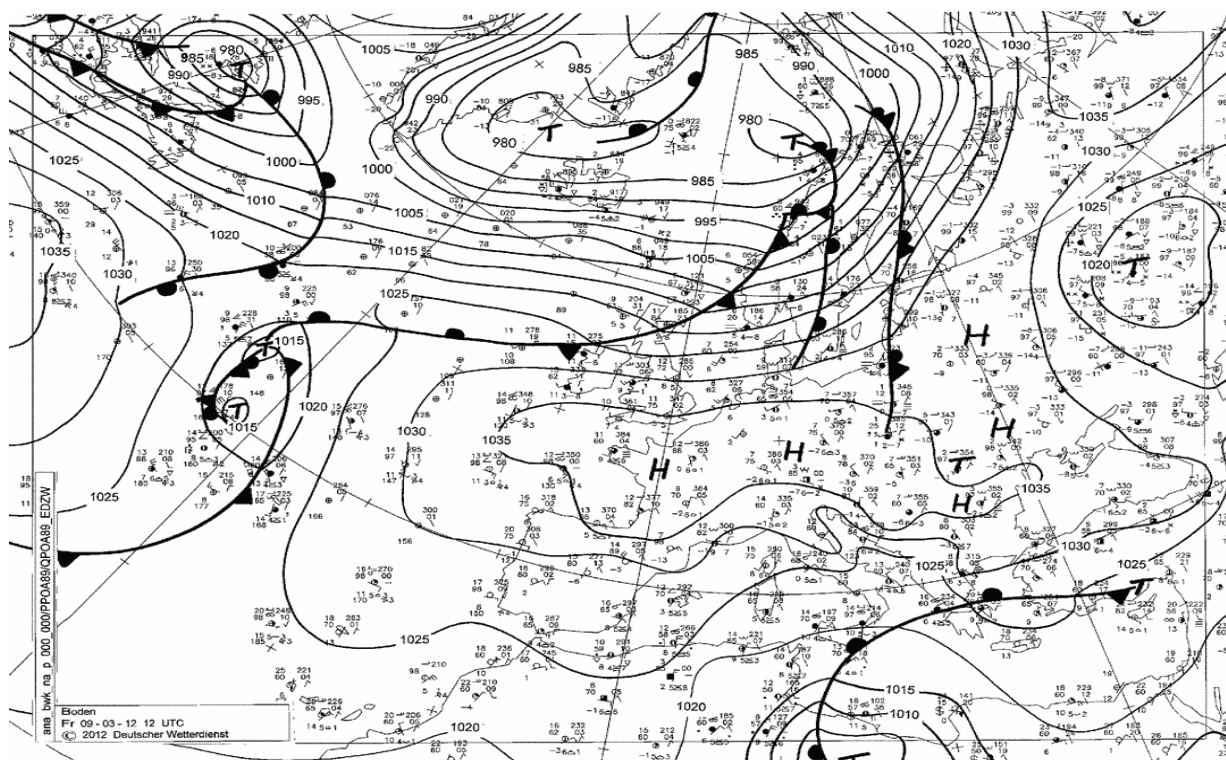


|  |   |   |
|--|---|---|
| <b>PRODUCT NAME: PR-OBS-5</b>  |   |   |
| <b>CASE STUDY PERIOD:</b><br>9 – 10 March 2012 06:00 UTC                               | <b>METEOROLOGICAL EVENT:</b> Warm front and light rain                              |   |
| <b>VALIDATION INSTITUTE:</b><br>National Institute of Meteorology and Hydrology (NIMH) | <b>Responsible:</b><br>Gergana Kozinarova,<br>Georgy Koshinchanov<br>Hristo Hristov | <b>Contact point:</b><br><a href="mailto:gkozinarova@gmail.com">gkozinarova@gmail.com</a><br><a href="mailto:georgy.koshinchanov@meteo.bg">georgy.koshinchanov@meteo.bg</a><br><a href="mailto:hristo.hristov@meteo.bg">hristo.hristov@meteo.bg</a> |
| <b>PRODUCT DEVELOPER INSTITUTE:</b><br>CNR- ISAC                                       | <b>Developers:</b><br>Mugnai A., Sanò P.  | <b>Contact point:</b><br>a.mugnai@isac.cnr.it   |
| <b>OPERATIONAL CHAIN INSTITUTE:</b><br>CNMCA   | <b>Responsible:</b><br>Zauli F, Melfi D.  | <b>Contact point:</b><br>zauli@meteoam.it   |

### METEOROLOGICAL EVENT DESCRIPTION

Western and Central Europe and the Balkans are under the influence of high pressure. Over North Africa is developing cyclone which warm front reaches the southern regions of the Balkans. No gradient in the pressure fields over Bulgaria. There is a light rain only in the southwestern regions – less than 1 mm, only in Sandanski 3.5 l mm.



## 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.

Spatial match between 24-h cumulated precipitation fields from PR-OBS-5 and raingauges is not satisfactory in this case as confirmed by the statistical results.

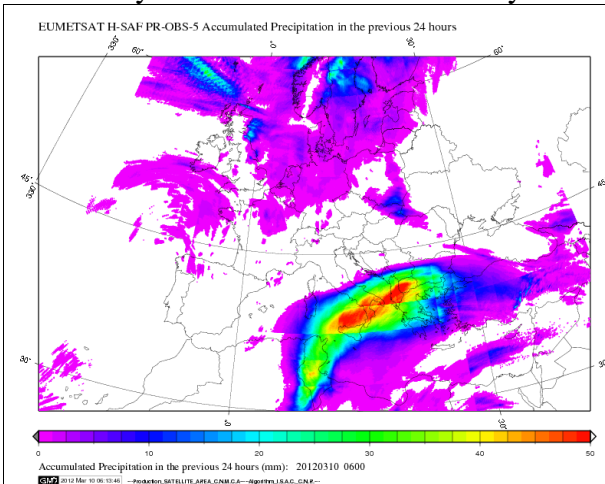


Fig 1

| Parameter | Scores [mm] |
|-----------|-------------|
| Max RG    | 2.2         |
| Max H05   | 27.3        |
| Mean RG   | 0.2         |
| Mean H05  | 24.1        |
| ME        | 0.44        |
| MAE       |             |
| RMSE      | 24.2        |
| St.Dev    | 1.9         |

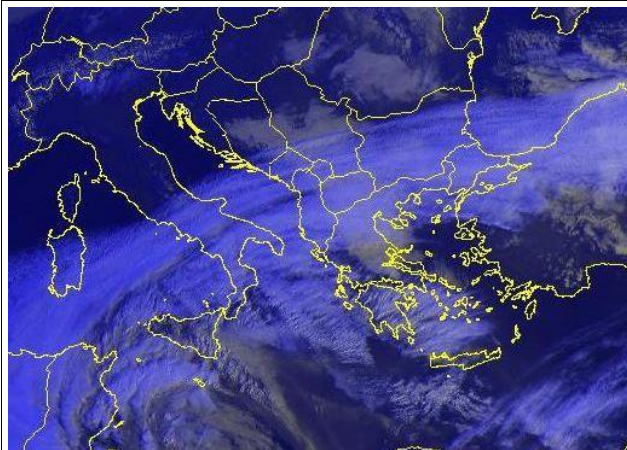


Fig 2

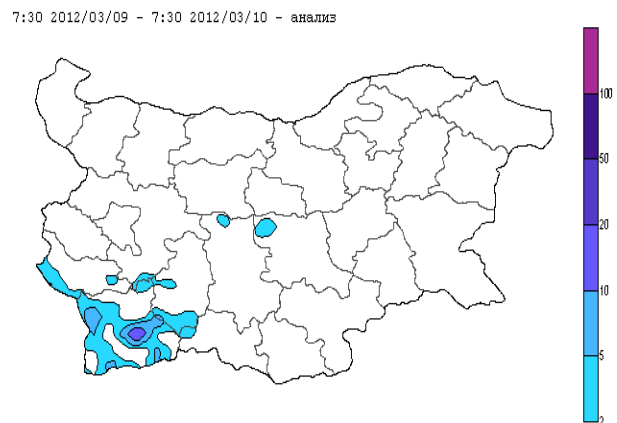


Fig 3

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

Fig 2. RGB – HRV-Clouds from 2012 03 10 – 7 UTC

Fig 3. Cumulated precipitation field from NIMH raingauges data set

Visual comparison indicate overestimation of precipitation amounts by PR-OBS-5 against raingauges. Most likely the high cirrus clouds, connected with the warm front was identified as Cumulus anvil in PR-OBS-5.

### COMMENTS

The statistical comparison is made for Iskar river basins.

### INDICATIONS TO DEVELOPERS

In this precipitation event, 24-h cumulated field from PR-OBS-5 overestimate the real precipitation.