National Meteorological Administration of Romania (NMA RO)

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Project Partner 7

National Meteorological Administration is the national authority in the meteorological field in Romania, with a continuous service since 1884. Romania is a founding member of the International Meteorological Organization and starting with 1947-member of the Convention setting up the World Meteorological Organization. The main responsibilities of NMA are meteorological protection of life and property, sustainable development and improvement of life quality. The activities of meteorology, fundamental research, systematic and complete weather monitoring, international data exchange and integration in the World Meteorological Monitoring.

Romania has a vast experience in extreme events monitoring and control at national level, with a history of 120 years of observations, forecasts and case studies performed by National Meteorological Service. The scientists from National Meteorological Administration are actively involved in prevention and mitigation of all

the natural risks affecting the environment and the agriculture, as well as disseminating specialized forecasts and advisories to decision-making factors and other end-users (farmer, citizens).
The scientific meteorological research is focused upon the main domains selected as being of national interest, in agreement with the practice of the European Community, such as:

- atmospheric modelling / ALADIN model, HRM and LM, Mm5 Model, RegCM3, ECMWF MOS, COSMO.
- physics of the atmosphere and air pollution / radiometry, atmospheric electricity, air pollution and total ozone
- climate variability and climate change / HadAM3H, RegCM3
- agrometeorological applied research / CROPWAT, CERES-Wheat, CERES-Maize
- satellite, remote sensing and GIS techniques-based studies.

The NMA webpage is the online portal to present the main activities, services and research projects to partners and general public. Moreover, one can find legislation on meteorology and environment, information about the organization and profile of each department, publications, and links to related sites (i.e. WMO). The page can be accessed at www.meteoromania.ro .

The overall objective is to develop a warning system and tools for the assessment of extreme events (floods and droughts) in order to improve water resources management and disaster risk prevention in the River Olt Basin as the main tributary of the Romanian Danube River. The warning system tool is based on three time-scales like as: early warning, seasonal to annual and long-term climate change analysis:
- The early warning (48 hours) will be based on the operational NWP model-ensemble (ALADIN and COSMO models).
- Seasonal to annual estimations on flood/drought risk based on the deterministic seasonal prediction (ECMWF) with global scale teleconnection modes that are strongly related to the target area (e.g. El-Nino, NAO, EATL/WRUS).
- Analysis of climate scenarios based on the multi-model climate simulations - CMIP5 and CORDEX coordinated experiments in order to establish the most appropriate adaptation measures to CC.

In order to elaborate a robust assessment tool will be necessary to bring the selected adaptation measures into Integrated Risk Management Plan (IRMP). Based on this approach will be improved the science interface with decision making process by combining awareness knowledges, modelling and risk management analysis. The development of capacity building to applying alert mechanisms on extreme events within the project partners will be another major benefit.