On the use of BUFR-formatted AMVs from METEOSAT satellites

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In order to cope with the format change of the AMVs (Atmospheric Motion Vectors) observed by the METEOSAT-5 and 7 from SATOB into BUFR form, quality investigation and the assimilation experiments were performed using ELW (Expanded Low Resolution) winds. According to the result of quality investigation, we confirmed that QI (Quality Indicator; added and reported to each wind vector in BUFR form) was effective to evaluate the quality of the data. The AMVs used in the experiments were changed from ELW (all imagers of IR (Infra-Red), VIS (Visual) and WV (Water-Vapor)) to ELW (IR), HRV (VIS) and HWW (WV) in April 2002. HRV and HWW winds have higher resolution than that of ELW winds. We performed the T106 global assimilation experiments with various options of QI utilization, and fixed the parameters to be preferable in the data assimilation processing in the operational NWP system. The preliminary test for the operational implementation with T213 global model was conducted for August 2002. The score is almost neutral but slight improvement was seen in the Southern Hemisphere. This scheme will be introduced in early FY2003.

Table: The QI utilization parameters for specified areas and vertical heights. The AMWs with higher QI than the values shown in the table are used in the data assimilation.

Area	Extra-tropical(20-60deg)			Tropical(0-20deg)		
height (hPa)	Low (~700)	Medium (700~400)	High (400~)	Low (~700)	Medium (700~400)	High (400~)
ELW (IR)	60	60	75	85	60	70
HRV (VIS)	60	-	-	60	-	-
HWW (WV)	-	-	90	-	-	70