



# IWW10 Charge to working groups

*WG1: Methods - chaired by Régis Borde and Steve Wanzong*

*WG2: Data assimilation - chaired by Lars-Peter Riishojgaard and Iliana Genkova*



# Charge to working groups

IWWG feedback (WG1 and 2)

---

## 1.1 Thoughts on IWWG web site

a. Format and content

b. Suggestions for improvements

- AMV derivation information from all centres
- NWP tab
- Training tab
- MISR and hyperspectral products pages
- Earlier IWW proceedings online
- Review of objectives
- More resources for collaborative projects e.g. information on how to take part in inter-comparison, links to results etc.
- Others?

1.2 Feedback on IWW10 meeting format, more plenary discussions good or bad?



# Charge to working groups

AMV derivation (WG1)

---

## 2.1 Tracking

- a. Nested tracking, optical flow, other options?

## 2.2 Should we average component vectors?

## 2.3 Is it useful to apply image enhancement, use of channel differences?

## 2.4 Height assignment (CGMS-37 R37.23)

- a. Review how best to handle low level clouds
- b. Discuss approach to isolate pixels to use for height assignment
- c. Validation (e.g. A-train, model/sonde/profiler best-fit)
- d. Minimum residual approaches

## 2.5 Development of error estimates (CGMS-37 R37.20)

- a. Discuss options available

## 2.6 Development of AMV layer information (CGMS-37 R37.20)

- Options?



# Charge to working groups

AMV derivation continued (WG1)

---

## 2.7 Polar AMVs (CGMS-37 R37.21)

- Can we track reliably over 100 minutes?
- Should we modify height assignment approaches?
- How best to handle multi-satellite polar AMVs in BUFR?
- Thoughts on use of use of image pairs rather than triplets (more coverage, but lose QI info). Use for mixed polar satellites.
- Thoughts on use of IASI to help with height assignment
- Seek IWW10 support for highly-elliptical orbit mission

## 2.8 Mesoscale AMVs (CGMS-37 R37.20, discussed in PD3)

## 2.9 Work towards unifying QI approach



# Charge to working groups

AMV assimilation (WG2)

---

## 3.1 Treating winds as layers (CGMS-37, R37.20)

- a. Who is investigating?
- b. How best to set the layer width?
- c. Should the layer be centred or offset from assigned pressure?

## 3.2 Other NWP improvements (CGMS-37, R37.20)

- a. Individual observation errors (e.g. Met Office IWW9)
- b. Allowing for correlated error in assimilation (ECMWF talk)
- c. Other ideas?

## 3.3 AMV impact in NWP (CGMS-37, R37.20)

- a. Share results of adjoint and/or data denial studies
- b. Further coordinated efforts? Focus on next WMO Impact Workshop 2012 (held every 4 yr)
- c. What verification metrics to use?

3.4 More centres contributing to NWP SAF AMV usage pages

3.5 Mesoscale AMVs (CGMS-37 R37.20, discussed in PD3)



# Charge to working groups

Collaborative projects (WG1 and 2)

---

## 4.1 Developing a portable AMV processing software (CGMS-37 R37.22)

Discussed under PD1. Will be discussed further separately

## 4.2 Further inter-comparison studies (CGMS-37 R37.18)

Discussed under PD2, Support every 2yr, identify new season (in future?), possibly add WV and/or additional satellite, Further analysis options identified. ECMWF-EUMETSAT to agree support for analysis work.

## 4.3 Simulated imagery studies (CGMS-37 R37.23)

Discussed under PD2. Will follow up by email (ECMWF, EUMETSAT, CIMSS, Met Office, others?)

## 4.4 Improving the process for implementing operational changes (CGMS-37 R37.23)

Discussed under PD4.



# Charge to working groups

NWP SAF AMV monitoring feedback (WG1 and 2)

---

## 5.1 Feedback on 4<sup>th</sup> analysis

- a. Feedback on recent changes (buttons, investigations section)
- b. Thoughts on development options:
  - Add Hovmoeller plots to monthly monitoring
  - Participation from other NWP centres (Low priority?)
  - Add real-time monitoring
  - Add summaries of AMV events e.g. derivation updates, bad days in monitoring
  - Page providing background to Met Office AMV system capabilities

## 5.2 Ideas for future investigations

- Best-fit pressure statistics
- Collaborative follow-up of specific features
- Any requests?



# Charge to working groups

NWP SAF scatterometer monitoring feedback (WG1 and 2)

---

6.1 Thoughts on ongoing developments – new map and scatter plots (similar to AMVs), more plots for ERS-2 and WindSat, more regional monitoring

6.2 Future design choices

- a. Are there other types of plots you would like to see?
- b. Are time-series of mean distance to cone useful given differences in normalisation?
- c. Should we plot used data, all data, or both?
- d. Add more plots from other NWP centres?





# Charge to working groups

Reprocessing (WG1 and 2)

---

- 7.1 Check status of plans to reprocess wind data. Encourage wide participation by producers.
- 7.2 Check what reanalyses are being run and when
- 7.3 Seek IWW10 support for scatterometer reprocessing (ERS-1/2, QuikScat and ASCAT).



# Charge to working groups

## Surface winds (WG1 and 2)

---

### 8.1 Get update on future sources of surface wind data

- Metop
- Oceansat-2
- Impact of NPOESS cancellation on Windsat-type follow-on
- Seek IWW10 support to assist negotiations with SOA/CNSA and Roshydromet/Roscosmos for HY-2A, Meteor-M3
- Others?

8.2 Discuss priorities for post-EPS scatterometer – trade-offs may exist in obtaining more extreme winds (> 30 m/s by adding HH polarisation) or higher resolution (more power in VV polarisation).

8.3 Support and suggestions for inter-calibration

8.4 Experiences with SAF code, suggestions for improvements?



# Charge to working groups

MISR / DWL / hyperspectral (WG1 and 2)

---

## 9. MISR

- a. What are the limitations/potential of MISR winds?
- b. What are the key issues to move towards operational use?
- c. Where should we focus future effort?
- d. Should we support constellation of MISR-like instruments?

## 10. DWL

- a. What are the latest plans for post ADM-Aeolus DWL missions?
- b. Plans to use DWL operationally and for validation....

## 11. Hyperspectral

- a. Seek IWW10 support to continue effort to track single level derived moisture fields
- b. Consider advantages/disadvantage and ways to evaluate following options:
  - track single level derived moisture fields
  - track features in radiance space, consider improved CSWV operators
  - assimilate clear sky radiances directly