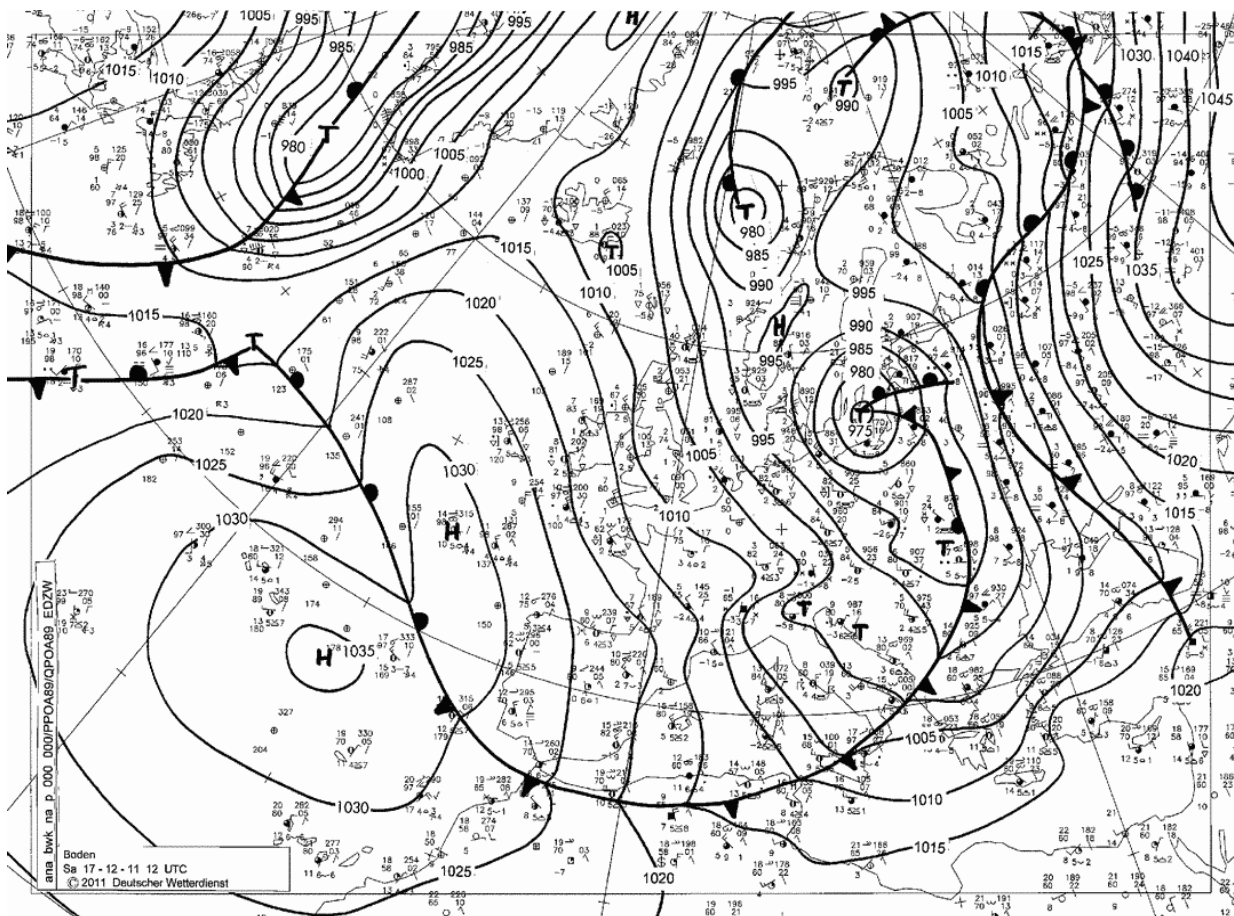


<b>PRODUCT NAME: PR-OBS-5</b>		
<b>CASE STUDY PERIOD:</b> 17 – 18 December 2011 06:00 UTC	<b>METEOROLOGICAL EVENT:</b> Warm front and light rain	
<b>VALIDATION INSTITUTE:</b> National Institute of Meteorology and Hydrology (NIMH)	<b>Responsible:</b> Gergana Kozinarova, Georgy Koshinchanov Hristo Hristov	<b>Contact point:</b> <a href="mailto:gkozinarova@gmail.com">gkozinarova@gmail.com</a> <a href="mailto:georgy.koshinchanov@meteo.bg">georgy.koshinchanov@meteo.bg</a> <a href="mailto:hristo.hristov@meteo.bg">hristo.hristov@meteo.bg</a>
<b>PRODUCT DEVELOPER INSTITUTE:</b> CNR- ISAC	<b>Developers:</b> Mugnai A., Sanò P.	<b>Contact point:</b> <a href="mailto:a.mugnai@isac.cnr.it">a.mugnai@isac.cnr.it</a>
<b>OPERATIONAL CHAIN INSTITUTE:</b> CNMCA	<b>Responsible:</b> Zauli F, Melfi D.	<b>Contact point:</b> <a href="mailto:zauli@meteoam.it">zauli@meteoam.it</a>

**METEOROLOGICAL EVENT DESCRIPTION**

Central and eastern regions of Europe are under the influence of low pressure. The centre of the cyclone is over the Baltic. Balkan peninsula remains in southern part of this cyclone. Ground pressure fields is cyclonic. A large gradient in the pressure field. Cold front is passing trough Bulgaria from west to east. The weather is cloudy and windy. There is a rain almost in the all territory of the country, more significant - in the mountainous areas and in Eastern Bulgaria.



## DATA/PRODUCTS USED

24-h cumulated precipitation field from the PR-OBS-5 product  
24-h cumulated precipitation field from NIMH raingauges data set

## RESULTS OF COMPARISON

The comparison is made for Iskar basins.

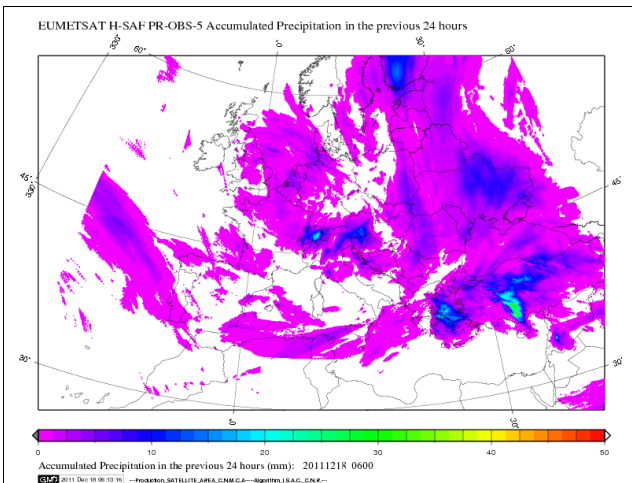


Fig 1

Parameter	Scores [mm]
Max RG	32.5
Max H05	0.5
Mean RG	11.4
Mean H05	0.1
ME	0.03
MAE	
RMSE	0.18
St.Dev	0.14

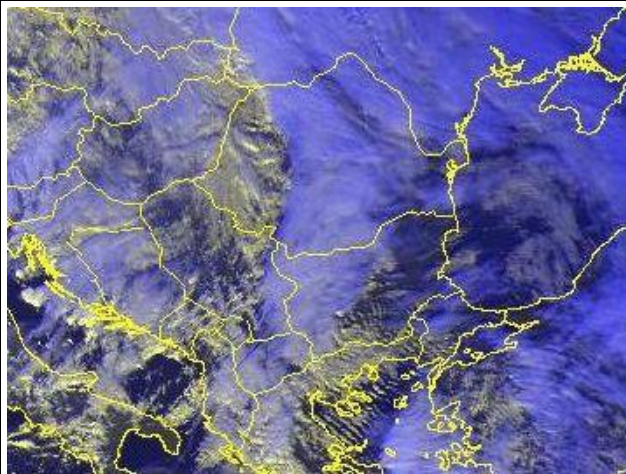


Fig 2

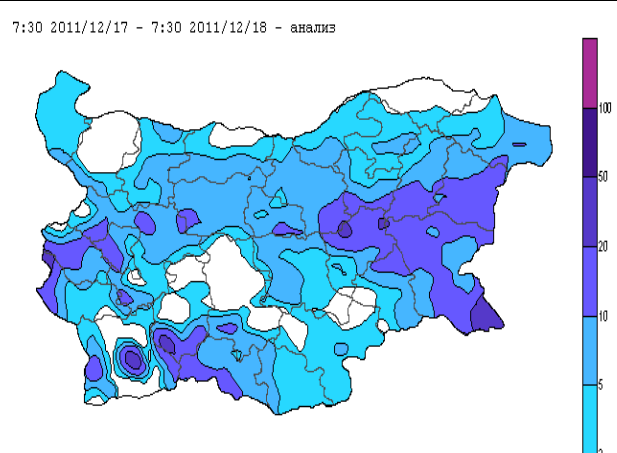


Fig 3

Fig 1. Cumulated precipitation field at 6:00 UTC for 24-h period from PR-OBS-5

Fig 2. RGB – HRV-Clouds from 2011 12 17 – 12 UTC

Fig 3. Cumulated precipitation field from NIMH raingauges data set

Spatial match between 24-h cumulated precipitation fields from PR-OBS-5 and raingauges is not satisfactory in this case as confirmed by results in the above figure. Mean error shows that there is a significant underestimation.

Visual comparison indicate that H05 underestimate the 24-h accumulate precipitation.

**COMMENTS**

The statistical comparison is made only for Iskar river basins.

**INDICATIONS TO DEVELOPERS**

In this case H05 underestimate 24h precipitation.