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Grid preprocessing application for Environment monitoring in Moldova

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The aim of the EnviMon application is to organize data acquisition and processing for Environment state monitoring. A nation-wide distributed set of sensors are polled from a central station placed at the main site of the State Hydrometeo Service of Moldova (SHMS). The application provides data collection, filtering, storage and processing in order to produce synthetic reports and input that can be used as structured tables for database or input for geoinformation systems maps. .

Detailed analysis

The application is developing by a joint team of specialists from MD-Grid NGI (Moldova) in cooperation with specialists from Romania and Hungary participating in the EC funded SEEGRID-SCI project. The applications are using resources of the regional SEE-GRID infrastructure. The application can be used both autonomously and as part of more common GreenView grid oriented application, that also is developed in the framework of SEEGRID-SCI project. The aim of the GreenView application is a refinement of surface- and vegetation parameters in SEE region based on processing of satellite images. Construction, usage and comparison of diverse satellite datasets will be performed. High resolution satellite measurements can be used for numerous environmental studies (climate-related or air pollution modeling). Using the sophisticated environmental data the change of the vegetation distribution in the Carpathian Basin and its climate-related causes will be investigated.

Conclusions and Future Work

The EnviMon application will be used for National and regional environment monitoring by State Hydeometeo services of Moldova and Romania.

Impact

Data collected from ground stations and decrypted by EnviMon Client is transferred to the GRID clusters servers'infrastructure. Based on collected data from different regions the Grid servers generates reports and calculates different parameters such as:
• Vegetation index(NDVI);
• leaf- area index (LAI);
• Index of green and dry biomass;
• Some other parameters
These data are compared with satellite data using a common GreenView application.

Keywords

Regional Grid infrastructure; environment monitoring; satellite images; GreenView application

URL for further information

www.renam.md

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