

## **Tectono-Stratigraphical Evolution of the Cankiri Basin: Implications for the Late Cretaceous to Recent Evolution of Turkey**

<sup>1</sup>KAYMAKCI, N., <sup>1</sup>VAN DIJK, P.M. and <sup>2</sup>WHITE, S.H. <sup>1</sup>Geological Survey Division, International Institute for Aerospace Survey and Earth Sciences (ITC), The Netherlands; <sup>2</sup>Faculteit Aardwetenschappen, Universiteit Utrecht, The Netherlands.

This paper aims to present the Late Cretaceous to Recent tectono-stratigraphical evolution of the Cankiri Basin in relation to the subduction history of the northern Neotethys and collision of the Sakarya Continent and the Kirsehir Block. The study is based on the integration of data sets obtained from remote sensing, GIS, stratigraphical, structural, kinematic (paleostress inversion) and paleomagnetic studies.

The Late Cretaceous to Early Tertiary lithologies of the Basin include units deposited within subduction to collisional settings. In detail, The Cankiri Basin has experienced four phases of deformation. The first phase (Late Cretaceous to Paleocene) is associated with NW-SE thrusting and is attributed to the subduction phase. The second phase (Late Paleocene to pre-Burdigalian) is characterized by a combination of thrusting and transpressional deformation due to collision of the Sakarya Continent and the Kirsehir Block during which the Cankiri Basin continued to evolve as a series of piggy-back basins. The collision gave rise to an anticlockwise rotation of the western rim and a clockwise rotation of the eastern rim, which subsequently resulted in the □-shape of the basin. The third phase (Middle Miocene) was characterized by extensional deformation and is interpreted to be the result of post-orogenic collapse. The last phase is characterized by a transcurrent tectonics controlled by the North Anatolian Fault Zone (NAFZ) and subsequent expulsion of Anatolia to the west since the Tortonian to Recent.