ABOUT HMEWS, METEOALARM AND HYDROALARM OF THE REPUBLIC HYDROMETEOROLOGICAL SERVICE OF SERBIA

Meteorological and hydrological systems for warning and alerts on the occurrence of extraordinary, unfavourable and dangerous meteorological and hydrological phenomena and events are the primary links in the system of protection of material goods and human lives from destructive atmospheric and hydrological processes and phenomena.

These systems have had the highest priority in the national meteorological or hydrometeorolological services in many countries of the world and, as of ten years ago, also in Europe. The governments of these countries have recognized their national meteorological or hydrometeorological services as a basic element in the national system of protection and rescue of people and property from destructive meteorological and hydrological phenomena/events. In this way, the overall capacity of the community has been strengthened for an effective combat against natural disasters.

Simultaneously with the mentioned tendentions in the development of the national hydrometeorological services of the European Union member states, the Republic Hydrometeorological Service of Serbia (RHMS of Serbia), performing the functions of the National Hydrometeorological Service of the Republic of Serbia in the World Meteorological Organization and other international meteorological organizations, has also started to develop the Hydrometeorological Early Warning and Alert System of Serbia (HMEWS).

With the goals of the Hyogo Action Plan and the strategic priorities of the World Meteorological Organization (WMO) and the United Nations International Strategy for Disaster Reduction (UNISDR) as starting points, the Law on Meteorological and Hydrological Activity ("Official Gazette of RS", No. 88/2010) defines the competencies of the RHMS of Serbia in terms of establishing and functioning of the national system of early warning and alert of meteorological and hydrological extreme events. This Law has given the mandate to the RHMS of Serbia to issue warnings of meteorological and hydrological extreme events and to perform assesment and mapping of risk and vulnerability of meteorological extreme events.

In accordance with the Law on Meteorological and Hydrological Activity, the basic components of the Hydrometeorological Early Warning and Alert System are: meteorological and hydrological observing system, telecommunication system, system of monitoring and forecasting of meteorological, climate and hydrological conditions and early warning of meteorological and hydrological extreme events and disasters, system for publishing warnings and their dissemination, and system for meteorological disaster risk analyzing and mapping.

In line with the provisions of the Law on Emergency Situations ("Official Gazette of RS" No. 11/2009, 92/2011 and 93/2012), the HMEWS of the RHMS of Serbia is included in

the system of protection of rescue of people and property from the impacts of natural disasters and other hazards, including the measures for the recovery from those impacts. Establishment of the legal framework with clearly defined competencies of the authorities involved in the national system of natural disasters and other hazards risk management, has enhanced the overall institutional and infrastructural capacities of the Republic of Serbia for an efficient combat against natural disasters, focusing on the prevention and preparedness strategy based on the identification and quantification of potential risks.

In the process of designing and implementing the HMEWS of Serbia, the experiences of the developed countries with most difficulties with natural disasters have been used, along with the recommendations of the World Meteorological Organization and the relevant regulations of the European Union. The core of the HMEWS of Serbia consists of electronic operative early warning and alert systems Meteoalarm and Hydroalarm of the RHMS of Serbia, developed within the corresponding EU systems: Meteoalarm – Severe weather warnings system for Europe and EFAS – European Flood Awareness System. The Meteoalarm electronic operative system and the related website (www.meteoalarm.eu) have been developed by the Network of European Meteorological Services – EUMETNET (the Republic of Serbia became full EUMETNET member in 2009). Within this EU programme, harmonized symbols for extraordinary and dangerous meteorological elements and phenomena have been defined. A colour coded map in combination with these symbols provides a quick overview of forecast extraordinary and dangerous meteorological elements and phenomena. Four levels of risk have been established. Each colour represents one risk level (green – no risk, yellow – the weather is potentially dangerous, orange – the weather is dangerous and red – the weather is very dangerous). White colour indicates that information is not available. All members of EUMETNET use the same colours and symbols. Weather warnings are issued for up to 48 hours in advance. For the sake of universality of warnings and alerts within the Meteoalarm system of the RHMS of Serbia, the platform of the European Meteoalarm has been used, with the same graphic symbols for extraordinary and dangerous meteorological elements and phenomena.

The Hydroalarm of the RHMS of Serbia has been developed within the EU Hydroalarm system (European Flood Awareness System – EFAS), as an integral part of the HMEWS of Serbia. The Republic of Serbia has been a member of the EU EFAS programme since 2007. Hydroalarm deals with extraordinary and dangerous river phenomena. Four levels of risk have been identified. Each risk level is represented by a corresponding colour. Green colour signifies that there are no warnings. Yellow signifies a significant water stage rise or fall; moving ice covers from 10% to 40% of water surface; there are events that could require undertaking of first flood or ice alert measures. Orange signifies a very significant water stage rise or fall; moving ice covers from 50% to 100% (immovable ice) of water surface; there are events that could require undertaking of second flood or ice alert measures. Red signifies extreme hydrological events and conditions. Operational data and products produced within the Meteoalarm and Hydroalarm operative electronic early warning and alert systems for the territory of the Republic of Serbia are published and updated on the Meteoalarm webpage of the RHMS of Serbia: www.meteoalarm.rs.