

УДК 55.551.4

ON THE FORMATION OF THE RIVER NETWORK IN THE SOUTHEASTERN PART
OF THE LESSER CAUCASUS

Vilen S. Safaryan ^{1*}, Tatevik V. Safaryan ²

¹ *Shushi University of Technology, Yerevan, Armenia*

² *Chair of General Geography, YSU, Yerevan, Armenia*

This paper investigates the formation and evolutionary patterns of the hydrographic network in the Southeastern part of the Lesser Caucasus – encompassing the Mravasar and Artsakh) mountain ranges and the Northeastern sector of the Syunik volcanic plateau based on an integrated analysis of geomorphological, tectonic, hydrological, and paleogeographic data. The source base comprises topographic maps at scales of 1 : 50 000 and 1:100 000, existing geological and geomorphological cartographic materials, and field survey data. Hypsometric analysis of terrace systems, construction and assessment of longitudinal river profiles, and spatial analysis of paleovalleys and paleohydrographic elements were carried out. The multistage structural characteristics of ancient valleys, paleohydrographic elements, and alluvial fans demonstrate that the contemporary hydrographic network resulted from successive reconstructions spanning the Oligocene through the Early Quaternary. A minimum of 7–8 terrace levels were identified, which in comparative analysis with terrace systems of other river basins across the Lesser Caucasus provide evidence of synchronous regional neotectonic activity. Analysis of longitudinal river profiles reveals steep gradients and ungraded profiles in upper reaches, characteristic of actively uplifting terrains. Morphometric discrepancies between paleovalleys and the dimensions of present-day rivers, along with coarse boulder deposits, indicate substantially greater discharge in the past, conditioned by the combined effect of climatic and tectonic factors. It is established that the principal morphological features of the river network were formed during the Late Pliocene–Early Quaternary under the interaction of active neotectonic uplift, climatic fluctuations, and intensive erosional processes. Active bifurcation processes recorded in watershed zones particularly the lateral erosional expansion of the left tributaries of the Tartar River (Avazaget, Mijnet, and Yeghisharakelots) demonstrate that the evolution of the drainage network remains ongoing at present.

<https://doi.org/10.46991/PYSUC.2026.SI1.066>

Keywords: hydrographic network, Lesser Caucasus, geomorphology, river terraces, morphometric analysis.

* **Corresponding Author:** Vilen S. Safaryan, Shushi University of Technology, A. Armenakyan, 125, Yerevan, Armenia. E-mail: vssafaryan@mail.ru; Tatevik V. Safaryan, Yerevan State University, A. Manoukian, 1, Yerevan, Armenia. E-mail: tatevik.safaryan@ysu.am