



# Introducing Recommendations from CGMS 35 to the 9th International Winds Workshop

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## Introducing Recommendations from CGMS 35 to the 9th International Winds Workshop

- **Presentation introduces the recommendations from CGMS 35 directed to the 9th International Winds Working Group IWW9**
- **Most recommendations are traceable to IWW 8 and subsequent reports to CGMS**
- **It is suggested to address the recommendations in the working groups during the 9th International Winds Workshop.**



Introducing Recommendations from CGMS 35  
to the 9th International Winds Workshop

**Recommendation 35.07:**

**CGMS members to respond to recommendation 34.15 should finalise the first phase of the project (i.e. the processing of the AMVs with their own operational AMV algorithm without any modification) before IWW9 and discuss the results.**

***=> presentation by I. Genkova 15 April 2008***

***=> discussion in WG 1 and follow-on?***




**Introducing Recommendations from CGMS 35  
to the 9th International Winds Workshop**

**Recommendation 35.08:**

**IWW9 should discuss the results from the height assignment studies based on advanced instruments on the A-train. The co-Chairs of IWWG are invited to provide a summary report to CGMS36.**

***=> various pertinent presentations => conclusions and follow-on actions to be discussed in WG 3***



## Introducing Recommendations from CGMS 35 to the 9th International Winds Workshop

### Recommendation 35.09:

IWW9 should discuss the results of the studies using the images simulated from NWP model output to track AMVs. Co-Chairs of IWWG are invited to provide a summary report to CGMS36 on results of the ongoing studies on deriving AMVs from images simulated from NWP model. The report should address both the imagers as well as the hyper-spectral sounders.

*=> presentation by L. von Bremen, P. Bauer et al.*

*=> has also bearing on priority of products from future hyperspectral sounder in geo orbit (e.g. MTG IRS) i.e. water vapour changes or wind profiles*

*=> this in turn has bearing on preferred IRS repeat cycle*

*=> suggest discussion in WG 1 and WG 2*



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**Recommendation 35.10:**

**Direct retrievals of wind fields from Doppler Wind Lidars  
need to be continued beyond the ESA ADM mission.**

***=> suggest discussion in WG 2***



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**Recommendation 35.11:**

**IWW9 should discuss the height allocation to atmospheric layers and pursue tests within NWP assimilation and forecast systems.**

***=> suggest discussion in WG 3***



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**Recommendation 35.12:**

**CGMS 35 recommends to put the CGMS wind statistics on the new IWWG web site and to discuss at IWW9 whether a strict adherence to CGMS collocation criteria should be followed and whether the criteria need to be re-defined.**

**=> *discussion in WG 1***





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**Recommendation 35.16:**

**CGMS Members to continue to support activities of the three International Working Groups (ITWG, IWWG and IPWG) particularly upcoming science meetings in 2008**



**Additional point for discussion  
and a look into the future**

- **Generally speaking: Horizontal feature tracking does not give a 'true' wind vector (due to cloud and moisture development), although in many instances it is a good proxy for the the horizontal wind field**
- ***=> Can we use the information from the image data in a better or more adequate way?***
- **With new hyper-spectral sounders (e.g. the IRS on Meteosat Third Generation) we would even better observe 3-d changes of moisture fields**
- ***=> which advances have to be made to use observations of 3-d evolution of moisture and cloud fields in time (spatial scale important)***



# DERIVATION OF ATMOSPHERIC MOTION VECTORS FROM FORECAST MODEL FIELDS OF ATMOSPHERIC MOISTURE

Final Presentation, Darmstadt, 20 November 2006

Lead scientist: Hermann Mannstein (DLR)



Institut für Physik der Atmosphäre

Study managers at EUMETSAT: M. Koenig and R. Borde



## Study objective

- => Derive AMVs by tracking moisture fields in simulated images from local area models (7 km and 2.8 km)
- suitable tracking scheme
- hourly moisture fields -> derive hourly wind vectors
- comparison to the 'true' wind data from model





## Pertinent conclusions from DLR study

- In cases without convection the moisture structures are inherited from the global analysis and model. Both local models do not contain additional information in the higher resolution
- *question => would a hyperspectral sounder help to provide additional information?*
- Convective events lead to strong differences between model wind and derived AMVs.
- Convection and related strong signals in the moisture field are the dominant error source in the derivation of AMVs.
- *question => to what extent does this compromise the idea to derive wind profiles from hyperspectral sounders? Has emphasis on humidity fields and their changes in space and time a higher priority?*