



Inundațiile din România. Evenimente din trecut și estimări provizorii pentru cele produse în 2005

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In this year, 2005, the floods and the other meteorological phenomena produced important damages in more than 575 Villages and towns in 34 areas. Were destroyed 3.571 houses, 2.993 buildings are in danger. Routes affected were on 375 km national roads, 979 km of regional roads, 1573 km countryside roads and 628 km streets in towns. Were damaged 699 bridges, 1.553 small bridges and 246 walking passages. Generally, the water regime of the Romanian rivers is characterised by high flows during February-May period and low flows in the rest of the year. Repeated and intense floods constitute one of the characteristics of the hydrologic system. The highest frequency of floods is found during the March-June period, while the least frequency is found during January and between August and September.

The unprotected streams and the deteriorated existing flood mitigation facilities presently pose the main damage risk. The flood monitoring and forecast systems, although well organised in regard to the structure of information flow, are technically obsolete and need to be upgraded in order to have more reliable data input for forecast, decision support system (DSS) and for dissemination to communities.

Based on spatial distribution of the dynamics of rainfall and snow melting, floods in Romania can be grouped into four categories.

The Romanian Central Floods. In the western part of Romania containing the western part of the western Carpathians, the Apuseni mountains, the Transylvania Depression, and the Banat-Crisana plain are generated heavy rains caused by the western air circulation through extension towards east of the Iceland Depression or movement of wet air masses on the back part of Azoric anticyclone. Floods are due to some sequential waves of high floods followed by some long-term rain, which saturate the soil.

The Romanian Southern floods. The floods in the southern part of Romania containing the southern part of the eastern Carpathians, Sub-Carpathians and Geta Plain and the Romanian Plain are due to heavy rainfall generated by the Mediterranean cyclones. The fast high flood waves generated catastrophic floods especially at the confluence of the rivers and the low plain.

The Romanian Eastern floods. The eastern floods are generated by torrential rainfalls occurring in the eastern parts of eastern Carpathians and in Moldavia Hill and by formation of cyclones in north-western part of the Black Sea.

Local floods. These floods are related to convective torrential rains, which occur during summer time and have restricted extensions in small hydrographical basins.

Generally, the causes of the floods were:

1. Big rainfalls cumulated with a fast snow melting, important as quantity, that lead to flows with exceeding probability between 0.5-10 %, bigger than dikes computation probability and the failure of some embankments by tearing and overflowing;

2. The exceeding of the transport capacity routing of the bridges and footbridges, because of under sizing and obturated leakage sections with wooden materials, waste deposited in the river bed or brought from the slopes;
3. Embankments that failed due to gryphons, by tearing or overflowing because of exceeding transport capacity, under sizing, inadequate maintenance, erosions and non-provisions of the riverbed leakage capacity;
4. Impossibility to control of some local phenomena, because of lack of some pluviometric, hydrometric or local rulers that provide accurate information about the development of events.