



# ECMWF Global Data Monitoring Report

**April 2024**

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**European Centre for Medium-Range Weather Forecasts  
Europäisches Zentrum für mittelfristige Wettervorhersage  
Centre européen pour les prévisions météorologiques à moyen terme**

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### Summary of Revisions (in reverse order)

- Revision 30 (Nov 23) - Coverage charts for AIREP/AMDARs updated:  
Added MODE-S and ADS-C to Figure 5 and Figure 18
- Revision 29 (Dec 22) - Coverage charts for ATOVS AMSU-A updated:  
METOP-C replaces Aqua-ATOVS (Figure 9.2)  
METOP-B replaces METOP-ATOVS (Figure 9.3)  
SATOBS figures updated with METEOSAT-9, Dual-Metop,  
METEOSAT-11, GOES-16, HIMAWARI-9, GOES-17 satellites
- Revision 28 (Jun 15) - Monitoring of SYNOP and SYNOP-SHIPs now includes BUFR encoded observations for those which were assimilated as well as for those without TAC counterpart.
- Revision 27 (Feb 15) - Selection criteria for SHIPs are modified as per SOT-7/Doc.9.1.1.  
Different criteria applied to Manual and Automatic SHIPs.
- Revision 26 (Dec 14) - Coverage chart for ATOVS AMSU-A for Noaa\_16 removed
- Revision 25 (Mar 13) - Monitoring of Radiosondes and ASAPS now includes BUFR encoded observations for those which were assimilated as well as for those without TAC counterpart.  
Tables 24 and 25 are also added to show the identifiers of these BUFR observations separately.
- Revision 24 (Aug 06) - North Atlantic Monitoring statistics replaced by EUCOS Area Monitoring Statistics (tables 13 to 23).  
Airep tables removed from this section.
- Revision 23 (Dec 00) - Coverage charts for Noaa\_14 MSU replaced by ATOVS AMSU-A for Noaa\_16.
- Revision 22 (Aug 99) - Coverage charts for TOVS thickness 300-100 hPa replaced by (A) TOVS AMSU-A and MSU (Noaa\_15 and Noaa\_14).
- Revision 21 (May 99) - Monitoring statistics ceased for Noaa\_11 as satellite is no more available.
- Revision 20 (Sep 98) - Changes to tables and annex to remove all mention about data usage. Two more levels (50 and 850 hPa) added to the COSNA statistics for Sondes.
- Revision 19 (Jul 98) - From June 29th, 1998 ECMWF model assimilates temperature data instead of geopotential from radiosondes. As a consequence the number of used geopotential data drops to zero in tables 7, 10, 13 and 15.

Revision 18 (Apr 98) - Changes to tables and annex to introduce the usage of accepted numbers and observations instead of percentage of rejection.

# 1 Introduction

The ECMWF global data monitoring report is a monthly publication intended to give an overview of the availability and quality of observations from the Global Observing System within the World Weather Watch of the World Meteorological Organisation. It should be recognised that the statistics given in this report refer to data as received at ECMWF in time for the appropriate analysis. The annex of the report gives further explanations of the methods applied to compile the statistics and on the reference used to establish the quality of observations.

The information presented on data quality is based on differences between observations and the values of the most recent ECMWF forecast ("first guess") of the same parameter. Depending on the time of the observation, the forecast range is between 9 and 15 hours. It should be recognised that although the quality of the first-guess is of a generally high standard this is only true to a limited extent in certain areas, such as the tropics and data-sparse areas of both northern and southern hemispheres. The data quality results should therefore be used with care when assessing the absolute quality of a particular observing platform. Other indicators such as long-term trends of station performance, particularly in comparison with nearby stations, can be more useful in this respect.

The global monitoring results presented in this report are meant to serve a wider meteorological community as well as to support special WMO programmes such as TOGA and EUCOS. The contents of the report may therefore be adapted for special requirements as necessary.

As recommended at the ninth session of the Commission for Basic Systems at Geneva 1988, lead centres have been appointed for each main type of observation which should liaise with the participating centres and co-ordinate all the results, inform the WMO Secretariat immediately of obvious problems, and produce every six months a consolidated list of observations of that particular type believed to be of low quality. The presently nominated centres are: RSMC Exeter for marine surface observations; RSMC ECMWF for radiosonde and pilot observations; WMC Washington for aircraft and satellite observations.

ECMWF produces this monthly report as part of its routine monitoring activity in order to facilitate the exchange of monitoring information. Tables are presented according to the CBS recommended standards for the exchange of monitoring results. Copies of the report will be provided to major GDPS centres participating in data monitoring activities as initiated and recommended at the ninth session of the Commission for Basic Systems in Geneva 1988, and to the WMO Secretariat and the International TOGA office in Geneva.

Any comments on the contents and the format of the report are welcome and should be addressed to:

ECMWF  
Attn. Head of Evaluation Section  
Shinfield Park  
Reading, Berkshire, RG2 9AX  
United Kingdom

## 2 Data summary - History of events

### 2.1 Radiosondes

The following is a list of land-based stations showing a change in reporting frequency (of 500 hPa geopotential) of at least 10 observations compared with the average over the previous 3 months. The number of reports received at ECMWF for the current and previous month is shown in addition to the observation time.

Ident	Time	Mar	Apr	Ident	Time	Mar	Apr
14240	(00)	30	0	04417	(00)	0	30
14430	(00)	29	1	16113	(12)	6	28
16113	(00)	31	1	25428	(00)	0	26
32061	(00)	30	9	27459	(12)	18	29
32098	(12)	31	8	30372	(00)	16	29
32215	(12)	31	8	30372	(12)	16	29
42111	(00)	27	4	30635	(00)	8	29
43285	(00)	30	7	30635	(12)	8	29
82099	(00)	30	6	30965	(00)	10	26
89009	(12)	30	5	30965	(12)	11	26
94995	(00)	31	9	35671	(00)	14	30
96011	(00)	28	4	35671	(12)	13	30
96011	(12)	27	2	48378	(00)	0	13
-	-	-	-	48381	(12)	2	20
-	-	-	-	48407	(00)	0	28
-	-	-	-	48480	(00)	17	28
-	-	-	-	63741	(00)	0	11
-	-	-	-	65503	(12)	0	13
-	-	-	-	72261	(00)	12	29
-	-	-	-	72261	(12)	12	30
-	-	-	-	72403	(00)	9	30
-	-	-	-	72403	(12)	9	30
-	-	-	-	74004	(12)	17	36
-	-	-	-	76225	(00)	12	28
-	-	-	-	76225	(12)	7	30
-	-	-	-	76526	(00)	8	20
-	-	-	-	76526	(12)	14	25
-	-	-	-	80028	(12)	0	29
-	-	-	-	80094	(12)	0	15
-	-	-	-	80259	(12)	0	30
-	-	-	-	82107	(00)	5	19
-	-	-	-	82332	(00)	11	27
-	-	-	-	82332	(12)	11	30
-	-	-	-	83612	(00)	15	30
-	-	-	-	83612	(12)	17	30
-	-	-	-	91610	(00)	12	26
-	-	-	-	91765	(00)	1	30
-	-	-	-	91765	(12)	1	21
-	-	-	-	98753	(00)	16	30
-	-	-	-	98753	(12)	14	30

## 2.2 Drifting Buoys

Surface pressure observations from **1385** drifting buoys were received during the month.

## 3 Global monitoring statistics

The following figures and tables provide information on both the availability and quality of various data types as received at ECMWF during the month. A brief description of each figure/table is given below. For a full explanation please refer to the Annex.

### 3.1 Data Availability

Figures 1-9 are global charts for each data type showing the average number of observations received in 24 hours in 5 degree boxes. The average daily number of observations (global) is also displayed with a breakdown, where appropriate, for each WMO region (figures 1, 3 and 4) and Ocean (figures 1-4).

Fig	Observation Type	Parameter	Level/Layer
1	SYNOP/SHIP	MSL Pressure	Surface
2	DRIFTER	MSL Pressure	Surface
3	TEMP	Geopotential	500 hPa
4	TEMP/PILOT	Wind	300 hPa
5	AIRCRAFT (AIREP/AMDAR etc.)	Wind	300-150 hPa
6	SATOB	Wind	400-150 hPa
7	SATOB	Wind	1000-700 hPa
9	TOVS (120 km) - NOAA14	Thickness	300-100 hPa

(Figure 1 includes data from fixed marine platforms e.g. moored buoys.)

### 3.2 Data Quality

Tables 1-8 contain lists of suspect stations in the format according to Recommendation 3 CBS-Ext(85).

Tab	Observation Type	Parameter	Level/Layer
1	SHIP	MSL Pressure	Surface
2	SHIP	Wind Speed	Surface
3	SHIP	Wind Direction	Surface
4	DRIFTER	MSL Pressure	Surface
5	DRIFTER	Wind Speed	Surface
6	DRIFTER	Wind Direction	Surface
7	TEMP	Geopotential	1000- 30 hPa
8	TEMP/PILOT	Wind	1000-100 hPa
9	TEMP/PILOT	Wind Direction	500-150 hPa

(SHIP tables include data from fixed marine platforms e.g. moored buoys.)

Figures 10-13 show the locations of suspect stations given in tables 7 and 8.

Fig	Observation Type	Parameter	Observation Time
10	TEMP	Geopotential	00 UTC
11	TEMP	Geopotential	12 UTC
12	TEMP/PILOT	Wind	00 UTC
13	TEMP/PILOT	Wind	12 UTC

Tables 10 and 11 provide quality statistics for all TEMPSHIPS and PILOTSHIPS received during the month.



Tab	Parameter	Observation Time
10	Geopotential	00 and 12 UTC
11	Wind	00 and 12 UTC

Figures 14-18 show global charts of SATOB and aircraft wind statistics in the form of wind vectors averaged over 5 degree boxes.

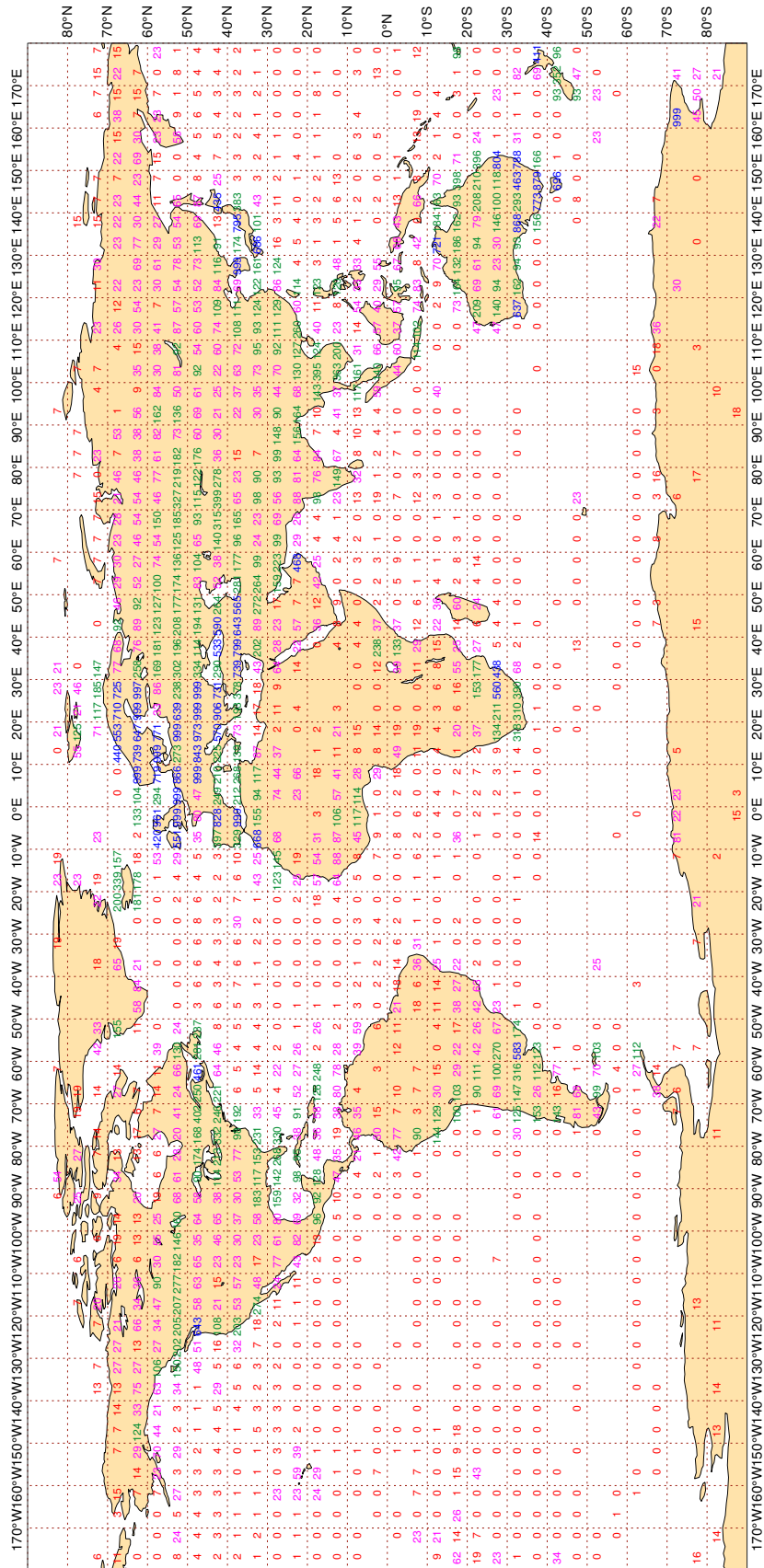
Fig	Parameter	Level/Layer
14	SATOB - Mean observed wind	1000-700 hPa
15	SATOB - Mean observed wind	400-150 hPa
16	SATOB - Mean observed minus first-guess wind	1000-700 hPa
17	SATOB - Mean observed minus first-guess wind	400-150 hPa
18	AIRCRAFT WIND - Mean observed minus first-guess	300-150 hPa

Table 12 provides quality statistics of aircraft wind observations stratified by airline carrier.

3.2.1 Figure 1 - Availability - SYNOP PRESSURE

**ECMWF Monitoring Statistics - APR 2024**  
**Availability - SYNOP/SHIP (manual, auto) pressure**  
**Average number of observations in 24 hours - 110877**  
**LAND - WMO Region I: 7511 II:21611 III: 4825 IV: 7823**  
**Region V:15156 VI:40895 Antarctic: 2265**  
**Oceans - N. Atlantic 5130 S. Atlantic 245 Indian 636 Pacific 4780**

Figure 1



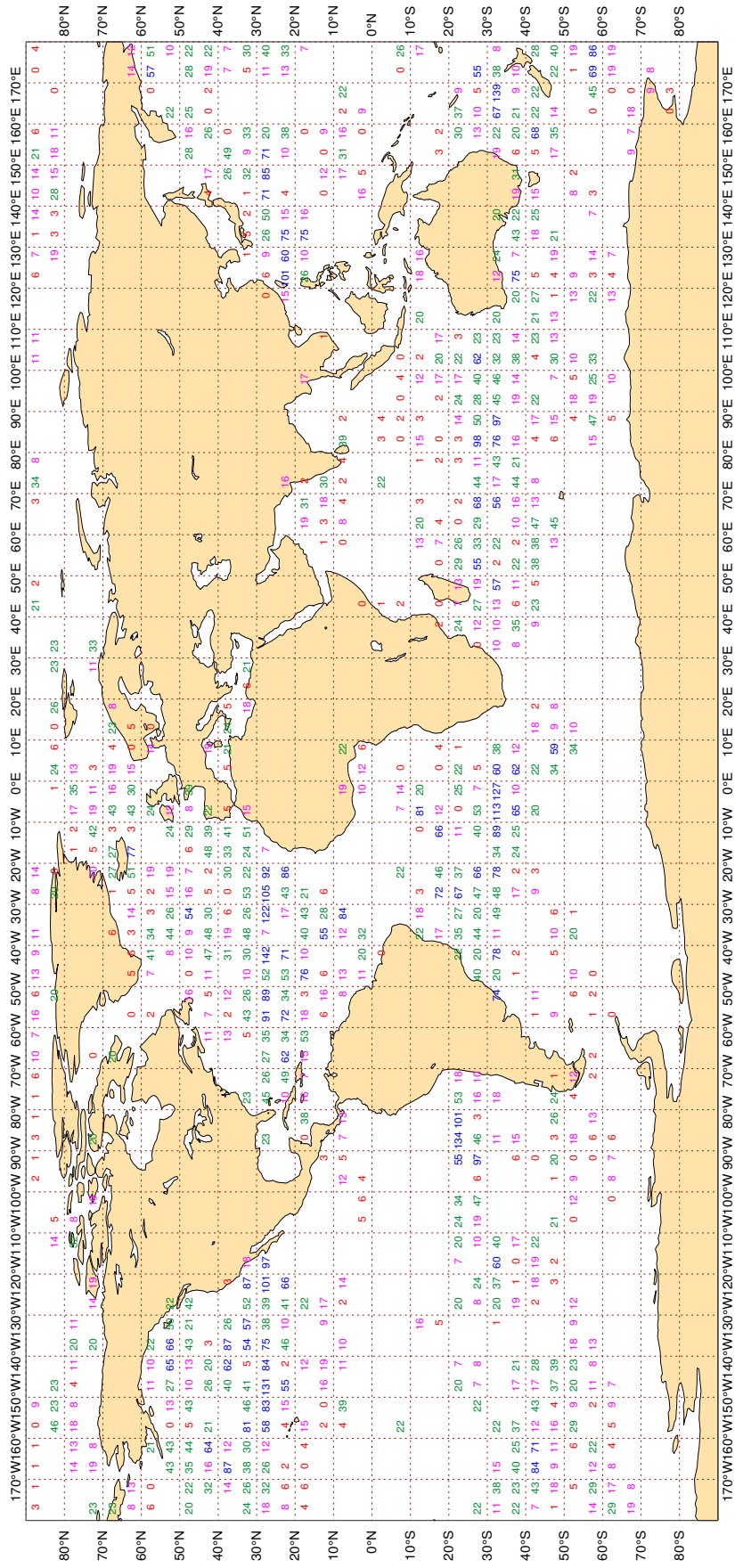
Magics 4.9.4



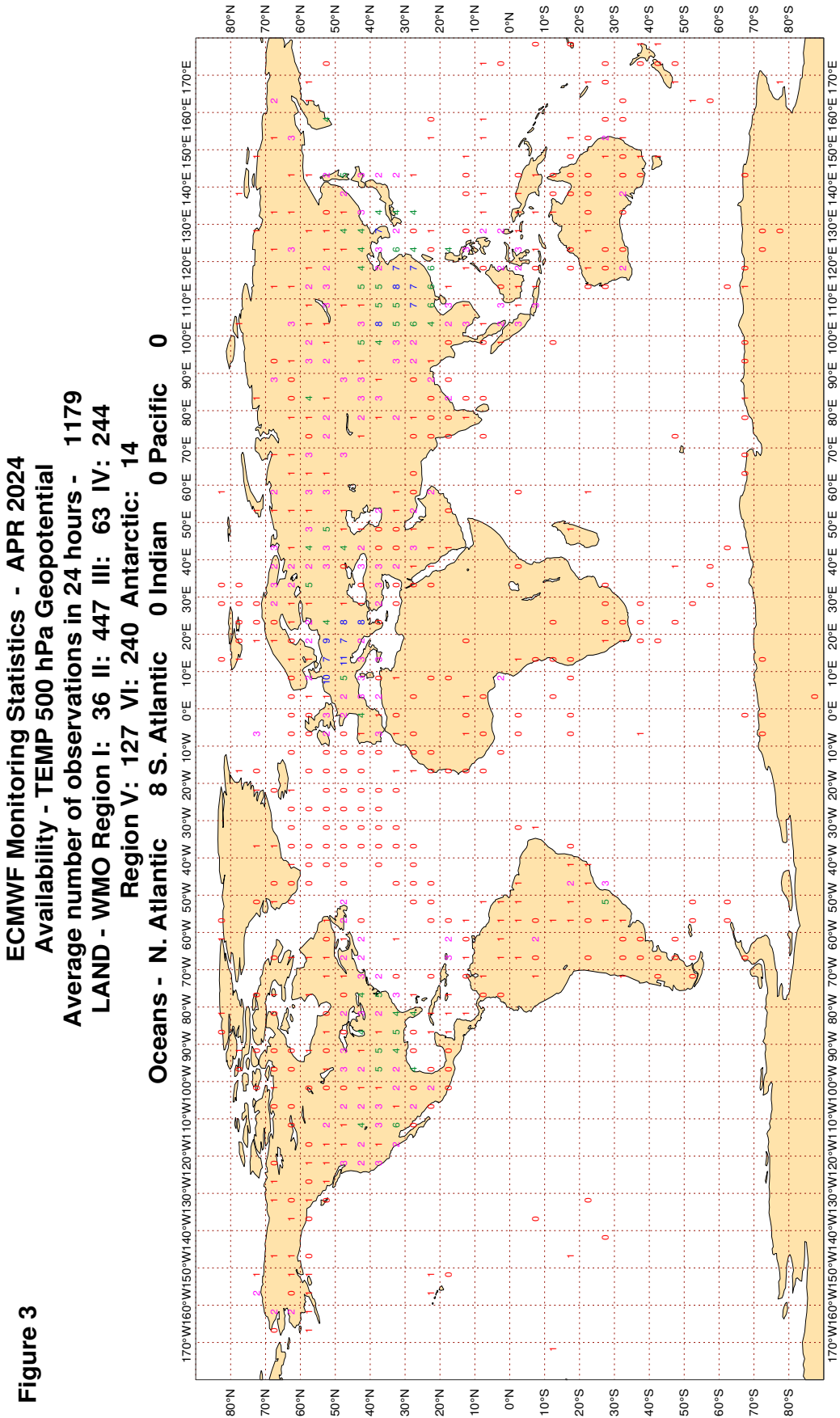
3.2.2 Figure 2 - Availability - DRIFTER PRESSURE

Figure 2

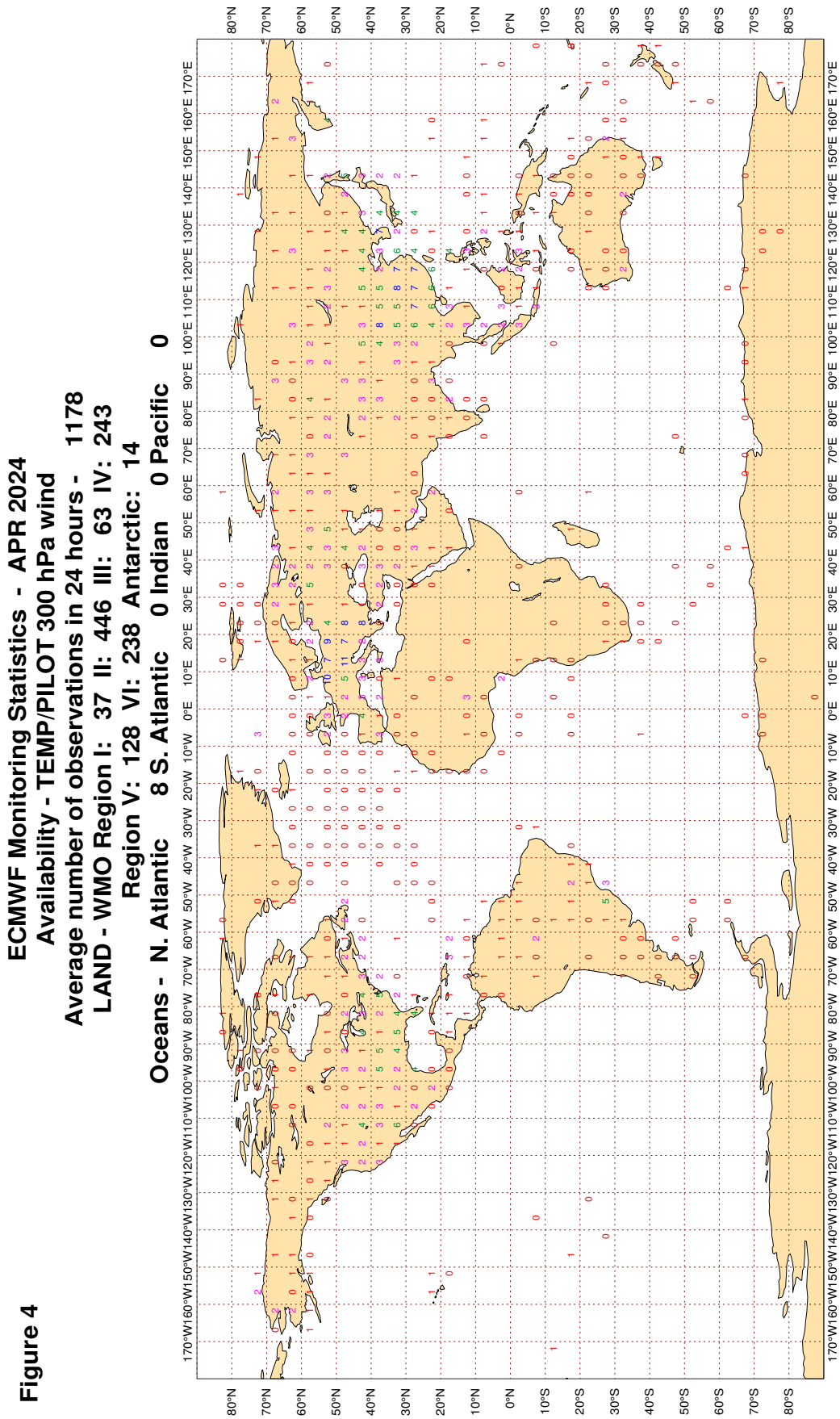
**ECMWF Monitoring Statistics - APR 2024**  
**Availability - DRIFTER PRESSURE**  
**Average number of observations in 24 hours - 19421**  
**Oceans - N. Atlantic 4473 S. Atlantic 2384 Indian 3247 Pacific 9316**



3.2.3 Figure 3 - Availability - TEMP 500 hPa geopotential



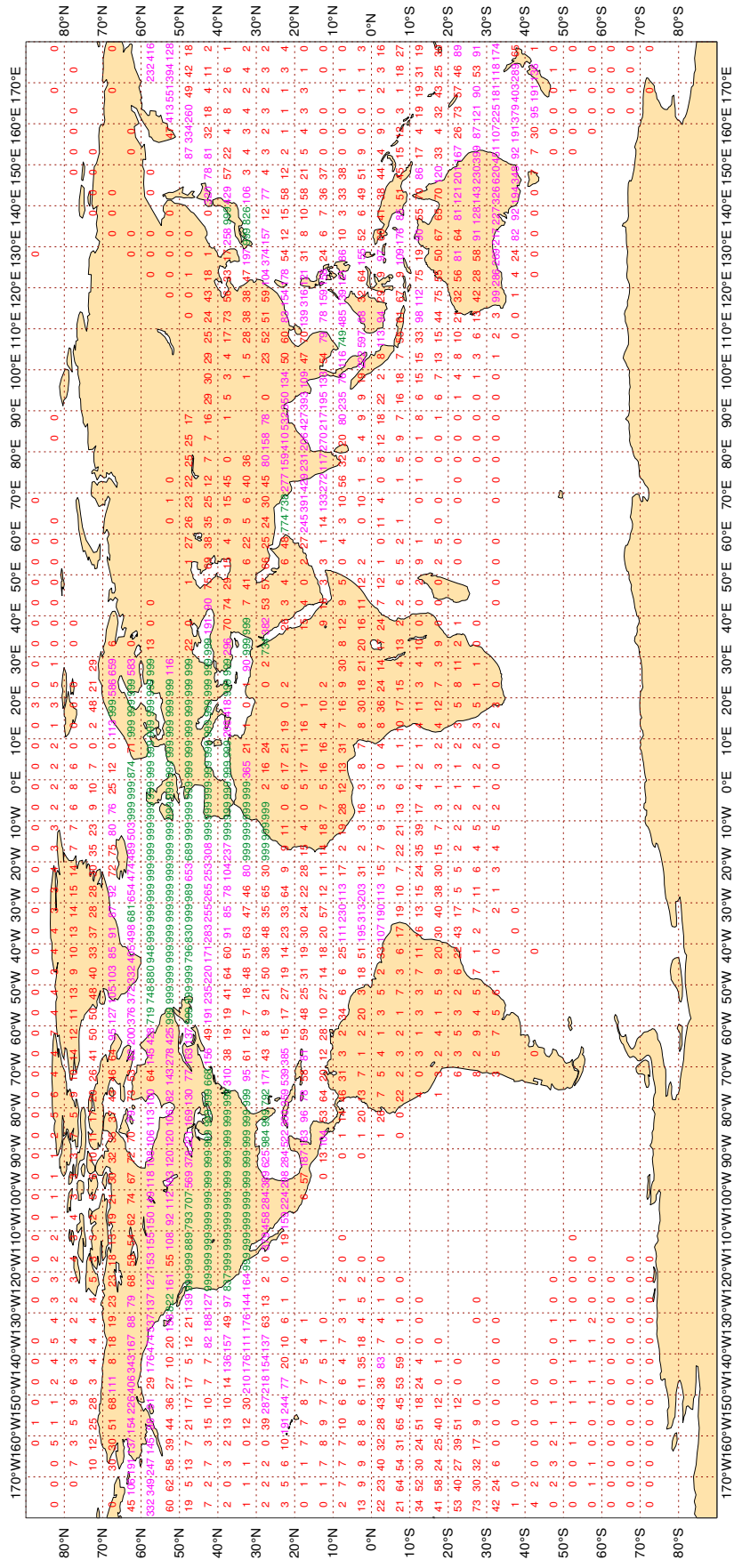
3.2.4 Figure 4 - Availability - TEMP/PILOT 300 hPa wind



3.2.5 Figure 5 - Availability - AIRCRAFT winds 300-150 hPa

Figure 5

ECMWF Monitoring Statistics - APR 2024  
Availability - Aircraft winds 300-150 hPa  
Average number of observations in 24 hours - 2591617

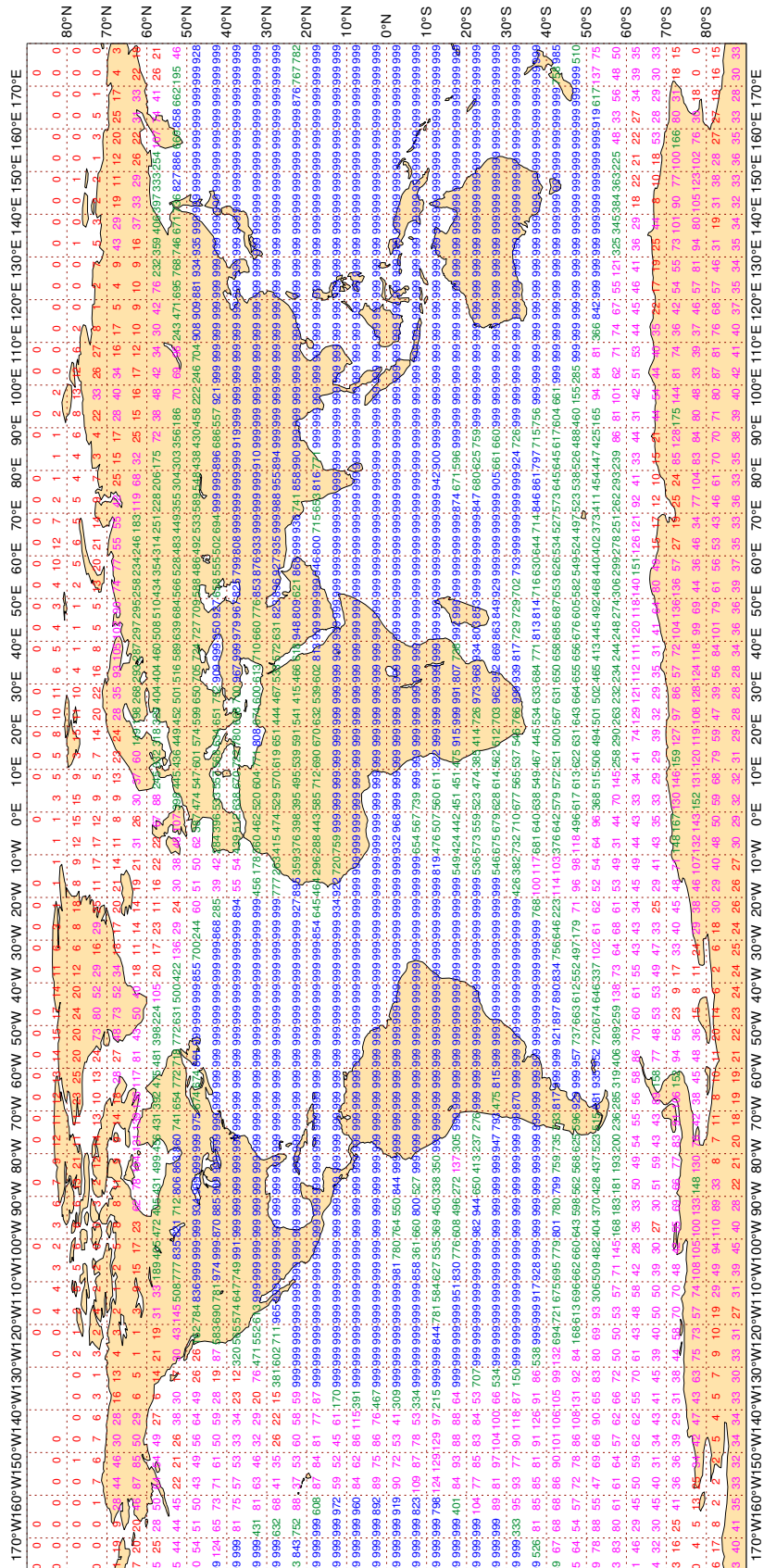


Magics 4.9.4

3.2.6 Figure 6 - Availability - SATOB winds 400-150 hPa

Figure 6

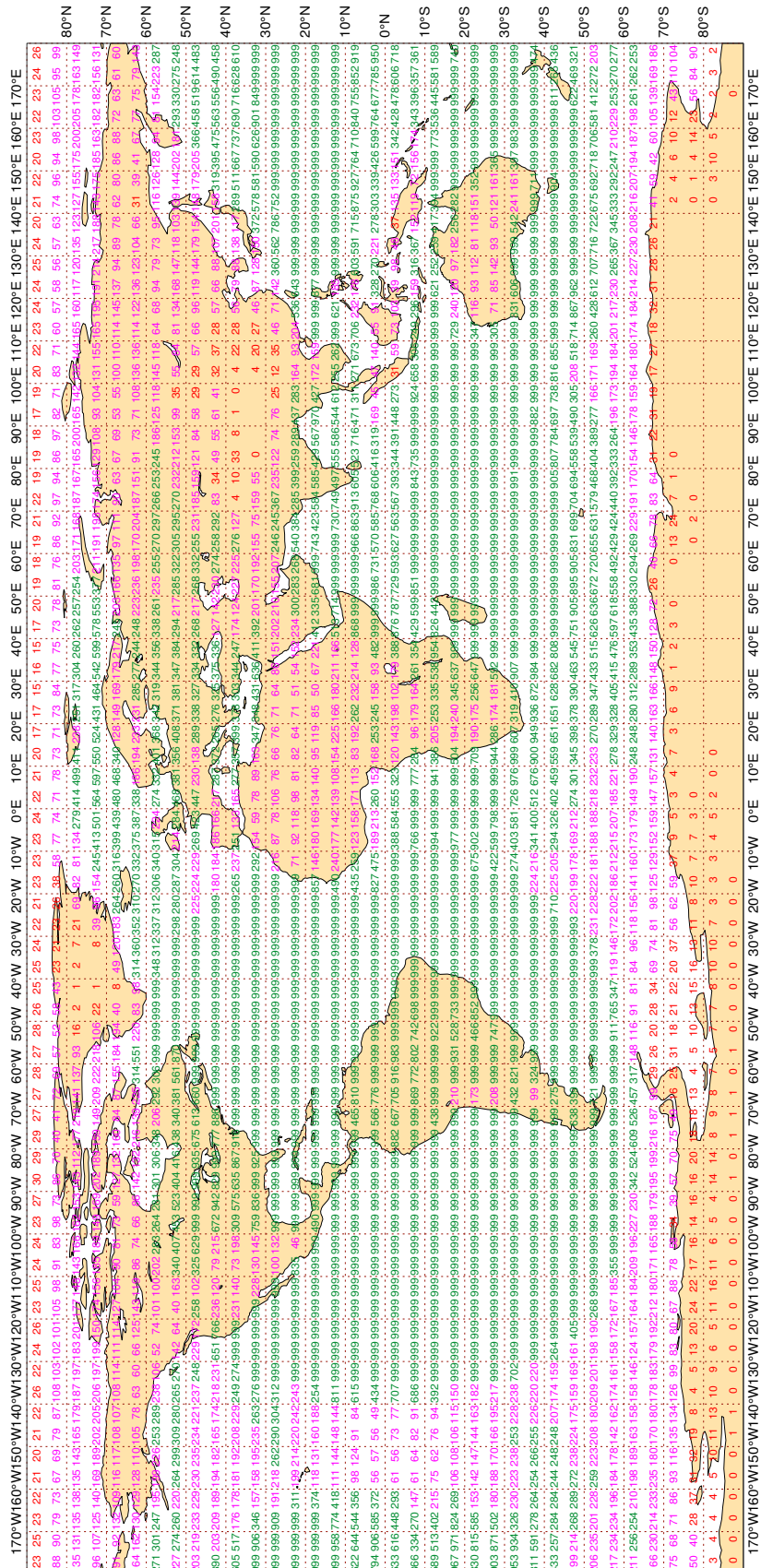
ECMWF Monitoring Statistics - APR 2024  
Availability - AMV winds 400-150 hPa  
Average number of observations in 24 hours - 2407046



3.2.7 Figure 7 - Availability - SATOB winds 1000-700 hPa

Figure 7

ECMWF Monitoring Statistics - APR 2024  
Availability - AMV winds 1000-700 hPa  
Average number of observations in 24 hours - 3599198



Magics 4.9.4

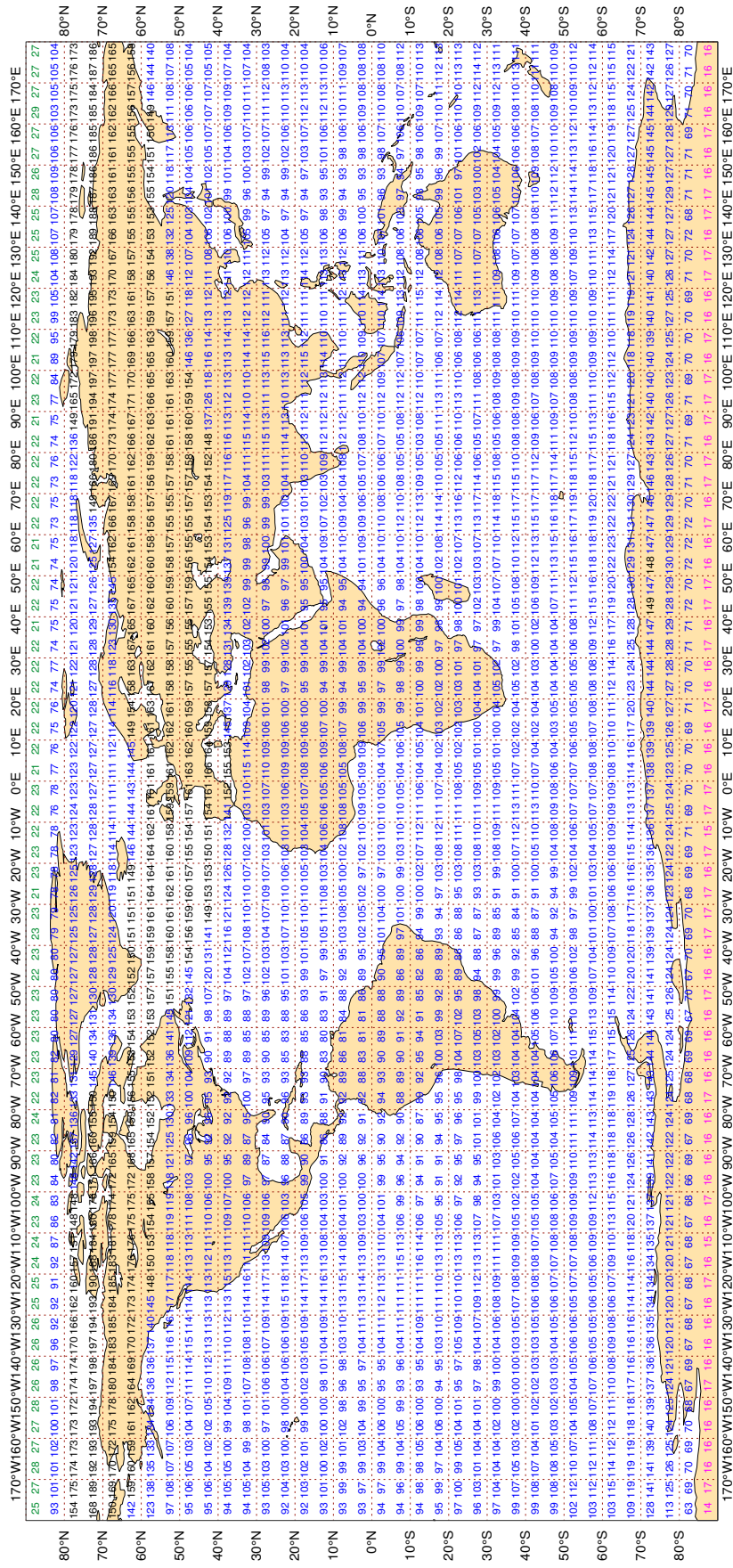




3.2.8 Figure 8 - Availability - NOAA15 ATOVS : AMSU-A

Figure 8

ECMWF Monitoring Statistics - APR 2024  
Availability - NOAA15 ATOVS : AMSU-A  
Average number of observations in 24 hours - 286845

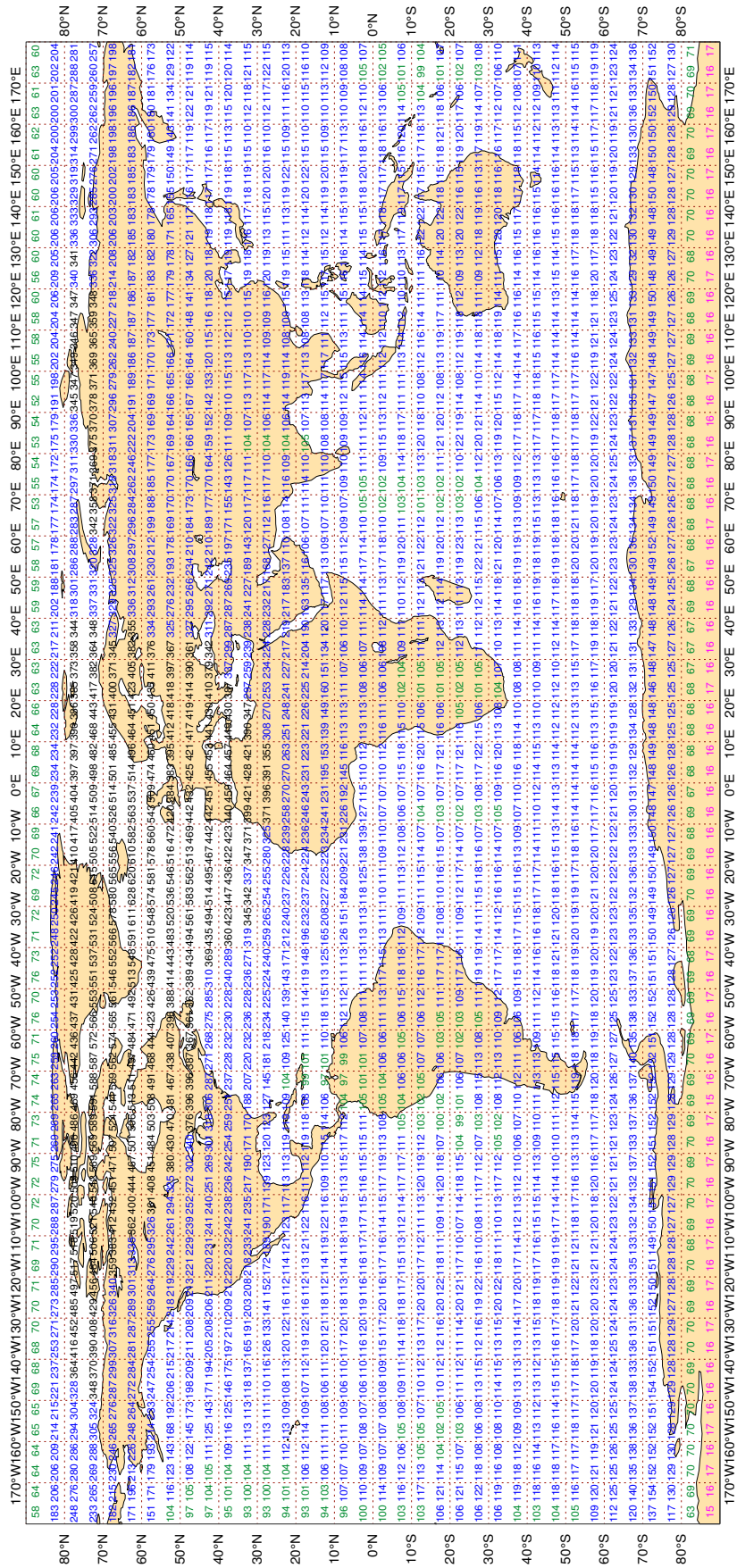


3.2.9 Figure 9.1 - Availability - NOAA18 ATOVS : AMSU-A

Figure 9.1

ECMWF Monitoring Statistics - APR 2024  
Availability - NOAA18 ATOVS : AMSU-A

Average number of observations in 24 hours - 440850



Magics 4.9.4

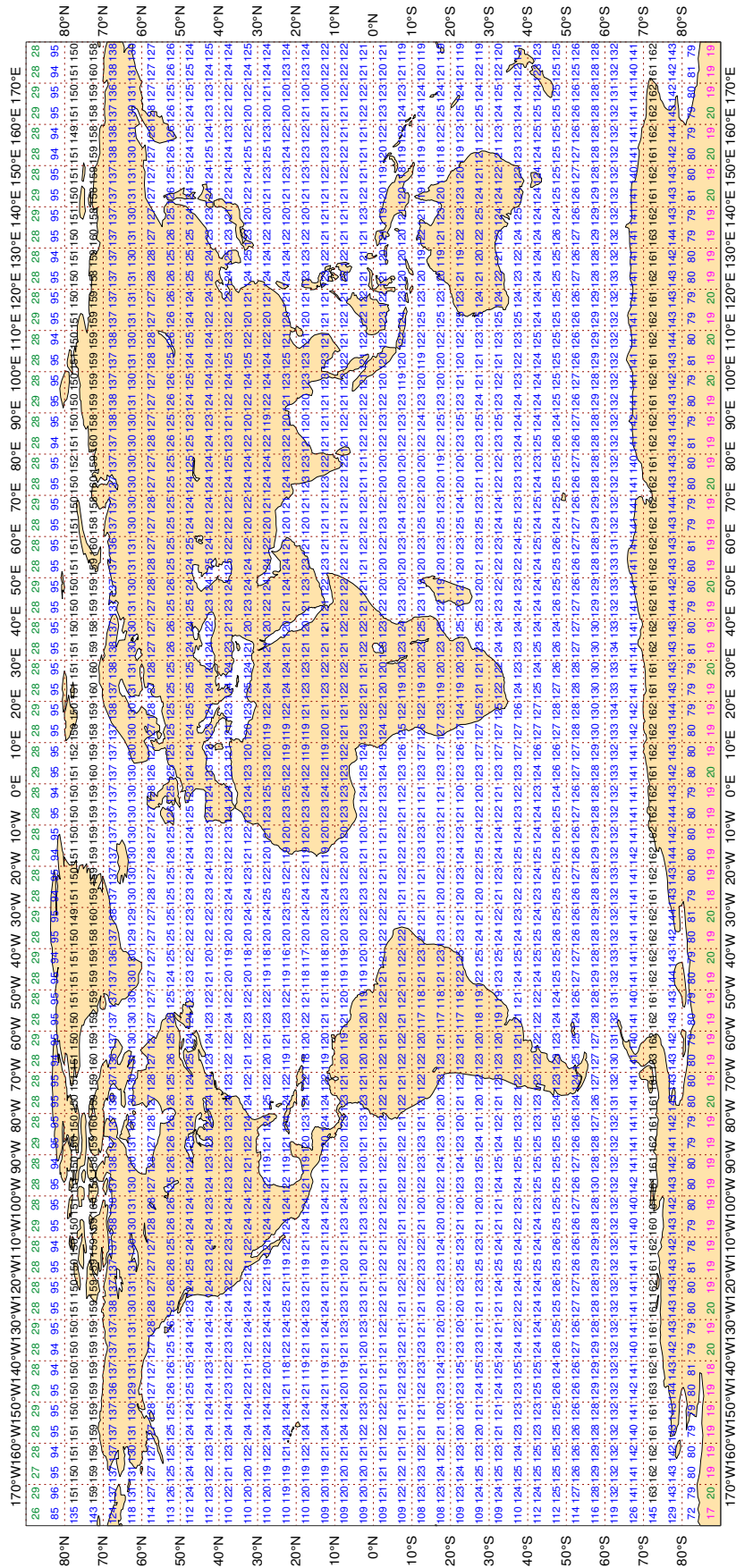


3.2.10 Figure 9.2 - Availability - AQUA ATOVS : AMSU-A

Figure 9.2

ECMWF Monitoring Statistics - APR 2024  
Availability - METOP-C ATOVS : AMSU-A

Average number of observations in 24 hours - 313225

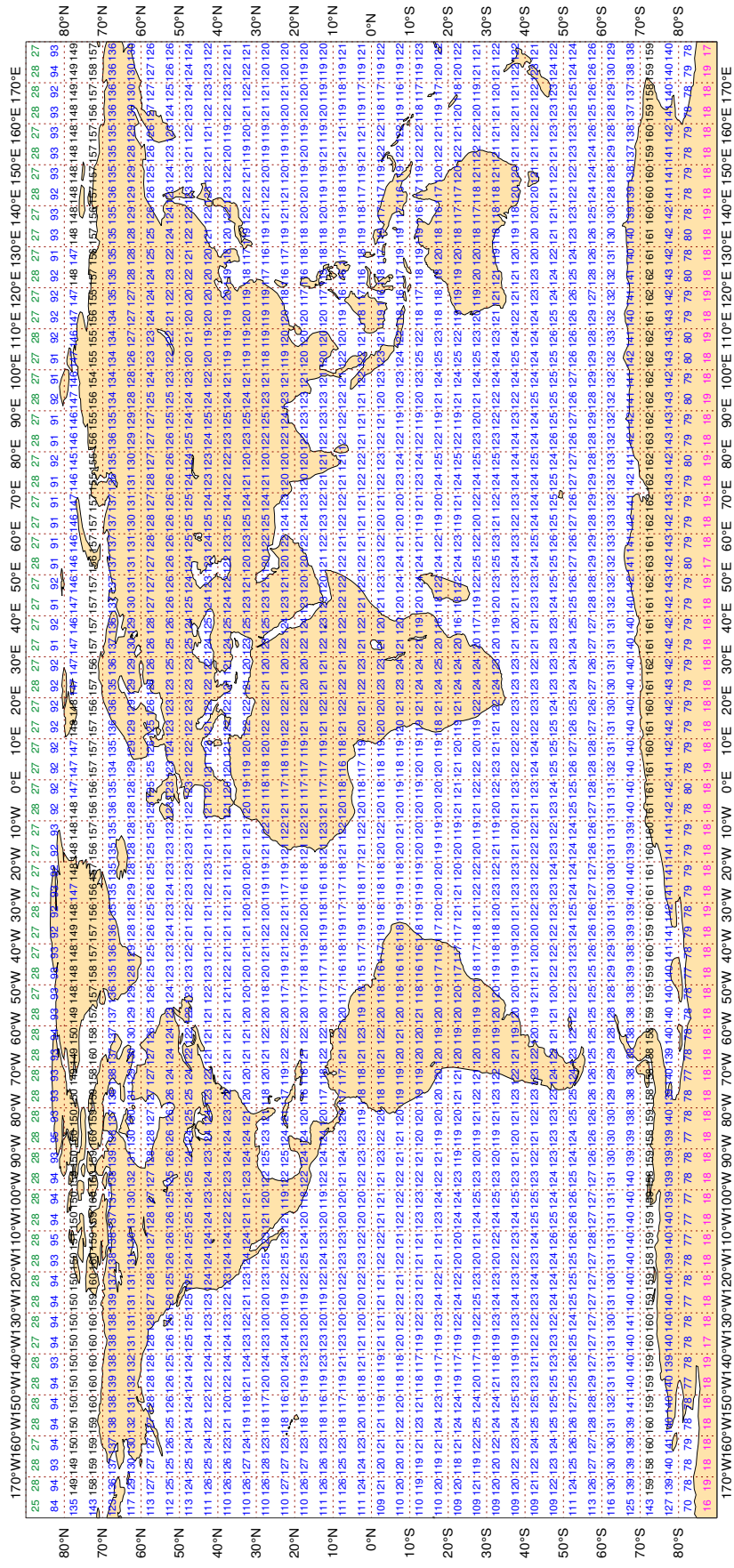


3.2.11 Figure 9.3 - Availability - METOP ATOVS : AMSU-A

Figure 9.3

ECMWF Monitoring Statistics - APR 2024  
Availability - METOP-B ATOVS : AMSU-A

Average number of observations in 24 hours - 309812



Magics 4.9.4



### 3.2.12 Table 1 - Suspect ships and fixed marine platforms: Surface pressure - (hPa)

LIST OF SUSPECT STATIONS : SHIPS + FIXED MARINE PLATFORMS  
 MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : SURFACE PRESSURE (HPA)  
 AREA : GLOBAL  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

SELECTION CRITERIA: NO. OF OBS. >= 15(50), AND,  
 Manual (Automatic) ABSOLUTE BIAS >= 3(2) HPA, OR,  
 STANDARD DEVIATION >= 5(4) HPA, OR,  
 % GROSS ERROR >= 25(15)  
 (GROSS ERROR LIMIT = 15 HPA)

TIME = 99 => AVERAGE OF 00, 06, 12 AND 18 UTC OBSERVATIONS

WMO IDENT	OBS TIME	ELM	LEVEL	NUM OBS	NUM GROSS	SD	BIAS	RMS
3E3566	99	P	SUR	39	0	2.0	5.1	5.5
3EBY2	99	P	SUR	26	1	1.2	11.3	11.3
3EPU6	99	P	SUR	18	0	2.1	3.5	4.1
3FCU3	99	P	SUR	16	0	1.2	3.5	3.7
3FEN2	99	P	SUR	51	0	1.0	3.5	3.6
3FFA5	99	P	SUR	23	0	2.3	7.0	7.3
3FFG7	99	P	SUR	81	0	0.9	3.5	3.6
3FLO4	99	P	SUR	35	0	2.2	8.0	8.2
3FOA6	99	P	SUR	26	0	1.0	5.6	5.7
3FXM3	99	P	SUR	19	0	0.9	-4.3	4.4
5LMQ8	99	P	SUR	16	0	2.2	5.0	5.5
7JEX	99	P	SUR	15	0	0.6	-4.0	4.1
7KDA	99	P	SUR	28	0	0.8	-5.9	5.9
7KKG	99	P	SUR	17	0	1.3	4.0	4.2
9HA3777	99	P	SUR	66	0	2.1	9.2	9.4
9HA4330	99	P	SUR	25	1	1.0	-4.5	4.6
9HA4612	99	P	SUR	29	0	1.7	4.0	4.3
9HA4638	99	P	SUR	21	0	1.8	10.8	11.0
9HA4777	99	P	SUR	55	2	3.3	6.9	7.7
9HA5004	99	P	SUR	18	0	1.4	3.3	3.6
9HA5209	99	P	SUR	55	17	3.6	11.7	12.2
9HA5844	99	P	SUR	16	0	2.6	4.4	5.1
9HJD9	99	P	SUR	52	0	1.5	3.9	4.2
9HSJ7	99	P	SUR	34	0	1.2	7.0	7.1
9V3913	99	P	SUR	97	0	2.2	5.0	5.5
9V7305	99	P	SUR	75	0	2.0	3.2	3.8
9V8044	99	P	SUR	18	0	1.2	3.1	3.3
9V8372	99	P	SUR	30	0	1.0	6.5	6.6
9V9375	99	P	SUR	34	0	1.6	5.7	5.9
9V9402	99	P	SUR	32	1	1.7	11.7	11.8
9V9404	99	P	SUR	68	0	2.5	5.7	6.2
9V9450	99	P	SUR	97	1	3.2	7.4	8.1

LIST OF SUSPECT STATIONS : SHIPS + FIXED MARINE PLATFORMS  
 MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : SURFACE PRESSURE (HPA)  
 (CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	NUM OBS	NUM GROSS	SD	BIAS	RMS
AUYN	99	P	SUR	51	0	1.2	3.0	3.3
AUYQ	99	P	SUR	44	0	1.9	3.5	4.0
C6PZ8	99	P	SUR	44	0	1.2	-3.2	3.4
C6SG2	99	P	SUR	23	0	6.6	-3.8	7.6
C6TX6	99	P	SUR	19	2	2.7	7.8	8.2
D5UB8	99	P	SUR	17	0	1.2	9.1	9.2
EAJ3GDS	99	P	SUR	15	0	0.9	-4.2	4.3
GXDFHFB	99	P	SUR	15	0	0.7	-4.1	4.1
H3FV	99	P	SUR	24	0	4.4	4.1	6.0
H3JW	99	P	SUR	47	0	2.3	5.9	6.3
HNQN49W	99	P	SUR	15	0	0.7	4.0	4.0
LAHR7	99	P	SUR	29	0	1.2	5.2	5.4
LAVN4	99	P	SUR	26	0	0.9	3.6	3.8
LVFXP5T	99	P	SUR	23	0	1.5	5.9	6.1
NDN4JZX	99	P	SUR	22	0	1.1	4.2	4.3
OBAA	99	P	SUR	24	0	0.8	-7.0	7.0
OWLD2	99	P	SUR	16	0	1.1	-3.7	3.8
OXFU2	99	P	SUR	24	0	1.2	3.2	3.5
OXSQ2	99	P	SUR	23	0	2.6	8.6	9.0
PINX	99	P	SUR	68	1	0.7	-5.5	5.5
S6LT3	99	P	SUR	15	0	1.1	4.9	5.0
SKEC	99	P	SUR	17	17	0.0	0.0	0.0
TNVXRHV	99	P	SUR	17	0	0.6	-5.9	6.0
UAST	99	P	SUR	19	12	11.2	3.6	11.8
UBAU	99	P	SUR	25	22	4.2	-6.2	7.5
UCQX	99	P	SUR	54	49	3.7	12.3	12.9
UCSJ	99	P	SUR	42	23	7.2	-4.3	8.3
UGZM	99	P	SUR	49	11	4.1	-5.2	6.6
V7A6085	99	P	SUR	41	0	3.2	8.1	8.7
V7DJ7	99	P	SUR	16	1	2.4	8.7	9.0
V7QK9	99	P	SUR	58	0	2.1	3.1	3.7
V7QT7	99	P	SUR	46	0	1.9	6.7	7.0
VRCB4	99	P	SUR	22	0	0.6	-4.7	4.7
VRCI8	99	P	SUR	21	0	1.3	3.0	3.3
VRDW2	99	P	SUR	80	0	0.5	-4.5	4.5
VRFI7	99	P	SUR	57	0	0.6	-3.8	3.8
VRGO2	99	P	SUR	24	0	2.7	4.0	4.8
VRGO3	99	P	SUR	18	0	0.6	7.6	7.7
VRJS2	99	P	SUR	61	0	1.7	-4.2	4.5
VRLJ4	99	P	SUR	19	9	3.4	11.1	11.6
VRME7	99	P	SUR	18	0	0.8	9.4	9.5

LIST OF SUSPECT STATIONS : SHIPS + FIXED MARINE PLATFORMS  
 MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : SURFACE PRESSURE (HPA)  
 (CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	NUM OBS	NUM GROSS	SD	BIAS	RMS
VRNL9	99	P	SUR	16	0	2.8	4.4	5.2
VRNY5	99	P	SUR	16	0	1.2	-4.0	4.2
VRQL7	99	P	SUR	28	0	2.1	4.3	4.8
VRQS2	99	P	SUR	19	0	3.4	3.2	4.7
VRRQ4	99	P	SUR	26	0	1.2	6.2	6.3
VRTF2	99	P	SUR	38	0	1.4	4.9	5.1
VRVR2	99	P	SUR	39	0	0.8	-7.3	7.3
VRZK8	99	P	SUR	25	0	1.0	3.5	3.6
VTEO	99	P	SUR	57	1	1.6	3.4	3.7
VTZJ	99	P	SUR	94	2	3.7	9.6	10.3
WCY2920	99	P	SUR	117	0	0.8	-4.1	4.2
WDC6027	99	P	SUR	15	1	6.5	-0.5	6.5
WDE2831	99	P	SUR	24	0	3.0	-3.4	4.5
WDK5676	99	P	SUR	119	0	0.8	-3.6	3.7
WGEB	99	P	SUR	67	0	0.7	5.1	5.2
WSFABLK	99	P	SUR	60	0	0.6	6.2	6.2
WTAA	99	P	SUR	108	0	0.6	3.9	4.0
WYM9567	99	P	SUR	119	0	0.6	-3.1	3.2
ZGFY4	99	P	SUR	37	0	0.9	-8.1	8.2

**3.2.13 Table 2 - Suspect ships and fixed marine platforms: Wind speed (m/s)**

LIST OF SUSPECT STATIONS : SHIPS + FIXED MARINE PLATFORMS  
 MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : WIND SPEED (M/S)  
 AREA : GLOBAL  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

SELECTION CRITERIA: NO. OF OBS. >= 15(50), AND,  
 Manual (Automatic) ABSOLUTE BIAS >= 4(4) M/S, OR,  
 % GROSS ERROR >= 25(15)  
 (GROSS ERROR LIMIT FOR VECTOR WIND = 25 M/S)

TIME = 99 => AVERAGE OF 00, 06, 12 AND 18 UTC OBSERVATIONS

WMO IDENT	OBS TIME	ELM	LEVEL	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
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### 3.2.14 Table 3 - Suspect ships and fixed marine platforms: Wind direction (DEGREES)

LIST OF SUSPECT STATIONS : SHIPS + FIXED MARINE PLATFORMS  
 MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : WIND DIRECTION (DEGREES)  
 AREA : GLOBAL  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

SELECTION CRITERIA: NO. OF OBS. >= 15 (50) (WIND SPEEDS > 3M/S), AND ,  
 Manual (Automatic) ABSOLUTE BIAS >= 30 (25) DEGREES, OR,  
 STANDARD DEVIATION >= 70 (50) DEGREES  
 (GROSS ERROR LIMIT FOR VECTOR WIND = 25 M/S)

TIME = 99 => AVERAGE OF 00, 06, 12 AND 18 UTC OBSERVATIONS

WMO IDENT	OBS TIME	ELM	LEVEL	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
44489	99	DIRN	SUR	85	0	0	12.7	-30.4	32.9
46145	99	DIRN	SUR	82	0	0	17.0	-43.7	46.9
46185	99	DIRN	SUR	84	2	0	36.7	-89.3	96.6

**3.2.15 Table 4 - Suspect drifters: Surface pressure (HPA)**

LIST OF SUSPECT STATIONS : DRIFTER  
 MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : SURFACE PRESSURE (HPA)  
 AREA : GLOBAL  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

SELECTION CRITERIA: NO. OF OBS. >= 20, AND,  
 ABSOLUTE BIAS >= 4 HPA, OR,  
 STANDARD DEVIATION >= 6 HPA, OR,  
 % GROSS ERROR >= 25  
 (GROSS ERROR LIMIT = 15 HPA)

TIME = 99 => AVERAGE OF ALL OBSERVATIONS

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
1501729	99	P	SUR	-34	-51	161	149	0.0	-14.4	14.4
1701718	99	P	SUR	12	-53	685	685	0.0	0.0	0.0
2101820	99	P	SUR	34	-178	689	0	6.4	3.2	7.2
2302627	99	P	SUR	11	73	648	187	8.1	-5.2	9.6
3301523	99	P	SUR	-15	-39	686	0	0.5	-4.4	4.4
3301702	99	P	SUR	-40	-9	690	104	6.4	-4.3	7.7
3401636	99	P	SUR	-30	-114	691	0	0.3	-5.3	5.3
3801564	99	P	SUR	-22	35	25	25	0.0	0.0	0.0
4601776	99	P	SUR	30	-128	516	10	4.4	-4.6	6.4
4602563	99	P	SUR	29	-164	687	144	0.9	13.7	13.7
4701558	99	P	SUR	79	-18	60	0	0.3	-4.4	4.5
4802506	99	P	SUR	58	-8	631	515	7.3	-4.7	8.7
4802662	99	P	SUR	70	-125	613	613	0.0	0.0	0.0
5103563	99	P	SUR	29	-143	537	296	8.7	0.2	8.7
5201828	99	P	SUR	-50	-171	690	0	1.6	4.0	4.4
5501563	99	P	SUR	-40	-148	692	692	0.0	0.0	0.0
5501735	99	P	SUR	-48	-146	640	640	0.0	0.0	0.0
6203741	99	P	SUR	66	8	310	156	1.2	-0.7	1.4
6801934	99	P	SUR	26	138	677	33	4.6	6.6	8.0

**3.2.16 Table 5 - Suspect drifters: Wind speed (m/s)**

LIST OF SUSPECT STATIONS : DRIFTER  
 MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : WIND SPEED (M/S)  
 AREA : GLOBAL  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

SELECTION CRITERIA: NO. OF OBS. >= 20, AND,  
 ABSOLUTE BIAS >= 5 M/S, OR,  
 % GROSS ERROR >= 25  
 (GROSS ERROR LIMIT FOR VECTOR WIND = 25 M/S)

TIME = 99 => AVERAGE OF ALL OBSERVATIONS

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
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**3.2.17 Table 6 - Suspect drifters: Wind direction (degrees)**

LIST OF SUSPECT STATIONS : DRIFTER  
 MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : WIND DIRECTION (DEGREES)  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

SELECTION CRITERIA: NO. OF OBS. >= 20 (WIND SPEEDS > 3M/S), AND ,  
 ABSOLUTE BIAS >= 20 DEGREES, OR,  
 STANDARD DEVIATION >= 60 DEGREES  
 (GROSS ERROR LIMIT FOR VECTOR WIND = 25 M/S)

TIME = 99 => AVERAGE OF ALL OBSERVATIONS

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
1300130	99	DIRN	SUR	28	-16	520	0	0	39.8	37.0	54.3
2200186	99	DIRN	SUR	36	126	255	0	0	48.5	-47.9	68.2
2200189	99	DIRN	SUR	35	130	486	0	0	54.8	27.4	61.2
2300453	99	DIRN	SUR	8	73	32	0	0	43.8	24.6	50.2
4400488	99	DIRN	SUR	45	-61	521	0	0	19.9	-26.0	32.7
4400489	99	DIRN	SUR	45	-61	510	0	0	16.7	-29.0	33.5
44078	99	DIRN	SUR	60	-40	562	0	0	16.2	-20.5	26.1
44488	99	DIRN	SUR	45	-61	510	0	0	18.8	-27.3	33.1
44489	99	DIRN	SUR	46	-61	505	0	0	17.1	-29.2	33.8
4500186	99	DIRN	SUR	42	-88	274	0	0	32.7	74.2	81.1
4500187	99	DIRN	SUR	42	-88	448	0	0	27.5	21.8	35.1
45149	99	DIRN	SUR	44	-82	20	0	0	38.1	21.5	43.7
45186	99	DIRN	SUR	42	-88	54	0	0	32.8	76.1	82.8
45187	99	DIRN	SUR	43	-88	88	0	0	25.4	25.3	35.8
4600145	99	DIRN	SUR	54	-132	523	0	0	19.1	-44.0	48.0
4600185	99	DIRN	SUR	53	-130	550	4	0	43.5	-83.0	93.7
46145	99	DIRN	SUR	54	-132	508	0	0	21.1	-44.2	49.0
46185	99	DIRN	SUR	53	-130	535	5	0	43.2	-83.0	93.6
6100280	99	DIRN	SUR	41	1	382	0	0	93.0	58.1	109.7
6100281	99	DIRN	SUR	40	0	81	0	0	57.0	-30.0	64.4
6200086	99	DIRN	SUR	55	7	269	0	0	9.4	26.9	28.5
6301004	99	DIRN	SUR	72	20	657	0	0	16.7	-42.3	45.5
6600022	99	DIRN	SUR	54	14	338	0	0	51.8	45.1	68.6
6600024	99	DIRN	SUR	55	13	143	0	0	30.7	68.4	75.0

### 3.2.18 Table 7 - Suspect radiosondes: Geopotential height (metres)

LIST OF SUSPECT STATIONS : RADIOSONDES  
 MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : GEOPOTENTIAL HEIGHT (METRES)  
 AREA : GLOBAL  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

SELECTION CRITERIA: AT LEAST 3 LEVELS WITH  
 10 OBS AND 100 M WEIGHTED RMS

ONLY THE WORST LEVEL IS SHOWN (WITH UNWEIGHTED RMS)

WMO IDENT	OBS TIME	ELM	LEV	LAT	LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
01400	00	Z	1000	57	3	26	0	12.2	74.5	75.5
01400	12	Z	1000	57	3	28	0	5.5	74.2	74.4
31770	00	Z	200	49	140	28	0	71.2	56.3	90.8
34467	00	Z	500	49	44	28	0	60.9	68.6	91.7
34467	12	Z	500	49	44	24	0	56.4	65.7	86.6
36003	12	Z	200	52	77	28	0	70.7	55.5	89.9
38341	00	Z	250	43	71	28	6	115.1	-24.5	117.7
38341	12	Z	100	43	71	14	3	148.6	-7.9	148.8
42348	12	Z	200	27	76	10	1	20.6	124.4	126.1
42348	00	Z	850	27	76	12	2	10.0	62.3	63.1
42516	00	Z	700	26	92	26	4	22.9	37.0	43.5
48698	12	Z	150	1	104	10	0	10.5	91.0	91.6
52323	00	Z	30	42	97	29	4	131.8	267.4	298.1
52323	12	Z	30	42	97	26	1	115.8	216.9	245.9
54374	00	Z	50	42	127	29	0	52.5	226.8	232.8
55591	00	Z	30	30	91	23	0	62.5	177.1	187.8
62403	12	Z	925	26	33	12	4	43.0	64.6	77.6
68994	12	Z	925	-47	38	16	0	3.4	29.3	29.5
68994	00	Z	850	-47	38	16	0	6.6	31.1	31.8
76644	00	Z	850	21	-90	15	0	6.9	29.7	30.5
78486	12	Z	925	18	-70	30	0	0.0	32.6	32.6
78486	00	Z	1000	18	-70	30	0	2.5	30.7	30.8
7JUNA4	12	Z	1000	47	-40	10	0	12.8	67.4	68.6
91680	00	Z	1000	-18	177	21	0	3.8	35.1	35.3
JNKN7J	00	Z	1000	45	-56	12	0	3.8	36.2	36.4
JNKN7J	12	Z	1000	45	-61	11	0	4.7	37.1	37.4

**3.2.19 Table 8 - Suspect radiosondes: Wind (m/s)**

LIST OF SUSPECT STATIONS : RADIOSONDES  
 MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : WIND (M/S)  
 AREA : GLOBAL  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

SELECTION CRITERIA: AT LEAST 10 OBS AND 15 M/S RMS VECTOR WIND

STANDARD LEVEL (1000-100 HPA) WITH HIGHEST RMS IS SHOWN

WMO IDENT	OBS TIME	ELM	LEV	LAT	LONG	NUM OBS	NUM GROSS	UBIAS	VBIAS	RMS
17607	12	V	100	35	33	23	0	-13.2	0.1	16.9
30935	00	V	100	50	109	16	0	3.6	-2.5	15.2
38341	12	V	200	43	71	16	0	1.9	-7.0	17.0
40179	12	V	100	32	35	20	0	-18.0	1.1	20.6
40179	00	V	100	32	35	23	0	-19.6	-1.5	22.4
42667	00	V	150	23	77	14	0	-11.4	-18.1	22.1

**3.2.20 Table 9 - Suspect radiosondes: Wind direction (degrees)**

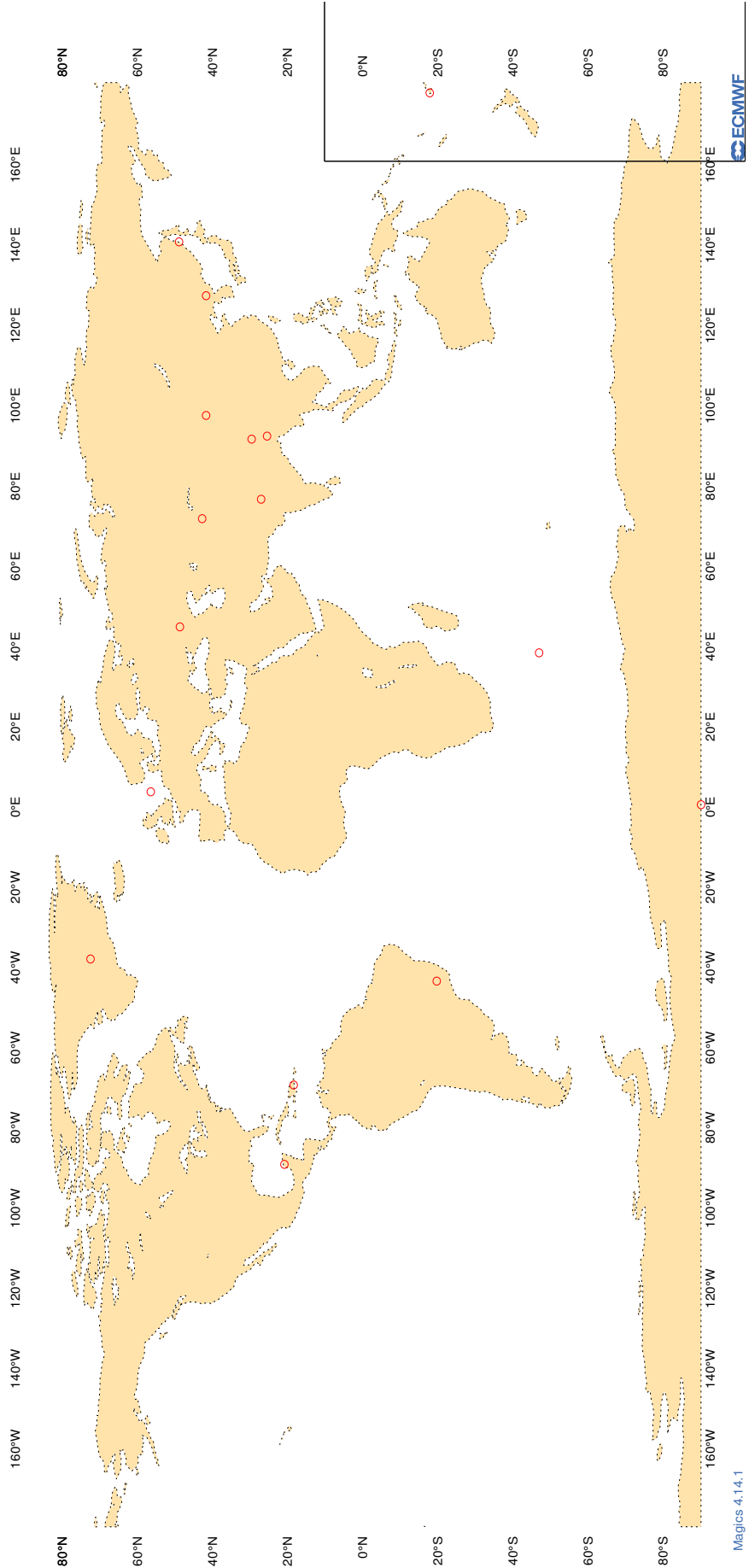
LIST OF SUSPECT STATIONS : RADIOSONDES  
 MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : WIND DIRECTION (DEGREES)  
 AREA : GLOBAL  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

SELECTION CRITERIA: OBSERVED/FORECAST WIND SPEEDS  $\geq$  5 M/S  
 NO. OF OBSERVATIONS  $\geq$  5, AND,  
 ABSOLUTE BIAS  $\geq$  10 DEGREES, WITH  
 STANDARD DEVIATION  $<$  30 DEGREES, AND,  
 VERTICAL SPREAD  $<$  10 DEGREES  
 (AVERAGE BETWEEN 500 AND 150 HPA)

WMO IDENT	OBS TIME	ELM	LAT	LONG	NUM OBS	BIAS	MAX SPREAD	SD
42667	00	DD	23	77	14	-30.6	6.5	6.6
48381	00	DD	16	103	23	-14.5	5.5	19.4
54340	12	DD	42	124	30	-12.7	1.7	5.6
54340	00	DD	42	124	30	-12.2	1.5	5.2

3.2.21 Figure 10 - Suspect TEMP observations - geopotential : 00 UTC

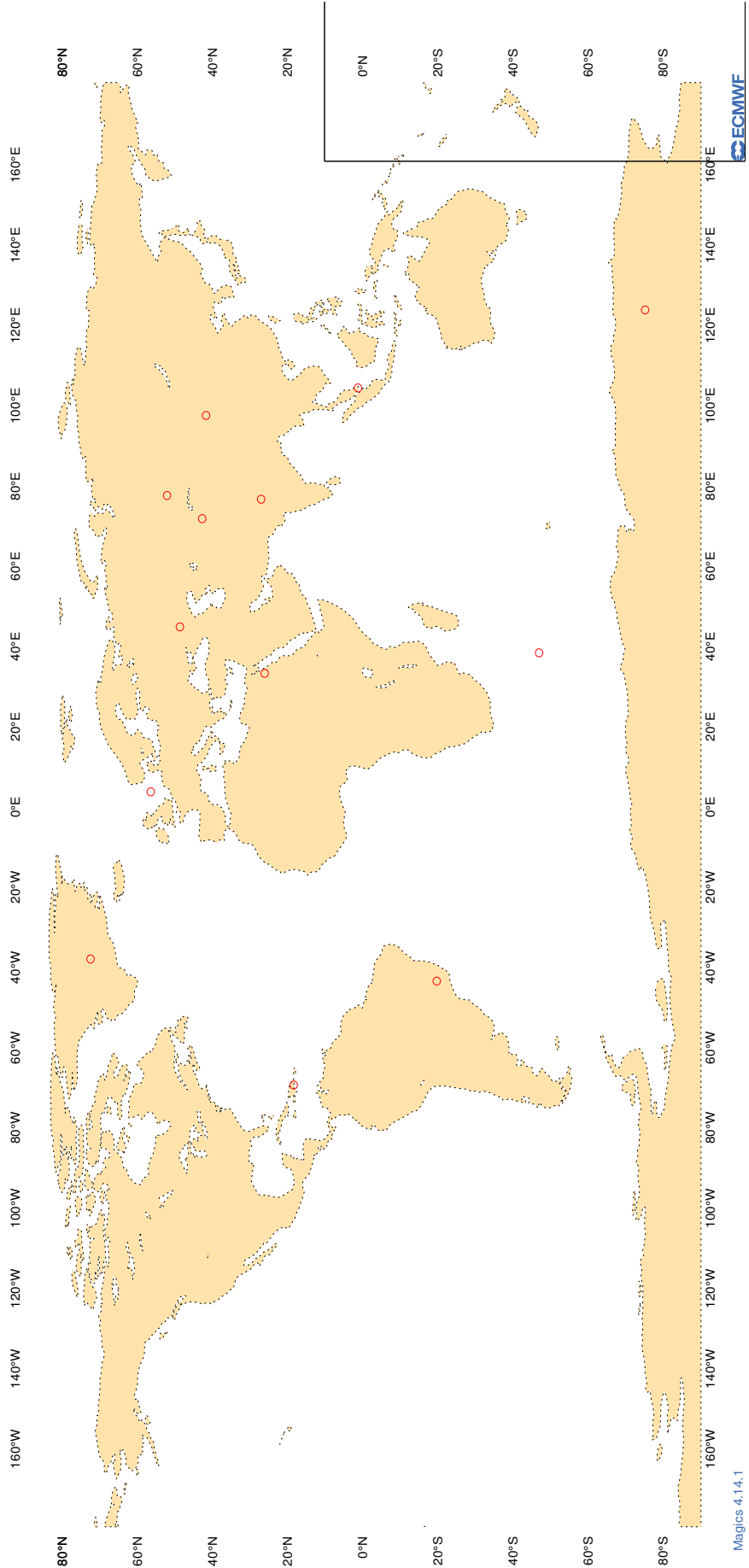
**Figure 10**  
**ECMWF Monitoring Statistics - APR 2024 00 UTC**  
**Suspect TEMP observations - GEOPOTENTIAL**





3.2.22 Figure 11 - Suspect TEMP observations - geopotential : 12 UTC

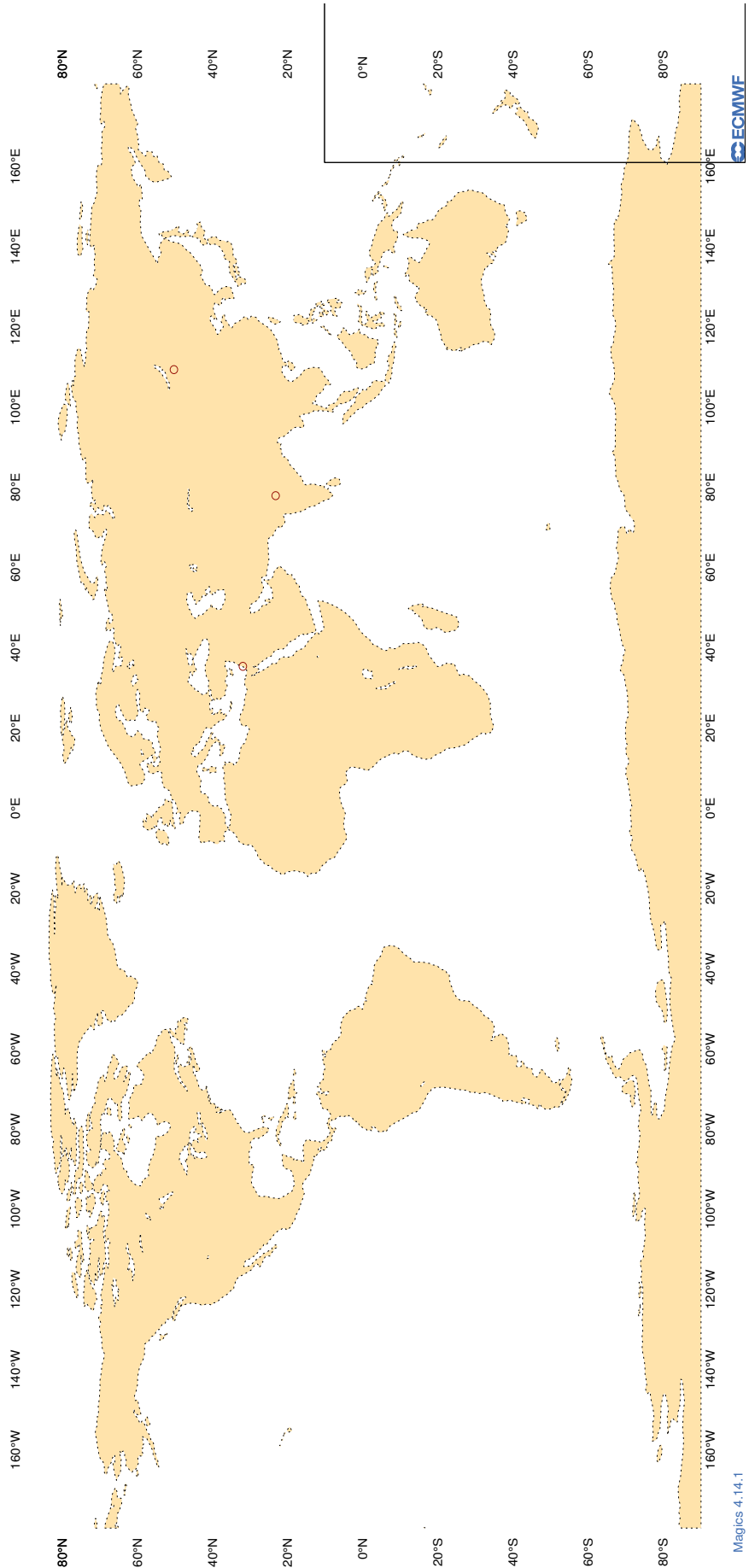
**Figure 11**  
**ECMWF Monitoring Statistics - APR 2024 12 UTC**  
**Suspect TEMP observations - GEOPOTENTIAL**



3.2.23 Figure 12 - Suspect TEMP/PILOT observations - wind : 00 UTC

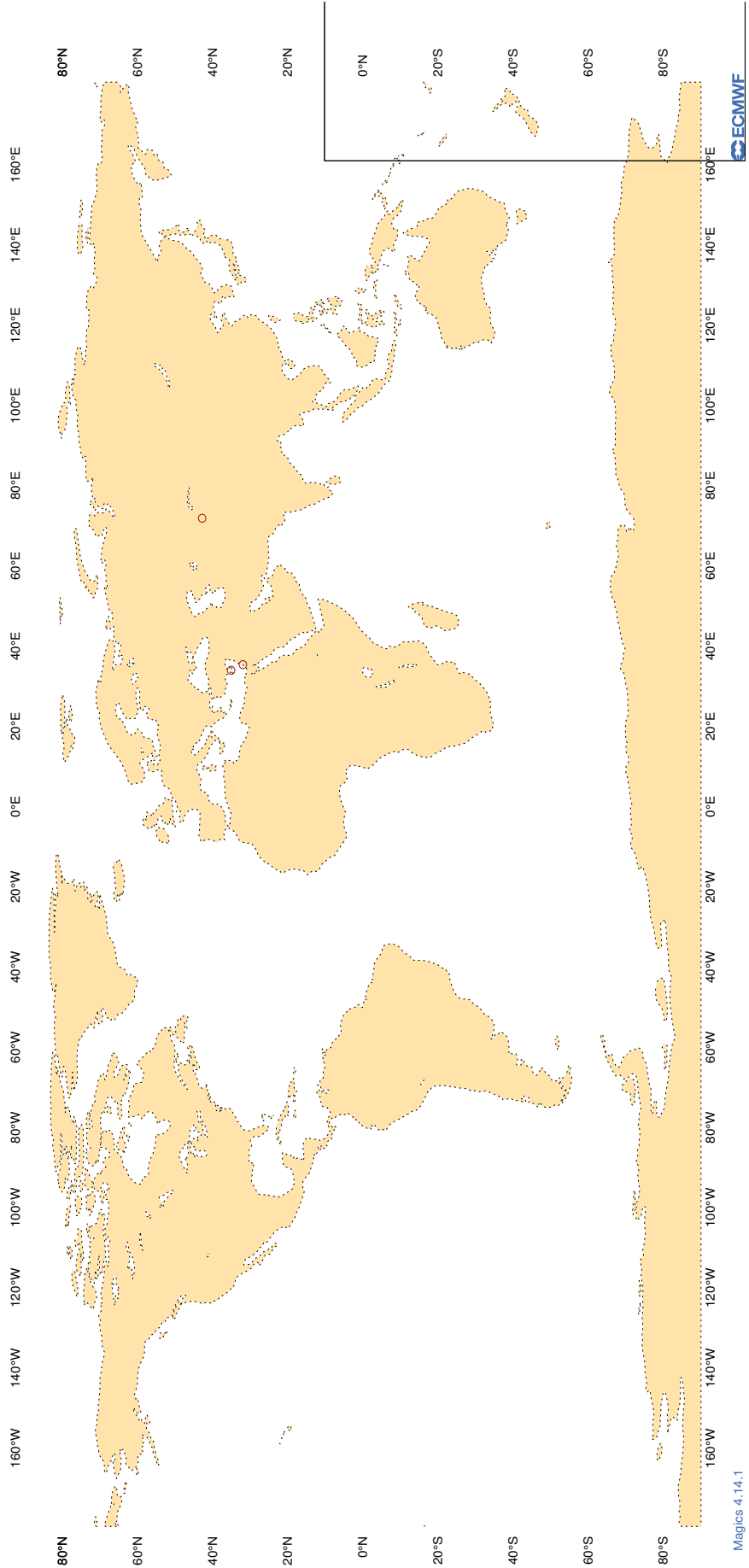
Figure 12

ECMWF Monitoring Statistics - APR 2024 00 UTC  
Suspect TEMP/PILOT observations - WIND



3.2.24 Figure 13 - Suspect TEMP/PILOT observations - wind : 12 UTC

**Figure 13**  
**ECMWF Monitoring Statistics - APR 2024 12 UTC**  
**Suspect TEMP/PILOT observations - WIND**



**3.2.25 Table 10 - Radiosonde monitoring statistics (SHIPS): Geopotential height (metres)**

## RADIOSONDE MONITORING STATISTICS (SHIPS)

MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : GEOPOTENTIAL HEIGHT (METRES)  
 LEVEL : 100 HPA  
 AREA : GLOBAL  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	12	Z	100	10	99.8	93.4
7JUNA4	00	Z	100	8	51.4	50.9
7KPB	12	Z	100	1	5.7	-5.7
9ZT9MR	12	Z	100	1	9.9	-9.9
ASDE09	12	Z	100	1	26.0	26.0
ATGU3F	00	Z	100	8	27.1	-23.0
ATGU3F	12	Z	100	5	28.9	-27.7
BPMWB2	00	Z	100	0	0.0	0.0
BPMWB2	12	Z	100	0	0.0	0.0
DBLK	12	Z	100	23	25.0	21.6
FPUW5G	12	Z	100	3	14.8	-5.9
GQBZLZ	00	Z	100	7	42.7	-40.9
GQBZLZ	12	Z	100	9	30.5	-29.0
JNKN7J	00	Z	100	12	23.5	23.0
JNKN7J	12	Z	100	12	19.6	18.6
JPBN	00	Z	100	1	12.8	12.8
JPBN	12	Z	100	1	3.3	3.3
KJFF9X	00	Z	100	5	19.5	-18.2
KJFF9X	12	Z	100	6	21.4	-20.3
KMPLHP	12	Z	100	7	47.5	46.9
KMPLHP	00	Z	100	6	48.7	47.0
LAGY8	00	Z	100	2	92.8	-60.8
LAGY8	12	Z	100	1	19.2	19.2
LAGZ8	12	Z	100	2	52.3	52.3
LRYQE3	00	Z	100	9	13.4	-5.9
LRYQE3	12	Z	100	8	105.9	95.5
UXK5JT	12	Z	100	7	30.4	-15.7
UXK5JT	00	Z	100	10	31.5	-24.7
WDK38H	12	Z	100	17	12.8	-11.4
XKQLWQ	12	Z	100	20	34.4	31.6
YLV96W	00	Z	100	7	5.0	-3.5
YLV96W	12	Z	100	8	34.3	23.9
ZSNO	12	Z	100	2	28.6	-27.9

### 3.2.26 Table 11 - Radiosonde monitoring statistics (SHIPS): Wind (m/s)

#### RADIOSONDE MONITORING STATISTICS (SHIPS)

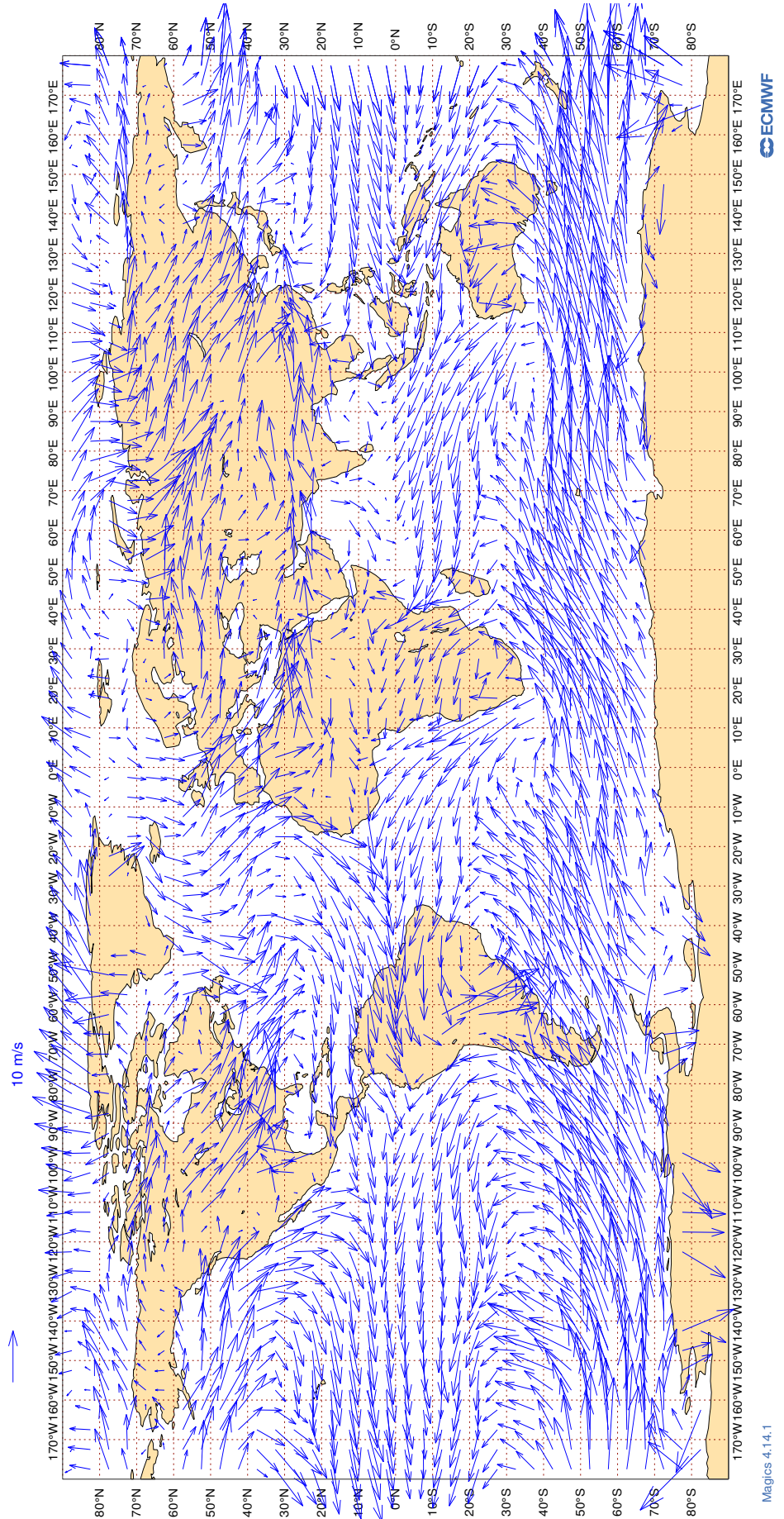
MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : WIND (M/S)  
 LEVEL : 100 HPA  
 AREA : GLOBAL  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	12	V	100	10	2.6	-1.1	0.5
7JUNA4	00	V	100	8	2.8	-0.1	-1.1
7KPB	12	V	100	0	0.0	0.0	0.0
9ZT9MR	12	V	100	1	3.0	1.2	2.7
ASDE09	12	V	100	1	3.5	1.3	-3.3
ATGU3F	00	V	100	8	2.3	-0.3	-1.3
ATGU3F	12	V	100	5	2.7	0.7	0.0
BPMWB2	00	V	100	0	0.0	0.0	0.0
BPMWB2	12	V	100	0	0.0	0.0	0.0
DBLK	12	V	100	23	3.9	-0.2	-0.4
FPUW5G	12	V	100	3	3.2	0.7	-1.4
GQBZLZ	00	V	100	7	3.7	0.4	1.1
GQBZLZ	12	V	100	9	2.7	-0.4	0.0
JNKN7J	00	V	100	12	3.3	-0.3	0.7
JNKN7J	12	V	100	12	2.6	0.6	0.2
JPBN	00	V	100	1	2.8	1.8	-2.1
JPBN	12	V	100	1	3.6	3.4	1.1
KJJF9X	00	V	100	5	2.9	-0.5	-0.7
KJJF9X	12	V	100	6	5.2	-0.5	-1.6
KMPLHP	12	V	100	7	2.7	0.7	0.4
KMPLHP	00	V	100	6	2.3	0.1	0.2
LAGY8	00	V	100	2	4.0	-2.9	-0.3
LAGY8	12	V	100	1	4.5	-1.1	4.4
LAGZ8	12	V	100	2	2.6	-0.3	0.8
LRYQE3	00	V	100	9	2.6	0.1	-0.7
LRYQE3	12	V	100	8	2.8	-0.5	0.5
UXK5JT	12	V	100	7	4.6	-0.7	0.2
UXK5JT	00	V	100	10	4.0	0.8	-0.5
WDK38H	12	V	100	17	2.9	-0.4	1.0
XKQLWQ	12	V	100	20	2.3	-0.1	0.7
YLV96W	00	V	100	7	3.2	0.4	-0.2
YLV96W	12	V	100	8	2.5	-0.8	-0.5
ZSNO	12	V	100	2	6.1	4.1	3.8

3.2.27 Figure 14 - SATOB Winds: 700-1000hPa

Figure 14

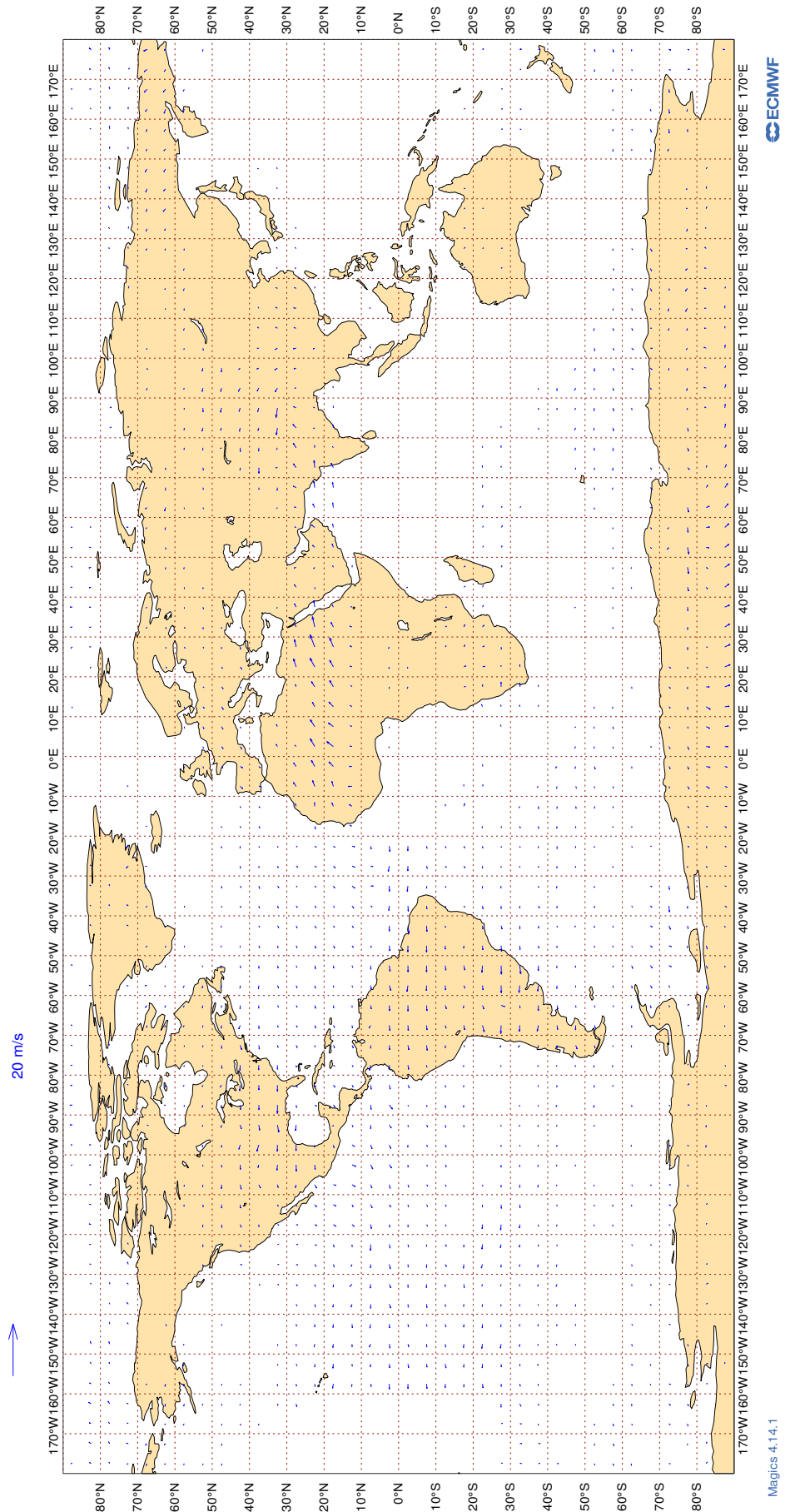
ECMWF Monitoring Statistics: Apr 2024  
AMV Winds: 700-1000hPa  
Mean Observed Wind



3.2.28 Figure 15 - SATOB Winds: 150- 400hPa

Figure 15

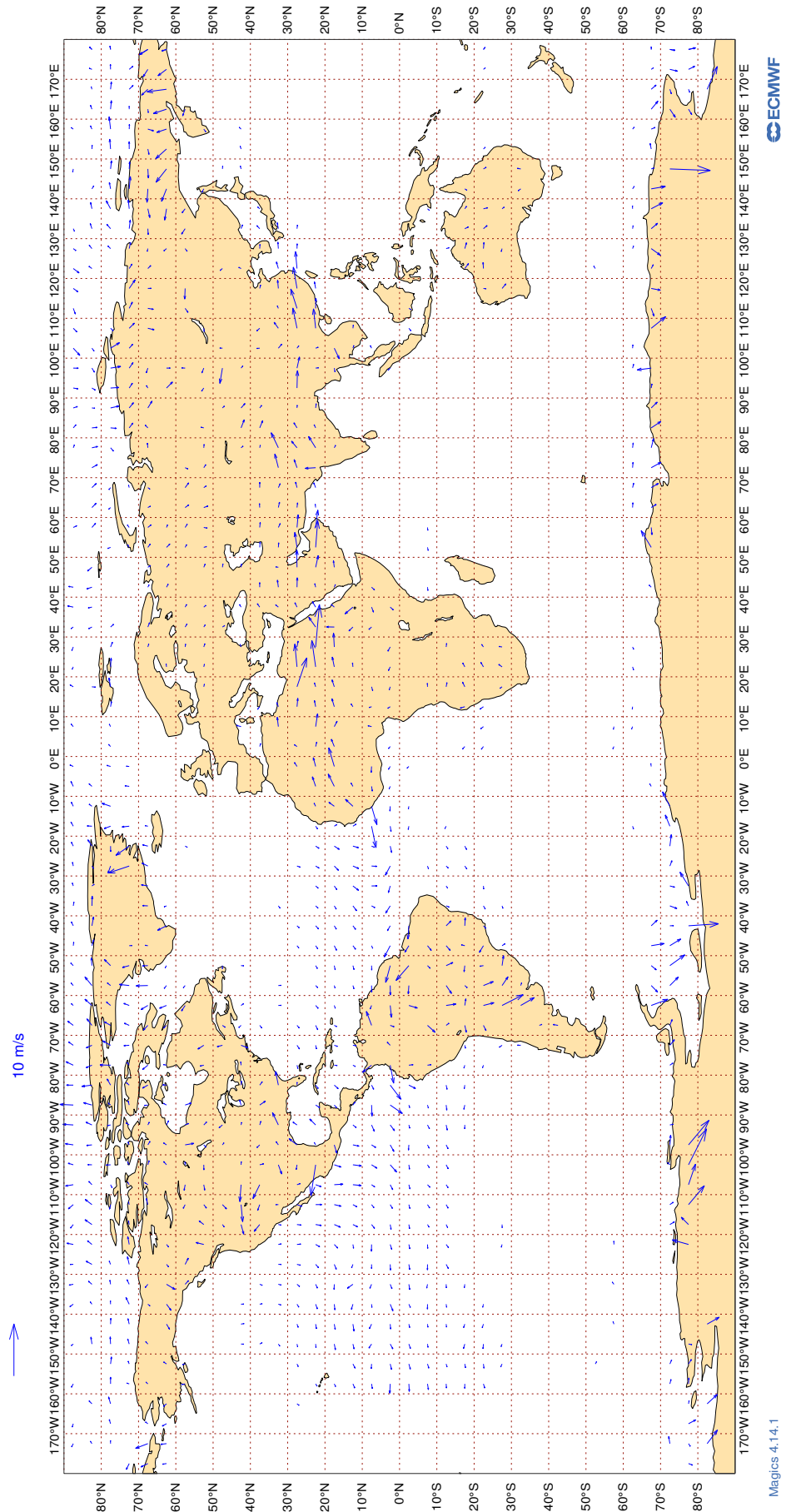
ECMWF Monitoring Statistics: Apr 2024  
AMV Winds: 150- 400hPa  
Wind bias: Observation - FG



3.2.29 Figure 16 - SATOB Winds: 700-1000hPa

Figure 16

ECMWF Monitoring Statistics: Apr 2024  
AMV Winds: 700-1000hPa  
Wind bias: Observation - FG

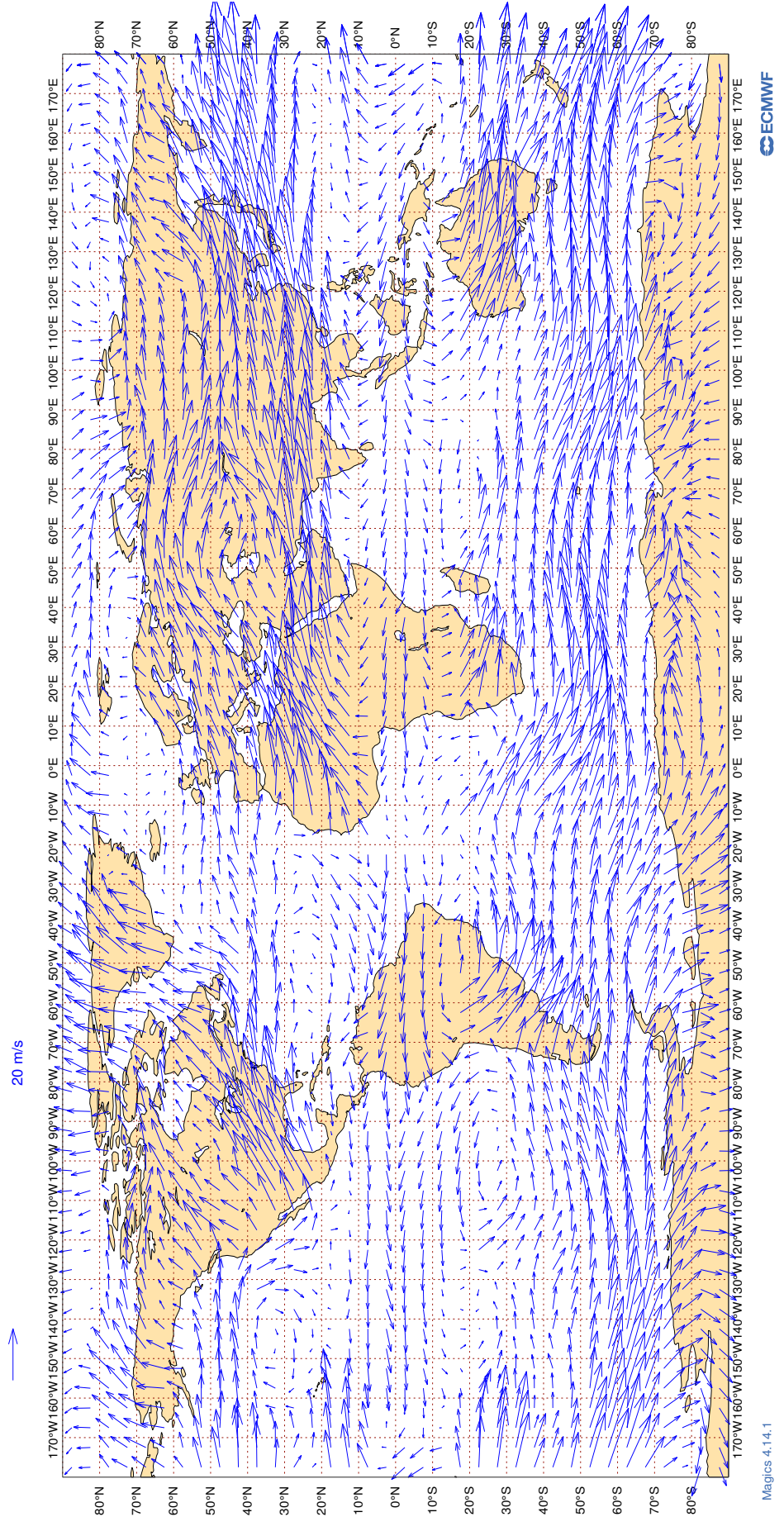




3.2.30 Figure 17 - SATOB Winds: 150- 400hPa

Figure 17

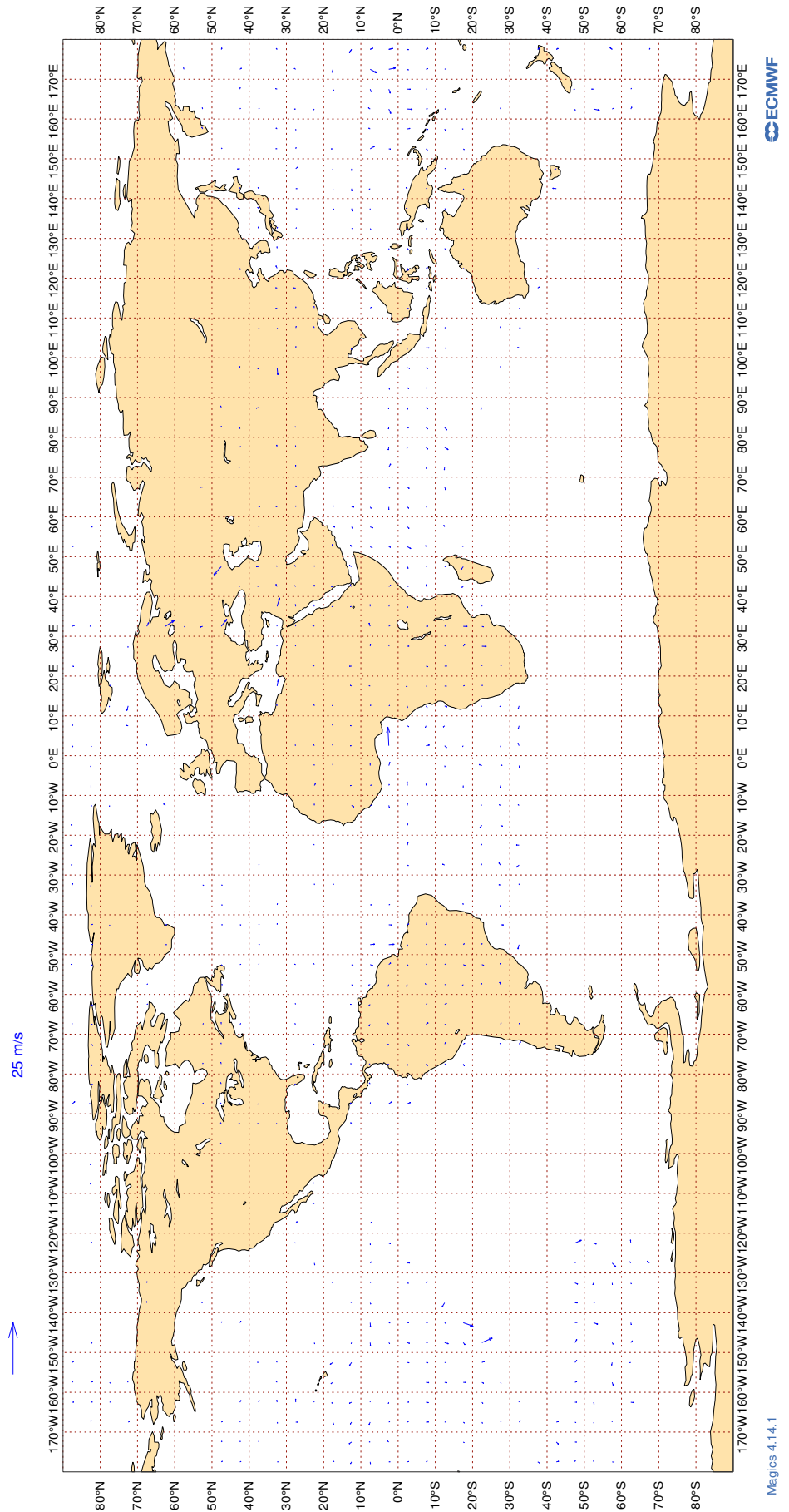
ECMWF Monitoring Statistics: Apr 2024  
AMV Winds: 150- 400hPa  
Mean Observed Wind



3.2.31 Figure 18 - AIRCRAFT Winds: 150- 300hPa

Figure 18

ECMWF Monitoring Statistics: Apr 2024  
Aircraft Winds: 150- 300hPa  
Wind bias: Observation - FG



### 3.2.32 Table 12 - Airep Monitoring Statistics For Airline Carriers (Global)

#### AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS

MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : VECTOR WIND (M/S)  
 AREA : GLOBAL  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

SELECTION CRITERIA: NO. OF OBS. >= 20

TIME = 99 => AVERAGE OF ALL OBSERVATIONS  
 GROSS ERROR LIMIT ON VECTOR WIND = 40 M/S

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
AAB	99	V	300-150	77	0	0	3.8	0.5
AAL	99	V	300-150	52684	3	0	5.3	0.1
AAR	99	V	300-150	253	0	0	3.5	-0.5
ABB	99	V	300-150	697	0	0	2.6	0.1
ABD	99	V	300-150	1051	0	0	3.5	0.2
ABF	99	V	300-150	31	0	0	3.0	0.5
ABP	99	V	300-150	64	0	0	2.9	0.3
ACA	99	V	300-150	28734	3	0	5.3	0.1
ACI	99	V	300-150	551	0	1	4.0	0.4
ADY	99	V	300-150	39	0	0	3.1	0.1
ADZ	99	V	300-150	737	0	0	3.2	-0.1
AEA	99	V	300-150	690	10	0	7.6	0.0
AFR	99	V	300-150	34470	1	0	3.7	0.2
AIC	99	V	300-150	4864	1	0	4.5	0.2
AIZ	99	V	300-150	33	0	0	4.0	0.4
AJT	99	V	300-150	227	0	0	3.3	0.2
ALK	99	V	300-150	2352	0	0	2.9	0.5
AME	99	V	300-150	74	0	0	2.9	0.7
AMX	99	V	300-150	5801	8	0	7.1	0.1
ANA	99	V	300-150	177	0	0	3.4	0.9
ANZ	99	V	300-150	16480	0	0	4.0	0.3
AOJ	99	V	300-150	264	0	0	3.2	-0.3

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS  
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
ASA	99	V	300-150	56	0	2	5.4	0.8
ASL	99	V	300-150	692	0	0	2.9	0.5
ASP	99	V	300-150	20	0	0	3.4	0.3
ASY	99	V	300-150	79	0	0	4.5	0.0
ATC	99	V	300-150	160	0	0	6.0	0.0
ATG	99	V	300-150	22	0	0	3.2	-1.6
ATN	99	V	300-150	76	0	0	3.5	-0.2
AUA	99	V	300-150	4853	0	0	3.4	0.1
AUH	99	V	300-150	25	0	0	3.1	0.4
AVA	99	V	300-150	451	8	0	5.3	0.2
AXM	99	V	300-150	63	0	2	4.0	0.6
AXY	99	V	300-150	64	0	0	2.4	0.1
AZG	99	V	300-150	792	0	0	3.3	-0.2
BAF	99	V	300-150	31	0	0	2.9	0.2
BAW	99	V	300-150	49961	1	0	4.3	0.1
BBA	99	V	300-150	52	0	0	3.5	0.1
BBC	99	V	300-150	876	2	0	4.6	0.5
BCS	99	V	300-150	929	0	0	3.5	0.3
BEL	99	V	300-150	1392	0	0	2.9	0.3
BFF	99	V	300-150	31	0	0	11.8	-0.3
BLX	99	V	300-150	331	3	0	6.2	0.6
BMW	99	V	300-150	32	0	3	3.1	-0.4
BOX	99	V	300-150	4236	0	0	3.1	0.1
BQA	99	V	300-150	36	0	0	2.5	0.5
BQB	99	V	300-150	34	0	0	3.6	-0.5
BRK	99	V	300-150	26	0	0	3.7	1.0
BTX	99	V	300-150	62	0	0	3.3	0.1
CAL	99	V	300-150	1027	0	0	5.0	0.7
CAZ	99	V	300-150	55	0	0	3.1	-0.3
CBJ	99	V	300-150	104	0	0	3.2	0.9
CCA	99	V	300-150	242	0	0	3.7	0.7
CEB	99	V	300-150	552	0	0	3.0	0.2
CEF	99	V	300-150	34	0	0	3.4	0.3
CES	99	V	300-150	1177	0	0	3.5	0.4
CFC	99	V	300-150	99	0	0	3.7	-0.2
CFG	99	V	300-150	6172	0	0	2.9	0.3
CHG	99	V	300-150	68	0	0	3.0	0.4
CHH	99	V	300-150	430	0	0	3.7	0.3
CJT	99	V	300-150	187	0	0	3.3	0.4
CKS	99	V	300-150	726	0	0	3.3	-0.1
CLF	99	V	300-150	65	0	0	2.8	0.3
CLX	99	V	300-150	4607	0	0	3.3	-0.2
CLY	99	V	300-150	45	0	0	3.0	1.0

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS  
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
CMA	99	V	300-150	99	0	0	3.5	0.9
CMB	99	V	300-150	1559	0	0	3.4	-0.1
CND	99	V	300-150	408	0	0	3.4	0.3
CNK	99	V	300-150	52	0	0	2.8	0.3
CNV	99	V	300-150	99	0	0	2.8	-0.3
COL	99	V	300-150	20	0	0	2.9	1.4
CPA	99	V	300-150	2420	0	0	3.8	0.4
CPJ	99	V	300-150	41	0	0	3.3	1.2
CRL	99	V	300-150	1158	0	0	3.0	0.1
CRV	99	V	300-150	109	0	0	3.7	0.3
CSC	99	V	300-150	946	0	0	3.5	0.5
CSG	99	V	300-150	40	0	0	2.6	0.4
CSN	99	V	300-150	825	0	0	4.7	0.4
CSS	99	V	300-150	190	0	0	3.5	0.5
CTM	99	V	300-150	332	0	0	3.3	0.1
CWG	99	V	300-150	31	0	0	3.9	0.3
CXA	99	V	300-150	129	0	0	3.8	0.3
DAH	99	V	300-150	1089	0	0	3.1	0.3
DAL	99	V	300-150	65679	0	0	3.0	0.2
DCM	99	V	300-150	31	0	0	2.5	-0.2
DCW	99	V	300-150	32	0	0	3.3	-0.2
DGX	99	V	300-150	45	0	0	3.0	-0.6
DHK	99	V	300-150	4166	0	0	3.5	0.0
DHX	99	V	300-150	409	0	0	3.3	0.7
DJT	99	V	300-150	1894	0	0	2.9	0.2
DLH	99	V	300-150	28463	1	0	3.5	0.1
DSG	99	V	300-150	39	0	0	3.2	-0.2
EAL	99	V	300-150	71	0	0	3.6	-0.6
EAU	99	V	300-150	87	0	0	3.5	-0.3
EDC	99	V	300-150	247	0	1	3.5	0.1
EDW	99	V	300-150	1757	0	0	3.1	0.5
EIN	99	V	300-150	16699	0	0	2.8	0.3
EJM	99	V	300-150	635	0	0	3.2	0.3
ELY	99	V	300-150	4944	8	0	7.5	0.0
EMO	99	V	300-150	26	0	0	2.6	0.4
ETD	99	V	300-150	15439	1	0	4.5	0.3
ETH	99	V	300-150	6638	2	0	4.8	0.2
EUK	99	V	300-150	1637	0	0	2.9	0.3
EUW	99	V	300-150	34	0	0	3.1	0.6
EVA	99	V	300-150	858	2	1	6.2	0.8
EVE	99	V	300-150	113	0	0	3.8	0.7
EXS	99	V	300-150	4370	0	0	3.0	0.2
EXV	99	V	300-150	78	0	0	2.9	0.4

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS  
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
FBU	99	V	300-150	2513	0	0	3.6	0.1
FDX	99	V	300-150	7175	0	0	3.2	0.2
FFM	99	V	300-150	27	0	4	3.0	1.2
FIN	99	V	300-150	1642	0	0	3.6	0.5
FJI	99	V	300-150	2465	0	0	4.3	0.6
FJO	99	V	300-150	61	0	2	2.6	-0.5
FLJ	99	V	300-150	33	0	0	3.2	1.0
FPY	99	V	300-150	4099	0	0	2.9	0.4
FSY	99	V	300-150	34	0	0	2.9	0.3
FWI	99	V	300-150	2565	0	0	3.2	0.2
FYG	99	V	300-150	123	0	0	3.7	0.2
GAF	99	V	300-150	133	0	0	3.0	0.1
GCK	99	V	300-150	70	0	0	3.4	-1.0
GEC	99	V	300-150	1587	0	0	3.0	0.3
GES	99	V	300-150	119	0	0	3.4	0.7
GFA	99	V	300-150	1739	0	0	3.8	0.6
GIA	99	V	300-150	1540	0	0	3.0	0.7
GJE	99	V	300-150	61	0	0	3.5	-0.5
GLJ	99	V	300-150	58	0	0	3.2	0.5
GNJ	99	V	300-150	54	0	0	2.9	-0.1
GOL	99	V	300-150	76	0	0	3.7	-0.2
GTI	99	V	300-150	2412	0	0	3.5	0.0
HAL	99	V	300-150	676	0	1	4.4	0.1
HFM	99	V	300-150	33	0	0	3.2	0.9
HGO	99	V	300-150	39	0	0	3.7	1.8
HIM	99	V	300-150	21	0	0	3.2	0.3
HKC	99	V	300-150	103	0	0	3.6	1.1
HLF	99	V	300-150	23	0	0	2.5	0.6
HNW	99	V	300-150	43	0	0	2.8	0.8
HRT	99	V	300-150	27	0	0	5.3	0.8
HUE	99	V	300-150	76	0	0	6.0	0.1
HVN	99	V	300-150	931	2	1	5.4	0.9
HYP	99	V	300-150	23	0	0	3.1	-0.3
HZS	99	V	300-150	35	0	0	4.4	0.0
HZS	99	V	300-150	62	0	0	3.1	0.4
IAM	99	V	300-150	34	0	3	2.7	0.7
IBE	99	V	300-150	7214	0	0	3.2	0.3
ICE	99	V	300-150	7187	0	0	2.9	0.3
ICV	99	V	300-150	322	0	0	3.7	0.1
IFA	99	V	300-150	410	0	0	3.1	0.0
IGA	99	V	300-150	74	0	0	3.7	0.2
IGO	99	V	300-150	68	0	0	8.8	2.1
IJM	99	V	300-150	128	0	0	3.1	0.1

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS  
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
ITY	99	V	300-150	6452	0	0	3.1	0.2
JAF	99	V	300-150	660	9	0	8.6	-0.4
JAL	99	V	300-150	752	1	0	3.9	0.2
JAS	99	V	300-150	104	0	0	3.2	0.7
JBU	99	V	300-150	11322	0	0	2.9	0.2
JCO	99	V	300-150	84	0	0	2.6	-0.4
JEF	99	V	300-150	30	0	0	3.1	-0.3
JET	99	V	300-150	25	0	0	2.6	-0.5
JME	99	V	300-150	104	0	0	3.3	0.3
JNA	99	V	300-150	20	0	0	9.3	0.3
JNY	99	V	300-150	49	0	0	3.4	0.1
JST	99	V	300-150	1061	0	0	3.9	0.5
JTH	99	V	300-150	39	0	0	3.7	-1.0
JTZ	99	V	300-150	35	0	0	3.1	0.5
JUN	99	V	300-150	21	0	0	3.2	1.7
JZR	99	V	300-150	33	0	0	3.7	-0.3
KAC	99	V	300-150	3151	0	0	3.2	0.4
KAF	99	V	300-150	38	0	0	3.3	1.0
KAI	99	V	300-150	125	0	0	5.0	0.9
KAL	99	V	300-150	527	0	0	4.2	0.9
KAY	99	V	300-150	85	0	1	3.0	0.6
KCE	99	V	300-150	39	0	0	2.9	0.3
KIW	99	V	300-150	58	0	0	4.2	0.6
KLM	99	V	300-150	18732	3	0	5.3	0.1
KOC	99	V	300-150	22	0	0	2.9	0.3
KQA	99	V	300-150	595	5	0	6.0	0.2
LCO	99	V	300-150	476	0	0	3.4	-0.5
LDX	99	V	300-150	100	0	0	2.9	0.2
LEX	99	V	300-150	33	0	0	3.3	0.2
LMJ	99	V	300-150	32	0	0	3.8	0.6
LNI	99	V	300-150	686	0	0	2.8	0.5
LNK	99	V	300-150	132	0	0	3.8	0.5
LOT	99	V	300-150	3391	4	0	8.1	0.1
LRQ	99	V	300-150	34	0	0	2.7	0.7
LRT	99	V	300-150	34	0	0	4.5	1.1
LUC	99	V	300-150	26	0	0	5.0	-0.3
LWG	99	V	300-150	38	0	0	3.0	0.4
LXJ	99	V	300-150	553	0	0	3.4	0.4
MAS	99	V	300-150	6332	0	0	3.3	0.5
MAU	99	V	300-150	473	0	0	4.5	1.2
MHV	99	V	300-150	52	0	0	2.8	0.8
MJF	99	V	300-150	75	0	0	3.2	0.1
MLM	99	V	300-150	83	0	0	3.3	0.2

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS  
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
MMD	99	V	300-150	336	0	0	3.0	0.0
MNB	99	V	300-150	344	0	0	2.9	0.1
MPH	99	V	300-150	537	0	0	3.4	-0.7
MSR	99	V	300-150	2191	2	0	5.0	0.1
MVJ	99	V	300-150	78	0	0	3.2	-0.2
MXD	99	V	300-150	355	0	0	3.0	0.4
NAS	99	V	300-150	31	0	0	2.4	0.9
NBT	99	V	300-150	2331	8	0	7.4	-0.2
NCR	99	V	300-150	365	0	0	3.0	-0.3
NEW	99	V	300-150	54	0	0	3.5	0.0
NJE	99	V	300-150	595	0	0	3.2	0.5
NOJ	99	V	300-150	42	0	0	2.6	0.8
NOS	99	V	300-150	1749	6	0	6.5	0.1
NUM	99	V	300-150	69	0	0	3.5	0.8
OAE	99	V	300-150	806	0	0	4.7	0.1
OBS	99	V	300-150	21	0	0	2.9	0.1
OCN	99	V	300-150	4358	0	0	3.0	0.3
OMA	99	V	300-150	1997	1	0	4.8	0.5
PAL	99	V	300-150	1893	0	0	3.3	0.3
PEX	99	V	300-150	71	0	0	2.9	-0.2
PIA	99	V	300-150	343	0	0	3.7	0.5
PJZ	99	V	300-150	26	0	0	6.7	1.8
PLF	99	V	300-150	57	0	0	4.3	0.5
PVA	99	V	300-150	263	0	0	3.7	0.4
QAF	99	V	300-150	75	0	0	4.1	0.7
QFA	99	V	300-150	5623	1	0	5.2	0.3
QFX	99	V	300-150	92	0	0	2.8	0.4
QQE	99	V	300-150	378	0	0	3.2	0.3
QTR	99	V	300-150	37991	0	0	3.4	0.3
RAM	99	V	300-150	638	11	0	7.2	0.1
RBA	99	V	300-150	198	1	0	5.0	0.4
RCH	99	V	300-150	3307	0	0	4.2	0.4
RCR	99	V	300-150	94	1	0	3.2	0.8
RDN	99	V	300-150	28	0	0	3.0	1.2
RHH	99	V	300-150	84	0	0	6.2	1.1
RJA	99	V	300-150	2061	6	0	8.2	0.1
ROJ	99	V	300-150	191	0	0	3.0	0.4
RRR	99	V	300-150	169	0	0	3.4	0.0
RYR	99	V	300-150	945	0	0	3.3	0.2
RZO	99	V	300-150	405	0	0	3.8	-0.1
SAM	99	V	300-150	122	0	0	3.5	0.2
SAS	99	V	300-150	6112	0	0	2.9	0.3
SAZ	99	V	300-150	100	0	0	2.7	0.9



AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS  
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
SCX	99	V	300-150	56	2	0	4.7	0.5
SEY	99	V	300-150	72	0	0	4.2	1.5
SIA	99	V	300-150	14634	0	0	3.8	0.5
SIO	99	V	300-150	113	0	1	3.1	-0.1
SKU	99	V	300-150	24	0	0	3.5	-0.5
SKV	99	V	300-150	33	0	0	3.0	0.6
SLM	99	V	300-150	133	0	1	2.6	0.1
SPA	99	V	300-150	114	0	0	3.5	-0.1
SSG	99	V	300-150	33	0	0	2.9	0.6
SUI	99	V	300-150	37	0	0	4.3	-0.7
SVA	99	V	300-150	9772	1	0	3.9	0.3
SVW	99	V	300-150	202	0	0	3.1	0.4
SWN	99	V	300-150	48	0	0	3.0	-0.3
SWR	99	V	300-150	11392	0	1	3.2	0.2
SYB	99	V	300-150	53	0	0	3.4	-0.5
TAG	99	V	300-150	36	0	0	9.4	0.0
TAM	99	V	300-150	122	4	0	4.7	0.9
TAP	99	V	300-150	3614	0	0	3.5	0.2
TAR	99	V	300-150	374	0	0	3.0	0.3
TAY	99	V	300-150	99	0	0	2.9	0.1
TBJ	99	V	300-150	46	0	2	3.3	1.0
TEU	99	V	300-150	50	0	0	3.3	-0.7
TFF	99	V	300-150	56	0	0	4.2	0.4
TFL	99	V	300-150	1802	9	0	7.5	0.0
TGW	99	V	300-150	1226	1	1	4.7	0.5
THA	99	V	300-150	4240	0	0	3.9	0.5
THT	99	V	300-150	3093	2	0	5.7	0.3
THY	99	V	300-150	20882	2	0	4.8	0.2
TKK	99	V	300-150	33	0	0	5.8	-0.4
TMN	99	V	300-150	440	0	0	4.3	0.6
TOM	99	V	300-150	4948	7	0	7.3	0.0
TOW	99	V	300-150	20	0	0	3.0	0.9
TSC	99	V	300-150	5041	0	0	3.1	0.3
TUA	99	V	300-150	29	0	0	3.2	0.6
TVR	99	V	300-150	67	0	1	5.6	-0.1
TWY	99	V	300-150	769	0	1	3.2	0.2
UAE	99	V	300-150	32438	0	0	3.2	0.3
UAF	99	V	300-150	102	0	0	4.1	0.5
UAL	99	V	300-150	75402	2	1	4.9	0.1
UBG	99	V	300-150	21	0	0	2.9	1.1
UBT	99	V	300-150	2966	9	0	7.8	-0.1
UGD	99	V	300-150	38	0	0	3.0	-0.1
UKN	99	V	300-150	27	0	0	3.0	0.7

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS  
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
ULC	99	V	300-150	75	0	0	2.9	0.6
UNI	99	V	300-150	169	0	0	3.8	0.5
UPS	99	V	300-150	5487	0	0	3.3	-0.1
URO	99	V	300-150	22	0	0	3.5	0.6
UZB	99	V	300-150	373	4	0	7.8	0.5
VCG	99	V	300-150	59	0	0	3.3	0.4
VCJ	99	V	300-150	43	0	0	3.3	0.2
VIR	99	V	300-150	23908	2	0	4.3	0.1
VJC	99	V	300-150	346	0	0	3.3	0.3
VJH	99	V	300-150	484	0	0	4.2	0.3
VJT	99	V	300-150	1593	0	0	3.4	0.2
VKG	99	V	300-150	121	0	0	2.9	0.4
VLZ	99	V	300-150	120	0	0	4.3	-0.1
VOZ	99	V	300-150	120	0	0	3.1	0.6
VSV	99	V	300-150	21	0	0	2.8	-0.5
VTI	99	V	300-150	3450	0	0	3.3	0.2
VXS	99	V	300-150	52	0	0	3.0	0.3
WFL	99	V	300-150	436	0	0	3.5	0.6
WJA	99	V	300-150	2067	2	0	5.2	0.2
WWI	99	V	300-150	109	0	0	3.7	0.9
XAX	99	V	300-150	1001	0	0	3.2	0.4
XRO	99	V	300-150	33	0	0	4.3	-0.8
YLW	99	V	300-150	28	0	0	2.8	-0.5

## 4 EUCOS Area Monitoring Statistics

The following tables provide information on the quality of upper-air data and surface DRIFTER data over the EUCOS area as received at ECMWF during the month.

Tables 13, 14 (50 hPa level), 15, 16 (100 hPa level) 17, 18 (500 hPa level) 19 and 20 (850 hPa level) provide quality statistics for all TEMPSHIPS and PILOTSHIPS received during the month in the area 10°N - 90°N, 70°W - 40°E and for TEMPS and PILOTS from selected land stations within the same area. The statistics are in the same form as tables 10 and 11.

Tables 21-23 provides quality statistics of pressure and wind for all DRIFTER reports received in the area 10°N - 90°N, 70°W - 40°E. The statistics are in the same form as tables 4-6.

#### 4.1 Table 13 - Radiosonde Monitoring Statistics (EUCOS): 50 hPa Geopotential height (metres)

RADIOSONDE MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : GEOPOTENTIAL HEIGHT (METRES)  
 LEVEL : 50 HPA  
 AREA : 0 - 90N, 100W - 40E  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	12	Z	50	36	10.8	-6.5
01001	00	Z	50	29	28.7	-20.6
01028	12	Z	50	37	35.0	1.7
01028	00	Z	50	30	11.8	-6.0
01400	00	Z	50	21	77.5	76.5
01400	12	Z	50	24	71.5	70.8
01415	00	Z	50	25	9.5	4.1
01415	12	Z	50	28	6.4	-0.4
02365	00	Z	50	9	13.0	8.4
02365	12	Z	50	9	7.7	3.2
02591	12	Z	50	25	7.8	1.8
02591	00	Z	50	24	10.2	8.8
02836	12	Z	50	29	7.8	-3.4
02836	00	Z	50	28	7.0	-0.8
02963	00	Z	50	29	4.9	0.3
02963	12	Z	50	29	8.1	-4.0
03005	00	Z	50	25	5.4	-1.8
03005	12	Z	50	29	10.8	-5.8
03238	12	Z	50	4	7.2	-2.4
03238	00	Z	50	18	9.6	4.1
03808	00	Z	50	29	8.4	2.2
03808	12	Z	50	30	8.2	-0.8
03918	00	Z	50	29	11.7	8.1
03953	12	Z	50	30	12.2	-6.2
03953	00	Z	50	30	9.6	-8.2
04018	12	Z	50	28	8.9	-7.1
04018	00	Z	50	29	7.9	-2.4
04220	12	Z	50	30	29.1	-16.3
04220	00	Z	50	30	26.7	-23.1
04270	00	Z	50	30	19.1	-16.5
04270	12	Z	50	30	12.2	-6.8
04320	12	Z	50	30	9.7	0.9
04320	00	Z	50	30	9.8	-6.2
04339	12	Z	50	27	18.5	-5.5
04339	00	Z	50	27	18.8	-16.2
04360	00	Z	50	28	24.1	-20.4
04360	12	Z	50	27	13.7	-5.6
06011	12	Z	50	19	17.5	-12.8
06260	12	Z	50	5	8.2	-0.9

RADIOSONDE MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	50	25	7.2	0.8
06610	00	Z	50	30	11.5	2.9
06610	12	Z	50	31	8.7	1.5
07110	12	Z	50	25	17.5	-10.5
07110	00	Z	50	25	26.7	-16.5
07510	12	Z	50	30	15.0	4.9
07510	00	Z	50	29	10.4	-3.1
07645	00	Z	50	27	29.7	-26.5
07645	12	Z	50	21	24.9	-22.9
07761	12	Z	50	17	21.2	-11.7
07761	00	Z	50	17	12.9	-7.0
08001	12	Z	50	30	5.9	1.0
08001	00	Z	50	27	7.3	2.4
08221	12	Z	50	30	6.0	1.7
08221	00	Z	50	30	11.4	8.3
08302	00	Z	50	30	12.8	-3.9
08302	12	Z	50	28	10.9	-6.5
08508	12	Z	50	29	10.3	1.6
08522	12	Z	50	30	4.9	-1.0
10035	00	Z	50	30	17.9	16.3
10035	12	Z	50	30	13.5	11.1
10393	00	Z	50	30	7.1	3.2
10393	12	Z	50	30	7.2	0.3
10410	00	Z	50	31	7.6	3.0
10410	12	Z	50	30	8.4	-2.4
10739	12	Z	50	29	8.0	1.3
10739	00	Z	50	30	8.4	4.1
11035	12	Z	50	30	15.3	9.1
11035	00	Z	50	29	11.2	5.9
12982	12	Z	50	28	6.0	-0.3
12982	00	Z	50	26	9.8	3.2
16245	12	Z	50	29	6.8	-1.8
16245	00	Z	50	30	7.8	5.5
16429	00	Z	50	29	11.2	8.1
16429	12	Z	50	30	9.2	0.6
16622	00	Z	50	28	14.9	12.3
16754	00	Z	50	26	16.0	12.0
17607	12	Z	50	24	44.7	-38.5
26435	12	Z	50	5	5.9	-3.8
60018	00	Z	50	30	23.6	2.1
60018	12	Z	50	27	9.5	-3.3
7JUNA4	12	Z	50	9	161.0	143.5
7JUNA4	00	Z	50	8	49.9	48.7

RADIOSONDE MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
9ZT9MR	12	Z	50	1	7.0	-7.0
ASDE09	12	Z	50	1	31.1	31.1
ATGU3F	00	Z	50	7	28.0	-23.9
ATGU3F	12	Z	50	5	30.6	-29.6
BPMWB2	00	Z	50	0	0.0	0.0
BPMWB2	12	Z	50	0	0.0	0.0
FPUW5G	12	Z	50	3	14.8	-7.3
GQBZLZ	00	Z	50	7	48.1	-44.2
GQBZLZ	12	Z	50	9	33.1	-29.9
JNKN7J	00	Z	50	12	24.0	23.0
JNKN7J	12	Z	50	11	14.7	11.6
KJJF9X	00	Z	50	5	22.4	-21.8
KJJF9X	12	Z	50	6	27.0	-25.2
KMPLHP	12	Z	50	6	41.1	40.3
KMPLHP	00	Z	50	6	49.1	47.9
LAGY8	00	Z	50	2	96.1	-64.8
LAGY8	12	Z	50	1	17.7	17.7
LAGZ8	12	Z	50	2	47.9	47.9
LRYQE3	00	Z	50	8	17.5	-5.6
LRYQE3	12	Z	50	6	167.6	147.1
UXK5JT	12	Z	50	7	35.8	-19.7
UXK5JT	00	Z	50	8	44.7	-17.0
WDK38H	12	Z	50	16	12.4	-10.8
XKQLWQ	12	Z	50	19	44.8	41.7
YLV96W	00	Z	50	6	6.5	-1.5
YLV96W	12	Z	50	7	68.7	49.0

**4.2 Table 14 - Radiosonde Monitoring Statistics (EUCOS): 50 hPa Wind (m/s)**

## RADIOSONDE MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : WIND (M/S)  
 LEVEL : 50 HPA  
 AREA : 0 - 90N, 100W - 40E  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	12	V	50	30	3.1	0.4	-1.1
01001	00	V	50	28	3.0	0.4	-0.7
01028	12	V	50	30	2.6	-0.4	0.5
01028	00	V	50	29	2.4	-0.5	0.3
01400	00	V	50	19	3.2	-0.1	0.0
01400	12	V	50	23	3.8	-0.5	0.6
01415	00	V	50	25	3.3	0.1	-0.3
01415	12	V	50	28	3.5	0.8	-0.3
02365	00	V	50	7	2.5	-0.6	0.2
02365	12	V	50	8	4.6	0.3	0.5
02591	12	V	50	24	3.3	-0.3	-0.6
02591	00	V	50	19	3.6	0.0	1.2
02836	12	V	50	27	3.0	-0.2	-0.4
02836	00	V	50	27	2.6	0.0	-0.3
02963	00	V	50	26	3.5	0.2	-0.8
02963	12	V	50	29	3.5	0.1	0.8
03005	00	V	50	25	3.0	0.7	-0.3
03005	12	V	50	29	3.0	0.3	-0.6
03238	12	V	50	4	3.7	-0.8	1.0
03238	00	V	50	17	5.0	-0.4	0.3
03808	00	V	50	28	3.6	-1.4	0.2
03808	12	V	50	29	3.8	0.0	0.3
03918	00	V	50	28	4.0	0.4	0.5
03953	12	V	50	30	2.9	0.3	0.2
03953	00	V	50	30	3.3	0.3	-0.1
04018	12	V	50	28	2.9	-0.1	0.3
04018	00	V	50	25	3.1	-0.6	0.8
04220	12	V	50	30	3.3	-0.3	0.1
04220	00	V	50	28	2.9	-0.2	0.1
04270	00	V	50	29	3.1	1.1	0.5
04270	12	V	50	30	3.7	0.6	1.0
04320	12	V	50	30	2.5	0.0	-0.5
04320	00	V	50	30	2.8	-0.2	-0.5
04339	12	V	50	27	3.3	0.6	-0.1
04339	00	V	50	27	3.0	0.5	-0.3
04360	00	V	50	28	3.2	0.4	-0.7
04360	12	V	50	27	3.1	0.2	0.6
06011	12	V	50	19	2.9	-0.1	-0.7
06260	12	V	50	5	2.7	0.7	0.2

RADIOSONDE MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	50	25	4.1	0.1	0.5
06610	00	V	50	29	3.5	0.1	-0.4
06610	12	V	50	30	3.9	0.4	-0.5
07110	12	V	50	25	3.0	-0.1	0.1
07110	00	V	50	25	3.1	-0.7	0.9
07510	12	V	50	30	3.5	-0.2	-0.6
07510	00	V	50	27	4.3	-0.7	-0.1
07645	00	V	50	24	4.1	1.2	0.2
07645	12	V	50	21	3.3	-0.8	0.0
07761	12	V	50	17	4.1	-0.3	-1.0
07761	00	V	50	17	4.5	-0.5	-0.3
08001	12	V	50	30	3.3	0.2	0.3
08001	00	V	50	25	3.5	-0.3	-0.1
08221	12	V	50	30	4.1	0.1	0.0
08221	00	V	50	30	4.2	-0.9	0.6
08302	00	V	50	27	3.5	0.1	-0.1
08302	12	V	50	27	4.0	-0.8	0.3
08508	12	V	50	29	3.3	0.2	0.6
08522	12	V	50	30	3.2	0.1	-0.5
10035	00	V	50	29	3.3	0.6	0.4
10035	12	V	50	30	3.3	0.3	-0.1
10393	00	V	50	30	3.5	0.1	-0.3
10393	12	V	50	30	3.5	0.1	-0.4
10410	00	V	50	30	4.0	0.3	0.5
10410	12	V	50	30	3.2	0.1	0.8
10739	12	V	50	29	3.7	0.9	0.1
10739	00	V	50	30	3.5	-0.2	0.1
11035	12	V	50	30	3.4	0.3	-0.5
11035	00	V	50	27	3.5	0.9	0.7
12982	12	V	50	28	3.5	0.3	-1.0
12982	00	V	50	25	3.2	-0.5	0.1
16245	12	V	50	29	4.3	-1.1	0.1
16245	00	V	50	29	3.7	0.0	-0.8
16429	00	V	50	28	5.0	0.7	-0.1
16429	12	V	50	30	3.9	-0.3	-1.0
16622	00	V	50	24	3.8	-0.4	-0.5
16754	00	V	50	22	3.8	1.0	-1.3
17607	12	V	50	19	4.7	-2.3	-0.8
26435	12	V	50	5	3.6	0.0	-1.1
60018	00	V	50	29	3.3	-0.4	-0.2
60018	12	V	50	27	3.9	-0.6	0.8
7JUNA4	12	V	50	9	3.9	-1.2	0.6
7JUNA4	00	V	50	8	2.9	-0.6	-1.3



RADIOSONDE MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
9ZT9MR	12	V	50	1	0.4	-0.1	-0.4
ASDE09	12	V	50	1	4.4	-4.2	-1.2
ATGU3F	00	V	50	7	3.3	0.0	2.5
ATGU3F	12	V	50	5	2.1	0.3	0.4
BPMWB2	00	V	50	0	0.0	0.0	0.0
BPMWB2	12	V	50	0	0.0	0.0	0.0
FPUW5G	12	V	50	3	3.2	-0.8	-0.7
GQBZLZ	00	V	50	7	2.6	-0.4	0.3
GQBZLZ	12	V	50	9	3.3	-1.8	0.1
JNKN7J	00	V	50	12	3.5	-0.4	0.8
JNKN7J	12	V	50	11	3.1	-0.2	-0.2
KJJF9X	00	V	50	5	5.6	-1.0	1.9
KJJF9X	12	V	50	6	4.7	-0.9	-0.4
KMPLHP	12	V	50	6	2.8	1.1	1.3
KMPLHP	00	V	50	6	3.0	0.6	0.0
LAGY8	00	V	50	2	1.4	-1.0	-0.8
LAGY8	12	V	50	1	3.0	-1.6	2.5
LAGZ8	12	V	50	2	2.6	0.6	0.3
LRYQE3	00	V	50	8	3.1	0.1	-1.2
LRYQE3	12	V	50	6	4.2	-0.6	1.2
UXK5JT	12	V	50	7	3.2	1.2	-0.5
UXK5JT	00	V	50	8	3.9	-0.4	0.9
WDK38H	12	V	50	14	2.4	-0.2	0.0
XKQLWQ	12	V	50	19	2.8	0.2	-0.4
YLV96W	00	V	50	6	2.5	0.3	0.9
YLV96W	12	V	50	7	3.4	0.5	0.0

### 4.3 Table 15 - Radiosonde Monitoring Statistics (EUCOS): 100 hPa Geopotential height (metres)

RADIOSONDE MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : GEOPOTENTIAL HEIGHT (METRES)  
 LEVEL : 100 HPA  
 AREA : 0 - 90N, 100W - 40E  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	12	Z	100	36	9.7	-6.1
01001	00	Z	100	30	28.7	-22.0
01028	12	Z	100	37	33.1	1.2
01028	00	Z	100	30	9.1	-6.3
01400	00	Z	100	24	72.7	71.5
01400	12	Z	100	26	69.9	69.3
01415	00	Z	100	26	6.4	3.0
01415	12	Z	100	28	6.6	-2.1
02365	00	Z	100	11	7.9	4.4
02365	12	Z	100	9	6.9	3.7
02591	12	Z	100	26	6.6	2.7
02591	00	Z	100	24	7.6	6.6
02836	12	Z	100	32	5.6	-1.6
02836	00	Z	100	30	5.4	-2.5
02963	00	Z	100	30	4.3	-1.4
02963	12	Z	100	29	6.5	-3.7
03005	00	Z	100	27	5.8	-3.4
03005	12	Z	100	30	8.6	-5.2
03238	12	Z	100	4	8.3	-5.6
03238	00	Z	100	19	8.2	2.3
03808	00	Z	100	29	6.1	-0.2
03808	12	Z	100	30	7.2	-0.8
03918	00	Z	100	29	8.0	4.7
03953	12	Z	100	30	11.8	-7.1
03953	00	Z	100	30	10.0	-8.4
04018	12	Z	100	30	8.0	-6.1
04018	00	Z	100	30	6.5	-3.5
04220	12	Z	100	30	28.5	-18.1
04220	00	Z	100	30	23.7	-20.2
04270	00	Z	100	30	18.1	-13.2
04270	12	Z	100	30	13.2	-9.7
04320	12	Z	100	30	8.4	-0.2
04320	00	Z	100	30	8.7	-5.9
04339	12	Z	100	29	13.8	-6.7
04339	00	Z	100	28	18.7	-17.1
04360	00	Z	100	29	18.6	-16.7
04360	12	Z	100	27	12.4	-7.6
06011	12	Z	100	30	14.7	-10.5
06260	12	Z	100	6	6.8	-1.1

RADIOSONDE MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	100	27	6.6	-3.2
06610	00	Z	100	30	6.9	-0.1
06610	12	Z	100	32	6.2	-0.3
07110	12	Z	100	28	13.7	-8.6
07110	00	Z	100	27	20.1	-13.4
07510	12	Z	100	30	10.1	1.6
07510	00	Z	100	30	7.6	-1.7
07645	00	Z	100	30	23.7	-21.3
07645	12	Z	100	25	21.8	-18.8
07761	12	Z	100	19	19.1	-13.5
07761	00	Z	100	21	8.9	-6.2
08001	12	Z	100	30	5.2	0.6
08001	00	Z	100	29	7.2	1.7
08221	12	Z	100	30	7.4	0.6
08221	00	Z	100	30	8.1	4.0
08302	00	Z	100	30	11.7	-7.9
08302	12	Z	100	28	10.5	-7.2
08508	12	Z	100	29	8.7	2.4
08522	12	Z	100	30	4.9	2.4
10035	00	Z	100	30	14.2	13.1
10035	12	Z	100	31	11.4	9.8
10393	00	Z	100	30	5.3	0.5
10393	12	Z	100	30	5.9	-1.8
10410	00	Z	100	31	6.2	-0.2
10410	12	Z	100	30	6.0	-3.8
10739	12	Z	100	29	5.6	-0.8
10739	00	Z	100	30	8.4	0.6
11035	12	Z	100	30	11.0	4.1
11035	00	Z	100	30	9.2	1.2
12982	12	Z	100	30	5.5	-1.4
12982	00	Z	100	26	7.5	-0.5
16245	12	Z	100	30	5.0	-2.1
16245	00	Z	100	30	7.0	0.1
16429	00	Z	100	29	7.6	3.7
16429	12	Z	100	30	6.8	0.6
16622	00	Z	100	30	11.9	8.9
16754	00	Z	100	27	12.2	8.1
17607	12	Z	100	27	51.0	-42.5
26435	12	Z	100	10	5.3	-3.9
60018	00	Z	100	30	21.3	0.0
60018	12	Z	100	31	7.6	0.0
7JUNA4	12	Z	100	10	99.8	93.4
7JUNA4	00	Z	100	8	51.4	50.9

RADIOSONDE MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
9ZT9MR	12	Z	100	1	9.9	-9.9
ASDE09	12	Z	100	1	26.0	26.0
ATGU3F	00	Z	100	8	27.1	-23.0
ATGU3F	12	Z	100	5	28.9	-27.7
BPMWB2	00	Z	100	0	0.0	0.0
BPMWB2	12	Z	100	0	0.0	0.0
FPUW5G	12	Z	100	3	14.8	-5.9
GQBZLZ	00	Z	100	7	42.7	-40.9
GQBZLZ	12	Z	100	9	30.5	-29.0
JNKN7J	00	Z	100	12	23.5	23.0
JNKN7J	12	Z	100	12	19.6	18.6
KJJF9X	00	Z	100	5	19.5	-18.2
KJJF9X	12	Z	100	6	21.4	-20.3
KMPLHP	12	Z	100	7	47.5	46.9
KMPLHP	00	Z	100	6	48.7	47.0
LAGY8	00	Z	100	2	92.8	-60.8
LAGY8	12	Z	100	1	19.2	19.2
LAGZ8	12	Z	100	2	52.3	52.3
LRYQE3	00	Z	100	9	13.4	-5.9
LRYQE3	12	Z	100	8	105.9	95.5
UXK5JT	12	Z	100	7	30.4	-15.7
UXK5JT	00	Z	100	10	31.5	-24.7
WDK38H	12	Z	100	17	12.8	-11.4
XKQLWQ	12	Z	100	20	34.4	31.6
YLV96W	00	Z	100	7	5.0	-3.5
YLV96W	12	Z	100	8	34.3	23.9

**4.4 Table 16 - Radiosonde Monitoring Statistics (EUCOS): 100 hPa Wind (m/s)**

## RADIOSONDE MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : WIND (M/S)  
 LEVEL : 100 HPA  
 AREA : 0 - 90N, 100W - 40E  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	12	V	100	30	3.0	-0.1	0.1
01001	00	V	100	28	2.3	-0.6	0.2
01028	12	V	100	30	2.0	-0.2	0.7
01028	00	V	100	29	2.4	0.7	0.1
01400	00	V	100	23	2.6	0.7	-0.6
01400	12	V	100	25	2.5	-0.3	-0.3
01415	00	V	100	25	3.9	-0.4	0.1
01415	12	V	100	28	2.9	0.2	0.2
02365	00	V	100	11	2.2	0.6	-0.5
02365	12	V	100	9	2.4	-0.1	-0.8
02591	12	V	100	26	2.6	-0.1	-0.3
02591	00	V	100	23	3.3	0.0	-0.7
02836	12	V	100	30	2.4	0.2	0.2
02836	00	V	100	30	2.3	-0.3	-0.3
02963	00	V	100	29	3.0	-0.1	0.0
02963	12	V	100	29	3.0	-0.3	0.3
03005	00	V	100	26	2.3	0.6	-0.3
03005	12	V	100	30	2.7	0.7	0.0
03238	12	V	100	4	4.6	-0.6	-1.1
03238	00	V	100	19	3.7	0.2	-0.2
03808	00	V	100	29	2.8	0.0	-0.4
03808	12	V	100	29	3.4	0.0	-0.1
03918	00	V	100	28	3.1	-0.7	-0.4
03953	12	V	100	30	2.6	0.0	0.4
03953	00	V	100	30	2.6	0.0	-0.4
04018	12	V	100	30	2.5	0.0	0.6
04018	00	V	100	30	2.4	0.0	0.0
04220	12	V	100	30	2.9	-0.5	0.4
04220	00	V	100	30	3.9	0.3	0.4
04270	00	V	100	29	3.7	-0.7	0.0
04270	12	V	100	30	3.7	-0.3	0.0
04320	12	V	100	30	3.5	-0.1	0.9
04320	00	V	100	30	2.5	-0.4	-0.2
04339	12	V	100	29	2.8	0.0	0.1
04339	00	V	100	28	2.3	-0.2	0.2
04360	00	V	100	29	3.0	-1.0	-0.2
04360	12	V	100	27	2.2	0.3	0.0
06011	12	V	100	30	2.3	0.3	-0.3
06260	12	V	100	6	2.7	1.6	0.2

RADIOSONDE MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	100	26	3.0	-0.4	0.2
06610	00	V	100	29	3.8	0.2	-0.8
06610	12	V	100	30	4.1	0.0	-0.1
07110	12	V	100	28	3.3	-0.5	-0.5
07110	00	V	100	27	3.1	-0.1	-0.8
07510	12	V	100	30	3.4	0.1	-0.3
07510	00	V	100	28	3.5	0.6	-0.1
07645	00	V	100	27	3.9	0.2	-0.5
07645	12	V	100	25	3.9	-0.2	0.3
07761	12	V	100	19	5.0	1.4	0.7
07761	00	V	100	20	4.1	-0.4	-0.5
08001	12	V	100	30	2.4	-0.4	-0.3
08001	00	V	100	29	3.4	0.0	-0.8
08221	12	V	100	30	3.4	-0.2	0.2
08221	00	V	100	30	3.5	0.4	-0.3
08302	00	V	100	28	3.7	0.0	-0.8
08302	12	V	100	28	2.8	0.0	-0.2
08508	12	V	100	29	3.5	0.8	0.1
08522	12	V	100	30	3.3	0.2	-0.7
10035	00	V	100	30	3.4	0.6	-0.9
10035	12	V	100	30	2.9	-0.3	-0.1
10393	00	V	100	30	2.8	0.0	-0.3
10393	12	V	100	30	3.1	-0.1	-0.8
10410	00	V	100	30	3.3	0.5	-0.6
10410	12	V	100	30	3.1	1.0	-0.1
10739	12	V	100	29	3.2	-0.3	0.5
10739	00	V	100	30	3.2	0.5	-0.6
11035	12	V	100	30	3.6	-0.1	-0.1
11035	00	V	100	28	3.6	0.0	0.0
12982	12	V	100	30	3.3	0.3	0.3
12982	00	V	100	26	4.0	-0.8	-1.1
16245	12	V	100	30	3.7	0.6	0.5
16245	00	V	100	29	3.9	-0.1	0.6
16429	00	V	100	29	4.1	-1.0	0.4
16429	12	V	100	30	4.1	-0.3	-0.1
16622	00	V	100	27	3.5	0.2	-1.5
16754	00	V	100	26	4.2	0.2	0.1
17607	12	V	100	23	16.9	-13.2	0.1
26435	12	V	100	7	2.2	-0.1	0.1
60018	00	V	100	29	4.0	-0.1	-0.5
60018	12	V	100	30	3.8	0.5	-0.7
7JUNA4	12	V	100	10	2.6	-1.1	0.5
7JUNA4	00	V	100	8	2.8	-0.1	-1.1

RADIOSONDE MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
9ZT9MR	12	V	100	1	3.0	1.2	2.7
ASDE09	12	V	100	1	3.5	1.3	-3.3
ATGU3F	00	V	100	8	2.3	-0.3	-1.3
ATGU3F	12	V	100	5	2.7	0.7	0.0
BPMWB2	00	V	100	0	0.0	0.0	0.0
BPMWB2	12	V	100	0	0.0	0.0	0.0
FPUW5G	12	V	100	3	3.2	0.7	-1.4
GQBZLZ	00	V	100	7	3.7	0.4	1.1
GQBZLZ	12	V	100	9	2.7	-0.4	0.0
JNKN7J	00	V	100	12	3.3	-0.3	0.7
JNKN7J	12	V	100	12	2.6	0.6	0.2
KJJF9X	00	V	100	5	2.9	-0.5	-0.7
KJJF9X	12	V	100	6	5.2	-0.5	-1.6
KMPLHP	12	V	100	7	2.7	0.7	0.4
KMPLHP	00	V	100	6	2.3	0.1	0.2
LAGY8	00	V	100	2	4.0	-2.9	-0.3
LAGY8	12	V	100	1	4.5	-1.1	4.4
LAGZ8	12	V	100	2	2.6	-0.3	0.8
LRYQE3	00	V	100	9	2.6	0.1	-0.7
LRYQE3	12	V	100	8	2.8	-0.5	0.5
UXK5JT	12	V	100	7	4.6	-0.7	0.2
UXK5JT	00	V	100	10	4.0	0.8	-0.5
WDK38H	12	V	100	17	2.9	-0.4	1.0
XKQLWQ	12	V	100	20	2.3	-0.1	0.7
YLV96W	00	V	100	7	3.2	0.4	-0.2
YLV96W	12	V	100	8	2.5	-0.8	-0.5

#### 4.5 Table 17 - Radiosonde Monitoring Statistics (EUCOS): 500 hPa Geopotential height (metres)

RADIOSONDE MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : GEOPOTENTIAL HEIGHT (METRES)  
 LEVEL : 500 HPA  
 AREA : 0 - 90N, 100W - 40E  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	12	Z	500	39	6.6	0.6
01001	00	Z	500	30	15.6	-12.8
01028	12	Z	500	40	2.6	0.1
01028	00	Z	500	30	4.3	-1.7
01400	00	Z	500	26	76.9	75.9
01400	12	Z	500	28	75.8	75.6
01415	00	Z	500	27	4.3	2.5
01415	12	Z	500	28	5.6	4.6
02365	00	Z	500	11	7.2	6.6
02365	12	Z	500	10	5.4	4.3
02591	12	Z	500	26	8.3	8.1
02591	00	Z	500	24	7.5	7.0
02836	12	Z	500	32	3.2	1.2
02836	00	Z	500	30	2.5	0.3
02963	00	Z	500	30	2.9	2.2
02963	12	Z	500	30	2.9	2.0
03005	00	Z	500	27	4.4	-1.7
03005	12	Z	500	30	4.0	-1.7
03238	12	Z	500	4	3.0	2.0
03238	00	Z	500	19	4.8	3.3
03808	00	Z	500	29	4.7	2.8
03808	12	Z	500	30	3.6	2.5
03918	00	Z	500	30	7.6	7.0
03953	12	Z	500	30	5.4	-0.9
03953	00	Z	500	30	4.5	-2.2
04018	12	Z	500	30	3.4	1.0
04018	00	Z	500	30	4.1	0.9
04220	12	Z	500	30	5.6	-4.4
04220	00	Z	500	30	10.6	-5.6
04270	00	Z	500	30	11.2	-9.8
04270	12	Z	500	30	8.0	-6.3
04320	12	Z	500	30	6.4	3.4
04320	00	Z	500	30	4.3	1.2
04339	12	Z	500	30	7.9	-4.9
04339	00	Z	500	29	9.8	-9.2
04360	00	Z	500	30	9.6	-8.5
04360	12	Z	500	29	7.1	-6.1
06011	12	Z	500	30	6.0	-1.0
06260	12	Z	500	6	3.4	0.8



RADIOSONDE MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	500	28	2.3	0.0
06610	00	Z	500	30	2.6	1.3
06610	12	Z	500	32	2.9	1.7
07110	12	Z	500	29	3.7	1.2
07110	00	Z	500	28	5.0	-0.5
07510	12	Z	500	31	8.0	6.3
07510	00	Z	500	31	5.9	4.0
07645	00	Z	500	32	7.1	-5.0
07645	12	Z	500	33	5.0	-2.6
07761	12	Z	500	20	5.5	-2.7
07761	00	Z	500	21	4.0	-2.6
08001	12	Z	500	30	3.4	2.1
08001	00	Z	500	29	4.0	2.5
08221	12	Z	500	30	4.5	3.4
08221	00	Z	500	30	4.3	3.4
08302	00	Z	500	30	8.8	-7.7
08302	12	Z	500	30	7.0	-5.8
08508	12	Z	500	30	7.6	6.5
08522	12	Z	500	30	5.8	5.0
10035	00	Z	500	30	13.3	13.1
10035	12	Z	500	31	12.5	12.1
10393	00	Z	500	30	3.6	1.0
10393	12	Z	500	30	2.5	0.4
10410	00	Z	500	31	2.4	-0.1
10410	12	Z	500	30	2.9	-0.9
10739	12	Z	500	29	4.7	3.1
10739	00	Z	500	30	5.4	4.2
11035	12	Z	500	32	6.4	0.6
11035	00	Z	500	32	4.7	-1.7
12982	12	Z	500	30	3.4	1.1
12982	00	Z	500	27	5.1	0.8
16245	12	Z	500	30	2.5	1.0
16245	00	Z	500	30	4.1	2.3
16429	00	Z	500	29	4.9	3.5
16429	12	Z	500	30	3.9	2.8
16622	00	Z	500	30	9.6	8.9
16754	00	Z	500	29	5.7	4.0
17607	12	Z	500	28	16.1	-3.7
26435	12	Z	500	15	3.3	2.0
60018	00	Z	500	30	21.2	-1.8
60018	12	Z	500	32	6.0	2.5
7JUNA4	12	Z	500	10	61.6	60.7
7JUNA4	00	Z	500	8	65.7	64.8

RADIOSONDE MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
9ZT9MR	12	Z	500	1	14.9	-14.9
ASDE09	12	Z	500	1	35.7	35.7
ATGU3F	00	Z	500	8	23.5	-14.9
ATGU3F	12	Z	500	6	27.6	-26.6
BPMWB2	00	Z	500	2	17.6	-14.9
BPMWB2	12	Z	500	2	5.5	-5.4
FPUW5G	12	Z	500	4	13.1	0.5
GQBZLZ	00	Z	500	8	28.1	-27.2
GQBZLZ	12	Z	500	12	23.5	-22.8
JNKN7J	00	Z	500	12	34.1	33.7
JNKN7J	12	Z	500	12	33.3	32.8
KJJF9X	00	Z	500	6	6.4	-5.9
KJJF9X	12	Z	500	6	16.5	-10.7
KMPLHP	12	Z	500	7	62.5	61.1
KMPLHP	00	Z	500	6	59.0	57.1
LAGY8	00	Z	500	2	19.6	19.6
LAGY8	12	Z	500	1	26.4	26.4
LAGZ8	12	Z	500	2	69.2	69.2
LRYQE3	00	Z	500	9	5.2	0.3
LRYQE3	12	Z	500	8	15.3	12.4
UXK5JT	12	Z	500	9	31.8	-15.0
UXK5JT	00	Z	500	11	19.3	-13.2
WDK38H	12	Z	500	17	10.8	-9.7
XKQLWQ	12	Z	500	22	18.2	16.9
YLV96W	00	Z	500	7	9.8	-8.9
YLV96W	12	Z	500	8	10.1	1.3

**4.6 Table 18 - Radiosonde Monitoring Statistics (EUCOS): 500 hPa Wind (m/s)**

## RADIOSONDE MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : WIND (M/S)  
 LEVEL : 500 HPA  
 AREA : 0 - 90N, 100W - 40E  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	12	V	500	30	2.2	-0.1	0.0
01001	00	V	500	30	2.6	-0.3	0.0
01028	12	V	500	30	1.7	0.1	0.2
01028	00	V	500	30	1.6	-0.1	-0.2
01400	00	V	500	26	2.4	0.1	-0.4
01400	12	V	500	28	3.3	0.0	-0.3
01415	00	V	500	27	4.1	0.3	-0.7
01415	12	V	500	28	3.8	0.7	-0.5
02365	00	V	500	11	2.1	-0.1	0.7
02365	12	V	500	10	2.5	0.4	0.8
02591	12	V	500	26	2.1	0.2	0.3
02591	00	V	500	23	2.6	0.0	0.5
02836	12	V	500	30	3.1	-0.1	0.1
02836	00	V	500	30	2.4	0.3	0.0
02963	00	V	500	30	2.6	0.3	0.4
02963	12	V	500	30	2.4	0.1	0.3
03005	00	V	500	27	2.3	0.0	-0.1
03005	12	V	500	30	2.8	0.3	0.6
03238	12	V	500	4	2.1	-1.1	1.0
03238	00	V	500	19	2.3	0.1	0.0
03808	00	V	500	29	3.6	-0.6	0.1
03808	12	V	500	29	2.9	0.2	-0.5
03918	00	V	500	28	2.5	0.8	-0.1
03953	12	V	500	30	2.8	0.4	0.4
03953	00	V	500	30	3.0	0.4	0.1
04018	12	V	500	30	2.2	-0.3	0.2
04018	00	V	500	30	2.4	0.0	0.2
04220	12	V	500	30	2.3	0.3	-0.2
04220	00	V	500	30	1.9	0.4	0.0
04270	00	V	500	30	3.5	-0.2	0.8
04270	12	V	500	30	2.6	0.8	0.0
04320	12	V	500	30	2.4	0.4	0.3
04320	00	V	500	30	2.5	0.4	-0.2
04339	12	V	500	30	2.9	0.3	0.4
04339	00	V	500	29	1.7	0.2	-0.2
04360	00	V	500	30	2.1	0.1	0.4
04360	12	V	500	29	2.3	0.4	-0.5
06011	12	V	500	30	3.3	0.4	-0.1
06260	12	V	500	6	1.8	0.4	-0.6

RADIOSONDE MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	500	28	2.7	-0.4	0.0
06610	00	V	500	29	2.8	0.6	-0.6
06610	12	V	500	30	2.7	0.8	-0.3
07110	12	V	500	28	2.5	0.3	0.5
07110	00	V	500	28	2.2	0.3	-0.2
07510	12	V	500	30	1.9	0.4	-0.2
07510	00	V	500	30	2.5	0.4	0.1
07645	00	V	500	30	2.5	0.6	0.1
07645	12	V	500	30	2.6	-0.3	-0.1
07761	12	V	500	20	2.2	-0.2	-0.2
07761	00	V	500	21	1.9	-0.4	-0.1
08001	12	V	500	30	2.3	0.5	-0.5
08001	00	V	500	29	2.5	0.3	-0.1
08221	12	V	500	30	2.0	-0.1	-0.2
08221	00	V	500	30	1.8	0.2	0.0
08302	00	V	500	30	2.8	-0.3	-0.8
08302	12	V	500	29	2.4	0.3	-0.2
08508	12	V	500	30	2.8	0.3	-0.4
08522	12	V	500	30	2.4	0.6	-0.7
10035	00	V	500	30	2.5	0.0	-0.1
10035	12	V	500	30	2.4	0.0	-0.3
10393	00	V	500	30	2.5	-0.2	0.5
10393	12	V	500	30	3.0	0.1	-0.4
10410	00	V	500	30	2.5	0.0	0.1
10410	12	V	500	30	2.8	0.0	0.3
10739	12	V	500	29	2.6	0.9	0.5
10739	00	V	500	30	2.0	0.4	-0.3
11035	12	V	500	30	2.3	0.1	-0.4
11035	00	V	500	30	3.1	-0.8	0.1
12982	12	V	500	30	2.6	-0.3	0.3
12982	00	V	500	26	1.9	0.3	0.2
16245	12	V	500	30	2.4	0.5	-0.4
16245	00	V	500	29	2.1	0.8	0.3
16429	00	V	500	29	2.4	0.7	0.4
16429	12	V	500	30	3.1	0.0	-0.6
16622	00	V	500	30	2.3	0.4	0.2
16754	00	V	500	28	2.4	0.7	0.1
17607	12	V	500	24	8.6	-2.5	-1.1
26435	12	V	500	15	2.5	0.0	-0.2
60018	00	V	500	30	2.3	0.2	-0.2
60018	12	V	500	30	2.3	0.6	-0.5
7JUNA4	12	V	500	10	2.4	0.1	0.7
7JUNA4	00	V	500	8	3.1	-0.2	-0.5

RADIOSONDE MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
9ZT9MR	12	V	500	1	2.5	-1.0	-2.3
ASDE09	12	V	500	1	3.2	-0.6	-3.1
ATGU3F	00	V	500	8	2.6	0.9	1.0
ATGU3F	12	V	500	6	3.7	1.2	1.4
BPMWB2	00	V	500	2	1.8	-0.4	-1.7
BPMWB2	12	V	500	2	2.4	0.4	2.1
FPUW5G	12	V	500	4	1.5	0.6	0.4
GQBZLZ	00	V	500	8	1.8	-0.3	0.3
GQBZLZ	12	V	500	12	2.6	-0.4	-0.5
JNKN7J	00	V	500	12	2.1	0.7	0.0
JNKN7J	12	V	500	12	2.4	-0.5	0.1
KJJF9X	00	V	500	6	2.5	0.8	-0.5
KJJF9X	12	V	500	6	3.1	-1.3	0.6
KMPLHP	12	V	500	7	4.0	0.7	-0.8
KMPLHP	00	V	500	6	3.5	-1.3	-0.3
LAGY8	00	V	500	2	3.2	0.2	-1.3
LAGY8	12	V	500	1	2.0	-2.0	0.3
LAGZ8	12	V	500	2	2.5	0.8	0.9
LRYQE3	00	V	500	9	2.1	0.0	0.3
LRYQE3	12	V	500	8	3.8	0.1	-1.1
UXK5JT	12	V	500	9	3.5	0.4	-0.2
UXK5JT	00	V	500	11	4.2	1.1	0.1
WDK38H	12	V	500	17	1.4	0.5	-0.1
XKQLWQ	12	V	500	22	3.1	-0.5	-0.3
YLV96W	00	V	500	7	2.5	0.4	0.0
YLV96W	12	V	500	8	2.7	-0.8	-0.6

#### 4.7 Table 19 - Radiosonde Monitoring Statistics (EUCOS): 850 hPa Geopotential height (metres)

RADIOSONDE MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : GEOPOTENTIAL HEIGHT (METRES)  
 LEVEL : 850 HPA  
 AREA : 0 - 90N, 100W - 40E  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	12	Z	850	38	6.2	-1.4
01001	00	Z	850	30	10.3	-9.6
01028	12	Z	850	40	2.4	-0.5
01028	00	Z	850	30	3.0	-0.5
01400	00	Z	850	26	76.6	75.6
01400	12	Z	850	28	75.6	75.4
01415	00	Z	850	27	3.9	3.0
01415	12	Z	850	28	4.1	3.3
02365	00	Z	850	11	7.4	6.9
02365	12	Z	850	10	6.2	5.5
02591	12	Z	850	26	7.4	7.2
02591	00	Z	850	24	7.3	7.0
02836	12	Z	850	30	2.1	0.5
02836	00	Z	850	30	3.2	1.8
02963	00	Z	850	30	2.4	1.8
02963	12	Z	850	30	3.1	2.0
03005	00	Z	850	27	3.4	-1.7
03005	12	Z	850	30	3.0	-1.8
03238	12	Z	850	4	3.2	2.6
03238	00	Z	850	19	4.7	3.9
03808	00	Z	850	29	4.0	3.0
03808	12	Z	850	30	3.1	2.4
03918	00	Z	850	31	7.3	7.1
03953	12	Z	850	30	4.8	-0.8
03953	00	Z	850	30	2.8	-0.4
04018	12	Z	850	30	2.5	0.5
04018	00	Z	850	30	2.6	1.5
04220	12	Z	850	30	4.1	-3.4
04220	00	Z	850	30	8.8	-2.9
04270	00	Z	850	30	8.1	-7.7
04270	12	Z	850	30	7.4	-6.8
04320	12	Z	850	30	3.3	0.6
04320	00	Z	850	30	2.8	0.2
04339	12	Z	850	30	8.9	-7.2
04339	00	Z	850	30	10.3	-10.0
04360	00	Z	850	30	10.1	-8.7
04360	12	Z	850	29	9.2	-8.4
06011	12	Z	850	30	4.2	-2.2
06260	12	Z	850	6	2.6	0.5

RADIOSONDE MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	850	28	2.2	1.2
06610	00	Z	850	31	2.5	1.7
06610	12	Z	850	31	3.2	2.1
07110	12	Z	850	29	2.4	-0.1
07110	00	Z	850	28	3.4	0.5
07510	12	Z	850	31	5.5	4.9
07510	00	Z	850	31	5.1	4.8
07645	00	Z	850	32	3.0	-0.8
07645	12	Z	850	33	3.0	-1.2
07761	12	Z	850	20	2.5	0.4
07761	00	Z	850	22	1.9	0.5
08001	12	Z	850	30	3.5	1.9
08001	00	Z	850	29	2.6	0.1
08221	12	Z	850	30	2.7	1.5
08221	00	Z	850	30	2.7	1.6
08302	00	Z	850	30	7.7	-7.4
08302	12	Z	850	30	8.2	-7.8
08508	12	Z	850	30	5.3	4.8
08522	12	Z	850	30	3.2	2.5
10035	00	Z	850	30	14.1	13.9
10035	12	Z	850	31	13.1	12.8
10393	00	Z	850	30	2.5	1.3
10393	12	Z	850	30	2.1	1.0
10410	00	Z	850	31	1.9	0.7
10410	12	Z	850	30	2.5	0.2
10739	12	Z	850	30	5.0	4.3
10739	00	Z	850	30	4.6	4.3
11035	12	Z	850	32	5.2	0.4
11035	00	Z	850	32	4.0	-1.3
12982	12	Z	850	30	2.9	1.6
12982	00	Z	850	27	3.4	0.6
16245	12	Z	850	30	2.6	2.2
16245	00	Z	850	30	3.2	2.8
16429	00	Z	850	29	3.0	2.4
16429	12	Z	850	30	3.3	2.2
16622	00	Z	850	30	9.7	9.3
16754	00	Z	850	29	3.1	1.3
17607	12	Z	850	28	2.5	0.9
26435	12	Z	850	15	2.1	1.2
60018	00	Z	850	30	4.7	-2.2
60018	12	Z	850	33	5.0	-0.2
7JUNA4	12	Z	850	10	65.3	64.4
7JUNA4	00	Z	850	8	73.5	72.7

RADIOSONDE MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
9ZT9MR	12	Z	850	1	5.6	5.6
ASDE09	12	Z	850	1	36.4	36.4
ATGU3F	00	Z	850	8	23.2	-18.7
ATGU3F	12	Z	850	7	29.2	-28.4
BPMWB2	00	Z	850	2	19.0	-16.9
BPMWB2	12	Z	850	2	5.5	-5.5
FPUW5G	12	Z	850	4	13.1	-4.1
GQBZLZ	00	Z	850	9	23.2	-23.1
GQBZLZ	12	Z	850	12	25.2	-24.4
JNKN7J	00	Z	850	12	36.6	36.4
JNKN7J	12	Z	850	12	36.2	36.0
KJFF9X	00	Z	850	6	4.5	-2.4
KJFF9X	12	Z	850	6	3.0	-2.5
KMPLHP	12	Z	850	7	66.6	64.8
KMPLHP	00	Z	850	7	63.7	61.6
LAGY8	00	Z	850	2	17.0	17.0
LAGY8	12	Z	850	1	21.2	21.2
LAGZ8	12	Z	850	2	76.3	76.2
LRYQE3	00	Z	850	9	4.7	1.5
LRYQE3	12	Z	850	8	9.1	6.1
UXK5JT	12	Z	850	9	5.0	-1.9
UXK5JT	00	Z	850	12	13.6	-6.1
WDK38H	12	Z	850	17	12.3	-11.2
XKQLWQ	12	Z	850	22	10.9	10.0
YLV96W	00	Z	850	7	7.4	-6.2
YLV96W	12	Z	850	8	4.1	-0.9



**4.8 Table 20 - Radiosonde Monitoring Statistics (EUCOS): 850 hPa Wind (m/s)**

## RADIOSONDE MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : WIND (M/S)  
 LEVEL : 850 HPA  
 AREA : 0 - 90N, 100W - 40E  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	12	V	850	30	3.2	-0.8	0.5
01001	00	V	850	30	3.9	0.1	-0.7
01028	12	V	850	30	2.8	0.1	0.0
01028	00	V	850	30	2.8	0.1	-0.3
01400	00	V	850	26	2.5	-0.1	0.2
01400	12	V	850	28	2.1	0.4	0.2
01415	00	V	850	27	2.7	0.2	0.0
01415	12	V	850	28	2.8	0.0	0.6
02365	00	V	850	11	3.0	-0.4	0.4
02365	12	V	850	10	3.0	1.7	0.1
02591	12	V	850	26	2.8	-0.2	0.2
02591	00	V	850	23	2.9	1.3	-0.3
02836	12	V	850	30	2.9	0.7	0.1
02836	00	V	850	30	2.9	0.1	-0.1
02963	00	V	850	30	2.8	0.6	-0.2
02963	12	V	850	30	2.3	0.4	1.0
03005	00	V	850	27	2.5	0.1	0.1
03005	12	V	850	30	3.5	0.5	-0.9
03238	12	V	850	4	2.1	0.8	-0.1
03238	00	V	850	19	2.1	-0.2	0.4
03808	00	V	850	29	3.0	-0.3	0.0
03808	12	V	850	29	3.2	0.0	-0.4
03918	00	V	850	30	2.7	0.4	-0.5
03953	12	V	850	30	2.1	0.2	0.2
03953	00	V	850	30	2.4	0.0	0.1
04018	12	V	850	30	3.0	-0.1	0.4
04018	00	V	850	30	3.8	0.0	-0.6
04220	12	V	850	30	2.5	0.4	0.1
04220	00	V	850	30	3.0	-0.6	0.1
04270	00	V	850	30	3.8	-0.3	-1.2
04270	12	V	850	30	4.1	1.2	-0.5
04320	12	V	850	30	2.7	0.3	0.5
04320	00	V	850	30	2.6	0.4	0.7
04339	12	V	850	30	5.1	0.9	0.9
04339	00	V	850	30	3.9	0.6	-0.3
04360	00	V	850	30	3.4	0.9	0.5
04360	12	V	850	29	3.7	0.3	0.5
06011	12	V	850	30	3.1	0.3	0.2
06260	12	V	850	6	2.1	0.0	-0.8

RADIOSONDE MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	850	28	2.4	0.2	0.1
06610	00	V	850	30	3.0	-1.0	-0.1
06610	12	V	850	30	3.0	0.7	-0.6
07110	12	V	850	28	2.9	-0.7	0.2
07110	00	V	850	28	2.6	0.0	0.3
07510	12	V	850	30	3.1	0.0	-0.5
07510	00	V	850	30	2.4	-0.5	-0.2
07645	00	V	850	30	3.2	-0.5	-0.4
07645	12	V	850	29	2.8	-0.4	-0.2
07761	12	V	850	20	2.4	-0.8	0.4
07761	00	V	850	21	2.5	0.1	0.5
08001	12	V	850	30	2.3	0.4	-0.2
08001	00	V	850	29	3.4	0.6	-0.5
08221	12	V	850	30	2.3	0.4	0.0
08221	00	V	850	30	2.6	0.2	0.1
08302	00	V	850	30	3.2	0.1	0.1
08302	12	V	850	29	3.3	0.0	-0.3
08508	12	V	850	30	3.2	0.0	-0.7
08522	12	V	850	30	2.9	-0.1	-0.4
10035	00	V	850	30	2.8	0.2	0.4
10035	12	V	850	30	2.5	0.2	0.2
10393	00	V	850	30	2.3	-0.3	-0.7
10393	12	V	850	30	2.4	0.1	-0.5
10410	00	V	850	30	3.0	-0.1	0.0
10410	12	V	850	30	2.6	0.4	0.1
10739	12	V	850	29	3.3	-0.2	0.3
10739	00	V	850	30	2.5	0.3	0.1
11035	12	V	850	30	2.8	-0.3	0.1
11035	00	V	850	30	3.0	-0.8	-0.1
12982	12	V	850	30	2.6	-0.3	0.1
12982	00	V	850	26	3.5	0.1	-0.3
16245	12	V	850	30	2.7	0.7	0.5
16245	00	V	850	29	2.4	-0.7	0.0
16429	00	V	850	29	2.8	-0.2	0.7
16429	12	V	850	30	3.2	0.6	0.4
16622	00	V	850	30	2.7	0.7	-0.1
16754	00	V	850	28	3.5	0.7	0.1
17607	12	V	850	27	3.8	-0.1	-0.1
26435	12	V	850	15	3.7	1.5	0.3
60018	00	V	850	30	3.5	-0.8	-0.2
60018	12	V	850	30	2.9	0.5	-0.4
7JUNA4	12	V	850	10	1.8	-0.2	-0.4
7JUNA4	00	V	850	8	2.3	0.0	-0.3

RADIOSONDE MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
9ZT9MR	12	V	850	1	2.8	1.9	-2.0
ASDE09	12	V	850	1	4.1	2.9	2.9
ATGU3F	00	V	850	8	4.3	0.8	-0.5
ATGU3F	12	V	850	7	8.8	-2.4	-2.2
BPMWB2	00	V	850	2	1.9	0.4	-1.5
BPMWB2	12	V	850	2	3.0	0.7	0.4
FPUW5G	12	V	850	4	1.6	0.8	0.1
GQBZLZ	00	V	850	9	2.0	-0.2	0.0
GQBZLZ	12	V	850	12	3.0	0.4	0.6
JNKN7J	00	V	850	12	2.8	-0.1	-0.4
JNKN7J	12	V	850	12	2.1	-0.4	0.0
KJJF9X	00	V	850	6	2.1	-0.4	-0.6
KJJF9X	12	V	850	6	3.3	-0.6	-0.1
KMPLHP	12	V	850	7	3.4	0.8	-0.6
KMPLHP	00	V	850	7	1.7	-0.3	-0.7
LAGY8	00	V	850	2	2.8	-1.5	-0.3
LAGY8	12	V	850	1	3.6	-3.4	1.2
LAGZ8	12	V	850	2	8.4	-1.0	-4.5
LRYQE3	00	V	850	9	3.7	0.9	-0.2
LRYQE3	12	V	850	8	2.4	0.7	0.6
UXK5JT	12	V	850	9	5.3	0.0	-1.5
UXK5JT	00	V	850	12	4.6	1.8	0.4
WDK38H	12	V	850	17	2.0	-0.8	-0.2
XKQLWQ	12	V	850	22	2.8	0.5	0.9
YLV96W	00	V	850	7	2.8	-1.3	-1.6
YLV96W	12	V	850	8	2.5	0.5	-0.4

**4.9 Table 21 - Drifter Monitoring Statistics (EUCOS): Surface pressure (hpa)**

## DRIFTER MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : SURFACE PRESSURE (HPA)  
 AREA : 10N - 90N, 70W - 40E  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

TIME = 99 => AVERAGE OF ALL OBSERVATIONS

GROSS ERROR LIMIT = 15 HPA

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
03380	99	P	SUR	54	0	506	0	0.3	-0.3	0.5
1000044	99	P	SUR	55	10	106	0	0.3	-3.2	3.3
1300130	99	P	SUR	28	-16	716	0	0.3	0.2	0.4
1300131	99	P	SUR	28	-17	695	0	0.4	-0.1	0.4
1301622	99	P	SUR	16	-66	710	0	0.3	0.1	0.3
1301629	99	P	SUR	21	-50	719	0	0.3	-0.1	0.3
1301712	99	P	SUR	18	-62	692	0	0.3	-0.2	0.3
1301714	99	P	SUR	25	-62	692	0	0.3	0.0	0.3
1301718	99	P	SUR	31	-43	692	0	0.3	0.0	0.3
1301719	99	P	SUR	27	-58	691	0	0.3	0.5	0.6
1301725	99	P	SUR	23	-44	691	0	0.3	0.0	0.3
1301726	99	P	SUR	24	-45	692	0	0.2	0.0	0.2
1301731	99	P	SUR	23	-45	687	0	0.3	0.2	0.3
1301735	99	P	SUR	29	-43	692	0	0.4	-1.0	1.1
1301736	99	P	SUR	30	-41	692	0	0.3	0.1	0.3
1301737	99	P	SUR	28	-51	692	0	0.3	-0.1	0.3
1301767	99	P	SUR	30	-17	4	0	0.1	-0.5	0.5
1301769	99	P	SUR	28	-21	518	0	0.2	1.0	1.0
1301770	99	P	SUR	26	-32	691	0	0.3	0.0	0.3
1301771	99	P	SUR	30	-17	692	0	0.3	0.0	0.3
1301773	99	P	SUR	35	-12	691	0	0.2	-0.1	0.2
1301774	99	P	SUR	26	-58	533	0	0.3	0.1	0.3
1301778	99	P	SUR	30	-20	688	0	0.3	0.0	0.3
1301779	99	P	SUR	16	-56	689	0	0.3	0.0	0.3
1301782	99	P	SUR	59	-50	244	0	0.5	0.2	0.5
1301792	99	P	SUR	19	-48	678	0	0.3	-0.4	0.5
1301793	99	P	SUR	61	-18	637	0	0.4	0.1	0.4
1301794	99	P	SUR	39	-17	671	0	0.9	-0.5	1.0
1301795	99	P	SUR	20	-44	662	0	0.2	-0.1	0.2
1301796	99	P	SUR	18	-46	543	0	0.2	0.1	0.3
1301797	99	P	SUR	17	-47	655	0	0.2	0.1	0.3
1301798	99	P	SUR	31	-29	688	0	0.3	0.3	0.4
1301799	99	P	SUR	28	-30	681	0	0.3	0.2	0.3
1301803	99	P	SUR	66	3	688	0	0.3	0.0	0.3
1301804	99	P	SUR	63	-19	689	0	0.5	0.1	0.5
1301810	99	P	SUR	40	-43	691	0	0.4	-0.2	0.4

DRIFTER MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
1301811	99	P	SUR	42	-40	691	0	0.4	0.1	0.4
1301812	99	P	SUR	40	-62	275	0	0.5	0.2	0.5
1301813	99	P	SUR	40	-45	691	0	0.4	0.0	0.4
1301814	99	P	SUR	42	-39	689	0	0.4	0.0	0.4
1301815	99	P	SUR	40	-61	28	0	0.2	0.2	0.3
1301816	99	P	SUR	40	-60	265	0	0.4	0.4	0.5
1301819	99	P	SUR	25	-22	691	0	0.3	-0.2	0.3
1301820	99	P	SUR	24	-24	692	0	0.3	-0.2	0.3
1301822	99	P	SUR	21	-25	692	0	0.3	0.3	0.4
1301823	99	P	SUR	25	-24	690	0	0.2	0.1	0.3
1501638	99	P	SUR	18	-31	719	0	0.3	0.1	0.3
1701610	99	P	SUR	36	0	521	0	1.5	0.1	1.5
1701715	99	P	SUR	21	-57	625	0	0.3	-0.3	0.4
1701716	99	P	SUR	14	-29	658	0	0.3	-0.1	0.3
1701718	99	P	SUR	12	-53	685	685	0.0	0.0	0.0
1801671	99	P	SUR	47	-33	671	0	0.5	-0.1	0.5
1801674	99	P	SUR	41	-32	682	0	0.4	0.1	0.4
1801678	99	P	SUR	49	-17	688	0	0.4	0.2	0.5
2601714	99	P	SUR	80	16	130	0	0.7	0.1	0.7
2801966	99	P	SUR	32	17	585	0	0.5	0.0	0.5
2801988	99	P	SUR	28	-18	214	0	0.3	-0.6	0.7
2802075	99	P	SUR	50	-29	640	0	0.4	0.0	0.5
2802077	99	P	SUR	63	-31	719	0	0.4	0.2	0.4
3652002	99	P	SUR	49	-8	3	0	1.6	-1.7	2.3
3801569	99	P	SUR	47	-32	668	0	0.4	-0.1	0.4
3801572	99	P	SUR	34	27	681	0	0.3	-0.3	0.5
3801576	99	P	SUR	34	21	214	0	1.4	-2.1	2.5
3801596	99	P	SUR	33	-39	688	0	0.5	-0.1	0.5
3801665	99	P	SUR	79	-1	379	0	0.4	0.5	0.6
3801676	99	P	SUR	67	-8	717	0	0.3	0.2	0.4
4100040	99	P	SUR	15	-53	4318	0	0.3	-0.8	0.9
4100043	99	P	SUR	21	-65	4317	0	0.3	0.2	0.4
4100044	99	P	SUR	22	-59	4317	0	0.3	-0.4	0.5
4100046	99	P	SUR	24	-68	4317	0	0.3	0.0	0.3
4100049	99	P	SUR	28	-62	4033	0	0.3	-0.3	0.4
4100052	99	P	SUR	18	-65	3858	0	0.3	-1.0	1.1
4100053	99	P	SUR	18	-66	4101	0	0.4	-0.9	0.9
4100056	99	P	SUR	18	-65	4141	0	0.3	-1.1	1.1
4100139	99	P	SUR	20	-38	586	0	0.2	0.2	0.3
4101665	99	P	SUR	67	-7	692	0	0.3	-0.4	0.5
4101719	99	P	SUR	18	-63	240	0	0.2	-0.1	0.3
4101725	99	P	SUR	18	-63	717	0	0.3	-0.1	0.3
4101727	99	P	SUR	26	-51	717	0	0.3	0.1	0.3

DRIFTER MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
4101728	99	P	SUR	28	-42	717	0	0.3	0.4	0.5
4101729	99	P	SUR	32	-44	717	0	1.4	0.1	1.4
4101730	99	P	SUR	12	-31	719	0	0.3	0.3	0.5
4101753	99	P	SUR	33	-39	719	0	1.6	0.6	1.8
4101755	99	P	SUR	30	-49	718	0	0.3	0.2	0.4
4101843	99	P	SUR	76	1	691	0	0.7	0.1	0.7
4101845	99	P	SUR	69	-1	691	0	0.3	0.0	0.3
4101851	99	P	SUR	30	-53	691	0	0.3	-0.7	0.8
4101859	99	P	SUR	13	-37	689	0	0.3	0.1	0.3
4101860	99	P	SUR	16	-36	689	0	0.3	-0.8	0.8
4101861	99	P	SUR	18	-39	688	0	0.2	0.3	0.4
4101862	99	P	SUR	16	-30	689	0	0.3	-0.4	0.5
4101863	99	P	SUR	20	-31	689	0	0.3	0.0	0.3
4102547	99	P	SUR	24	-66	686	0	0.3	0.2	0.3
41040	99	P	SUR	15	-53	720	0	0.3	-0.8	0.9
41043	99	P	SUR	21	-65	720	0	0.3	0.3	0.4
41044	99	P	SUR	22	-59	720	0	0.3	-0.4	0.5
41046	99	P	SUR	24	-68	720	0	0.3	0.0	0.3
41049	99	P	SUR	28	-62	673	0	0.3	-0.3	0.4
41052	99	P	SUR	18	-65	666	0	0.3	-1.0	1.1
41053	99	P	SUR	19	-66	715	0	0.3	-0.9	0.9
41056	99	P	SUR	18	-66	715	0	0.3	-1.1	1.1
4200059	99	P	SUR	15	-67	4317	0	0.3	-0.7	0.8
4200060	99	P	SUR	16	-63	4318	0	0.3	-0.4	0.5
4200085	99	P	SUR	18	-67	3320	0	0.3	-0.8	0.9
42059	99	P	SUR	15	-68	720	0	0.3	-0.7	0.8
42060	99	P	SUR	16	-63	720	0	0.3	-0.4	0.5
42085	99	P	SUR	18	-67	690	0	0.3	-0.9	0.9
4400008	99	P	SUR	40	-69	4303	0	0.4	-0.8	0.9
4400011	99	P	SUR	41	-67	523	0	0.3	0.4	0.5
4400027	99	P	SUR	44	-67	4319	0	0.5	-0.7	0.8
4400032	99	P	SUR	44	-69	597	0	0.4	-0.2	0.5
4400033	99	P	SUR	44	-69	687	0	0.4	-0.9	1.0
4400037	99	P	SUR	43	-68	682	0	0.5	0.1	0.5
4400150	99	P	SUR	43	-64	642	0	0.4	-0.1	0.5
4400488	99	P	SUR	45	-61	642	0	0.4	0.0	0.4
4400489	99	P	SUR	45	-61	643	0	0.4	0.0	0.4
44008	99	P	SUR	41	-69	719	0	0.4	-0.8	0.9
44011	99	P	SUR	41	-67	88	0	0.3	0.4	0.5
4401582	99	P	SUR	25	-56	716	0	0.3	0.3	0.5
4401584	99	P	SUR	26	-56	719	0	0.3	0.0	0.3
4401585	99	P	SUR	25	-64	716	0	0.4	0.0	0.4
4401587	99	P	SUR	80	26	717	0	0.6	1.3	1.4

DRIFTER MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
4401588	99	P	SUR	69	15	258	0	0.3	0.7	0.7
4401864	99	P	SUR	21	-59	460	0	0.7	-0.2	0.7
4401894	99	P	SUR	59	-26	1	1	0.0	0.0	0.0
4402613	99	P	SUR	31	-11	259	0	1.5	1.4	2.0
4402618	99	P	SUR	33	-52	692	0	0.6	0.0	0.6
4402656	99	P	SUR	35	-23	689	0	1.6	-0.1	1.6
4402660	99	P	SUR	22	-69	690	0	0.3	0.2	0.4
4402663	99	P	SUR	27	-22	689	0	0.2	-0.1	0.3
4402674	99	P	SUR	27	-62	692	0	0.3	0.1	0.3
4402675	99	P	SUR	24	-53	692	0	0.3	-0.1	0.3
4402676	99	P	SUR	28	-35	691	0	0.3	0.0	0.3
44027	99	P	SUR	44	-67	720	0	0.5	-0.7	0.8
4402721	99	P	SUR	24	-24	691	0	0.3	0.2	0.3
4402726	99	P	SUR	54	-13	692	3	0.8	-0.1	0.8
4402729	99	P	SUR	49	-25	691	0	0.3	0.0	0.3
4402730	99	P	SUR	33	-32	643	0	0.4	0.0	0.4
4402731	99	P	SUR	45	-37	679	0	0.3	0.0	0.3
4402732	99	P	SUR	46	-1	216	0	0.4	-0.3	0.5
4402733	99	P	SUR	43	-49	689	0	0.4	0.0	0.4
4402735	99	P	SUR	47	-12	690	0	0.4	-0.3	0.5
4402736	99	P	SUR	42	-10	689	0	0.3	-0.1	0.3
4402737	99	P	SUR	51	-39	689	0	0.9	0.5	1.0
4402739	99	P	SUR	47	-35	689	0	0.4	0.0	0.4
4402741	99	P	SUR	53	-12	380	0	0.4	0.3	0.5
4402742	99	P	SUR	47	-3	524	0	2.7	-2.7	3.8
4402743	99	P	SUR	40	-18	690	0	0.3	-0.9	0.9
4402744	99	P	SUR	41	-40	680	0	0.9	0.6	1.0
4402747	99	P	SUR	39	-23	690	0	0.4	-0.3	0.5
4402749	99	P	SUR	56	-23	690	0	0.3	0.0	0.3
4402750	99	P	SUR	55	-36	690	0	0.3	-0.4	0.5
4402879	99	P	SUR	35	-60	141	0	0.6	0.0	0.6
4402882	99	P	SUR	35	-62	620	0	0.5	0.3	0.5
4402885	99	P	SUR	29	-44	593	0	0.3	0.4	0.5
44032	99	P	SUR	44	-69	597	0	0.4	-0.2	0.5
44033	99	P	SUR	44	-69	686	0	0.5	-0.9	1.0
4403568	99	P	SUR	30	-33	640	0	0.3	0.1	0.3
4403569	99	P	SUR	41	-14	640	0	0.3	-0.1	0.3
44037	99	P	SUR	44	-68	681	0	0.5	0.1	0.5
44078	99	P	SUR	60	-40	666	0	0.6	-0.7	0.9
44150	99	P	SUR	43	-64	641	0	0.5	-0.1	0.5
44258	99	P	SUR	45	-63	647	0	0.4	0.0	0.4
44488	99	P	SUR	45	-61	648	0	0.4	0.0	0.4
44489	99	P	SUR	46	-61	649	0	0.4	0.0	0.4

DRIFTER MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
4601782	99	P	SUR	27	-29	691	0	0.3	0.3	0.5
4701554	99	P	SUR	68	-19	189	0	1.3	0.2	1.4
4701555	99	P	SUR	73	-13	719	0	0.5	0.0	0.5
4701558	99	P	SUR	79	-18	60	0	0.3	-4.4	4.5
4701561	99	P	SUR	69	-15	719	0	0.8	0.0	0.8
4801763	99	P	SUR	83	-27	640	0	0.5	-0.2	0.6
4801771	99	P	SUR	73	-66	95	5	0.6	0.6	0.9
4802506	99	P	SUR	58	-8	631	515	7.3	-4.7	8.7
4802582	99	P	SUR	81	0	719	0	0.4	-0.1	0.4
4802592	99	P	SUR	72	-21	719	0	0.4	-0.1	0.4
4802594	99	P	SUR	86	-59	718	0	0.4	-0.6	0.7
4802598	99	P	SUR	85	-47	718	0	0.4	0.0	0.4
4802602	99	P	SUR	64	-21	718	0	0.5	-0.4	0.6
4802606	99	P	SUR	85	-30	718	0	0.4	0.1	0.4
4802664	99	P	SUR	84	-52	640	0	0.4	-0.1	0.4
5801972	99	P	SUR	45	-51	680	0	0.4	-0.1	0.4
5801975	99	P	SUR	41	-36	663	0	0.4	0.0	0.4
5801976	99	P	SUR	50	-35	680	0	0.4	-0.1	0.4
5801977	99	P	SUR	16	-46	681	0	0.2	0.1	0.3
5801983	99	P	SUR	35	-16	661	0	0.3	0.1	0.3
5802034	99	P	SUR	48	-5	636	0	0.3	0.0	0.3
5802077	99	P	SUR	26	-69	695	0	0.3	-0.2	0.3
6100001	99	P	SUR	43	8	682	0	0.5	-0.1	0.5
6100002	99	P	SUR	42	5	719	0	0.4	-0.1	0.4
6100196	99	P	SUR	42	4	716	0	0.5	0.6	0.8
6100197	99	P	SUR	40	4	716	0	0.4	0.3	0.5
6100198	99	P	SUR	37	-2	716	0	0.4	0.3	0.5
6100280	99	P	SUR	41	1	716	0	0.4	0.4	0.5
6100281	99	P	SUR	40	0	703	0	0.5	0.5	0.7
6100417	99	P	SUR	38	0	716	0	0.4	0.4	0.6
6100430	99	P	SUR	40	2	716	0	0.4	0.4	0.5
6101007	99	P	SUR	36	25	8	0	0.4	-0.7	0.8
6101009	99	P	SUR	35	25	176	0	0.5	-0.2	0.6
6101031	99	P	SUR	42	8	719	0	0.3	0.0	0.3
6200001	99	P	SUR	45	-5	719	0	0.3	-0.1	0.3
6200024	99	P	SUR	44	-3	715	0	0.5	0.2	0.5
6200025	99	P	SUR	44	-6	491	0	0.4	0.2	0.5
6200050	99	P	SUR	50	-4	718	0	0.3	-0.1	0.3
6200083	99	P	SUR	43	-9	716	0	0.6	-0.3	0.6
6200084	99	P	SUR	42	-9	715	0	0.5	-0.2	0.5
6200085	99	P	SUR	36	-7	705	0	0.3	0.2	0.4
6200086	99	P	SUR	55	7	271	0	0.3	-0.2	0.4
6200087	99	P	SUR	55	7	375	0	0.4	-0.3	0.5



DRIFTER MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6200091	99	P	SUR	53	-5	720	0	0.4	-0.1	0.4
6200092	99	P	SUR	51	-11	720	0	0.4	-0.3	0.5
6200093	99	P	SUR	55	-10	690	0	0.3	-0.3	0.4
6200094	99	P	SUR	52	-7	720	0	0.4	-0.1	0.4
6200095	99	P	SUR	53	-16	702	0	0.3	-0.3	0.5
6200103	99	P	SUR	50	-3	2	0	0.0	-0.8	0.8
6200163	99	P	SUR	48	-8	718	0	0.3	-0.2	0.3
6200191	99	P	SUR	41	-10	575	0	0.4	-0.8	0.9
6200192	99	P	SUR	40	-10	571	0	0.5	-0.4	0.7
6201065	99	P	SUR	54	7	345	0	0.3	1.0	1.1
6201066	99	P	SUR	55	7	708	0	0.3	0.3	0.5
6201081	99	P	SUR	38	-9	526	0	0.3	-0.3	0.4
6202114	99	P	SUR	54	6	251	0	0.4	0.0	0.4
6202597	99	P	SUR	46	-12	719	0	0.6	0.0	0.6
6202598	99	P	SUR	40	-15	656	102	3.1	-0.8	3.2
6202637	99	P	SUR	62	-1	637	0	0.3	0.0	0.3
6202639	99	P	SUR	29	-29	524	0	0.3	-0.3	0.4
6203574	99	P	SUR	64	8	1	1	0.0	0.0	0.0
6203607	99	P	SUR	28	-28	716	0	0.3	0.2	0.3
6203612	99	P	SUR	40	-47	717	0	0.7	0.3	0.8
6203621	99	P	SUR	26	-46	718	0	0.3	0.0	0.3
6203625	99	P	SUR	28	-42	718	0	0.3	-0.2	0.4
6203632	99	P	SUR	31	-59	716	0	0.6	0.2	0.6
6203634	99	P	SUR	28	-33	718	0	0.3	0.2	0.3
6203639	99	P	SUR	30	-27	718	0	0.3	-0.2	0.3
6203651	99	P	SUR	39	-16	712	0	0.2	0.2	0.3
6203656	99	P	SUR	70	-17	719	23	3.0	0.3	3.1
6203660	99	P	SUR	66	-36	716	0	0.4	-0.2	0.5
6203661	99	P	SUR	75	-11	719	0	0.5	0.0	0.5
6203664	99	P	SUR	83	2	719	0	0.4	0.4	0.6
6203667	99	P	SUR	78	0	718	0	1.5	-0.2	1.5
6203668	99	P	SUR	84	30	717	0	0.4	-0.1	0.4
6203669	99	P	SUR	80	16	718	0	0.4	-0.2	0.4
6203741	99	P	SUR	66	8	310	156	1.2	-0.7	1.4
6203753	99	P	SUR	56	-42	691	0	0.3	-0.3	0.5
6203768	99	P	SUR	28	-33	691	0	0.3	0.1	0.3
6203771	99	P	SUR	26	-46	691	0	0.3	-0.1	0.3
6203773	99	P	SUR	39	-43	690	0	0.4	-0.6	0.7
6203823	99	P	SUR	62	-21	691	0	0.5	0.2	0.5
6203824	99	P	SUR	62	-6	136	0	0.5	0.7	0.8
6203825	99	P	SUR	64	-2	688	0	0.4	0.2	0.5
6203826	99	P	SUR	64	-10	689	0	0.4	0.0	0.5
6203839	99	P	SUR	33	-56	692	0	0.3	-0.3	0.4

DRIFTER MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6203840	99	P	SUR	23	-56	692	0	0.3	0.1	0.3
6203842	99	P	SUR	28	-35	692	0	0.3	-0.1	0.3
6203844	99	P	SUR	45	-7	692	0	0.3	0.3	0.4
6203846	99	P	SUR	29	-26	692	0	0.3	-0.2	0.4
6203849	99	P	SUR	23	-59	689	0	0.3	0.1	0.3
6203853	99	P	SUR	72	30	690	0	0.4	0.2	0.4
6203854	99	P	SUR	55	-39	689	0	0.3	0.2	0.4
6203865	99	P	SUR	54	-27	688	0	0.3	0.0	0.3
6203890	99	P	SUR	12	-36	691	0	0.3	0.1	0.3
6203894	99	P	SUR	24	-26	692	0	0.3	0.1	0.3
6204603	99	P	SUR	41	6	600	0	0.4	0.5	0.7
6204604	99	P	SUR	38	9	576	0	0.3	-1.0	1.0
6204609	99	P	SUR	37	14	507	0	0.5	-0.5	0.7
6204612	99	P	SUR	38	6	684	0	0.4	0.3	0.5
62050	99	P	SUR	50	-4	1437	0	0.4	-0.1	0.4
62081	99	P	SUR	51	-13	1431	0	0.4	-0.2	0.4
62091	99	P	SUR	53	-5	718	0	0.4	-0.1	0.4
62092	99	P	SUR	51	-11	718	0	0.4	-0.3	0.5
62093	99	P	SUR	55	-10	690	0	0.3	-0.2	0.4
62094	99	P	SUR	52	-7	718	0	0.4	-0.1	0.4
62095	99	P	SUR	53	-16	700	0	0.3	-0.3	0.5
62102	99	P	SUR	58	2	505	0	0.4	0.2	0.5
62103	99	P	SUR	50	-3	44	0	0.3	-0.2	0.4
62104	99	P	SUR	57	1	512	0	0.4	0.0	0.4
62105	99	P	SUR	55	-13	1437	0	0.9	-0.3	0.9
62107	99	P	SUR	50	-6	429	0	0.3	-0.1	0.3
62112	99	P	SUR	58	0	503	0	0.3	0.3	0.4
62113	99	P	SUR	58	0	513	0	0.5	0.0	0.5
62114	99	P	SUR	58	0	9	0	0.2	0.4	0.5
62115	99	P	SUR	58	-3	500	0	0.3	-0.1	0.4
62116	99	P	SUR	58	1	517	0	0.4	0.1	0.5
62118	99	P	SUR	58	1	519	0	0.4	0.3	0.5
62119	99	P	SUR	57	2	518	0	0.4	-0.1	0.4
62120	99	P	SUR	56	2	499	0	0.4	-0.1	0.5
62121	99	P	SUR	54	3	505	0	0.5	0.4	0.6
62122	99	P	SUR	57	2	523	0	0.4	0.0	0.4
62124	99	P	SUR	54	-4	496	0	0.4	0.1	0.4
62127	99	P	SUR	54	1	509	0	0.4	0.1	0.4
62129	99	P	SUR	58	0	254	0	0.6	0.1	0.6
62130	99	P	SUR	59	1	507	0	0.4	-0.2	0.4
62131	99	P	SUR	54	1	508	0	0.4	0.5	0.7
62132	99	P	SUR	56	2	483	0	0.5	0.3	0.6
62133	99	P	SUR	57	1	522	0	0.5	0.2	0.5

DRIFTER MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
62134	99	P	SUR	58	1	485	0	0.3	0.2	0.4
62140	99	P	SUR	57	1	519	0	0.4	0.2	0.4
62143	99	P	SUR	58	2	518	0	0.4	0.5	0.7
62144	99	P	SUR	53	2	507	0	0.4	0.1	0.4
62145	99	P	SUR	53	3	476	0	0.4	0.3	0.5
62146	99	P	SUR	57	2	518	0	0.4	0.1	0.4
62148	99	P	SUR	54	2	511	0	0.4	0.4	0.5
62149	99	P	SUR	54	1	511	0	0.3	0.3	0.4
62151	99	P	SUR	57	2	517	0	0.3	0.2	0.3
62152	99	P	SUR	57	2	519	0	0.4	0.2	0.5
62153	99	P	SUR	57	2	520	0	0.4	0.4	0.6
62154	99	P	SUR	56	2	510	0	0.4	-0.1	0.4
62155	99	P	SUR	58	1	460	0	0.4	0.4	0.5
62157	99	P	SUR	58	0	522	0	0.4	0.0	0.4
62160	99	P	SUR	57	2	511	0	0.5	0.2	0.5
62161	99	P	SUR	58	1	507	0	0.6	-0.4	0.7
62162	99	P	SUR	57	1	514	0	0.3	0.0	0.3
62163	99	P	SUR	48	-9	1437	0	0.3	-0.2	0.3
62164	99	P	SUR	57	1	523	0	0.7	0.3	0.7
62165	99	P	SUR	54	1	508	0	0.5	0.3	0.6
62168	99	P	SUR	58	1	519	1	0.7	0.0	0.7
62170	99	P	SUR	51	2	1433	0	0.3	-0.1	0.4
62297	99	P	SUR	59	2	504	0	0.4	0.0	0.4
62302	99	P	SUR	61	-2	501	0	0.6	0.0	0.6
62304	99	P	SUR	51	2	1413	0	0.4	-0.1	0.4
62305	99	P	SUR	50	0	1437	0	0.4	-0.3	0.5
6301001	99	P	SUR	64	5	715	0	0.3	-0.2	0.4
6301004	99	P	SUR	72	20	717	0	0.4	-0.3	0.5
63055	99	P	SUR	61	2	517	0	0.4	-0.2	0.5
63056	99	P	SUR	60	2	513	0	0.6	0.4	0.7
63057	99	P	SUR	59	2	504	0	0.4	0.0	0.4
63058	99	P	SUR	53	2	265	0	0.4	0.0	0.4
63059	99	P	SUR	58	-1	501	0	0.4	0.4	0.5
63101	99	P	SUR	61	1	505	0	0.5	0.1	0.5
63102	99	P	SUR	61	1	511	0	0.4	-0.2	0.5
63103	99	P	SUR	61	1	507	0	0.6	0.3	0.7
63108	99	P	SUR	61	2	513	0	0.5	-0.4	0.7
63109	99	P	SUR	60	2	516	0	0.5	-0.5	0.7
63110	99	P	SUR	60	2	452	0	0.6	0.0	0.6
63111	99	P	SUR	61	2	512	0	0.4	-0.5	0.7
63112	99	P	SUR	61	1	502	0	0.4	-0.5	0.7
63115	99	P	SUR	62	1	501	0	0.4	-0.1	0.5
63117	99	P	SUR	61	1	496	0	0.6	0.3	0.7

DRIFTER MONITORING STATISTICS (EUCOS)  
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
63118	99	P	SUR	58	1	517	0	0.3	-0.4	0.5
6400045	99	P	SUR	59	-12	718	0	0.4	-0.4	0.5
6401583	99	P	SUR	60	-30	718	0	0.5	0.1	0.5
6401584	99	P	SUR	57	-43	717	0	0.3	0.2	0.4
6401590	99	P	SUR	70	32	700	0	0.4	-0.1	0.4
6401759	99	P	SUR	61	-19	719	0	0.4	-0.1	0.5
6401763	99	P	SUR	66	12	719	0	0.4	0.1	0.4
6402615	99	P	SUR	25	-59	692	0	0.3	0.1	0.4
6402616	99	P	SUR	29	-43	691	0	0.3	-0.1	0.3
6402617	99	P	SUR	29	-51	691	0	0.3	0.3	0.4
6402618	99	P	SUR	21	-47	692	0	0.2	0.0	0.2
6402619	99	P	SUR	25	-22	692	0	0.2	0.0	0.2
6402621	99	P	SUR	31	-14	691	0	0.3	0.3	0.4
6402622	99	P	SUR	27	-21	691	0	0.3	0.1	0.3
64041	99	P	SUR	61	-3	502	0	0.4	0.0	0.4
64045	99	P	SUR	59	-12	1439	0	0.4	-0.4	0.6
64046	99	P	SUR	61	-4	1437	0	0.3	-0.3	0.5
6600021	99	P	SUR	55	14	5	0	0.2	-1.2	1.2
6600022	99	P	SUR	54	14	397	0	0.4	-0.4	0.6
6600024	99	P	SUR	55	13	252	0	0.3	-1.3	1.3
6801790	99	P	SUR	40	-17	671	0	0.3	0.0	0.3
6801791	99	P	SUR	33	-28	690	0	0.3	0.2	0.4
6801906	99	P	SUR	69	-66	637	0	0.5	-0.9	1.0
7000972	99	P	SUR	13	-60	71	0	1.1	2.7	2.9
7801552	99	P	SUR	62	-16	640	0	0.6	-0.3	0.7
7801572	99	P	SUR	23	-46	684	0	0.3	0.0	0.3
7801588	99	P	SUR	34	-10	646	0	0.3	0.2	0.4
7801698	99	P	SUR	64	-7	719	0	0.3	0.6	0.7
9355513	99	P	SUR	35	-13	1	0	0.0	0.2	0.2

#### 4.10 Table 22 - Drifter Monitoring Statistics (EUCOS): Wind speed (m/s)

##### DRIFTER MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : WIND SPEED (M/S)  
 AREA : 10N - 90N, 70W - 40E  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

TIME = 99 => AVERAGE OF ALL OBSERVATIONS

GROSS ERROR LIMIT FOR VECTOR WIND = 25 M/S

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
1000044	99	SPEED	SUR	55	10	106	0	0	2.0	1.3	2.4
1300130	99	SPEED	SUR	28	-16	610	0	0	1.0	-0.2	1.0
1300131	99	SPEED	SUR	28	-17	676	0	0	2.5	1.7	3.0
3652002	99	SPEED	SUR	49	-8	3	0	0	1.1	0.6	1.2
4100026	99	SPEED	SUR	12	-38	191	0	0	1.0	-0.1	1.0
4100040	99	SPEED	SUR	15	-53	4316	0	0	0.7	0.0	0.7
4100043	99	SPEED	SUR	21	-65	4316	0	0	1.0	0.0	1.0
4100044	99	SPEED	SUR	22	-59	4317	0	0	1.1	-0.1	1.2
4100046	99	SPEED	SUR	24	-68	4317	0	0	0.9	0.1	1.0
4100049	99	SPEED	SUR	28	-62	4032	0	0	1.1	-0.2	1.2
4100052	99	SPEED	SUR	18	-65	3933	0	0	1.0	-0.2	1.0
4100053	99	SPEED	SUR	18	-66	4090	0	0	1.4	0.7	1.5
4100056	99	SPEED	SUR	18	-65	4144	0	0	1.2	0.0	1.2
4100139	99	SPEED	SUR	20	-38	523	0	0	1.0	0.2	1.0
41040	99	SPEED	SUR	15	-53	720	0	0	0.8	0.0	0.8
41043	99	SPEED	SUR	21	-65	720	0	0	1.1	0.1	1.1
41044	99	SPEED	SUR	22	-59	720	0	0	1.2	-0.1	1.2
41046	99	SPEED	SUR	24	-68	720	0	0	1.0	0.2	1.0
41049	99	SPEED	SUR	28	-62	673	0	0	1.2	-0.2	1.2
41052	99	SPEED	SUR	18	-65	679	0	0	1.1	-0.1	1.1
41053	99	SPEED	SUR	19	-66	713	0	0	1.5	0.2	1.5
41056	99	SPEED	SUR	18	-66	715	0	0	1.2	0.1	1.2
4200059	99	SPEED	SUR	15	-67	4316	0	0	0.7	0.3	0.8
4200060	99	SPEED	SUR	16	-63	4317	0	0	1.0	0.4	1.1
4200085	99	SPEED	SUR	18	-67	3380	0	0	1.4	0.1	1.4
42059	99	SPEED	SUR	15	-68	720	0	0	0.8	0.3	0.9
42060	99	SPEED	SUR	16	-63	719	0	0	1.1	0.5	1.2
42085	99	SPEED	SUR	18	-67	695	0	0	1.5	0.6	1.6
4400008	99	SPEED	SUR	40	-69	4303	0	0	1.3	-0.3	1.4
4400011	99	SPEED	SUR	41	-67	523	0	0	1.1	-0.3	1.2
4400027	99	SPEED	SUR	44	-67	4318	0	0	1.3	-0.1	1.3
4400032	99	SPEED	SUR	44	-69	684	0	0	1.6	-0.4	1.7
4400033	99	SPEED	SUR	44	-69	686	0	0	1.8	-0.2	1.8
4400034	99	SPEED	SUR	44	-68	663	0	0	1.4	-0.3	1.5

## DRIFTER MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF

ELEMENT MONITORED : WIND SPEED (M/S)

(CONTINU

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
440037	99	SPEED	SUR	43	-68	706	0	0	1.3	-0.1	1.3
4400488	99	SPEED	SUR	45	-61	640	0	0	1.6	0.7	1.7
4400489	99	SPEED	SUR	45	-61	643	0	0	1.6	1.5	2.2
44008	99	SPEED	SUR	41	-69	719	0	0	1.4	-0.3	1.4
44011	99	SPEED	SUR	41	-67	88	0	0	1.2	-0.3	1.3
44027	99	SPEED	SUR	44	-67	720	0	0	1.3	-0.1	1.3
44032	99	SPEED	SUR	44	-69	684	0	0	1.6	-0.4	1.7
44033	99	SPEED	SUR	44	-69	685	0	0	1.8	0.2	1.8
44034	99	SPEED	SUR	44	-68	663	0	0	1.5	-0.3	1.5
44037	99	SPEED	SUR	44	-68	706	0	0	1.3	0.0	1.3
44078	99	SPEED	SUR	60	-40	652	0	0	1.6	-1.1	1.9
44258	99	SPEED	SUR	45	-63	647	0	0	1.5	0.6	1.6
44488	99	SPEED	SUR	45	-61	646	0	0	1.6	1.0	1.9
44489	99	SPEED	SUR	46	-61	649	0	0	1.6	1.7	2.4
6100001	99	SPEED	SUR	43	8	678	0	0	2.0	0.0	2.0
6100002	99	SPEED	SUR	42	5	719	0	0	1.3	0.2	1.3
6100196	99	SPEED	SUR	42	4	351	0	0	1.5	-1.3	2.0
6100197	99	SPEED	SUR	40	4	657	0	0	1.6	-0.4	1.6
6100198	99	SPEED	SUR	37	-2	709	0	0	1.3	-0.6	1.4
6100280	99	SPEED	SUR	41	1	688	0	0	1.8	-1.0	2.1
6100281	99	SPEED	SUR	40	0	158	0	0	1.8	0.5	1.9
6100417	99	SPEED	SUR	38	0	666	0	0	1.3	-0.3	1.3
6100430	99	SPEED	SUR	40	2	689	0	0	1.7	-0.5	1.7
6101007	99	SPEED	SUR	36	25	8	0	0	0.8	0.0	0.8
6101009	99	SPEED	SUR	35	25	176	0	0	2.3	1.5	2.8
6101031	99	SPEED	SUR	42	8	719	0	0	1.3	-0.1	1.3
6200001	99	SPEED	SUR	45	-5	714	0	0	1.1	-0.6	1.3
6200024	99	SPEED	SUR	44	-3	709	0	0	1.6	-0.6	1.7
6200025	99	SPEED	SUR	44	-6	480	0	0	1.3	-1.0	1.6
6200050	99	SPEED	SUR	50	-4	718	0	0	1.5	-0.3	1.5
6200083	99	SPEED	SUR	43	-9	715	0	0	1.2	-0.4	1.2
6200084	99	SPEED	SUR	42	-9	710	0	0	1.3	-0.8	1.5
6200085	99	SPEED	SUR	36	-7	699	0	0	1.2	-0.3	1.2
6200086	99	SPEED	SUR	55	7	272	0	0	1.6	1.2	2.0
6200087	99	SPEED	SUR	55	7	377	0	0	1.5	0.9	1.8
6200091	99	SPEED	SUR	53	-5	720	0	0	1.3	-0.2	1.3
6200092	99	SPEED	SUR	51	-11	720	0	0	1.1	-0.4	1.2
6200093	99	SPEED	SUR	55	-10	690	0	0	1.4	-0.5	1.5
6200094	99	SPEED	SUR	52	-7	720	0	0	1.3	0.6	1.4
6200095	99	SPEED	SUR	53	-16	702	0	0	1.0	0.2	1.0
6200103	99	SPEED	SUR	50	-3	1	0	0	0.0	-2.9	2.9

## DRIFTER MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF

ELEMENT MONITORED : WIND SPEED (M/S)

(CONTINU

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
6200163	99	SPEED	SUR	48	-8	717	0	0	1.0	-0.2	1.1
6201065	99	SPEED	SUR	54	7	345	0	0	1.8	-0.9	2.0
6201066	99	SPEED	SUR	55	7	707	0	0	1.5	0.3	1.5
6202114	99	SPEED	SUR	54	6	249	0	0	1.4	-0.3	1.4
62050	99	SPEED	SUR	50	-4	1435	0	0	1.4	0.4	1.4
62091	99	SPEED	SUR	53	-5	718	0	0	1.3	0.1	1.3
62092	99	SPEED	SUR	51	-11	718	0	0	1.2	-0.3	1.2
62093	99	SPEED	SUR	55	-10	690	0	0	1.4	-0.4	1.5
62094	99	SPEED	SUR	52	-7	718	0	0	1.3	0.7	1.5
62095	99	SPEED	SUR	53	-16	700	0	0	1.0	0.2	1.1
62102	99	SPEED	SUR	58	2	505	0	0	1.6	0.2	1.7
62103	99	SPEED	SUR	50	-3	2	0	0	0.0	-3.2	3.2
62104	99	SPEED	SUR	57	1	512	0	0	1.7	-0.3	1.7
62105	99	SPEED	SUR	55	-13	1435	0	0	1.1	0.6	1.3
62107	99	SPEED	SUR	50	-6	380	0	0	1.2	0.5	1.3
62112	99	SPEED	SUR	58	0	503	0	0	1.7	0.1	1.8
62113	99	SPEED	SUR	58	0	513	0	0	1.9	0.3	1.9
62114	99	SPEED	SUR	58	0	26	0	0	2.2	1.5	2.6
62118	99	SPEED	SUR	58	1	519	0	0	1.7	0.6	1.8
62119	99	SPEED	SUR	57	2	518	0	0	2.4	-1.7	2.9
62120	99	SPEED	SUR	56	2	499	0	0	1.5	-0.6	1.6
62121	99	SPEED	SUR	54	3	505	0	0	1.6	-0.6	1.7
62122	99	SPEED	SUR	57	2	523	0	0	1.6	-0.2	1.6
62129	99	SPEED	SUR	58	0	254	0	0	2.0	0.6	2.1
62131	99	SPEED	SUR	54	1	508	0	0	2.2	-0.7	2.3
62132	99	SPEED	SUR	56	2	343	0	0	3.1	-1.7	3.5
62133	99	SPEED	SUR	57	1	520	0	0	1.8	0.5	1.9
62134	99	SPEED	SUR	58	1	485	0	0	2.2	-0.8	2.4
62140	99	SPEED	SUR	57	1	369	0	0	1.5	-0.1	1.5
62143	99	SPEED	SUR	58	2	509	0	0	1.7	-0.5	1.7
62144	99	SPEED	SUR	53	2	507	0	0	2.2	-1.0	2.4
62145	99	SPEED	SUR	53	3	506	0	0	1.9	1.0	2.2
62146	99	SPEED	SUR	57	2	279	0	0	1.6	0.4	1.7
62148	99	SPEED	SUR	54	2	511	0	0	1.6	-0.3	1.7
62149	99	SPEED	SUR	54	1	511	0	0	1.4	0.2	1.4
62152	99	SPEED	SUR	57	2	519	0	0	1.6	-0.8	1.8
62154	99	SPEED	SUR	56	2	510	0	0	1.8	0.6	1.9
62155	99	SPEED	SUR	58	1	460	0	0	1.7	-0.2	1.7
62163	99	SPEED	SUR	48	-9	1435	0	0	1.0	0.3	1.1
62164	99	SPEED	SUR	57	1	492	0	0	1.7	-1.4	2.2
62165	99	SPEED	SUR	54	1	508	0	0	1.5	-0.5	1.6

## DRIFTER MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF

ELEMENT MONITORED : WIND SPEED (M/S)

(CONTINU

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
62170	99	SPEED	SUR	51	2	1427	0	0	1.5	0.6	1.6
62304	99	SPEED	SUR	51	2	1413	0	0	1.7	0.6	1.8
6301001	99	SPEED	SUR	64	5	715	0	0	1.3	0.1	1.3
6301004	99	SPEED	SUR	72	20	717	0	0	1.3	-0.2	1.3
63055	99	SPEED	SUR	61	2	517	0	0	1.8	-1.1	2.1
63056	99	SPEED	SUR	60	2	513	0	0	1.6	0.8	1.8
63057	99	SPEED	SUR	59	2	504	0	0	2.3	0.3	2.3
63058	99	SPEED	SUR	53	2	265	0	0	1.5	0.0	1.5
63101	99	SPEED	SUR	61	1	505	0	0	1.3	-0.3	1.3
63103	99	SPEED	SUR	61	1	507	0	0	1.6	-0.2	1.6
63108	99	SPEED	SUR	61	2	513	0	0	1.8	-0.5	1.9
63109	99	SPEED	SUR	60	2	507	0	0	1.7	0.6	1.8
63110	99	SPEED	SUR	60	2	512	0	0	1.9	-0.2	1.9
63112	99	SPEED	SUR	61	1	502	0	0	1.2	-0.4	1.3
63115	99	SPEED	SUR	62	1	501	0	0	1.4	-1.2	1.9
63117	99	SPEED	SUR	61	1	496	0	0	1.4	-0.2	1.4
6400045	99	SPEED	SUR	59	-12	717	0	0	1.3	0.1	1.3
64041	99	SPEED	SUR	61	-3	502	0	0	1.1	-0.5	1.2
64045	99	SPEED	SUR	59	-12	1435	0	0	1.3	0.7	1.4
6600021	99	SPEED	SUR	55	14	5	0	0	1.2	0.0	1.2
6600022	99	SPEED	SUR	54	14	397	0	0	1.3	-0.1	1.3
6600024	99	SPEED	SUR	55	13	165	0	0	1.5	0.2	1.5
7000972	99	SPEED	SUR	13	-60	55	0	0	3.3	1.7	3.7
9355513	99	SPEED	SUR	35	-13	1	0	0	0.0	-3.2	3.2



### 4.11 Table 23 - Drifter Monitoring Statistics (EUCOS): Wind direction

#### DRIFTER MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : WIND DIRECTION (DEGREES)  
 AREA : 10N - 90N, 70W - 40E  
 PERIOD : APR 2024  
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

TIME = 99 => AVERAGE OF ALL OBSERVATIONS  
 GROSS ERROR LIMIT FOR VECTOR WIND = 25 M/S  
 WIND SPEEDS > 3M/S USED

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
1300130	99	DIRN	SUR	28	-16	520	0	0	39.8	37.0	54.3
1300131	99	DIRN	SUR	28	-17	306	0	0	22.7	7.0	23.8
3652002	99	DIRN	SUR	49	-8	3	0	0	7.0	1.5	7.1
4100001	99	DIRN	SUR	35	-72	2074	0	0	12.5	4.5	13.3
4100002	99	DIRN	SUR	32	-75	3683	0	0	11.6	5.7	12.9
4100004	99	DIRN	SUR	33	-79	3578	0	0	14.8	6.3	16.1
4100008	99	DIRN	SUR	31	-81	3367	0	0	14.3	4.3	14.9
4100009	99	DIRN	SUR	29	-80	3656	0	0	12.8	0.2	12.8
4100013	99	DIRN	SUR	33	-78	3188	0	0	15.8	7.1	17.3
4100024	99	DIRN	SUR	34	-78	546	0	0	16.9	6.8	18.2
4100025	99	DIRN	SUR	35	-75	3711	0	0	18.6	8.2	20.3
4100026	99	DIRN	SUR	12	-38	189	0	0	8.2	5.2	9.7
4100029	99	DIRN	SUR	33	-80	569	0	0	19.8	-0.5	19.8
4100037	99	DIRN	SUR	34	-77	563	0	0	21.4	6.9	22.5
4100038	99	DIRN	SUR	34	-78	579	0	0	14.5	6.3	15.8
4100040	99	DIRN	SUR	15	-53	4255	0	0	9.5	0.4	9.5
4100043	99	DIRN	SUR	21	-65	3826	0	0	12.6	6.8	14.4
4100044	99	DIRN	SUR	22	-59	3724	0	0	20.0	6.9	21.2
4100046	99	DIRN	SUR	24	-68	4106	0	0	11.1	5.1	12.2
4100047	99	DIRN	SUR	27	-71	3676	0	0	12.6	6.1	14.0
4100049	99	DIRN	SUR	28	-62	3386	0	0	19.3	7.1	20.5
4100052	99	DIRN	SUR	18	-65	3449	0	0	15.5	5.1	16.3
4100053	99	DIRN	SUR	18	-66	3009	0	0	17.9	12.4	21.8
4100056	99	DIRN	SUR	18	-65	3566	0	0	19.8	3.8	20.2
4100064	99	DIRN	SUR	34	-77	607	0	0	15.4	4.2	15.9
4100069	99	DIRN	SUR	29	-81	454	0	0	48.5	1.8	48.5
4100082	99	DIRN	SUR	36	-75	2528	0	0	15.9	-6.5	17.2
41001	99	DIRN	SUR	35	-72	343	0	0	13.3	5.0	14.2
4100139	99	DIRN	SUR	20	-38	472	0	0	13.7	-0.4	13.7
41002	99	DIRN	SUR	32	-75	603	0	0	12.0	5.5	13.2
41004	99	DIRN	SUR	33	-79	583	0	0	15.2	6.2	16.5
41008	99	DIRN	SUR	31	-81	564	0	0	14.8	4.9	15.6

## DRIFTER MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF

ELEMENT MONITORED : WIND DIRECTION (DEGREES)

(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
41009	99	DIRN	SUR	29	-80	597	0	0	14.3	0.9	14.4
41013	99	DIRN	SUR	33	-78	517	0	0	16.8	6.7	18.1
41024	99	DIRN	SUR	34	-79	546	0	0	18.6	6.5	19.8
41025	99	DIRN	SUR	35	-76	598	0	0	19.5	8.0	21.1
41029	99	DIRN	SUR	33	-80	549	0	0	20.2	-0.2	20.2
41037	99	DIRN	SUR	34	-77	546	0	0	21.4	6.5	22.4
41038	99	DIRN	SUR	34	-78	567	0	0	14.4	7.1	16.0
41040	99	DIRN	SUR	15	-53	705	0	0	10.4	0.0	10.4
41043	99	DIRN	SUR	21	-65	635	0	0	12.6	6.5	14.2
41044	99	DIRN	SUR	22	-59	610	0	0	20.4	6.6	21.5
41046	99	DIRN	SUR	24	-68	673	0	0	11.5	5.2	12.6
41047	99	DIRN	SUR	28	-72	596	0	0	13.5	6.6	15.0
41049	99	DIRN	SUR	28	-62	548	0	0	19.7	7.3	21.0
41052	99	DIRN	SUR	18	-65	579	0	0	15.1	4.2	15.7
41053	99	DIRN	SUR	19	-66	505	0	0	16.5	12.5	20.7
41056	99	DIRN	SUR	18	-66	604	0	0	21.3	4.1	21.7
41064	99	DIRN	SUR	34	-77	584	0	0	15.7	4.3	16.3
41069	99	DIRN	SUR	29	-81	456	0	0	49.0	1.7	49.0
41082	99	DIRN	SUR	36	-75	408	0	0	17.0	-6.3	18.1
4200013	99	DIRN	SUR	27	-83	1061	0	0	14.7	-4.6	15.4
4200022	99	DIRN	SUR	28	-84	1069	0	0	14.5	-3.8	15.0
4200023	99	DIRN	SUR	26	-83	1145	0	0	12.3	-3.1	12.7
4200026	99	DIRN	SUR	25	-83	1322	0	0	13.8	-1.2	13.8
4200036	99	DIRN	SUR	29	-85	3026	0	0	15.2	0.8	15.2
4200056	99	DIRN	SUR	20	-85	4127	0	0	10.3	-1.4	10.4
4200057	99	DIRN	SUR	17	-82	4240	0	0	10.3	3.0	10.7
4200058	99	DIRN	SUR	15	-75	4313	0	0	6.8	5.0	8.5
4200059	99	DIRN	SUR	15	-67	4306	0	0	10.6	1.6	10.7
4200060	99	DIRN	SUR	16	-63	3723	0	0	14.2	9.0	16.8
4200085	99	DIRN	SUR	18	-67	2733	0	0	18.0	9.4	20.3
42013	99	DIRN	SUR	27	-83	517	0	0	14.6	-1.7	14.8
42022	99	DIRN	SUR	28	-84	507	0	0	14.3	-2.3	14.5
42023	99	DIRN	SUR	26	-83	556	0	0	12.6	-1.3	12.7
42026	99	DIRN	SUR	25	-84	649	0	0	13.6	0.2	13.6
42036	99	DIRN	SUR	29	-85	492	0	0	15.4	1.5	15.5
42056	99	DIRN	SUR	20	-85	690	0	0	11.3	-2.0	11.5
42057	99	DIRN	SUR	17	-82	706	0	0	10.5	2.6	10.8
42058	99	DIRN	SUR	15	-75	720	0	0	7.5	4.2	8.6
42059	99	DIRN	SUR	15	-68	717	0	0	11.0	1.1	11.1
42060	99	DIRN	SUR	16	-63	614	0	0	14.4	8.9	17.0
42085	99	DIRN	SUR	18	-67	529	0	0	18.4	7.9	20.0

DRIFTER MONITORING STATISTICS (EUCOS)  
 MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : WIND DIRECTION (DEGREES)  
 (CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
4400007	99	DIRN	SUR	44	-70	2982	0	0	22.5	7.0	23.6
4400008	99	DIRN	SUR	40	-69	3592	0	0	15.4	19.0	24.5
4400009	99	DIRN	SUR	38	-75	3582	0	0	20.7	9.8	23.0
4400011	99	DIRN	SUR	41	-67	343	0	0	11.1	10.2	15.1
4400013	99	DIRN	SUR	42	-71	3178	0	0	22.7	8.8	24.3
4400014	99	DIRN	SUR	37	-75	3379	0	0	19.1	14.0	23.7
4400020	99	DIRN	SUR	41	-70	3434	0	0	17.0	4.3	17.6
4400022	99	DIRN	SUR	41	-74	1010	0	0	21.2	4.6	21.7
4400025	99	DIRN	SUR	40	-73	1481	0	0	16.6	6.5	17.8
4400027	99	DIRN	SUR	44	-67	3583	0	0	17.2	6.6	18.4
4400029	99	DIRN	SUR	43	-71	540	0	0	19.5	1.1	19.6
4400030	99	DIRN	SUR	43	-70	507	0	0	21.6	2.2	21.7
4400032	99	DIRN	SUR	44	-69	496	0	0	15.8	1.3	15.9
4400033	99	DIRN	SUR	44	-69	482	0	0	20.2	18.8	27.6
4400034	99	DIRN	SUR	44	-68	534	0	0	17.8	-2.6	18.0
4400037	99	DIRN	SUR	43	-68	579	0	0	15.1	7.6	17.0
4400039	99	DIRN	SUR	41	-73	21	0	0	56.2	15.7	58.3
4400041	99	DIRN	SUR	37	-77	2389	0	0	22.2	-1.0	22.2
4400042	99	DIRN	SUR	38	-76	4762	0	0	21.8	1.2	21.8
4400043	99	DIRN	SUR	39	-76	4311	0	0	32.2	8.2	33.3
4400058	99	DIRN	SUR	38	-76	4710	0	0	25.6	-0.2	25.6
4400062	99	DIRN	SUR	39	-76	4548	0	0	28.0	0.9	28.0
4400063	99	DIRN	SUR	39	-76	3938	0	0	32.0	0.5	32.0
4400064	99	DIRN	SUR	37	-76	4969	0	0	20.6	5.8	21.3
4400065	99	DIRN	SUR	40	-74	1459	0	0	19.1	4.8	19.7
4400072	99	DIRN	SUR	37	-76	4951	0	0	24.4	1.4	24.4
4400073	99	DIRN	SUR	43	-71	656	0	0	16.9	5.0	17.6
4400488	99	DIRN	SUR	45	-61	521	0	0	19.9	-26.0	32.7
4400489	99	DIRN	SUR	45	-61	510	0	0	16.7	-29.0	33.5
44007	99	DIRN	SUR	44	-70	485	0	0	22.6	8.1	24.0
44008	99	DIRN	SUR	41	-69	584	0	0	16.1	19.2	25.1
44009	99	DIRN	SUR	39	-75	587	0	0	20.7	10.4	23.2
44011	99	DIRN	SUR	41	-67	55	0	0	12.9	9.6	16.1
44013	99	DIRN	SUR	42	-71	500	0	0	21.9	8.3	23.4
44014	99	DIRN	SUR	37	-75	543	0	0	18.5	12.8	22.5
44020	99	DIRN	SUR	42	-70	554	0	0	16.3	4.9	17.0
44022	99	DIRN	SUR	41	-74	268	0	0	23.6	6.3	24.4
44025	99	DIRN	SUR	40	-73	245	0	0	17.0	7.5	18.6
44027	99	DIRN	SUR	44	-67	580	0	0	18.7	6.8	19.9
44029	99	DIRN	SUR	43	-71	535	0	0	19.5	0.0	19.5
44030	99	DIRN	SUR	43	-70	491	0	0	23.6	2.2	23.7

## DRIFTER MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF

ELEMENT MONITORED : WIND DIRECTION (DEGREES)

(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
44032	99	DIRN	SUR	44	-69	488	0	0	15.5	0.8	15.5
44033	99	DIRN	SUR	44	-69	448	0	0	18.8	18.4	26.3
44034	99	DIRN	SUR	44	-68	522	0	0	18.2	-3.0	18.4
44037	99	DIRN	SUR	44	-68	556	0	0	16.0	7.6	17.7
44039	99	DIRN	SUR	41	-73	18	0	0	64.2	4.0	64.3
44041	99	DIRN	SUR	37	-77	258	0	0	23.4	-0.4	23.4
44042	99	DIRN	SUR	38	-76	514	0	0	22.1	2.7	22.3
44043	99	DIRN	SUR	39	-76	483	0	0	32.8	9.5	34.1
44058	99	DIRN	SUR	38	-76	511	0	0	24.3	1.0	24.3
44062	99	DIRN	SUR	39	-76	520	0	0	31.1	2.5	31.2
44063	99	DIRN	SUR	39	-76	427	0	0	30.8	4.0	31.1
44064	99	DIRN	SUR	37	-76	596	0	0	21.4	7.3	22.6
44065	99	DIRN	SUR	40	-74	232	0	0	19.2	5.7	20.0
44072	99	DIRN	SUR	37	-76	556	0	0	23.5	2.8	23.7
44073	99	DIRN	SUR	43	-71	136	0	0	19.2	7.1	20.5
44078	99	DIRN	SUR	60	-40	562	0	0	16.2	-20.5	26.1
44258	99	DIRN	SUR	45	-63	529	0	0	17.5	-8.4	19.4
44488	99	DIRN	SUR	45	-61	510	0	0	18.8	-27.3	33.1
44489	99	DIRN	SUR	46	-61	505	0	0	17.1	-29.2	33.8
4500003	99	DIRN	SUR	45	-83	1617	0	0	21.6	6.3	22.5
4500005	99	DIRN	SUR	42	-82	1047	0	0	21.5	14.4	25.8
4500008	99	DIRN	SUR	44	-82	1658	0	0	21.4	14.2	25.6
4500132	99	DIRN	SUR	42	-81	235	0	0	24.3	6.2	25.1
4500135	99	DIRN	SUR	44	-77	230	0	0	18.6	7.8	20.1
4500137	99	DIRN	SUR	46	-81	369	0	0	19.0	7.5	20.4
4500139	99	DIRN	SUR	43	-80	184	0	0	20.1	4.1	20.5
4500142	99	DIRN	SUR	43	-79	222	0	0	26.3	6.9	27.2
4500143	99	DIRN	SUR	45	-81	400	0	0	27.2	13.8	30.6
4500159	99	DIRN	SUR	44	-79	202	0	0	40.8	10.5	42.1
4500203	99	DIRN	SUR	41	-83	1281	0	0	30.1	-9.6	31.6
45003	99	DIRN	SUR	45	-83	263	0	0	21.8	4.9	22.3
45005	99	DIRN	SUR	42	-82	174	0	0	20.6	13.3	24.5
45008	99	DIRN	SUR	44	-82	273	0	0	22.2	14.1	26.3
45132	99	DIRN	SUR	43	-81	229	0	0	21.3	5.0	21.9
45135	99	DIRN	SUR	44	-77	225	0	0	19.6	7.7	21.1
45137	99	DIRN	SUR	46	-81	364	0	0	19.2	7.0	20.4
45139	99	DIRN	SUR	43	-80	183	0	0	23.2	3.4	23.4
45142	99	DIRN	SUR	43	-79	219	0	0	25.0	5.5	25.6
45143	99	DIRN	SUR	45	-81	379	0	0	26.2	9.9	28.0
45149	99	DIRN	SUR	44	-82	20	0	0	38.1	21.5	43.7
45152	99	DIRN	SUR	46	-80	92	0	0	14.2	10.5	17.7

DRIFTER MONITORING STATISTICS (EUCOS)  
 MONITORING CENTRE : ECMWF  
 ELEMENT MONITORED : WIND DIRECTION (DEGREES)  
 (CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
45159	99	DIRN	SUR	44	-79	193	0	0	36.6	12.2	38.6
45203	99	DIRN	SUR	41	-83	222	0	0	28.2	-9.1	29.7
6100198	99	DIRN	SUR	37	-2	494	0	0	16.4	3.1	16.7
6100281	99	DIRN	SUR	40	0	81	0	0	57.0	-30.0	64.4
6100417	99	DIRN	SUR	38	0	403	0	0	54.1	13.9	55.9
6200001	99	DIRN	SUR	45	-5	612	0	0	12.9	1.1	13.0
6200024	99	DIRN	SUR	44	-3	527	0	0	22.2	2.4	22.3
6200025	99	DIRN	SUR	44	-6	313	0	0	17.2	7.1	18.6
6200050	99	DIRN	SUR	50	-4	646	0	0	15.7	1.4	15.8
6200083	99	DIRN	SUR	43	-9	610	0	0	12.2	-8.2	14.7
6200084	99	DIRN	SUR	42	-9	529	0	0	16.7	1.3	16.8
6200085	99	DIRN	SUR	36	-7	532	0	0	13.5	9.0	16.2
6200091	99	DIRN	SUR	53	-5	622	0	0	14.8	2.1	14.9
6200092	99	DIRN	SUR	51	-11	666	0	0	13.7	1.8	13.8
6200093	99	DIRN	SUR	55	-10	580	0	0	12.0	3.5	12.5
6200094	99	DIRN	SUR	52	-7	612	0	0	13.8	5.6	14.9
6200095	99	DIRN	SUR	53	-16	652	0	0	12.9	6.4	14.4
6200103	99	DIRN	SUR	50	-3	1	0	0	0.0	22.5	22.5
6200163	99	DIRN	SUR	48	-8	694	0	0	16.4	5.3	17.2
62050	99	DIRN	SUR	50	-4	1284	0	0	16.4	2.1	16.5
62091	99	DIRN	SUR	53	-5	604	0	0	14.0	1.1	14.0
62092	99	DIRN	SUR	51	-11	659	0	0	13.9	1.4	14.0
62093	99	DIRN	SUR	55	-10	573	0	0	12.5	3.0	12.9
62094	99	DIRN	SUR	52	-7	605	0	0	14.1	5.0	15.0
62095	99	DIRN	SUR	53	-16	646	0	0	13.2	6.1	14.6
62103	99	DIRN	SUR	50	-3	2	0	0	0.0	27.5	27.5
62105	99	DIRN	SUR	55	-13	1268	0	0	14.2	-16.4	21.7
62107	99	DIRN	SUR	50	-6	354	0	0	10.5	3.6	11.1
62112	99	DIRN	SUR	58	0	452	0	0	18.4	2.2	18.5
62114	99	DIRN	SUR	58	0	26	0	0	10.3	1.7	10.4
62163	99	DIRN	SUR	48	-9	1376	0	0	16.8	5.5	17.7
6400045	99	DIRN	SUR	59	-12	681	0	0	12.4	-6.4	14.0
64041	99	DIRN	SUR	61	-3	471	0	0	9.3	8.5	12.6
64045	99	DIRN	SUR	59	-12	1345	0	0	14.0	-6.3	15.3
7000972	99	DIRN	SUR	13	-60	52	0	0	21.1	1.1	21.1
9355513	99	DIRN	SUR	35	-13	1	0	0	0.0	18.8	18.8

**4.12 Table 24 - List of Assimilated BUFR Encoded Radiosonde Stations**

ASDE09	ATGU3FT	BPMWB2N	DBLK	FPUW5GN	GQBZLZL	JNKN7JF	JPBN	KJJF9XN
KMPLHPW	LAGY8	LAGZ8	LRYQE3U	USCAT	UXK5JTU	WDK38HS	XKQLWQB	YLV96WM
ZVQEQCM	7JUNA4N	7KPB	9ZT9MRK	01001	01004	01010	01028	01241
01400	01415	01492	02185	02365	02591	02836	02963	03005
03238	03354	03502	03743	03808	03882	03918	03953	04018
04220	04270	04320	04339	04360	04417	06011	06260	06458
06610	07110	07145	07510	07645	07761	08001	08023	08190
08221	08302	08383	08430	08508	08522	08536	10035	10113
10184	10238	10304	10393	10410	10548	10618	10739	10771
10868	10954	10962	11010	11035	11120	11240	11520	11747
11952	12120	12374	12425	12575	12843	12982	13275	13388
14015	14240	14430	15420	15614	16045	16064	16113	16144
16224	16245	16332	16429	16546	16622	16716	16754	17030
17064	17095	17196	17220	17240	17351	17516	17607	20674
22008	22522	22820	22845	23205	23472	23884	23921	23955
24641	24908	26038	26435	26477	26629	26708	27459	27707
27713	27962	28225	28445	28661	28695	29612	29698	30557
30673	30935	31004	31770	31873	31977	34122	34172	34731
35121	40179	40186	42056	42111	42123	42182	42220	42314
42339	42348	42361	42399	42410	42492	42622	42634	42647
42724	42867	42874	42886	42971	43003	43014	43041	43049
43063	43086	43128	43150	43185	43243	43279	43285	43346
43353	43369	43466	45004	47102	47104	47138	47155	47169
47186	47230	47269	47401	47412	47582	47646	47678	47807
47827	47909	47918	47945	47971	47991	48601	48615	48650
48657	48698	50527	50557	50774	50953	51076	51243	51431
51463	51644	51656	51709	51777	51828	51839	52203	52267
52323	52418	52533	52652	52681	52818	52836	52866	52983
53068	53463	53513	53543	53614	53772	53845	53915	54102
54135	54161	54218	54292	54340	54374	54511	54662	54727
54857	55299	55591	56029	56046	56080	56137	56146	56187
56492	56571	56651	56691	56739	56778	56964	56985	57083
57127	57131	57178	57245	57461	57494	57516	57541	57687
57749	57816	57957	57972	57993	58027	58150	58203	58238
58362	58424	58457	58606	58633	58665	58725	58847	59023
59134	59211	59265	59280	59293	59316	59431	59758	59981
60018	60096	60155	60253	60715	60760	61901	61980	61998
63985	65344	66160	67083	68263	68424	68442	68512	68816
70026	70133	70200	70219	70231	70261	70273	70308	70316
70326	70350	70361	70398	71043	71081	71082	71109	71119
71603	71722	71802	71811	71815	71816	71823	71845	71867
71906	71907	71908	71909	71913	71917	71924	71925	71926
71934	71945	71957	71964	72201	72202	72206	72208	72210
72215	72230	72233	72235	72240	72248	72249	72250	72251
72261	72265	72293	72305	72317	72318	72327	72340	72357
72363	72364	72365	72376	72388	72402	72403	72413	72426
72440	72451	72456	72476	72489	72493	72501	72518	72520
72528	72558	72562	72572	72582	72597	72632	72634	72645
72649	72659	72662	72672	72681	72694	72712	72747	72764
72768	72776	72786	72797	73033	73110	73111	74389	74455
74560	76256	76458	76595	76612	76644	76654	76679	76692
76743	76903	78384	78397	78486	78583	78866	78897	78954
78970	80001	81405	82965	85442	85799	85934	87155	87344
87418	87582	87623	87715	87860	88889	89002	89055	89564
89571	89592	89611	89625	89642	91165	91212	91285	91334
91348	91376	91408	91413	91592	91925	91938	91948	91958
93112	93417	93817	93844	94001	94120	94155	94170	94203
94299	94302	94312	94326	94332	94403	94430	94461	94510
94578	94610	94637	94638	94653	94659	94672	94711	94767

94776	94802	94821	94866	94910	94975	94995	94996	94998
95282	95527	96413	96441	96471	96481	96996		

### 4.13 Table 25 - List of BUFR Encoded Radiosonde Stations with no TAC Counterpart

ASDE09	ATGU3FT	BPMWB2N	DBLK	FPUW5GN	GQBZLZL	JNKN7JF	KJJF9XN	KMPLHPW
LAGY8	LAGZ8	LRYQE3U	USCAT	UXK5JTU	WDK38HS	XKQLWQB	YLV96WM	ZVQEQCM
7JUNA4N	7KPB	9ZT9MRK	01001	01004	01010	01028	01241	01400
01415	01492	02836	02963	06610	07110	07145	07510	07645
07761	08001	08023	08190	08221	08302	08383	08430	08508
08522	08536	11010	11035	11120	11240	12575	17607	40186
42622	47269	48698	50527	50557	50774	50953	51076	51243
51431	51463	51644	51656	51709	51777	51828	51839	52203
52267	52323	52418	52533	52652	52681	52818	52836	52866
52983	53068	53463	53513	53543	53614	53772	53845	53915
54102	54135	54161	54218	54292	54340	54374	54511	54662
54727	54857	55299	55591	56029	56046	56080	56137	56146
56187	56492	56571	56651	56691	56739	56778	56964	56985
57083	57127	57131	57178	57245	57461	57494	57516	57541
57687	57749	57816	57957	57972	57993	58027	58150	58203
58238	58362	58424	58457	58606	58633	58665	58725	58847
59023	59134	59211	59265	59280	59293	59316	59431	59758
59981	60253	67083	72413	73111	76743	76903	89002	89642
91925	91938	91948	91958	94001	94653	94767		



## 5 Annex - Explanations of figures and tables

### 5.1 General

All information presented in this report is based on data received at ECMWF before the appropriate analysis. Approximate cut-off times (UTC) are shown below:

Analysis	Obs Time	Cut-off
0000	2101-0300	1530 (16 hours)
1200	0901-1500	1900 ( 7 hours)

### 5.2 Data Availability

For each observation type/parameter the average number of reports received per day is displayed in boxes of 5 degrees square. The numbers plotted are the nearest integer values - e.g. if 40 reports were received during the month then the average daily value plotted will be 1. If the average number is greater than 1000 then 999 will be plotted. If the average number is less than 0.5 then the digit 0 will be plotted. If no observations were received then the box will be left blank.

### 5.3 Data Quality

The information presented on data quality is based on differences between observations and the values of the most recent ECMWF forecast ("first guess") of the same parameter. Depending on the time of the observation, the forecast range is between 9 and 15 hours. The ability of a modern data assimilation system to provide the diagnostic facilities to monitor the performance of the observational network is demonstrated by A. Hollingsworth et. al., *Monthly Weather Review*, Vol 114, No. 5, May 1986.

It should be noted that:

- (i) all results are based on software that may undergo further development;
- (ii) although the quality of the ECMWF first-guess fields is of a generally high standard this is only true to a limited extent in the tropics, where small-scale processes such as convection are of much greater importance than in mid-latitudes, and the observations will sometimes not be representative of the scales of motion given by the first-guess;
- (iii) the first-guess fields themselves will vary in accuracy depending on the density and quality of data, particularly in the upstream regions and over Antarctica and the southern hemisphere mid-latitudes. Direct comparisons between stations (or airlines) should preferably be restricted to observations in a reasonably homogeneous climatic region.

Tables 1-9 contain lists of SHIPs (including fixed marine platforms), DRIFTERS, TEMPs and TEMPs/PILOTs believed to have supplied suspect reports of surface pressure, geopotential height or wind during the month. The format of the tables is according to Recommendation 3 CBS-Ext(85) and the criteria for stations or data platforms to be classified as suspect are given at the top of each table. For tables 7 and 8 data for the worst

standard pressure level are shown. Units of RMS, standard deviation and bias are hPa in tables 1 and 4, m in table 7 and  $\text{ms}^{-1}$  in tables 2, 5 and 8. In tables 7 and 8 the station position is indicated; in the case of TEMPSHIPS and PILOTSHIPS this position is obtained from the first report of the month. The gross error limits for first-guess deviations of geopotential in table 7 are as follows:

Level	Geop
1000	100m
925	100m
850	100m
700	100m
500	150m
400	175m
300	200m
250	225m
200	250m
150	275m
100	300m
70	375m
50	400m
30	450m

The corresponding limits for wind (table 8) are:

Level	Wind
1000	$35\text{ms}^{-1}$
925	$35\text{ms}^{-1}$
850	$35\text{ms}^{-1}$
700	$40\text{ms}^{-1}$
500	$45\text{ms}^{-1}$
400	$50\text{ms}^{-1}$
300	$60\text{ms}^{-1}$
250	$60\text{ms}^{-1}$
200	$50\text{ms}^{-1}$
150	$50\text{ms}^{-1}$
100	$45\text{ms}^{-1}$

In table 7 the weighted RMS values at standard levels are calculated using the following weights:

Level	Weight
1000	3.70
925	3.55
850	3.40
700	2.90
500	2.20
400	1.90
300	1.60
250	1.50
200	1.37
150	1.19
100	1.00
70	0.87
50	0.80
30	0.64

Tables 10 and 11 provide geopotential and wind quality statistics (100 hPa level) for TEMPSHIPs and PILOTSHIPs received during the month. Units and display format are identical to those in tables 7 and 8 respectively. Tables 13, 14 (50 hPa), 15 and 16 (100 hPa), 17 and 18 (500hPa), 19 and 20 (850hPa) provide similar radiosonde statistics for the EUCOS area.

Tables 21-23 are similar to tables 4-6 with data coverage restricted to the EUCOS area.

Figures 14-18 show global charts of SATOB and aircraft wind quality, where the statistics have been averaged over latitude/longitude boxes of 5 degrees square, and the mean observed minus first-guess (or 'bias') wind vectors have been plotted. All observations in the specified layers have been used. For comparison the mean observed wind (from the SATOB reports only) for each layer is shown in figures 14 and 15. A reference value of wind speed is plotted in the top right corner of each figure. An arrow is only plotted if 10 or more observations have been received in that 5 degree square.

Table 12 provides quality statistics of aircraft wind observations in the layer 300-150 hPa stratified by airline carrier. The format and specifications of the table have been defined by NMC Washington, the lead centre for the monitoring of aircraft and satellite data.

Table 24 shows list of Assimilated BUFR Encoded Radiosonde Stations monitored within the month.

Table 25 shows list of BUFR Encoded Radiosonde Stations with no TAC Counterpart monitored within the month.