Highlights

• Inter-comparison study

• Study with simulated images

• Demonstration of need for further examination of impact of non-constant, high resolution fields of view in tracking, e.g. convection

• Renewed attention to relation of tracer elements to height assignment process

• Considerable progress in AMV generation from MISR data

• Renewed attention to Error specification (QI,EE)

• Welcome use of the A-train to better understand relevant physics and for verification

• Beneficial impact of AMVs and other wind products documented
AMV inter-comparison study
(Recommendation 35.07)

• Project is important in terms of optimizing AMV estimation and QC and should be extended.

• Recommendation to continue and extend this activity

• Clearly define/document goal of study,

• Selection of 2008 / 2009 date, if possible to give summer and winter date.

• Coordinated with study on simulated images - same dates etc.

• Extension of comparison methods
AMV inter-comparison study
(Recommendation 35.07)

• Inter-comparison of retrievals: height, wind, all QI components, EE components (total error (m/s), horizontal error components (m/s), height error (hPa), wind determination error (m/s))

• Independent verification of AMVs.

• Common grid to be considered for verification but not (necessarily) for wind retrievals

• Tracking box size and height assignment box size to be common (even size)

• Producers should document precisely steps of AMV processing, shortened ATBD

• Action: Ken, Iliana
Simulated images study  
(Recommendation 35.09)

• Recommendations:

• Model studies should be used to relate AMV measurements to actual atmospheric motion

• Model studies should be used to study error characterization including error structure functions

• Recommend experiments with higher horizontal and vertical resolution
CGMS wind statistics on IWWG web-site
(Recommendation 35.12)

• CGMS wind statistics should be put on the IWWG Web Site

• Web site entry should include the local methods used in generating statistics in addition to CGMS specified criteria (e.g. for handling outliers).

• Discuss updates to CGMS specified criteria at next IWW meeting
AMV Extraction Methodologies

• Examination should be undertaken of the relative merits of different extraction methodologies (e.g. rapid scan) at different (high) temporal and spatial resolutions

• The use of rapid scan in the context of mesoscale modelling and data assimilation (NWP) should be examined
Tracking

Recommendations

• more stringent tests before derivation of vector: cloud phase, check change of vertical development, to the extent possible use channels common to all satellites

• Continued investigation of methods that relate tracking targets to the population used for height assignment (e.g. method proposed by Ryo Oyama & Regis Borde)
Quality Control

• Error characterisation:
  • QI to be developed further eg for smaller scale application

  • Expected Error to include total error [m/s], horizontal components of total error[m/s], height error[hPa], wind determination error[m/s].

• Feasibility of reporting expected errors in BUFR to be examined

Action: Le Marshall, Holmlund
The Future

Future capability and related benefits need to be documented

• A study should be presented at the next IWW on the use and benefits of hyperspectral observations for the measurement of atmospheric motion