| PRODUCT NAME:	**PR-OBS-02v2.3**	
CASE STUDY PERIOD: 03 Feb 2012	METEOROLOGICAL EVENT: Long lasting and intense snowfall all over Italy	
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OPERATIONAL CHAIN INSTITUTE: CNMCA	Responsible: Zauli F.	Contact point: zauli@meteoam.it

METEOROLOGICAL EVENT DESCRIPTION

03FEB2012 00Z
500 hPa Geopotential (gpdm) und Bodendruck (hPa)
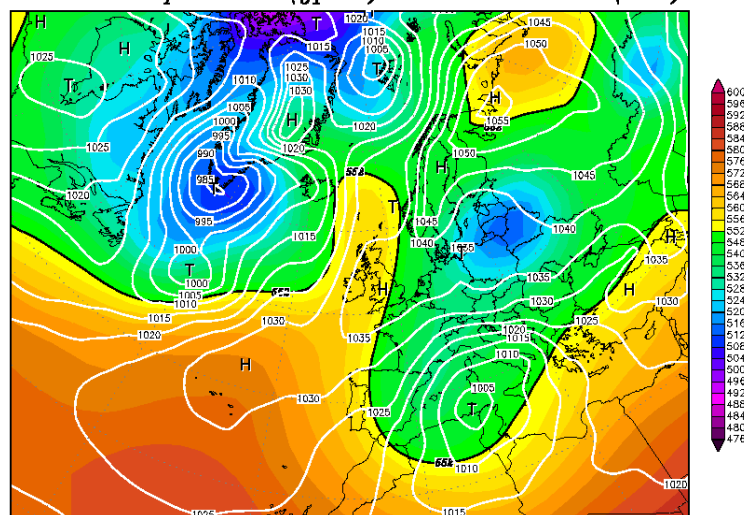
Daten: Reanalysis des NCEP
(C) Wetterzentrale
www.wetterzentrale.de

The Wetterzentrale chart on February the 3rd 2012 (on the left) shows a well developed surface low pressure system over north African coasts with high pressure gradient over Italy. This setting, lasting for several days, was a part of a long lasting series of snow episodes (14 days) caused by Siberian cold air joining moist Atlantic from the west. These episodes caused century records snowfall in most Italian regions, especially over northern Italy.
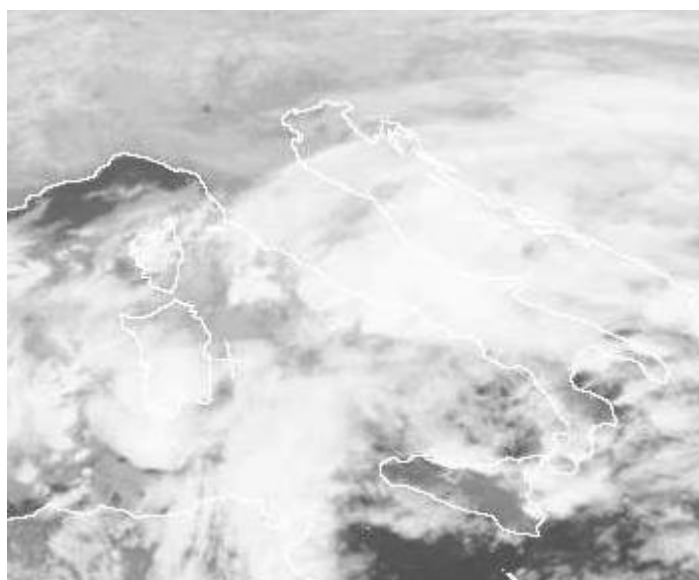
The SEVIRI infrared image on 03/02/2012 (left) at 00:00 UTC shows cloud coverage over central and southern Italy. Cold and homogeneous cloud tops are found also over Sardinia, while over Calabria and Sicily scattered convection is present. The light gray color over Po Valley indicates snow at the ground.
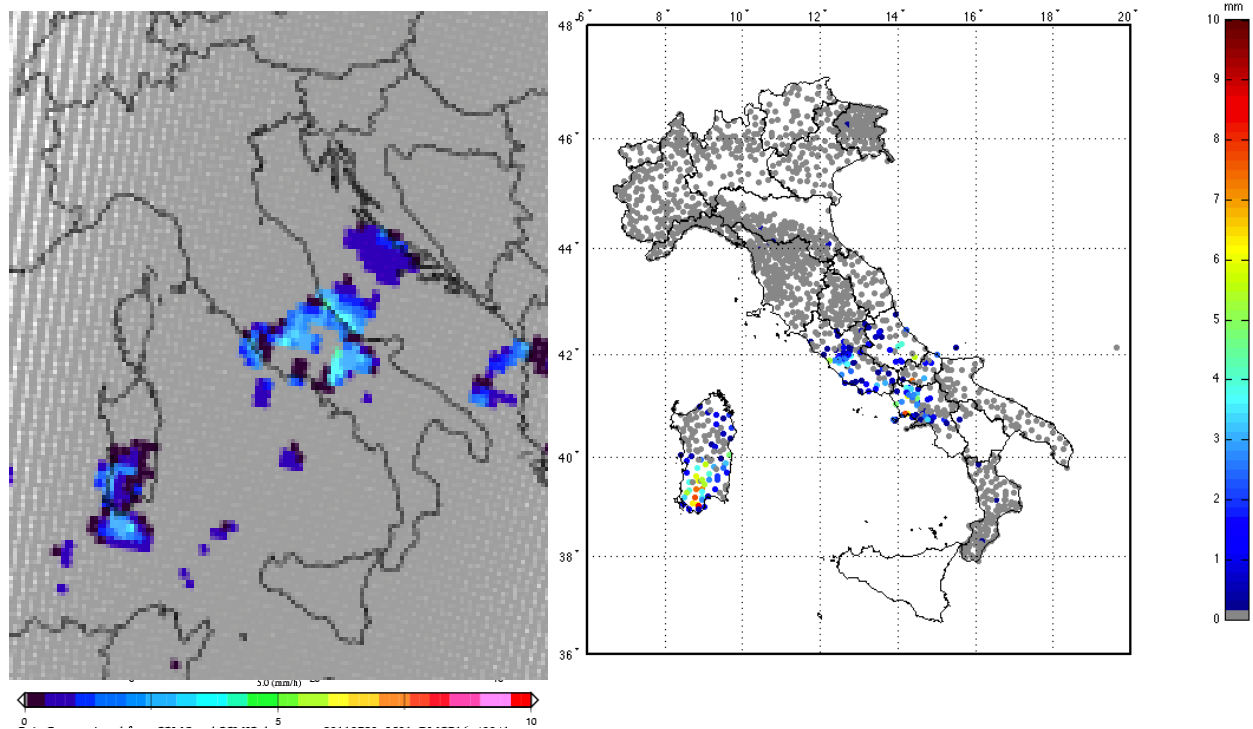
RESULTS OF COMPARISON

Figure. H02 precipitation map at 01:02 UTC (left) and raingauges hourly precipitation cumulated at 02:00 UTC (right) on February the 3rd 2012.

The raingauge map at 02:00 UTC on February the 3rd shows three main precipitation spots, two over central and southern Italy, and one over the Sardinia island, with relatively high rainrates. It seems that the h02 product correctly detects the main rain area, and is very effective in removing the snow at the ground signature over the Po Valley. However the precipitation patterns are misclassified, resulting in a quite low value of POD (0.45), partially balanced by a relatively good FAR value (0.24). The ETS=0.32 confirms the reasonably good performance, considered that these types of event are difficult to describe at microwave frequencies. The HSS (0.32) also indicates fairly good skills in classifying rainrate values.

COMMENTS
 The results for this case study have to be considered as good, since the conditions are challenging for this type of retrieval, i.e. snow at the ground and relatively low water content of the clouds.

Indications to Developers
It should be improved the sensitivity of the retrieval in case of light precipitation and snowfall