



Rain Messenger system for flood and drought monitoring, forecasting and management system

ZimaScience

Fields of activity of ZimaScience:

- Producing specialized devices and data loggers
- Digital and smart agriculture
- Data mining and information analysis
- AI in environmental sciences
- Orchard forts protection and management
- Saline land management
- Development of databases
- Planning in the field of environmental sciences
- Design and production of hardware,



Make informed decisions...

Pioneer in new technologies for environmental sciences

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Properties and highlights of rain messenger:

- Ability to predict long-term drought (12 months and in some cases up to 24 months) based on artificial intelligence capabilities.
- Extracting the hidden pattern beyond the huge amount of collected data
- Completely new, practical, scientific and specialized software
- Online and up-to-date access to the state of drought severity and drought at any desired scale
- With a completely simple and user-friendly environment
- The possibility of outputting and presenting results in text formats and geographic data storage and display formats.
- Displaying the results of flood and drought monitoring and forecasting in the desired area in the form of maps and time series charts
- Less volume of calculations compared to numerical solution methods
- With the support of scientific articles presented in prestigious international journals (ISI)

About Rain Messenger:

Based on scientific principles, the ZimaScience has succeeded in providing a system namely Rain Messenger accompanied with user interface that can be installed on smartphones for monitoring, forecasting and managing floods and droughts. This system, while being easy to use, provides valuable information to a wide range of managers, planners and experts. Rain Messenger provides users with significant scientific information about the state of drought in the past, present and future in the least possible time. The duration of the predictions is up to 12 months (in some cases up to 24 months). This long-term period of forecasting with high accuracy provides the possibility of large-scale planning in the field of water resources management and reducing the risks of drought and floods. In fact, based on the monitoring information and prediction of the severity of droughts, technical suggestions are provided according to the investigated area to manage the drought or drought conditions. In order to predict the severity of drought or drought, a large amount of primary information is data-mined and using different methods based on artificial intelligence, modeling of predictions is done in each meteorological (or rain gauge) station. After several stages of testing and validating the models, finally the information is presented in the form of a map and in the form of Rain Messenger App. Knowledge of the current and future status of received water resources significantly increases the speed of action in managing flood and drought conditions. Organizations using this software are equipped with a powerful tool against the threats of flood and drought.

Rain Messenger is a powerful tool to turn threats into opportunities

Rain Messenger Application:

- Water resource management
- Prediction of hydropower generation, planning for rainfed and irrigated farming
- Planning to manage water consumption in agriculture, industry and drinking
- Forecasting and modeling changes in sediment discharge behind dams
- Prediction of drought credits and its distribution
- Significant reduction of damages caused by drought in the country
- Planning the cultivation pattern in order to ensure food security
- Planning for the management of fires in pastures and forests
- Forecasting export and import of agricultural products
- Management of pests and plant diseases
- Planning for the transfer of livestock and the production of livestock products

