



## **Study and proposals related to extensive flooding in the Siret River area during the summer of 2008 in Romania**

Victor Stefanescu (1,2), Sabina Stefan (2), and Anisoara Irimescu (1)

(1) National Meteorological Administration, Bucharest, Romania (victor.stefanescu@meteoromania.ro;victem@gmail.com),

(2) University of Bucharest, Faculty of Physics, P.O.BOX MG-11, Magurele, Bucharest, Romania

Extensive flooding due to overflowing of the Siret River and associated runoff in smaller rivers in northeastern Romania at the end of July 2008 are discussed, taking into account the meteorological and hydrological contexts. The flooding events in Romania claimed human deaths and population displacement, large-scale destruction of housing and infrastructure. Although the Siret river is quite shallow, and several dams and reservoirs restrict and control its flow, the area along the river remains prone to periodic flooding, mainly in spring and summer. Several observations are made on the viability of settlements close to Siret riverbed in Romania, related to the repeatability of situations such as that during the summer of 2008. Generally, the relative shallowness of the river Siret may cause flash floods, when its level increases rapidly due to abundant precipitation. As such, the horizontal extent of the flooding due to runoff is a factor seemingly more important than the short-lived increases in depth, combined with the speed of the flow. As a direct result of the flooding, crops and buildings were damaged. The probability that similar meteorological contexts can cause flooding with the extent of that in 2008 will be discussed. Also, some possible means to improve the reaction of authorities and delivery of relief by them to the affected population will be proposed. Regarding the meteorological context, a presentation of the cyclonic system that has brought heavy and/or continuous rain in northern and northeastern Romania will be made. As proposal for improving the delivery of resources toward the affected area and population, a software system designed to shorten the process of conveying relevant information to decisional factors, and to increase the speed of information between interested parties will be discussed. The possible outcome of this specific case study will be the improvement of the decisional flux required in times of natural disasters, flooding included.