

METEOSAT-5 WINDS FOR THE INDOEX FIELD EXPERIMENT

Mikael Rattenborg⁽¹⁾, Simon Elliott⁽²⁾

EUMETSAT, Am Kavalleriesand 31, D-64295 Darmstadt, Germany

⁽¹⁾ rattenborg@eumetsat.de

⁽²⁾ elliot@eumetsat.de

ABSTRACT

EUMETSAT is supporting the international INDOEX field experiment by moving METEOSAT-5 to a position at 63° E. The satellite arrived on the position in the second half of May 1998, and routine imaging and product extraction started in July 1998.

A separate product extraction chain has been created and the full range of METEOSAT products, including all wind products, will be produced for the whole duration of the INDOEX support, which lasts until December 1999.

First experience with the METEOSAT wind products from 63°E is presented.

1. Introduction

Support to INDOEX with METEOSAT-5 located at 63° E commenced on 1 July 1998 and will continue until 31 December 1999. This period will include the four-month Intensive Observation Phase of the INDOEX campaign i.e. from 1 January 1999 until 30 April 1999. The support includes image acquisition and processing, dissemination, Meteorological product production, product and image archiving and the transfer of data to the French Dynamic Meteorology Laboratory (LMD). In addition the EUMETSAT web site now has regularly updated examples of INDOEX images as well as those from the 0°mission.

2. Wind Products

The full routine set of meteorological products for the INDOEX mission has been routinely distributed on the GTS since 1 July. The extraction times of the High Resolution VIS product are shifted 3 hours to allow for the change in longitude. Full details on the product schedule and formats can be found on the MPEF WWW pages at www.eumetsat.de/en/area3/topic3.html.

Early indications from the investigations into the wind products at ECMWF, UK Met Office and DWD have generally indicated a similar quality of the winds disseminated from 0 degree and INDOEX missions when comparing with first guess data.

The table below gives a summary of radiosonde collocation statistics for the disseminated cloud tracked winds from the region of overlap of the two missions for July 1998. The normalised RMS values are obtained by calculating the RMS value of the vector difference between the cloud motion winds and radiosonde winds, and normalising this with the mean radiosonde wind speed. Smaller values of the normalised RMS indicate a better quality product. These results support the conclusion that the quality of wind products from the two missions is very similar.

Cloud motion wind collocations statistics for the 0-degree/INDOEX mission overlap region, for July 1998

Wind type and mission		Mean speed bias (ms ⁻¹)	Normalised RMS
IR low level	MET7 0 Degree Mission	-0.55	0.36
IR medium level		-1.42	0.31
IR high level		-1.56	0.31
WV high level		0.59	0.36
VIS low level		2.21	0.58
IR low level	MET5 INDOEX Mission	1.89	0.37
IR medium level		-1.67	0.35
IR high level		-2.01	0.33
WV high level		-0.12	0.34
VIS low level		2.09	0.55

The winds from the INDOEX mission have undergone automatic quality control in the normal way but have not been manually quality controlled. The similarity of the normalised RMS statistics illustrates the reliability of the automatic system. Manual quality control of products from the 0-degree mission was discontinued September 8 1998.

Routine radiosonde monitoring statistics are produced for INDOEX and are available through the same channels as the current statistics, i.e. the cgmswind E-mail server, the CGMS WWW pages and the EUMETSAT WWW pages.