

## **Sediment fluxes around from Carpathians from late Miocene to present**

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We use a novel methodology to estimate paleo-sediment flux from 2-D datasets that have a clinoform geometry in basins around the Carpathians in order to reconstruct sediment routing and magnitude since the Miocene. The flux estimation method relies on principles of sediment conservation and clinoform morphodynamics and utilizes input parameters of clinoform accretion rates and dimensions. Shelf-margin stratal successions from the Pannonian, Dacian and Black Sea basins were analyzed. The sections selected for analysis were based on seismic data, and multiple horizons were interpreted and dated based on previous studies. Because the older deposits are highly deformed we concentrated on the analysis of strata from the last 10 Ma.

The results indicate highest sediment fluxes in the Pannonian Basin at around 6 Ma. In the Pannonian Basin the sediment flux is used to build mostly the deep reaches of the basin. In the Dacian Basin the sedimentary flux was also high during the 5-6 Ma interval but of significant smaller magnitude. High sediment flux in the Dacian Basin contributed to strong progradation of the clinoforms. In the Black Sea the sediment flux was also extremely high during the period 5.3 - 4.8 Ma with progradation of the margin for tens of km.

The results indicate coeval high sediment fluxes in the basins around Carpathians during 6-5 Ma interval. The source of the sediments in all 3 basins was most probably the Carpathian Mountains (from different directions) but the empirical equations based on the modern sediment fluxes suggest high relief and/or high denudation rates similar to some modern tectonic active margins such as Taiwan.