
CONTENTS

Contents	iii
Author Index	vii
Welcome Address	ix
Summary of the Fourth International Winds Workshop	xi
Report of the Chairperson of Session I: D. Hinsman <i>Current Systems to Derive Atmospheric Motion Vectors (AMVs)</i>	1
Report of the Chairperson of Session II: H.P. Roesli <i>Assimilation and Impact of Atmospheric Motion Vectors (AMVs) in Numerical Weather Prediction (NWP)</i>	3
Report of the Chairperson of Session III: J. Le Marshall <i>Utilisation of Atmospheric Motion Vectors</i>	5
Report of the Chairperson of Session IV: R.C. Bhatia <i>Space-Borne Wind Retrieval Systems</i>	7
Report of the Chairperson of Session V: J. Purdom <i>Verification and Objective Quality Analysis</i>	9
Report of the Chairperson of Session VI: J. Xu <i>New Developments and Applications</i>	11
Reports of the Working Groups <i>Working Group on Methods (G. Jedlovec/J. Xu)</i>	13
<i>Working Group on Utilisation (J. Le Marshall/G. Kelly)</i>	15
<i>Working Group on Verification and Quality Indices (C. Velden/K. Holmlund)</i>	19

LECTURES

SESSION I

CURRENT SYSTEMS TO DERIVE ATMOSPHERIC MOTION VECTORS (AMVs)

J.M. Daniels, W. Bresky, C. Velden and S. Wanzong <i>Recent Advances to the Operational GOES Wind Processing System at NESDIS</i>	29
J. Xu, Q. Zhang, X. Fang and J. Liu <i>Cloud Motion Winds from FY-2 and GMS-5 Meteorological Satellites</i>	41
M. Rattenborg <i>Status and Development of Operational Meteosat Wind Products</i>	49

M. Tokuno <i>Improvements in the Method to Extract Operational Cloud Motion Winds and Water Vapor Motion Winds of the GMS-5 System</i>	61
R. Walter (Abstract only) <i>The Current GOES-8 and GOES-9 High Density Winds Operation in NOAA/NESDIS</i>	69
C. Velden, S. Wanzong and P. Menzel <i>An Update on UW-CIMSS Satellite-Derived Wind Developments</i>	71
S.S. Elliott <i>The Application and Implications of the Use of a Unified BUFR Template for the Exchange of Satellite Derived Wind Data</i>	77

SESSION II
ASSIMILATION AND IMPACT OF ATMOSPHERIC MOTION VECTORS (AMVs) IN NUMERICAL WEATHER PREDICTION (NWP)

W.P. Menzel and S.J. Nieman <i>Study of GOES Winds Impact in Eta Data Assimilation System</i>	85
L.A.T. Machado and J.C. Ceballos <i>Satellite-Based Products for Monitoring Weather in South America: Winds and Trajectories</i>	93
J. Le Marshall, N. Pescod, R. Seecamp, C. Spinoso and A. Rea <i>Improved Weather Forecasts from the Continuous Generation and Assimilation of High Spatial and Temporal Resolution Winds</i>	101
P. Kållberg and S. Uppala <i>Impact of Cloud Motion Winds in the ECMWF ERA 15 Reanalyses</i>	109
M. Tomassini, G. Paul and H. Neumeister <i>Assimilation of Water Vapour Motion Winds in the Global Model of DWD</i>	117
G. Kelly, R. Munro, M. Rohn and K. Holmlund <i>Impact of Atmospheric Motion Vectors (AMVs) on the ECMWF System and the Development of a Water Vapour AMV Observation Operator</i>	125

SESSION III
UTILISATION OF ATMOSPHERIC MOTION VECTORS

M. Rohn, G. Kelly and R. Saunders <i>Experiments with Atmospheric Motion Vectors at ECMWF</i>	139
--	-----

J. Xu, X. Fang and Q. Zhang <i>Developing and Non-Developing Tropical Cyclones Revealed by High Density Cloud Motion Winds</i>	147
H. Laurent and M.S. Sakamoto <i>Measure of Divergence at the Top of Tropical Convective Systems from Water Vapor Winds</i>	155
G. Büche, H. Karbstein and H. Fischer <i>Interpretation of Structure Displacements within Cloud-Free Water Vapour Scenes of Meteosat</i>	163
R.C. Bhatia and K.C. Sai Krishnan <i>Estimation of Large Scale Wind Fields over Oceanic Areas Around India Using INSAT Derived Cloud Motion Vectors in Conjunction with Ship/Buoy Data and Scatterometer Data</i>	171
A. Szantai, F. Desalmand, M. Desbois and L. Picon <i>Interest of Trajectories Deduced from Clouds and Water Vapour Motions over the Indian Ocean on Meteosat-5 Images</i>	177
G.W. Gitonga <i>Utilization Monitoring of Satellite Tracked Wind Products Transmitted through the MDD System in Developing Countries</i>	185
 SESSION IV SPACE BORNE WIND RETRIEVAL SYSTEMS	
M. Colton (Abstract only) <i>Satellite Observation of Sea Surface Winds: Navy Research, Applications and Programs</i>	197
P. Ingmann, A. Stoffelen, L. Isaksen and G.-J. Marseille <i>On the Needs, Requirements and Feasibility of a Space-Borne Wind Profiler</i>	199
A. Stoffelen, L. Isaksen and D. Le Meur <i>On the Use of Scatterometer Winds in NWP</i>	207
 SESSION V VERIFICATION AND OBJECTIVE QUALITY ANALYSIS	
K. Holmlund and C.S. Velden <i>Objective Determination of the Reliability of Satellite-Derived Atmospheric Motion Vectors</i>	215

J. Schmetz, A. Arriaga and K. Holmlund <i>Sensitivity of the Height Allocation of Thin Cloud Tracers to Errors in Satellite Calibration</i>	225
P. Butterworth <i>Use, Quality Control and Monitoring of Satellite Winds at UKMO</i>	233
F. Lalaurette, A. Garcia-Mendez and M. Rohn <i>Monitoring SATOB Products at ECMWF: Availability, Quality Control and Impact</i>	239
G.J. Jedlovec and R.J. Atkinson <i>The Marshall Automated Wind Algorithm: Error Analysis, Quality Control and Climate Applications</i>	247
P.N. Khanna and S. Prasad <i>New Approach for Height Assignment and Stringent Quality Control Tests for INSAT Derived Cloud Motion Vectors</i>	255
 SESSION VI NEW DEVELOPMENTS AND APPLICATIONS	
J.F.W. Purdom <i>Atmospheric Motions Derived from Space Based Measurements: A Look to the Near Future</i>	263
G.G. Campbell <i>Asynchronous Stereo Height and Motion Analysis: Applications</i>	271
M. Rattenborg and S. Elliott <i>Meteosat-5 Winds for the INDOEX Field Experiment</i>	279
J.M. Fernández <i>A Future Product on HRVIS Winds –HRW- from the Meteosat Second Generation -MSG- for the Nowcasting and Other Applications</i>	281
G. Dew and K. Holmlund <i>Improved Computing Efficiency of Cross-Correlation in the Fourier Domain</i>	289
R. Munro, G. Kelly, M. Rohn and Roger Saunders <i>Assimilation of Meteosat Radiance Data within the 4DVAR System at ECMWF</i>	299
J. Scheiber <i>Operational Nowcasting Based on Satellite Cloud Motion Winds</i>	307
List of Participants	315
