Geodynamic evolution of the Adriatic–Dinaridic carbonate platform

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The Adria or Apulian plate initiated rifting during the Middle Triassic. During the Early Jurassic, due to extensional block-faulting in the south Tethyan realm, the Adriatic–Dinaridic Carbonate Platform (ADCP) was individualized as one among the numerous carbonate platform settings, separated by deeper-water troughs with pelagic sedimentation.

On the ADCP, the carbonate platform-type deposition persisted until into the late Mesozoic, or even Eocene. This included a wide array of well-individualized environmental and depositional sub-settings.

Generally, of course, the deposition was taking place in very shallow water environment, and therefore, the ADCP sedimentary succession consists mostly of small-scale shallowing-upward cycles. However, because of the top-flattened morphology of the ADCP, both eustatic and relative sea-level changes produced far-reaching changes in local-to-regional environmental and depositional settings. Whereas minor, high-frequency sea level oscillations were reflected in local alternation of shallow subtidal, intertidal to supratidal facies, eventually producing a hundreds of meters thick layer-cake stacking of deposits, punctuated by short-lasting and local emersion surfaces, major (eustatic?) sea-level changes, especially if coupled with synsedimentary block-faulting and tilting of blocks, caused intermittent drowning of the carbonate platform and killing the shallow water platform biota, or, alternatively, regional-scale emersions, sometimes with clayey and/or conglomeratic intercalations, paleokarstic surfaces with bauxite, etc. Relying on biostratigraphic correlation (which is, admittedly, not everywhere equally precise), those surfaces can be shown to occur more or less simultaneously over the entire ADCP and can therefore be used as sequence boundaries.