

## Geodynamic evolution of basins from Kura to Amu Darya

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This 3 years Darius project aims at proposing a geodynamic scenario for the Mesozoic sedimentary basins formation in the South Caspian-Amu Darya area and their subsequent evolution.

The area considered is settled at the junction of several entities: Scythian-Turan platforms in the north and some Cimmerian blocks (Iranian and Afghan) in the south. We have chosen to study two adjacent domains closely linked: the first one going from Kura basin-South Caspian to Kopet Dag and a second domain, north of Ashgabat fault going from the Caspian Sea to the Amu Darya basin.

Late Permian-Early Triassic configuration of basins is the starting point of the study. This latter is mainly focused on the geodynamic processes leading to the basins formation during Mesozoic after the Eocimmerian event induced by the collision of the Iranian blocks with Eurasia and docking of other blocks towards the east resulting in the total closure of Palaeo-Tethys. Thus an alternation of extension and compression phases controlled the basins' evolutions which will be compared.

To achieve these goals we take two approaches:

- basin modelling studies (1D, 2D backstripping, gravimetric-flexural modelling..);
- fieldwork to characterize and date mainly the Mesozoic unconformities and tectonic phases (tectonic analysis, paleostress, paleontology..).

This first year of the project deals mainly with Turkmenistan: collecting existing data and beginning basin modelling.

In the following year the study will be deepened on Turkmenistan basins with further fieldwork. Modelling will be extended to the Kura basin and updating of results obtained during the MEBE Programme in South Caspian, Alborz and Kopet Dag. Comparisons of basins evolution and timing will give a better knowledge of geodynamics in the whole area having a central position in the Darius reconstructions.