

The kinematic evolution of Kura foreland fold and thrust belt, Eastern Georgia

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This paper presents a new tectonic model for the kinematic evolution of the Kura foreland fold and thrust belt (KFFTB) based on balanced cross sections. Here we present a compressive deformation in eastern Georgia in the context of the Upper Miocene to recent Arabia-Eurasia collision. KFFTB which developed formerly as a foreland basin (Oligocene-Miocene) is located between Greater Caucasus and Lesser Caucasus fold and thrust belts. Deformation propagation in the Kura foreland basin of Caucasus is an important process accommodating Cenozoic crustal shortening, mountain building and erosion, but little is known about the accurate time of the Late Cenozoic tectonic deformation. Seismic reflection profiles show that the KFFTB of eastern Caucasus are an active thin-skinned fold and thrust belt and they preserve growth strata that record the tectonic and stratigraphic evolution. The structure of the KFFTB is interpreted as due to the southward thrusting of Greater Caucasus wedge and includes fault-bend folds, fault-propagation folds and duplexes. Based on growth strata, we show that syntectonic growth strata began to develop in the KFFTB since 5 Ma ago. Geometry analysis indicates that formation of the growth strata is associated with progressive fold-limb rotation. The growth stratigraphy (Upper part of Pontian (?) and Akchagil-Apsheronian) consists of shallow marine and continental sediments. Growth sediments are deposited in piggyback basins formed over the backlimbs of individual imbricates and as onlapping sequences against the forelimbs. *Keywords: Kura foreland, balanced cross-sections, kinematic evolution, growth strata*

Kura 6n-illke kivnm ve bindirme kus.eginin (Dogu Giircistan) kinematik evrimi

Bu bildiri, denk kesitlere dayanarak, Kura On-ülke Kivnm ve Bindirme Kusagimn (KFFTB) kinematik evrimi için yeni bir tektonik model sunar. Bu bildiride, Ust Miyosen'den guniimiize silregelen Arap-Avrasya plakalan carpismasi baglammda dogu Gilrcistan'daki bir sikisma deformasyonundan soz etmekteyiz. Daha onceleri (Oligosen-Miyosen) bir on-illke havzasi olarak gelismis olan Kura On-illke Kivrun ve Bindirme Kusagi, Btlytlk Kafkaslar ve Asagi Kafkaslar kivnm ve bindirme kusaklari arasinda yer alır. Kafkaslardaki Kura on-illke havzasmda deformasyon yayilmasi, Senozoik'teki kabuksal kisalma, dag olusumu ve asinma ile bagdasan onemli bir stirectir; ancak, Gee Senozoik tektonik deformasyonunun tarn zamam konusunda (90k) az sey bilinmektedir. Sismik yansima profilleri, dogu Kafkaslardaki Kura On-illke Kivnm ve Bindirme Kusagimn aktif bir ince-kabuklu kivrun ve bindirme kusagi oldugunu ve tektonik ve stratigrafik evrimi kaydeden btlytlme katmanlarim korudugunu gosterir. Kura On-Ulke Kivnm ve Bindirme Kusagimn yapisi, Bilyilk Kafkaslar kamasrnin gtlneye bindirmesinin sonucu olarak yorumlanir ve fay-btlkltlmtl kivrimlarim, fay yayilma/ilerleme kivrimlarim ve ciftlenmeleri icerir. Buytime katmanlarna dayanarak, Kura On-Ulke Kivnm ve Bindirme Kusaginda sin-tektonik (tektonizmayla es zamanh) bilyilme katmanlarnm bes (5) milyon yil oncesinden beri gelismeye basladigim gosterilmekteyiz. Geometri analizi, bilyilme katmanlari olusumunun gelisen kivnm-kanadi rotasyonu ile iliskili oldugunu gosterir. Bilyilme stratigrafisi (Ponsiyen'in [?] ust boltlmtl ve Aksagil-Apseroniyen) sig denizel ve karasal sedimanlardan olusur. Btlytlme sedimanlan her bir bindirmenin arka-kanatlan (ayaklari) ilzerinde olusan srst havzalarında (piggyback basin), on-kanatlara karsi ilerleyen istifler olarak cokel(til)irler. *Anahtar Kelimeler: Kura on-ülkesi, dengeli kesitler, kinematik evrim, buyume katmanlari*