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A CASE STUDY ON HEAVY RAINFALL IN THE CENTRAL-SOUTHERN MOLDAVIA REGION, ROMANIA

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Abstract

In Romania the atmospheric precipitation intensity increases from East to West and from lowlands to highlands. Average annual precipitations in the Danube Delta and on the seashore hardly reach 400 mm per year, increasing to 500 - 600 mm per year in the lowlands and exceeding 1000 mm per year in the highlands.

This paper studies the main atmospheric causes that determined the heavy rains on the 5th of September, 2007, which occurred over the Central-Southern part of Moldavia, Romania between 9am and 12pm. The convective clouds developed above the Northern part of the Romanian plain followed a certain path over the central-south part of Moldavia, finally led to significant torrential rains from quantitative viewpoint. At continental level, a particularly barometric phenomenon occurred from NE to SW of Europe. The Azores anticyclone was extended on the Western half of the continent and the European part of Russia was under the influence of an anticyclone nucleus. Under the Azores anticyclone dorsal, it was a connection between two active cores, one located in the SW part of Bulgaria, Greece's N and NW Russia's. Six hours after production, this phenomenon has moved from West to East, while the Azores anticyclone has expanded a dorsal to the North Central parts of Europe. Also, this paper presents the social and economic impact of significant floods on the local communities from the affected areas.

Key words: convective clouds, precipitation, torrential rains

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