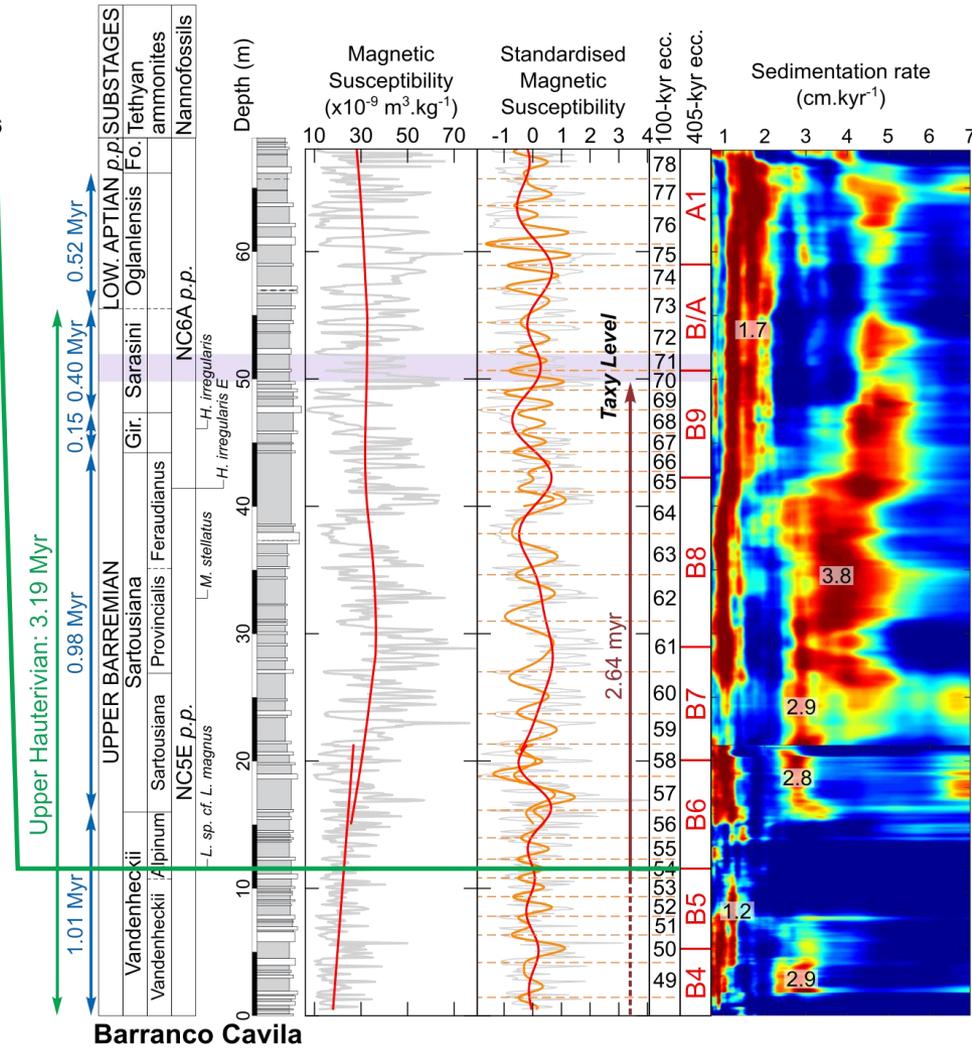
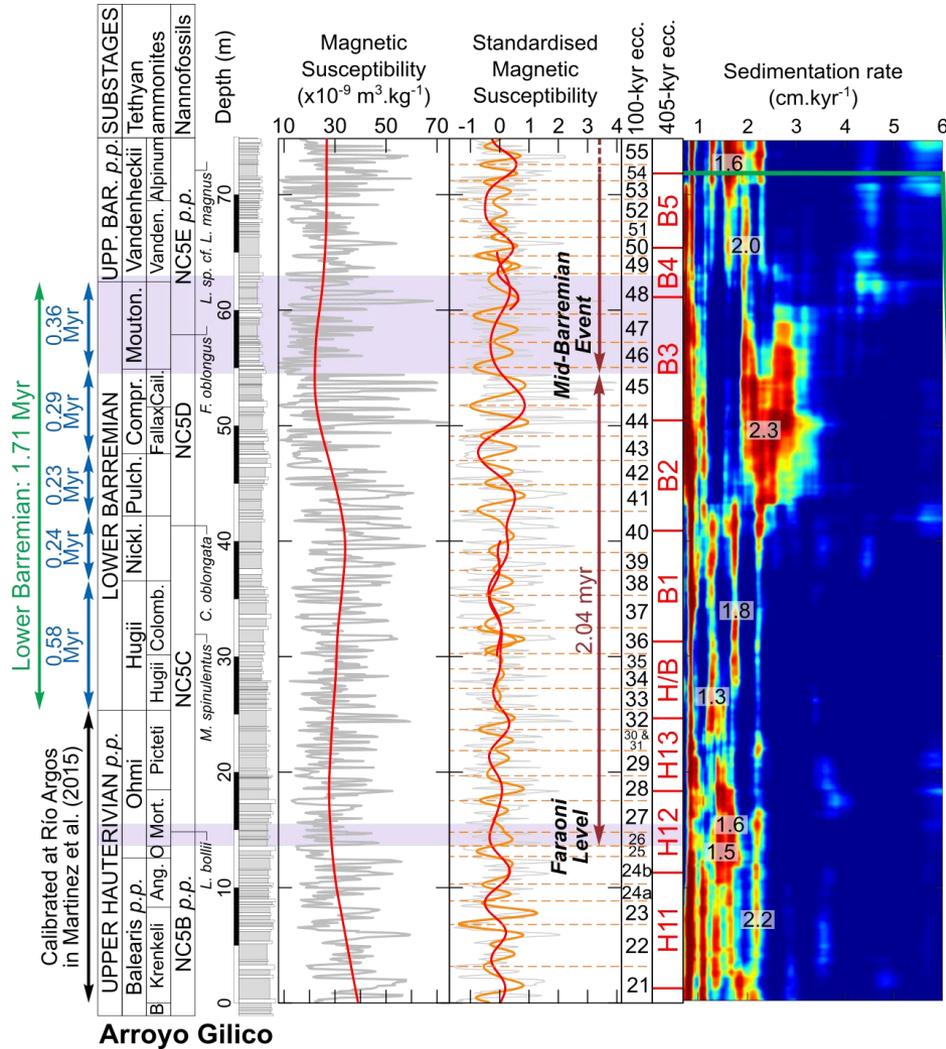
2 sections studied



- Arroyo Gilico: latest Hauterivian to Late Barremian

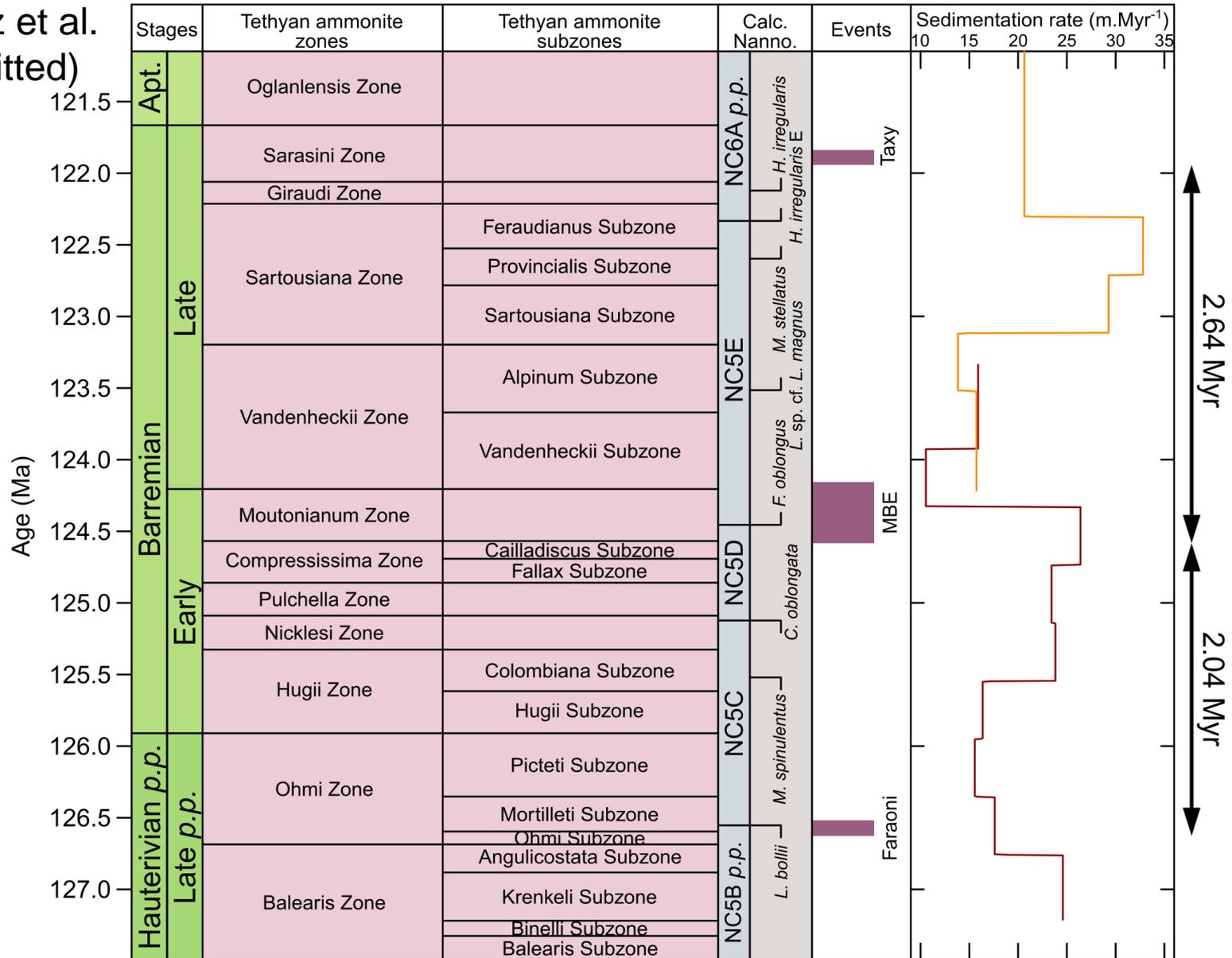
- Barranco Cavila: Late Barremian to Early Aptian

Results and overview of spectral analyses



The proposed time scale of the Barremian Stage

Martinez et al.
(submitted)



References:

Hinnov, L.A., Ogg, J.G., 2007. Cyclostratigraphy and the Astronomical Time Scale. *Stratigraphy* 4 (2-3), 239-251.

Martinez, M., Aguado, R., Company, M., Sandoval, J., O'Dogherty, L. Integrated astrochronology of the Barremian Stage (Early Cretaceous) and its biostratigraphic subdivisions. Submitted on February 7th to *Global and Planetary Change*. Manuscript no GLOPLACHA-D-20-00061.