

EXPLANATION OF THE DEVELOPMENT OF THE WESTERN PONTID
MOUNTAINS AND ADJACENT BASINS, BASED ON PLATE TECTONIC THEORY,
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ABSTRACT.— Western Pontides which were in the form of an extension of Eurasian continent before Late Jurassic have become a shallow shelf with the transgression of the sea during Late Jurassic. With the beginning of the subduction of the oceanic crust belonging to the Northern Tethys beneath the Eurasian continent at the end of Early Cretaceous, a volcanic island-arc was formed in east-west direction and Black Sea was formed inside the depression developed with the thinning of the continental crust. The accretion of the subduction complex and island arc volcanism were most effective during Late Cretaceous. Noncontracted type of continental margin arc-trench system was transformed into a detached type of intraoceanic arc-trench system with the oceanization of the bottom of the Black Sea. While the Black Sea was a marginal back-arc basin, forearc basins were formed at the south of the island arc.

A non-volcanic outer arc developed with the vertical growth of the subduction complex. Constructed forearc basins developed with their northern margins on the Pontid continent and southern margins on the outer arc. Accretionary forearc basins were formed on the imbricated morphology of the subduction complex further south.

Pontid Mountains were exposed as a result of the collision of the Anatolian and the Pontid continents later than Late Cretaceous. The primitive form of the Western Pontid Mountains was formed during Late Eocene and Oligocene. Thrust faults dipping southwards in the northern and northwards in the southern flanks of the mountain belt were produced as a result of the prevailing compressional forces. The forearc basins located in the south of the developing belt gained the characteristics of molasse basins during Tertiary.