Chapter 4

Dobrogea Geology

Gabriela Brindusa Cazacu
Ovidius University of Constanta, Romania

ABSTRACT

In this chapter we will present the geology of Dobrogea, the delimitation and characteristics of the subareas that Dobrogea is composed of, and also some aspects regarding its tectonics. A parallel will be made between several types of geological delimitations, classifications of formations which were made by various researchers. The Dobrogea area is in south-east part of Romania, comprising two important faults, Peceneaga-Camena and Capidava-Ovidiu, which divide Dobrogea into three sectors: North Dobrogea, Central Dobrogea and South Dobrogea. The geology for each sub-area will be presented hereafter.

INTRODUCTION

In the past years extreme phenomena such as floods, drought, landslides and changes of relief were more and more frequent, with a general tendency of increase in the pluviometric regimen.

These phenomena are due to common action of various factors such as: the morphometric characteristics of the hydrographical basins represented by relief and the size of the receiving surface, the geology of the soil, the land’s degree of saturation with water, vegetation, degree of erosion of the soil, etc.

Although the geological conditions of the area do not decisively influence the climatic conditions, the geological structure of the Dobrogea region can influence
the phenomena of flowing, infiltration and accumulation of waters in the subterranean structure of the land; this is why we are going to present the geology of the Dobrogea area.

“Maybe none of the Romanian provinces reflects, in its morphology, the interdependence between the modifying agents of the land and the geological structure, as Dobrogea does. In the current relief, continuously shaped during earlier geologic times, but especially during the Pliocene and Quaternary period, the geological structure is sketched with a remarkable clarity. Therefore, the morphological structures overlap the structural geological units presented above.”

The Dobrogea area (figure 1) is in the south-east part of Romania, comprising two important faults, Peceneaga-Camena (P – C) and Capidava-Ovidiu (C – O), which divide Dobrogea into three sectors: North Dobrogea (1), Central Dobrogea (2) and South Dobrogea (3).

*Figure 1. Maps of Romania (simplified by G.B. Cazacu 2014)*
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