

PP 11 in Monitor II project

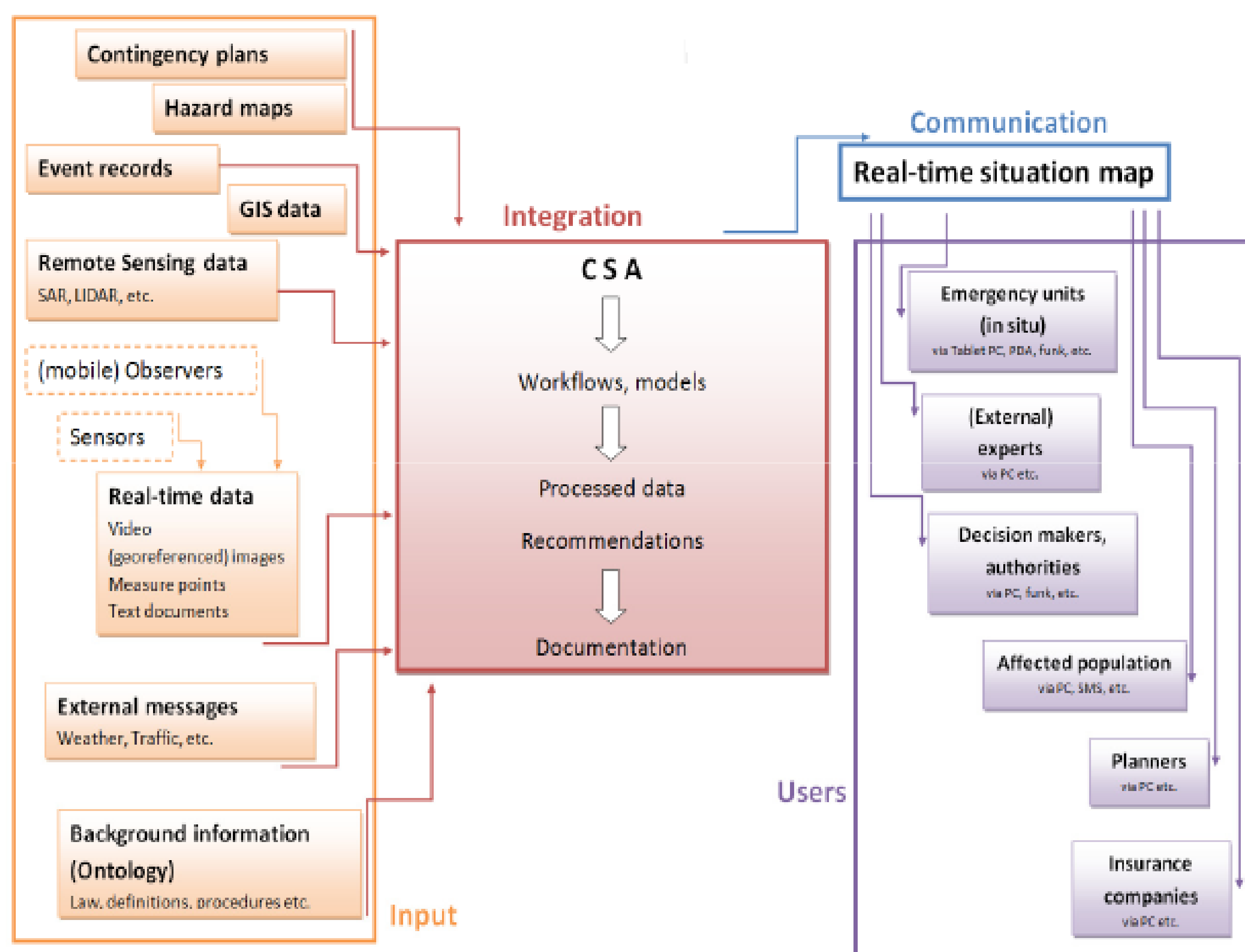
Project Monitor II with duration (01.06.2009 – 31.05.2012) funded under the first call of SEE program has as:

LP- Federal Ministry for Agriculture, Forestry, Environment and Water Management of Austria

Bulgarian partners: Institute of Mathematics and Informatics (IMI-BAS) and the Ministry of Agriculture, forests and food of Bulgaria

Other partners: Austria, Slovenia, Italy, Romania, Greece and Serbia.

The project goal is generation of continuous situation awareness concept in cases of natural disasters like floods, landslides, torrents:



Mesta River has 25 tributaries. The highest above sea level height reflects also to the density of the tributary river systems, above 85% of the rivers has density above 1. This can change from 0.73 km/km² for Tufcha River to 2.53 km/km² for Sofan River. The average slope of the river is 14,72 ‰, but it can differ between 10,9 ‰ for Dospatska River to 128 ‰. The average slope of 80% of the rivers is above 40 ‰. Typical for Mesta River is the large coefficient of development for the watershed line differs between 1,27 for Votrachka River up to 2,13 for Dospatska River.

The relief of the river bed in the upper course is mainly rocks. That is why the water is coming down to the Gotze Delchev valley with very high speed on the surface water.

The total area of Mesta River is 2767 km². The river is 273 km long; 125 km are located in Bulgaria, 25 km in Gotze Delchev. The altitude of the river springs is 2620 m and runs through the Gotze Delchevska valley with average height 545 m. The total average height for Mesta/Nestos River in its Bulgarian part is 1318 m, which makes it the highest river in Bulgaria.

General Description about the Test-bed Area

The area of interest for our team is on Mesta River in the Gotze Delchev municipality area which flows through the Gospodinci village, where in spring time the flood alert is very high.

On Picture 1 is seen that the village is located on both sides of Mesta River and people can be affected directly in case of flood event. The results from Monitor II will be implemented in the municipality of Gotze Delchev, responsible for Gospodinci village in order to better monitor the situation along the river. At that particular area the project can provide high added value for the local population and evacuation activities in case of emergency could be provided to as many people as possible.

Picture 1: Village Gospodinci on Mesta River

source:<http://www.citypopulation.de/php/bulgaria-blagoevgrad.php>



The Bulgarian partners has as test beds rivers and have tried to implement the EU directives – Inspire and the flood directive, which are accepted in 2007. The team of IMI-BAS is working on implementation different data sources providing information for Bulgaria like: Lidar data, topographic data, digital or GIS maps of the rivers where is the area of interest, cadastral data, hydrological, cadastral and geometrical data for the river bed, precipitation data, soil moisture content for the surrounding area of the river where flood map in cases of high waters will be generated by the IMI-BAS team.

CASE STUDY DESCRIPTION

General for Mesta river watershed

The Mesta/Nestos River is situated in the valley between three Bulgarian mountains: Rila, Pirin and Rodopi. It is flowing on the Eastern part of Rila and Pirin and West part of Rodopi Mountains. The watershed of Mesta River is influenced by the Continental and Trans-Mediterranean climate and the average annual temperatures in this region are from 0°C to 13°C. Its watershed characterizes with heavy precipitations in the spring and autumn and during the snow melt. Water flow and density of the river system gives 164 km² of the watershed at height 1595 m.

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