

REPORT FROM THE WORKING GROUP ON UTILISATION

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The Working Group II on utilisation met to discuss the issues 2, 4, 8, 9 and 10 of the CGMS XXIV action list (see section 2.1 of the Workshop Summary). Further discussion involved the possible future scope of the International Wind Workshops. The discussion was divided into two parts: NWP related and other topics.

GENERAL:

The Working Group identified that the present GTS capacity is not capable of supporting current or future investigations. Hence the WG recommends:

WG2-R1: WMO to investigate possibilities to expand the GTS capacity to enable free flow of large data volumes.

The Working Group also took the opportunity to congratulate India on the improvements in the quality of their wind product and encouraged further efforts of improvements. The dissemination of the imagery data to the international remote sensing community is also recommended.

The clear potential of rapid scan information as provided by GOES is impetus for considering similar imaging strategies for Meteosat.

The great potential for intercomparison studies between the different operators and derivation techniques was also recognised. The satellite operators are encouraged to explore the possibilities to conduct such campaigns.

CGMS 2) Developing methods to assign "quality flags" to individual winds;

'Developing methods to assign "quality flags" to individual winds' involved lively exchange on views related to the present approaches. At the moment the approaches by the GOES (NOAA/NESDIS) and Meteosat (EUMETSAT) operators are the most advanced, but they differ significantly. The Recursive Filter Function (RFF) (Autoeditor) approach of NOAA/NESDIS performs a three dimensional evaluation of the extracted wind vectors, utilising multispectral wind vector data together with forecast data whereas the Eumetsat approach involves several separate normalised quality functions in order to derive a final reliability estimate of the individual vectors.

The main questions addressed were:

- a) What level of quality is acceptable for dissemination and
- b) What quality indicators/quality information should be distributed together with the vectors.

The discussions led to the following actions:

WG2-A1: ECMWF to evaluate the Eumetsat quality indicators. This will be performed in conjunction with the introduction of BUFR coded SATOBs at EUMETSAT. This is foreseen for the High Resolution visible winds during III/96 and preliminary investigations for the other spectral bands IV/96 and I/97.

WG2-A2: ECMWF to study multispectral GOES data sets from the University of Wisconsin/CIMSS covering a 2.5 week period during 1995 tropical cyclone season.

CGMS 8) Investigating whether a consensus can be developed between NWP centres concerning the pre-processing and quality control of winds that is recommended to take place at wind producing centres;

The general conclusions were:

- 1) A spatial resolution of 50 km is within the foreseeable future adequate for global NWP purposes.
- 2) The data coverage should be extended as much as possible, and
- 3) The use of multispectral derivation techniques should be utilised.

Furthermore the WG recommends:

WG2-R2: The data processors to provide as many vectors as possible, but also pass information of data characteristics (see also CGMS 2 as discussed by WG I).

CGMS 9) Compiling a report on the accuracies assigned to winds during the assimilation process at all NWP centres;

It was noted that a variation of this is already available at ECMWF. Therefore the discussion led to

WG2-A3: G. Kelly to coordinate this effort with other NWP centres and to provide a report in autumn 1996 to the rapporteur on winds at CGMS (J. Schmetz) for further communication to CGMS members and WMO.

CGMS 10) Encouraging NWP centres to investigate improved techniques for the assimilation of wind information and, in particular, clear air WV winds;

It was noted that such investigations are already performed, notably by ECMWF (Meteosat WV simulations/assimilation) and NMC (GOES sounder radiances). Also the progress made by the Australian Weather service regarding advanced variational assimilation techniques.

CGMS 4) Exploring applications of wind products in addition to those of NWP centres;

The following potential applications were discussed:

- Monitoring of operational analysis integrity by regional centres
- Applications to synoptic analysis and local forecast problems by the regional centres
- Contributions to the physical understanding of meteorological phenomenon (e.g. rapid scan winds)
- Nowcasting
- Monitoring of sub grid scale events (e.g. high resolution visible winds)
- Tropical cyclone applications
 - intensity and low level vortex structure
 - qualitative interpretation of the environment (e.g. shear)
- Climatologies (see CGMS 11 in section 2.1 of the Workshop Summary)
- Apply current capabilities towards future satellite developments (e.g. GOES data for MSG simulations)
 - current limitations should lead to recommendations for defining/upgrading future instrumentation

CGMS 14) The scope of the future International Workshop on Winds (whether to increase consideration of scatterometer data; whether to include consideration of passive microwave surface wind data, wind lidar data, etc.);

Finally the working group discussed the future scope of the Workshop. It was stressed that the Workshop should be user and not instrumentation orientated with an impetus towards operational applications. Therefore the Working Group recommends to

- WG2-R3: Endorse the inclusion of the scatterometer community.
WG2-R4: Limit SSM/I at this point (e.g. to one invited presentation).