



Photo: aerofoto.lv

Flood

is one of the natural disasters, which cause the significant social and economic problems.

Main causes of the floods are torrential rains, melting of snow and ice jams. Inundation is affected by the numerous factors, such as relief, soil type in the flooded area, degree of its moisture content, designation of the flooded land, etc.

Availability of the monitoring and operational flood forecasting system allows to significantly improve the social security, decrease the economic damage, caused by the floods.

Monitoring and flood forecasting system has been developed with organizational and financial support of the international project INFROM: "Integrated Intelligent Platform for Monitoring the Cross-Border Natural-Technological Systems". Development of the system is based on the recent progress in the sphere of spacial modelling of the floods, modern geoinformation systems and Earth remote sensing technologies.

"Integrated Intelligent Platform for Monitoring the Cross-Border Natural-Technological Systems"

"Estonia – Latvia – Russia Cross Border Cooperation Programme within the European Neighbourhood and Partnership Instrument 2007-2013"

PROJECT PARTICIPANTS



St. Petersburg Institute for Informatics and Automation of the RAS



Riga Technical University

ASSOCIATED PROJECT PARTNERS



Government of St. Petersburg Committee on IT and Communications



Latvian Transport Development and Education Association



Diplomatic Economic Club

Rīgas Tehniskā universitāte
Kalķu iela 1, Rīga LV-1658, Latvija.

St. Petersburg Institute for Informatics and Automation of the RAS
Russia, 199178, St. Petersburg, 14 line, 39

<http://infrom.eu>



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Integrated Intelligent Platform for Monitoring the Cross-Border Natural-Technological Systems



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Estonia-Latvia-Russia cross border cooperation Programme within European Neighborhood and Partnership instrument 2007-2013

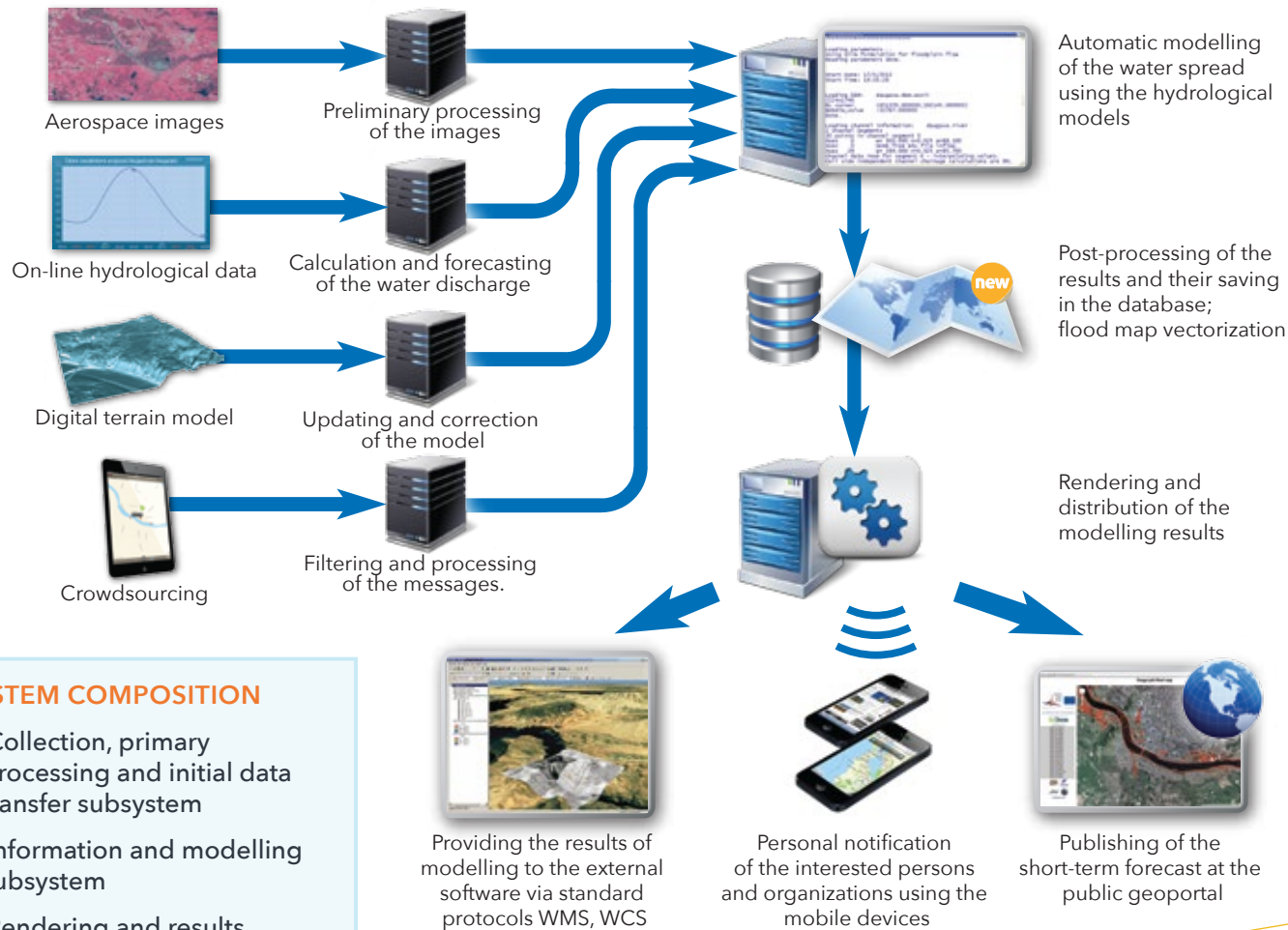
Operational Flood Forecasting



Monitoring and operational flood forecasting system based on integrated use of ground-based and aerospace data

Automatic individual notification of interested persons and organizations.
Continuous updating of the data and information.

MONITORING AND OPERATIONAL FLOOD FORECASTING SYSTEM STRUCTURE



SYSTEM COMPOSITION

1. Collection, primary processing and initial data transfer subsystem
2. Information and modelling subsystem
3. Rendering and results distribution subsystem

CONSUMERS

The potential customers of the modelling results are: civil population, executive state authorities, emergency rescue service, organizations involved in designing and operating the complicated hydro engineering complexes.

RESULTS OF WORK

1. Flooding parameters forecast 48 hours ahead: hourly geobound outlines and water depths map, available via the standard protocols WMS, WCS.
2. The list of the facilities, located in the risk area of forecast flood. Automatic notification of the interested persons and organizations on the current situation concerning the floods.
3. Visualization of the modelling results in 2D and 3D modes using the developed geoportal.

The results are provided as a web-service on a remote basis.

SYSTEM DEPLOYMENT

At the preparation stage we perform:

- creation or specification of the digital terrain model;
- installation of the independent hydrological sensors;
- calibration of the model parameters.

it isn't necessary to make capital investments in consumer's information infrastructure.

ADVANTAGES

The proposed system is oriented on the provision of the high-precision operational flood forecast to the interested persons and organizations. The user is not required to have the special programming or modelling skills. The system operates automatically.

SIMPLICITY. CLEARNESS. PROMPTNESS. AUTOMATION.

Modern information system based on the integrated intelligent platform of the ground-based and aerospace monitoring.