

## MULTI-SPECTRAL COMBINATIONS FOR MONITORING SEVERE STORMS

Mateja Iršič Žibert<sup>1</sup>

<sup>1</sup>*Environmental Agency of the Republic of Slovenia, Vojkova 1b, Slovenia, mateja.irsic@gov.si*  
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### I. Introduction

Multi-spectral satellite combinations of the storm tops are available every 15 minutes using Meteosat-8 satellite. For the forecaster on duty it is very important that proper multi-spectral combinations are displayed, so the most important features (Levizzani and Setvak, 1996) and possible significance for storm severity can be monitored. For the monitoring and the movement of severe storms also time sequences of images are important also when combining multi-spectral images, (Iršič Žibert, 2004). Good monitoring is the bases for good nowcasting of the phenomena.

### II. SEVERE STORMS IN SLOVENIA

With the use of the Meteosat second generation satellites it is possible to better monitor the origin and development of convection in different satellite channels. There is a set of multi-spectral satellite combination used in the operations at the Environmental Agency of Slovenia. The combinations are selected in such a way that best possible information can be quickly displayed and also numerical parameters can be displayed for the selected area. Special emphasis is done using HRV images in the combination with the other SEVIRI channels. In August 2006 there were many cases when severe storms developed in Slovenia. Specific features are displayed and discussed in the combination with the radar and lightning data.

### III. REFERENCES

- Iršič Žibert M., 2004: Analyse of cloudiness using multi-spectral satellite images of Meteosat Second Generation satellites. Master Thesis, University of Ljubljana.  
Levizzani V., Setvák M., 1996: Multispectral, High-Resolution Satellite Observations of Plumes on Top of Convective Storms. *J. Atmos. Sci.*, 53 361-369.

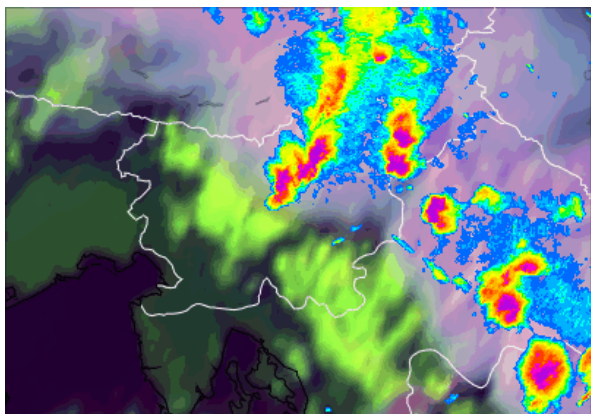


FIG. 1: Multi-spectral satellite combination together with radar maximal echo on 29 June 2006 at 16 UTC. Purple means maximal echo more than 50 dBz. Extreme value for this case is 57 dBz with cloud top temperature -58.3 °C.