



**HRVATSKI GEOLOŠKI INSTITUT  
CROATIAN GEOLOGICAL SURVEY**

## **GEOZNANSTVENI SAT**

HGI, Sachsova 2, konferencijska dvorana instituta

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# **PLEISTOCENE AEOLIAN, ALLUVIAL AND GLACIO-FLUVIAL SEDIMENTS IN THE NORTHERN PART OF THE EASTERN ADRIATIC COAST, CROATIA**

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## SAŽETAK

The eastern Adriatic coast is made up predominantly of Mesozoic and Cenozoic carbonate sedimentary rocks, while Eocene flysch and other less resistant sediments including Pleistocene sediments, cover approximately 6% of the coast. Pleistocene sediments on the eastern Adriatic coast and islands usually cover smaller surfaces and form outcrops whose thickness rarely exceeds 10 m. They are represented by various types of sediments which include: gravel, sand, loess like sediment, silt and sandy silt deposited in different environments. In the northern Adriatic loess-like and sandy sediment on Susak island is well described and dated. Gravel, sand and silt of Pleistocene age occur on many isolated points along the Adriatic coast and several sand outcrops were described on the southern Croatian islands. As a part of the ongoing research we have sampled different sediments from 5 outcrops situated in the middle part of the eastern Adriatic. Vrsi-1, Karin-1 and Novigrad-1 outcrops are positioned at the shore line while Smilčić-1 and Ražanac-1 are positioned just a few kilometers inland from the coast. Deposited material was analysed to get the insight in depositional mechanisms and environment, paleo-climate and characteristics of the sedimentary basin which evolved in the coastal belt dominated by high-relief mountains composed mostly of carbonate rocks.

The preliminary results point to the complex origin of the studied sediment. Different facies are identified and described in all of the five outcrops. Ražanac-1 and Smilčić-1 are dominantly sand deposits with gravel lenses and layers, Karin-1 is comprised of silt, gravel and blocks, Novigrad-1 displays sand, sandy loess and gravel, while sand and gravel interplay in the form of channel type gravel lenses eroding medium to coarse grained sand in Vrsi-1 outcrop is similar to the sediment described on the nearby Vrgada island. It appears that two major depositional forces, both climate controlled, may have formed the sediment: alluvial and aeolian. Aeolian silt and fine-grained sand were deposited during arid climate, while coarse-grained sand and gravel were deposited during more humid and warm climate. We have also detected a third depositional force, glacio-fluvial which is detected at Karin-1 and Novigrad-1 outcrops in the form of dropstones and 20 cm+ blocks.