



ECMWF Global Data Monitoring Report

October 2021

*This paper has not been published
and has only a very limited circulation.*

*Permission to quote from it should be
obtained from the ECMWF.*

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

Contents

1	Introduction	3
2	Data summary - History of events	4
2.1	Radiosondes	4
2.2	Drifting Buoys	6
3	Global monitoring statistics	6
3.1	Data Availability	6
3.2	Data Quality	6
3.2.1	Figure 1 - Availability - SYNOP PRESSURE	8
3.2.2	Figure 2 - Availability - DRIFTER PRESSURE	9
3.2.3	Figure 3 - Availability - TEMP 500 hPa geopotential	10
3.2.4	Figure 4 - Availability - TEMP/PILOT 300 hPa wind	11
3.2.5	Figure 5 - Availability - AIRCRAFT winds 300-150 hPa	12
3.2.6	Figure 6 - Availability - SATOB winds 400-150 hPa	13
3.2.7	Figure 7 - Availability - SATOB winds 1000-700 hPa	14
3.2.8	Figure 8 - Availability - NOAA15 ATOVS : AMSU-A	15
3.2.9	Figure 9.1 - Availability - NOAA18 ATOVS : AMSU-A	16
3.2.10	Figure 9.2 - Availability - AQUA ATOVS : AMSU-A	17
3.2.11	Figure 9.3 - Availability - METOP ATOVS : AMSU-A	18
3.2.12	Table 1 - Suspect ships and fixed marine platforms: Surface pressure - (hPa)	19
3.2.13	Table 2 - Suspect ships and fixed marine platforms: Wind speed (m/s)	21
3.2.14	Table 3 - Suspect ships and fixed marine platforms: Wind direction (DEGREES)	22
3.2.15	Table 4 - Suspect drifters: Surface pressure (HPA)	23
3.2.16	Table 5 - Suspect drifters: Wind speed (m/s)	24
3.2.17	Table 6 - Suspect drifters: Wind direction (degrees)	25
3.2.18	Table 7 - Suspect radiosondes: Geopotential height (metres)	27
3.2.19	Table 8 - Suspect radiosondes: Wind (m/s)	28
3.2.20	Table 9 - Suspect radiosondes: Wind direction (degrees)	29
3.2.21	Figure 10 - Suspect TEMP observations - geopotential : 00 UTC	30
3.2.22	Figure 11 - Suspect TEMP observations - geopotential : 12 UTC	31
3.2.23	Figure 12 - Suspect TEMP/PILOT observations - wind : 00 UTC	32
3.2.24	Figure 13 - Suspect TEMP/PILOT observations - wind : 12 UTC	33
3.2.25	Table 10 - Radiosonde monitoring statistics (SHIPs): Geopotential height (metres)	34
3.2.26	Table 11 - Radiosonde monitoring statistics (SHIPs): Wind (m/s)	35
3.2.27	Figure 14 - SATOB Winds: 700-1000hPa	36
3.2.28	Figure 15 - SATOB Winds: 150- 400hPa	37
3.2.29	Figure 16 - SATOB Winds: 700-1000hPa	38
3.2.30	Figure 17 - SATOB Winds: 150- 400hPa	39
3.2.31	Figure 18 - AIRCRAFT Winds: 150- 300hPa	40
3.2.32	Table 12 - Airep Monitoring Statistics For Airline Carriers (Global)	41
4	EUCOS Area Monitoring Statistics	48
4.1	Table 13 - Radiosonde Monitoring Statistics (EUCOS): 50 hPa Geopotential height (metres)	49
4.2	Table 14 - Radiosonde Monitoring Statistics (EUCOS):50 hPa Wind (m/s)	52
4.3	Table 15 - Radiosonde Monitoring Statistics (EUCOS): 100 hPa Geopotential height (metres)	55
4.4	Table 16 - Radiosonde Monitoring Statistics (EUCOS): 100 hPa Wind (m/s)	58
4.5	Table 17 - Radiosonde Monitoring Statistics (EUCOS): 500 hPa Geopotential height (metres)	61
4.6	Table 18 - Radiosonde Monitoring Statistics (EUCOS): 500 hPa Wind (m/s)	64
4.7	Table 19 - Radiosonde Monitoring Statistics (EUCOS): 850 hPa Geopotential height (metres)	67
4.8	Table 20 - Radiosonde Monitoring Statistics (EUCOS): 850 hPa Wind (m/s)	70
4.9	Table 21 - Drifter Monitoring Statistics (EUCOS): Surface pressure (hpa)	73
4.10	Table 22 - Drifter Monitoring Statistics (EUCOS): Wind speed (m/s)	86
4.11	Table 23 - Drifter Monitoring Statistics (EUCOS): Wind direction	90
4.12	Table 24 - List of Assimilated BUFR Encoded Radiosonde Stations	96
4.13	Table 25 - List of BUFR Encoded Radiosonde Stations with no TAC Counterpart	97

5 Annex - Explanations of figures and tables	98
5.1 General	98
5.2 Data Availability	98
5.3 Data Quality	98

Summary of Revisions (in reverse order)

- Revision 28 (June 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	Sep	Oct	Ident	Time	Sep	Oct
24908	(12)	11	0	16144	(12)	17	31
29698	(00)	29	18	23955	(00)	2	16
29698	(12)	30	18	23955	(12)	2	20
37789	(00)	29	8	30673	(12)	18	31
42410	(00)	25	9	41640	(00)	0	14
47102	(00)	27	0	41640	(12)	0	15
47102	(12)	27	1	61291	(00)	0	20
47104	(00)	27	2	61291	(12)	0	23
47104	(12)	27	2	63894	(12)	10	30
47138	(00)	26	3	68842	(12)	18	31
47138	(12)	26	3	76805	(12)	0	22
47169	(00)	30	3	83378	(00)	15	30
47169	(12)	30	3	83566	(00)	13	30
47186	(00)	30	7	89009	(12)	2	25
47186	(12)	30	6	89664	(12)	1	31
48568	(00)	30	12	-	-	-	-
48839	(00)	30	12	-	-	-	-
72393	(00)	30	5	-	-	-	-
74794	(12)	60	31	-	-	-	-
76526	(12)	22	9	-	-	-	-
82599	(12)	21	8	-	-	-	-
83362	(12)	28	0	-	-	-	-
84203	(12)	12	1	-	-	-	-
98618	(00)	29	15	-	-	-	-
98618	(12)	29	10	-	-	-	-

2.2 Drifting Buoys

Surface pressure observations from **1820** 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.

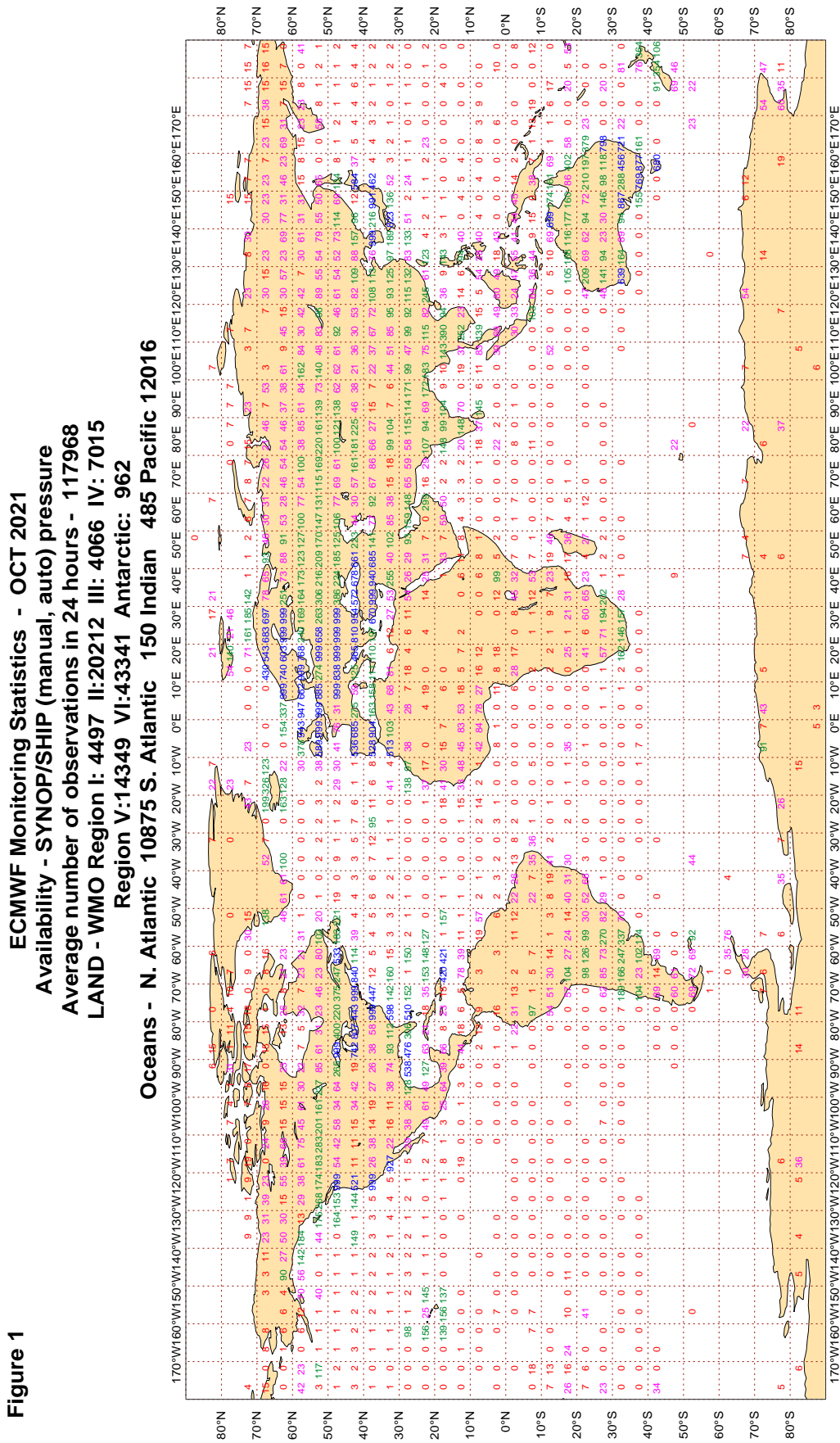
Tab	Parameter	Observation Time
10	Geopotential	00 and 12 UTC
11	Wind	00 and 12 UTC

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

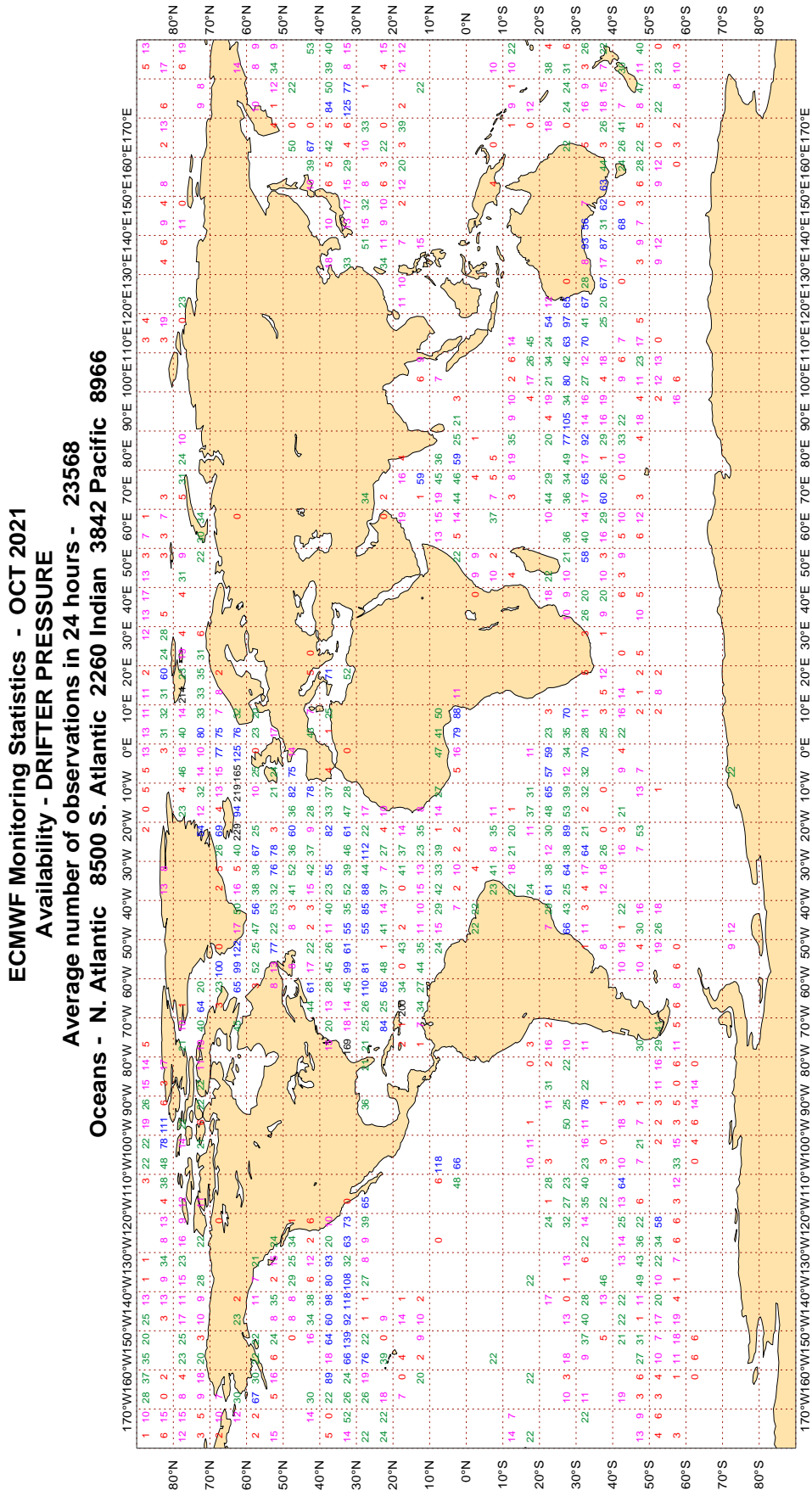
Table 12 provides quality statistics of aircraft wind observations stratified by airline carrier.

3.2.1 Figure 1 - Availability - SYNOP PRESSURE



3.2.2 Figure 2 - Availability - DRIFTER PRESSURE

Figure 2

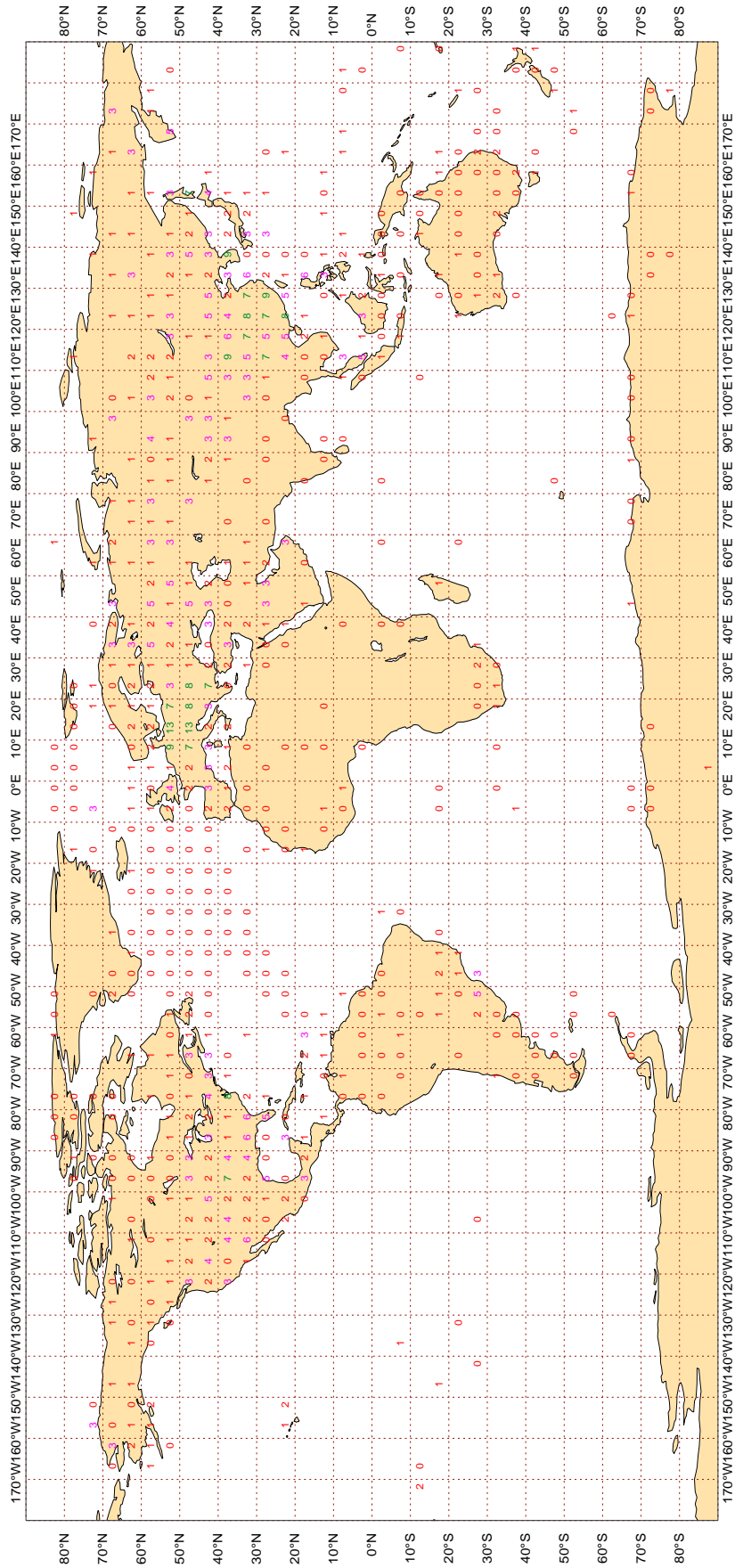


Magics 3.0.4 (64 bit)

3.2.3 Figure 3 - Availability - TEMP 500 hPa geopotential

Figure 3

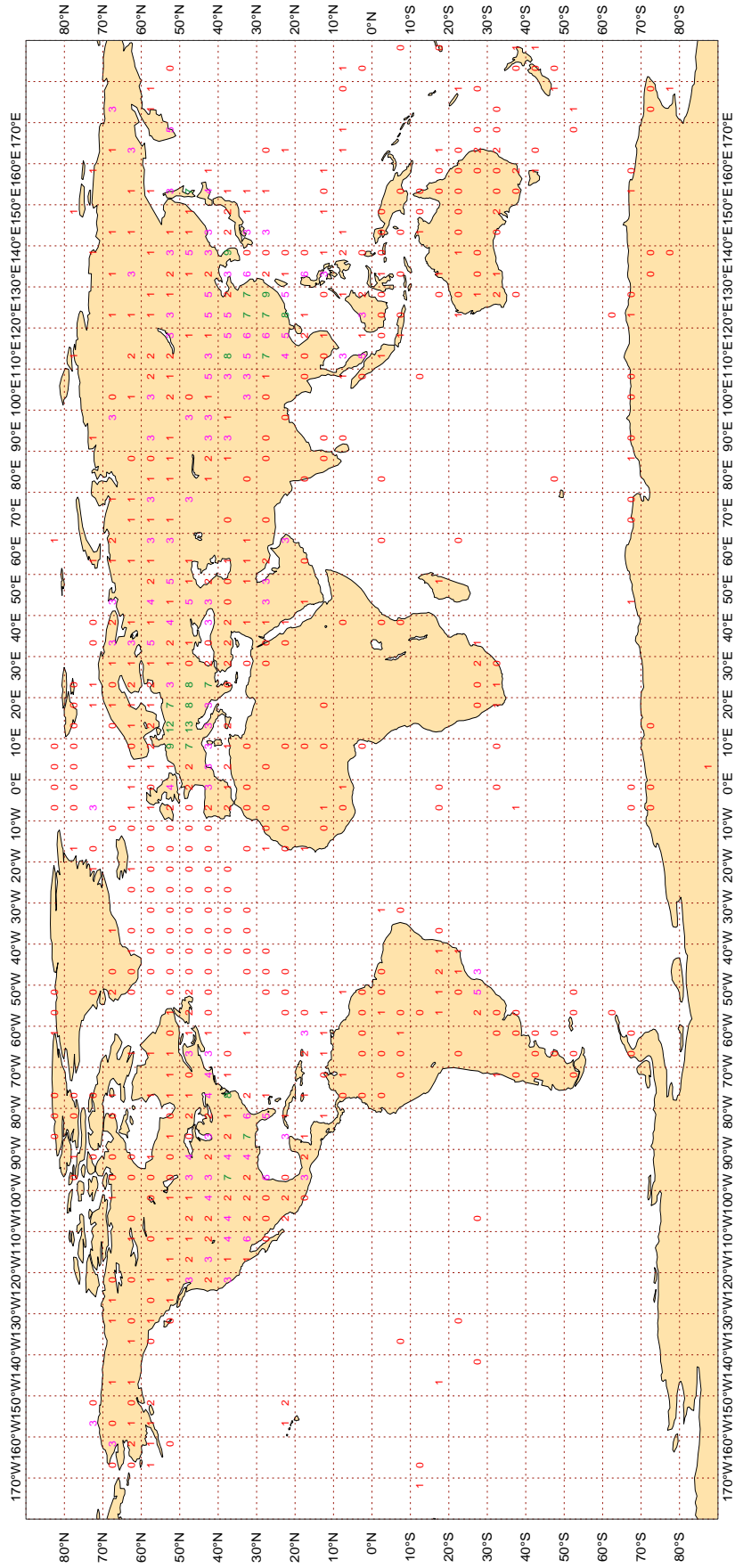
ECMWF Monitoring Statistics - OCT 2021
 Availability - TEMP 500 hPa Geopotential
 Average number of observations in 24 hours - 1203
 LAND - WMO Region I: 36 II: 442 III: 55 IV: 269
 Region V: 120 VI: 255 Antarctic: 16
 Oceans - N. Atlantic 11 S. Atlantic 0 Indian 0 Pacific 0



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

Figure 4

ECMWF Monitoring Statistics - OCT 2021
 Availability - TEMP/PILOT 300 hPa wind
 Average number of observations in 24 hours - 1197
 LAND - WMO Region I: 36 II: 437 III: 55 IV: 273
 Region V: 119 VI: 251 Antarctic: 16
 Oceans - N. Atlantic 10 S. Atlantic 0 Indian 0 Pacific 0



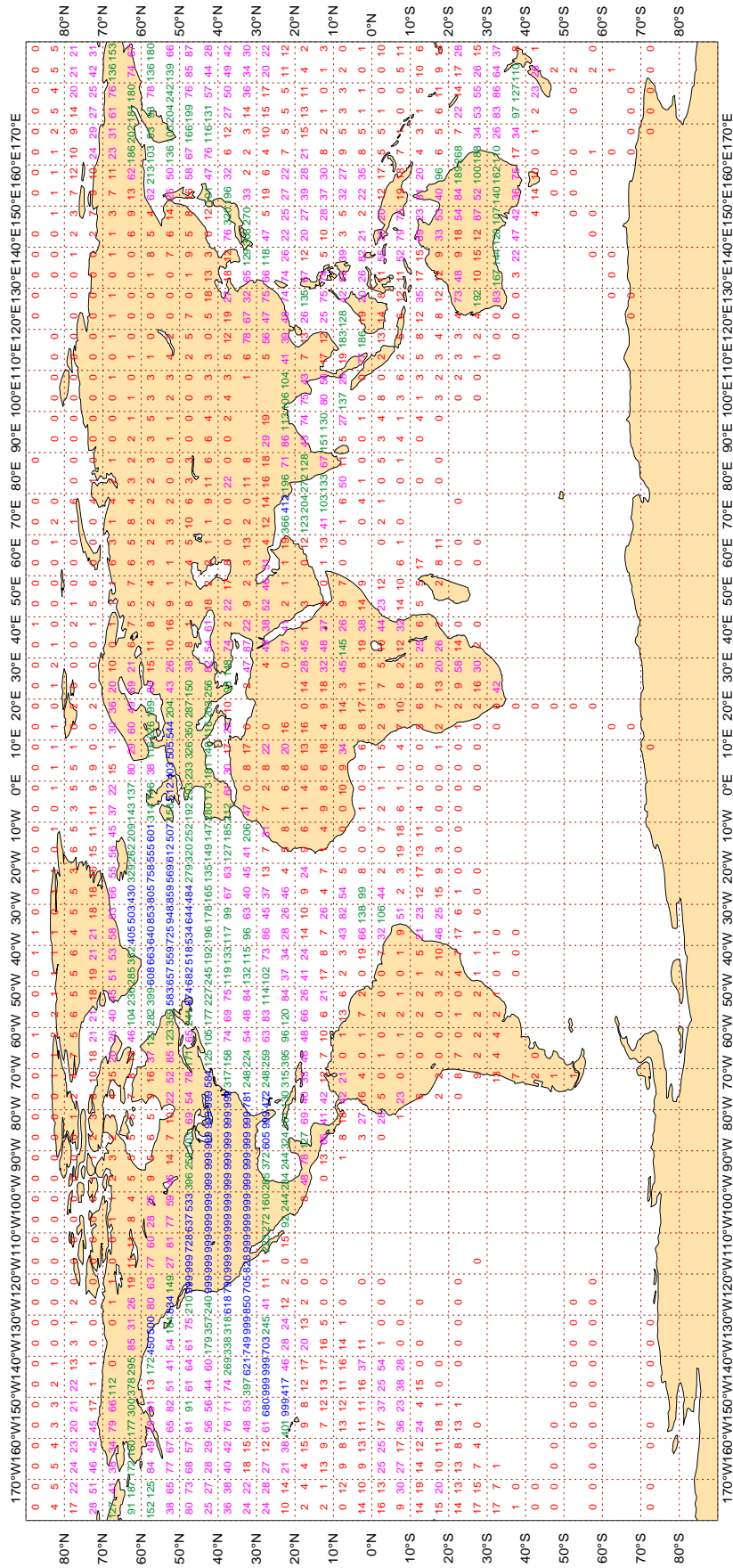
Magics 3.0.4 (64 bit)



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

Figure 5

ECMWF Monitoring Statistics - OCT 2021
Availability - Aircraft winds 300-150 hPa
Average number of observations in 24 hours - 151320



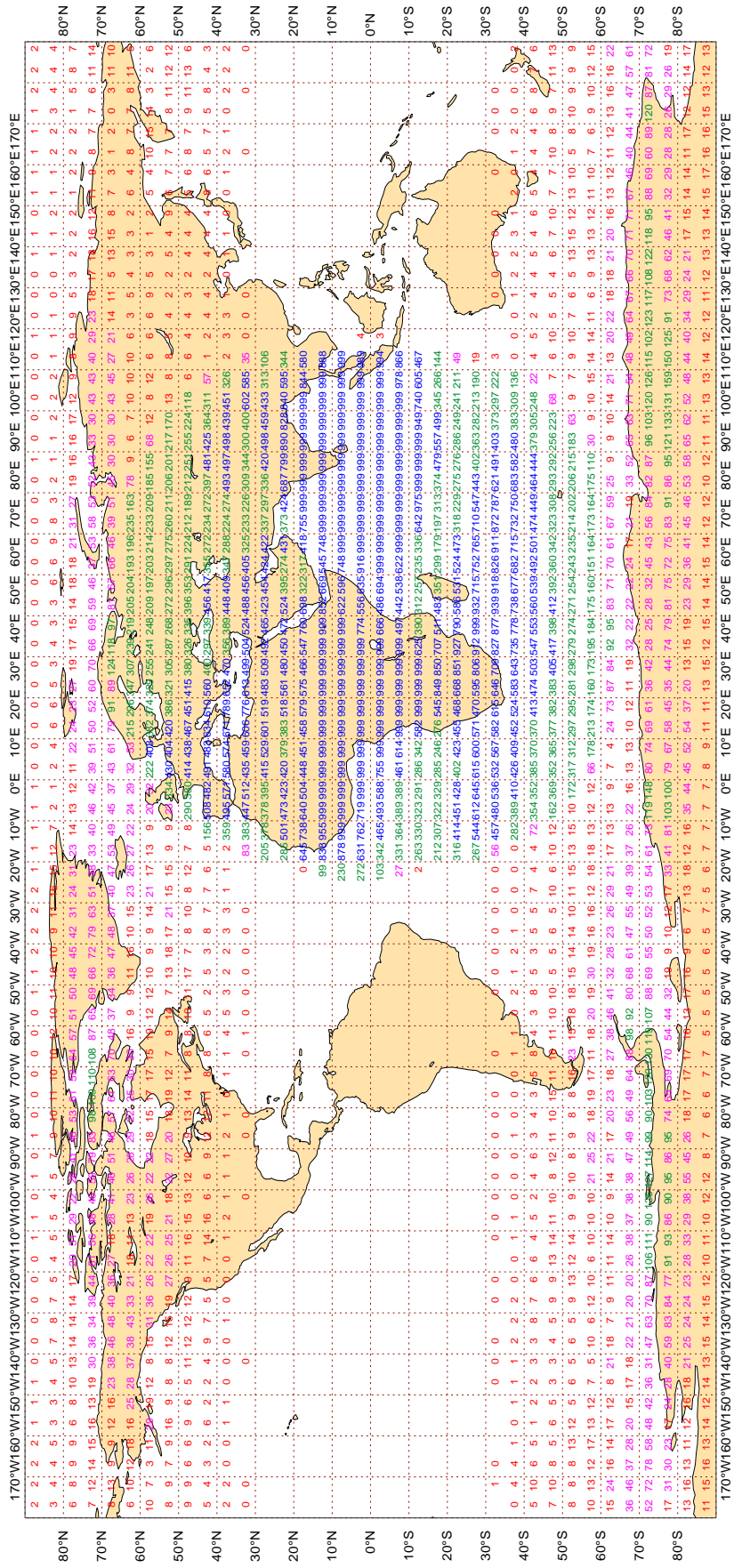
Magics 3.0.4 (64 bit)



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

Figure 6

ECMWF Monitoring Statistics - OCT 2021
Availability - AMV winds 400-150 hPa
Average number of observations in 24 hours - 385884



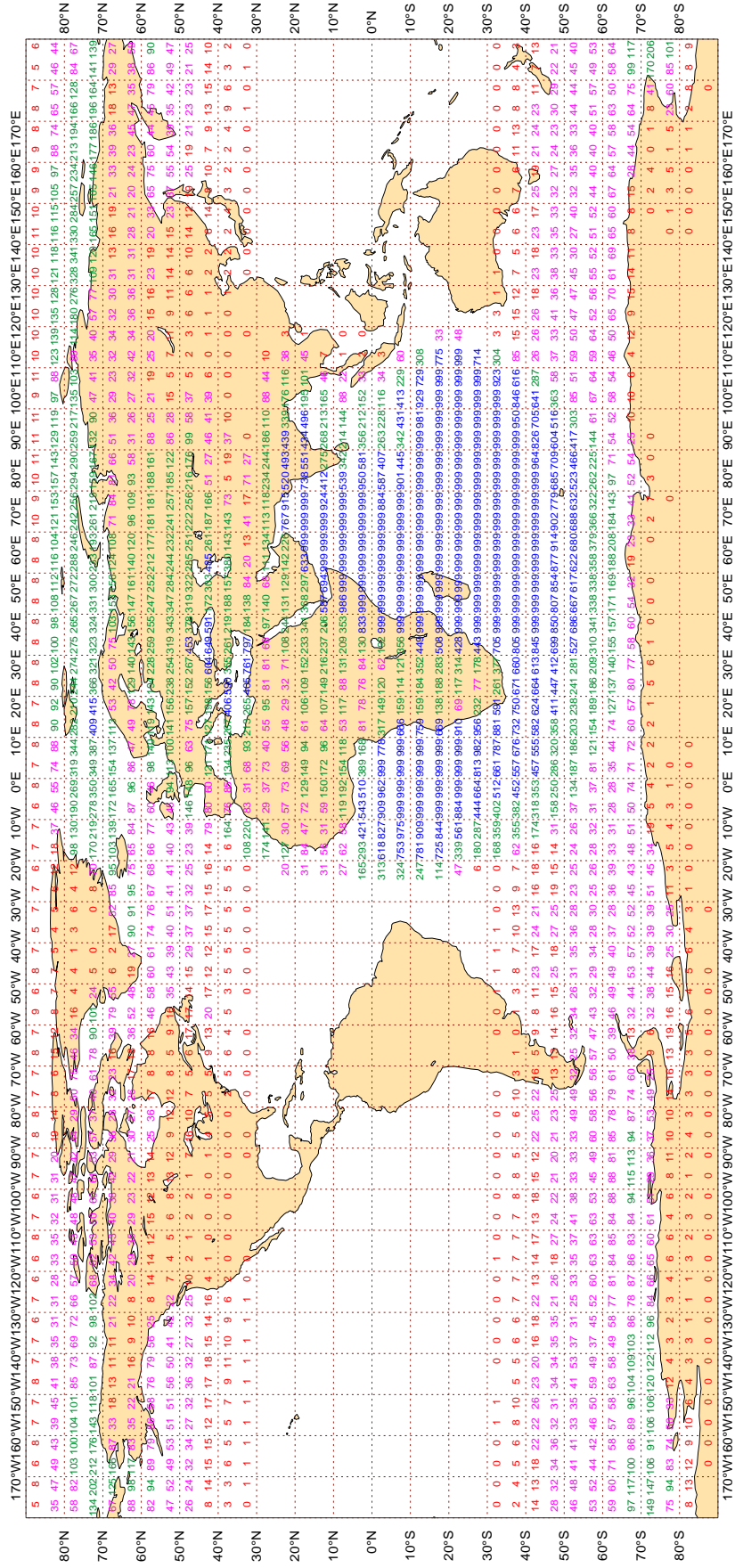
Magics 3.0.4 (64 bit)



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

Figure 7

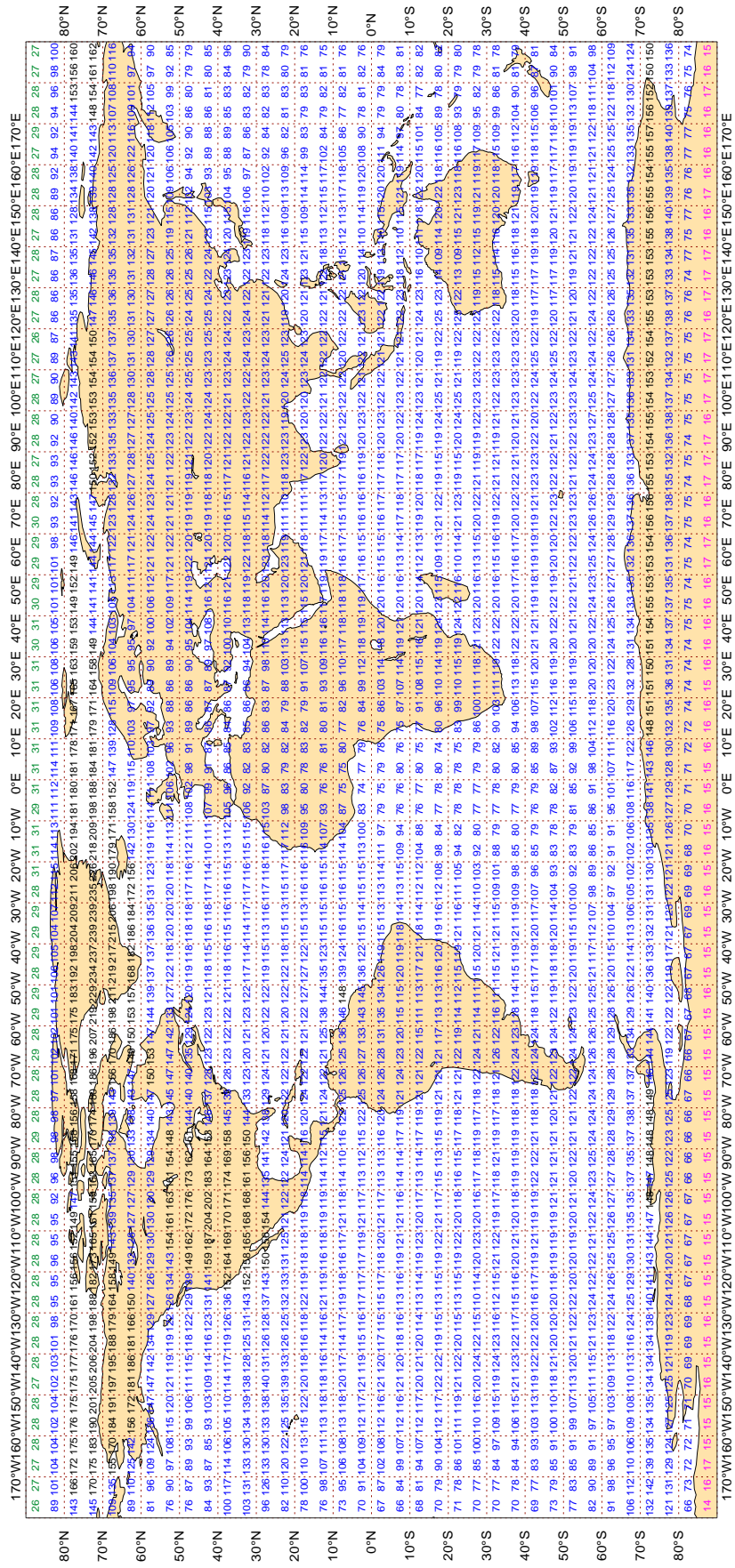
ECMWF Monitoring Statistics - OCT 2021
Availability - AMV winds 1000-700 hPa
Average number of observations in 24 hours - 422654



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

Figure 8

ECMWF Monitoring Statistics - OCT 2021
Availability - NOAA15 ATOVS : AMSU-A
Average number of observations in 24 hours - 294573



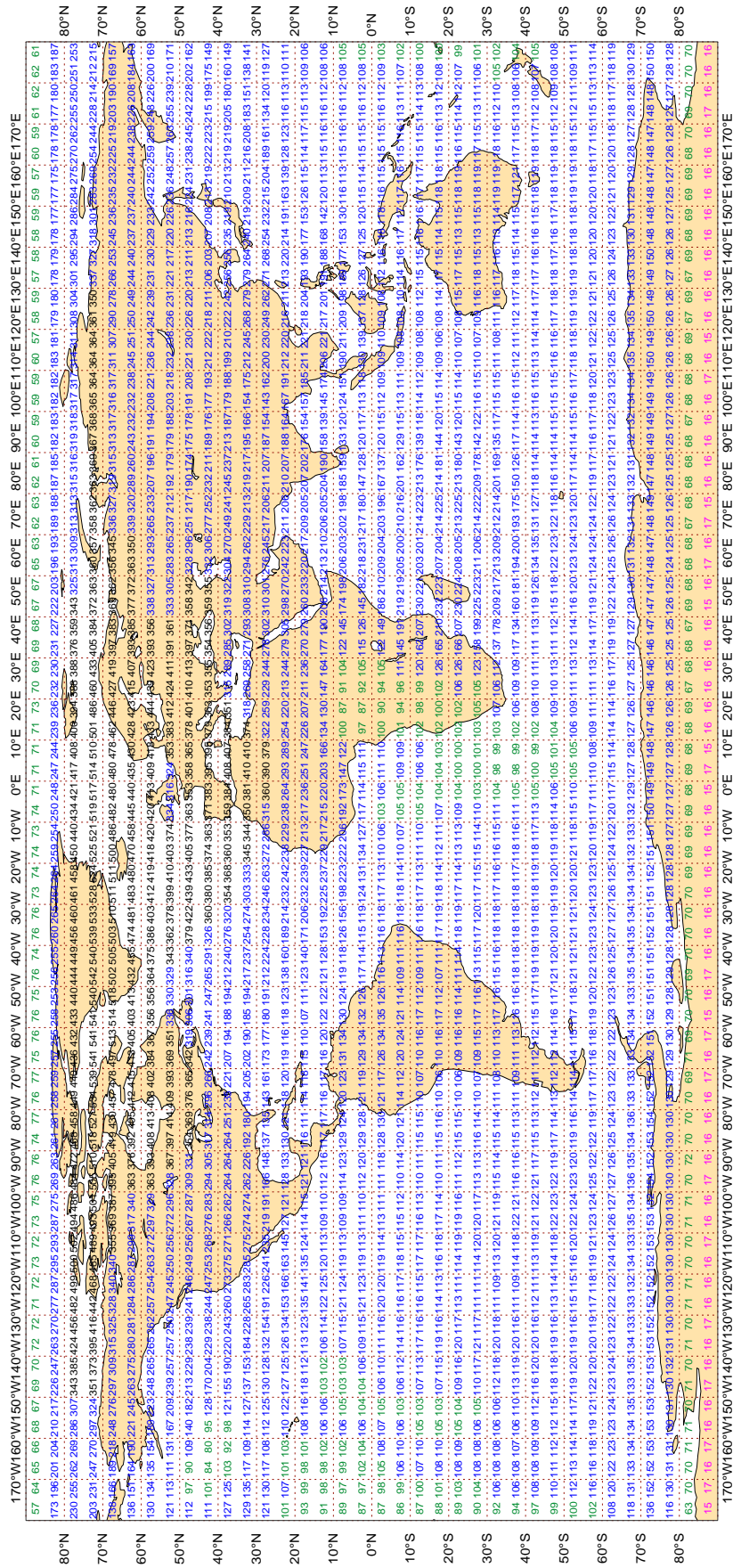
Magics 3.0.4 (64 bit)



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

Figure 9.1

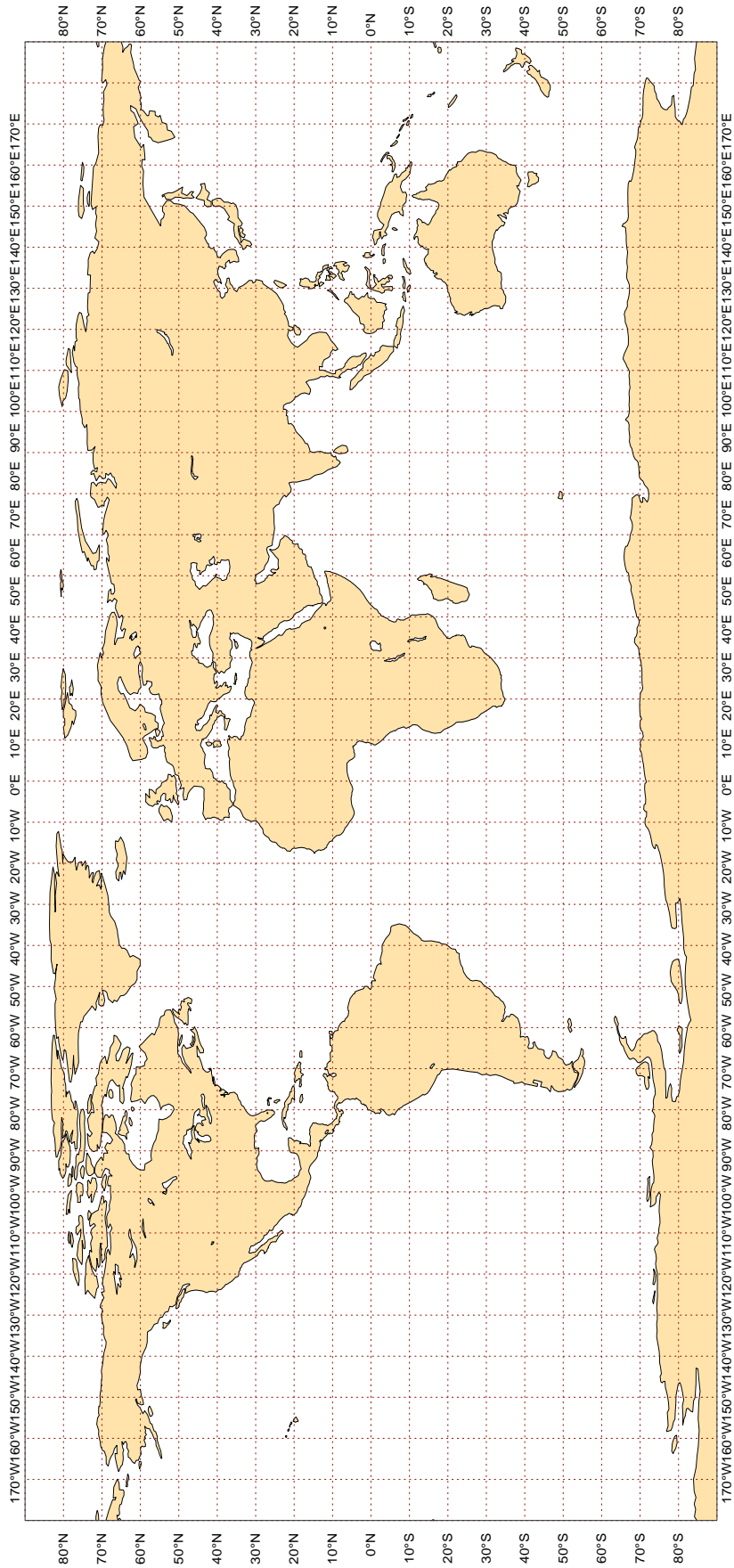
ECMWF Monitoring Statistics - OCT 2021
Availability - NOAA18 ATOVS : AMSU-A
Average number of observations in 24 hours - 460930



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

Figure 9.2

ECMWF Monitoring Statistics - OCT 2021
Availability - AQUA ATOVS : AMSU-A
Average number of observations in 24 hours - 0

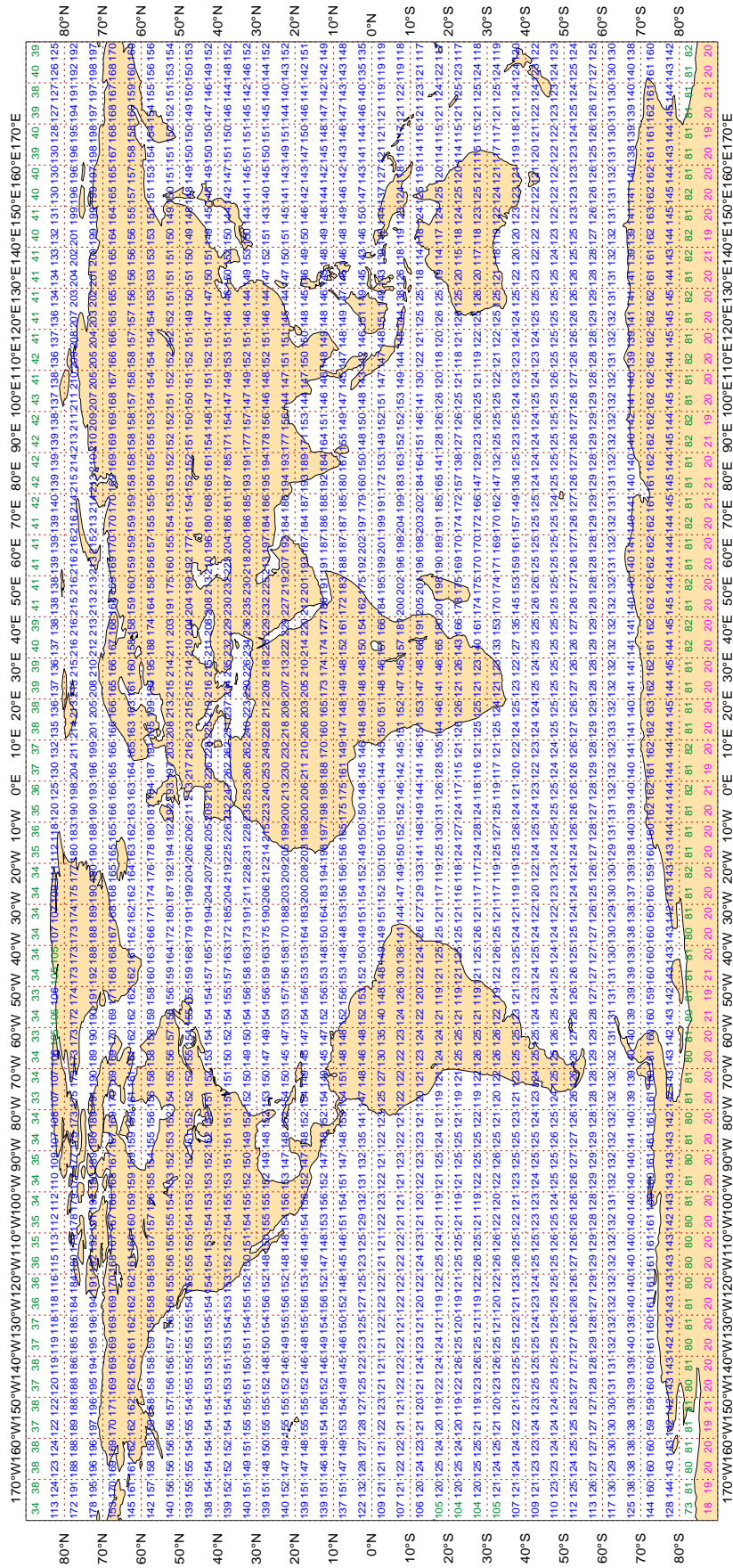


3.2.11 Figure 9.3 - Availability - METOP ATOVS : AMSU-A

Figure 9.3

ECMWF Monitoring Statistics - OCT 2021
Availability - METOP ATOVS : AMSU-A

Average number of observations in 24 hours - 368071



Magics 3.0.4 (64 bit)



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 : OCT 2021
 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
3FBD9	99	P	SUR	76	0	1.8	-3.5	4.0
7KEG	99	P	SUR	33	0	1.2	-4.6	4.8
9HA4902	99	P	SUR	24	0	0.7	4.9	5.0
9HA5209	99	P	SUR	25	0	1.1	12.2	12.2
9HSJ7	99	P	SUR	16	0	2.4	3.7	4.4
9V3286	99	P	SUR	26	0	1.9	3.0	3.5
9V3532	99	P	SUR	24	18	1.0	11.9	11.9
9V7021	99	P	SUR	28	1	1.5	-5.5	5.7
9V9365	99	P	SUR	24	0	1.4	5.7	5.9
9V9401	99	P	SUR	84	0	1.4	-4.8	5.0
9V9404	99	P	SUR	68	0	1.8	5.1	5.4
9V9793	99	P	SUR	40	1	0.5	4.8	4.8
AVFX	99	P	SUR	177	0	0.5	4.0	4.1
AVQU	99	P	SUR	109	0	5.0	6.4	8.1
BKIC	99	P	SUR	30	0	2.3	3.1	3.8
C6AV5	99	P	SUR	31	0	1.4	-5.2	5.4
C6LG6	99	P	SUR	123	0	0.6	-3.5	3.5
C6SE5	99	P	SUR	45	0	2.1	-5.0	5.4
C6TQ6	99	P	SUR	45	0	0.4	-7.7	7.7
C6XS8	99	P	SUR	20	0	1.9	4.4	4.8
C6YM6	99	P	SUR	32	0	1.2	3.2	3.4
CCRA	99	P	SUR	15	0	1.0	-6.7	6.8
CFK5151	99	P	SUR	22	0	4.1	-3.8	5.6
CFK9796	99	P	SUR	17	3	2.0	-7.3	7.5
JMJRCES	99	P	SUR	79	0	2.7	-5.3	5.9
KIAB	99	P	SUR	21	0	1.2	3.9	4.1
LANT5	99	P	SUR	61	0	0.8	4.1	4.1
LAZU5	99	P	SUR	16	1	1.0	3.2	3.3
ONJG	99	P	SUR	43	0	2.2	4.0	4.6
ONKJ	99	P	SUR	22	2	3.2	5.7	6.5
PBGJ	99	P	SUR	40	0	1.6	-4.9	5.1
PINX	99	P	SUR	29	0	0.8	-4.1	4.2

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
SJA4RSK	99	P	SUR	125	0	0.4	-4.9	4.9
UAST	99	P	SUR	16	2	2.3	9.0	9.3
UBSH	99	P	SUR	24	0	4.1	-3.5	5.4
UCFT	99	P	SUR	50	0	2.2	-4.4	4.9
V7FV9	99	P	SUR	77	0	0.5	-3.5	3.6
V7SD8	99	P	SUR	35	0	1.6	5.6	5.9
V7TM3	99	P	SUR	21	0	1.9	-3.1	3.7
VDBA	99	P	SUR	16	15	0.0	11.9	11.9
VRCI9	99	P	SUR	24	0	1.8	4.5	4.8
VRDB3	99	P	SUR	20	0	1.3	-3.5	3.7
VRDW6	99	P	SUR	15	0	0.7	3.3	3.4
VRFW9	99	P	SUR	17	0	1.5	3.2	3.5
VRME7	99	P	SUR	37	0	2.7	8.9	9.3
VRRB6	99	P	SUR	94	0	2.7	4.9	5.6
VRZQ9	99	P	SUR	22	0	0.8	-3.0	3.1
WDH7563	99	P	SUR	28	5	8.0	0.3	8.0
WDJ3199	99	P	SUR	42	0	2.6	3.7	4.5
WDJ4838	99	P	SUR	34	0	0.6	5.0	5.0
WRJP	99	P	SUR	42	0	1.0	4.2	4.3
ZGFY4	99	P	SUR	22	0	1.1	-12.4	12.4

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 : OCT 2021
 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
--------------	-------------	-----	-------	------------	--------------	------------	----	------	-----

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 : OCT 2021
 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
45141	99	DIRN	SUR	93	0	0	14.7	30.2	33.6
45196	99	DIRN	SUR	430	0	0	79.1	21.0	81.8
45197	99	DIRN	SUR	374	0	0	23.5	-36.4	43.3
46001	99	DIRN	SUR	108	12	0	70.3	-88.4	113.0
46073	99	DIRN	SUR	123	6	0	63.9	35.6	73.1
46092	99	DIRN	SUR	88	0	0	104.9	11.2	105.5
46205	99	DIRN	SUR	106	0	0	31.0	38.9	49.7
46303	99	DIRN	SUR	82	0	0	24.0	60.1	64.7

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 : OCT 2021
 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
0022958	99	P	SUR	36	122	618	0	6.2	8.1	10.2
1301716	99	P	SUR	19	-23	117	0	1.0	8.6	8.7
1601531	99	P	SUR	-28	35	707	76	5.0	5.2	7.2
1601593	99	P	SUR	-12	43	147	5	5.3	-5.2	7.5
1801584	99	P	SUR	41	-125	295	99	0.6	-0.6	0.8
2201597	99	P	SUR	23	121	730	730	0.0	0.0	0.0
2601503	99	P	SUR	86	109	283	85	3.9	-5.6	6.8
4401847	99	P	SUR	58	-163	254	145	7.7	2.4	8.1
4402709	99	P	SUR	74	-77	93	93	0.0	0.0	0.0
4701658	99	P	SUR	72	-95	725	8	3.0	8.4	8.9
4701744	99	P	SUR	81	-97	740	740	0.0	0.0	0.0
4801636	99	P	SUR	77	-148	709	79	7.3	0.9	7.3
4801670	99	P	SUR	85	-164	712	204	7.5	2.2	7.8
5301634	99	P	SUR	-13	83	290	0	1.2	4.4	4.6
6101005	99	P	SUR	38	26	40	19	0.7	0.3	0.8
6301511	99	P	SUR	55	-41	713	0	1.6	6.0	6.2
6401758	99	P	SUR	65	-36	323	111	0.6	0.0	0.6

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 : OCT 2021
 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
0031260	99	SPEED	SUR	-18	-39	637	0	0	1.9	5.6	5.9
0031374	99	SPEED	SUR	-26	-43	415	0	0	2.5	-5.7	6.2
4400069	99	SPEED	SUR	41	-73	1284	0	0	2.8	5.1	5.8
45164	99	SPEED	SUR	42	-82	31	0	0	1.8	-5.2	5.5
6101005	99	SPEED	SUR	38	26	136	0	0	5.4	-5.7	7.8

3.2.17 Table 6 - Suspect drifters: Wind direction (degrees)

LIST OF SUSPECT STATIONS : DRIFTER
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND DIRECTION (DEGREES)
 PERIOD : OCT 2021
 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
1300008	99	DIRN	SUR	15	-38	617	5	0	118.9	10.2	119.3
1300131	99	DIRN	SUR	28	-17	465	0	0	28.5	-97.5	101.5
1801580	99	DIRN	SUR	22	-66	1813	0	0	49.9	-79.1	93.5
2200297	99	DIRN	SUR	34	125	585	29	0	106.2	-24.0	108.9
2200298	99	DIRN	SUR	35	125	579	0	0	17.1	-46.7	49.7
23092	99	DIRN	SUR	18	89	40	0	0	55.5	-35.3	65.7
23093	99	DIRN	SUR	16	88	110	0	0	21.9	21.5	30.7
23454	99	DIRN	SUR	10	73	102	0	0	20.9	-21.2	29.8
23491	99	DIRN	SUR	12	93	146	0	0	93.8	-62.9	112.9
23497	99	DIRN	SUR	11	72	127	0	0	57.7	-78.4	97.3
3200315	99	DIRN	SUR	5	-110	736	0	0	75.4	18.4	77.6
32315	99	DIRN	SUR	5	-110	728	0	0	75.8	17.4	77.8
44078	99	DIRN	SUR	60	-40	4233	0	0	12.4	-24.3	27.2
4500168	99	DIRN	SUR	42	-86	1346	0	0	30.4	20.3	36.5
4500196	99	DIRN	SUR	42	-82	2582	0	0	78.4	21.2	81.2
4500197	99	DIRN	SUR	42	-82	1892	0	0	24.1	-36.5	43.7
45141	99	DIRN	SUR	61	-115	658	0	0	14.4	30.6	33.8
45196	99	DIRN	SUR	42	-82	3545	0	0	77.8	21.7	80.8
45197	99	DIRN	SUR	42	-82	3036	0	0	26.7	-36.4	45.2
4600001	99	DIRN	SUR	56	-148	656	70	0	75.1	-85.7	114.0
4600073	99	DIRN	SUR	55	-172	735	38	0	66.4	36.0	75.5
4600092	99	DIRN	SUR	37	-122	325	5	0	107.4	2.0	107.4
46001	99	DIRN	SUR	56	-148	1178	129	0	76.0	-84.8	113.8
46073	99	DIRN	SUR	55	-172	1348	71	0	66.3	34.9	74.9
46092	99	DIRN	SUR	37	-122	774	3	0	106.2	5.8	106.3
46205	99	DIRN	SUR	54	-134	728	0	0	31.1	37.9	49.0
46303	99	DIRN	SUR	49	-123	581	0	0	27.5	58.3	64.4
4803911	99	DIRN	SUR	62	-172	322	12	0	120.0	15.8	121.0
5200001	99	DIRN	SUR	2	165	599	0	0	18.0	22.2	28.5
52001	99	DIRN	SUR	2	165	587	0	0	18.0	22.5	28.8
6100281	99	DIRN	SUR	40	0	229	0	0	63.3	41.7	75.9

LIST OF SUSPECT STATIONS : DRIFTER
 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
6101009	99	DIRN	SUR	35	25	42	0	0	88.9	37.9	96.7
6200086	99	DIRN	SUR	55	6	326	0	0	12.3	23.2	26.3
6200200	99	DIRN	SUR	36	-8	571	0	0	168.4	-34.4	171.9
6301003	99	DIRN	SUR	74	24	601	0	0	16.4	22.4	27.7
6301004	99	DIRN	SUR	72	20	565	0	0	14.1	21.9	26.0
6401856	99	DIRN	SUR	66	-21	328	1	0	55.0	-67.3	86.9
6402725	99	DIRN	SUR	69	4	2127	0	0	70.4	-3.1	70.5
6600022	99	DIRN	SUR	54	14	192	9	0	41.0	-111.2	118.5

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 : OCT 2021
 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	12	Z	1000	57	3	25	0	5.5	76.5	76.7
01400	00	Z	1000	57	3	25	0	3.9	76.1	76.2
71082	00	Z	30	83	-62	22	3	147.8	-97.7	177.2
76394	00	Z	200	26	-100	18	0	110.7	113.4	158.5
76394	12	Z	200	26	-100	14	0	107.4	108.8	152.9
98233	12	Z	1000	18	122	21	0	31.5	25.8	40.7
98233	00	Z	1000	18	122	20	0	28.6	23.8	37.2
98558	12	Z	1000	11	126	30	2	31.4	46.7	56.3
98558	00	Z	1000	11	126	18	1	27.3	49.8	56.8
KMPLHP	12	Z	925	50	-10	11	0	8.3	49.0	49.7
KMPLHP	00	Z	1000	48	-13	12	0	14.7	56.0	57.9

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 : OCT 2021
 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
71701	12	V	250	46	-66	10	0	-4.6	-4.8	18.1

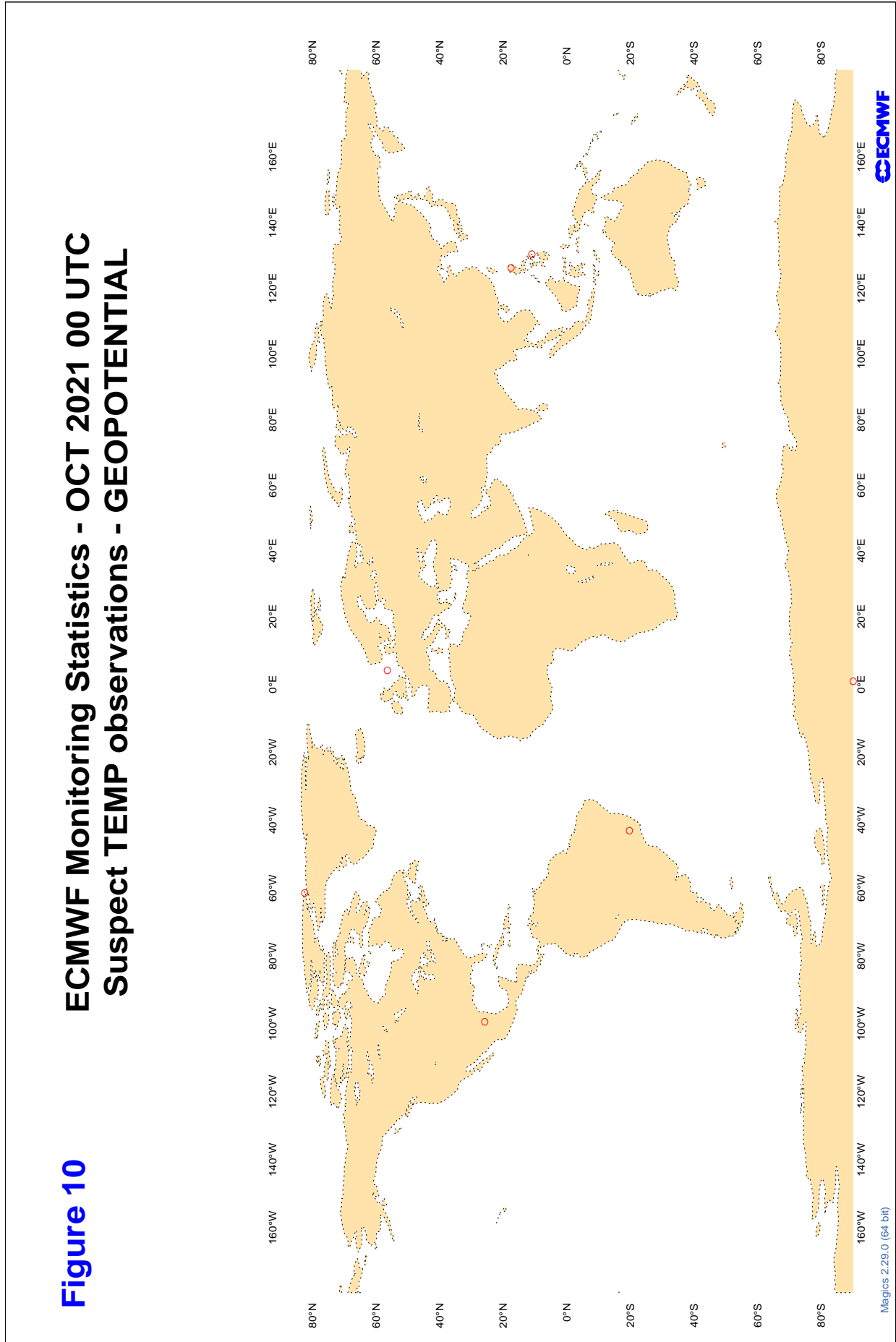
3.2.20 Table 9 - Suspect radiosondes: Wind direction (degrees)

LIST OF SUSPECT STATIONS : RADIOSONDES
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND DIRECTION (DEGREES)
 AREA : GLOBAL
 PERIOD : OCT 2021
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

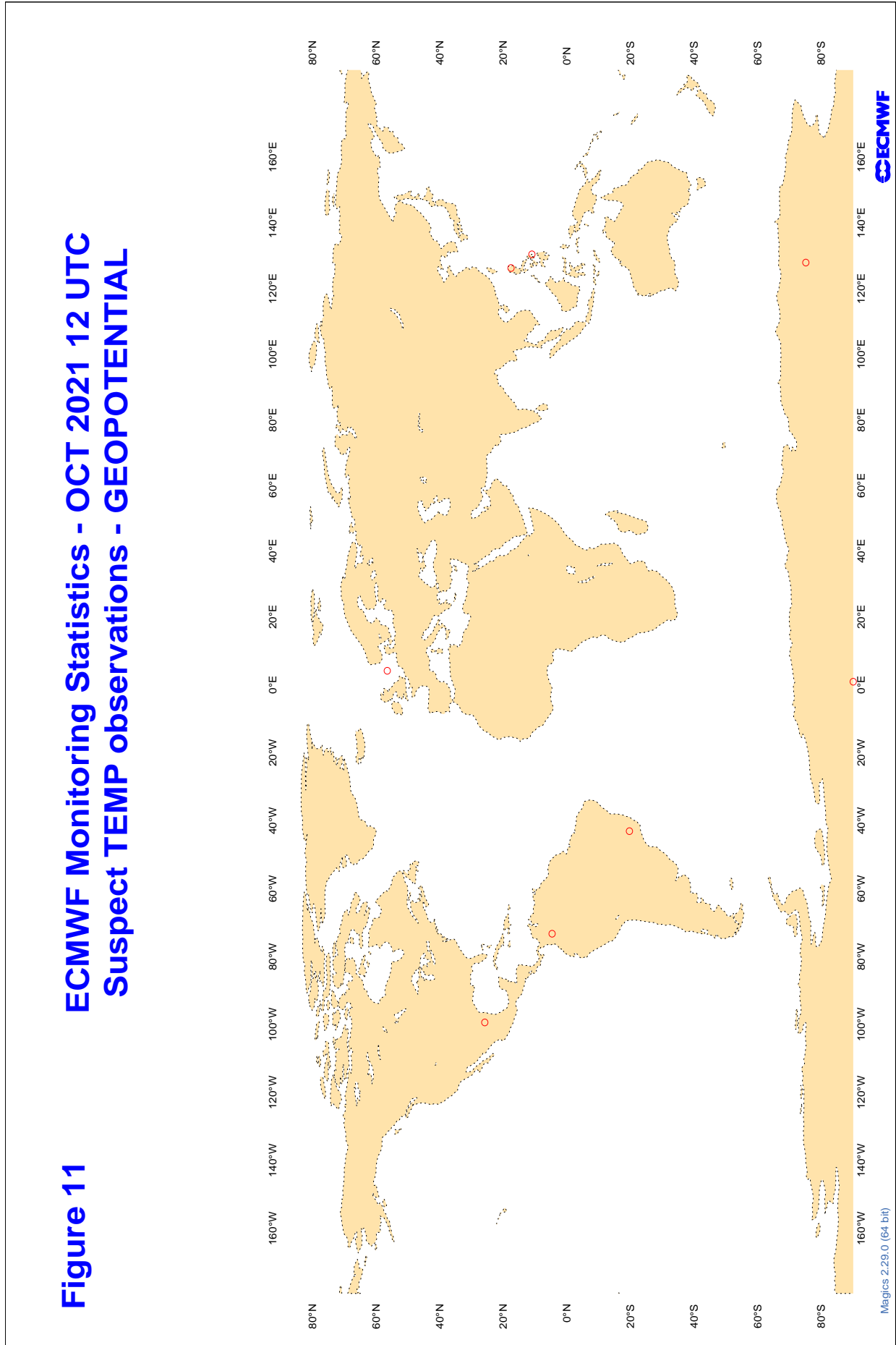
SELECTION CRITERIA: OBSERVED/FORECAST WIND SPEEDS \geq 5 M/S
 NO. OF OBSERVATIONS \geq 5, AND,
 ABSOLUTE BIAS \geq 10 DEGREES, WITH
 STANDARD DEVIATION $<$ 30 DEGREES, AND,
 VERTICAL SPREAD $<$ 10 DEGREES
 (AVERAGE BETWEEN 500 AND 150 HPA)

WMO IDENT	OBS TIME	ELM	LAT	LONG	NUM OBS	BIAS	MAX SPREAD	SD
--------------	-------------	-----	-----	------	------------	------	---------------	----

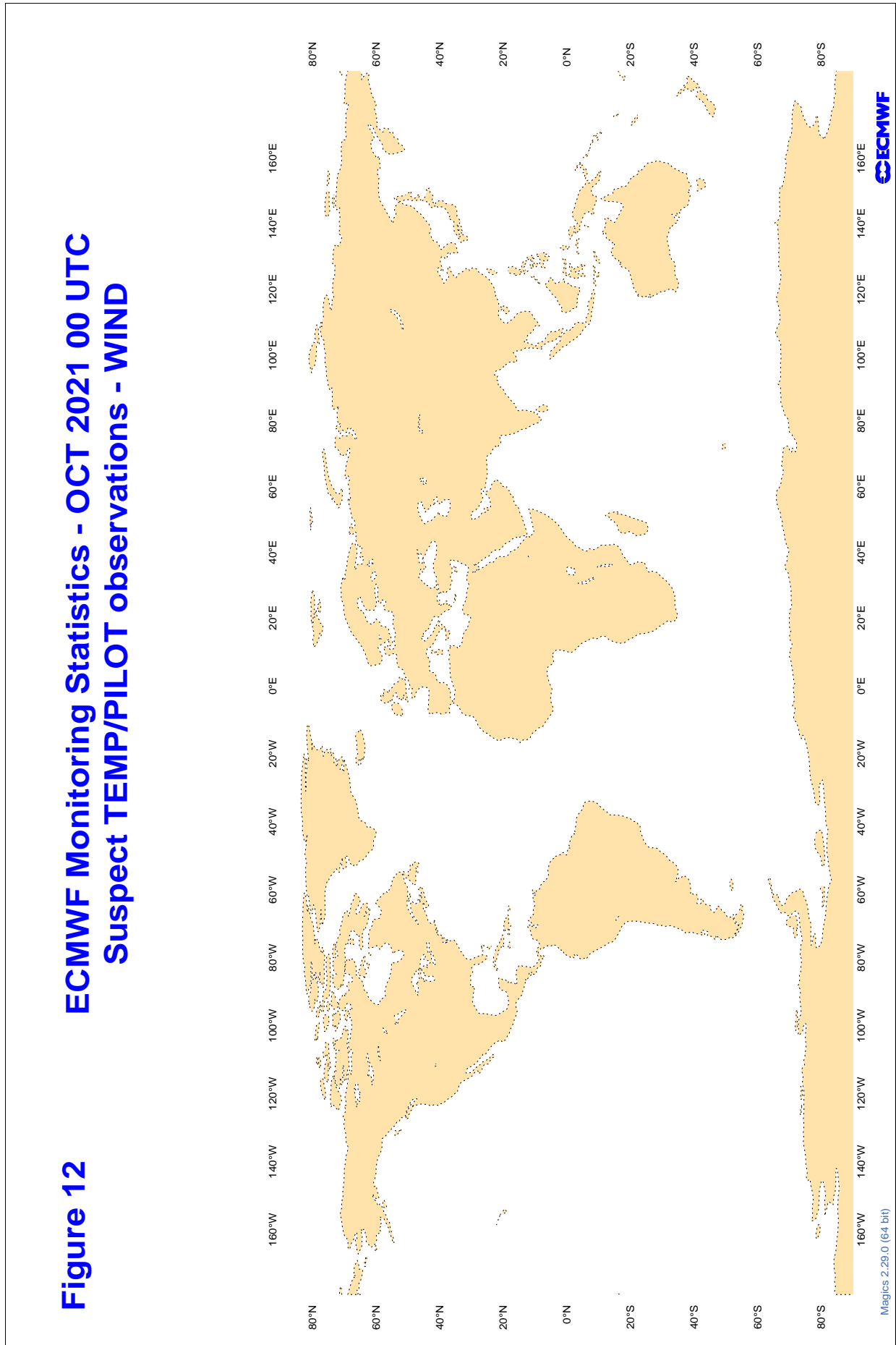
3.2.21 Figure 10 - Suspect TEMP observations - geopotential : 00 UTC



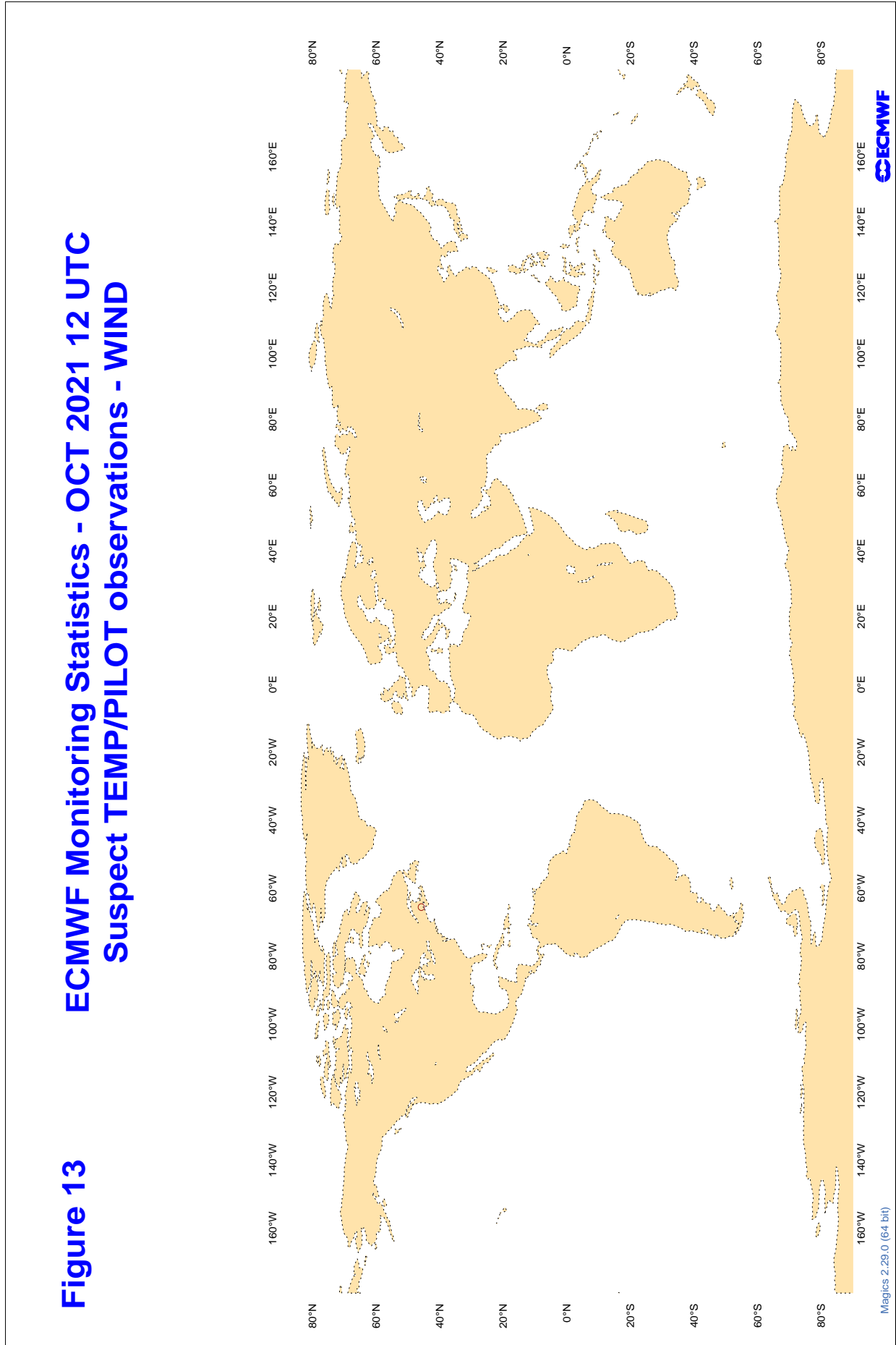
3.2.22 Figure 11 - Suspect TEMP observations - geopotential : 12 UTC



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



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



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 : OCT 2021
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
2EERVT	12	Z	100	6	5.6	1.3
2EERVT	00	Z	100	6	15.0	-7.6
7JUNA4	00	Z	100	8	15.7	11.7
7JUNA4	12	Z	100	7	18.8	17.1
ASDE09	12	Z	100	7	26.4	20.0
ATGU3F	12	Z	100	8	13.4	-12.2
ATGU3F	00	Z	100	5	15.6	-7.6
BPMWB2	00	Z	100	8	11.9	7.2
BPMWB2	12	Z	100	12	20.9	13.2
HTXUH4	00	Z	100	8	24.1	-20.9
HTXUH4	12	Z	100	5	24.0	-16.6
JNKN7J	00	Z	100	7	25.8	25.1
JNKN7J	12	Z	100	8	93.5	89.6
JPBN	00	Z	100	0	0.0	0.0
KJJF9X	00	Z	100	7	9.2	5.5
KJJF9X	12	Z	100	7	25.9	22.4
KMPLHP	00	Z	100	11	42.6	40.0
KMPLHP	12	Z	100	11	57.5	51.2
LRYQE3	00	Z	100	11	9.2	-1.6
LRYQE3	12	Z	100	13	22.5	16.2
USBOD	00	Z	100	2	32.4	28.7
USBOD	12	Z	100	2	14.8	14.1
USYUB	00	Z	100	1	16.5	16.5
USYUB	12	Z	100	2	4.7	-0.3
UXK5JT	00	Z	100	6	9.8	3.2
UXK5JT	12	Z	100	7	10.6	4.8
VKB4L5	12	Z	100	6	30.1	24.8
VKB4L5	00	Z	100	8	31.2	29.2
WDK38H	12	Z	100	16	11.4	-9.6
XKQLWQ	12	Z	100	1	101.6	101.6
XQFJRG	00	Z	100	4	8.0	-3.4
XQFJRG	12	Z	100	4	14.6	3.1
YLV96W	00	Z	100	6	8.0	-3.0
YLV96W	12	Z	100	6	10.2	6.1
ZSNO	12	Z	100	3	23.4	23.0
ZVQEQC	12	Z	100	2	8.9	8.7

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

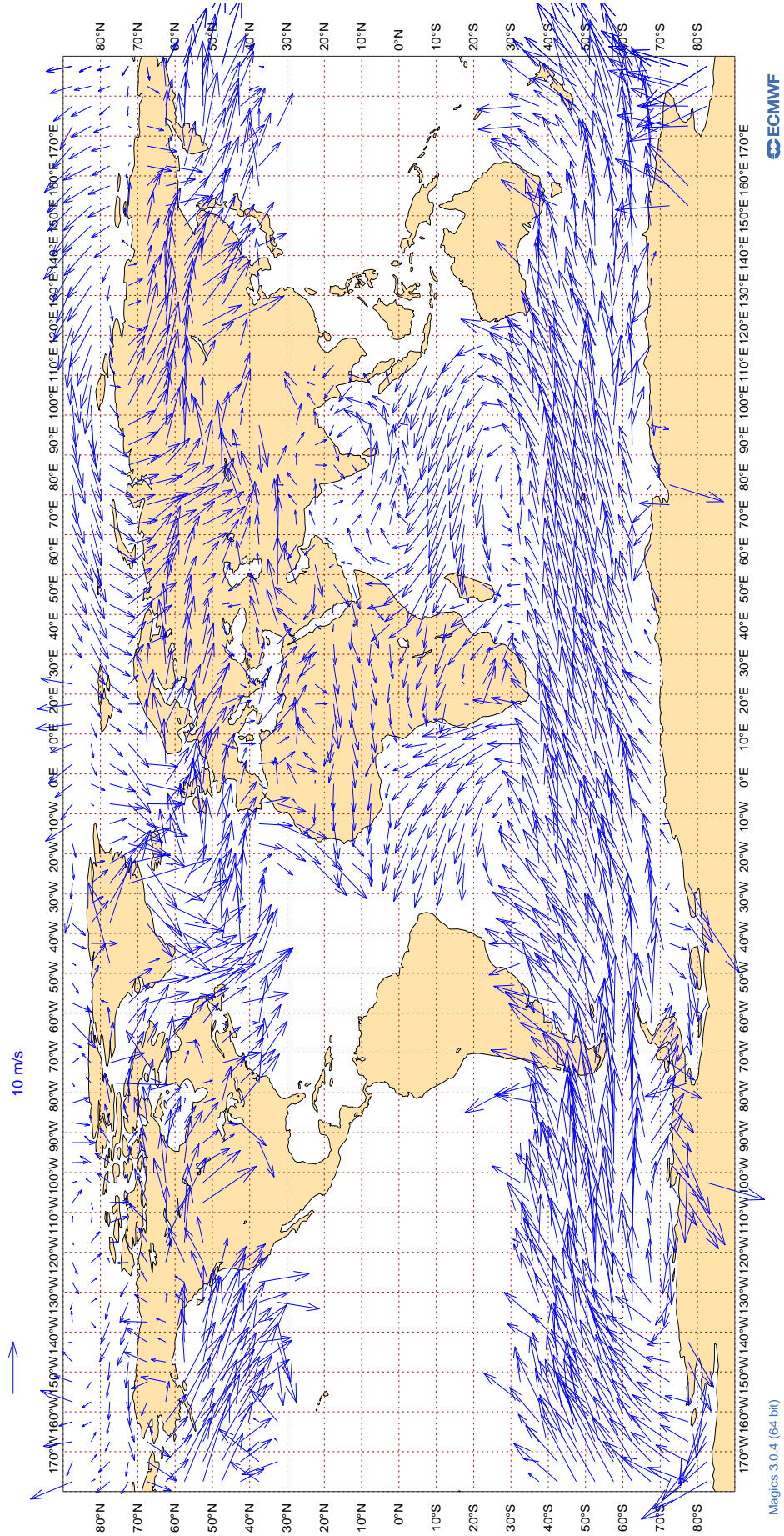
RADIOSONDE MONITORING STATISTICS (SHIPS)

MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND (M/S)
 LEVEL : 100 HPA
 AREA : GLOBAL
 PERIOD : OCT 2021
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
2EERT	12	V	100	6	2.8	0.1	-0.1
2EERT	00	V	100	6	3.1	-0.4	2.2
7JUNA4	00	V	100	8	4.7	-0.7	-0.7
7JUNA4	12	V	100	7	3.7	-0.5	-0.9
ASDE09	12	V	100	7	2.6	-0.3	0.8
ATGU3F	12	V	100	8	3.0	0.1	0.1
ATGU3F	00	V	100	5	3.6	-1.0	1.0
BPMWB2	00	V	100	8	2.0	-0.2	0.3
BPMWB2	12	V	100	12	3.1	0.1	-0.7
HTXUH4	00	V	100	8	3.3	-1.2	0.2
HTXUH4	12	V	100	5	2.6	-0.1	-0.8
JNKN7J	00	V	100	7	3.6	-0.1	1.9
JNKN7J	12	V	100	8	2.4	0.3	-0.1
JPBN	00	V	100	0	0.0	0.0	0.0
KJJF9X	00	V	100	7	4.4	-1.0	-1.1
KJJF9X	12	V	100	7	2.5	-1.0	0.1
KMPLHP	00	V	100	11	3.5	0.0	0.0
KMPLHP	12	V	100	11	2.2	-0.1	-0.2
LRYQE3	00	V	100	11	3.3	0.9	1.3
LRYQE3	12	V	100	13	3.7	-0.6	-0.6
USBOD	00	V	100	2	6.9	-5.3	-2.4
USBOD	12	V	100	1	7.7	-5.9	-4.9
USYUB	00	V	100	1	2.2	0.0	2.2
USYUB	12	V	100	1	8.7	3.6	7.9
UXK5JT	00	V	100	6	2.9	0.3	-0.2
UXK5JT	12	V	100	7	3.6	0.2	-1.1
VKB4L5	12	V	100	6	3.1	-0.2	0.9
VKB4L5	00	V	100	8	2.8	0.1	-0.9
WDK38H	12	V	100	15	2.3	0.0	-0.1
XKQLWQ	12	V	100	1	2.1	1.7	-1.2
XQFJRG	00	V	100	4	3.2	-0.9	-1.0
XQFJRG	12	V	100	4	3.4	1.0	0.2
YL96W	00	V	100	6	2.8	-0.4	2.0
YL96W	12	V	100	5	1.8	-0.8	0.8
ZSNO	12	V	100	3	3.1	1.2	0.3
ZVQEQC	12	V	100	2	2.6	-1.8	-0.3

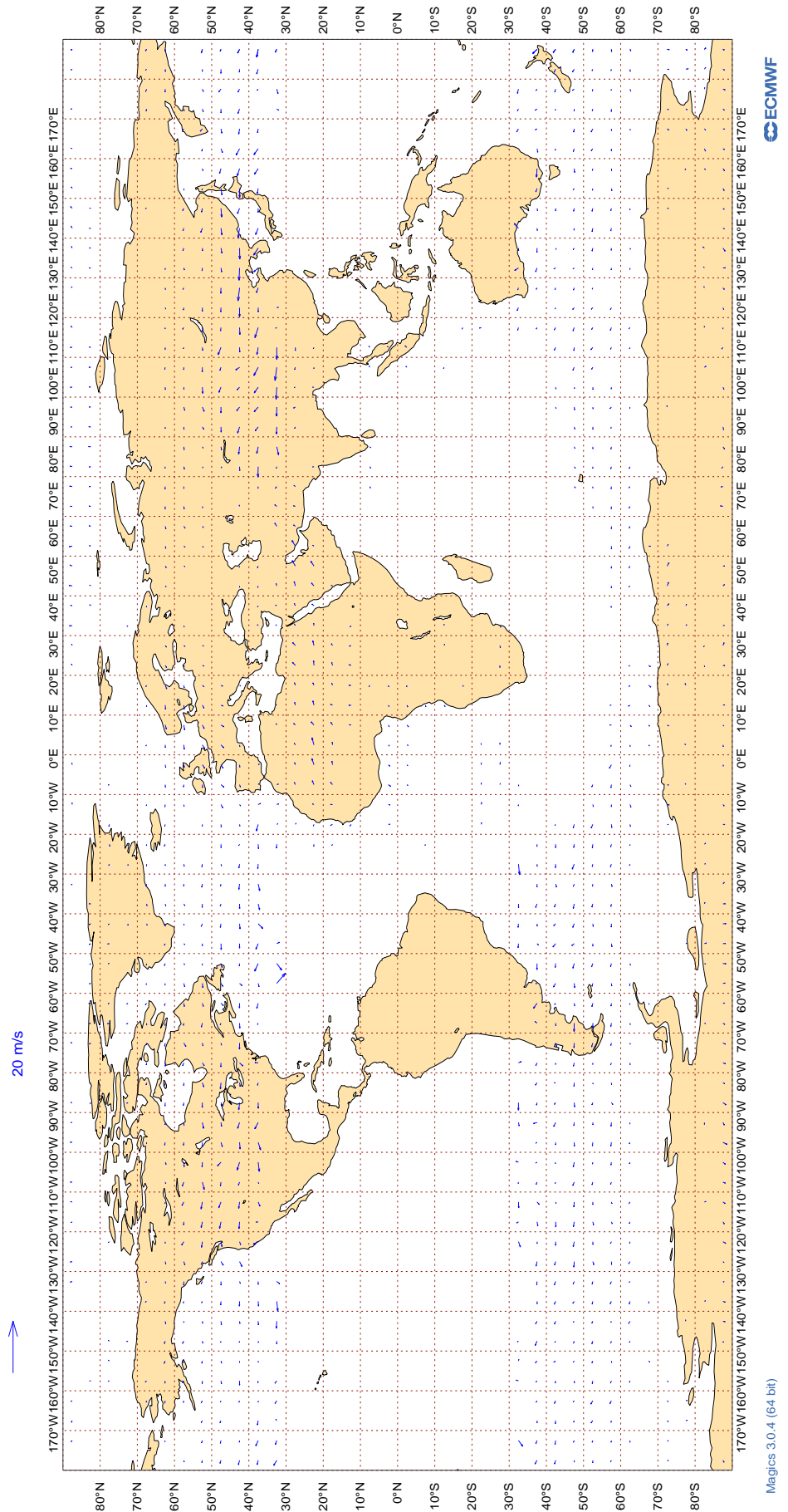
3.2.27 Figure 14 - SATOB Winds: 700-1000hPa

Figure 14
ECMWF Monitoring Statistics: Oct 2021
AMV Winds: 700-1000hPa
Mean Observed Wind



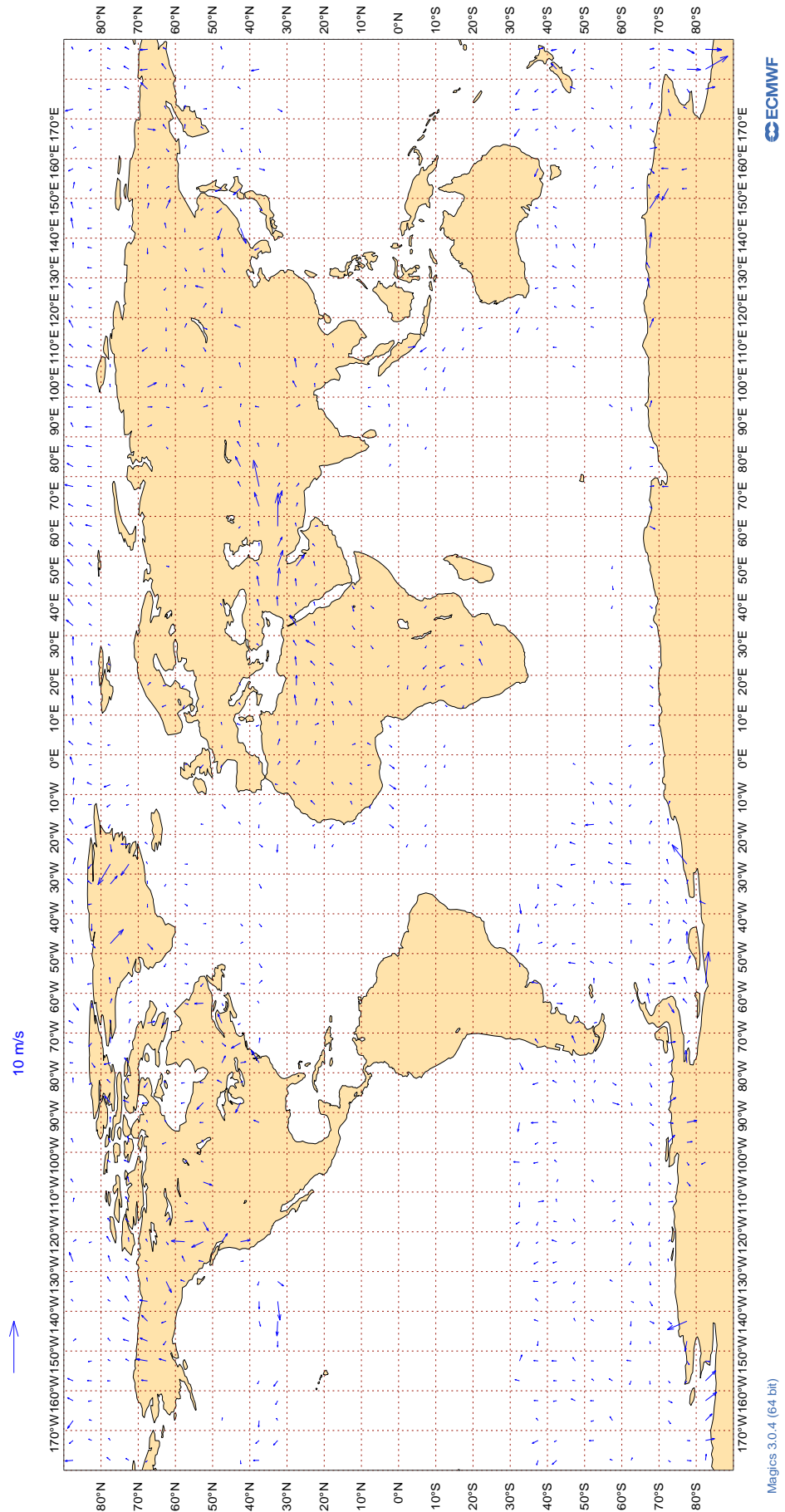
3.2.28 Figure 15 - SATOB Winds: 150- 400hPa

Figure 15
ECMWF Monitoring Statistics: Oct 2021
AMV Winds: 150- 400hPa
Wind bias: Observation - FG



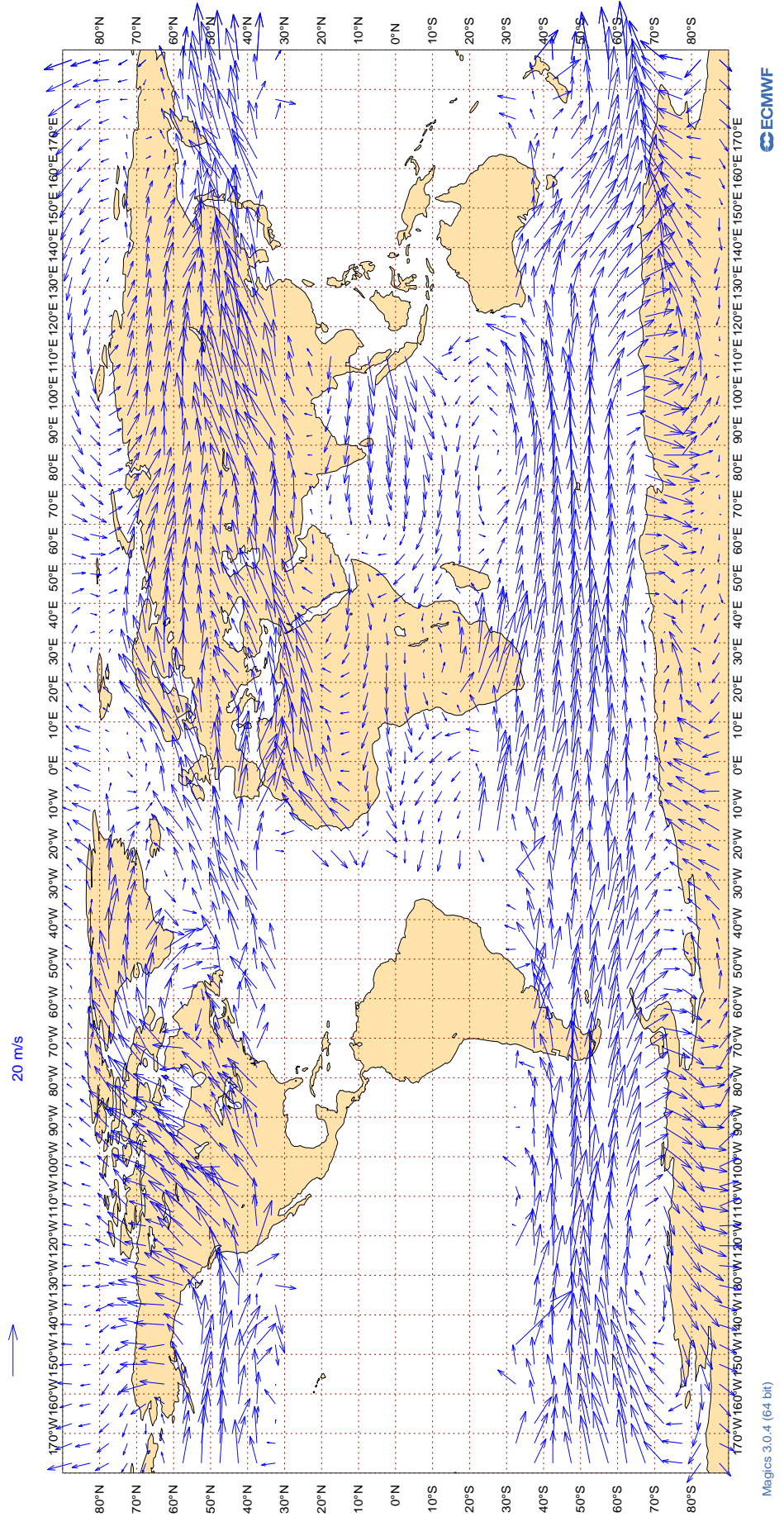
3.2.29 Figure 16 - SATOB Winds: 700-1000hPa

Figure 16
ECMWF Monitoring Statistics: Oct 2021
AMV Winds: 700-1000hPa
Wind bias: Observation - FG



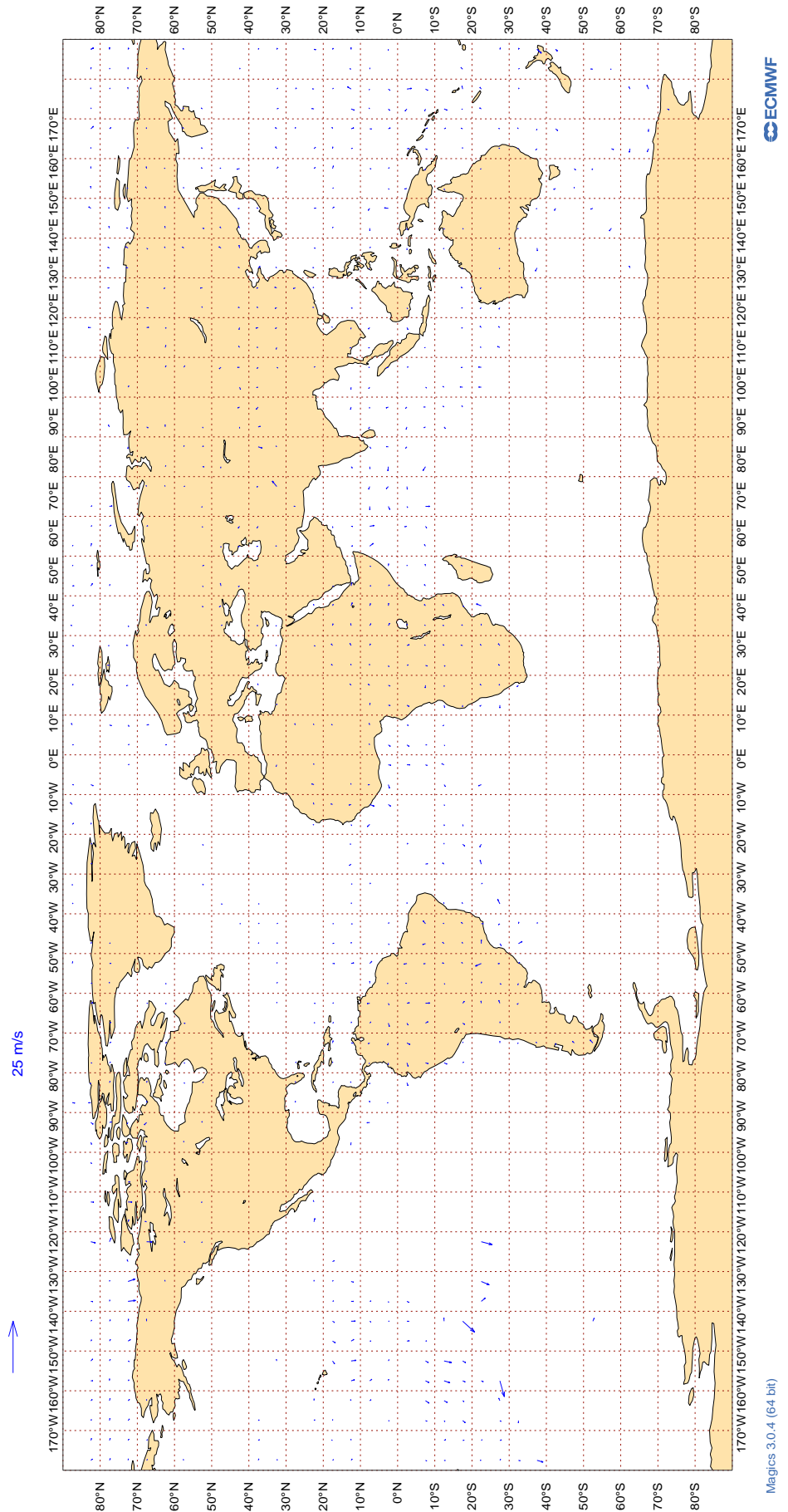
3.2.30 Figure 17 - SATOB Winds: 150- 400hPa

Figure 17
ECMWF Monitoring Statistics: Oct 2021
AMV Winds: 150- 400hPa
Mean Observed Wind



3.2.31 Figure 18 - AIRCRAFT Winds: 150- 300hPa

Figure 18
ECMWF Monitoring Statistics: Oct 2021
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 : OCT 2021
 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	22	0	0	2.6	0.0
AAL	99	V	300-150	25072	4	0	5.2	0.1
AAR	99	V	300-150	206	0	0	5.5	-0.7
ABB	99	V	300-150	1972	0	0	3.3	0.1
ABD	99	V	300-150	1458	0	0	4.0	-0.2
ABG	99	V	300-150	400	0	0	3.4	0.2
ABP	99	V	300-150	43	0	0	4.0	0.3
ABW	99	V	300-150	924	0	0	3.6	0.0
ABX	99	V	300-150	428	0	0	4.3	-0.4
ACA	99	V	300-150	17270	5	0	5.5	0.0
ACI	99	V	300-150	87	0	0	5.4	1.2
AEA	99	V	300-150	617	14	0	8.1	0.8
AFL	99	V	300-150	2180	0	0	3.7	0.2
AFR	99	V	300-150	23882	2	0	4.1	0.1
AHO	99	V	300-150	277	0	0	3.7	0.1
AIC	99	V	300-150	2250	0	0	5.4	0.3
AJT	99	V	300-150	693	0	0	3.8	-0.0
ALK	99	V	300-150	1790	0	0	3.9	1.0
AMQ	99	V	300-150	28	36	0	25.8	-0.5
AMX	99	V	300-150	2011	11	0	6.6	-0.1
ANZ	99	V	300-150	6389	4	0	6.2	0.2
AOJ	99	V	300-150	88	0	0	3.2	-0.4
ASA	99	V	300-150	31	0	26	4.8	0.8
ASL	99	V	300-150	377	0	0	3.6	0.1

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
ASP	99	V	300-150	27	0	0	4.7	1.0
ATC	99	V	300-150	137	1	0	9.5	1.0
ATN	99	V	300-150	150	0	2	5.1	0.9
AUA	99	V	300-150	3816	0	0	3.9	-0.2
AUH	99	V	300-150	32	0	0	3.0	0.4
AWC	99	V	300-150	498	0	0	3.8	0.1
AXB	99	V	300-150	54	0	0	3.7	0.3
AXM	99	V	300-150	54	0	0	4.6	0.4
AXY	99	V	300-150	40	0	0	4.6	1.6
AZA	99	V	300-150	864	0	0	3.3	0.2
AZG	99	V	300-150	806	0	0	3.5	0.0
AZV	99	V	300-150	1380	0	0	3.3	0.2
BAC	99	V	300-150	29	0	0	3.0	0.2
BAF	99	V	300-150	97	0	0	3.7	-0.5
BAO	99	V	300-150	20	0	0	4.1	0.8
BAR	99	V	300-150	58	0	0	5.1	0.1
BAV	99	V	300-150	36	0	0	6.6	0.3
BAW	99	V	300-150	30013	4	0	5.5	-0.0
BBC	99	V	300-150	441	1	0	7.9	1.1
BCS	99	V	300-150	2446	0	0	3.4	0.3
BEL	99	V	300-150	452	0	0	3.2	0.3
BFF	99	V	300-150	36	0	0	11.3	0.8
BIS	99	V	300-150	31	0	0	4.2	-0.7
BLU	99	V	300-150	79	0	0	8.1	1.5
BOX	99	V	300-150	4324	0	0	3.6	0.2
BPA	99	V	300-150	106	0	0	4.0	0.0
BTX	99	V	300-150	88	0	0	3.3	-0.4
BVR	99	V	300-150	77	0	0	3.4	0.2
CAL	99	V	300-150	317	0	0	4.3	1.0
CAZ	99	V	300-150	97	0	0	3.8	-0.8
CEB	99	V	300-150	158	0	0	3.2	0.8
CES	99	V	300-150	48	0	0	4.7	0.7
CFC	99	V	300-150	407	0	0	4.2	0.1
CFG	99	V	300-150	2497	0	0	4.2	-0.1
CHG	99	V	300-150	334	0	0	4.2	-0.3
CJT	99	V	300-150	1845	0	0	4.0	-0.2
CKS	99	V	300-150	1786	0	0	3.8	0.0
CLE	99	V	300-150	54	0	0	3.8	0.3
CLF	99	V	300-150	62	0	0	3.2	-0.0
CLU	99	V	300-150	1409	0	0	3.9	-0.3
CLX	99	V	300-150	5053	0	0	3.9	-0.1
CMB	99	V	300-150	1484	0	0	3.9	-0.0
CNK	99	V	300-150	30	0	0	2.8	-0.5

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
CNV	99	V	300-150	229	0	0	3.1	0.1
CPA	99	V	300-150	795	0	0	5.6	1.0
CRL	99	V	300-150	541	0	1	3.6	0.1
CSN	99	V	300-150	211	5	0	5.8	0.4
CTM	99	V	300-150	47	0	0	2.8	-0.1
CWG	99	V	300-150	50	0	0	4.2	1.1
CXB	99	V	300-150	62	0	0	3.1	0.2
DAH	99	V	300-150	112	0	0	3.5	0.6
DAL	99	V	300-150	29708	0	0	3.4	0.1
DCS	99	V	300-150	94	0	0	2.9	0.4
DGX	99	V	300-150	62	0	0	4.4	-0.6
DHK	99	V	300-150	1182	0	0	4.4	-0.5
DJT	99	V	300-150	544	0	0	3.4	0.2
DLH	99	V	300-150	20792	0	0	3.3	-0.0
DPJ	99	V	300-150	46	0	0	4.0	-0.6
DUB	99	V	300-150	51	0	0	3.3	0.4
EAU	99	V	300-150	26	0	0	4.5	-0.3
EAV	99	V	300-150	35	0	0	3.2	0.7
EDG	99	V	300-150	233	5	0	7.7	0.4
EDW	99	V	300-150	655	0	0	3.7	0.2
EFF	99	V	300-150	24	0	0	2.5	0.6
EIN	99	V	300-150	5214	0	0	3.2	0.2
EJM	99	V	300-150	705	0	0	3.6	0.0
ELY	99	V	300-150	2770	12	0	6.6	-0.1
EMM	99	V	300-150	40	0	0	3.8	0.4
ETD	99	V	300-150	8818	3	0	6.1	0.4
ETH	99	V	300-150	6179	2	0	5.2	0.5
EUK	99	V	300-150	69	0	0	3.0	-0.2
EUW	99	V	300-150	37	0	0	2.9	0.1
EVE	99	V	300-150	51	0	0	3.5	-0.2
EXS	99	V	300-150	58	0	0	3.5	0.4
EXV	99	V	300-150	61	0	0	4.4	0.8
FBU	99	V	300-150	769	0	0	3.6	0.2
FDX	99	V	300-150	7223	0	0	3.5	0.1
FEX	99	V	300-150	29	0	0	3.9	-1.1
FIN	99	V	300-150	924	0	0	3.2	-0.4
FJI	99	V	300-150	553	0	0	4.5	0.5
FWI	99	V	300-150	890	0	0	3.6	-0.0
FXT	99	V	300-150	51	0	0	2.9	0.4
FYG	99	V	300-150	92	0	0	4.0	-0.1
GAF	99	V	300-150	88	0	0	3.3	0.5
GEC	99	V	300-150	1831	0	0	3.8	0.1
GES	99	V	300-150	72	13	0	8.7	0.5

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
GFA	99	V	300-150	528	0	0	5.2	0.5
GIA	99	V	300-150	81	0	0	3.3	0.3
GKY	99	V	300-150	20	0	0	5.1	1.2
GLJ	99	V	300-150	28	0	0	3.2	0.5
GMA	99	V	300-150	36	0	0	3.7	0.3
GNJ	99	V	300-150	59	0	0	4.2	1.9
GRP	99	V	300-150	55	0	2	4.0	-0.0
GTI	99	V	300-150	2234	0	0	4.2	-0.2
HAL	99	V	300-150	257	0	0	4.2	0.2
HKC	99	V	300-150	173	0	0	5.3	1.2
HRT	99	V	300-150	87	0	0	7.8	1.7
HVN	99	V	300-150	153	0	0	4.0	0.4
HYP	99	V	300-150	37	0	0	5.0	0.9
IAM	99	V	300-150	70	0	0	3.2	-0.1
IBE	99	V	300-150	2498	0	0	3.5	0.2
ICE	99	V	300-150	4041	0	0	3.6	0.2
ICL	99	V	300-150	470	0	0	3.9	-0.0
ICV	99	V	300-150	613	0	0	3.9	0.1
IFA	99	V	300-150	178	0	0	3.5	0.1
IJM	99	V	300-150	70	0	0	3.9	-0.1
JAF	99	V	300-150	212	13	0	7.3	-0.1
JAS	99	V	300-150	208	0	0	3.3	0.5
JBU	99	V	300-150	1157	0	0	3.9	0.2
JCL	99	V	300-150	40	0	0	4.2	1.4
JCO	99	V	300-150	149	0	0	3.0	-0.1
JCT	99	V	300-150	33	0	0	3.5	0.3
JME	99	V	300-150	59	0	0	3.5	-0.4
KAC	99	V	300-150	517	0	0	3.0	0.3
KAF	99	V	300-150	36	0	3	4.9	-0.4
KAI	99	V	300-150	60	0	0	3.5	0.1
KAL	99	V	300-150	54	0	0	4.2	1.2
KAR	99	V	300-150	163	0	0	3.0	0.3
KAY	99	V	300-150	133	0	0	3.8	0.2
KCE	99	V	300-150	30	0	0	2.9	1.1
KFE	99	V	300-150	23	0	0	3.2	-1.3
KIW	99	V	300-150	70	0	0	4.7	0.0
KLM	99	V	300-150	15926	4	0	5.3	0.0
KQA	99	V	300-150	230	6	0	7.4	0.3
LAG	99	V	300-150	31	0	0	4.0	-1.5
LAN	99	V	300-150	42	0	0	3.0	0.7
LCO	99	V	300-150	359	0	0	4.2	-1.1
LDX	99	V	300-150	33	0	0	4.4	0.7
LGT	99	V	300-150	85	0	0	4.4	-0.5

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
LMJ	99	V	300-150	21	0	0	2.6	-0.4
LNK	99	V	300-150	83	0	0	3.7	0.2
LOT	99	V	300-150	2450	5	0	6.0	-0.1
LUC	99	V	300-150	49	0	0	2.6	0.2
LWG	99	V	300-150	39	0	0	3.0	-0.6
LXJ	99	V	300-150	780	0	0	3.2	0.1
LYX	99	V	300-150	41	0	0	3.1	-0.4
MAA	99	V	300-150	313	0	0	4.1	0.0
MAS	99	V	300-150	2055	0	0	5.0	1.2
MAU	99	V	300-150	196	0	0	5.0	1.0
MED	99	V	300-150	80	0	1	3.3	-0.6
MGE	99	V	300-150	23	0	9	4.0	1.3
MHV	99	V	300-150	113	0	0	3.6	-0.0
MJE	99	V	300-150	26	0	0	2.5	-0.2
MLM	99	V	300-150	61	0	0	3.6	0.8
MLT	99	V	300-150	704	0	0	3.5	0.2
MMD	99	V	300-150	363	0	0	3.6	0.3
MMZ	99	V	300-150	27	0	0	4.0	1.2
MPH	99	V	300-150	675	0	0	4.0	-0.8
MSR	99	V	300-150	2379	3	0	5.0	0.0
NAC	99	V	300-150	20	0	15	8.2	-1.2
NAF	99	V	300-150	37	0	0	4.5	-0.3
NCR	99	V	300-150	124	0	0	3.7	0.1
NJE	99	V	300-150	582	0	0	3.5	0.2
NOJ	99	V	300-150	28	0	0	3.6	2.1
NOS	99	V	300-150	442	12	0	6.4	-0.1
NWS	99	V	300-150	936	0	0	3.5	0.3
OAE	99	V	300-150	769	0	0	4.1	-0.0
OCN	99	V	300-150	287	0	0	3.6	-0.1
OMA	99	V	300-150	456	0	0	5.1	0.4
PAC	99	V	300-150	557	0	0	3.6	0.3
PAL	99	V	300-150	478	0	0	4.0	0.4
PAT	99	V	300-150	35	0	0	2.9	0.2
PEG	99	V	300-150	55	0	0	3.0	0.2
PIA	99	V	300-150	127	0	0	2.8	0.5
PLF	99	V	300-150	58	0	0	3.8	-1.7
PLM	99	V	300-150	1246	0	0	3.5	0.2
PTA	99	V	300-150	69	0	0	4.1	0.9
PVA	99	V	300-150	102	0	0	3.0	0.5
PVG	99	V	300-150	160	0	0	3.9	0.2
QFA	99	V	300-150	1376	4	0	5.3	0.4
QQE	99	V	300-150	271	0	0	3.4	0.4
QTR	99	V	300-150	25759	0	0	4.3	0.3

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
RAM	99	V	300-150	119	18	1	9.0	-0.2
RAM	99	V	300-150	25	0	0	6.9	3.0
RCH	99	V	300-150	4443	0	0	4.8	0.2
RDN	99	V	300-150	30	0	0	5.7	-0.2
RJA	99	V	300-150	1300	9	0	6.8	-0.1
RKS	99	V	300-150	47	0	0	3.2	0.2
ROJ	99	V	300-150	54	0	0	3.0	-0.2
ROM	99	V	300-150	62	0	0	3.4	-0.0
RRR	99	V	300-150	375	0	0	4.1	-0.2
RSF	99	V	300-150	38	0	0	3.7	0.4
RSY	99	V	300-150	24	0	0	3.5	0.6
RUN	99	V	300-150	201	0	0	4.0	-0.1
RYR	99	V	300-150	128	0	1	3.1	0.2
RZO	99	V	300-150	154	0	1	4.7	0.8
SAM	99	V	300-150	396	0	0	3.6	-0.1
SAS	99	V	300-150	2297	0	0	3.2	-0.1
SAZ	99	V	300-150	63	0	2	4.1	-0.1
SCX	99	V	300-150	76	0	0	8.0	1.0
SDM	99	V	300-150	38	0	0	3.1	0.8
SEY	99	V	300-150	131	0	0	4.7	0.1
SIA	99	V	300-150	7290	0	0	4.8	0.6
SJE	99	V	300-150	29	0	0	3.8	0.7
SJJ	99	V	300-150	34	0	0	2.8	-0.5
SLM	99	V	300-150	85	0	1	3.0	0.2
SLU	99	V	300-150	34	0	0	6.4	0.7
SON	99	V	300-150	53	0	0	3.3	-0.2
SOO	99	V	300-150	378	0	0	3.5	-0.1
SPA	99	V	300-150	168	0	0	4.4	0.4
SSG	99	V	300-150	34	0	0	4.0	1.1
SUI	99	V	300-150	45	0	0	5.0	-0.8
SVA	99	V	300-150	3547	0	0	4.4	0.3
SVW	99	V	300-150	245	0	0	3.3	0.5
SWA	99	V	300-150	70	1	3	5.9	-0.6
SWR	99	V	300-150	6700	0	1	3.7	0.1
SYB	99	V	300-150	150	0	0	4.0	-0.5
TAP	99	V	300-150	2307	0	0	3.9	0.4
TAR	99	V	300-150	162	0	1	3.5	0.2
TAX	99	V	300-150	61	0	0	2.8	1.1
TAY	99	V	300-150	453	0	0	3.9	-0.3
TEU	99	V	300-150	63	0	0	3.7	-0.3
TFF	99	V	300-150	50	0	0	5.0	-0.4
TFL	99	V	300-150	1142	15	0	7.4	-0.3
TGW	99	V	300-150	504	0	0	8.2	0.7

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
THA	99	V	300-150	182	0	0	5.2	1.9
THT	99	V	300-150	2729	1	0	4.9	0.2
THY	99	V	300-150	12888	3	0	4.5	0.2
TMN	99	V	300-150	325	0	0	4.4	0.5
TOM	99	V	300-150	885	8	0	6.2	-0.3
TOW	99	V	300-150	66	0	0	4.8	0.2
TPA	99	V	300-150	468	0	0	3.5	0.3
TSC	99	V	300-150	1938	0	0	3.6	0.3
TVS	99	V	300-150	127	0	0	3.7	-0.5
TWY	99	V	300-150	718	0	0	3.7	0.4
UAE	99	V	300-150	20459	0	0	3.6	0.3
UAF	99	V	300-150	54	0	0	3.6	0.2
UAL	99	V	300-150	44521	4	2	5.7	0.0
ULC	99	V	300-150	85	0	0	3.0	0.3
UPS	99	V	300-150	5172	0	0	3.7	-0.1
UTN	99	V	300-150	173	0	0	3.5	-0.2
UZB	99	V	300-150	135	3	0	3.8	0.4
VCG	99	V	300-150	58	0	0	3.5	-0.1
VCJ	99	V	300-150	60	0	0	4.2	1.3
VCN	99	V	300-150	80	0	0	3.9	-0.4
VIR	99	V	300-150	9461	3	0	5.0	-0.1
VJT	99	V	300-150	1760	0	0	3.5	0.2
VMP	99	V	300-150	58	0	0	6.9	0.4
VTI	99	V	300-150	85	0	0	3.5	0.5
WDY	99	V	300-150	41	0	0	3.3	0.7
WJA	99	V	300-150	1007	10	0	7.3	-0.2
WRC	99	V	300-150	128	0	0	3.0	0.3
WWI	99	V	300-150	105	0	0	4.3	-0.1
XAX	99	V	300-150	148	0	0	5.7	0.8
XOJ	99	V	300-150	84	0	0	3.8	0.0
XRO	99	V	300-150	222	0	0	3.9	0.4
—X	99	V	300-150	3746	0	0	4.2	0.2

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 : OCT 2021
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	50	31	12.9	1.8
01001	12	Z	50	29	14.9	4.5
01028	00	Z	50	31	5.6	-2.1
01028	12	Z	50	30	7.4	-3.3
01400	12	Z	50	12	75.4	74.8
01400	00	Z	50	15	73.8	73.0
01415	12	Z	50	28	7.8	1.0
01415	00	Z	50	30	10.8	2.5
02365	12	Z	50	29	11.0	-5.6
02365	00	Z	50	26	5.6	0.1
02836	00	Z	50	30	7.6	-1.6
02836	12	Z	50	31	7.0	-3.0
02963	00	Z	50	31	5.2	1.2
02963	12	Z	50	31	6.3	-2.3
03005	00	Z	50	28	6.4	-3.5
03005	12	Z	50	31	11.6	-2.1
03238	12	Z	50	1	2.4	-2.4
03238	00	Z	50	31	7.4	1.8
03808	00	Z	50	24	7.4	1.9
03808	12	Z	50	31	6.8	-1.5
03918	00	Z	50	30	9.4	-0.1
03918	12	Z	50	1	11.8	11.8
03953	00	Z	50	31	10.4	-6.6
03953	12	Z	50	31	11.3	-7.0
04018	00	Z	50	30	9.0	-1.9
04018	12	Z	50	30	7.8	-3.8
04220	12	Z	50	31	9.5	-2.1
04220	00	Z	50	31	9.5	3.0
04270	12	Z	50	26	11.0	-1.0
04270	00	Z	50	27	9.6	2.0
04320	00	Z	50	27	15.7	-0.2
04320	12	Z	50	27	7.3	-1.6
04339	00	Z	50	23	10.2	1.2
04339	12	Z	50	22	16.4	-8.2
04360	12	Z	50	24	14.4	-10.7
04360	00	Z	50	24	12.5	-7.2
06011	12	Z	50	31	10.4	6.1
06011	00	Z	50	28	6.8	0.9
06260	12	Z	50	3	8.9	5.4

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	50	28	9.5	2.5
06610	00	Z	50	30	8.8	4.5
06610	12	Z	50	31	6.8	1.5
07110	00	Z	50	29	8.6	-2.7
07110	12	Z	50	31	9.7	-2.4
07510	00	Z	50	27	7.8	-1.8
07510	12	Z	50	31	14.2	-1.4
07645	12	Z	50	30	16.3	-13.7
07645	00	Z	50	29	13.6	-8.2
07761	00	Z	50	29	13.4	-8.5
07761	12	Z	50	30	16.8	-10.3
08001	12	Z	50	31	8.5	2.6
08001	00	Z	50	30	10.2	8.3
08221	12	Z	50	30	9.1	5.3
08221	00	Z	50	30	9.6	8.0
08302	00	Z	50	28	6.2	-0.1
08302	12	Z	50	30	6.5	-3.3
08508	12	Z	50	30	13.6	4.5
08522	12	Z	50	23	4.2	1.3
10035	12	Z	50	31	14.0	10.7
10035	00	Z	50	31	18.4	16.3
10393	12	Z	50	30	8.4	-0.2
10393	00	Z	50	29	9.0	1.3
10410	12	Z	50	31	8.4	-3.1
10410	00	Z	50	31	7.8	0.1
10739	12	Z	50	32	8.2	2.5
10739	00	Z	50	29	9.8	7.0
11035	00	Z	50	26	9.9	7.9
11035	12	Z	50	29	10.6	5.2
12982	00	Z	50	31	8.6	5.4
12982	12	Z	50	31	6.7	4.0
16245	12	Z	50	31	6.0	0.9
16245	00	Z	50	29	7.4	6.1
16429	00	Z	50	27	11.2	7.7
16429	12	Z	50	31	7.1	5.1
16622	00	Z	50	24	14.7	12.7
16754	00	Z	50	28	10.3	9.2
17607	12	Z	50	26	5.3	1.5
26435	12	Z	50	15	7.3	-4.6
2EERV	12	Z	50	5	3.6	1.6
2EERV	00	Z	50	6	15.5	-8.2
60018	12	Z	50	31	6.4	2.9
60018	00	Z	50	30	10.5	9.6

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	00	Z	50	0	0.0	0.0
7JUNA4	12	Z	50	0	0.0	0.0
ASDE09	12	Z	50	6	34.7	27.9
ATGU3F	12	Z	50	7	10.2	-8.6
ATGU3F	00	Z	50	5	16.7	-0.6
BPMWB2	00	Z	50	7	21.3	16.3
BPMWB2	12	Z	50	11	30.9	25.1
HTXUH4	00	Z	50	8	22.9	-19.1
HTXUH4	12	Z	50	5	23.9	-16.8
JNKN7J	00	Z	50	1	29.5	29.5
JNKN7J	12	Z	50	2	80.2	79.9
KJJF9X	00	Z	50	5	12.4	9.5
KJJF9X	12	Z	50	7	37.0	29.7
KMPLHP	00	Z	50	6	49.1	45.9
KMPLHP	12	Z	50	6	62.5	52.1
LRYQE3	00	Z	50	0	0.0	0.0
LRYQE3	12	Z	50	1	104.0	104.0
UXK5JT	00	Z	50	6	13.6	6.6
UXK5JT	12	Z	50	6	19.7	5.8
VKB4L5	12	Z	50	5	26.7	20.8
VKB4L5	00	Z	50	8	31.0	29.1
WDK38H	12	Z	50	13	9.3	-6.4
XKQLWQ	12	Z	50	1	68.5	68.5
XQFJRG	00	Z	50	4	7.1	-5.1
XQFJRG	12	Z	50	4	14.8	6.7
YLV96W	00	Z	50	0	0.0	0.0
YLV96W	12	Z	50	0	0.0	0.0
ZVQEQC	12	Z	50	2	12.8	12.3

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 : OCT 2021
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	50	24	3.0	-0.4	0.4
01001	12	V	50	29	3.3	-0.1	0.3
01028	00	V	50	25	2.5	-0.6	0.1
01028	12	V	50	30	2.8	-0.2	0.1
01400	12	V	50	12	3.2	0.5	-0.9
01400	00	V	50	11	3.8	1.5	-0.3
01415	12	V	50	28	3.8	0.5	0.1
01415	00	V	50	23	3.3	0.3	0.1
02365	12	V	50	28	3.6	0.0	-0.4
02365	00	V	50	22	4.4	-0.1	0.1
02836	00	V	50	21	3.4	0.1	0.4
02836	12	V	50	30	2.9	0.7	0.0
02963	00	V	50	28	4.0	-0.4	0.2
02963	12	V	50	31	3.2	0.2	0.2
03005	00	V	50	21	3.3	0.0	-0.3
03005	12	V	50	31	3.0	0.9	0.3
03238	12	V	50	1	3.8	-3.8	0.1
03238	00	V	50	25	4.0	-0.6	0.4
03808	00	V	50	20	2.6	0.5	-0.4
03808	12	V	50	31	3.6	0.2	0.0
03918	00	V	50	29	4.3	0.4	0.1
03918	12	V	50	1	3.0	-3.0	0.4
03953	00	V	50	28	3.3	-0.2	-1.0
03953	12	V	50	31	3.8	0.9	-0.1
04018	00	V	50	21	3.6	-0.4	-0.3
04018	12	V	50	30	2.5	0.0	0.0
04220	12	V	50	31	3.1	-0.9	0.3
04220	00	V	50	25	3.7	-0.1	0.3
04270	12	V	50	26	3.6	-1.0	-0.2
04270	00	V	50	24	3.6	0.0	0.7
04320	00	V	50	23	2.7	-0.4	0.7
04320	12	V	50	27	3.6	-0.4	0.4
04339	00	V	50	19	4.0	0.4	-0.7
04339	12	V	50	22	3.9	0.9	-0.3
04360	12	V	50	24	3.5	-0.3	0.1
04360	00	V	50	20	3.5	0.0	-0.8
06011	12	V	50	31	2.5	-0.2	0.6
06011	00	V	50	23	3.3	0.1	-0.5
06260	12	V	50	3	4.6	-0.1	-3.7

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	50	23	3.4	0.3	0.5
06610	00	V	50	26	3.7	-0.2	-0.9
06610	12	V	50	31	4.4	-0.3	0.2
07110	00	V	50	20	2.6	-0.3	0.1
07110	12	V	50	31	2.5	-0.3	-0.2
07510	00	V	50	21	2.7	-0.5	0.6
07510	12	V	50	31	2.4	0.3	-0.1
07645	12	V	50	30	3.4	-0.6	0.0
07645	00	V	50	23	2.8	0.8	-0.8
07761	00	V	50	26	3.6	-0.6	-0.8
07761	12	V	50	30	3.4	0.9	0.5
08001	12	V	50	31	3.3	0.0	-0.5
08001	00	V	50	24	3.5	-0.4	0.3
08221	12	V	50	30	3.2	0.4	-0.4
08221	00	V	50	24	3.2	-0.8	-0.5
08302	00	V	50	20	3.7	1.5	-0.5
08302	12	V	50	30	4.0	-0.3	-1.3
08508	12	V	50	30	3.5	-0.1	-1.2
08522	12	V	50	23	2.7	-0.1	0.3
10035	12	V	50	31	3.7	-0.5	-0.2
10035	00	V	50	30	3.3	-0.4	0.4
10393	12	V	50	30	3.3	-0.2	-0.2
10393	00	V	50	24	2.9	0.5	-0.4
10410	12	V	50	30	3.7	-0.1	-0.4
10410	00	V	50	29	3.1	0.1	-0.2
10739	12	V	50	31	3.3	0.2	-0.2
10739	00	V	50	25	3.9	-0.4	0.8
11035	00	V	50	21	3.3	0.4	-0.9
11035	12	V	50	29	2.8	0.3	-0.3
12982	00	V	50	23	3.4	-0.1	0.1
12982	12	V	50	31	3.3	-0.3	-1.1
16245	12	V	50	31	3.5	0.4	-0.4
16245	00	V	50	23	3.7	-0.6	0.1
16429	00	V	50	22	4.1	-1.1	0.3
16429	12	V	50	31	3.6	0.5	-0.3
16622	00	V	50	21	2.6	1.1	-0.3
16754	00	V	50	24	3.4	0.5	0.0
17607	12	V	50	1	5.6	-0.3	5.6
26435	12	V	50	15	2.8	-0.2	0.3
2EERV	12	V	50	5	2.1	-0.5	0.1
2EERV	00	V	50	6	3.5	-0.3	0.5
60018	12	V	50	31	3.5	-0.3	-0.1
60018	00	V	50	23	3.4	0.0	-0.7

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	00	V	50	0	0.0	0.0	0.0
7JUNA4	12	V	50	0	0.0	0.0	0.0
ASDE09	12	V	50	6	4.1	-0.3	-2.1
ATGU3F	12	V	50	7	3.1	-0.9	0.6
ATGU3F	00	V	50	5	3.5	-0.4	0.3
BPMWB2	00	V	50	7	4.5	-0.6	0.5
BPMWB2	12	V	50	11	4.5	0.1	-0.2
HTXUH4	00	V	50	8	1.9	-1.0	0.4
HTXUH4	12	V	50	4	3.1	1.5	-1.2
JNKN7J	00	V	50	1	3.1	1.5	2.7
JNKN7J	12	V	50	2	2.6	-0.4	-1.7
KJJF9X	00	V	50	5	3.1	-0.2	0.1
KJJF9X	12	V	50	7	2.8	-1.0	0.4
KMPLHP	00	V	50	6	2.6	-0.2	0.3
KMPLHP	12	V	50	6	3.7	0.3	-0.3
LRYQE3	00	V	50	0	0.0	0.0	0.0
LRYQE3	12	V	50	1	3.1	-1.9	2.4
UXK5JT	00	V	50	6	2.9	-0.8	-1.6
UXK5JT	12	V	50	6	3.7	1.2	0.0
VKB4L5	12	V	50	5	4.8	-0.7	2.2
VKB4L5	00	V	50	8	2.6	0.0	0.4
WDK38H	12	V	50	12	2.6	-0.4	0.3
XKQLWQ	12	V	50	1	1.4	0.7	-1.2
XQFJRG	00	V	50	4	3.0	0.4	-0.8
XQFJRG	12	V	50	4	4.3	1.5	2.5
YLV96W	00	V	50	0	0.0	0.0	0.0
YLV96W	12	V	50	0	0.0	0.0	0.0
ZVQEQC	12	V	50	2	2.7	1.6	-1.0

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 : OCT 2021
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	100	31	10.3	-4.9
01001	12	Z	100	29	8.7	-2.1
01028	00	Z	100	31	8.0	-6.7
01028	12	Z	100	30	8.5	-6.6
01400	12	Z	100	18	72.6	72.1
01400	00	Z	100	16	71.5	71.2
01415	12	Z	100	29	6.5	-1.6
01415	00	Z	100	30	7.7	0.4
02365	12	Z	100	31	10.4	-6.8
02365	00	Z	100	29	7.7	-3.6
02836	00	Z	100	30	7.9	-4.9
02836	12	Z	100	32	7.1	-5.0
02963	00	Z	100	31	4.0	-1.6
02963	12	Z	100	31	5.1	-2.6
03005	00	Z	100	31	6.7	-5.6
03005	12	Z	100	32	12.2	-3.3
03238	12	Z	100	1	4.5	-4.5
03238	00	Z	100	31	7.3	-0.9
03808	00	Z	100	29	6.3	1.2
03808	12	Z	100	31	6.7	-2.0
03918	00	Z	100	31	7.8	-0.3
03918	12	Z	100	1	0.5	0.5
03953	00	Z	100	31	10.2	-7.2
03953	12	Z	100	31	12.1	-8.4
04018	00	Z	100	31	7.3	-2.8
04018	12	Z	100	31	6.6	-4.1
04220	12	Z	100	31	7.5	-2.9
04220	00	Z	100	31	8.1	0.0
04270	12	Z	100	28	11.8	-5.6
04270	00	Z	100	27	8.2	-3.7
04320	00	Z	100	28	12.8	-4.5
04320	12	Z	100	30	5.8	-2.9
04339	00	Z	100	27	8.1	-2.0
04339	12	Z	100	25	13.5	-8.1
04360	12	Z	100	24	13.9	-11.4
04360	00	Z	100	25	11.7	-8.8
06011	12	Z	100	31	7.7	3.3
06011	00	Z	100	28	6.7	0.9
06260	12	Z	100	4	7.5	3.4

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	100	28	9.6	0.4
06610	00	Z	100	31	5.2	-0.1
06610	12	Z	100	32	5.3	-0.1
07110	00	Z	100	31	10.7	-8.0
07110	12	Z	100	31	9.8	-6.6
07510	00	Z	100	29	8.9	-6.7
07510	12	Z	100	31	11.3	-4.6
07645	12	Z	100	31	16.0	-14.0
07645	00	Z	100	30	12.0	-10.7
07761	00	Z	100	31	14.9	-11.5
07761	12	Z	100	31	17.0	-10.6
08001	12	Z	100	31	5.1	0.2
08001	00	Z	100	31	7.5	4.1
08221	12	Z	100	31	5.8	3.8
08221	00	Z	100	30	7.2	4.8
08302	00	Z	100	28	6.1	-3.8
08302	12	Z	100	31	7.7	-5.2
08508	12	Z	100	30	13.4	5.0
08522	12	Z	100	23	6.0	3.8
10035	12	Z	100	31	11.9	9.6
10035	00	Z	100	31	14.5	12.9
10393	12	Z	100	31	6.9	-1.9
10393	00	Z	100	32	7.2	0.0
10410	12	Z	100	31	6.6	-3.8
10410	00	Z	100	31	7.3	-1.5
10739	12	Z	100	32	6.4	0.3
10739	00	Z	100	31	6.9	2.6
11035	00	Z	100	29	6.9	1.8
11035	12	Z	100	32	8.2	2.3
12982	00	Z	100	31	5.4	1.5
12982	12	Z	100	31	3.6	1.3
16245	12	Z	100	31	5.0	-0.2
16245	00	Z	100	31	4.3	2.3
16429	00	Z	100	29	6.8	4.6
16429	12	Z	100	31	5.6	1.6
16622	00	Z	100	31	10.7	9.2
16754	00	Z	100	30	7.4	4.9
17607	12	Z	100	27	4.7	2.2
26435	12	Z	100	15	4.5	-3.1
2EERV	12	Z	100	6	5.6	1.3
2EERV	00	Z	100	6	15.0	-7.6
60018	12	Z	100	31	6.2	4.3
60018	00	Z	100	31	9.3	8.9

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	00	Z	100	8	15.7	11.7
7JUNA4	12	Z	100	7	18.8	17.1
ASDE09	12	Z	100	7	26.4	20.0
ATGU3F	12	Z	100	8	13.4	-12.2
ATGU3F	00	Z	100	5	15.6	-7.6
BPMWB2	00	Z	100	8	11.9	7.2
BPMWB2	12	Z	100	12	20.9	13.2
HTXUH4	00	Z	100	8	24.1	-20.9
HTXUH4	12	Z	100	5	24.0	-16.6
JNKN7J	00	Z	100	7	25.8	25.1
JNKN7J	12	Z	100	8	93.5	89.6
KJFF9X	00	Z	100	7	9.2	5.5
KJFF9X	12	Z	100	7	25.9	22.4
KMPLHP	00	Z	100	11	42.6	40.0
KMPLHP	12	Z	100	11	57.5	51.2
LRYQE3	00	Z	100	11	9.2	-1.6
LRYQE3	12	Z	100	13	22.5	16.2
UXK5JT	00	Z	100	6	9.8	3.2
UXK5JT	12	Z	100	7	10.6	4.8
VKB4L5	12	Z	100	6	30.1	24.8
VKB4L5	00	Z	100	8	31.2	29.2
WDK38H	12	Z	100	16	11.4	-9.6
XKQLWQ	12	Z	100	1	101.6	101.6
XQFJRG	00	Z	100	4	8.0	-3.4
XQFJRG	12	Z	100	4	14.6	3.1
YLV96W	00	Z	100	6	8.0	-3.0
YLV96W	12	Z	100	6	10.2	6.1
ZVQEQC	12	Z	100	2	8.9	8.7

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 : OCT 2021
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	100	24	2.3	0.0	-0.5
01001	12	V	100	29	2.8	0.3	-0.7
01028	00	V	100	25	2.3	-0.1	0.1
01028	12	V	100	30	2.6	-0.1	0.7
01400	12	V	100	14	3.1	-0.5	-0.8
01400	00	V	100	12	2.2	0.4	-0.1
01415	12	V	100	29	3.2	0.0	0.3
01415	00	V	100	21	3.9	0.4	-0.6
02365	12	V	100	31	3.1	0.2	0.0
02365	00	V	100	24	3.3	-0.2	0.1
02836	00	V	100	21	2.6	0.4	-0.5
02836	12	V	100	31	3.0	0.2	0.4
02963	00	V	100	28	2.9	0.0	0.0
02963	12	V	100	31	3.0	-0.5	-0.1
03005	00	V	100	22	2.6	0.4	-0.8
03005	12	V	100	31	3.6	0.0	-0.4
03238	12	V	100	1	2.9	2.5	-1.4
03238	00	V	100	26	4.2	1.5	0.2
03808	00	V	100	22	3.2	0.4	0.7
03808	12	V	100	31	3.1	1.0	0.2
03918	00	V	100	30	3.8	0.5	1.3
03918	12	V	100	1	2.1	-1.5	-1.4
03953	00	V	100	28	3.3	-0.2	0.3
03953	12	V	100	31	3.0	-0.3	-0.8
04018	00	V	100	24	2.3	0.1	-0.5
04018	12	V	100	31	3.1	0.3	-0.4
04220	12	V	100	31	3.3	0.2	0.4
04220	00	V	100	25	3.1	0.9	0.1
04270	12	V	100	28	2.9	-0.7	0.2
04270	00	V	100	24	3.4	0.4	0.5
04320	00	V	100	25	2.5	0.2	-0.7
04320	12	V	100	29	4.1	-0.1	0.1
04339	00	V	100	26	4.3	0.5	-0.6
04339	12	V	100	25	3.2	0.2	0.5
04360	12	V	100	24	3.5	0.2	0.2
04360	00	V	100	23	3.7	-0.9	0.8
06011	12	V	100	31	3.0	0.1	0.5
06011	00	V	100	23	3.3	0.4	-0.6
06260	12	V	100	3	2.7	1.3	-1.4

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	100	23	2.7	0.2	-0.8
06610	00	V	100	29	3.3	0.0	0.6
06610	12	V	100	31	3.4	-0.5	0.4
07110	00	V	100	20	2.6	0.9	-0.6
07110	12	V	100	31	3.3	0.0	-0.8
07510	00	V	100	22	3.6	0.7	-0.3
07510	12	V	100	31	3.3	0.2	0.2
07645	12	V	100	31	4.0	0.4	0.4
07645	00	V	100	23	3.8	0.5	0.9
07761	00	V	100	27	3.4	0.5	0.0
07761	12	V	100	31	2.9	0.2	-0.2
08001	12	V	100	31	3.0	0.1	0.2
08001	00	V	100	25	2.8	0.8	0.0
08221	12	V	100	31	3.4	0.6	0.0
08221	00	V	100	24	3.2	0.0	0.0
08302	00	V	100	20	3.3	0.4	0.0
08302	12	V	100	31	3.5	-0.2	-0.4
08508	12	V	100	30	3.5	-0.1	0.1
08522	12	V	100	23	3.1	-1.1	0.1
10035	12	V	100	31	3.3	0.4	-0.4
10035	00	V	100	30	2.8	0.1	-0.2
10393	12	V	100	30	3.3	0.6	0.0
10393	00	V	100	26	3.1	0.0	0.0
10410	12	V	100	31	3.1	-0.2	-0.3
10410	00	V	100	30	3.1	0.3	-0.3
10739	12	V	100	31	2.8	-0.7	-0.3
10739	00	V	100	30	2.8	0.0	0.3
11035	00	V	100	22	3.0	0.8	0.2
11035	12	V	100	31	2.4	0.3	-0.6
12982	00	V	100	27	2.8	-0.2	-0.5
12982	12	V	100	31	3.0	0.7	0.0
16245	12	V	100	31	3.0	0.7	0.1
16245	00	V	100	29	3.0	0.1	-0.4
16429	00	V	100	25	3.5	0.4	0.2
16429	12	V	100	31	4.4	-0.1	0.6
16622	00	V	100	27	3.5	0.6	-0.7
16754	00	V	100	25	3.4	0.2	0.5
17607	12	V	100	2	4.4	-0.7	1.9
26435	12	V	100	15	3.3	-1.4	-0.6
2EERV	12	V	100	6	2.8	0.1	-0.1
2EERV	00	V	100	6	3.1	-0.4	2.2
60018	12	V	100	31	3.4	0.2	-0.7
60018	00	V	100	24	3.8	-0.5	0.4

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	00	V	100	8	4.7	-0.7	-0.7
7JUNA4	12	V	100	7	3.7	-0.5	-0.9
ASDE09	12	V	100	7	2.6	-0.3	0.8
ATGU3F	12	V	100	8	3.0	0.1	0.1
ATGU3F	00	V	100	5	3.6	-1.0	1.0
BPMWB2	00	V	100	8	2.0	-0.2	0.3
BPMWB2	12	V	100	12	3.1	0.1	-0.7
HTXUH4	00	V	100	8	3.3	-1.2	0.2
HTXUH4	12	V	100	5	2.6	-0.1	-0.8
JNKN7J	00	V	100	7	3.6	-0.1	1.9
JNKN7J	12	V	100	8	2.4	0.3	-0.1
KJJF9X	00	V	100	7	4.4	-1.0	-1.1
KJJF9X	12	V	100	7	2.5	-1.0	0.1
KMPLHP	00	V	100	11	3.5	0.0	0.0
KMPLHP	12	V	100	11	2.2	-0.1	-0.2
LRYQE3	00	V	100	11	3.3	0.9	1.3
LRYQE3	12	V	100	13	3.7	-0.6	-0.6
UXK5JT	00	V	100	6	2.9	0.3	-0.2
UXK5JT	12	V	100	7	3.6	0.2	-1.1
VKB4L5	12	V	100	6	3.1	-0.2	0.9
VKB4L5	00	V	100	8	2.8	0.1	-0.9
WDK38H	12	V	100	15	2.3	0.0	-0.1
XKQLWQ	12	V	100	1	2.1	1.7	-1.2
XQFJRG	00	V	100	4	3.2	-0.9	-1.0
XQFJRG	12	V	100	4	3.4	1.0	0.2
YLV96W	00	V	100	6	2.8	-0.4	2.0
YLV96W	12	V	100	5	1.8	-0.8	0.8
ZVQEQC	12	V	100	2	2.6	-1.8	-0.3

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 : OCT 2021
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	500	32	10.6	-9.2
01001	12	Z	500	30	8.2	-7.1
01028	00	Z	500	31	5.7	-4.6
01028	12	Z	500	31	5.3	-3.5
01400	12	Z	500	25	77.6	77.5
01400	00	Z	500	25	77.0	76.8
01415	12	Z	500	31	4.6	2.5
01415	00	Z	500	30	5.1	2.3
02365	12	Z	500	31	3.8	-0.6
02365	00	Z	500	29	3.7	-0.1
02836	00	Z	500	30	3.0	0.4
02836	12	Z	500	32	2.8	-0.8
02963	00	Z	500	31	3.4	2.2
02963	12	Z	500	31	3.7	2.7
03005	00	Z	500	31	5.3	-3.8
03005	12	Z	500	32	11.3	-1.1
03238	12	Z	500	1	4.2	4.2
03238	00	Z	500	31	3.8	2.1
03808	00	Z	500	29	3.6	2.5
03808	12	Z	500	31	3.8	2.0
03918	00	Z	500	31	8.1	6.0
03918	12	Z	500	1	10.3	10.3
03953	00	Z	500	31	3.6	-2.2
03953	12	Z	500	31	5.6	-0.6
04018	00	Z	500	31	3.5	0.4
04018	12	Z	500	31	3.2	-0.6
04220	12	Z	500	31	5.8	-0.2
04220	00	Z	500	31	8.0	3.6
04270	12	Z	500	31	7.8	-6.6
04270	00	Z	500	31	9.0	-7.7
04320	00	Z	500	31	7.6	-3.5
04320	12	Z	500	31	5.1	-2.9
04339	00	Z	500	29	7.9	-6.7
04339	12	Z	500	27	8.3	-5.9
04360	12	Z	500	24	11.5	-10.3
04360	00	Z	500	25	10.0	-9.8
06011	12	Z	500	31	8.4	2.6
06011	00	Z	500	31	5.8	2.4
06260	12	Z	500	4	4.0	2.1

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	500	28	5.4	-0.6
06610	00	Z	500	31	2.9	1.2
06610	12	Z	500	33	2.7	1.6
07110	00	Z	500	31	8.3	-6.1
07110	12	Z	500	31	6.7	-5.0
07510	00	Z	500	31	3.7	-2.5
07510	12	Z	500	31	7.5	0.0
07645	12	Z	500	33	7.9	-6.6
07645	00	Z	500	30	6.4	-5.4
07761	00	Z	500	32	9.6	-8.6
07761	12	Z	500	31	8.3	-6.4
08001	12	Z	500	31	3.5	2.3
08001	00	Z	500	31	3.6	1.9
08221	12	Z	500	31	5.2	4.7
08221	00	Z	500	30	5.0	4.4
08302	00	Z	500	28	4.3	-3.7
08302	12	Z	500	31	4.8	-4.1
08508	12	Z	500	30	12.1	5.5
08522	12	Z	500	23	6.8	6.7
10035	12	Z	500	31	14.1	13.8
10035	00	Z	500	31	14.1	13.9
10393	12	Z	500	31	3.0	1.7
10393	00	Z	500	33	4.2	-0.1
10410	12	Z	500	32	2.5	-0.5
10410	00	Z	500	31	2.4	-0.2
10739	12	Z	500	32	4.9	4.2
10739	00	Z	500	31	5.8	5.1
11035	00	Z	500	30	3.8	2.2
11035	12	Z	500	33	5.2	1.0
12982	00	Z	500	31	5.3	3.6
12982	12	Z	500	31	3.7	3.0
16245	12	Z	500	31	3.6	1.4
16245	00	Z	500	31	3.9	2.8
16429	00	Z	500	29	5.6	4.5
16429	12	Z	500	31	4.0	2.1
16622	00	Z	500	31	10.5	9.8
16754	00	Z	500	30	4.5	-0.1
17607	12	Z	500	27	4.7	4.0
26435	12	Z	500	15	2.4	-0.1
2EERVT	12	Z	500	6	4.7	-2.5
2EERVT	00	Z	500	6	15.5	-9.8
60018	12	Z	500	31	6.0	5.7
60018	00	Z	500	31	5.6	5.0

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	00	Z	500	9	8.2	6.6
7JUNA4	12	Z	500	8	7.5	3.5
ASDE09	12	Z	500	7	29.3	29.1
ATGU3F	12	Z	500	8	12.7	-12.3
ATGU3F	00	Z	500	5	15.6	-13.6
BPMWB2	00	Z	500	11	10.5	6.8
BPMWB2	12	Z	500	13	11.0	7.3
HTXUH4	00	Z	500	8	27.1	-22.9
HTXUH4	12	Z	500	7	20.8	-16.0
JNKN7J	00	Z	500	7	32.9	32.2
JNKN7J	12	Z	500	9	39.3	38.9
KJJF9X	00	Z	500	7	9.5	-3.3
KJJF9X	12	Z	500	7	12.2	11.0
KMPLHP	00	Z	500	12	51.9	50.0
KMPLHP	12	Z	500	11	43.3	42.8
LRYQE3	00	Z	500	12	8.9	-5.9
LRYQE3	12	Z	500	13	12.5	-7.4
UXK5JT	00	Z	500	6	6.7	-0.5
UXK5JT	12	Z	500	7	5.0	1.5
VKB4L5	12	Z	500	8	31.1	29.8
VKB4L5	00	Z	500	8	27.4	25.6
WDK38H	12	Z	500	19	10.0	-9.4
XKQLWQ	12	Z	500	1	0.0	0.0
XQFJRG	00	Z	500	4	9.9	-7.9
XQFJRG	12	Z	500	8	5.3	-4.8
YLV96W	00	Z	500	7	3.6	0.2
YLV96W	12	Z	500	6	5.3	-1.8
ZVQEQC	12	Z	500	2	11.3	9.2

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 : OCT 2021
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	500	30	2.0	0.2	0.2
01001	12	V	500	30	2.6	-0.1	0.1
01028	00	V	500	30	2.1	0.7	0.1
01028	12	V	500	31	2.4	0.2	-0.1
01400	12	V	500	25	2.8	0.7	-0.4
01400	00	V	500	21	3.7	-0.4	-0.6
01415	12	V	500	30	3.3	0.5	0.3
01415	00	V	500	29	2.6	0.2	0.3
02365	12	V	500	31	3.4	0.0	0.0
02365	00	V	500	28	3.3	0.5	0.2
02836	00	V	500	29	2.3	0.9	0.0
02836	12	V	500	31	2.6	0.6	0.3
02963	00	V	500	30	2.6	0.2	-0.1
02963	12	V	500	31	3.5	0.4	-0.2
03005	00	V	500	30	3.1	0.7	0.6
03005	12	V	500	31	3.2	-0.1	-0.2
03238	12	V	500	1	1.1	0.0	1.1
03238	00	V	500	30	3.6	0.6	-0.2
03808	00	V	500	26	2.9	-0.4	0.2
03808	12	V	500	31	3.1	0.1	-0.2
03918	00	V	500	30	3.8	1.2	0.0
03918	12	V	500	1	4.1	4.0	1.0
03953	00	V	500	30	2.9	0.5	0.7
03953	12	V	500	31	3.3	0.3	0.2
04018	00	V	500	30	3.2	0.0	0.4
04018	12	V	500	31	2.8	0.3	0.3
04220	12	V	500	31	3.1	0.3	0.0
04220	00	V	500	30	2.8	-0.8	-0.4
04270	12	V	500	31	3.4	-0.2	0.1
04270	00	V	500	30	2.2	0.1	0.3
04320	00	V	500	30	2.5	0.6	-0.4
04320	12	V	500	30	3.9	0.7	0.6
04339	00	V	500	28	2.1	-0.1	-0.1
04339	12	V	500	27	2.4	0.4	-0.7
04360	12	V	500	24	2.7	0.3	0.8
04360	00	V	500	24	2.5	0.5	-0.2
06011	12	V	500	31	3.0	0.1	0.0
06011	00	V	500	30	3.2	0.1	-0.2
06260	12	V	500	4	3.3	-0.2	0.8

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	500	27	2.4	-0.2	0.3
06610	00	V	500	30	2.5	0.1	-0.4
06610	12	V	500	31	2.6	0.3	-0.2
07110	00	V	500	30	3.9	-0.6	-0.7
07110	12	V	500	31	2.7	-0.1	-0.2
07510	00	V	500	30	2.4	-0.1	0.0
07510	12	V	500	31	2.1	-0.2	-0.1
07645	12	V	500	31	2.2	0.0	-0.1
07645	00	V	500	29	2.3	-0.2	-0.3
07761	00	V	500	30	3.0	0.4	0.5
07761	12	V	500	31	3.1	0.6	-0.4
08001	12	V	500	31	2.4	0.0	-0.2
08001	00	V	500	30	3.2	0.5	-0.4
08221	12	V	500	31	2.3	-0.4	0.3
08221	00	V	500	30	2.0	-0.1	0.2
08302	00	V	500	27	2.2	0.3	0.5
08302	12	V	500	31	2.5	-0.2	-0.1
08508	12	V	500	30	3.4	0.2	-0.2
08522	12	V	500	23	2.1	0.6	-0.2
10035	12	V	500	31	2.5	-0.1	0.5
10035	00	V	500	30	2.1	0.0	0.2
10393	12	V	500	30	2.4	-0.1	0.1
10393	00	V	500	27	3.0	-0.3	0.5
10410	12	V	500	31	2.4	0.4	-0.2
10410	00	V	500	30	2.9	0.1	0.7
10739	12	V	500	31	2.5	0.0	0.5
10739	00	V	500	30	2.1	0.1	0.3
11035	00	V	500	29	2.2	-0.4	0.8
11035	12	V	500	31	2.3	-0.2	0.0
12982	00	V	500	30	2.1	-0.1	0.2
12982	12	V	500	31	1.8	-0.1	0.0
16245	12	V	500	31	2.9	0.3	-0.4
16245	00	V	500	30	3.0	0.1	1.3
16429	00	V	500	27	2.5	-0.1	-0.1
16429	12	V	500	31	3.3	0.8	-0.8
16622	00	V	500	30	2.8	0.3	0.0
16754	00	V	500	28	2.7	0.4	-0.1
17607	12	V	500	6	2.1	0.0	0.4
26435	12	V	500	15	2.4	-0.2	0.0
2EERV	12	V	500	6	2.0	0.7	-0.1
2EERV	00	V	500	6	2.3	0.9	0.6
60018	12	V	500	31	2.1	0.0	-0.2
60018	00	V	500	30	1.9	0.2	-0.1

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	00	V	500	9	2.4	0.9	0.7
7JUNA4	12	V	500	8	3.0	-0.1	0.3
ASDE09	12	V	500	7	3.1	0.4	0.3
ATGU3F	12	V	500	8	2.5	0.8	0.2
ATGU3F	00	V	500	5	2.1	-0.5	-0.2
BPMWB2	00	V	500	11	2.1	0.6	0.4
BPMWB2	12	V	500	13	2.1	0.1	0.5
HTXUH4	00	V	500	8	2.3	0.1	-0.1
HTXUH4	12	V	500	7	1.4	0.5	-0.4
JNKN7J	00	V	500	7	2.4	-0.6	0.6
JNKN7J	12	V	500	9	1.5	0.4	0.0
KJJF9X	00	V	500	7	2.1	-0.1	1.5
KJJF9X	12	V	500	7	2.2	-0.1	0.4
KMPLHP	00	V	500	12	2.7	0.8	1.8
KMPLHP	12	V	500	11	2.8	0.2	-0.4
LRYQE3	00	V	500	12	2.8	0.3	0.0
LRYQE3	12	V	500	13	3.0	1.2	-0.8
UXK5JT	00	V	500	6	2.3	-0.8	-0.1
UXK5JT	12	V	500	7	3.1	1.1	0.3
VKB4L5	12	V	500	8	2.5	0.3	1.0
VKB4L5	00	V	500	8	2.1	0.8	0.1
WDK38H	12	V	500	19	1.6	-0.2	0.2
XKQLWQ	12	V	500	1	10.7	-8.3	6.8
XQFJRG	00	V	500	4	2.1	-0.6	0.0
XQFJRG	12	V	500	8	2.6	0.0	-1.3
YLV96W	00	V	500	7	3.3	-0.1	0.8
YLV96W	12	V	500	6	3.7	0.9	1.3
ZVQEQC	12	V	500	2	2.0	0.5	1.4

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 : OCT 2021
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	850	32	8.8	-8.2
01001	12	Z	850	30	8.7	-7.7
01028	00	Z	850	31	3.5	-2.5
01028	12	Z	850	31	3.2	-1.5
01400	12	Z	850	25	76.9	76.8
01400	00	Z	850	25	76.6	76.5
01415	12	Z	850	31	4.2	3.3
01415	00	Z	850	30	3.4	2.8
02365	12	Z	850	31	3.7	0.8
02365	00	Z	850	29	3.9	0.7
02836	00	Z	850	30	1.6	0.2
02836	12	Z	850	31	2.4	0.6
02963	00	Z	850	31	3.1	2.5
02963	12	Z	850	31	3.5	2.8
03005	00	Z	850	31	4.0	-2.9
03005	12	Z	850	32	12.9	0.0
03238	12	Z	850	1	1.8	1.8
03238	00	Z	850	31	2.7	1.2
03808	00	Z	850	30	4.2	1.0
03808	12	Z	850	31	3.7	1.0
03918	00	Z	850	31	6.2	5.7
03918	12	Z	850	1	4.3	4.3
03953	00	Z	850	31	3.1	-2.0
03953	12	Z	850	31	4.4	-0.7
04018	00	Z	850	31	2.8	-0.3
04018	12	Z	850	31	2.7	-0.2
04220	12	Z	850	31	4.4	1.4
04220	00	Z	850	31	8.1	3.7
04270	12	Z	850	31	6.9	-6.1
04270	00	Z	850	31	7.7	-6.4
04320	00	Z	850	31	6.4	-2.1
04320	12	Z	850	31	3.8	-1.9
04339	00	Z	850	29	5.8	-4.1
04339	12	Z	850	27	5.7	-3.3
04360	12	Z	850	24	12.0	-11.1
04360	00	Z	850	25	12.5	-12.0
06011	12	Z	850	31	4.3	3.5
06011	00	Z	850	31	4.2	2.9
06260	12	Z	850	4	3.2	0.5

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	850	28	4.9	-1.2
06610	00	Z	850	31	2.2	0.5
06610	12	Z	850	33	2.9	1.3
07110	00	Z	850	31	4.0	-2.8
07110	12	Z	850	31	4.1	-3.2
07510	00	Z	850	31	2.8	1.2
07510	12	Z	850	31	5.1	4.2
07645	12	Z	850	33	4.9	-3.8
07645	00	Z	850	30	5.9	-5.0
07761	00	Z	850	32	4.3	-3.3
07761	12	Z	850	31	5.3	-4.5
08001	12	Z	850	31	2.2	0.2
08001	00	Z	850	31	2.8	-1.0
08221	12	Z	850	31	2.5	2.0
08221	00	Z	850	30	2.3	1.4
08302	00	Z	850	28	6.5	-6.2
08302	12	Z	850	31	6.7	-6.5
08508	12	Z	850	30	11.6	5.4
08522	12	Z	850	23	4.1	3.7
10035	12	Z	850	31	14.9	14.3
10035	00	Z	850	31	13.9	13.6
10393	12	Z	850	30	3.3	0.7
10393	00	Z	850	30	4.9	-0.9
10410	12	Z	850	32	2.7	-0.7
10410	00	Z	850	31	2.0	-0.7
10739	12	Z	850	32	5.0	4.0
10739	00	Z	850	31	4.3	3.7
11035	00	Z	850	30	4.0	1.4
11035	12	Z	850	33	3.6	1.3
12982	00	Z	850	31	2.6	1.9
12982	12	Z	850	31	2.6	1.4
16245	12	Z	850	31	2.9	0.9
16245	00	Z	850	31	3.6	2.2
16429	00	Z	850	29	4.6	3.9
16429	12	Z	850	31	4.0	2.7
16622	00	Z	850	31	10.0	9.5
16754	00	Z	850	30	2.7	0.1
17607	12	Z	850	31	3.4	2.7
26435	12	Z	850	15	3.0	1.4
2EERV	12	Z	850	6	5.2	-1.3
2EERV	00	Z	850	6	7.5	-2.7
60018	12	Z	850	32	2.6	1.4
60018	00	Z	850	31	1.6	0.4

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	00	Z	850	9	7.6	6.9
7JUNA4	12	Z	850	8	7.2	4.1
ASDE09	12	Z	850	7	34.4	34.3
ATGU3F	12	Z	850	8	12.3	-12.2
ATGU3F	00	Z	850	6	15.5	-13.0
BPMWB2	00	Z	850	11	4.8	3.1
BPMWB2	12	Z	850	13	5.7	3.2
HTXUH4	00	Z	850	8	29.5	-24.9
HTXUH4	12	Z	850	7	21.7	-15.8
JNKN7J	00	Z	850	7	36.4	35.8
JNKN7J	12	Z	850	9	38.4	38.1
KJFF9X	00	Z	850	7	6.2	2.3
KJFF9X	12	Z	850	7	6.1	5.4
KMPLHP	00	Z	850	12	56.6	54.6
KMPLHP	12	Z	850	11	48.6	47.9
LRYQE3	00	Z	850	13	8.6	-5.1
LRYQE3	12	Z	850	13	5.3	-2.0
UXK5JT	00	Z	850	6	6.9	-3.4
UXK5JT	12	Z	850	7	4.4	-3.3
VKB4L5	12	Z	850	8	29.2	28.6
VKB4L5	00	Z	850	8	25.5	25.0
WDK38H	12	Z	850	19	7.5	-5.9
XKQLWQ	12	Z	850	2	52.7	45.6
XQFJRG	00	Z	850	5	10.4	-9.6
XQFJRG	12	Z	850	8	9.1	-8.8
YLV96W	00	Z	850	7	2.5	0.3
YLV96W	12	Z	850	6	3.1	-0.9
ZVQEQC	12	Z	850	2	11.3	5.6

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 : OCT 2021
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	850	30	3.5	0.7	0.5
01001	12	V	850	30	3.9	0.7	1.4
01028	00	V	850	30	2.9	0.2	0.1
01028	12	V	850	31	2.7	-0.7	-0.1
01400	12	V	850	25	2.4	-0.4	-0.4
01400	00	V	850	22	2.3	0.2	0.3
01415	12	V	850	30	2.8	0.3	0.3
01415	00	V	850	29	3.3	0.2	-0.2
02365	12	V	850	31	3.3	-0.3	-0.2
02365	00	V	850	29	4.2	0.5	-0.3
02836	00	V	850	29	2.3	0.5	-0.4
02836	12	V	850	31	3.0	0.5	0.1
02963	00	V	850	30	2.5	0.4	0.2
02963	12	V	850	31	2.5	-0.8	-0.5
03005	00	V	850	30	2.9	0.0	0.1
03005	12	V	850	31	2.0	0.4	0.2
03238	12	V	850	1	3.2	0.8	-3.1
03238	00	V	850	30	2.8	-0.5	-0.3
03808	00	V	850	27	3.9	0.2	0.6
03808	12	V	850	31	3.1	-0.6	-1.1
03918	00	V	850	30	3.3	-1.0	0.1
03918	12	V	850	1	4.2	-1.2	-4.0
03953	00	V	850	30	2.8	0.4	0.5
03953	12	V	850	31	2.5	-0.6	0.3
04018	00	V	850	30	3.7	0.2	0.8
04018	12	V	850	31	3.3	0.4	0.4
04220	12	V	850	31	2.7	-0.2	0.4
04220	00	V	850	30	3.4	0.3	0.5
04270	12	V	850	31	3.4	0.1	-0.2
04270	00	V	850	30	4.0	-0.2	-0.3
04320	00	V	850	30	3.7	0.6	-0.1
04320	12	V	850	30	3.5	1.0	0.4
04339	00	V	850	28	3.3	0.5	0.3
04339	12	V	850	27	5.4	2.8	0.8
04360	12	V	850	24	6.8	1.9	1.5
04360	00	V	850	24	4.9	2.3	1.3
06011	12	V	850	31	2.8	-0.7	-0.7
06011	00	V	850	30	2.5	0.2	-0.1
06260	12	V	850	4	3.3	-0.8	0.6

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	850	27	2.1	-0.4	0.1
06610	00	V	850	30	3.3	1.1	0.9
06610	12	V	850	31	3.2	0.3	-0.7
07110	00	V	850	30	2.9	0.3	-0.5
07110	12	V	850	31	3.3	-0.6	-0.9
07510	00	V	850	30	2.2	-0.2	0.5
07510	12	V	850	31	2.8	-0.4	0.1
07645	12	V	850	31	3.4	0.1	-0.3
07645	00	V	850	29	3.0	-0.7	-0.1
07761	00	V	850	30	2.7	0.0	-0.3
07761	12	V	850	31	2.7	0.4	-0.1
08001	12	V	850	31	2.4	-0.2	0.3
08001	00	V	850	30	4.9	0.0	-0.9
08221	12	V	850	31	2.3	-0.1	-0.2
08221	00	V	850	30	2.4	0.2	0.0
08302	00	V	850	27	2.3	-0.1	0.3
08302	12	V	850	31	2.3	-0.1	0.2
08508	12	V	850	30	3.0	0.2	-0.1
08522	12	V	850	23	2.5	-0.2	-0.3
10035	12	V	850	31	2.8	0.4	0.0
10035	00	V	850	30	2.4	0.3	0.0
10393	12	V	850	30	2.8	0.1	-0.6
10393	00	V	850	27	2.3	0.2	0.3
10410	12	V	850	31	2.5	0.1	0.3
10410	00	V	850	30	2.2	0.1	-0.3
10739	12	V	850	31	2.4	-0.3	-0.4
10739	00	V	850	30	2.6	-0.1	0.3
11035	00	V	850	29	2.5	-0.5	0.2
11035	12	V	850	31	3.5	-0.7	0.3
12982	00	V	850	30	2.8	-0.2	-0.1
12982	12	V	850	31	3.0	-0.5	-0.3
16245	12	V	850	31	3.1	0.6	0.3
16245	00	V	850	30	2.9	0.1	-0.8
16429	00	V	850	28	3.0	0.9	-0.6
16429	12	V	850	31	4.1	1.1	-0.4
16622	00	V	850	30	2.9	0.8	-0.4
16754	00	V	850	29	2.5	-0.3	-0.5
17607	12	V	850	27	2.8	0.1	0.0
26435	12	V	850	15	2.4	0.0	0.1
2EERV	12	V	850	6	2.1	1.3	-0.4
2EERV	00	V	850	6	2.2	0.2	-1.2
60018	12	V	850	31	3.3	0.5	0.8
60018	00	V	850	30	3.3	0.0	-0.5

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	00	V	850	9	3.0	-1.4	0.7
7JUNA4	12	V	850	8	1.9	-0.3	-0.3
ASDE09	12	V	850	7	3.7	2.0	0.0
ATGU3F	12	V	850	8	2.8	0.0	0.4
ATGU3F	00	V	850	6	3.3	-0.3	-0.7
BPMWB2	00	V	850	11	2.4	-0.2	1.0
BPMWB2	12	V	850	13	2.8	-0.2	0.5
HTXUH4	00	V	850	8	2.9	0.3	0.1
HTXUH4	12	V	850	7	2.8	-1.6	0.6
JNKN7J	00	V	850	7	2.4	-0.2	0.1
JNKN7J	12	V	850	9	2.7	-0.8	-0.3
KJJF9X	00	V	850	7	2.9	0.6	-0.4
KJJF9X	12	V	850	7	1.7	-0.2	0.3
KMPLHP	00	V	850	12	2.1	-0.8	0.0
KMPLHP	12	V	850	11	2.4	1.1	0.7
LRYQE3	00	V	850	13	3.3	-0.5	0.4
LRYQE3	12	V	850	13	3.5	-0.7	-0.1
UXK5JT	00	V	850	6	2.6	0.8	-0.4
UXK5JT	12	V	850	7	2.3	1.1	0.0
VKB4L5	12	V	850	8	2.9	0.1	-0.6
VKB4L5	00	V	850	8	2.6	0.7	-0.3
WDK38H	12	V	850	19	3.0	0.1	-0.1
XKQLWQ	12	V	850	2	1.6	0.7	-1.4
XQFJRG	00	V	850	5	3.4	-1.8	0.6
XQFJRG	12	V	850	8	2.3	0.9	0.3
YLV96W	00	V	850	7	1.7	-0.3	-0.2
YLV96W	12	V	850	6	2.2	0.4	0.3
ZVQEQC	12	V	850	2	3.8	2.5	-1.6

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 : OCT 2021
 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	1937	0	0.3	-0.3	0.4
1300001	99	P	SUR	11	-23	620	0	0.4	0.1	0.4
1300008	99	P	SUR	15	-38	620	0	0.3	0.1	0.3
1300130	99	P	SUR	28	-16	744	0	0.3	0.2	0.3
1300131	99	P	SUR	28	-17	744	0	0.3	0.2	0.4
1301569	99	P	SUR	26	-61	703	1	0.8	-0.7	1.0
1301603	99	P	SUR	36	-61	744	0	0.5	-0.1	0.5
1301608	99	P	SUR	31	-53	743	0	2.6	-1.0	2.8
1301610	99	P	SUR	54	-11	744	0	0.5	-0.2	0.5
1301612	99	P	SUR	32	-27	743	0	0.2	-0.1	0.3
1301619	99	P	SUR	28	-68	744	4	2.3	0.2	2.3
1301699	99	P	SUR	26	-27	718	0	0.2	-0.3	0.4
1301700	99	P	SUR	14	-23	717	0	0.3	0.0	0.3
1301714	99	P	SUR	18	-25	17	0	0.2	0.5	0.5
1301716	99	P	SUR	19	-23	117	0	1.0	8.6	8.7
1301717	99	P	SUR	35	-12	272	0	0.2	0.1	0.2
1301718	99	P	SUR	24	-19	165	0	0.3	0.2	0.3
1301719	99	P	SUR	23	-20	156	0	0.4	0.5	0.6
1301720	99	P	SUR	26	-17	185	0	0.3	0.1	0.3
1301721	99	P	SUR	37	-10	295	0	0.2	-0.2	0.3
1301722	99	P	SUR	21	-22	132	0	0.3	0.1	0.4
1701632	99	P	SUR	29	-61	721	0	0.8	0.1	0.8
1801565	99	P	SUR	23	-60	3692	25	0.4	0.0	0.5
1801568	99	P	SUR	17	-66	3765	50	0.4	-0.0	0.4
1801580	99	P	SUR	22	-66	2750	235	0.4	0.0	0.4
4100040	99	P	SUR	15	-53	4461	0	0.3	0.5	0.6
4100043	99	P	SUR	21	-65	4454	0	0.3	-1.2	1.2
4100044	99	P	SUR	22	-59	4457	0	0.4	0.2	0.5
4100046	99	P	SUR	24	-68	4460	0	0.4	0.2	0.4
4100048	99	P	SUR	32	-70	4445	0	0.4	0.2	0.4
4100049	99	P	SUR	27	-63	4458	0	0.4	-0.9	1.0
4100052	99	P	SUR	18	-65	4367	0	0.3	-1.2	1.2
4100053	99	P	SUR	18	-66	4420	0	0.4	-0.4	0.5
4100056	99	P	SUR	18	-65	4437	0	0.4	-2.2	2.2
4100139	99	P	SUR	20	-38	612	0	0.3	0.2	0.4
4100300	99	P	SUR	16	-57	741	0	0.3	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
4101531	99	P	SUR	33	-49	740	0	0.4	-0.1	0.4
4101557	99	P	SUR	41	-57	738	0	0.4	0.1	0.4
4101567	99	P	SUR	27	-46	743	0	0.3	0.4	0.5
4101609	99	P	SUR	24	-28	744	0	0.2	0.0	0.2
4101613	99	P	SUR	28	-39	744	0	0.3	0.2	0.4
4101614	99	P	SUR	25	-28	596	0	0.2	-0.1	0.2
4101616	99	P	SUR	32	-32	744	0	0.3	-0.2	0.3
4101618	99	P	SUR	28	-30	744	0	0.3	0.2	0.3
4101621	99	P	SUR	30	-30	744	0	0.2	0.2	0.3
4101627	99	P	SUR	52	-34	744	0	1.2	0.2	1.3
4101652	99	P	SUR	62	-24	744	0	0.6	-0.1	0.6
4101654	99	P	SUR	68	1	719	0	0.4	-0.1	0.4
4101656	99	P	SUR	63	-23	744	0	0.4	0.0	0.4
4101657	99	P	SUR	71	-1	697	0	0.5	-0.1	0.5
4101658	99	P	SUR	62	-11	744	0	0.4	0.0	0.4
4101659	99	P	SUR	75	39	744	0	0.6	0.0	0.6
4101663	99	P	SUR	33	-43	744	0	0.5	-0.1	0.5
4101664	99	P	SUR	55	-51	744	0	0.4	0.1	0.4
4101696	99	P	SUR	33	-41	744	0	0.4	-0.2	0.4
4101698	99	P	SUR	13	-60	667	0	0.4	0.1	0.4
4101702	99	P	SUR	38	-46	528	35	2.0	-0.4	2.0
4101707	99	P	SUR	26	-61	665	1	1.4	2.2	2.6
4101714	99	P	SUR	35	-59	743	2	1.9	0.0	1.9
4101717	99	P	SUR	45	-13	744	0	0.3	-0.2	0.3
4101718	99	P	SUR	32	-57	744	0	0.3	0.5	0.6
4101719	99	P	SUR	36	-35	744	0	0.4	-0.1	0.4
4101720	99	P	SUR	33	-24	743	0	0.2	0.0	0.2
4101723	99	P	SUR	10	-56	744	0	0.4	-0.2	0.5
4101743	99	P	SUR	36	-60	744	0	0.4	-0.1	0.4
4101752	99	P	SUR	47	-14	744	0	0.4	-0.1	0.4
4101753	99	P	SUR	32	-54	743	0	0.3	0.2	0.4
4101755	99	P	SUR	30	-42	744	0	0.3	-0.0	0.3
4101756	99	P	SUR	12	-62	509	0	0.4	-0.9	1.0
4101842	99	P	SUR	60	-9	721	0	0.3	-0.3	0.5
4101843	99	P	SUR	62	-13	717	0	0.4	-0.0	0.4
4101845	99	P	SUR	61	-21	714	0	0.3	-0.1	0.3
4101850	99	P	SUR	46	-11	715	0	0.4	-0.1	0.4
4102547	99	P	SUR	12	-48	238	0	0.3	0.3	0.4
4102548	99	P	SUR	12	-52	223	0	0.3	-0.2	0.3
4102549	99	P	SUR	12	-36	376	0	0.3	0.3	0.4
4102550	99	P	SUR	12	-42	324	0	0.3	0.2	0.3
4102551	99	P	SUR	14	-32	414	0	0.3	-0.0	0.3
4102627	99	P	SUR	39	-54	358	0	0.4	-0.1	0.5

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
4102628	99	P	SUR	35	-57	244	0	1.9	-0.0	1.9
4102629	99	P	SUR	30	-38	242	0	0.3	-0.1	0.4
4102630	99	P	SUR	15	-66	686	0	0.4	0.1	0.4
4102632	99	P	SUR	15	-68	667	0	0.3	-0.9	1.0
4102633	99	P	SUR	14	-63	362	0	0.3	0.2	0.4
4102634	99	P	SUR	15	-68	622	0	0.3	-0.0	0.3
4102635	99	P	SUR	12	-66	720	0	0.4	0.2	0.5
4102636	99	P	SUR	15	-66	672	0	0.4	0.1	0.4
4102637	99	P	SUR	14	-63	363	0	0.3	0.3	0.5
41040	99	P	SUR	15	-53	4948	0	0.3	0.5	0.6
41043	99	P	SUR	21	-65	4394	0	0.3	-1.2	1.2
41044	99	P	SUR	22	-59	3828	0	0.4	0.2	0.5
41046	99	P	SUR	24	-68	6325	0	0.4	0.2	0.4
41048	99	P	SUR	32	-70	6824	0	0.4	0.2	0.5
41049	99	P	SUR	28	-63	6227	0	0.4	-0.9	1.0
41052	99	P	SUR	18	-65	3024	0	0.3	-1.1	1.2
41053	99	P	SUR	19	-66	3082	0	0.4	-0.4	0.5
41056	99	P	SUR	18	-66	3115	0	0.4	-2.2	2.2
4200059	99	P	SUR	15	-67	4461	0	0.3	-1.1	1.2
4200060	99	P	SUR	16	-63	4450	0	0.4	0.0	0.4
4200085	99	P	SUR	18	-67	4015	0	0.4	0.1	0.4
4201703	99	P	SUR	39	-63	701	0	0.5	0.3	0.5
42059	99	P	SUR	15	-68	4429	0	0.4	-1.1	1.2
42060	99	P	SUR	16	-63	3923	0	0.4	0.0	0.4
42085	99	P	SUR	18	-67	3359	0	0.4	0.1	0.4
4400005	99	P	SUR	43	-69	744	0	0.4	-0.5	0.7
4400008	99	P	SUR	41	-69	4460	0	0.7	-0.7	1.0
4400011	99	P	SUR	41	-67	4424	0	0.5	0.2	0.5
4400024	99	P	SUR	42	-66	725	0	0.4	-0.8	0.9
4400027	99	P	SUR	44	-67	740	0	0.4	0.2	0.5
4400032	99	P	SUR	44	-69	737	0	0.4	0.1	0.4
4400033	99	P	SUR	44	-69	729	0	0.4	0.5	0.7
4400034	99	P	SUR	44	-68	706	0	0.4	-0.1	0.4
4400037	99	P	SUR	43	-68	704	0	0.4	0.1	0.4
44005	99	P	SUR	43	-69	1970	0	0.4	-0.5	0.7
4400777	99	P	SUR	43	-44	744	0	0.4	-0.1	0.5
44008	99	P	SUR	41	-69	6282	0	0.7	-0.7	1.0
4400857	99	P	SUR	31	-58	744	0	1.3	0.1	1.3
44011	99	P	SUR	41	-67	6180	0	0.5	0.2	0.6
4401557	99	P	SUR	29	-48	743	0	0.5	-0.0	0.5
4401563	99	P	SUR	33	-23	743	0	0.2	-0.4	0.5
4401569	99	P	SUR	64	8	743	0	0.5	-0.6	0.7
4401572	99	P	SUR	26	-59	743	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
4401576	99	P	SUR	24	-45	744	0	0.3	0.1	0.4
4401577	99	P	SUR	23	-43	743	0	0.3	0.1	0.3
4401581	99	P	SUR	29	-46	743	0	0.3	0.2	0.4
4401582	99	P	SUR	36	-24	743	0	0.3	0.1	0.3
4401828	99	P	SUR	58	-24	604	0	0.3	0.3	0.4
4401837	99	P	SUR	33	-23	742	0	0.2	0.1	0.2
4401848	99	P	SUR	46	-37	706	0	0.4	-0.3	0.5
4401850	99	P	SUR	60	-15	711	0	0.4	-0.3	0.5
4401851	99	P	SUR	48	-11	712	0	0.4	0.1	0.5
4401854	99	P	SUR	31	-64	744	0	0.4	-0.2	0.4
4401870	99	P	SUR	30	-49	744	0	0.4	-0.1	0.4
4401872	99	P	SUR	27	-59	744	0	0.4	-0.2	0.4
4401874	99	P	SUR	23	-45	744	0	0.3	0.3	0.4
44024	99	P	SUR	42	-66	1870	0	0.4	-0.8	0.9
4402603	99	P	SUR	51	-31	719	0	0.4	-0.1	0.4
4402604	99	P	SUR	51	-48	717	0	0.4	-0.1	0.4
4402605	99	P	SUR	57	-21	714	0	0.3	0.0	0.3
4402606	99	P	SUR	50	-44	717	0	0.5	0.0	0.5
4402607	99	P	SUR	50	-38	715	0	0.6	-0.2	0.6
4402608	99	P	SUR	54	-36	719	0	0.4	-0.1	0.4
4402609	99	P	SUR	52	-31	721	0	0.4	-0.2	0.4
4402610	99	P	SUR	43	-33	715	0	0.4	-0.1	0.4
4402611	99	P	SUR	50	-30	717	0	0.4	-0.4	0.6
4402612	99	P	SUR	46	-39	720	0	0.4	0.2	0.5
4402613	99	P	SUR	48	-24	714	0	0.4	-0.2	0.4
4402614	99	P	SUR	50	-30	715	0	0.4	-0.3	0.5
4402615	99	P	SUR	48	-17	722	0	0.4	0.1	0.4
4402616	99	P	SUR	49	-29	719	0	0.4	-0.0	0.4
4402617	99	P	SUR	51	-44	633	0	0.7	-0.2	0.7
4402618	99	P	SUR	31	-37	716	0	0.3	0.1	0.3
4402655	99	P	SUR	41	-62	265	0	0.4	0.2	0.4
4402656	99	P	SUR	43	-62	717	0	0.4	0.2	0.5
4402660	99	P	SUR	41	-19	726	0	0.3	0.1	0.3
4402663	99	P	SUR	49	-20	721	0	0.4	-0.3	0.5
4402665	99	P	SUR	37	-15	726	0	0.2	0.3	0.4
4402687	99	P	SUR	38	-22	740	0	0.6	-0.0	0.6
44027	99	P	SUR	44	-67	1958	0	0.4	0.2	0.5
4402714	99	P	SUR	68	-63	245	0	0.4	0.1	0.4
4402715	99	P	SUR	71	-68	253	0	0.4	-0.3	0.5
4402718	99	P	SUR	67	-61	237	0	0.5	-0.0	0.5
4402720	99	P	SUR	60	-63	724	0	0.4	-0.2	0.5
4402721	99	P	SUR	54	-53	724	0	0.3	0.0	0.3
4402722	99	P	SUR	51	-56	724	0	0.4	-0.1	0.4

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
4402723	99	P	SUR	53	-55	721	0	0.4	-0.1	0.4
4402725	99	P	SUR	56	-60	724	0	0.3	0.0	0.3
4402727	99	P	SUR	54	-54	725	0	0.4	-0.2	0.4
44032	99	P	SUR	44	-69	1360	0	0.4	0.1	0.4
44033	99	P	SUR	44	-69	1343	0	0.4	0.5	0.7
44034	99	P	SUR	44	-68	1301	0	0.4	-0.0	0.4
44037	99	P	SUR	44	-68	1294	0	0.4	0.1	0.4
44078	99	P	SUR	60	-40	4888	0	0.5	-0.9	1.0
44137	99	P	SUR	42	-62	774	0	0.4	-0.1	0.5
44139	99	P	SUR	44	-57	781	0	0.4	0.1	0.5
44150	99	P	SUR	43	-64	859	0	0.4	-0.1	0.4
44258	99	P	SUR	45	-63	548	0	0.4	-0.1	0.5
44488	99	P	SUR	45	-61	868	0	0.4	0.1	0.4
44489	99	P	SUR	46	-61	794	0	0.3	0.1	0.4
44490	99	P	SUR	45	-66	868	0	0.4	0.2	0.4
4601782	99	P	SUR	43	-56	719	0	0.5	0.4	0.7
4601810	99	P	SUR	90	19	714	0	0.5	-0.3	0.5
4700546	99	P	SUR	34	-24	310	71	3.3	-3.3	4.7
4701738	99	P	SUR	70	-66	729	4	2.0	-0.9	2.1
4701739	99	P	SUR	69	-65	740	0	2.8	-0.4	2.8
4801723	99	P	SUR	75	11	726	0	0.4	0.1	0.4
6100001	99	P	SUR	43	8	743	0	0.5	-0.2	0.5
6100002	99	P	SUR	42	5	725	0	0.4	-0.2	0.4
6100196	99	P	SUR	42	4	744	0	0.5	0.2	0.5
6100197	99	P	SUR	40	4	744	0	0.3	0.5	0.6
6100198	99	P	SUR	37	-2	744	0	0.3	0.3	0.5
6100280	99	P	SUR	41	1	744	0	0.3	0.3	0.4
6100281	99	P	SUR	40	0	744	0	0.4	0.3	0.5
6100417	99	P	SUR	38	0	744	0	0.3	0.3	0.5
6100430	99	P	SUR	40	2	744	0	0.3	0.1	0.3
6101003	99	P	SUR	40	25	134	0	1.0	-0.1	1.0
6101005	99	P	SUR	38	26	40	19	0.7	0.3	0.8
6101007	99	P	SUR	36	25	175	0	1.0	-0.2	1.0
6101008	99	P	SUR	37	22	179	0	0.9	-0.2	1.0
6101009	99	P	SUR	35	25	19	4	0.9	-0.1	0.9
6102782	99	P	SUR	40	18	560	0	0.5	0.4	0.7
6102784	99	P	SUR	35	15	720	0	0.6	0.3	0.7
6102786	99	P	SUR	38	16	718	0	0.4	0.3	0.5
6102787	99	P	SUR	38	17	716	1	0.7	0.3	0.8
6102788	99	P	SUR	32	18	716	0	0.4	0.1	0.5
6102789	99	P	SUR	34	17	719	0	0.5	0.2	0.5
6102791	99	P	SUR	40	7	721	0	0.3	0.2	0.4
6102792	99	P	SUR	39	8	334	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
6102793	99	P	SUR	40	3	714	0	0.4	0.3	0.5
6102794	99	P	SUR	40	3	714	0	0.4	0.1	0.4
6200024	99	P	SUR	44	-3	744	0	0.4	0.2	0.4
6200025	99	P	SUR	44	-6	744	0	0.4	0.2	0.5
6200082	99	P	SUR	44	-8	741	0	0.5	-0.2	0.5
6200083	99	P	SUR	43	-9	744	0	0.4	0.2	0.5
6200084	99	P	SUR	42	-9	744	0	1.4	0.4	1.5
6200085	99	P	SUR	36	-7	744	0	0.3	0.5	0.6
6200086	99	P	SUR	55	6	336	8	0.6	-0.4	0.7
6200087	99	P	SUR	55	7	362	0	0.5	-0.5	0.7
6200091	99	P	SUR	53	-5	744	0	0.5	-0.3	0.5
6200092	99	P	SUR	51	-11	744	0	0.4	-0.2	0.5
6200093	99	P	SUR	55	-10	744	0	0.4	-0.2	0.5
6200094	99	P	SUR	52	-7	744	0	0.4	-0.1	0.5
6200095	99	P	SUR	53	-16	744	0	0.4	-0.4	0.6
62001	99	P	SUR	45	-5	1943	0	0.4	-0.1	0.4
6200192	99	P	SUR	40	-10	734	0	0.4	-1.2	1.2
6200199	99	P	SUR	40	-9	731	0	0.3	-0.9	0.9
6200200	99	P	SUR	36	-8	551	0	0.8	-0.8	1.1
6201065	99	P	SUR	54	7	3126	0	0.4	0.9	1.0
6201066	99	P	SUR	55	7	784	0	0.3	0.4	0.5
6202613	99	P	SUR	30	-65	744	0	0.4	-0.1	0.4
6202614	99	P	SUR	27	-59	744	0	0.4	-0.2	0.5
6202623	99	P	SUR	68	-4	744	0	0.4	-0.3	0.5
6202624	99	P	SUR	61	-23	744	0	0.4	-0.0	0.4
6202626	99	P	SUR	53	-12	503	0	1.6	0.2	1.6
6202627	99	P	SUR	61	-19	717	0	0.4	-0.1	0.4
6202629	99	P	SUR	39	-40	744	0	0.4	-0.5	0.6
6202630	99	P	SUR	46	-4	744	0	0.4	-0.3	0.5
6202631	99	P	SUR	59	-11	744	0	0.3	0.0	0.3
6202632	99	P	SUR	62	-24	744	0	0.4	0.0	0.4
6202633	99	P	SUR	63	-11	744	0	0.3	-0.1	0.4
6202634	99	P	SUR	80	3	319	0	0.3	-0.2	0.4
6202635	99	P	SUR	63	1	744	0	0.4	0.1	0.5
6202636	99	P	SUR	68	10	743	0	0.4	-0.8	0.9
6202637	99	P	SUR	64	-2	744	0	0.4	-0.0	0.4
6202639	99	P	SUR	31	-28	744	0	0.3	-0.0	0.3
6202640	99	P	SUR	40	-53	744	0	0.6	-0.6	0.8
6202643	99	P	SUR	28	-60	744	0	0.4	-0.2	0.4
6202644	99	P	SUR	30	-41	744	0	0.4	-0.4	0.6
6202645	99	P	SUR	29	-67	744	0	0.4	-0.4	0.6
6202684	99	P	SUR	65	-2	16	0	0.5	0.4	0.6
62029	99	P	SUR	49	-12	1935	0	0.4	-0.1	0.4

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6203507	99	P	SUR	41	-69	720	0	0.6	0.5	0.8
6203508	99	P	SUR	43	-68	714	0	0.4	0.4	0.6
6203516	99	P	SUR	45	-59	636	0	0.4	0.1	0.4
6203574	99	P	SUR	61	-9	718	0	0.4	0.2	0.5
6203588	99	P	SUR	66	-24	718	0	0.5	0.4	0.6
6203601	99	P	SUR	38	-55	744	0	0.9	-0.3	1.0
6203607	99	P	SUR	39	-66	744	0	1.2	0.1	1.2
6203612	99	P	SUR	27	-41	744	0	0.3	0.0	0.3
6203613	99	P	SUR	26	-41	744	0	0.3	0.2	0.4
6203614	99	P	SUR	19	-56	743	1	0.3	0.2	0.4
6203615	99	P	SUR	24	-62	744	0	0.3	0.0	0.3
6203616	99	P	SUR	28	-39	744	0	0.3	0.2	0.3
6203621	99	P	SUR	40	-21	744	0	0.4	0.1	0.4
6203622	99	P	SUR	42	-30	744	0	0.4	0.0	0.4
6203624	99	P	SUR	23	-62	744	0	0.3	0.1	0.4
6203625	99	P	SUR	42	-29	744	0	0.4	0.3	0.5
6203626	99	P	SUR	60	-1	744	0	0.5	-0.4	0.6
6203627	99	P	SUR	25	-58	744	0	0.3	-0.0	0.3
6203631	99	P	SUR	21	-68	743	0	0.3	-0.3	0.4
6203632	99	P	SUR	28	-29	744	0	0.2	0.1	0.2
6203633	99	P	SUR	53	-33	743	0	0.4	0.1	0.4
6203634	99	P	SUR	33	-15	744	3	1.9	0.6	2.0
6203635	99	P	SUR	16	-53	744	0	0.3	0.3	0.4
6203637	99	P	SUR	60	-3	744	0	0.4	0.2	0.4
6203639	99	P	SUR	44	-20	744	0	0.4	0.1	0.4
6203640	99	P	SUR	39	-18	744	0	0.9	0.0	1.0
6203643	99	P	SUR	26	-56	744	0	0.3	0.2	0.4
6203644	99	P	SUR	10	-35	744	2	2.0	0.3	2.0
6203649	99	P	SUR	42	-32	744	0	0.5	0.4	0.6
6203650	99	P	SUR	54	4	733	0	0.5	0.7	0.9
6203730	99	P	SUR	25	-41	719	0	0.3	0.3	0.4
6203732	99	P	SUR	18	-52	722	0	0.3	-0.3	0.5
6203734	99	P	SUR	11	-20	717	0	0.4	0.2	0.5
6203735	99	P	SUR	14	-49	717	0	0.4	0.6	0.7
6203737	99	P	SUR	29	-43	714	0	0.5	0.6	0.8
6203747	99	P	SUR	63	-15	716	0	0.6	0.0	0.7
6203748	99	P	SUR	62	-10	715	0	0.4	0.1	0.4
6203749	99	P	SUR	62	-9	715	0	0.4	-0.0	0.4
6203750	99	P	SUR	61	-14	716	0	0.4	0.0	0.4
6203751	99	P	SUR	63	-5	718	0	0.6	1.1	1.3
6203752	99	P	SUR	61	-21	716	0	0.5	-0.1	0.5
6203753	99	P	SUR	60	-29	713	0	0.4	-0.3	0.6
6203755	99	P	SUR	49	-9	722	0	0.4	-0.8	0.9

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6203760	99	P	SUR	58	-1	723	0	0.3	0.2	0.4
6203762	99	P	SUR	25	-28	713	0	0.2	-0.1	0.2
6203764	99	P	SUR	29	-23	718	0	0.2	0.2	0.3
6203765	99	P	SUR	23	-38	713	0	0.3	0.3	0.4
6203766	99	P	SUR	25	-31	713	0	0.3	-2.3	2.3
6203767	99	P	SUR	19	-34	716	0	0.3	-0.3	0.4
6203768	99	P	SUR	34	-14	716	0	0.2	0.4	0.5
6203771	99	P	SUR	27	-30	717	0	0.2	0.2	0.3
6203772	99	P	SUR	23	-38	716	0	0.3	0.2	0.3
6203773	99	P	SUR	27	-35	715	0	0.3	-0.2	0.3
6203774	99	P	SUR	28	-16	366	0	0.3	-0.6	0.7
6203776	99	P	SUR	31	-19	718	0	0.2	0.0	0.2
6203777	99	P	SUR	25	-39	719	0	0.3	0.1	0.3
6203838	99	P	SUR	14	-30	721	0	0.3	0.2	0.3
6203839	99	P	SUR	17	-29	726	0	0.3	0.0	0.3
6203840	99	P	SUR	19	-23	723	0	0.3	0.4	0.5
62050	99	P	SUR	50	-4	1938	0	0.5	-0.2	0.5
62081	99	P	SUR	51	-13	1938	0	0.4	-0.3	0.5
62091	99	P	SUR	53	-5	739	0	0.5	-0.3	0.5
62092	99	P	SUR	51	-11	739	0	0.4	-0.2	0.5
62093	99	P	SUR	55	-10	739	0	0.4	-0.2	0.5
62094	99	P	SUR	52	-7	739	0	0.4	-0.1	0.5
62095	99	P	SUR	53	-16	739	0	0.4	-0.4	0.6
62102	99	P	SUR	58	2	1935	0	0.5	0.2	0.5
62103	99	P	SUR	50	-3	1938	0	0.5	-0.3	0.6
62104	99	P	SUR	57	1	1939	0	0.4	-0.1	0.4
62107	99	P	SUR	50	-6	2586	0	0.5	-0.3	0.5
62112	99	P	SUR	58	0	1943	0	0.4	0.2	0.5
62113	99	P	SUR	58	0	1937	0	0.7	0.2	0.8
62114	99	P	SUR	58	0	2905	0	0.5	0.2	0.5
62115	99	P	SUR	58	-3	1907	0	0.4	-0.1	0.4
62116	99	P	SUR	58	1	1940	0	0.6	0.1	0.6
62118	99	P	SUR	58	1	1934	0	0.4	0.4	0.5
62119	99	P	SUR	57	2	1902	0	0.4	0.2	0.4
62120	99	P	SUR	56	2	1929	0	0.5	-0.2	0.5
62121	99	P	SUR	54	3	1939	0	0.6	0.5	0.8
62122	99	P	SUR	57	2	2585	0	0.4	0.1	0.5
62124	99	P	SUR	54	-4	1521	0	0.4	-0.0	0.4
62129	99	P	SUR	58	0	1670	0	0.6	0.3	0.7
62130	99	P	SUR	59	1	1937	0	0.4	-0.2	0.5
62131	99	P	SUR	54	1	1898	0	0.4	0.5	0.6
62132	99	P	SUR	56	2	1940	0	0.4	0.4	0.6
62133	99	P	SUR	57	1	1937	0	0.6	0.2	0.6

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	1926	0	0.3	0.6	0.7
62135	99	P	SUR	54	2	1937	0	0.4	0.3	0.5
62138	99	P	SUR	54	0	2325	0	0.5	0.7	0.8
62140	99	P	SUR	57	1	2585	0	0.4	0.1	0.4
62143	99	P	SUR	58	2	1935	0	0.4	0.7	0.8
62144	99	P	SUR	53	2	1936	0	0.4	0.2	0.5
62145	99	P	SUR	53	3	2585	0	0.4	0.4	0.5
62146	99	P	SUR	57	2	1934	0	0.4	-0.0	0.4
62148	99	P	SUR	54	2	1871	0	0.4	1.1	1.2
62149	99	P	SUR	54	1	1937	0	0.3	0.7	0.7
62151	99	P	SUR	57	2	2271	0	0.4	0.2	0.4
62152	99	P	SUR	57	2	1875	0	0.4	0.5	0.6
62153	99	P	SUR	57	2	2585	0	0.3	0.2	0.4
62154	99	P	SUR	56	2	1940	0	0.4	0.1	0.5
62155	99	P	SUR	58	1	1940	0	0.4	0.5	0.6
62157	99	P	SUR	58	0	1938	0	0.5	0.0	0.5
62160	99	P	SUR	57	2	2463	0	0.4	0.4	0.6
62161	99	P	SUR	58	1	1930	0	0.7	0.2	0.7
62162	99	P	SUR	57	1	1935	0	0.4	-0.0	0.4
62163	99	P	SUR	48	-8	1936	0	0.4	0.2	0.5
62164	99	P	SUR	57	1	1939	0	0.5	0.3	0.6
62165	99	P	SUR	54	1	1928	0	0.5	0.6	0.8
62168	99	P	SUR	58	1	1935	0	0.4	0.1	0.4
62170	99	P	SUR	51	2	1931	0	0.4	-0.1	0.5
62296	99	P	SUR	53	2	1850	0	0.4	0.0	0.4
62297	99	P	SUR	59	2	2581	0	0.4	0.1	0.4
62302	99	P	SUR	61	-2	1943	0	0.6	-0.0	0.6
62304	99	P	SUR	51	2	1936	0	0.4	-0.1	0.5
62305	99	P	SUR	50	0	2252	0	0.6	-0.1	0.6
62442	99	P	SUR	49	-16	1936	0	0.4	-0.4	0.6
6301001	99	P	SUR	64	5	742	0	0.5	-0.2	0.5
6301003	99	P	SUR	74	24	681	17	3.1	0.2	3.1
6301004	99	P	SUR	72	20	631	0	0.5	-0.4	0.7
6301510	99	P	SUR	80	16	713	0	0.5	-0.3	0.5
6301511	99	P	SUR	55	-41	713	0	1.6	6.0	6.2
6301564	99	P	SUR	58	-31	742	0	1.4	0.0	1.4
6301567	99	P	SUR	57	-14	177	0	0.3	-0.2	0.3
6301570	99	P	SUR	60	-39	744	0	0.5	0.1	0.5
6301571	99	P	SUR	51	-34	744	0	0.5	-0.1	0.5
6301573	99	P	SUR	90	5	743	0	0.5	0.7	0.8
6301574	99	P	SUR	84	28	665	0	0.4	0.1	0.5
6301575	99	P	SUR	90	19	742	0	0.5	0.4	0.6
6301576	99	P	SUR	87	39	744	0	0.5	0.7	0.8

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
63055	99	P	SUR	61	2	1900	0	0.5	-0.1	0.5
63056	99	P	SUR	60	2	1937	0	0.7	0.6	0.9
63057	99	P	SUR	59	2	1921	0	0.4	-0.1	0.4
63058	99	P	SUR	53	2	2614	0	0.6	0.2	0.6
63059	99	P	SUR	58	-1	1941	0	0.5	0.4	0.6
63101	99	P	SUR	61	1	1938	0	0.6	0.2	0.7
63102	99	P	SUR	61	1	1938	0	0.5	-0.0	0.5
63103	99	P	SUR	61	1	1938	0	0.5	0.1	0.5
63104	99	P	SUR	61	2	806	0	0.5	-0.0	0.5
63108	99	P	SUR	61	2	1900	0	0.6	-0.0	0.6
63109	99	P	SUR	60	2	1934	0	0.4	-0.3	0.5
63110	99	P	SUR	60	2	1934	0	0.6	0.5	0.8
63111	99	P	SUR	61	2	2578	0	0.5	-0.5	0.8
63112	99	P	SUR	61	1	1938	0	0.5	-0.4	0.7
63115	99	P	SUR	62	1	1939	0	0.6	0.0	0.6
63117	99	P	SUR	61	1	2585	0	0.7	0.5	0.9
63118	99	P	SUR	58	2	1935	0	0.4	-0.2	0.4
6401531	99	P	SUR	51	-36	714	0	0.5	-0.2	0.6
6401573	99	P	SUR	57	-30	743	0	0.4	-0.2	0.5
6401574	99	P	SUR	58	-54	744	0	0.5	0.5	0.7
6401575	99	P	SUR	69	0	744	0	0.5	-0.0	0.5
6401576	99	P	SUR	72	-22	744	0	0.5	-0.4	0.7
6401577	99	P	SUR	74	-10	743	0	1.1	0.2	1.1
6401578	99	P	SUR	78	-19	744	0	0.6	0.0	0.6
6401580	99	P	SUR	79	29	150	0	0.4	-0.5	0.7
6401758	99	P	SUR	65	-36	323	111	0.6	0.0	0.6
6401759	99	P	SUR	59	-48	744	0	0.3	-0.0	0.3
6401760	99	P	SUR	63	-40	743	0	0.4	-0.1	0.5
6401761	99	P	SUR	60	-54	744	0	0.3	0.3	0.5
6401762	99	P	SUR	66	3	743	0	0.4	0.1	0.4
6401763	99	P	SUR	61	-7	743	0	0.3	0.2	0.4
6401838	99	P	SUR	64	-18	711	0	0.4	-1.6	1.6
6401839	99	P	SUR	62	-12	518	0	0.4	0.1	0.4
6401840	99	P	SUR	63	-8	686	0	0.4	0.1	0.5
6401841	99	P	SUR	62	-12	696	0	0.4	0.3	0.5
6401842	99	P	SUR	64	-24	674	0	0.4	-0.0	0.4
6401843	99	P	SUR	63	-18	667	0	0.5	0.2	0.5
6401846	99	P	SUR	65	-3	10	0	0.1	-0.2	0.3
6401847	99	P	SUR	66	-2	97	0	0.4	-0.0	0.4
6401852	99	P	SUR	66	-22	236	0	0.7	0.0	0.7
6401856	99	P	SUR	66	-21	437	0	0.7	-0.3	0.8
6401857	99	P	SUR	63	-23	604	19	3.9	2.3	4.5
6401862	99	P	SUR	64	-8	64	0	0.4	0.4	0.5

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6401864	99	P	SUR	64	-34	229	0	0.5	-0.2	0.5
6401866	99	P	SUR	64	-18	159	0	0.4	-0.5	0.6
6402539	99	P	SUR	51	-36	715	0	0.5	-0.2	0.6
6402541	99	P	SUR	70	-10	526	0	0.3	0.0	0.3
6402543	99	P	SUR	58	-43	704	0	0.4	0.1	0.4
6402544	99	P	SUR	72	12	662	0	0.3	0.2	0.4
6402545	99	P	SUR	75	19	260	0	0.4	0.1	0.4
6402546	99	P	SUR	72	18	4	0	0.4	0.3	0.5
6402547	99	P	SUR	60	-58	618	0	0.4	0.3	0.5
6402548	99	P	SUR	70	8	669	0	0.4	-0.0	0.4
6402549	99	P	SUR	76	14	680	0	0.5	-0.0	0.5
6402550	99	P	SUR	72	26	208	0	0.4	0.1	0.4
6402551	99	P	SUR	60	-56	711	0	0.3	0.2	0.4
6402552	99	P	SUR	65	-3	670	0	0.4	0.1	0.4
6402554	99	P	SUR	60	4	504	0	0.4	0.5	0.7
6402557	99	P	SUR	70	-5	714	0	0.4	0.1	0.4
6402559	99	P	SUR	63	-52	655	0	0.3	0.3	0.4
6402560	99	P	SUR	69	-1	654	0	0.4	-0.1	0.4
6402562	99	P	SUR	60	-44	714	0	0.5	-0.2	0.5
6402563	99	P	SUR	64	-3	659	0	0.4	0.2	0.4
6402587	99	P	SUR	65	-62	712	0	0.4	0.1	0.4
6402588	99	P	SUR	66	-59	711	0	0.4	0.0	0.4
6402589	99	P	SUR	67	-58	706	0	0.3	-0.1	0.4
6402590	99	P	SUR	67	-59	689	0	0.4	-0.2	0.4
6402591	99	P	SUR	67	-58	708	0	0.3	0.3	0.5
6402592	99	P	SUR	61	-53	691	0	0.3	-0.8	0.9
6402593	99	P	SUR	61	-49	717	0	0.4	-0.2	0.5
6402594	99	P	SUR	63	-55	702	0	0.4	0.0	0.4
6402595	99	P	SUR	61	-48	242	0	0.4	-0.6	0.7
6402596	99	P	SUR	59	-48	687	0	0.3	-0.2	0.4
6402597	99	P	SUR	64	-55	708	0	0.3	-0.0	0.3
6402598	99	P	SUR	62	-53	678	0	0.3	-0.0	0.3
6402599	99	P	SUR	62	-53	707	0	0.3	0.0	0.3
6402600	99	P	SUR	84	-37	731	0	0.6	0.5	0.8
6402610	99	P	SUR	60	-43	708	0	0.5	-0.5	0.7
6402611	99	P	SUR	61	-56	695	0	0.3	0.2	0.4
6402612	99	P	SUR	65	-63	716	0	0.4	-0.0	0.4
6402614	99	P	SUR	67	-58	706	0	0.4	0.2	0.4
6402619	99	P	SUR	44	-13	715	0	0.3	0.0	0.3
6402620	99	P	SUR	47	-15	719	0	0.4	0.2	0.5
6402621	99	P	SUR	43	-11	715	0	0.3	0.2	0.4
6402622	99	P	SUR	42	-15	718	0	0.3	0.1	0.3
6402624	99	P	SUR	79	22	604	10	1.8	-0.7	2.0

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6402654	99	P	SUR	59	-12	530	0	0.4	-0.0	0.4
6402655	99	P	SUR	62	-14	684	0	0.4	0.1	0.4
6402656	99	P	SUR	67	-22	652	0	0.5	0.3	0.5
6402657	99	P	SUR	63	-18	618	0	0.4	0.3	0.5
6402658	99	P	SUR	66	-14	421	29	5.7	3.8	6.9
6402659	99	P	SUR	63	-23	713	0	0.4	-0.0	0.4
6402660	99	P	SUR	66	-23	607	0	0.5	-0.4	0.7
6402661	99	P	SUR	61	-22	643	0	0.3	0.0	0.3
6402663	99	P	SUR	59	-30	697	0	0.5	-0.4	0.6
6402665	99	P	SUR	63	-11	585	0	0.4	0.3	0.5
6402666	99	P	SUR	64	-21	714	0	0.4	0.2	0.5
6402667	99	P	SUR	61	-25	683	0	0.3	-0.2	0.4
6402668	99	P	SUR	58	-38	715	0	0.4	0.2	0.5
6402678	99	P	SUR	61	-32	244	0	0.5	-0.1	0.5
6402679	99	P	SUR	73	2	243	0	0.4	0.0	0.4
6402680	99	P	SUR	60	-40	243	0	0.4	-0.4	0.6
6402681	99	P	SUR	69	-3	243	0	0.4	0.1	0.4
6402722	99	P	SUR	72	7	521	0	0.4	-0.1	0.4
6402725	99	P	SUR	69	4	2351	0	0.5	0.2	0.5
64041	99	P	SUR	61	-3	1943	0	0.5	-0.1	0.5
64045	99	P	SUR	59	-12	1853	0	0.4	-0.3	0.5
6501545	99	P	SUR	79	11	706	2	1.4	-0.2	1.4
6501546	99	P	SUR	82	17	707	0	1.3	0.2	1.3
6501547	99	P	SUR	78	12	712	0	0.4	-0.4	0.6
6501548	99	P	SUR	79	10	713	0	0.4	-0.0	0.4
6501549	99	P	SUR	80	5	626	2	3.0	1.7	3.4
6501670	99	P	SUR	76	19	701	0	0.4	0.2	0.5
6501671	99	P	SUR	79	10	705	0	0.4	-0.2	0.5
6501672	99	P	SUR	80	4	699	0	0.8	-0.1	0.8
6501673	99	P	SUR	78	10	686	0	0.6	-0.0	0.6
6501674	99	P	SUR	76	9	695	0	0.5	0.1	0.5
6501675	99	P	SUR	74	1	687	0	0.5	0.0	0.5
6501676	99	P	SUR	76	9	708	0	0.5	0.1	0.5
6501677	99	P	SUR	76	-4	708	0	0.4	0.2	0.4
6501678	99	P	SUR	75	-6	696	0	0.4	-0.1	0.4
6501679	99	P	SUR	76	5	711	0	0.4	0.0	0.4
6501680	99	P	SUR	74	-16	662	2	0.8	0.2	0.8
6501681	99	P	SUR	71	-20	687	0	0.4	0.3	0.5
6501682	99	P	SUR	75	-9	393	0	0.3	0.1	0.3
6501683	99	P	SUR	72	-21	375	0	0.4	0.1	0.5
6501685	99	P	SUR	80	14	701	0	0.4	-0.1	0.5
6501686	99	P	SUR	80	12	713	0	0.4	-0.1	0.5
6501687	99	P	SUR	80	8	704	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
6501688	99	P	SUR	80	6	465	0	0.5	-0.1	0.5
6501689	99	P	SUR	79	11	2883	0	1.1	0.1	1.2
6600021	99	P	SUR	55	14	169	0	0.5	0.4	0.7
6600022	99	P	SUR	54	14	198	0	0.4	-0.5	0.7

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 : OCT 2021
 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
1300001	99	SPEED	SUR	11	-23	620	0	0	1.4	0.7	1.6
1300002	99	SPEED	SUR	20	-23	620	0	0	0.8	0.2	0.8
1300008	99	SPEED	SUR	15	-38	620	5	0	0.9	-0.2	0.9
1300130	99	SPEED	SUR	28	-16	744	0	0	0.8	0.0	0.8
1300131	99	SPEED	SUR	28	-17	744	0	0	1.9	2.2	2.9
1801565	99	SPEED	SUR	23	-60	3667	0	0	1.3	-0.3	1.3
1801568	99	SPEED	SUR	17	-66	3715	0	0	1.1	-0.3	1.2
1801580	99	SPEED	SUR	22	-66	2515	0	0	2.8	3.7	4.7
4100040	99	SPEED	SUR	15	-53	4461	0	0	0.8	0.3	0.9
4100043	99	SPEED	SUR	21	-65	4459	0	0	1.0	-0.1	1.0
4100044	99	SPEED	SUR	22	-59	13	0	0	0.3	-0.3	0.4
4100046	99	SPEED	SUR	24	-68	4460	0	0	1.2	0.1	1.2
4100048	99	SPEED	SUR	32	-70	3860	0	0	1.3	0.0	1.3
4100049	99	SPEED	SUR	27	-63	4456	0	0	1.4	0.3	1.4
4100052	99	SPEED	SUR	18	-65	4367	0	0	1.1	-0.3	1.1
4100053	99	SPEED	SUR	18	-66	4419	0	0	1.3	0.7	1.5
4100056	99	SPEED	SUR	18	-65	4437	0	0	1.3	-0.7	1.5
4100139	99	SPEED	SUR	20	-38	612	0	0	1.0	-0.1	1.0
4100300	99	SPEED	SUR	16	-57	741	0	0	0.8	-0.6	1.0
41040	99	SPEED	SUR	15	-53	4948	0	0	0.8	-0.1	0.9
41043	99	SPEED	SUR	21	-65	4409	0	0	1.1	-0.2	1.1
41044	99	SPEED	SUR	22	-59	11	0	0	0.3	-0.3	0.4
41046	99	SPEED	SUR	24	-68	6325	0	0	1.3	0.0	1.3
41048	99	SPEED	SUR	32	-70	5939	0	0	1.4	-0.1	1.4
41049	99	SPEED	SUR	28	-63	6224	0	0	1.5	0.2	1.5
41052	99	SPEED	SUR	18	-65	3024	0	0	1.1	-0.2	1.1
41053	99	SPEED	SUR	19	-66	3081	0	0	1.4	0.2	1.4
41056	99	SPEED	SUR	18	-66	3115	0	0	1.3	-0.5	1.4
4200059	99	SPEED	SUR	15	-67	4461	0	0	1.0	0.4	1.1
4200085	99	SPEED	SUR	18	-67	4029	0	0	1.4	-0.5	1.5
42059	99	SPEED	SUR	15	-68	4429	0	0	1.0	0.1	1.0
42085	99	SPEED	SUR	18	-67	3370	0	0	1.4	-0.2	1.4
4400005	99	SPEED	SUR	43	-69	744	0	0	1.2	-0.1	1.2
4400008	99	SPEED	SUR	41	-69	4460	0	0	1.5	0.2	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
440011	99	SPEED	SUR	41	-67	4451	0	0	1.7	0.3	1.7
440024	99	SPEED	SUR	42	-66	726	0	0	1.3	-0.4	1.3
440027	99	SPEED	SUR	44	-67	740	0	0	1.2	0.2	1.2
440032	99	SPEED	SUR	44	-69	738	0	0	1.3	-0.0	1.3
440033	99	SPEED	SUR	44	-69	730	0	0	1.3	-0.0	1.3
440034	99	SPEED	SUR	44	-68	705	0	0	1.4	-0.0	1.4
440037	99	SPEED	SUR	43	-68	710	0	0	1.0	-0.2	1.0
44005	99	SPEED	SUR	43	-69	1970	0	0	1.2	-0.1	1.2
44008	99	SPEED	SUR	41	-69	6282	0	0	1.5	-0.3	1.5
44011	99	SPEED	SUR	41	-67	6363	0	0	1.7	-0.0	1.7
44024	99	SPEED	SUR	42	-66	1873	0	0	1.4	-0.3	1.4
44027	99	SPEED	SUR	44	-67	1958	0	0	1.2	0.3	1.3
44032	99	SPEED	SUR	44	-69	1362	0	0	1.4	-0.0	1.4
44033	99	SPEED	SUR	44	-69	1345	0	0	1.3	0.2	1.3
44034	99	SPEED	SUR	44	-68	1300	0	0	1.4	0.0	1.4
44037	99	SPEED	SUR	44	-68	1306	0	0	1.1	-0.2	1.1
44078	99	SPEED	SUR	60	-40	4891	0	0	2.3	-2.0	3.0
44137	99	SPEED	SUR	42	-62	773	0	0	1.5	-0.1	1.5
44139	99	SPEED	SUR	44	-57	780	0	0	1.2	-0.0	1.2
44150	99	SPEED	SUR	43	-64	857	0	0	1.5	0.1	1.5
44258	99	SPEED	SUR	45	-63	546	0	0	1.3	-0.0	1.3
44488	99	SPEED	SUR	45	-61	864	0	0	1.4	0.4	1.5
44489	99	SPEED	SUR	46	-61	794	0	0	1.4	0.7	1.6
44490	99	SPEED	SUR	45	-66	868	0	0	1.4	-0.5	1.5
610001	99	SPEED	SUR	43	8	742	0	0	1.7	-0.6	1.8
610002	99	SPEED	SUR	42	5	724	0	0	1.3	0.1	1.3
6100196	99	SPEED	SUR	42	4	734	0	0	1.4	0.0	1.4
6100197	99	SPEED	SUR	40	4	740	0	0	1.1	-0.7	1.3
6100198	99	SPEED	SUR	37	-2	735	0	0	1.2	-0.6	1.3
6100280	99	SPEED	SUR	41	1	729	0	0	1.5	-0.6	1.6
6100281	99	SPEED	SUR	40	0	600	0	0	2.1	-0.8	2.2
6100417	99	SPEED	SUR	38	0	739	0	0	1.3	0.0	1.3
6101003	99	SPEED	SUR	40	25	135	0	0	2.1	-0.3	2.2
6101005	99	SPEED	SUR	38	26	136	0	0	5.4	-5.7	7.8
6101007	99	SPEED	SUR	36	25	175	0	0	1.9	-0.3	2.0
6101008	99	SPEED	SUR	37	22	180	0	0	2.4	0.2	2.5
6101009	99	SPEED	SUR	35	25	74	0	0	1.6	1.4	2.1
6200024	99	SPEED	SUR	44	-3	739	0	0	1.5	-0.2	1.5
6200025	99	SPEED	SUR	44	-6	727	0	0	1.3	-0.8	1.6
6200082	99	SPEED	SUR	44	-8	742	0	0	1.2	-0.5	1.2
6200083	99	SPEED	SUR	43	-9	735	0	0	1.1	-0.4	1.2

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
6200084	99	SPEED	SUR	42	-9	740	0	0	1.2	-0.9	1.5
6200085	99	SPEED	SUR	36	-7	737	0	0	1.3	-0.5	1.4
6200086	99	SPEED	SUR	55	6	336	0	0	2.8	1.3	3.1
6200087	99	SPEED	SUR	55	7	363	0	0	1.3	1.4	2.0
6200091	99	SPEED	SUR	53	-5	744	0	0	1.2	0.3	1.3
6200092	99	SPEED	SUR	51	-11	744	0	0	1.3	0.1	1.3
6200093	99	SPEED	SUR	55	-10	744	0	0	1.3	-0.5	1.4
6200094	99	SPEED	SUR	52	-7	744	0	0	1.3	-0.9	1.6
6200095	99	SPEED	SUR	53	-16	744	0	0	1.1	0.3	1.1
62001	99	SPEED	SUR	45	-5	1943	0	0	1.1	0.7	1.3
6200200	99	SPEED	SUR	36	-8	709	0	0	1.0	0.1	1.0
6201066	99	SPEED	SUR	55	7	784	0	0	1.8	0.3	1.8
62029	99	SPEED	SUR	49	-12	1938	0	0	1.3	0.7	1.5
62081	99	SPEED	SUR	51	-13	1941	0	0	1.0	0.5	1.1
62091	99	SPEED	SUR	53	-5	739	0	0	1.3	0.4	1.3
62092	99	SPEED	SUR	51	-11	739	0	0	1.3	0.4	1.4
62093	99	SPEED	SUR	55	-10	739	0	0	1.3	-0.2	1.3
62094	99	SPEED	SUR	52	-7	739	0	0	1.3	-0.6	1.4
62095	99	SPEED	SUR	53	-16	739	0	0	1.1	0.7	1.3
62102	99	SPEED	SUR	58	2	1935	0	0	2.7	-1.6	3.2
62103	99	SPEED	SUR	50	-3	1940	0	0	1.2	-0.5	1.3
62104	99	SPEED	SUR	57	1	1939	0	0	1.3	-0.2	1.3
62107	99	SPEED	SUR	50	-6	2586	0	0	1.3	-0.0	1.3
62112	99	SPEED	SUR	58	0	1943	0	0	1.8	-0.3	1.8
62113	99	SPEED	SUR	58	0	1937	0	0	2.0	0.7	2.1
62114	99	SPEED	SUR	58	0	2905	0	0	1.7	1.0	2.0
62118	99	SPEED	SUR	58	1	1934	0	0	1.5	0.8	1.7
62119	99	SPEED	SUR	57	2	1904	0	0	1.6	-0.6	1.8
62120	99	SPEED	SUR	56	2	1929	0	0	1.4	0.2	1.5
62121	99	SPEED	SUR	54	3	1939	0	0	1.4	-0.9	1.7
62122	99	SPEED	SUR	57	2	2585	0	0	1.2	-0.3	1.2
62129	99	SPEED	SUR	58	0	20	0	0	1.0	0.8	1.2
62131	99	SPEED	SUR	54	1	1898	0	0	1.4	0.2	1.4
62132	99	SPEED	SUR	56	2	1940	0	0	2.8	-1.8	3.3
62133	99	SPEED	SUR	57	1	1937	0	0	1.6	0.1	1.6
62134	99	SPEED	SUR	58	1	1926	0	0	1.6	0.1	1.6
62140	99	SPEED	SUR	57	1	2218	0	0	1.2	-0.0	1.2
62143	99	SPEED	SUR	58	2	1935	0	0	2.2	-1.2	2.5
62144	99	SPEED	SUR	53	2	1936	0	0	2.3	-1.0	2.5
62145	99	SPEED	SUR	53	3	2569	0	0	1.4	0.2	1.4
62146	99	SPEED	SUR	57	2	1790	0	0	1.4	-0.2	1.4

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
62148	99	SPEED	SUR	54	2	1871	0	0	1.5	-0.5	1.6
62149	99	SPEED	SUR	54	1	1937	0	0	1.3	0.2	1.3
62152	99	SPEED	SUR	57	2	93	0	0	4.2	-3.9	5.7
62153	99	SPEED	SUR	57	2	2585	0	0	2.3	-1.4	2.7
62154	99	SPEED	SUR	56	2	1940	0	0	1.5	0.0	1.5
62155	99	SPEED	SUR	58	1	1822	0	0	1.4	-0.2	1.4
62164	99	SPEED	SUR	57	1	1939	0	0	1.6	-1.3	2.1
62165	99	SPEED	SUR	54	1	1928	0	0	1.5	-0.5	1.6
62170	99	SPEED	SUR	51	2	1935	0	0	1.5	0.0	1.5
62304	99	SPEED	SUR	51	2	1936	0	0	1.6	0.6	1.7
62305	99	SPEED	SUR	50	0	2258	0	0	1.4	0.7	1.5
6301001	99	SPEED	SUR	64	5	742	0	0	1.5	-0.5	1.6
6301003	99	SPEED	SUR	74	24	681	0	0	1.9	-0.8	2.0
6301004	99	SPEED	SUR	72	20	629	0	0	1.7	-1.6	2.4
63055	99	SPEED	SUR	61	2	1900	0	0	1.3	-0.9	1.6
63056	99	SPEED	SUR	60	2	1937	0	0	1.5	0.7	1.6
63057	99	SPEED	SUR	59	2	1921	0	0	2.3	-0.9	2.5
63058	99	SPEED	SUR	53	2	1936	0	0	1.3	-0.3	1.3
63101	99	SPEED	SUR	61	1	1938	0	0	1.3	-0.2	1.4
63103	99	SPEED	SUR	61	1	1938	0	0	1.7	0.2	1.7
63104	99	SPEED	SUR	61	2	806	0	0	1.3	0.1	1.3
63106	99	SPEED	SUR	61	2	1845	0	0	2.2	-0.7	2.3
63108	99	SPEED	SUR	61	2	1900	0	0	1.5	0.1	1.5
63109	99	SPEED	SUR	60	2	1920	0	0	1.5	0.5	1.6
63110	99	SPEED	SUR	60	2	1934	0	0	1.6	-0.4	1.6
63112	99	SPEED	SUR	61	1	1938	0	0	1.3	-0.3	1.3
63115	99	SPEED	SUR	62	1	1939	0	0	1.2	-0.3	1.2
63117	99	SPEED	SUR	61	1	2585	0	0	1.4	-0.3	1.4
6401856	99	SPEED	SUR	66	-21	437	1	0	3.5	4.8	5.9
6401857	99	SPEED	SUR	63	-23	604	0	0	1.4	3.7	4.0
6402725	99	SPEED	SUR	69	4	2351	0	0	1.3	2.4	2.8
64041	99	SPEED	SUR	61	-3	1739	0	0	1.6	0.1	1.6
64045	99	SPEED	SUR	59	-12	1855	0	0	1.1	1.0	1.5
6600021	99	SPEED	SUR	55	14	169	0	0	1.1	0.8	1.3
6600022	99	SPEED	SUR	54	14	198	9	0	1.3	0.2	1.3

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 : OCT 2021
 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
1300001	99	DIRN	SUR	11	-23	432	0	0	17.1	6.3	18.2
1300002	99	DIRN	SUR	20	-23	619	0	0	9.2	0.5	9.3
1300008	99	DIRN	SUR	15	-38	617	5	0	118.9	10.2	119.3
1300130	99	DIRN	SUR	28	-16	737	0	0	9.2	5.3	10.7
1300131	99	DIRN	SUR	28	-17	465	0	0	28.5	-97.5	101.5
1801560	99	DIRN	SUR	32	-80	2175	0	0	22.6	3.4	22.8
1801565	99	DIRN	SUR	23	-60	2686	0	0	18.5	1.9	18.6
1801568	99	DIRN	SUR	17	-66	3031	0	0	16.0	4.1	16.5
1801580	99	DIRN	SUR	22	-66	1813	0	0	49.9	-79.1	93.5
4100002	99	DIRN	SUR	32	-75	3296	0	0	20.9	9.1	22.8
4100004	99	DIRN	SUR	33	-79	3444	0	0	19.9	4.9	20.5
4100008	99	DIRN	SUR	31	-81	549	0	0	20.1	1.5	20.2
4100009	99	DIRN	SUR	29	-80	3412	0	0	18.9	5.7	19.7
4100010	99	DIRN	SUR	29	-78	3413	0	0	21.2	8.3	22.7
4100013	99	DIRN	SUR	33	-78	3759	0	0	18.4	4.6	18.9
4100024	99	DIRN	SUR	34	-78	565	0	0	20.6	-9.1	22.5
4100025	99	DIRN	SUR	35	-75	3869	0	0	25.8	7.6	26.9
4100029	99	DIRN	SUR	33	-80	586	0	0	21.4	7.8	22.7
4100033	99	DIRN	SUR	32	-80	566	0	0	23.2	4.6	23.6
4100037	99	DIRN	SUR	34	-77	627	0	0	21.8	4.5	22.2
4100038	99	DIRN	SUR	34	-78	590	0	0	21.4	-14.2	25.7
4100040	99	DIRN	SUR	15	-53	4461	0	0	7.7	5.7	9.6
4100043	99	DIRN	SUR	21	-65	3603	0	0	15.1	0.2	15.1
4100044	99	DIRN	SUR	22	-59	12	0	0	5.8	6.2	8.5
4100046	99	DIRN	SUR	24	-68	3728	0	0	16.5	0.9	16.5
4100047	99	DIRN	SUR	27	-71	3822	0	0	19.9	6.4	20.9
4100048	99	DIRN	SUR	32	-70	3169	0	0	19.5	3.0	19.7
4100049	99	DIRN	SUR	27	-63	3298	0	0	20.0	4.3	20.4
4100052	99	DIRN	SUR	18	-65	3518	0	0	13.0	6.4	14.5
4100053	99	DIRN	SUR	18	-66	1859	0	0	22.8	2.0	22.9
4100056	99	DIRN	SUR	18	-65	3357	0	0	18.2	4.0	18.6
4100064	99	DIRN	SUR	34	-77	620	0	0	31.2	10.5	32.9

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
4100139	99	DIRN	SUR	20	-38	551	0	0	11.5	-0.5	11.5
41002	99	DIRN	SUR	32	-75	4548	0	0	20.6	8.1	22.1
4100300	99	DIRN	SUR	16	-57	681	0	0	10.3	8.2	13.2
41004	99	DIRN	SUR	33	-79	5039	0	0	20.1	2.3	20.2
41008	99	DIRN	SUR	31	-81	1406	0	0	21.8	1.4	21.8
41009	99	DIRN	SUR	29	-80	4644	0	0	19.6	3.6	20.0
41010	99	DIRN	SUR	29	-79	4641	0	0	22.0	7.5	23.3
41013	99	DIRN	SUR	33	-78	5007	0	0	18.3	4.9	18.9
41024	99	DIRN	SUR	34	-79	1044	0	0	22.5	-8.6	24.1
41025	99	DIRN	SUR	35	-76	5287	0	0	26.4	5.3	26.9
41029	99	DIRN	SUR	33	-80	1428	0	0	20.4	7.9	21.9
41033	99	DIRN	SUR	32	-80	1008	0	0	23.3	4.8	23.8
41037	99	DIRN	SUR	34	-77	1136	0	0	23.1	4.2	23.4
41038	99	DIRN	SUR	34	-78	1071	0	0	21.1	-13.8	25.2
41040	99	DIRN	SUR	15	-53	4913	0	0	8.4	4.3	9.4
41043	99	DIRN	SUR	21	-65	3484	0	0	14.9	-1.7	15.0
41044	99	DIRN	SUR	22	-59	10	0	0	8.7	4.6	9.8
41046	99	DIRN	SUR	24	-68	5180	0	0	16.8	4.5	17.4
41047	99	DIRN	SUR	28	-72	5243	0	0	19.9	6.6	21.0
41048	99	DIRN	SUR	32	-70	4760	0	0	19.6	2.3	19.8
41049	99	DIRN	SUR	28	-63	4488	0	0	19.6	3.5	19.9
41052	99	DIRN	SUR	18	-65	2379	0	0	13.3	5.7	14.5
41053	99	DIRN	SUR	19	-66	1424	0	0	24.3	-1.1	24.3
41056	99	DIRN	SUR	18	-66	2242	0	0	18.7	4.8	19.3
41064	99	DIRN	SUR	34	-77	1126	0	0	32.0	10.7	33.7
4200013	99	DIRN	SUR	27	-83	1138	0	0	19.9	-6.8	21.1
4200022	99	DIRN	SUR	28	-84	1155	0	0	15.2	-7.3	16.8
4200023	99	DIRN	SUR	26	-83	889	0	0	18.0	-1.5	18.1
4200026	99	DIRN	SUR	25	-83	1231	0	0	16.5	1.7	16.6
4200036	99	DIRN	SUR	29	-85	3508	0	0	15.3	1.9	15.5
4200056	99	DIRN	SUR	20	-85	3395	0	0	17.2	6.0	18.2
4200059	99	DIRN	SUR	15	-67	4268	0	0	14.4	10.0	17.5
4200085	99	DIRN	SUR	18	-67	3104	0	0	24.5	18.6	30.8
42013	99	DIRN	SUR	27	-83	1543	0	0	21.1	-8.2	22.6
42022	99	DIRN	SUR	28	-84	1503	0	0	15.4	-8.0	17.3
42023	99	DIRN	SUR	26	-83	1299	0	0	17.5	-2.0	17.6
42026	99	DIRN	SUR	25	-84	1707	0	0	16.6	1.6	16.6
42036	99	DIRN	SUR	29	-85	4514	0	0	16.6	0.6	16.6
42056	99	DIRN	SUR	20	-85	3266	0	0	17.3	5.7	18.2
42059	99	DIRN	SUR	15	-68	4159	0	0	14.4	11.0	18.1
42085	99	DIRN	SUR	18	-67	2432	0	0	21.8	15.7	26.9

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
4400005	99	DIRN	SUR	43	-69	597	0	0	17.2	2.4	17.3
4400007	99	DIRN	SUR	44	-70	3223	0	0	19.4	9.1	21.4
4400008	99	DIRN	SUR	41	-69	3773	0	0	13.1	7.6	15.2
4400009	99	DIRN	SUR	38	-75	3874	0	0	14.0	4.9	14.8
4400011	99	DIRN	SUR	41	-67	3838	0	0	18.9	7.1	20.2
4400013	99	DIRN	SUR	42	-71	3730	0	0	16.7	7.6	18.3
4400014	99	DIRN	SUR	37	-75	3606	0	0	14.7	8.6	17.0
4400017	99	DIRN	SUR	41	-72	3736	0	0	16.7	5.5	17.6
4400020	99	DIRN	SUR	41	-70	3785	0	0	16.0	5.8	17.0
4400022	99	DIRN	SUR	41	-74	626	0	0	17.3	3.3	17.6
4400024	99	DIRN	SUR	42	-66	616	0	0	16.3	6.9	17.7
4400027	99	DIRN	SUR	44	-67	569	0	0	13.7	-2.7	13.9
4400029	99	DIRN	SUR	43	-71	607	0	0	14.0	-3.5	14.4
4400030	99	DIRN	SUR	43	-70	590	0	0	16.4	1.0	16.4
4400032	99	DIRN	SUR	44	-69	510	0	0	14.9	1.9	15.0
4400033	99	DIRN	SUR	44	-69	487	0	0	18.3	4.3	18.8
4400034	99	DIRN	SUR	44	-68	485	0	0	14.6	7.9	16.6
4400037	99	DIRN	SUR	43	-68	597	0	0	14.2	8.8	16.7
4400039	99	DIRN	SUR	41	-73	431	0	0	17.9	8.0	19.6
4400040	99	DIRN	SUR	41	-74	820	0	0	18.5	0.4	18.5
4400042	99	DIRN	SUR	38	-76	5281	0	0	20.1	-0.5	20.1
4400058	99	DIRN	SUR	38	-76	5854	0	0	16.3	1.0	16.4
4400062	99	DIRN	SUR	39	-76	5071	0	0	18.9	3.6	19.2
4400063	99	DIRN	SUR	39	-76	4263	0	0	34.6	1.0	34.6
4400065	99	DIRN	SUR	40	-74	3545	0	0	20.3	7.5	21.6
4400066	99	DIRN	SUR	40	-73	3841	0	0	16.1	7.6	17.8
4400072	99	DIRN	SUR	37	-76	2204	0	0	19.1	-1.1	19.2
4400073	99	DIRN	SUR	43	-71	247	0	0	12.6	6.8	14.3
4400075	99	DIRN	SUR	40	-71	3490	0	0	17.8	-13.4	22.3
4400076	99	DIRN	SUR	40	-71	2536	0	0	16.3	-14.1	21.6
4400077	99	DIRN	SUR	40	-71	3827	0	0	17.9	-14.8	23.3
44005	99	DIRN	SUR	43	-69	1497	0	0	16.5	2.0	16.6
44007	99	DIRN	SUR	44	-70	4619	0	0	19.6	9.3	21.7
44008	99	DIRN	SUR	41	-69	5175	0	0	13.7	8.3	16.0
44009	99	DIRN	SUR	39	-75	5249	0	0	13.8	3.9	14.3
44011	99	DIRN	SUR	41	-67	5326	0	0	19.5	-0.8	19.5
44013	99	DIRN	SUR	42	-71	5162	0	0	17.0	6.8	18.3
44014	99	DIRN	SUR	37	-75	4994	0	0	16.2	8.3	18.2
44017	99	DIRN	SUR	41	-72	5123	0	0	17.1	5.7	18.0
44020	99	DIRN	SUR	42	-70	5125	0	0	16.3	6.1	17.4
44022	99	DIRN	SUR	41	-74	917	0	0	18.0	3.1	18.3

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
44024	99	DIRN	SUR	42	-66	1535	0	0	16.3	7.1	17.7
44027	99	DIRN	SUR	44	-67	1458	0	0	13.2	-3.4	13.6
44029	99	DIRN	SUR	43	-71	1567	0	0	14.5	-2.9	14.8
44030	99	DIRN	SUR	43	-70	1044	0	0	15.9	0.7	15.9
44032	99	DIRN	SUR	44	-69	924	0	0	15.4	1.8	15.5
44033	99	DIRN	SUR	44	-69	847	0	0	18.3	3.3	18.6
44034	99	DIRN	SUR	44	-68	874	0	0	14.3	7.7	16.3
44037	99	DIRN	SUR	44	-68	1046	0	0	13.7	8.5	16.1
44039	99	DIRN	SUR	41	-73	785	0	0	18.1	8.5	19.9
44040	99	DIRN	SUR	41	-74	1257	0	0	18.3	0.1	18.3
44042	99	DIRN	SUR	38	-76	6942	0	0	20.6	-0.8	20.7
44058	99	DIRN	SUR	38	-76	7380	0	0	16.5	0.4	16.5
44062	99	DIRN	SUR	39	-76	6804	0	0	18.6	3.6	18.9
44063	99	DIRN	SUR	39	-76	5475	0	0	32.3	0.7	32.3
44065	99	DIRN	SUR	40	-74	4505	0	0	20.0	7.1	21.2
44066	99	DIRN	SUR	40	-73	5781	0	0	16.4	7.0	17.8
44069	99	DIRN	SUR	41	-73	1500	0	0	21.1	7.0	22.2
44072	99	DIRN	SUR	37	-76	2707	0	0	20.0	-0.9	20.1
44073	99	DIRN	SUR	43	-71	439	0	0	13.4	7.4	15.2
44075	99	DIRN	SUR	40	-71	4352	0	0	17.9	-13.3	22.3
44076	99	DIRN	SUR	40	-71	3085	0	0	17.0	-14.0	22.0
44077	99	DIRN	SUR	40	-71	4729	0	0	19.4	-14.7	24.3
44078	99	DIRN	SUR	60	-40	4233	0	0	12.4	-24.3	27.2
44137	99	DIRN	SUR	42	-62	582	0	0	18.3	0.3	18.3
44139	99	DIRN	SUR	44	-57	696	0	0	12.1	5.4	13.2
44150	99	DIRN	SUR	43	-64	664	0	0	20.1	7.2	21.3
44258	99	DIRN	SUR	45	-63	446	0	0	13.6	2.6	13.9
44488	99	DIRN	SUR	45	-61	730	0	0	19.8	10.8	22.5
44489	99	DIRN	SUR	46	-61	638	0	0	16.3	0.9	16.3
44490	99	DIRN	SUR	45	-66	638	0	0	19.7	-1.2	19.8
4500003	99	DIRN	SUR	45	-83	2576	0	0	17.2	5.2	17.9
4500005	99	DIRN	SUR	42	-82	3656	0	0	25.9	7.1	26.8
4500008	99	DIRN	SUR	44	-82	2549	0	0	14.0	1.3	14.1
4500012	99	DIRN	SUR	44	-77	3646	0	0	18.0	5.8	18.9
4500162	99	DIRN	SUR	45	-83	95	0	0	20.4	2.5	20.5
4500163	99	DIRN	SUR	44	-84	134	0	0	16.6	4.1	17.1
4500165	99	DIRN	SUR	42	-83	2355	0	0	30.7	1.8	30.8
4500175	99	DIRN	SUR	46	-85	1068	0	0	14.3	-4.2	15.0
4500196	99	DIRN	SUR	42	-82	2582	0	0	78.4	21.2	81.2
4500197	99	DIRN	SUR	42	-82	1892	0	0	24.1	-36.5	43.7
45003	99	DIRN	SUR	45	-83	3441	0	0	16.3	6.3	17.5

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
45005	99	DIRN	SUR	42	-82	4807	0	0	24.6	5.9	25.3
45008	99	DIRN	SUR	44	-82	3746	0	0	14.6	4.7	15.4
45012	99	DIRN	SUR	44	-77	4803	0	0	17.7	4.9	18.4
45132	99	DIRN	SUR	43	-81	716	0	0	22.3	-0.6	22.3
45135	99	DIRN	SUR	44	-77	736	0	0	20.1	5.2	20.8
45139	99	DIRN	SUR	43	-80	590	0	0	17.1	-2.5	17.3
45142	99	DIRN	SUR	43	-79	646	0	0	18.9	-3.7	19.2
45143	99	DIRN	SUR	45	-81	616	0	0	19.8	3.5	20.1
45147	99	DIRN	SUR	42	-83	608	0	0	17.6	15.0	23.2
45149	99	DIRN	SUR	44	-82	632	0	0	17.2	-0.2	17.2
45151	99	DIRN	SUR	45	-79	379	0	0	18.8	5.0	19.5
45152	99	DIRN	SUR	46	-80	476	2	0	15.6	-11.5	19.4
45154	99	DIRN	SUR	46	-83	616	0	0	20.9	-0.6	21.0
45159	99	DIRN	SUR	44	-79	587	0	0	18.8	2.5	19.0
45162	99	DIRN	SUR	45	-83	95	0	0	14.5	4.5	15.2
45163	99	DIRN	SUR	44	-84	189	0	0	17.2	4.0	17.7
45165	99	DIRN	SUR	42	-83	2698	0	0	30.4	0.6	30.4
45175	99	DIRN	SUR	46	-85	1428	0	0	16.3	-5.5	17.2
45196	99	DIRN	SUR	42	-82	3545	0	0	77.8	21.7	80.8
45197	99	DIRN	SUR	42	-82	3036	0	0	26.7	-36.4	45.2
6100198	99	DIRN	SUR	37	-2	502	0	0	17.5	-6.2	18.6
6100281	99	DIRN	SUR	40	0	229	0	0	63.3	41.7	75.9
6100417	99	DIRN	SUR	38	0	437	0	0	12.8	-0.4	12.8
6200024	99	DIRN	SUR	44	-3	445	0	0	18.2	4.4	18.8
6200025	99	DIRN	SUR	44	-6	483	0	0	16.6	-1.2	16.7
6200082	99	DIRN	SUR	44	-8	640	0	0	13.9	-0.1	13.9
6200083	99	DIRN	SUR	43	-9	542	0	0	14.6	3.7	15.1
6200084	99	DIRN	SUR	42	-9	485	0	0	17.8	4.3	18.3
6200085	99	DIRN	SUR	36	-7	530	0	0	13.0	5.8	14.2
6200091	99	DIRN	SUR	53	-5	714	0	0	11.2	-0.5	11.2
6200092	99	DIRN	SUR	51	-11	669	0	0	12.2	1.7	12.3
6200093	99	DIRN	SUR	55	-10	713	0	0	14.5	4.1	15.0
6200094	99	DIRN	SUR	52	-7	674	0	0	13.3	6.7	14.9
6200095	99	DIRN	SUR	53	-16	714	0	0	10.4	-1.0	10.4
62001	99	DIRN	SUR	45	-5	1713	0	0	13.3	5.9	14.5
6200200	99	DIRN	SUR	36	-8	571	0	0	168.4	-34.4	171.9
62029	99	DIRN	SUR	49	-12	1860	0	0	13.4	-10.3	16.9
62081	99	DIRN	SUR	51	-13	1813	0	0	12.3	-5.2	13.4
62091	99	DIRN	SUR	53	-5	706	0	0	11.7	-4.4	12.5
62092	99	DIRN	SUR	51	-11	662	0	0	12.5	-2.1	12.6
62093	99	DIRN	SUR	55	-10	705	0	0	14.5	0.2	14.5

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
62094	99	DIRN	SUR	52	-7	665	0	0	13.6	3.0	13.9
62095	99	DIRN	SUR	53	-16	705	0	0	10.9	-4.8	12.0
62103	99	DIRN	SUR	50	-3	1707	0	0	13.2	5.8	14.4
62107	99	DIRN	SUR	50	-6	2370	0	0	13.9	6.8	15.5
62112	99	DIRN	SUR	58	0	1841	0	0	10.0	-1.7	10.2
62114	99	DIRN	SUR	58	0	2820	0	0	9.6	-0.8	9.7
62305	99	DIRN	SUR	50	0	2138	0	0	12.3	5.0	13.3
6401856	99	DIRN	SUR	66	-21	328	1	0	55.0	-67.3	86.9
6401857	99	DIRN	SUR	63	-23	564	0	0	21.0	-15.6	26.2
64041	99	DIRN	SUR	61	-3	1657	0	0	13.4	7.7	15.4
64045	99	DIRN	SUR	59	-12	1706	0	0	12.0	-7.2	14.0

4.12 Table 24 - List of Assimilated BUFR Encoded Radiosonde Stations

ASDE09	ATGU3FT	BPMWB2N	HTXUH4H	JNKN7JF	KJJF9XN	KMPLHPW	LRYQE3U	USBOD
USYUB	UXK5JTU	VKB4L5Q	WDK38HS	XKQLWQB	XQFJRGX	YLV96WM	ZVQEQCM	2EERVTP
7JUNA4N	01001	01004	01010	01028	01241	01400	01415	01492
02365	02527	02836	02963	03005	03023	03238	03354	03502
03743	03808	03882	03953	04018	04089	04220	04270	04320
04339	04360	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
12843	12982	13275	13388	14015	14240	14430	15420	15614
16045	16064	16113	16144	16245	16332	16429	16546	16622
16716	16754	17030	17095	17130	17196	17220	17240	17281
17351	17607	20674	22008	23205	23472	23884	24908	26038
26435	26708	26850	27459	27707	27713	28225	28661	29612
29698	30673	33041	37789	40179	40186	43599	45004	47102
47104	47138	47155	47169	47186	47401	47412	47418	47582
47600	47646	47678	47741	47778	47807	47827	47909	47918
47945	47971	47991	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	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	57447	57461	57494	57516
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	60390	60571	60630	60656	60680
61660	61901	61980	61998	63894	63985	68263	68424	68442
68512	68816	68842	70026	70133	70200	70219	70231	70261
70308	70316	70326	70350	70361	70398	71043	71081	71082
71109	71119	71603	71722	71802	71811	71815	71816	71823
71836	71845	71867	71906	71907	71908	71909	71913	71917
71924	71926	71934	71945	71957	71964	72201	72206	72208
72210	72214	72215	72230	72233	72235	72240	72248	72249
72250	72251	72261	72265	72274	72293	72305	72317	72327
72340	72363	72364	72365	72376	72388	72413	72426	72440
72451	72476	72489	72493	72501	72518	72520	72528	72558
72562	72572	72582	72597	72632	72634	72645	72649	72659
72662	72672	72694	72712	72764	72768	72776	72786	72797
73033	73110	74389	74560	76225	76256	76394	76405	76458
76526	76595	76612	76644	76654	76679	76692	76743	76805
76903	78897	78954	81405	83768	85442	85586	85799	85934
87155	87344	87576	87623	87860	88889	89002	89062	89564
89571	89592	89611	89625	89642	89662	89859	91165	91212
91285	91592	91610	91765	91925	91938	91948	91958	93112
93417	93817	93844	94120	94150	94170	94203	94299	94302
94312	94326	94332	94374	94403	94430	94461	94510	94578
94610	94637	94638	94653	94659	94672	94711	94767	94776
94802	94821	94866	94910	94975	94995	94996	94998	95282
95527	96996							

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

ASDE09	ATGU3FT	BPMWB2N	HTXUH4H	JNKN7JF	KJJF9XN	KMPLHPW	LRYQE3U	UXK5JTU
VKB4L5Q	WDK38HS	XKQLWQB	XQFJRGX	YLV96WM	ZVQEQCM	2EERVTP	7JUNA4N	01010
01028	01415	01492	02365	02527	02836	02963	03953	06610
07110	07145	07510	07645	07761	08001	08023	08190	08221
08302	08383	08430	08536	11010	11035	11120	11240	17607
40186	47155	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	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	57447	57461	57494	57516	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	63894
72413	76743	76903	89642	89859	91925	91938	93817	94653

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 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	35ms^{-1}
925	35ms^{-1}
850	35ms^{-1}
700	40ms^{-1}
500	45ms^{-1}
400	50ms^{-1}
300	60ms^{-1}
250	60ms^{-1}
200	50ms^{-1}
150	50ms^{-1}
100	45ms^{-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.