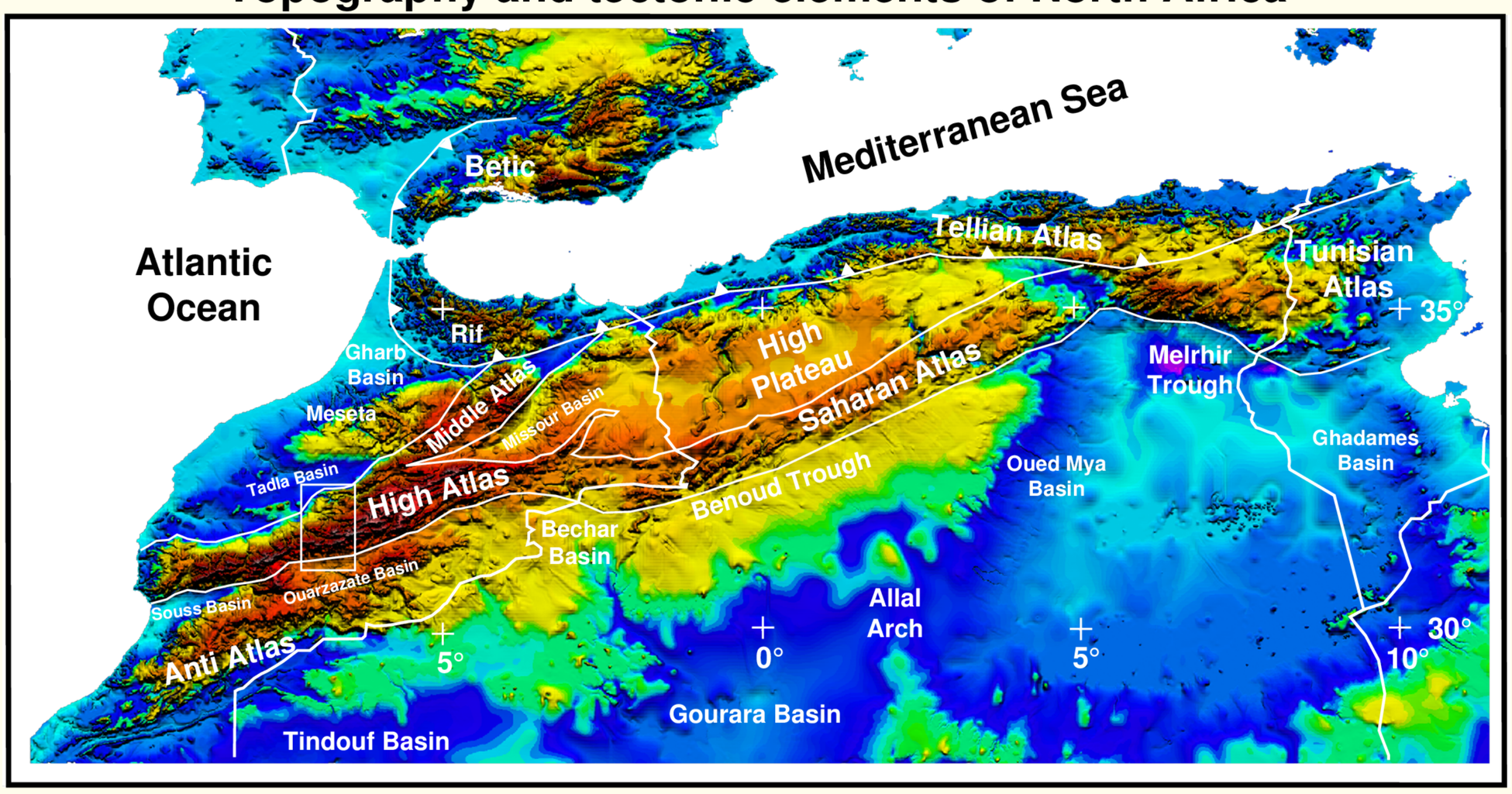
Regional Tectonics of North Africa

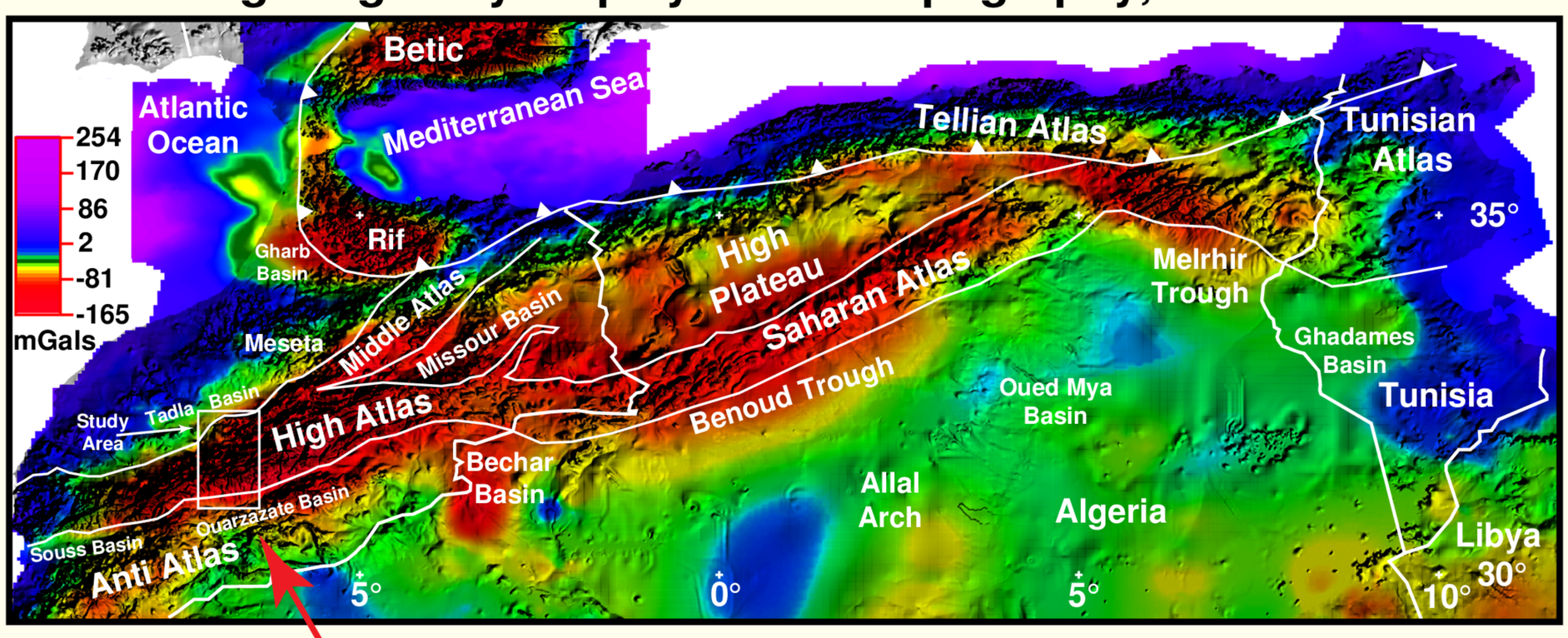
Topography and tectonic elements of North Africa

A)

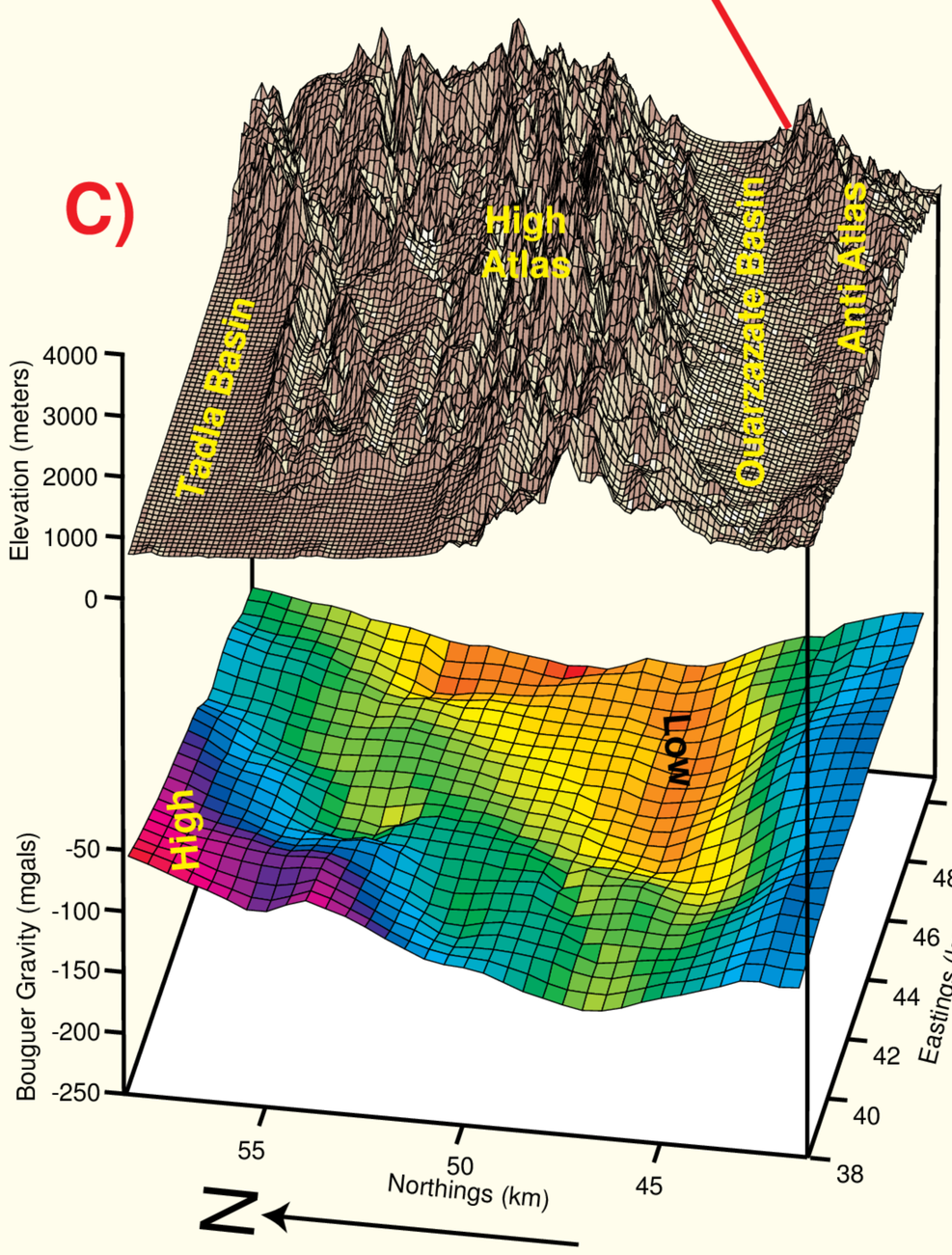


Bouguer gravity displayed over topography, North Africa

B)



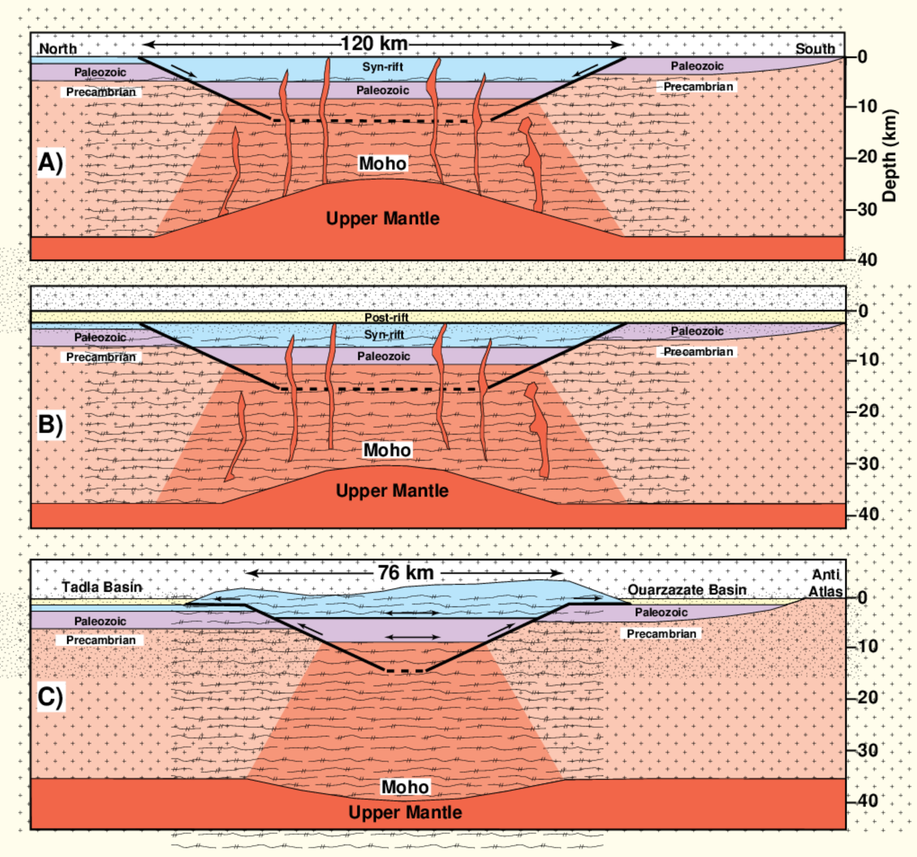
C)



A) Topography of North Africa. The Atlas mountains extend for 2000 km from the Atlantic margin of Morocco to the Mediterranean coast of Tunisia. The Atlas mountains are an intracontinental mountain belt formed by the inversion of a pre-existing Mesozoic rift system. The Atlas rift system was inverted and uplifted due to convergence between the African and European plates during the Cenozoic.

B) Bouguer gravity data for North Africa was overlain over topography to illustrate the relationship between the earlier rift basin and crustal thickening of the current Atlas mountains.

C) Perspective view of the High Atlas showing digital topography and Bouguer gravity data. The highest topography is along the southern margin of the High Atlas, which is also where gravity data indicate a regional low.



Tectonic history of the Atlas mountains based on the study area and transect (A-A').

A) Crustal thinning during the syn-rift phase during the Triassic-Jurassic.

B) Subsidence during the Cretaceous and Tertiary

C) Uplift and inversion of the Atlas rift system in the Oligocene resulted in the present day Atlas mountains of North Africa.