

Developing a technology to combat drought forecasted at national level by using satellite, observational and climate model data (DROUGHTSAT)

Taking into account the fact that although there are important agricultural resources in Romania, the irrigation infrastructure has deficiencies caused in particular by the lack of rehabilitation works and investments. The solution proposed within the project, is consisting in a small irrigation system to improve the crop productivity and to support small farmers, promoting efficient water resource management at national level. On the basis of the assessment of the pedological drought events under current and future climate conditions, new methods of addressing irrigation needs at national level were promoted within the project.



- **Partners**

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- **Project Coordinators**

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Objectives

The main objective of the project is to undertake an analysis of pedological drought events in Romania and on the basis of this, to propose a technological solution for the efficient use of water resources for agricultural crops. The specific objectives of the project were:

- Collection of data necessary for assessment, based on satellite data, field measurements, climate data and available meteorological data, in order to create a complex database
- Achieve a detailed analysis of national pedological drought events at national level based on different data sets
- Analyze relationships between satellite data such as Land Surface Temperature (LST) and other variables in different formats
- Developing irrigation technology based on satellite data, observation data and field measurements

Results

- Improving the capacity of researches to monitor the phenomenon of pedological drought by using field measurements, observational data, climate model data and satellite products;
- Obtaining a complex database, necessary for the implementation of efficient irrigation systems by using field measurements and satellite products;
- Developing a technological solution to combat the national pedological drought, taking into account the water requirements of agricultural crops;
- Testing of the proposed technological solution in an experimental field, based on numerical simulations to determine the optimal operating regime (such as minimum energy consumption or saving water resources)