

## **Inherited and syndepositional structural control on slope progradation in the Neogene Lake Pannon, southwestern Pannonian Basin, Hungary**

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### **Abstract**

The prograding shelf margin of Lake Pannon reached and ran across the studied segment of the Pannonian Basin between 8.8 and 8 Ma from NNW to SSE. A complex strike-slip type deformation created a dissected lake floor topography during the Middle and Late Miocene, which had a great influence on the prograding lake margin. The elongated troughs drew the prograding slope parallel with their axis, while the elevated edges acted as barriers and deflected it. The uneven basement relief determined local water depth of the lake, reflected by the varying heights of the slope, thus controlled the distribution and thickness of shelf, slope and basin centre deposits. In addition to this structural control, climatic influence was also revealed. The advancing clinofolds show alternating rising and flat shelf-edge trajectories which indicate stepwise lake level rise without significant lake level drop. As a result, the structural elements controlled not only the development of structural traps for hydrocarbon accumulations, but the facies and thickness distribution of the reservoir, seal and source rocks as well.