ECMWF Global Data Monitoring Report

October 2024

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

Contents

Summary of Revisions (in reverse order)

Revision 30 (Nov 23) - Coverage charts for AIREP/AMDARs updated:
Added MODE-S and ADS-C to Figure 5 and Figure 18

Revision 29 (Dec 22) - Coverage charts for ATOVS AMSU-A updated:
METOP-C replaces Aqua-ATOVS (Figure 9.2)
METOP-B replaces METOP-ATOVS (Figure 9.3)
SATOB figures updated with METEOSAT-9, Dual-Metop,
METEOSAT-11, GOES-16, HIMAWARI-9, GOES-17 satellites

Revision 28 (Jun 15) - Monitoring of SYNOP and SYNOP-SHIPs now includes BUFR encoded observations for those which were assimilated as well as for those without TAC counterpart.

Revision 27 (Feb 15) - Selection criteria for SHIPs are modified as per SOT-7/Doc.9.1.1.
Different criteria applied to Manual and Automatic SHIPs.

Revision 26 (Dec 14) - Coverage chart for ATOVS AMSU-A for Noaa_16 removed

Revision 25 (Mar 13) - Monitoring of Radiosondes and ASAPs now includes BUFR encoded observations for those which were assimilated as well as for those without TAC counterpart.
Tables 24 and 25 are also added to show the identifiers of these BUFR observations separately.

Revision 24 (Aug 06) - North Atlantic Monitoring statistics replaced by EUCOS Area Monitoring Statistics (tables 13 to 23).
Airep tables removed from this section.

Revision 23 (Dec 00) - Coverage charts for Noaa_14 MSU replaced by ATOVS AMSU-A for Noaa_16.

Revision 22 (Aug 99) - Coverage charts for TOVS thickness 300-100 hPa replaced by (A)TOVS AMSU-A and MSU (Noaa_15 and Noaa_14).

Revision 21 (May 99) - Monitoring statistics ceased for Noaa_11 as satellite is no more available.

Revision 20 (Sep 98) - Changes to tables and annex to remove all mention about data usage. Two more levels (50 and 850 hPa) added to the COSNA statistics for Sondes.

Revision 19 (Jul 98) - From June 29th, 1998 ECMWF model assimilates temperature data instead of geopotential from radiosondes. As a consequence the number of used geopotential data drops to zero in tables 7, 10, 13 and 15.

Revision 18 (Apr 98) - Changes to tables and annex to introduce the usage of accepted numbers and observations instead of precentage 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
16113	(12)	30	0	01004	(00)	0	30
23933	(00)	19	0	02365	(00)	16	28
23933	(12)	17	0	02365	(12)	17	28
47418	(00)	24	0	16113	(00)	1	30
48381	(12)	12	0	17030	(00)	12	31
48480	(12)	15	0	17030	(12)	12	31
48500	(12)	16	0	31977	(00)	20	31
48568	(12)	16	0	42410	(00)	15	28
64500	(12)	42	0	42410	(12)	16	27
74626	(12)	21	0	42724	(00)	9	31
74794	(12)	63	31	42724	(12)	1	28
87582	(12)	30	0	42867	(00)	18	29
91680	(12)	30	10	61291	(00)	0	16
94776	(00)	21	0	61291	(12)	0	16
96163	(00)	30	8	62378	(12)	0	16
96163	(12)	29	7	65344	(12)	17	31
96237	(00)	18	0	65548	(12)	16	30
96237	(12)	17	0	68512	(00)	0	25
96253	(00)	15	0	68906	(00)	6	30
96253	(12)	14	0	68906	(12)	8	30
97014	(00)	14	0	71964	(00)	13	30
97014	(12)	13	0	72317	(00)	17	28
97072	(00)	11	0	72317	(12)	18	30
97072	(12)	11	0	72694	(00)	12	31
97180	(00)	18	0	72694	(12)	12	30
97180	(12)	17	0	74646	(00)	0	13
97230	(00)	17	0	74646	(12)	0	13
97560	(00)	13	0	76394	(12)	11	24
97560	(12)	13	0	84516	(12)	0	21
97690	(00)	27	2	84754	(12)	0	20
97724	(00)	14	0	87585	(12)	0	30
97724	(12)	13	0	89664	(12)	8	29
97900	(00)	17	0	91165	(12)	9	31
97900	(12)	15	0	94775	(00)	6	31
97980	(00)	12	0	95954	(00)	0	15
97980	(12)	13	0	95954	(12)	0	15
-	-	-	-	96996	(00)	18	29
-	-	-	-	98618	(00)	0	27
-	-	-	-	98618	(12)	0	26

2.2 Drifting Buoys

Surface pressure observations from **1378** 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

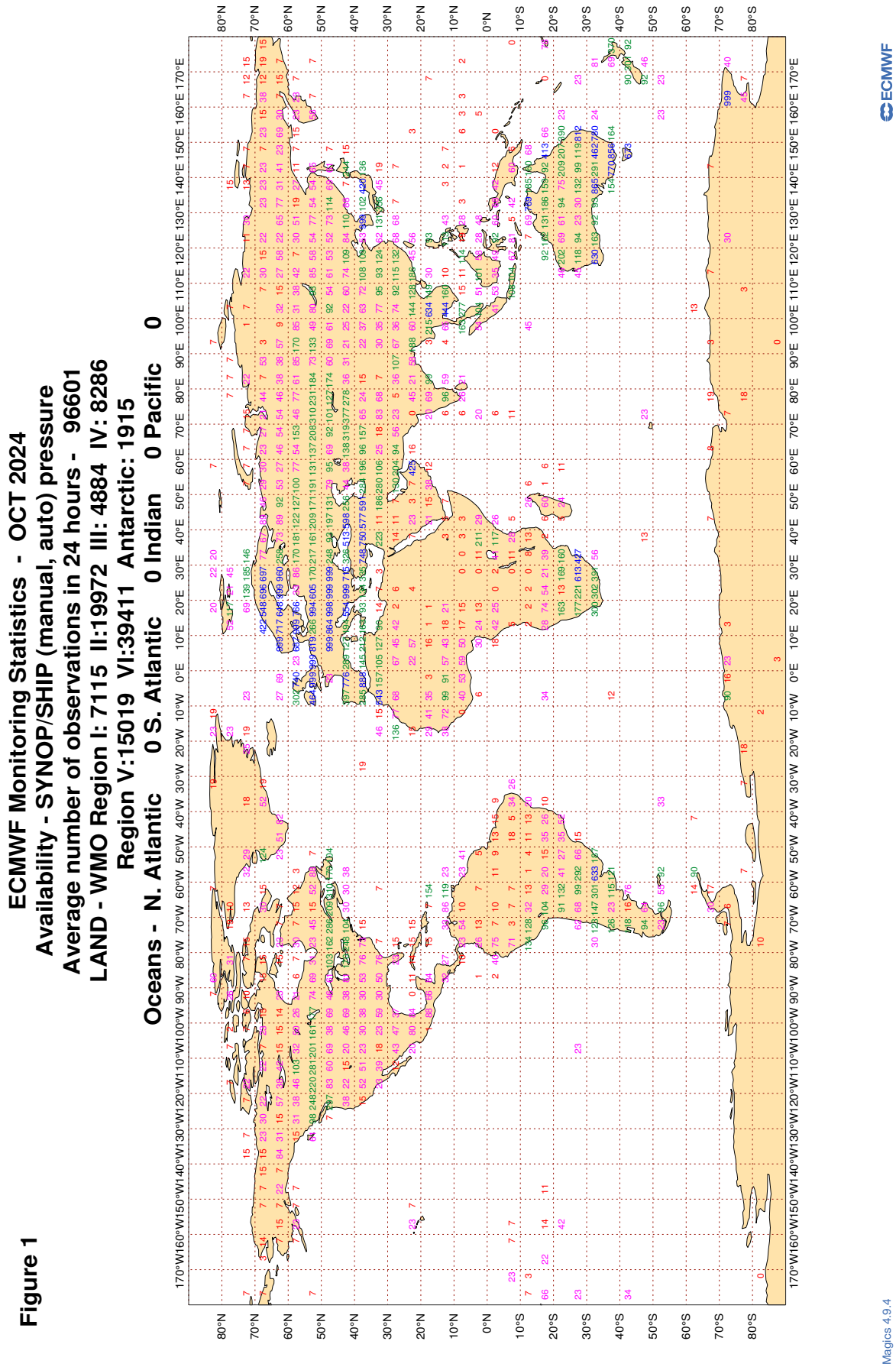


Figure 1

3.2.2 Figure 2 - Availability - DRIFTER PRESSURE

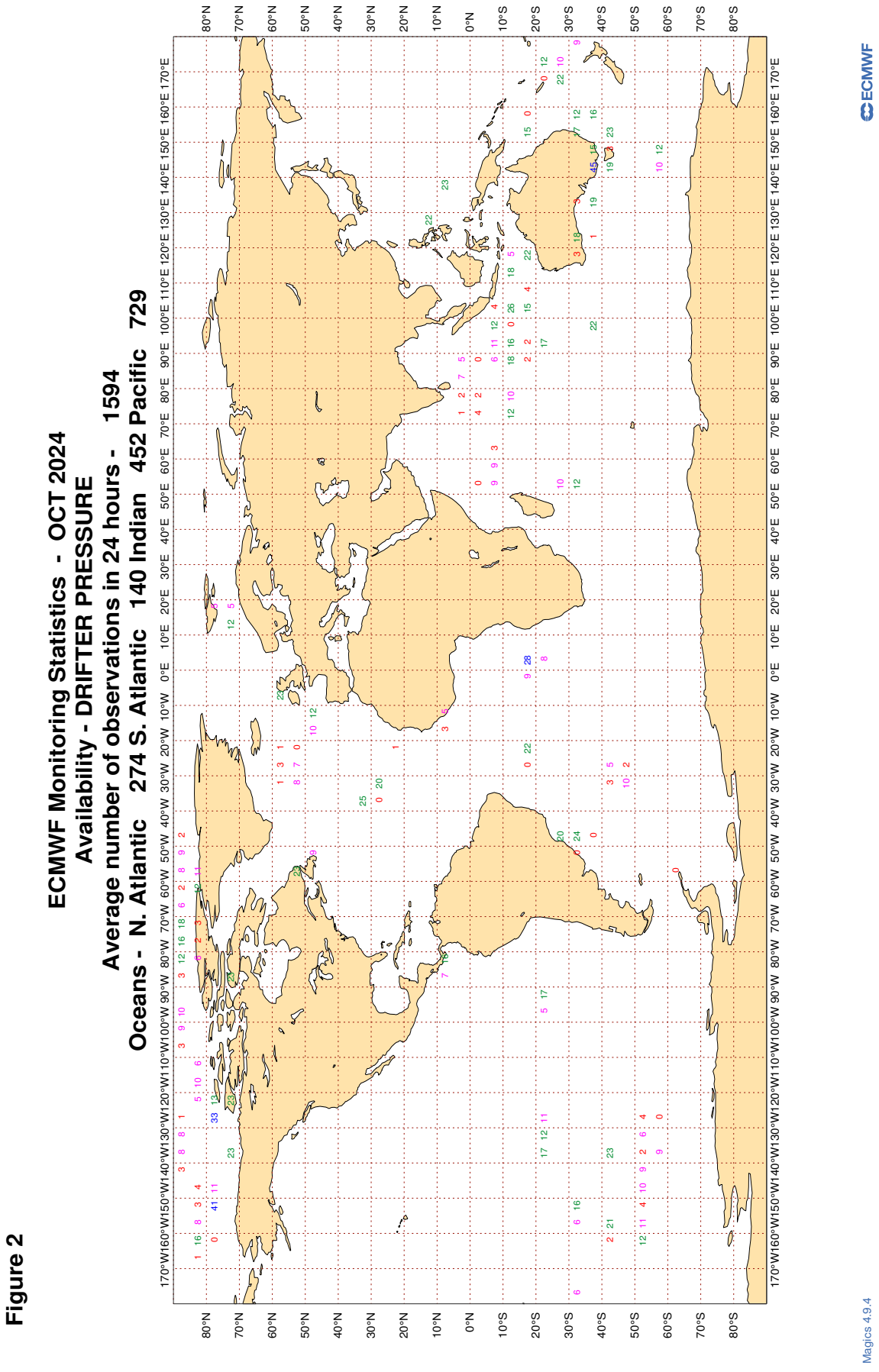


Figure 2

3.2.3 Figure 3 - Availability - TEMP 500 hPa geopotential

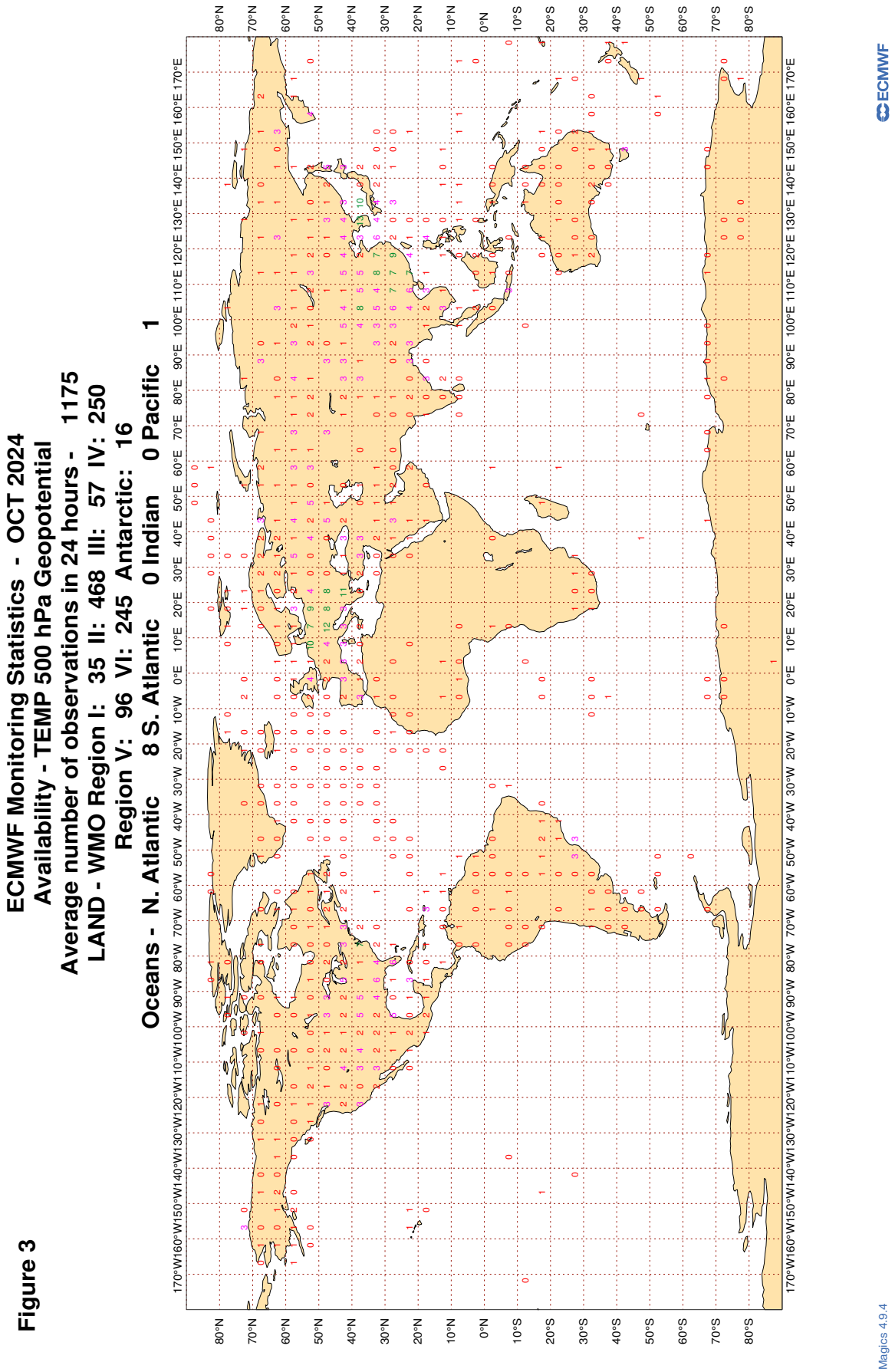


Figure 3

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

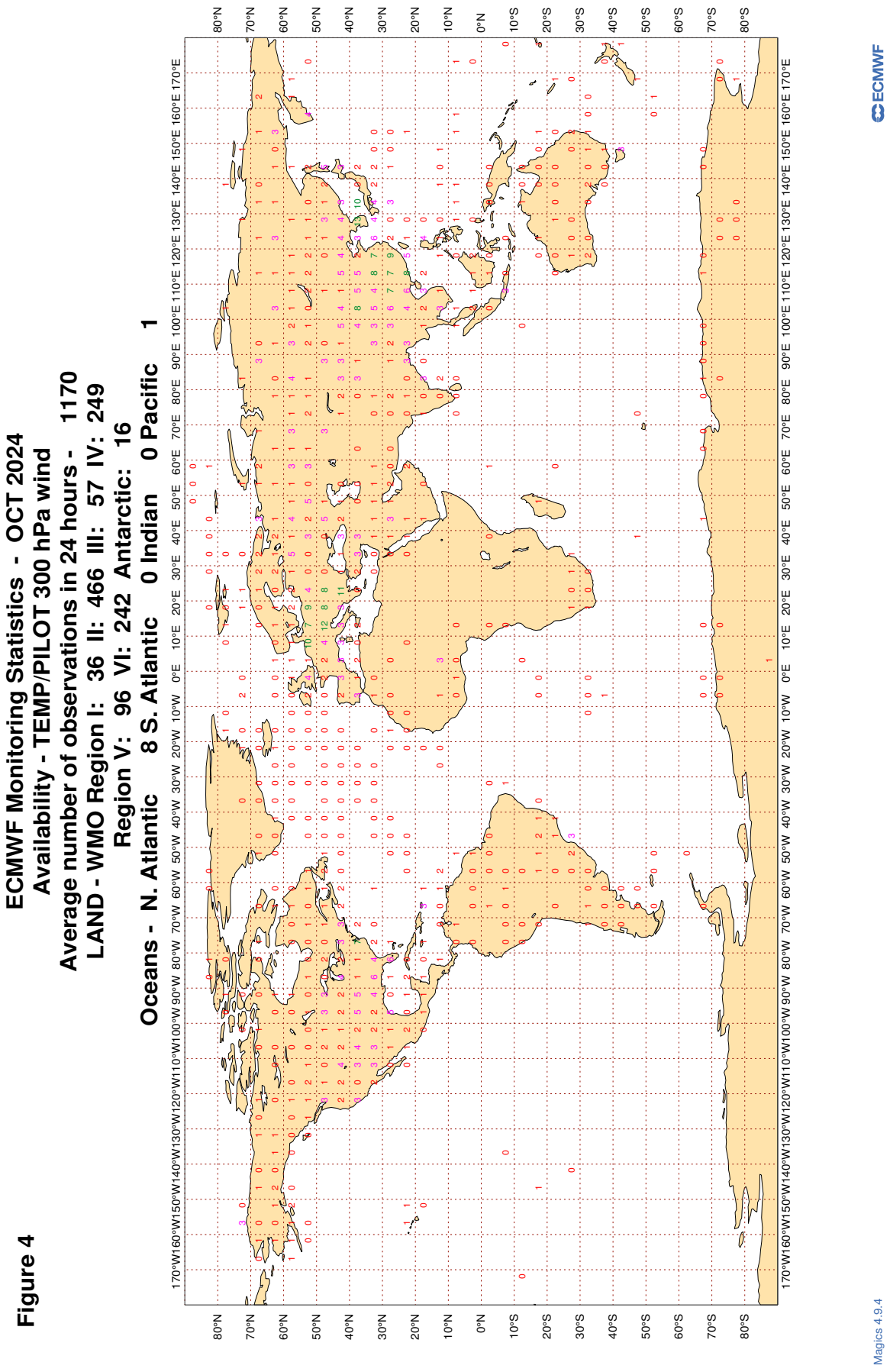


Figure 4

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

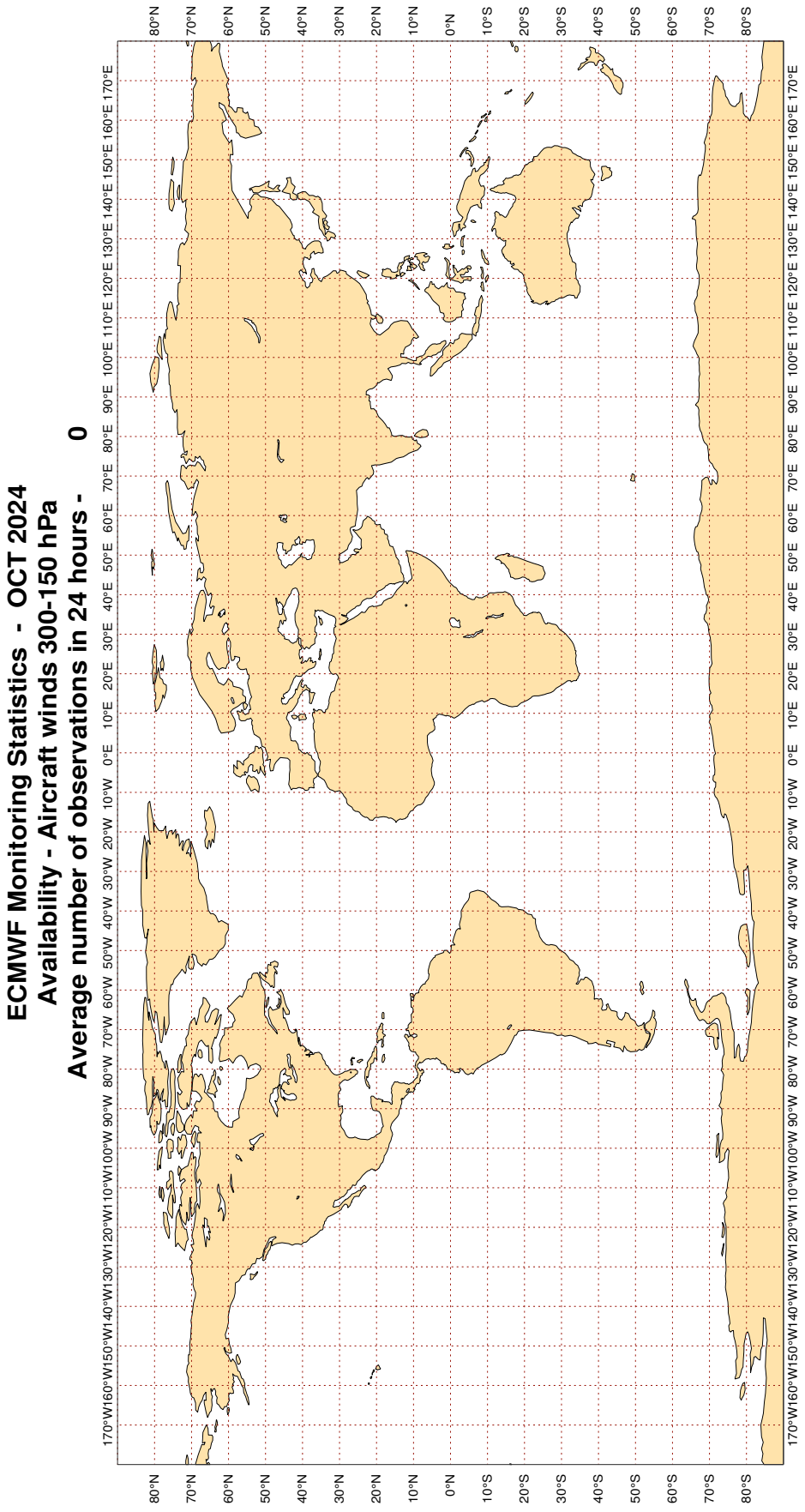


Figure 5

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

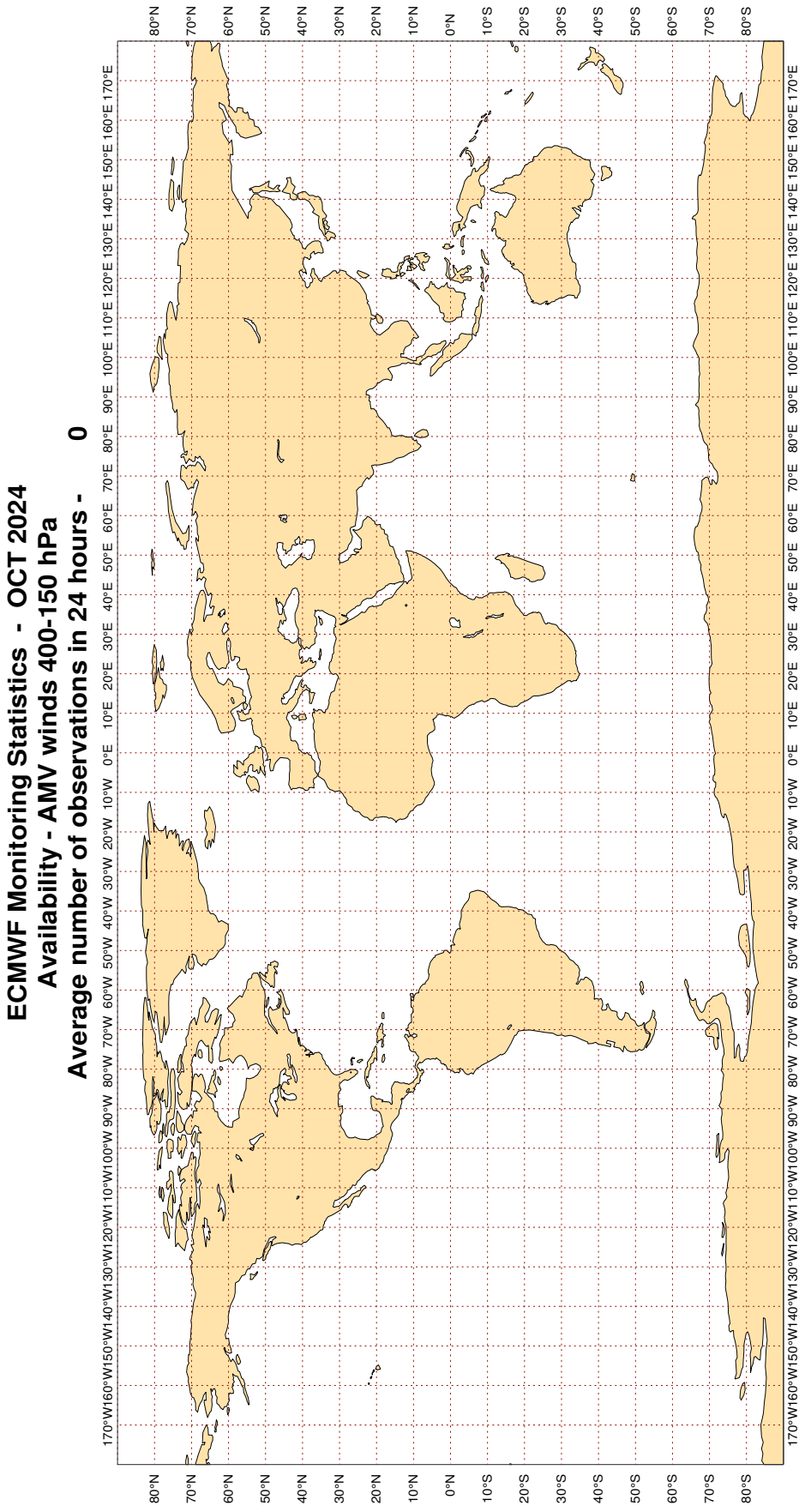


Figure 6

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

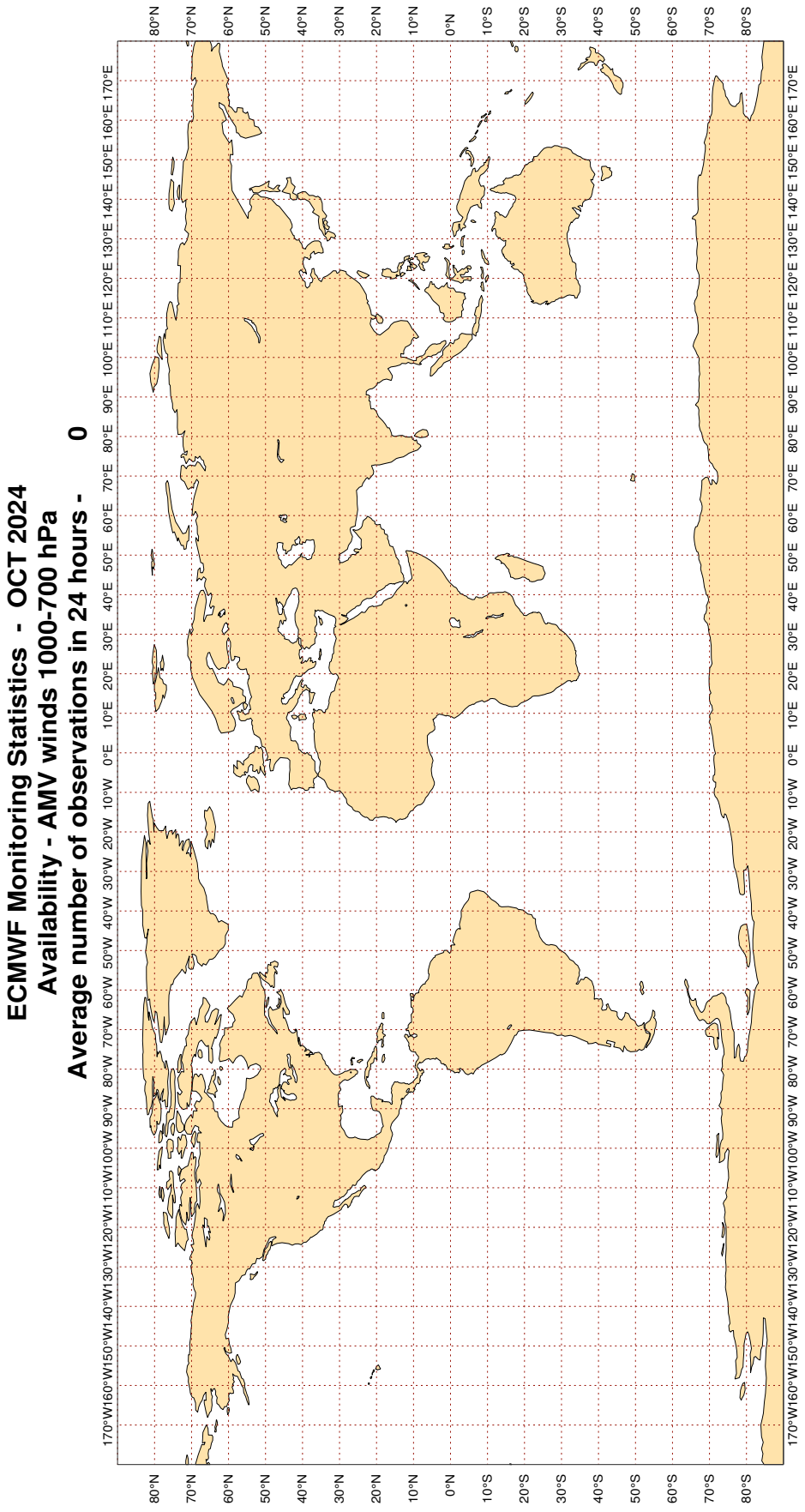
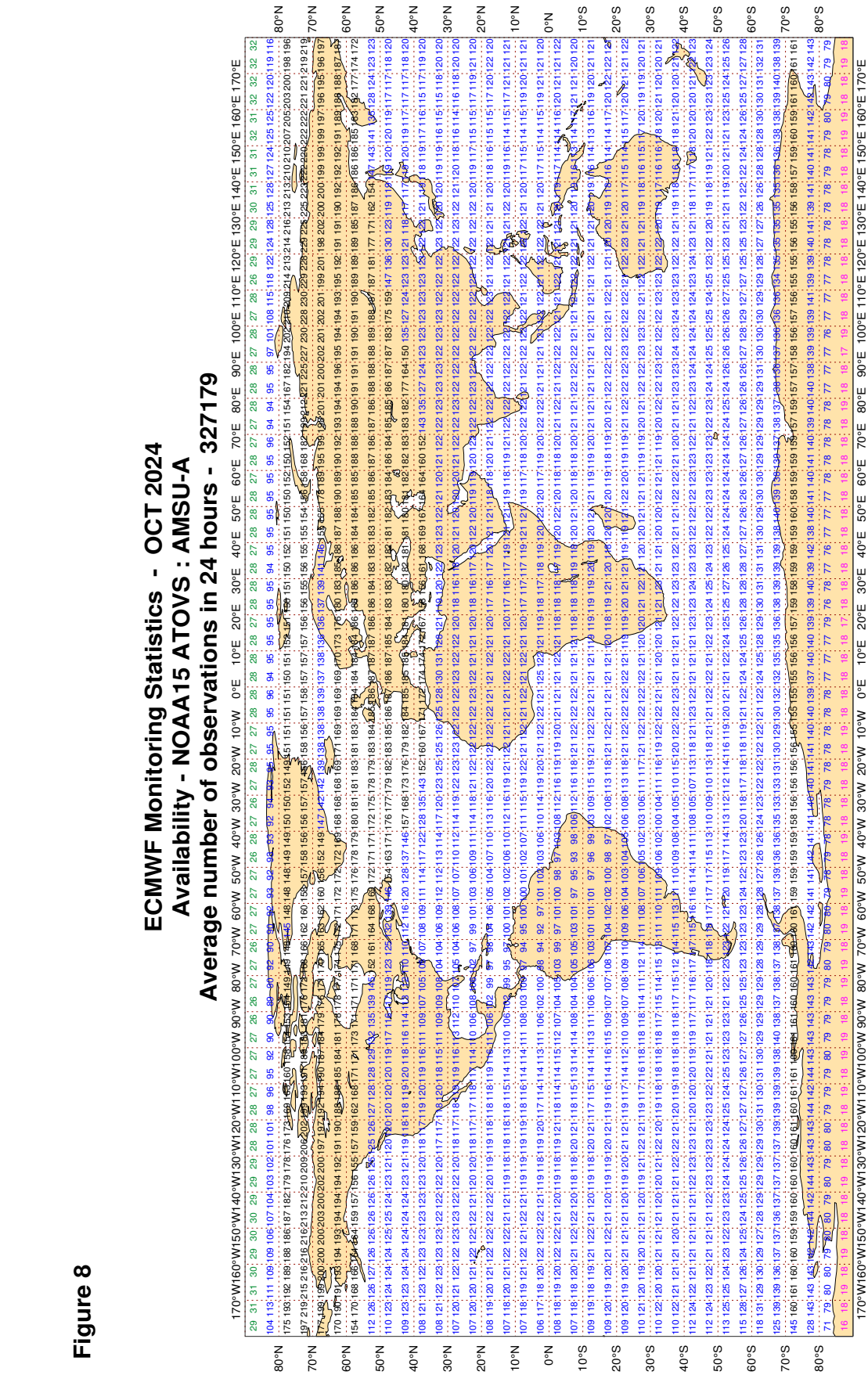


Figure 7

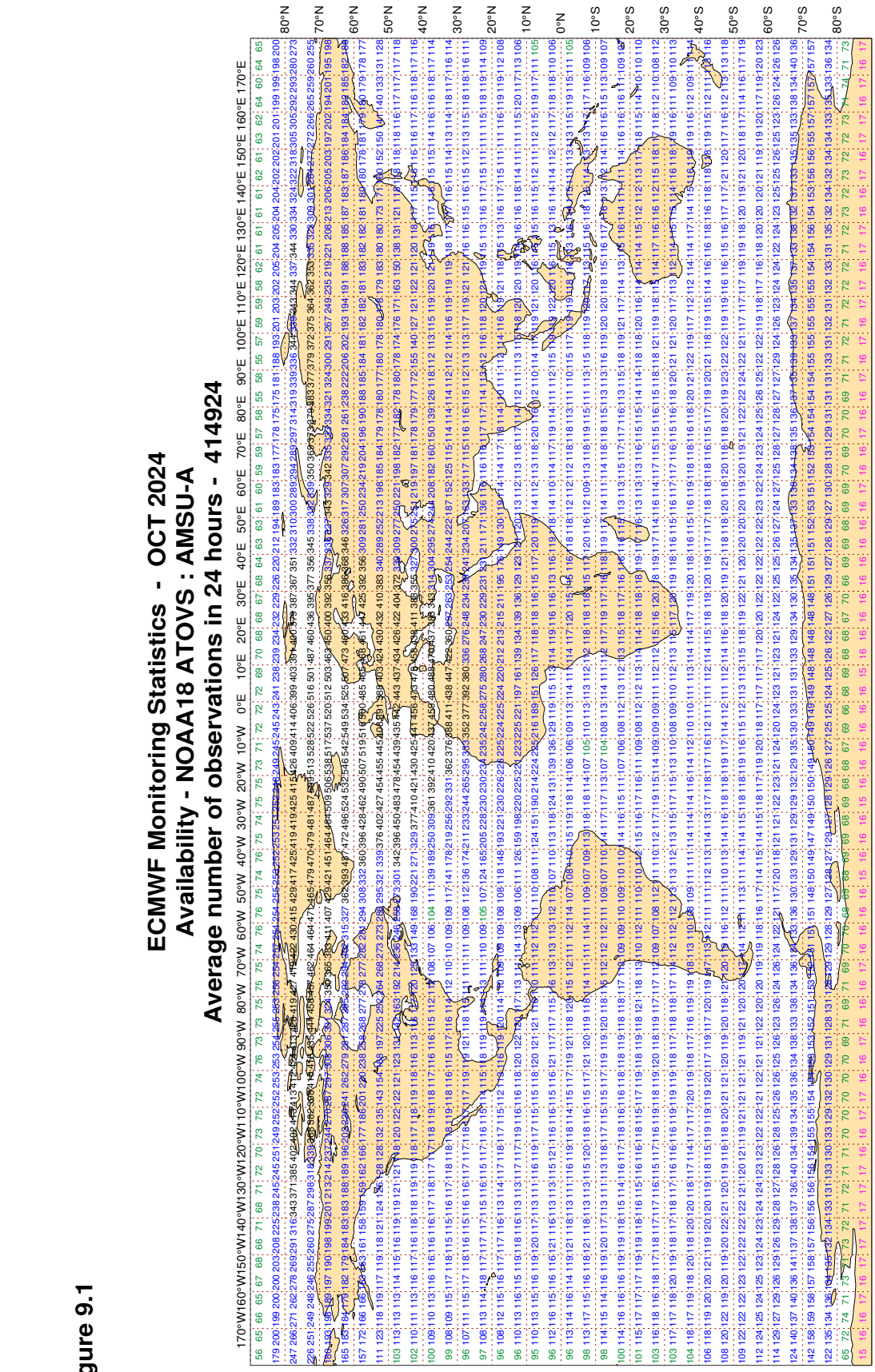
3.2.8 Figure 8 - Availability - NOAA15 ATOVS : AMSU-A

Figure 8



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

Figure 9.1



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

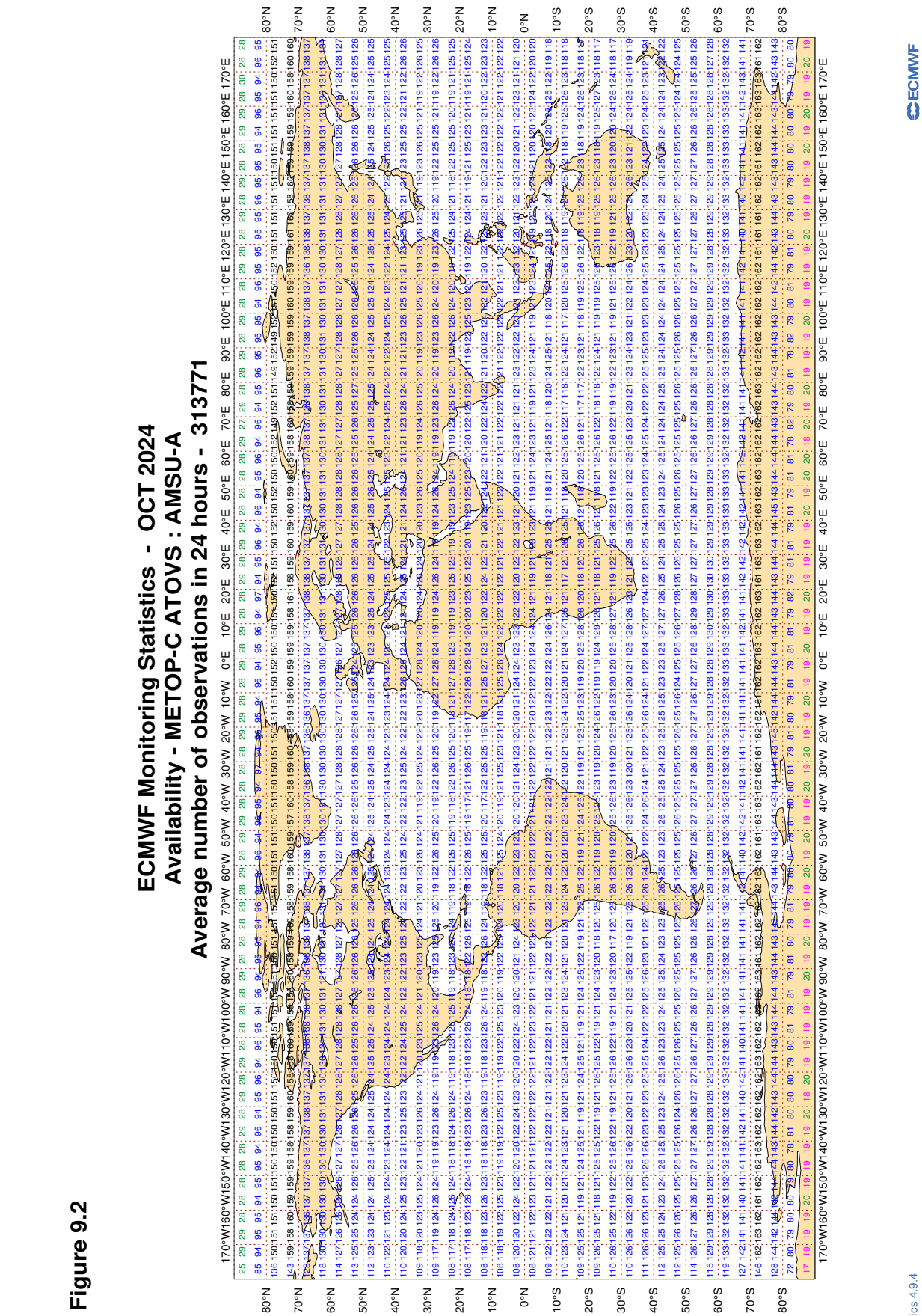
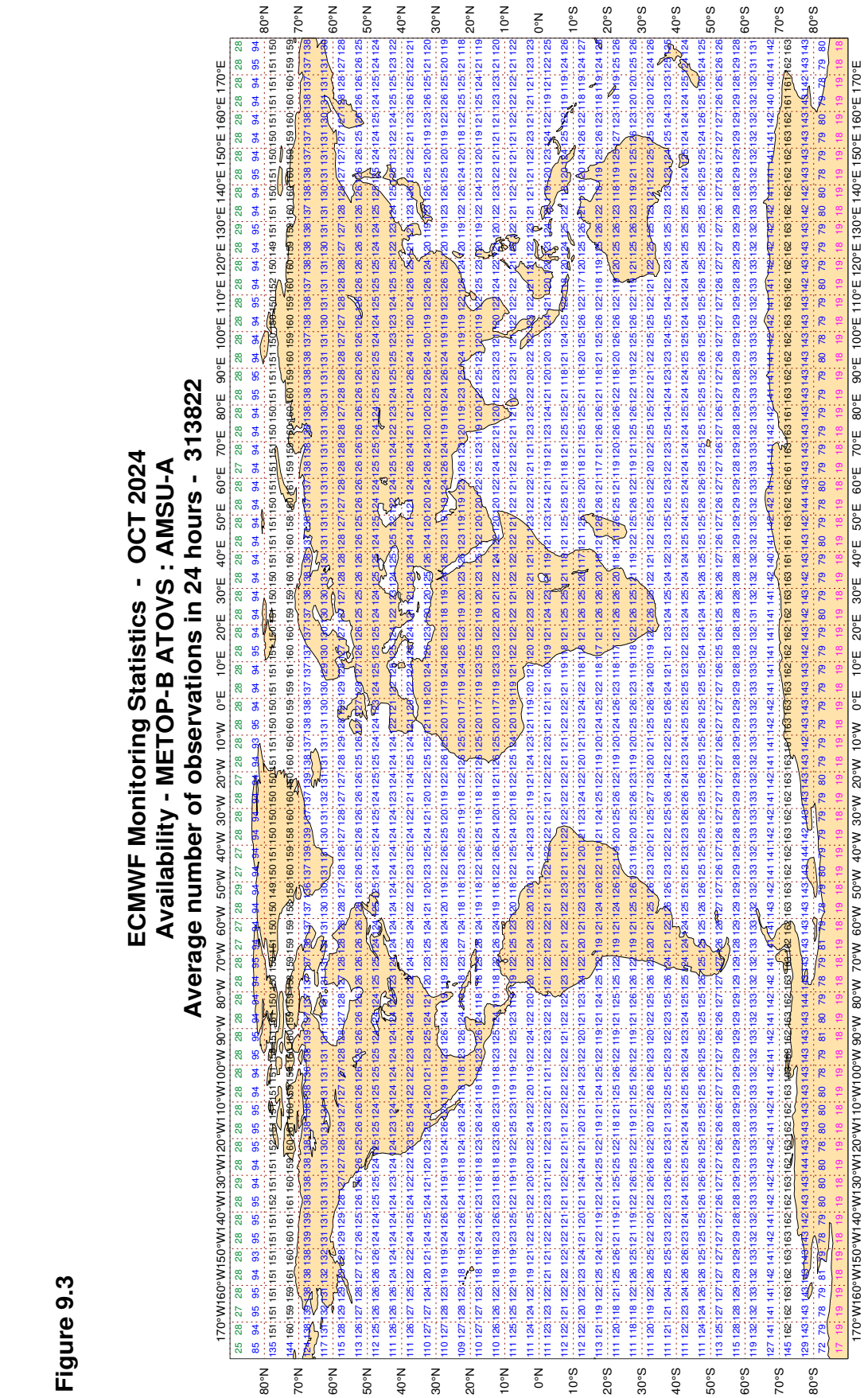


Figure 9.2

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

Figure 9.3



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 2024
                    STANDARD OF COMPARISON: FIRST-GUESS FIELD


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

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

WMO IDENT	OBS TIME	ELM	LEVEL	NUM OBS	NUM GROSS	SD	BIAS	RMS
2CYD8	99	P	SUR	34	0	0.5	-4.9	5.0
2EIF7	99	P	SUR	27	0	0.8	5.1	5.2
2KZJ7DD	99	P	SUR	59	0	1.5	5.7	5.9
32ST0	99	P	SUR	99	5	3.2	5.2	6.1
3E3566	99	P	SUR	41	0	1.6	4.7	5.0
3EBY2	99	P	SUR	31	7	2.9	12.2	12.5
3EPL4	99	P	SUR	31	0	2.4	3.5	4.3
3ETD4	99	P	SUR	18	0	1.3	-4.5	4.7
3FEN2	99	P	SUR	25	0	0.9	3.3	3.4
3FWH8	99	P	SUR	50	0	1.4	10.6	10.7
41082	99	P	SUR	123	0	1.3	-8.4	8.5
45201	99	P	SUR	108	13	6.6	3.3	7.4
45218	99	P	SUR	109	39	0.5	-0.3	0.6
5LCQ3	99	P	SUR	29	0	1.1	3.7	3.8
5LMQ8	99	P	SUR	17	0	2.4	5.5	6.0
7JQV	99	P	SUR	29	0	1.2	3.9	4.1
7JUN	99	P	SUR	44	0	1.3	-4.0	4.2
7KBT	99	P	SUR	27	0	3.3	3.1	4.5
7KDA	99	P	SUR	61	0	1.9	-3.9	4.3
9HA4638	99	P	SUR	37	0	1.4	7.3	7.4
9HA5209	99	P	SUR	82	12	1.5	12.6	12.7
9HA5823	99	P	SUR	24	0	2.1	5.9	6.3
9HSJ7	99	P	SUR	24	0	0.7	6.8	6.8
9V3913	99	P	SUR	110	0	1.4	5.1	5.3
9V8372	99	P	SUR	36	0	2.0	3.5	4.1
9V9375	99	P	SUR	15	0	3.8	3.0	4.8
9V9402	99	P	SUR	24	2	1.6	11.2	11.3
9V9404	99	P	SUR	30	0	2.4	7.3	7.7
9V9450	99	P	SUR	45	0	3.7	4.1	5.5
9VHK7	99	P	SUR	16	0	0.6	-6.4	6.4
ATAH2	99	P	SUR	18	4	1.3	-7.9	8.0
AVBC	99	P	SUR	16	0	1.1	3.7	3.8

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
AVBD	99	P	SUR	49	0	5.5	-3.8	6.7
AWXA	99	P	SUR	38	0	3.7	-4.6	5.9
AWXY	99	P	SUR	25	0	2.5	-4.1	4.8
C6BU3	99	P	SUR	32	0	1.0	4.9	5.0
C6VG7	99	P	SUR	52	0	1.1	-3.3	3.5
CQ2132	99	P	SUR	16	0	1.7	10.4	10.5
D5DG4	99	P	SUR	24	0	2.9	-5.7	6.4
D5ZH9	99	P	SUR	32	0	3.2	3.4	4.7
H9NL	99	P	SUR	19	1	2.1	6.7	7.0
HOPW	99	P	SUR	19	0	1.4	-3.6	3.9
JCP83EY	99	P	SUR	22	0	2.2	3.9	4.5
JPTX	99	P	SUR	24	0	3.9	3.0	4.9
KIAB	99	P	SUR	28	0	1.6	5.9	6.1
KSKM	99	P	SUR	36	0	0.3	3.0	3.0
LAMP5	99	P	SUR	20	0	1.4	-3.1	3.4
LAOL5	99	P	SUR	24	0	2.6	6.7	7.2
LAQN7	99	P	SUR	19	0	1.1	3.9	4.0
NEPP	99	P	SUR	41	1	0.9	-3.1	3.2
OXBB2	99	P	SUR	16	0	0.8	3.4	3.5
OZHS2	99	P	SUR	57	0	1.0	5.2	5.3
SBPQ	99	P	SUR	113	0	0.3	-4.9	4.9
SKEC	99	P	SUR	17	17	0.0	0.0	0.0
UBSH	99	P	SUR	18	0	2.0	-3.0	3.6
UBSI9	99	P	SUR	17	0	2.0	-4.2	4.7
UCSJ	99	P	SUR	38	1	4.1	3.2	5.2
UDKG	99	P	SUR	20	0	2.4	6.9	7.3
UHXO	99	P	SUR	94	0	2.1	6.0	6.4
V7A4787	99	P	SUR	113	0	2.6	3.4	4.3
V7A5254	99	P	SUR	111	0	1.4	9.6	9.7
V7A6070	99	P	SUR	89	0	2.2	4.4	5.0
V7A6081	99	P	SUR	69	0	1.5	3.7	4.0
V7A6082	99	P	SUR	92	0	1.1	6.1	6.2
V7A6509	99	P	SUR	60	0	1.4	6.5	6.7
V7QK9	99	P	SUR	38	1	1.5	4.7	4.9
V7QT7	99	P	SUR	36	0	2.1	7.4	7.7
VREX4	99	P	SUR	24	0	1.7	8.2	8.3
VRFS2	99	P	SUR	18	0	5.8	1.8	6.1
VRGO8	99	P	SUR	24	0	1.5	3.0	3.3
VRLT9	99	P	SUR	48	0	2.5	4.2	4.8
VRME7	99	P	SUR	52	0	4.8	7.0	8.5
VRMX8	99	P	SUR	23	0	1.0	3.3	3.4

```
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
VRQS3	99	P	SUR	30	0	1.4	7.6	7.7
VRRH6	99	P	SUR	28	0	0.5	4.7	4.7
VRRI5	99	P	SUR	36	0	2.7	4.1	4.9
VRVO9	99	P	SUR	21	0	2.1	4.7	5.2
VRVR2	99	P	SUR	20	0	3.6	-4.3	5.7
VRWQ2	99	P	SUR	48	0	3.0	-3.9	5.0
WCY2920	99	P	SUR	108	0	0.8	-3.9	4.0
WDK5676	99	P	SUR	115	0	0.8	-3.4	3.5
WGEB	99	P	SUR	116	0	0.6	6.0	6.0
WYM9567	99	P	SUR	79	0	0.8	-3.4	3.5
ZCDY2	99	P	SUR	23	0	1.3	6.1	6.3

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 2024
                    STANDARD OF COMPARISON: FIRST-GUESS FIELD


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


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

WMO IDENT	OBS TIME	ELM	LEVEL	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS

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 2024
                    STANDARD OF COMPARISON: FIRST-GUESS FIELD


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


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

WMO IDENT	OBS TIME	ELM	LEVEL	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
44489	99	DIRN	SUR	93	0	0	19.7	-33.5	38.8
45165	99	DIRN	SUR	79	0	0	55.1	34.1	64.8
45174	99	DIRN	SUR	103	0	0	13.2	44.8	46.7
45206	99	DIRN	SUR	40	0	0	40.3	-36.8	54.6
45207	99	DIRN	SUR	42	0	0	47.4	-34.2	58.5
45209	99	DIRN	SUR	71	0	0	17.7	-37.4	41.3
46131	99	DIRN	SUR	54	0	0	23.6	58.4	63.0
46204	99	DIRN	SUR	71	0	0	17.5	33.0	37.4

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 2024
                    STANDARD OF COMPARISON: FIRST-GUESS FIELD


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

TIME = 99 => AVERAGE OF ALL OBSERVATIONS
```

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
1501718	99	P	SUR	-34	-42	742	195	7.5	0.9	7.6
1701718	99	P	SUR	23	-68	654	654	0.0	0.0	0.0
2302627	99	P	SUR	11	73	673	641	3.1	-11.3	11.8
2501583	99	P	SUR	80	-167	32	0	1.1	12.5	12.5
2801971	99	P	SUR	-41	68	249	8	6.0	3.2	6.9
3201836	99	P	SUR	9	-166	744	426	5.0	-9.5	10.7
3301523	99	P	SUR	-15	-39	730	0	0.3	-4.0	4.0
3301702	99	P	SUR	-39	18	740	45	6.7	1.2	6.8
3401636	99	P	SUR	-32	-119	744	0	0.5	-5.1	5.2
3801723	99	P	SUR	53	-133	745	698	6.8	8.1	10.6
4100082	99	P	SUR	36	-75	4425	0	1.4	-8.5	8.6
41082	99	P	SUR	36	-75	739	0	1.3	-8.5	8.6
4500201	99	P	SUR	42	83	3826	448	6.7	3.3	7.4
4500218	99	P	SUR	44	-88	657	238	0.5	-0.2	0.5
45201	99	P	SUR	42	83	645	76	6.7	3.3	7.4
45218	99	P	SUR	44	-88	658	239	0.5	-0.2	0.6
4601763	99	P	SUR	28	-160	32	3	1.3	12.8	12.9
4602563	99	P	SUR	34	-171	743	330	5.8	-5.7	8.1
4701543	99	P	SUR	73	-142	327	327	0.0	0.0	0.0
4701545	99	P	SUR	85	158	553	553	0.0	0.0	0.0
4701555	99	P	SUR	64	-22	30	0	0.3	-6.0	6.0
4701558	99	P	SUR	79	-18	61	0	0.4	-4.4	4.5
4701580	99	P	SUR	76	-151	522	28	6.4	1.4	6.5
4801771	99	P	SUR	55	-29	744	744	0.0	0.0	0.0
4802662	99	P	SUR	70	-125	744	742	6.5	8.0	10.4
5103563	99	P	SUR	35	-152	614	113	6.9	1.8	7.1
5201828	99	P	SUR	-46	-156	383	0	2.4	5.0	5.5
5501735	99	P	SUR	-44	-139	744	744	0.0	0.0	0.0
5601639	99	P	SUR	-22	-136	572	388	3.5	-10.2	10.8
5802072	99	P	SUR	74	35	419	145	0.4	-0.2	0.4
5802090	99	P	SUR	-9	102	20	20	0.0	0.0	0.0
5802091	99	P	SUR	-22	90	20	20	0.0	0.0	0.0

LIST OF SUSPECT STATIONS : DRIFTER
MONITORING CENTRE : ECMWF
ELEMENT MONITORED : SURFACE PRESSURE (HPA)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	ME LEVEL	LAT	N LONG	N OBS	GROSS	SD	BIAS	RMS
5802114	99	P	SUR	-14	-5	432	0	1.7	-5.4	5.7
6801904	99	P	SUR	-18	93	20	20	0.0	0.0	0.0
7801693	99	P	SUR	20	-172	742	0	0.3	-5.0	5.0
7801750	99	P	SUR	24	-131	709	422	3.1	-0.8	3.2
7810388	99	P	SUR	23	-98	722	406	0.3	-0.3	0.5

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 2024
                    STANDARD OF COMPARISON: FIRST-GUESS FIELD


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


TIME = 99 => AVERAGE OF ALL OBSERVATIONS
```

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
4500141	99	SPEED	SUR	61	-115	21	0	0	0.8	-6.3	6.3
45144	99	SPEED	SUR	54	-99	42	0	0	2.6	-9.0	9.4

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 2024
                    STANDARD OF COMPARISON: FIRST-GUESS FIELD


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


TIME = 99 => AVERAGE OF ALL OBSERVATIONS
```

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
1300009	99	DIRN	SUR	8	-38	209	0	10	45.6	42.8	62.5
1300130	99	DIRN	SUR	28	-16	92	0	2	51.3	-46.0	68.8
2200297	99	DIRN	SUR	34	125	695	0	2	26.7	39.0	47.3
23099	99	DIRN	SUR	13	80	46	0	7	29.1	21.4	36.2
4400488	99	DIRN	SUR	45	-61	619	0	0	17.9	-25.4	31.1
4400489	99	DIRN	SUR	45	-61	584	0	0	18.4	-30.5	35.6
44488	99	DIRN	SUR	45	-61	600	0	1	17.8	-26.5	31.9
44489	99	DIRN	SUR	46	-61	573	0	0	18.3	-31.1	36.1
4500164	99	DIRN	SUR	42	-82	573	0	0	23.0	-24.3	33.4
4500165	99	DIRN	SUR	45	-83	2870	0	10	36.7	37.1	52.2
4500174	99	DIRN	SUR	42	-88	3623	0	0	14.4	43.5	45.8
4500200	99	DIRN	SUR	42	-83	986	0	0	17.5	21.9	28.0
4500206	99	DIRN	SUR	42	-82	1577	0	3	28.8	-30.4	41.9
4500207	99	DIRN	SUR	42	-81	1346	0	5	31.2	-42.1	52.4
4500209	99	DIRN	SUR	43	-82	1755	0	1	17.1	-36.9	40.7
45164	99	DIRN	SUR	42	-82	560	0	0	22.0	-25.2	33.5
45165	99	DIRN	SUR	45	-83	485	0	9	37.0	37.6	52.7
45170	99	DIRN	SUR	42	-87	411	0	2	21.2	20.2	29.3
45174	99	DIRN	SUR	42	-88	610	0	0	14.2	43.8	46.1
45198	99	DIRN	SUR	42	-88	451	0	7	62.0	-18.2	64.6
45200	99	DIRN	SUR	42	-83	177	0	1	16.5	22.1	27.6
45206	99	DIRN	SUR	42	-82	255	0	4	30.2	-28.6	41.6
45207	99	DIRN	SUR	42	-81	246	0	4	30.0	-43.2	52.6
45209	99	DIRN	SUR	43	-82	423	0	1	17.5	-36.9	40.8
4600092	99	DIRN	SUR	37	-122	284	0	1	19.6	26.1	32.7
4600145	99	DIRN	SUR	54	-132	370	0	1	18.6	-39.1	43.3
46092	99	DIRN	SUR	37	-122	235	0	0	20.3	20.8	29.1
46131	99	DIRN	SUR	50	-125	332	0	2	19.5	55.8	59.2
46204	99	DIRN	SUR	51	-129	433	1	0	19.1	33.9	38.9
4804181	99	DIRN	SUR	-16	150	55	0	0	10.1	22.3	24.5
5100302	99	DIRN	SUR	-8	-155	256	0	58	27.8	27.3	39.0

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
51302	99	DIRN	SUR	-8	-155	257	0	58	27.6	27.3	38.9
6600022	99	DIRN	SUR	54	14	134	0	7	28.4	26.4	38.7

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 2024
                    STANDARD OF COMPARISON: FIRST-GUESS FIELD


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


ONLY THE WORST LEVEL IS SHOWN (WITH UNWEIGHTED RMS)
```

WMO IDENT	OBS TIME	ELM	LEV	LAT	LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
01400	00	Z	1000	57	3	29	0	5.5	76.2	76.4
01400	12	Z	1000	57	3	28	0	3.9	77.2	77.3
22217	12	Z	200	67	32	28	7	97.1	-44.2	106.7
22217	00	Z	250	67	32	28	14	99.2	-81.1	128.1
38341	00	Z	250	43	71	19	9	70.1	-88.0	112.5
38341	12	Z	250	43	71	13	6	122.7	-48.1	131.8
65344	12	Z	1000	6	2	31	0	5.1	32.7	33.1
65548	12	Z	925	7	-8	31	0	11.4	35.0	36.8
68994	00	Z	850	-47	38	30	0	11.5	31.9	33.9
68994	12	Z	850	-47	38	31	0	6.1	30.7	31.3
76644	12	Z	850	21	-90	22	0	5.3	35.3	35.7
76644	00	Z	850	21	-90	24	0	2.7	36.9	37.0
76679	12	Z	700	19	-99	21	8	4.4	-96.1	96.2
76679	00	Z	700	19	-99	25	18	32.3	-80.8	87.0
91680	12	Z	925	-18	177	10	0	0.0	33.2	33.2
91680	00	Z	1000	-18	177	31	0	3.5	31.0	31.2
JNKN7J	12	Z	1000	44	-52	12	0	4.1	42.5	42.7
JNKN7J	00	Z	1000	44	-56	10	0	0.0	44.2	44.2

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 2024
                    STANDARD OF COMPARISON: FIRST-GUESS FIELD


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


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

WMO IDENT	OBS TIME	ELM	LEV	LAT	LONG	NUM OBS	NUM GROSS	UBIAS	VBIAS	RMS
17607	12	V	150	35	33	11	0	-12.7	-3.8	21.3
36003	12	V	250	52	77	28	0	-1.4	-3.1	15.7
38341	00	V	200	43	71	18	0	-4.6	-7.0	15.1
38341	12	V	200	43	71	12	0	-6.3	0.5	18.8
40179	12	V	100	32	35	24	0	-13.8	-1.8	16.8
40179	00	V	100	32	35	25	0	-17.1	-2.1	18.8
40745	00	V	150	36	60	23	1	-6.4	-0.2	15.6
65503	12	V	925	12	-2	12	0	-9.2	-13.7	21.7

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 2024
                    STANDARD OF COMPARISON: FIRST-GUESS FIELD


SELECTION CRITERIA: OBSERVED/FORECAST WIND SPEEDS >= 5 M/S
                    NO. OF OBSERVATIONS   >= 5, AND,
                    ABSOLUTE BIAS         >= 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
38341	00	DD	43	71	19	-18.2	8.6	26.6
51463	00	DD	44	88	27	-10.3	3.0	6.4
51463	12	DD	44	88	29	-11.2	1.9	5.8
54340	00	DD	42	124	30	-12.2	0.4	4.3
54340	12	DD	42	124	31	-12.4	2.2	5.3

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

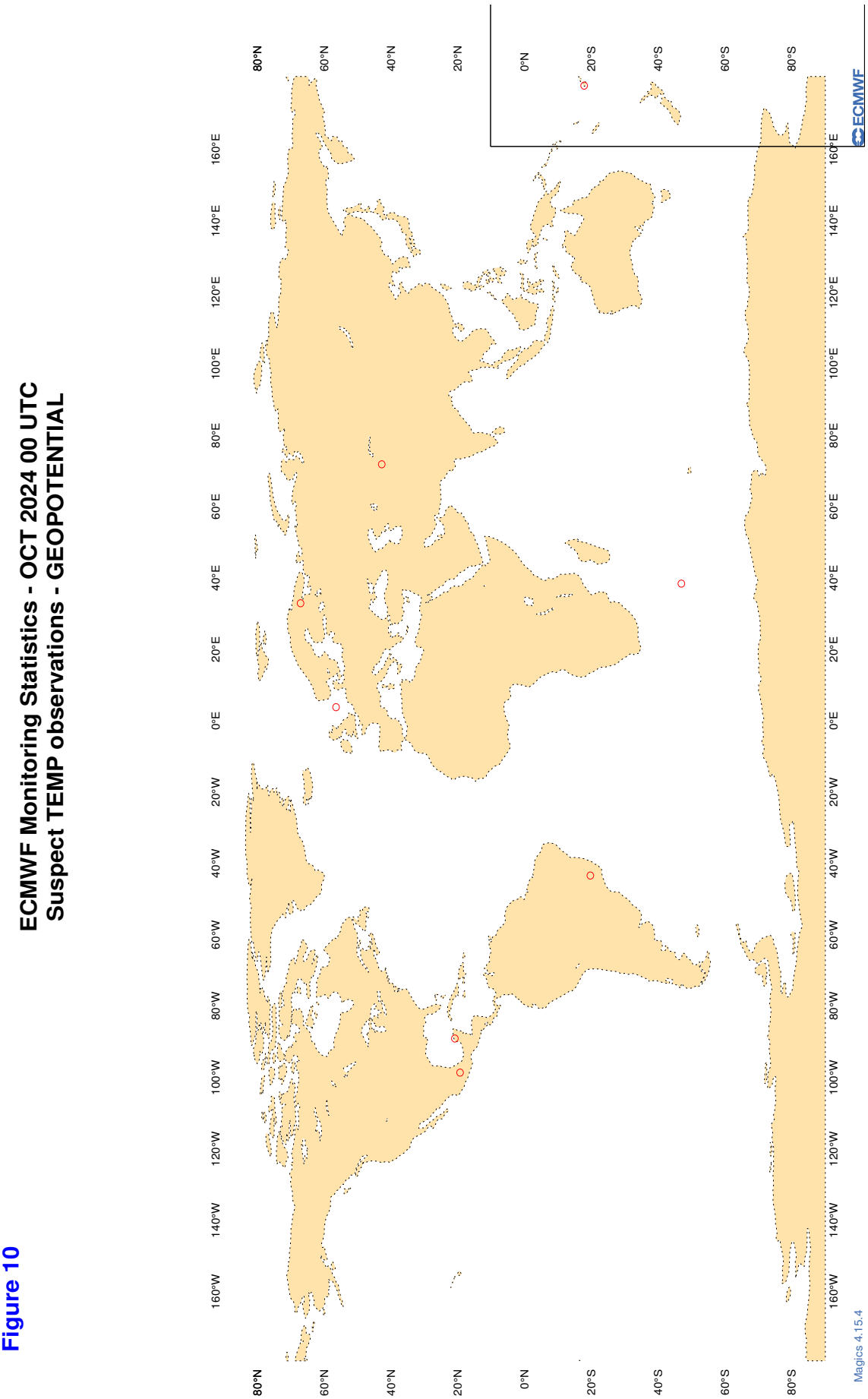
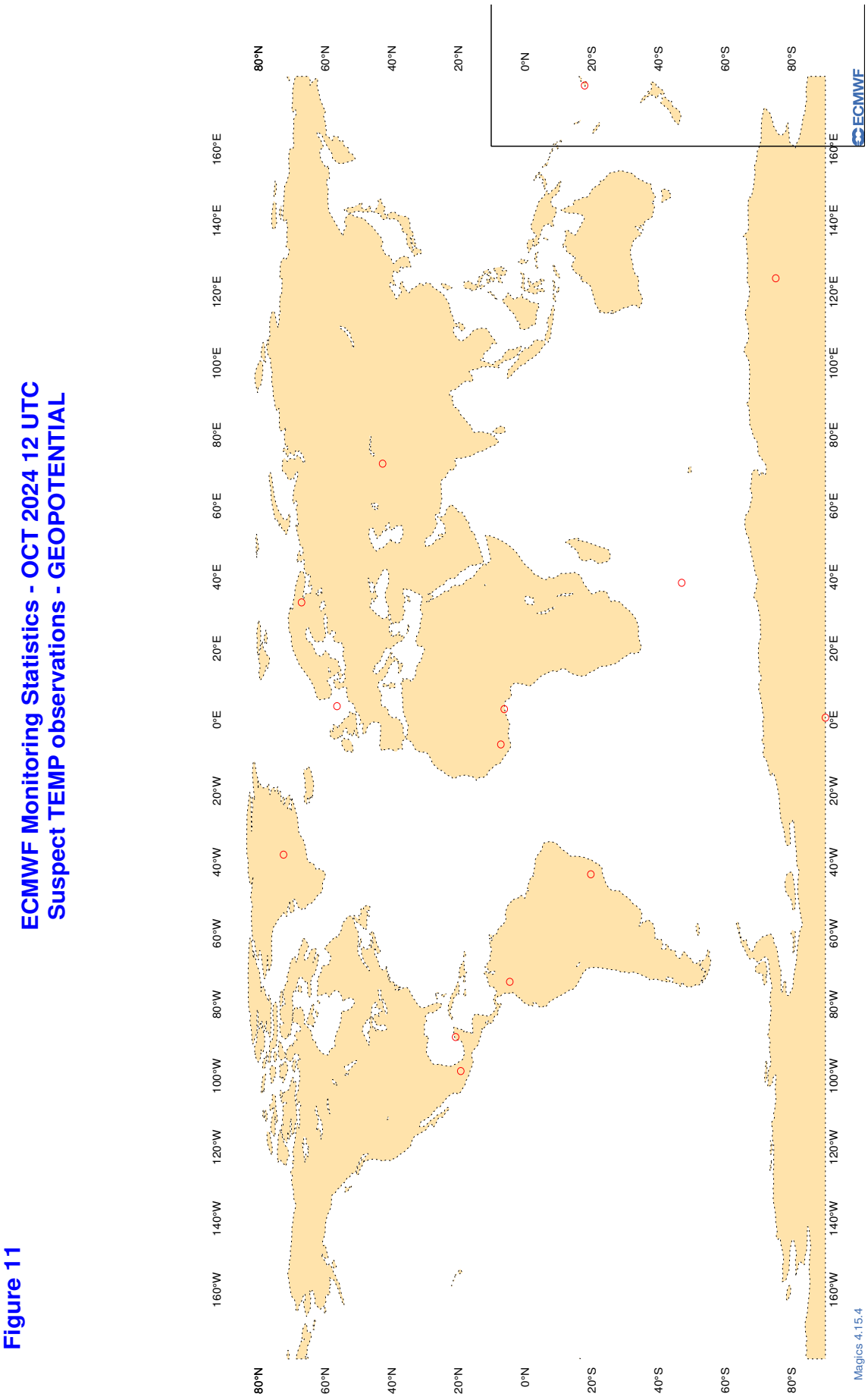
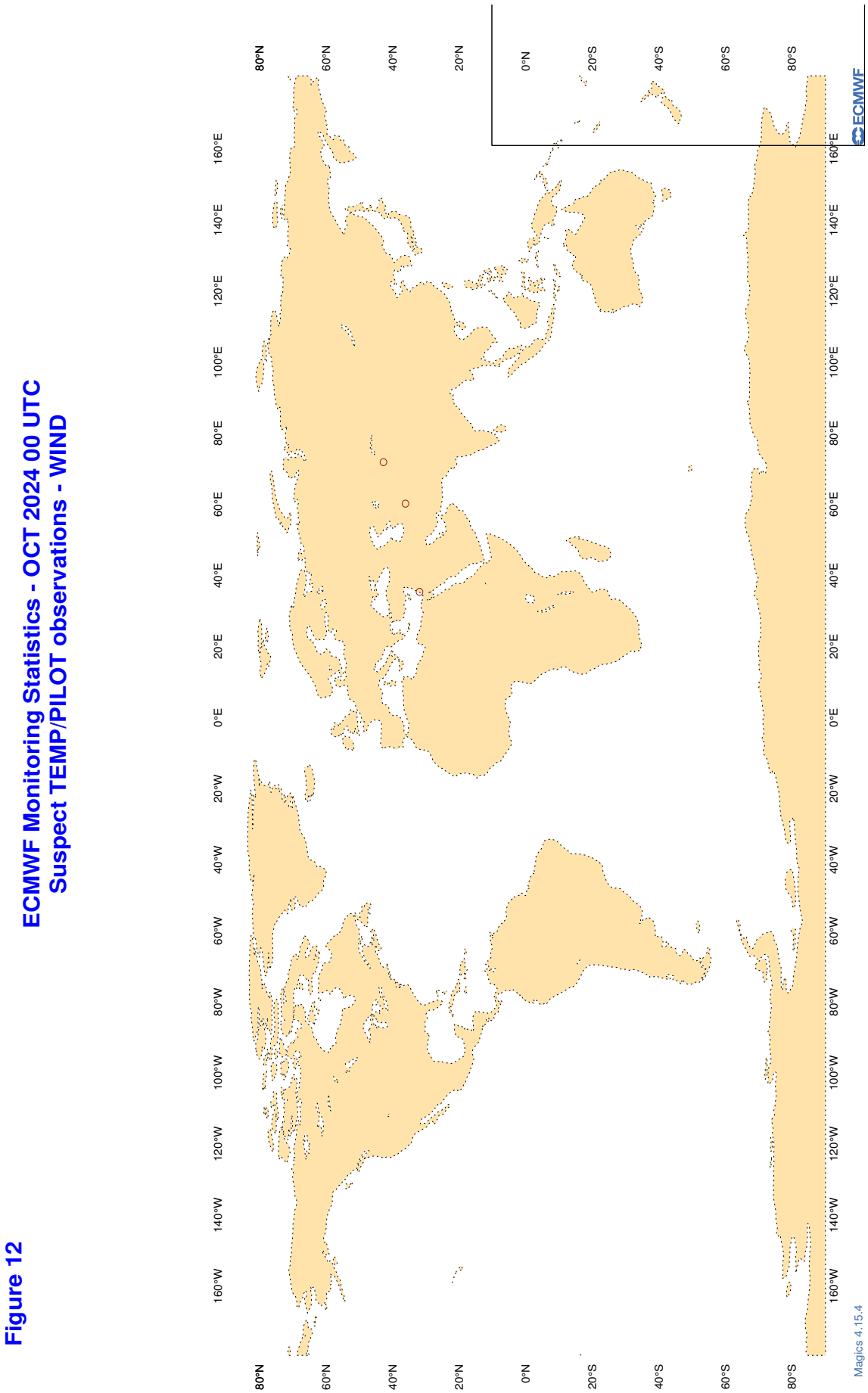


Figure 10

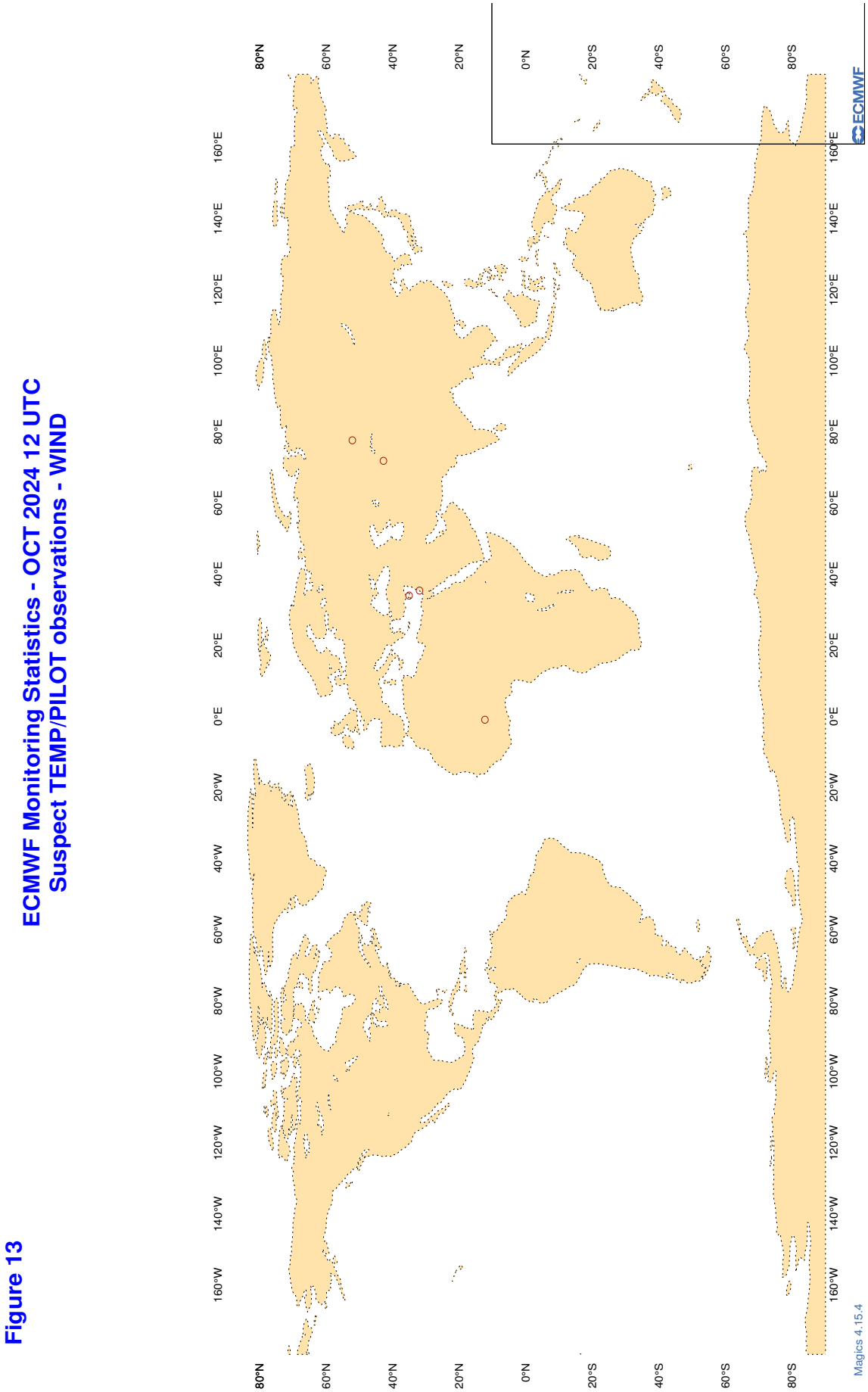
3.2.22 Figure 11 - Suspect TEMP observations - geopotential : 12 UTC



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 2024
         STANDARD OF COMPARISON: FIRST-GUESS FIELD
```

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	12	Z	100	8	16.6	-12.7
7JUNA4	00	Z	100	12	9.8	-2.4
7KPB	12	Z	100	5	11.3	10.2
7KPB	00	Z	100	1	7.1	7.1
ASDE09	12	Z	100	1	6.1	-6.1
ATGU3F	12	Z	100	8	35.2	-34.1
ATGU3F	00	Z	100	8	67.4	-52.0
DBLK	12	Z	100	8	9.4	8.9
DBLK	00	Z	100	6	12.4	12.3
JNKN7J	12	Z	100	12	48.3	40.7
JNKN7J	00	Z	100	10	30.8	29.2
JPBN	12	Z	100	9	5.8	0.2
JPBN	00	Z	100	2	5.2	2.3
KJJF9X	12	Z	100	6	19.0	-14.0
KJJF9X	00	Z	100	7	37.9	-27.5
KMPLHP	00	Z	100	4	50.6	47.8
LAGY8	00	Z	100	3	130.8	10.8
LAGZ8	12	Z	100	1	44.8	44.8
LRYQE3	12	Z	100	12	34.3	11.6
LRYQE3	00	Z	100	11	10.2	-7.1
UXK5JT	00	Z	100	4	8.0	-7.7
UXK5JT	12	Z	100	2	8.1	-6.1
XKQLWQ	12	Z	100	9	28.5	21.6
YLV96W	12	Z	100	12	39.7	15.9
YLV96W	00	Z	100	8	9.1	-5.1
ZSNO	00	Z	100	2	68.5	-61.7
ZVQEQC	12	Z	100	21	8.7	5.8
ZVQEQC	00	Z	100	4	13.5	11.7

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 2024
         STANDARD OF COMPARISON: FIRST-GUESS FIELD
```

WMO IDENT	OB TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	12	V	100	8	3.2	-0.1	0.4
7JUNA4	00	V	100	12	3.5	-0.4	0.7
7KPB	12	V	100	5	3.1	-0.9	-0.3
7KPB	00	V	100	1	2.8	2.8	-0.4
ASDE09	12	V	100	1	2.6	0.4	-2.6
ATGU3F	12	V	100	8	1.8	-0.4	0.3
ATGU3F	00	V	100	8	3.4	-0.7	-0.6
DBLK	12	V	100	8	1.7	-0.7	-0.4
DBLK	00	V	100	6	2.5	-0.3	-0.8
JNKN7J	12	V	100	12	3.9	0.6	2.3
JNKN7J	00	V	100	10	3.7	-0.5	0.6
JPBN	12	V	100	9	2.1	0.2	0.5
JPBN	00	V	100	2	0.7	0.2	-0.3
KJJF9X	12	V	100	6	3.4	1.2	0.1
KJJF9X	00	V	100	7	2.4	0.4	0.1
KMPLHP	00	V	100	4	3.6	0.2	-1.2
LAGY8	00	V	100	3	2.7	0.6	0.2
LAGZ8	12	V	100	1	2.7	-0.6	2.6
LRYQE3	12	V	100	12	3.8	0.5	1.4
LRYQE3	00	V	100	11	3.5	-0.9	0.3
UXK5JT	00	V	100	4	3.1	0.4	0.4
UXK5JT	12	V	100	2	3.6	-1.1	0.4
XKQLWQ	12	V	100	8	3.4	0.9	-0.5
YLV96W	12	V	100	12	3.7	0.4	1.9
YLV96W	00	V	100	8	4.3	1.6	-0.2
ZSNO	00	V	100	2	4.9	4.4	1.5
ZVQEQC	12	V	100	21	4.2	1.3	-1.4
ZVQEQC	00	V	100	4	5.4	-0.1	1.5

3.2.27 Figure 14 - SATOB Winds: 700-1000hPa

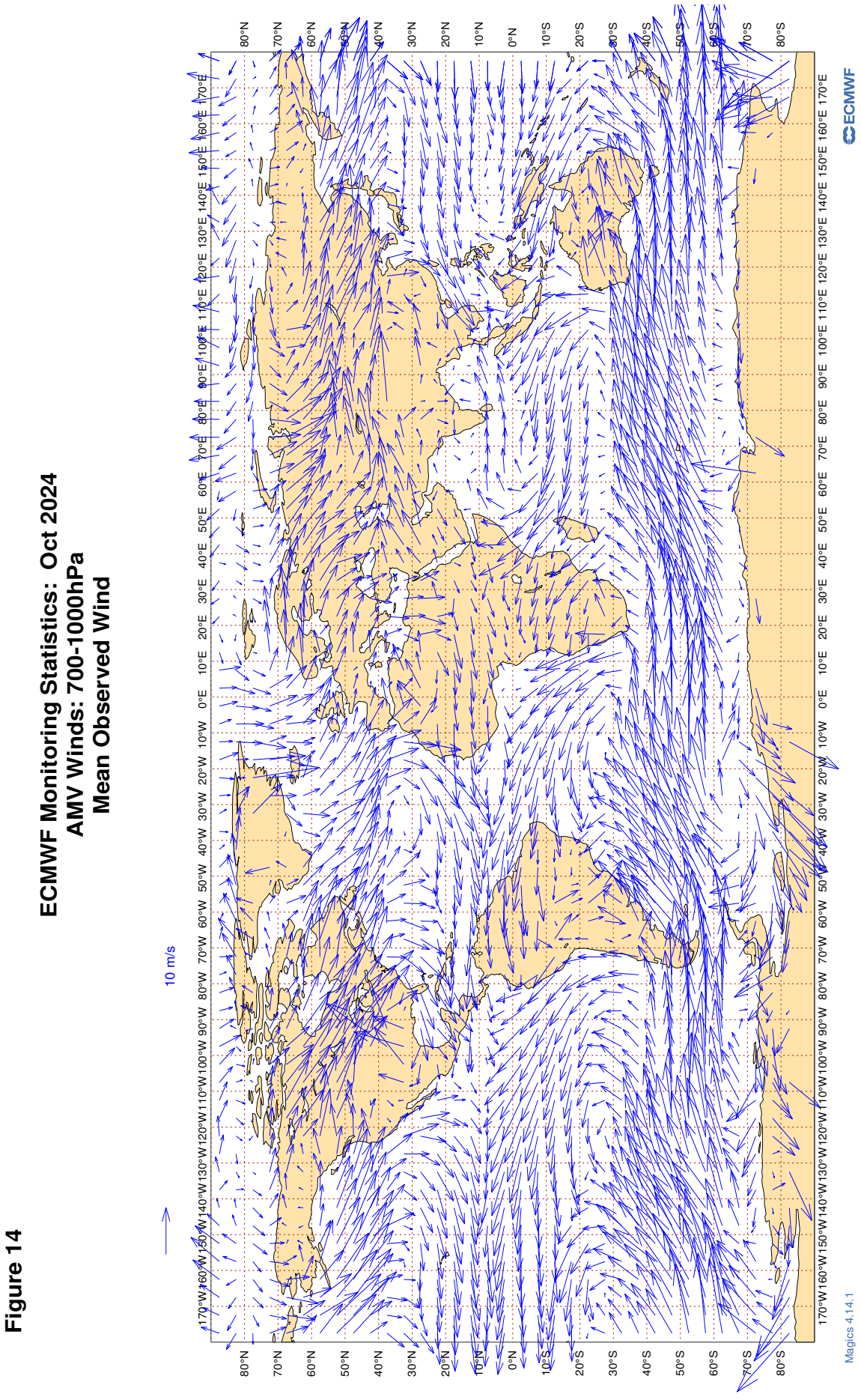


Figure 14

3.2.28 Figure 15 - SATOB Winds: 150- 400hPa

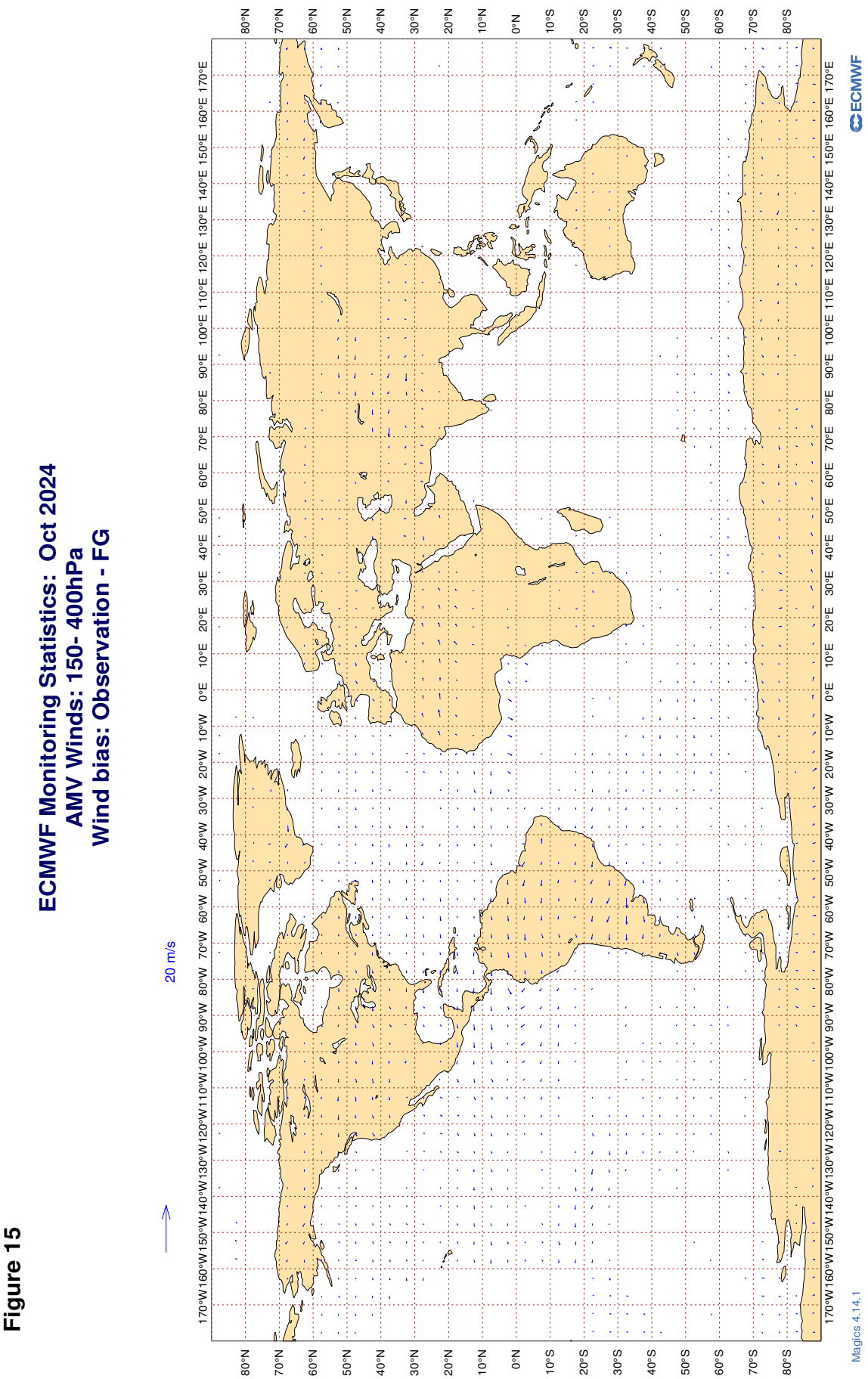


Figure 15

3.2.29 Figure 16 - SATOB Winds: 700-1000hPa

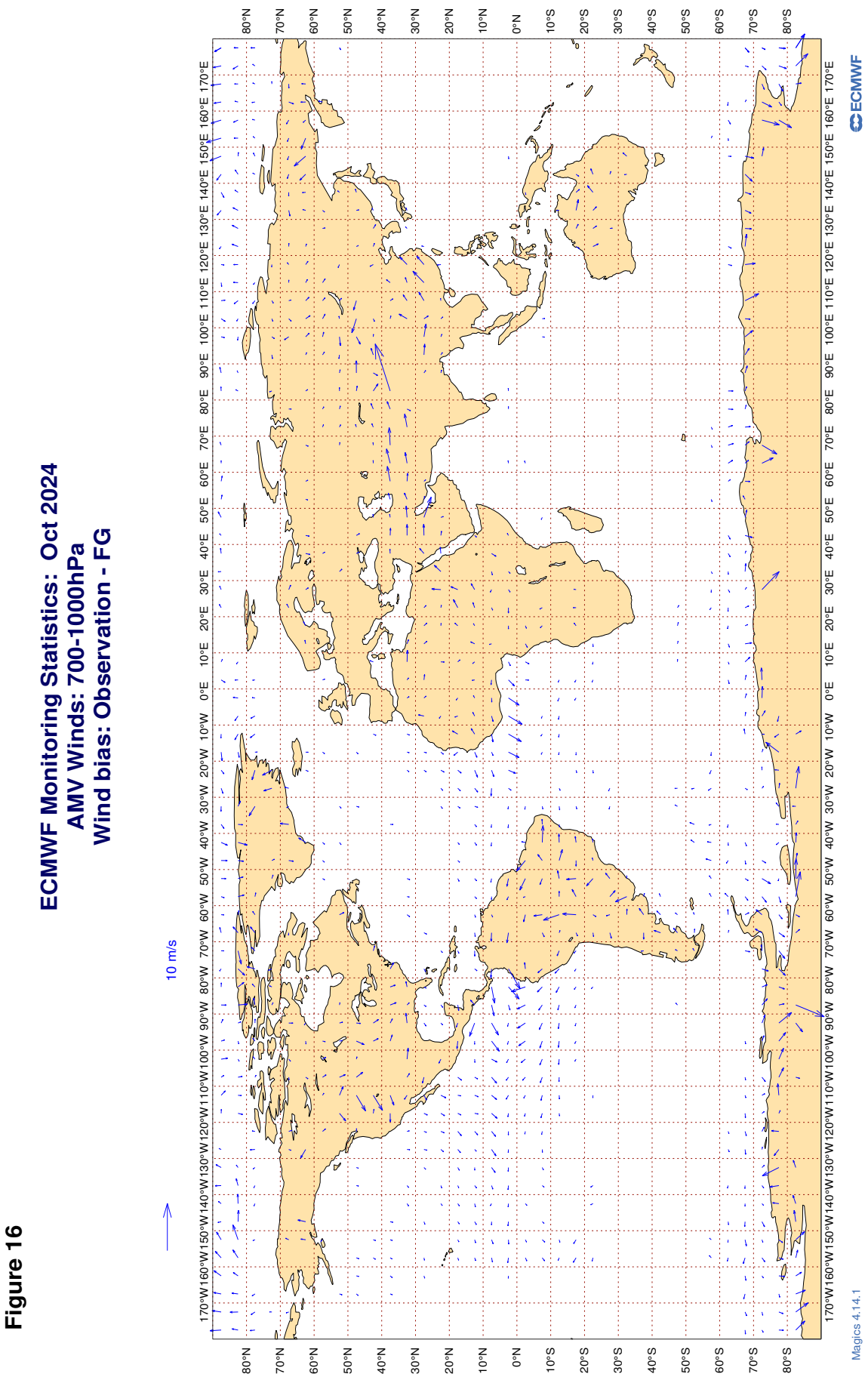


Figure 16

3.2.30 Figure 17 - SATOB Winds: 150- 400hPa

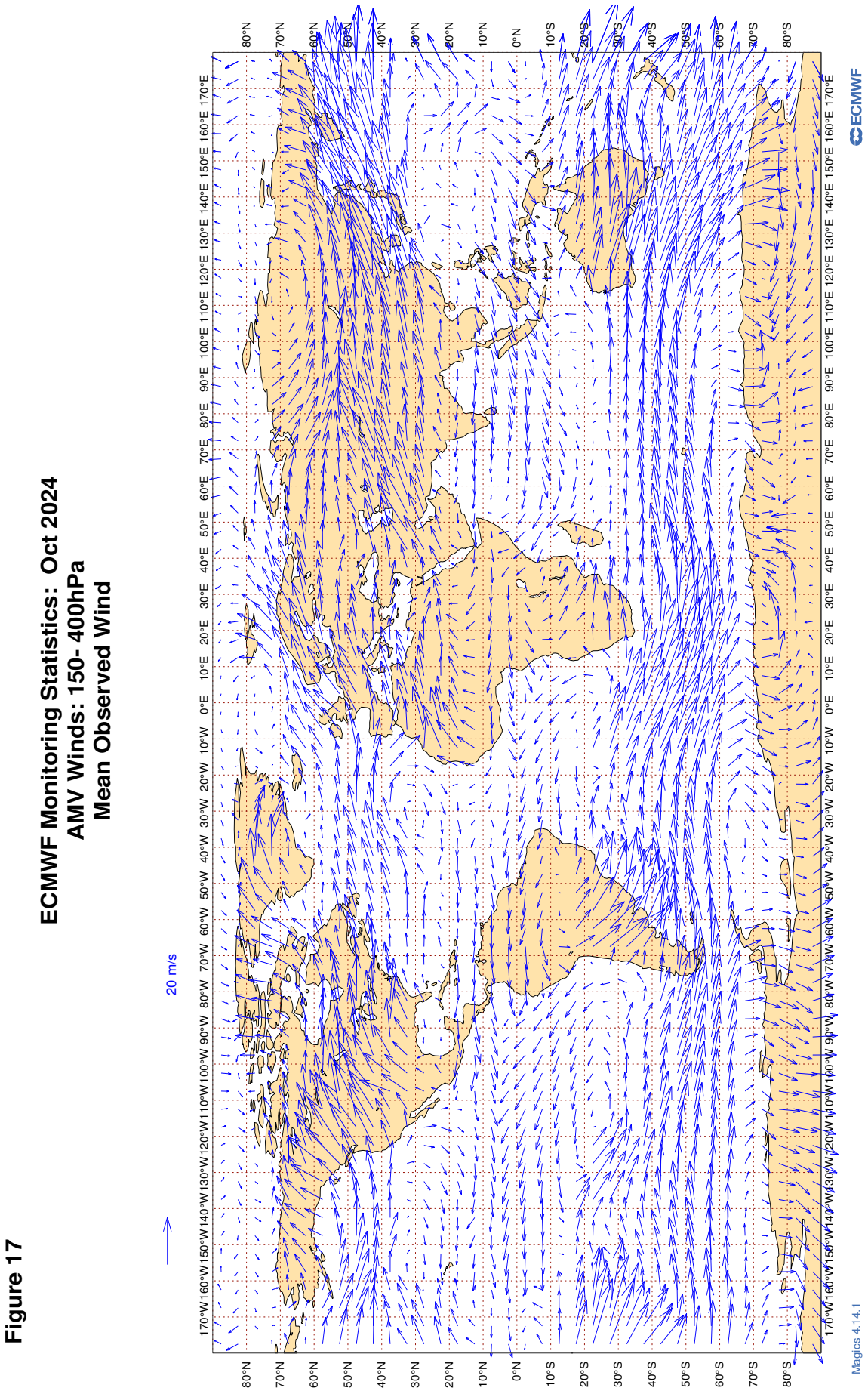


Figure 17

3.2.31 Figure 18 - AIRCRAFT Winds: 150- 300hPa

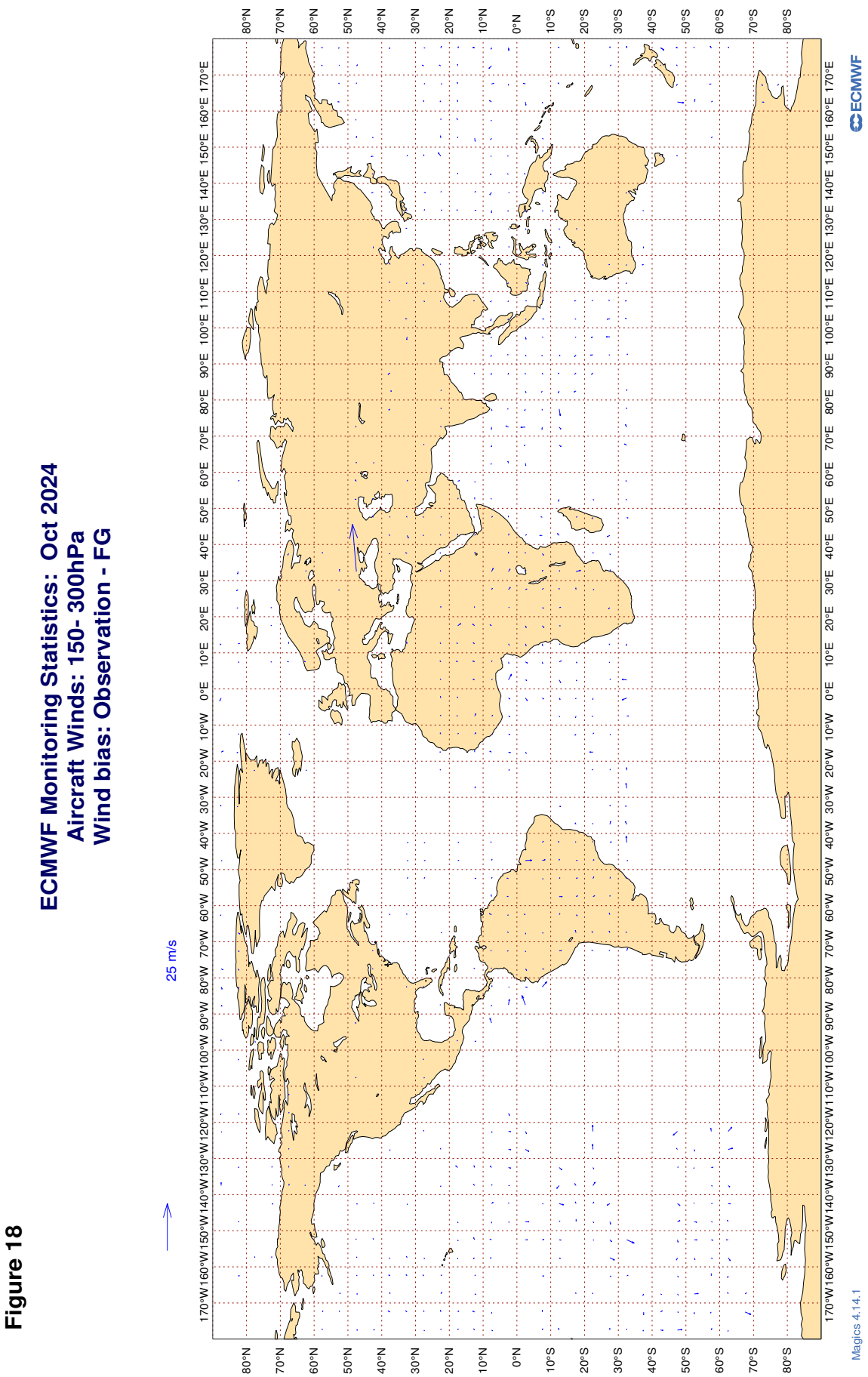


Figure 18

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 2024
STANDARD OF COMPARISON: FIRST-GUESS FIELD

SELECTION CRITERIA: NO. OF OBS. >= 20

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

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
AAB	99	V	300-150	44	0	0	3.6	-0.3
AAL	99	V	300-150	49439	4	0	4.7	0.1
AAR	99	V	300-150	185	0	0	4.0	-1.0
ABB	99	V	300-150	736	0	0	3.1	0.2
ABD	99	V	300-150	610	0	0	4.0	0.2
ABP	99	V	300-150	88	0	0	3.5	0.2
ACA	99	V	300-150	33854	3	0	4.4	0.1
ACI	99	V	300-150	262	0	0	3.7	0.4
ADS	99	V	300-150	45	0	0	3.3	0.3
ADY	99	V	300-150	97	0	0	3.1	0.1
ADZ	99	V	300-150	766	0	0	4.0	-0.3
AEA	99	V	300-150	519	0	0	4.5	0.3
AFR	99	V	300-150	36515	1	0	3.8	0.0
AIC	99	V	300-150	4870	1	0	5.1	0.2
AJT	99	V	300-150	182	0	0	3.3	0.4
ALE	99	V	300-150	48	0	0	3.1	0.0
ALK	99	V	300-150	1916	0	0	3.4	0.4

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
AMX	99	V	300-150	5743	10	0	6.0	0.0
ANA	99	V	300-150	239	1	0	6.4	0.2
ANZ	99	V	300-150	14080	0	0	4.1	0.4
AOJ	99	V	300-150	329	0	0	3.3	0.3
AOJ	99	V	300-150	29	0	0	3.3	-0.4
ARL	99	V	300-150	32	0	0	4.3	0.1
ASA	99	V	300-150	27	0	11	6.1	-0.6
ASL	99	V	300-150	715	0	0	3.6	0.5
ASY	99	V	300-150	124	0	1	6.2	0.7
ATC	99	V	300-150	490	1	0	6.0	0.6
ATN	99	V	300-150	61	0	3	5.2	-0.5
AUA	99	V	300-150	5628	3	0	4.8	-0.1
AVA	99	V	300-150	741	6	0	6.2	-0.1
AWC	99	V	300-150	105	0	0	3.9	0.2
AXM	99	V	300-150	41	0	2	3.5	0.5
AXY	99	V	300-150	37	0	0	3.6	0.6
AZG	99	V	300-150	880	0	0	3.7	-0.2
BAH	99	V	300-150	55	0	0	3.0	0.1
BAW	99	V	300-150	50819	3	0	4.3	0.0
BBC	99	V	300-150	1025	3	0	6.2	0.3
BCP	99	V	300-150	31	0	0	2.8	0.4
BCS	99	V	300-150	1042	0	0	3.2	0.2
BEL	99	V	300-150	856	0	0	3.3	0.2
BFF	99	V	300-150	56	0	0	11.7	2.7
BFY	99	V	300-150	105	0	0	3.7	0.6
BLU	99	V	300-150	43	0	0	3.5	0.2
BMW	99	V	300-150	28	0	0	3.7	1.2
BOX	99	V	300-150	4293	0	0	3.6	0.1
BOX	99	V	300-150	71	0	0	3.6	0.6
BQA	99	V	300-150	32	0	0	3.1	1.1
BRK	99	V	300-150	22	0	0	3.6	0.3
BTX	99	V	300-150	56	0	0	3.0	0.2
BUY	99	V	300-150	34	0	0	4.6	0.7
BVR	99	V	300-150	22	0	0	3.2	-0.9
CAL	99	V	300-150	1314	0	0	3.3	0.5
CBJ	99	V	300-150	111	0	0	4.1	0.7
CCA	99	V	300-150	319	0	0	3.2	0.6
CEB	99	V	300-150	652	0	0	3.4	0.5
CEF	99	V	300-150	33	0	0	3.5	0.8
CES	99	V	300-150	1958	0	0	3.5	0.5
CFC	99	V	300-150	329	0	0	4.4	0.5
CFG	99	V	300-150	6919	0	0	3.5	0.3
CHG	99	V	300-150	218	0	0	3.8	0.0

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
CHH	99	V	300-150	538	4	0	5.7	0.6
CJT	99	V	300-150	1354	0	0	4.1	0.1
CKS	99	V	300-150	496	0	0	3.9	-0.3
CLF	99	V	300-150	82	0	0	3.7	0.3
CLX	99	V	300-150	5022	0	0	3.9	-0.2
CLY	99	V	300-150	42	0	0	3.1	-0.4
CMB	99	V	300-150	1676	0	0	3.7	-0.2
CND	99	V	300-150	214	0	0	4.0	-0.3
CNV	99	V	300-150	168	0	0	3.5	0.4
CPA	99	V	300-150	2613	0	0	3.5	0.4
CRL	99	V	300-150	728	0	0	3.3	0.4
CRV	99	V	300-150	35	0	0	3.3	0.0
CSC	99	V	300-150	820	0	0	3.3	0.7
CSG	99	V	300-150	183	0	0	2.6	0.1
CSN	99	V	300-150	701	0	0	4.2	0.4
CSS	99	V	300-150	248	0	0	4.0	1.0
CSZ	99	V	300-150	20	0	0	2.2	0.9
CTM	99	V	300-150	37	0	0	2.7	-0.2
CTV	99	V	300-150	255	0	0	4.7	1.1
CXA	99	V	300-150	77	0	0	5.8	0.6
CXB	99	V	300-150	35	11	0	6.2	0.7
DAH	99	V	300-150	1076	0	0	3.5	0.2
DAL	99	V	300-150	72838	0	0	3.5	0.1
DCM	99	V	300-150	38	0	0	3.3	0.5
DHK	99	V	300-150	2800	0	0	3.8	0.0
DHX	99	V	300-150	792	0	0	3.7	0.6
DJT	99	V	300-150	1900	0	0	3.7	0.4
DLH	99	V	300-150	30947	1	0	3.7	0.0
DSO	99	V	300-150	53	0	0	2.9	-0.2
EAL	99	V	300-150	119	0	0	3.5	0.5
EAU	99	V	300-150	140	0	0	3.7	0.8
EDC	99	V	300-150	30	0	0	3.4	-0.7
EDG	99	V	300-150	121	0	0	3.3	0.4
EDW	99	V	300-150	1507	0	0	3.5	0.2
EIN	99	V	300-150	18202	0	0	3.4	0.3
EJM	99	V	300-150	1124	0	0	5.3	0.1
ELY	99	V	300-150	5035	9	0	6.0	-0.1
EMO	99	V	300-150	37	0	0	3.2	0.5
ETD	99	V	300-150	17694	1	0	4.7	0.3
ETH	99	V	300-150	8442	1	0	4.8	0.1
EUK	99	V	300-150	1787	0	0	3.5	0.3
EVA	99	V	300-150	1069	0	0	3.8	0.6
EVE	99	V	300-150	84	0	0	3.1	0.6

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
EXS	99	V	300-150	4745	0	0	3.5	0.1
EXV	99	V	300-150	22	0	0	2.9	0.0
EZY	99	V	300-150	44	0	0	3.2	-0.3
FAF	99	V	300-150	87	0	0	3.2	0.0
FBU	99	V	300-150	2290	0	0	3.7	-0.2
FDX	99	V	300-150	8218	0	0	3.5	0.2
FFM	99	V	300-150	25	0	4	4.2	1.4
FIN	99	V	300-150	1891	0	0	3.3	0.3
FJI	99	V	300-150	2868	0	0	4.4	0.6
FJO	99	V	300-150	104	0	0	3.1	0.4
FLC	99	V	300-150	61	0	0	4.1	0.6
FPY	99	V	300-150	3832	0	0	3.2	0.2
FWI	99	V	300-150	1200	0	0	3.7	0.1
FYG	99	V	300-150	105	0	0	4.3	0.4
GAF	99	V	300-150	116	0	0	4.0	0.5
GBG	99	V	300-150	30	0	0	3.7	0.3
GCK	99	V	300-150	180	0	0	3.6	-0.1
GEC	99	V	300-150	2303	0	0	3.2	0.1
GES	99	V	300-150	126	0	0	3.8	0.7
GFA	99	V	300-150	2241	0	0	6.0	0.4
GIA	99	V	300-150	1806	0	0	3.6	0.2
GJE	99	V	300-150	69	0	0	4.0	0.3
GJW	99	V	300-150	97	0	0	3.1	0.1
GKY	99	V	300-150	33	0	0	3.4	0.5
GLJ	99	V	300-150	41	0	0	3.5	0.2
GNJ	99	V	300-150	82	0	0	3.7	-0.2
GOL	99	V	300-150	160	0	0	3.7	0.4
GRI	99	V	300-150	24	0	0	6.1	1.9
GRP	99	V	300-150	47	0	0	3.6	0.3
GSM	99	V	300-150	37	0	0	4.6	0.6
GTI	99	V	300-150	2462	0	0	3.7	0.1
GTR	99	V	300-150	57	0	0	2.6	0.4
HAL	99	V	300-150	545	0	2	4.8	0.2
HFM	99	V	300-150	170	0	1	3.6	0.7
HGO	99	V	300-150	85	0	0	4.1	2.3
HIM	99	V	300-150	20	0	0	2.4	0.0
HKC	99	V	300-150	44	0	0	3.7	1.6
HLF	99	V	300-150	55	0	0	4.2	1.4
HPJ	99	V	300-150	26	0	0	2.2	0.7
HRN	99	V	300-150	50	0	0	3.5	0.4
HRT	99	V	300-150	107	0	0	4.7	1.2
HUE	99	V	300-150	45	0	0	7.0	-1.5
HVN	99	V	300-150	1133	0	0	4.1	0.5

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
HYS	99	V	300-150	482	0	0	3.1	0.2
IAM	99	V	300-150	74	0	0	4.7	0.7
IBE	99	V	300-150	6054	0	0	3.6	0.2
ICE	99	V	300-150	9293	0	0	3.3	0.1
ICL	99	V	300-150	117	0	0	4.0	0.4
ICV	99	V	300-150	251	0	0	3.7	-0.6
IFA	99	V	300-150	423	0	0	3.7	0.1
IGA	99	V	300-150	82	0	0	3.5	-0.4
IGO	99	V	300-150	690	0	0	3.2	0.5
IJM	99	V	300-150	165	0	0	4.3	-0.1
IRM	99	V	300-150	26	0	0	2.8	1.5
ITY	99	V	300-150	6983	0	0	3.4	0.1
JAF	99	V	300-150	546	9	0	5.5	-0.2
JAL	99	V	300-150	675	0	0	5.8	0.2
JAS	99	V	300-150	178	0	0	3.6	0.0
JBU	99	V	300-150	9034	0	0	3.6	0.4
JCO	99	V	300-150	106	0	0	3.4	0.4
JCY	99	V	300-150	35	0	0	2.7	0.1
JEF	99	V	300-150	39	0	0	4.2	0.0
JEN	99	V	300-150	34	0	0	3.0	0.0
JET	99	V	300-150	31	0	0	5.2	0.2
JME	99	V	300-150	68	0	0	3.9	1.0
JML	99	V	300-150	36	0	0	2.6	0.8
JNY	99	V	300-150	36	0	0	3.7	0.8
JST	99	V	300-150	1001	0	0	4.2	0.4
JTL	99	V	300-150	32	0	0	3.6	-0.6
JZR	99	V	300-150	44	0	0	3.0	0.7
KAC	99	V	300-150	3070	0	0	3.1	0.4
KAF	99	V	300-150	39	0	0	4.0	-0.2
KAI	99	V	300-150	92	1	0	4.8	0.1
KAL	99	V	300-150	388	0	0	3.3	0.6
KAY	99	V	300-150	29	0	0	3.0	0.1
KCE	99	V	300-150	43	0	0	3.5	-0.5
KFE	99	V	300-150	48	0	0	3.7	-0.6
KIW	99	V	300-150	158	0	0	4.4	1.4
KLM	99	V	300-150	19230	4	0	4.8	0.1
KOC	99	V	300-150	42	0	0	4.4	1.8
KPO	99	V	300-150	76	0	0	3.7	-0.8
KQA	99	V	300-150	447	0	0	5.4	0.8
KRH	99	V	300-150	46	0	0	3.3	-0.6
LAE	99	V	300-150	185	0	0	3.6	0.3
LCO	99	V	300-150	617	0	0	4.1	-1.0
LDX	99	V	300-150	40	0	0	4.0	0.2

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
LHO	99	V	300-150	31	0	0	5.2	0.7
LNI	99	V	300-150	1148	0	0	3.4	0.4
LNX	99	V	300-150	71	0	0	3.9	1.0
LOT	99	V	300-150	3474	5	0	5.8	-0.1
LRQ	99	V	300-150	64	0	0	3.5	0.0
LRT	99	V	300-150	26	0	0	3.0	-0.2
LWG	99	V	300-150	25	0	0	2.6	0.8
LXJ	99	V	300-150	758	0	0	3.3	0.4
MAS	99	V	300-150	6935	0	0	3.9	0.7
MAU	99	V	300-150	374	0	0	5.5	1.5
MDN	99	V	300-150	43	0	0	3.8	0.1
MED	99	V	300-150	31	0	0	3.5	0.3
MJF	99	V	300-150	48	0	2	3.2	0.3
MLM	99	V	300-150	177	0	0	3.3	-0.1
MMD	99	V	300-150	297	0	0	3.4	0.3
MMF	99	V	300-150	149	0	0	3.8	0.4
MMF	99	V	300-150	31	0	0	3.2	0.2
MNB	99	V	300-150	607	0	0	3.3	0.4
MPH	99	V	300-150	478	0	0	3.5	0.2
MSR	99	V	300-150	2289	2	0	4.4	0.2
MVJ	99	V	300-150	42	0	0	3.3	-0.2
MXD	99	V	300-150	675	0	0	3.2	0.5
NBT	99	V	300-150	2965	8	0	6.4	-0.2
NCR	99	V	300-150	506	0	0	3.3	0.1
NEW	99	V	300-150	96	0	0	3.9	0.0
NJE	99	V	300-150	742	0	0	3.6	0.4
NOJ	99	V	300-150	34	0	0	4.7	0.9
NOS	99	V	300-150	1469	6	0	5.6	-0.1
NUM	99	V	300-150	43	0	0	4.6	1.1
OAE	99	V	300-150	844	0	0	4.3	0.3
OCN	99	V	300-150	4424	0	0	3.4	0.2
OMA	99	V	300-150	2361	0	0	6.1	0.5
ORF	99	V	300-150	22	0	0	2.2	-0.5
PAL	99	V	300-150	1840	0	0	3.0	0.6
PAT	99	V	300-150	57	0	0	3.8	-0.7
PEX	99	V	300-150	74	0	0	3.4	0.1
PIA	99	V	300-150	364	0	0	3.2	0.2
PJS	99	V	300-150	27	0	0	2.7	0.6
PVA	99	V	300-150	220	0	1	3.3	-0.2
PVG	99	V	300-150	22	0	0	3.0	-0.8
QAF	99	V	300-150	78	0	0	4.5	-0.1
QFA	99	V	300-150	4905	2	0	5.7	0.5
QFX	99	V	300-150	88	0	0	3.3	0.1

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
QNT	99	V	300-150	24	0	0	3.7	0.6
QQE	99	V	300-150	348	0	0	3.4	0.4
QTR	99	V	300-150	40761	0	0	3.8	0.4
RAK	99	V	300-150	33	0	0	3.9	-0.5
RAM	99	V	300-150	678	10	0	5.3	0.0
RBA	99	V	300-150	453	0	0	5.8	0.5
RCH	99	V	300-150	3845	0	0	4.5	0.4
RHH	99	V	300-150	42	0	0	4.4	0.0
RJA	99	V	300-150	1882	9	0	6.9	0.0
ROJ	99	V	300-150	58	0	0	2.8	0.8
RRR	99	V	300-150	364	0	0	3.5	-0.2
RSF	99	V	300-150	35	0	0	3.6	0.5
RXI	99	V	300-150	23	0	0	8.4	0.3
RYR	99	V	300-150	971	0	0	3.7	0.0
RZO	99	V	300-150	435	0	0	4.9	0.5
SAM	99	V	300-150	328	0	0	3.8	0.1
SAS	99	V	300-150	6142	0	0	3.2	0.2
SAV	99	V	300-150	37	0	0	2.8	0.6
SAZ	99	V	300-150	49	0	2	2.8	0.4
SCX	99	V	300-150	55	0	4	4.5	0.3
SEY	99	V	300-150	52	0	0	3.7	0.2
SIA	99	V	300-150	17853	0	0	4.0	0.4
SIO	99	V	300-150	168	0	0	3.7	-0.5
SIS	99	V	300-150	77	0	0	3.2	0.3
SKV	99	V	300-150	61	0	0	3.7	-0.3
SLM	99	V	300-150	138	0	0	3.5	0.2
SON	99	V	300-150	26	0	0	3.5	1.3
SPA	99	V	300-150	118	0	0	4.1	0.5
SSG	99	V	300-150	36	0	0	3.2	0.2
SUI	99	V	300-150	71	0	0	4.8	-0.1
SVA	99	V	300-150	12245	0	0	4.5	0.3
SVW	99	V	300-150	221	0	0	3.3	0.2
SWR	99	V	300-150	12899	0	0	3.5	0.2
SWW	99	V	300-150	25	0	0	3.3	-0.5
SYB	99	V	300-150	132	0	0	3.7	0.2
TAG	99	V	300-150	33	0	0	3.9	1.7
TAM	99	V	300-150	30	0	0	3.6	0.9
TAP	99	V	300-150	4320	0	0	3.8	0.0
TAR	99	V	300-150	300	0	0	3.1	0.3
TAY	99	V	300-150	507	0	0	4.2	-0.6
TEU	99	V	300-150	66	0	0	3.2	0.4
TFF	99	V	300-150	150	0	0	4.1	0.4
TFL	99	V	300-150	1299	9	0	5.1	-0.4

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
TGW	99	V	300-150	1215	0	0	5.0	0.5
THA	99	V	300-150	6079	0	0	3.8	0.6
THT	99	V	300-150	2216	4	0	5.0	0.2
THY	99	V	300-150	24709	2	0	4.2	0.2
TMN	99	V	300-150	469	0	0	4.2	0.5
TOM	99	V	300-150	5926	10	0	6.0	-0.2
TSC	99	V	300-150	14978	0	0	3.6	0.3
TUA	99	V	300-150	20	0	0	6.1	-0.4
TVR	99	V	300-150	146	0	0	4.6	1.0
TVS	99	V	300-150	74	0	0	3.6	0.8
TWY	99	V	300-150	543	0	0	3.2	0.1
UAE	99	V	300-150	38228	0	0	3.5	0.4
UAF	99	V	300-150	30	0	0	3.7	0.9
UAL	99	V	300-150	79188	2	1	4.7	0.0
UBT	99	V	300-150	2767	10	0	6.4	-0.3
UGD	99	V	300-150	63	0	0	2.7	0.9
ULC	99	V	300-150	154	0	0	3.7	-0.1
UPS	99	V	300-150	6417	0	0	3.7	-0.1
URO	99	V	300-150	100	0	0	2.4	0.7
USY	99	V	300-150	21	0	0	2.8	-0.4
UZB	99	V	300-150	631	1	0	5.4	0.2
VCG	99	V	300-150	93	0	0	3.1	0.2
VCJ	99	V	300-150	70	0	0	3.5	0.6
VIR	99	V	300-150	23526	3	0	4.5	0.0
VJC	99	V	300-150	236	0	0	3.3	0.3
VJH	99	V	300-150	518	0	0	3.9	0.1
VJT	99	V	300-150	2354	0	0	3.6	0.5
VKG	99	V	300-150	83	0	0	3.7	0.1
VLZ	99	V	300-150	95	0	0	5.1	0.8
VOZ	99	V	300-150	196	0	0	3.4	0.4
VSV	99	V	300-150	21	0	0	2.8	0.5
VTI	99	V	300-150	3559	0	1	3.8	0.5
WFL	99	V	300-150	216	0	0	4.2	0.6
WJA	99	V	300-150	3358	3	0	4.7	0.1
WWI	99	V	300-150	31	0	0	3.6	1.0
XAX	99	V	300-150	778	0	0	3.8	0.6
XFL	99	V	300-150	94	0	0	6.5	0.5
XGN	99	V	300-150	61	0	0	3.2	1.3
XRO	99	V	300-150	53	0	0	3.5	1.1
ZPN	99	V	300-150	24	0	0	4.0	1.3

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 2024
         STANDARD OF COMPARISON: FIRST-GUESS FIELD
```

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	50	29	13.6	0.6
01001	12	Z	50	28	10.2	-1.6
01028	12	Z	50	31	9.1	-6.0
01028	00	Z	50	31	7.6	0.8
01400	00	Z	50	28	77.5	77.2
01400	12	Z	50	26	71.9	71.4
01415	12	Z	50	30	9.7	-3.4
01415	00	Z	50	31	9.4	0.7
02365	12	Z	50	27	6.8	-3.2
02365	00	Z	50	26	11.1	0.0
02591	12	Z	50	27	5.2	2.6
02591	00	Z	50	29	9.4	6.3
02836	00	Z	50	15	7.2	-4.0
02836	12	Z	50	23	8.1	-4.4
02963	12	Z	50	30	16.7	-2.3
02963	00	Z	50	23	7.8	2.1
03005	12	Z	50	30	11.3	-4.8
03005	00	Z	50	26	8.2	-3.9
03238	00	Z	50	30	6.9	1.3
03238	12	Z	50	1	2.6	-2.6
03808	00	Z	50	30	10.6	2.8
03808	12	Z	50	28	7.9	-0.7
03918	12	Z	50	1	2.6	2.6
03918	00	Z	50	30	13.1	3.2
03953	00	Z	50	30	9.1	-6.7
03953	12	Z	50	31	14.0	-8.8
04018	12	Z	50	31	6.4	-1.5
04018	00	Z	50	28	5.7	1.7
04220	12	Z	50	30	18.2	-15.1
04220	00	Z	50	30	15.8	-13.4
04270	00	Z	50	31	23.7	-18.4
04270	12	Z	50	30	18.2	-15.3
04320	00	Z	50	30	20.5	-16.0
04320	12	Z	50	30	20.5	-12.4
04339	00	Z	50	28	21.5	-19.2
04339	12	Z	50	27	20.1	-16.4
04360	12	Z	50	12	30.3	-27.9
04360	00	Z	50	11	26.9	-26.0
06011	12	Z	50	27	26.3	-24.5

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	50	29	6.5	3.1
06260	12	Z	50	8	9.4	-0.5
06610	12	Z	50	32	6.5	1.8
06610	00	Z	50	30	8.2	2.1
07110	12	Z	50	29	25.9	-20.6
07110	00	Z	50	30	29.8	-27.9
07510	12	Z	50	28	30.4	-27.2
07510	00	Z	50	27	46.9	-46.3
07645	12	Z	50	25	24.1	-16.8
07645	00	Z	50	26	26.2	-20.5
07761	00	Z	50	25	10.5	-5.5
07761	12	Z	50	26	14.3	-1.1
08001	12	Z	50	31	8.0	2.3
08001	00	Z	50	30	10.0	6.0
08221	00	Z	50	30	7.9	4.2
08221	12	Z	50	31	8.4	3.8
08302	00	Z	50	25	7.8	-4.9
08302	12	Z	50	24	12.2	-10.8
08508	12	Z	50	26	19.5	-1.9
08522	12	Z	50	31	6.7	-0.9
10035	00	Z	50	31	15.8	14.9
10035	12	Z	50	31	12.4	10.5
10393	12	Z	50	31	8.4	-1.6
10393	00	Z	50	31	4.5	1.0
10410	12	Z	50	32	5.4	-1.0
10410	00	Z	50	31	6.3	2.4
10739	12	Z	50	28	8.1	4.4
10739	00	Z	50	28	10.7	7.8
11035	00	Z	50	31	12.5	6.2
11035	12	Z	50	30	32.6	2.1
12982	00	Z	50	31	5.7	2.8
12982	12	Z	50	31	7.1	-2.7
16245	00	Z	50	30	5.5	3.1
16245	12	Z	50	31	10.2	2.9
16429	00	Z	50	28	14.2	8.8
16429	12	Z	50	30	6.3	1.9
16622	00	Z	50	29	12.7	12.1
16622	12	Z	50	0	0.0	0.0
16754	00	Z	50	26	9.4	7.7
17607	12	Z	50	27	20.9	-9.3
26435	12	Z	50	13	7.9	-6.8
60018	00	Z	50	31	8.6	6.2
60018	12	Z	50	31	5.2	-0.7

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	12	Z	50	8	22.8	-17.6
7JUNA4	00	Z	50	12	10.1	0.0
ASDE09	12	Z	50	1	1.6	-1.6
ATGU3F	12	Z	50	7	33.9	-32.4
ATGU3F	00	Z	50	8	65.9	-52.1
JNKN7J	12	Z	50	12	77.8	60.7
JNKN7J	00	Z	50	10	35.4	33.1
KJJF9X	12	Z	50	6	24.8	-22.0
KJJF9X	00	Z	50	4	30.8	-28.0
KMPLHP	00	Z	50	3	55.6	52.3
LAGY8	00	Z	50	0	0.0	0.0
LAGZ8	12	Z	50	1	39.3	39.3
LRYQE3	12	Z	50	12	74.9	39.6
LRYQE3	00	Z	50	11	11.9	-6.8
UXK5JT	00	Z	50	3	10.5	-9.3
UXK5JT	12	Z	50	2	16.5	-6.6
XKQLWQ	12	Z	50	5	49.3	47.4
YLV96W	12	Z	50	10	61.0	18.8
YLV96W	00	Z	50	8	8.7	-2.7
ZVQEQC	12	Z	50	21	7.9	1.9
ZVQEQC	00	Z	50	4	5.0	0.5

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 2024
         STANDARD OF COMPARISON: FIRST-GUESS FIELD
```

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	50	29	3.1	-0.1	-0.3
01001	12	V	50	28	3.9	-0.1	-0.4
01028	12	V	50	31	2.8	-0.2	0.0
01028	00	V	50	30	2.5	-0.2	-0.2
01400	00	V	50	22	2.6	-0.3	-0.1
01400	12	V	50	23	2.8	0.5	0.0
01415	12	V	50	30	4.3	0.3	-0.5
01415	00	V	50	28	3.6	0.3	-0.5
02365	12	V	50	26	5.3	0.3	-1.2
02365	00	V	50	25	3.6	0.4	-0.4
02591	12	V	50	26	3.0	-0.1	-0.2
02591	00	V	50	25	3.5	-0.5	1.0
02836	00	V	50	11	2.6	-0.1	-1.1
02836	12	V	50	15	3.3	1.3	0.0
02963	12	V	50	29	4.2	-0.6	-1.1
02963	00	V	50	20	4.0	-0.1	-0.1
03005	12	V	50	30	3.5	-0.6	-0.3
03005	00	V	50	22	4.3	-0.8	-0.2
03238	00	V	50	28	3.5	0.4	0.0
03238	12	V	50	1	1.6	-1.1	-1.2
03808	00	V	50	28	3.8	-0.3	-0.7
03808	12	V	50	28	3.5	0.6	-0.3
03918	12	V	50	1	1.3	0.9	-1.0
03918	00	V	50	29	3.6	-0.1	0.4
03953	00	V	50	28	3.0	0.1	-0.7
03953	12	V	50	31	3.3	0.6	-1.2
04018	12	V	50	30	3.8	0.4	0.0
04018	00	V	50	25	3.3	0.3	0.1
04220	12	V	50	30	3.2	0.1	-0.8
04220	00	V	50	30	3.3	0.1	-0.3
04270	00	V	50	29	3.2	0.1	-0.2
04270	12	V	50	30	4.2	1.0	0.8
04320	00	V	50	30	3.0	0.3	0.2
04320	12	V	50	30	2.8	0.6	0.0
04339	00	V	50	26	3.3	0.2	-0.1
04339	12	V	50	27	3.5	0.2	-1.2
04360	12	V	50	12	2.3	0.3	-0.1
04360	00	V	50	11	2.9	-0.1	-0.9
06011	12	V	50	27	3.7	0.8	0.2

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	50	27	3.2	0.5	-0.7
06260	12	V	50	7	2.8	0.6	-0.4
06610	12	V	50	31	3.3	0.1	-0.2
06610	00	V	50	28	3.5	0.6	-0.4
07110	12	V	50	29	3.0	0.4	0.3
07110	00	V	50	29	3.5	0.7	-0.3
07510	12	V	50	28	3.3	0.1	0.0
07510	00	V	50	25	3.8	-0.4	0.5
07645	12	V	50	25	3.0	0.1	0.0
07645	00	V	50	24	3.4	0.6	0.9
07761	00	V	50	24	3.3	-0.4	-0.9
07761	12	V	50	26	3.1	0.1	0.0
08001	12	V	50	31	3.6	-0.2	-0.4
08001	00	V	50	29	3.3	0.8	0.4
08221	00	V	50	29	3.5	0.2	-0.3
08221	12	V	50	31	3.9	1.0	-0.7
08302	00	V	50	24	4.0	0.4	-0.7
08302	12	V	50	24	3.3	-0.1	0.2
08508	12	V	50	26	3.6	0.2	-0.2
08522	12	V	50	31	3.9	-0.6	0.2
10035	00	V	50	29	3.0	-0.5	-0.5
10035	12	V	50	31	3.2	0.0	0.0
10393	12	V	50	31	3.6	0.7	0.3
10393	00	V	50	29	4.4	-0.3	-0.5
10410	12	V	50	31	3.6	-1.2	0.0
10410	00	V	50	29	3.3	0.7	0.4
10739	12	V	50	28	3.5	1.0	-0.1
10739	00	V	50	27	3.3	0.3	0.4
11035	00	V	50	28	3.8	0.3	0.7
11035	12	V	50	30	3.5	-0.5	-0.9
12982	00	V	50	30	3.2	0.4	-0.4
12982	12	V	50	31	3.1	0.3	0.4
16245	00	V	50	29	3.8	0.0	0.0
16245	12	V	50	31	3.0	-0.4	-0.6
16429	00	V	50	24	3.5	-0.3	0.5
16429	12	V	50	30	3.4	0.5	-0.5
16622	00	V	50	25	3.1	0.3	-0.2
16622	12	V	50	0	0.0	0.0	0.0
16754	00	V	50	21	3.6	0.4	-1.2
17607	12	V	50	4	4.7	-1.1	-0.4
26435	12	V	50	11	3.7	-0.1	0.0
60018	00	V	50	29	3.1	0.3	0.9
60018	12	V	50	31	3.4	-0.1	0.4

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	12	V	50	8	3.7	-0.5	-0.1
7JUNA4	00	V	50	12	4.2	-1.0	1.1
ASDE09	12	V	50	1	3.1	1.5	-2.7
ATGU3F	12	V	50	7	2.6	0.0	-0.7
ATGU3F	00	V	50	8	2.7	0.6	0.6
JNKN7J	12	V	50	12	3.4	1.2	0.2
JNKN7J	00	V	50	10	3.5	2.0	0.5
KJJF9X	12	V	50	6	2.3	-0.2	1.2
KJJF9X	00	V	50	4	4.2	-1.9	1.0
KMPLHP	00	V	50	3	1.8	0.3	1.0
LAGY8	00	V	50	0	0.0	0.0	0.0
LAGZ8	12	V	50	1	1.2	1.1	-0.4
LRYQE3	12	V	50	12	2.7	-0.7	0.3
LRYQE3	00	V	50	11	5.6	-1.2	0.6
UXK5JT	00	V	50	3	3.6	-0.9	1.5
UXK5JT	12	V	50	2	5.6	-1.2	3.7
XKQLWQ	12	V	50	5	3.7	-1.7	0.6
YLV96W	12	V	50	10	4.0	1.4	-0.8
YLV96W	00	V	50	8	3.6	-1.4	-0.6
ZVQEQC	12	V	50	21	4.2	-0.1	0.7
ZVQEQC	00	V	50	4	4.0	-0.5	-0.7

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 2024
         STANDARD OF COMPARISON: FIRST-GUESS FIELD
```

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	100	29	11.4	-1.0
01001	12	Z	100	28	7.8	-3.3
01028	12	Z	100	31	8.4	-6.9
01028	00	Z	100	31	6.5	-4.2
01400	00	Z	100	28	76.2	76.0
01400	12	Z	100	28	72.1	71.8
01415	12	Z	100	30	9.8	-4.0
01415	00	Z	100	31	8.2	0.0
02365	12	Z	100	28	5.5	-1.9
02365	00	Z	100	28	9.5	-0.2
02591	12	Z	100	30	5.0	3.6
02591	00	Z	100	30	7.5	5.4
02836	00	Z	100	24	5.6	-4.0
02836	12	Z	100	30	6.2	-3.4
02963	12	Z	100	30	16.0	-1.8
02963	00	Z	100	29	4.7	-0.3
03005	12	Z	100	30	10.2	-4.6
03005	00	Z	100	26	8.1	-5.8
03238	00	Z	100	30	6.7	0.0
03238	12	Z	100	1	1.2	1.2
03808	00	Z	100	31	7.5	0.1
03808	12	Z	100	28	7.0	-1.9
03918	12	Z	100	1	3.6	3.6
03918	00	Z	100	30	8.5	1.4
03953	00	Z	100	30	10.0	-8.1
03953	12	Z	100	31	12.9	-9.5
04018	12	Z	100	32	5.2	-1.8
04018	00	Z	100	29	4.1	-1.4
04220	12	Z	100	30	16.4	-15.5
04220	00	Z	100	30	13.6	-11.6
04270	00	Z	100	31	19.0	-16.5
04270	12	Z	100	31	17.1	-15.8
04320	00	Z	100	30	17.8	-14.5
04320	12	Z	100	31	19.3	-13.0
04339	00	Z	100	30	21.1	-20.1
04339	12	Z	100	28	20.4	-17.5
04360	12	Z	100	14	23.9	-21.6
04360	00	Z	100	11	24.8	-24.1
06011	12	Z	100	31	21.3	-19.8

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	100	29	4.9	1.3
06260	12	Z	100	8	6.8	-0.4
06610	12	Z	100	32	5.1	0.3
06610	00	Z	100	30	7.3	-0.3
07110	12	Z	100	29	22.6	-19.2
07110	00	Z	100	30	23.4	-22.1
07510	12	Z	100	30	24.6	-23.0
07510	00	Z	100	28	35.2	-34.5
07645	12	Z	100	26	20.4	-16.1
07645	00	Z	100	27	22.5	-18.5
07761	00	Z	100	24	11.4	-7.9
07761	12	Z	100	26	11.3	-3.7
08001	12	Z	100	31	5.3	2.3
08001	00	Z	100	31	7.8	4.8
08221	00	Z	100	30	6.3	2.7
08221	12	Z	100	31	7.2	4.6
08302	00	Z	100	25	7.8	-5.1
08302	12	Z	100	25	10.3	-6.8
08508	12	Z	100	29	17.0	1.0
08522	12	Z	100	31	6.6	3.6
10035	00	Z	100	31	14.0	13.2
10035	12	Z	100	31	11.9	10.4
10393	12	Z	100	31	6.3	-2.6
10393	00	Z	100	31	3.7	-0.2
10410	12	Z	100	33	6.0	-0.6
10410	00	Z	100	31	4.7	0.4
10739	12	Z	100	28	6.3	4.1
10739	00	Z	100	28	9.1	6.9
11035	00	Z	100	31	8.7	2.9
11035	12	Z	100	31	33.4	-0.4
12982	00	Z	100	31	3.6	1.1
12982	12	Z	100	31	5.4	-2.3
16245	00	Z	100	30	3.7	1.0
16245	12	Z	100	31	5.2	0.8
16429	00	Z	100	30	10.1	6.0
16429	12	Z	100	30	5.3	2.4
16622	00	Z	100	29	11.4	10.4
16622	12	Z	100	0	0.0	0.0
16754	00	Z	100	29	9.3	8.3
17607	12	Z	100	28	38.1	-18.8
26435	12	Z	100	15	5.7	-3.6
60018	00	Z	100	31	8.8	8.0
60018	12	Z	100	31	4.4	1.4

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	12	Z	100	8	16.6	-12.7
7JUNA4	00	Z	100	12	9.8	-2.4
ASDE09	12	Z	100	1	6.1	-6.1
ATGU3F	12	Z	100	8	35.2	-34.1
ATGU3F	00	Z	100	8	67.4	-52.0
JNKN7J	12	Z	100	12	48.3	40.7
JNKN7J	00	Z	100	10	30.8	29.2
KJJF9X	12	Z	100	6	19.0	-14.0
KJJF9X	00	Z	100	7	37.9	-27.5
KMPLHP	00	Z	100	4	50.6	47.8
LAGY8	00	Z	100	3	130.8	10.8
LAGZ8	12	Z	100	1	44.8	44.8
LRYQE3	12	Z	100	12	34.3	11.6
LRYQE3	00	Z	100	11	10.2	-7.1
UXK5JT	00	Z	100	4	8.0	-7.7
UXK5JT	12	Z	100	2	8.1	-6.1
XKQLWQ	12	Z	100	9	28.5	21.6
YLV96W	12	Z	100	12	39.7	15.9
YLV96W	00	Z	100	8	9.1	-5.1
ZVQEQC	12	Z	100	21	8.7	5.8
ZVQEQC	00	Z	100	4	13.5	11.7

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 2024
         STANDARD OF COMPARISON: FIRST-GUESS FIELD
```

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	100	29	2.2	0.3	-0.4
01001	12	V	100	28	2.5	0.3	-0.4
01028	12	V	100	31	2.8	-0.4	-0.1
01028	00	V	100	30	2.6	0.2	0.0
01400	00	V	100	24	2.9	0.3	-0.2
01400	12	V	100	27	3.3	0.0	-0.6
01415	12	V	100	30	3.7	0.8	-0.8
01415	00	V	100	28	4.3	0.6	0.5
02365	12	V	100	28	4.0	0.9	-0.4
02365	00	V	100	26	3.3	0.2	-0.5
02591	12	V	100	30	3.4	0.2	-0.2
02591	00	V	100	29	3.7	0.3	-0.6
02836	00	V	100	18	2.8	1.2	0.8
02836	12	V	100	22	2.8	-0.1	0.7
02963	12	V	100	30	3.8	0.1	0.0
02963	00	V	100	25	2.5	0.0	-0.3
03005	12	V	100	30	3.7	0.3	-0.6
03005	00	V	100	23	3.9	0.8	-0.7
03238	00	V	100	28	3.3	0.5	-0.7
03238	12	V	100	1	2.7	1.4	2.3
03808	00	V	100	30	3.3	0.4	0.3
03808	12	V	100	28	3.1	0.0	0.1
03918	12	V	100	1	2.8	0.9	2.7
03918	00	V	100	29	3.4	0.0	0.0
03953	00	V	100	29	3.8	1.2	-0.6
03953	12	V	100	31	3.7	-0.2	-0.5
04018	12	V	100	31	3.3	-0.5	0.8
04018	00	V	100	28	3.2	0.4	-0.2
04220	12	V	100	30	2.8	-0.4	0.0
04220	00	V	100	30	2.8	0.5	0.2
04270	00	V	100	30	3.5	0.2	-0.4
04270	12	V	100	31	2.9	0.4	0.6
04320	00	V	100	30	2.6	0.2	0.3
04320	12	V	100	31	2.4	0.2	0.2
04339	00	V	100	28	3.0	0.1	-0.9
04339	12	V	100	28	2.9	0.4	-0.7
04360	12	V	100	14	3.0	-0.6	0.3
04360	00	V	100	11	3.3	0.1	0.0
06011	12	V	100	31	3.0	-0.3	0.2

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	100	27	3.0	0.3	-0.5
06260	12	V	100	7	2.4	0.3	0.9
06610	12	V	100	31	3.8	-0.1	-0.2
06610	00	V	100	29	4.0	1.0	-0.3
07110	12	V	100	29	3.6	0.9	-0.7
07110	00	V	100	29	3.3	0.0	0.1
07510	12	V	100	30	3.4	0.1	0.2
07510	00	V	100	26	2.8	0.5	-0.4
07645	12	V	100	26	3.9	-0.4	-0.5
07645	00	V	100	25	3.5	0.1	0.5
07761	00	V	100	23	4.1	1.9	-0.3
07761	12	V	100	26	4.2	0.5	-0.3
08001	12	V	100	31	3.6	0.2	0.0
08001	00	V	100	30	3.8	0.7	-0.2
08221	00	V	100	29	4.2	0.4	-0.1
08221	12	V	100	31	3.5	0.8	0.5
08302	00	V	100	24	5.2	-0.4	-1.4
08302	12	V	100	25	4.2	-0.5	0.0
08508	12	V	100	29	4.1	-1.3	-0.6
08522	12	V	100	31	3.7	0.4	-0.2
10035	00	V	100	30	3.0	0.1	-0.6
10035	12	V	100	31	2.6	0.6	-0.5
10393	12	V	100	31	3.3	0.5	0.2
10393	00	V	100	30	3.3	-0.3	-0.2
10410	12	V	100	31	3.2	0.0	0.0
10410	00	V	100	30	3.7	0.1	-0.2
10739	12	V	100	28	3.5	-0.3	0.3
10739	00	V	100	27	3.7	0.7	-0.4
11035	00	V	100	28	3.1	0.0	0.2
11035	12	V	100	31	3.5	0.4	-0.1
12982	00	V	100	30	2.9	0.1	-0.2
12982	12	V	100	31	3.1	0.4	-0.2
16245	00	V	100	29	3.4	0.3	0.5
16245	12	V	100	31	3.5	0.5	-0.4
16429	00	V	100	27	3.9	0.0	-0.1
16429	12	V	100	30	4.1	0.1	0.0
16622	00	V	100	27	3.9	0.7	0.7
16622	12	V	100	0	0.0	0.0	0.0
16754	00	V	100	28	3.7	0.6	0.2
17607	12	V	100	9	12.6	-8.3	-1.5
26435	12	V	100	15	3.2	0.4	-0.6
60018	00	V	100	29	3.4	-0.5	0.6
60018	12	V	100	31	3.0	0.4	0.5

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	12	V	100	8	3.2	-0.1	0.4
7JUNA4	00	V	100	12	3.5	-0.4	0.7
ASDE09	12	V	100	1	2.6	0.4	-2.6
ATGU3F	12	V	100	8	1.8	-0.4	0.3
ATGU3F	00	V	100	8	3.4	-0.7	-0.6
JNKN7J	12	V	100	12	3.9	0.6	2.3
JNKN7J	00	V	100	10	3.7	-0.5	0.6
KJJF9X	12	V	100	6	3.4	1.2	0.1
KJJF9X	00	V	100	7	2.4	0.4	0.1
KMPLHP	00	V	100	4	3.6	0.2	-1.2
LAGY8	00	V	100	3	2.7	0.6	0.2
LAGZ8	12	V	100	1	2.7	-0.6	2.6
LRYQE3	12	V	100	12	3.8	0.5	1.4
LRYQE3	00	V	100	11	3.5	-0.9	0.3
UXK5JT	00	V	100	4	3.1	0.4	0.4
UXK5JT	12	V	100	2	3.6	-1.1	0.4
XKQLWQ	12	V	100	8	3.4	0.9	-0.5
YLV96W	12	V	100	12	3.7	0.4	1.9
YLV96W	00	V	100	8	4.3	1.6	-0.2
ZVQEQC	12	V	100	21	4.2	1.3	-1.4
ZVQEQC	00	V	100	4	5.4	-0.1	1.5

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

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	500	30	7.2	5.3
01001	12	Z	500	30	7.1	3.1
01028	12	Z	500	31	5.5	-3.1
01028	00	Z	500	31	3.4	-1.6
01400	00	Z	500	29	78.7	78.5
01400	12	Z	500	28	78.3	78.0
01415	12	Z	500	30	5.1	3.2
01415	00	Z	500	31	5.9	3.9
02365	12	Z	500	28	4.9	3.2
02365	00	Z	500	28	6.3	2.0
02591	12	Z	500	30	8.7	8.1
02591	00	Z	500	31	8.6	8.2
02836	00	Z	500	31	3.3	1.1
02836	12	Z	500	33	3.1	0.2
02963	12	Z	500	31	25.9	8.6
02963	00	Z	500	31	3.6	2.3
03005	12	Z	500	30	4.9	-2.1
03005	00	Z	500	29	4.6	-2.5
03238	00	Z	500	31	4.4	3.0
03238	12	Z	500	1	4.1	4.1
03808	00	Z	500	31	5.2	3.5
03808	12	Z	500	28	4.6	2.8
03918	12	Z	500	1	7.6	7.6
03918	00	Z	500	30	8.5	7.4
03953	00	Z	500	30	3.2	-1.2
03953	12	Z	500	31	4.3	-1.1
04018	12	Z	500	31	2.8	-0.1
04018	00	Z	500	29	3.3	1.2
04220	12	Z	500	29	6.4	-4.9
04220	00	Z	500	30	6.0	-4.6
04270	00	Z	500	30	8.9	-8.0
04270	12	Z	500	31	9.8	-8.8
04320	00	Z	500	30	8.1	-5.2
04320	12	Z	500	31	14.9	-4.5
04339	00	Z	500	31	11.0	-10.3
04339	12	Z	500	30	11.5	-9.7
04360	12	Z	500	16	12.7	-11.6
04360	00	Z	500	12	11.4	-11.1
06011	12	Z	500	31	8.1	-6.2

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	500	29	4.7	0.8
06260	12	Z	500	9	3.6	2.1
06610	12	Z	500	32	3.5	1.9
06610	00	Z	500	30	3.5	2.1
07110	12	Z	500	31	7.4	-4.3
07110	00	Z	500	31	9.0	-7.2
07510	12	Z	500	34	13.4	-0.5
07510	00	Z	500	31	7.8	-6.8
07645	12	Z	500	32	9.0	-6.7
07645	00	Z	500	33	10.2	-8.1
07761	00	Z	500	25	7.1	-5.9
07761	12	Z	500	24	5.4	-4.3
08001	12	Z	500	31	4.4	3.1
08001	00	Z	500	31	4.0	3.2
08221	00	Z	500	30	4.5	3.6
08221	12	Z	500	31	4.8	4.1
08302	00	Z	500	25	5.4	-4.7
08302	12	Z	500	26	6.5	-6.0
08508	12	Z	500	29	16.3	3.6
08522	12	Z	500	31	7.4	6.1
10035	00	Z	500	31	14.0	13.8
10035	12	Z	500	32	14.1	13.9
10393	12	Z	500	31	3.4	0.0
10393	00	Z	500	31	2.9	1.2
10410	12	Z	500	34	2.4	1.0
10410	00	Z	500	33	2.5	1.1
10739	12	Z	500	28	6.1	5.6
10739	00	Z	500	28	6.4	5.6
11035	00	Z	500	31	6.0	-0.3
11035	12	Z	500	31	13.4	3.5
12982	00	Z	500	31	3.3	2.4
12982	12	Z	500	31	2.9	1.7
16245	00	Z	500	30	3.6	2.8
16245	12	Z	500	31	3.3	2.4
16429	00	Z	500	30	6.4	5.2
16429	12	Z	500	30	3.7	3.1
16622	00	Z	500	31	10.6	10.2
16622	12	Z	500	0	0.0	0.0
16754	00	Z	500	29	5.5	3.9
17607	12	Z	500	28	9.0	-1.3
26435	12	Z	500	15	2.3	0.6
60018	00	Z	500	32	5.3	4.5
60018	12	Z	500	31	5.0	3.7

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	12	Z	500	9	8.2	0.0
7JUNA4	00	Z	500	12	8.6	2.9
ASDE09	12	Z	500	1	13.3	-13.3
ATGU3F	12	Z	500	8	27.4	-26.6
ATGU3F	00	Z	500	8	61.5	-46.8
JNKN7J	12	Z	500	12	38.6	38.4
JNKN7J	00	Z	500	10	37.0	36.8
KJJF9X	12	Z	500	7	9.9	-6.6
KJJF9X	00	Z	500	8	36.4	-20.7
KMPLHP	00	Z	500	4	59.6	58.5
LAGY8	00	Z	500	3	108.1	-104.0
LAGZ8	12	Z	500	1	70.0	70.0
LRYQE3	12	Z	500	12	9.7	-5.5
LRYQE3	00	Z	500	11	7.4	-4.9
UXK5JT	00	Z	500	4	9.7	-9.6
UXK5JT	12	Z	500	2	9.9	-9.2
XKQLWQ	12	Z	500	18	33.2	20.5
YLV96W	12	Z	500	13	6.2	-3.2
YLV96W	00	Z	500	9	8.6	-5.3
ZVQEQC	12	Z	500	21	4.3	3.3
ZVQEQC	00	Z	500	4	8.4	-0.7

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

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	500	30	2.2	0.3	0.1
01001	12	V	500	30	3.2	0.1	-0.3
01028	12	V	500	31	3.0	-0.4	-0.1
01028	00	V	500	30	2.4	-0.1	0.2
01400	00	V	500	28	2.6	0.4	0.0
01400	12	V	500	28	2.7	0.4	-0.1
01415	12	V	500	30	3.7	0.5	0.6
01415	00	V	500	29	2.5	-0.2	0.7
02365	12	V	500	28	2.5	0.6	0.6
02365	00	V	500	27	3.1	0.4	0.4
02591	12	V	500	30	2.4	0.4	0.0
02591	00	V	500	30	1.8	-0.2	-0.1
02836	00	V	500	30	2.3	-0.1	0.1
02836	12	V	500	31	2.9	0.3	-0.2
02963	12	V	500	31	2.4	-0.1	-0.3
02963	00	V	500	29	2.3	0.0	0.3
03005	12	V	500	30	2.9	-0.4	0.6
03005	00	V	500	25	2.8	0.5	-0.7
03238	00	V	500	30	2.5	0.3	-0.7
03238	12	V	500	1	0.7	-0.6	0.3
03808	00	V	500	30	3.0	-0.6	-0.2
03808	12	V	500	28	3.2	-0.8	0.3
03918	12	V	500	1	5.2	-1.8	4.9
03918	00	V	500	29	2.7	0.8	-0.1
03953	00	V	500	29	3.0	0.2	0.4
03953	12	V	500	31	3.3	-0.5	0.0
04018	12	V	500	31	2.4	0.3	-0.1
04018	00	V	500	28	2.5	-0.1	-0.4
04220	12	V	500	29	2.2	0.4	-0.2
04220	00	V	500	30	2.3	0.0	0.5
04270	00	V	500	29	2.3	0.1	-0.2
04270	12	V	500	31	3.1	-0.1	0.3
04320	00	V	500	30	2.8	0.1	0.1
04320	12	V	500	31	2.3	0.1	-0.2
04339	00	V	500	30	2.6	0.2	0.4
04339	12	V	500	30	2.6	-0.7	0.2
04360	12	V	500	15	2.8	0.8	0.2
04360	00	V	500	12	2.1	0.1	-0.7
06011	12	V	500	31	3.0	0.4	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	0.0	-0.2
06260	12	V	500	7	2.7	0.7	-0.5
06610	12	V	500	31	2.8	0.4	0.0
06610	00	V	500	29	2.3	0.1	0.0
07110	12	V	500	31	2.8	-0.2	0.0
07110	00	V	500	30	2.2	0.2	0.6
07510	12	V	500	31	2.9	-0.3	0.3
07510	00	V	500	29	2.4	-0.3	0.2
07645	12	V	500	30	2.3	0.4	-0.6
07645	00	V	500	30	2.4	0.1	0.2
07761	00	V	500	24	2.9	0.7	0.1
07761	12	V	500	24	2.3	0.3	-0.3
08001	12	V	500	31	2.6	0.6	0.4
08001	00	V	500	30	2.5	0.2	0.2
08221	00	V	500	29	2.6	0.5	-0.2
08221	12	V	500	31	2.7	0.5	-0.1
08302	00	V	500	24	2.2	0.0	-0.3
08302	12	V	500	25	2.1	0.2	0.0
08508	12	V	500	29	2.9	0.6	0.2
08522	12	V	500	31	2.2	0.3	-0.1
10035	00	V	500	30	1.7	0.3	0.0
10035	12	V	500	31	1.8	-0.3	0.3
10393	12	V	500	31	2.5	0.0	-0.5
10393	00	V	500	30	1.9	0.2	0.1
10410	12	V	500	31	2.4	-0.2	-0.3
10410	00	V	500	30	2.5	-0.6	0.0
10739	12	V	500	28	2.3	-0.2	-0.3
10739	00	V	500	27	2.4	0.2	0.1
11035	00	V	500	29	2.3	-0.2	-0.1
11035	12	V	500	31	1.6	0.3	-0.1
12982	00	V	500	30	2.0	-0.2	0.2
12982	12	V	500	31	2.1	0.4	0.1
16245	00	V	500	29	3.5	-0.4	-0.4
16245	12	V	500	31	2.5	0.1	0.2
16429	00	V	500	28	3.0	-0.5	-0.1
16429	12	V	500	30	3.0	0.7	-0.6
16622	00	V	500	30	1.7	-0.3	0.3
16622	12	V	500	0	0.0	0.0	0.0
16754	00	V	500	28	2.0	0.7	-0.6
17607	12	V	500	22	7.6	-1.1	-0.6
26435	12	V	500	15	1.7	-0.1	0.1
60018	00	V	500	30	1.8	0.1	0.4
60018	12	V	500	31	2.3	0.3	0.3

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	12	V	500	9	2.2	-0.5	0.4
7JUNA4	00	V	500	12	4.6	0.1	1.4
ASDE09	12	V	500	1	2.4	1.0	-2.2
ATGU3F	12	V	500	8	2.2	0.0	-1.0
ATGU3F	00	V	500	8	1.9	0.1	-1.1
JNKN7J	12	V	500	12	3.5	-0.4	0.0
JNKN7J	00	V	500	10	1.8	0.3	0.7
KJJF9X	12	V	500	7	2.8	0.2	0.8
KJJF9X	00	V	500	8	2.5	0.3	-0.6
KMPLHP	00	V	500	4	2.4	0.1	1.2
LAGY8	00	V	500	3	1.4	0.9	-0.4
LAGZ8	12	V	500	1	1.8	1.4	-1.2
LRYQE3	12	V	500	12	2.7	0.4	0.9
LRYQE3	00	V	500	11	3.1	-0.2	1.0
UXK5JT	00	V	500	4	2.3	-0.8	-0.7
UXK5JT	12	V	500	2	3.3	-2.1	-1.8
XKQLWQ	12	V	500	16	3.4	0.0	0.5
YLV96W	12	V	500	13	3.0	0.5	0.3
YLV96W	00	V	500	9	3.1	1.1	-0.1
ZVQEQC	12	V	500	21	2.5	1.0	-0.2
ZVQEQC	00	V	500	4	5.4	1.4	-1.5

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 2024
         STANDARD OF COMPARISON: FIRST-GUESS FIELD
```

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	850	30	5.9	5.3
01001	12	Z	850	31	8.7	4.2
01028	12	Z	850	31	4.2	-2.1
01028	00	Z	850	31	2.7	-1.3
01400	00	Z	850	29	77.1	76.9
01400	12	Z	850	28	77.5	77.4
01415	12	Z	850	30	4.5	3.4
01415	00	Z	850	31	4.4	3.6
02365	12	Z	850	28	5.6	4.0
02365	00	Z	850	28	6.1	2.9
02591	12	Z	850	30	7.6	7.3
02591	00	Z	850	31	7.7	7.4
02836	00	Z	850	31	2.0	0.7
02836	12	Z	850	31	2.1	0.6
02963	12	Z	850	31	2.9	2.2
02963	00	Z	850	31	3.5	3.1
03005	12	Z	850	30	3.1	-1.5
03005	00	Z	850	29	3.4	-2.0
03238	00	Z	850	31	2.7	1.7
03238	12	Z	850	1	3.4	3.4
03808	00	Z	850	31	3.2	2.1
03808	12	Z	850	28	3.8	2.4
03918	12	Z	850	1	7.4	7.4
03918	00	Z	850	31	6.9	6.5
03953	00	Z	850	30	3.0	-1.0
03953	12	Z	850	31	3.1	-0.7
04018	12	Z	850	31	2.2	-0.4
04018	00	Z	850	29	2.9	0.4
04220	12	Z	850	29	5.5	-4.5
04220	00	Z	850	30	4.4	-3.8
04270	00	Z	850	32	9.0	-8.1
04270	12	Z	850	31	8.3	-7.9
04320	00	Z	850	30	7.3	-4.8
04320	12	Z	850	31	15.9	-5.1
04339	00	Z	850	31	11.4	-10.6
04339	12	Z	850	30	11.4	-10.0
04360	12	Z	850	16	12.8	-12.3
04360	00	Z	850	13	12.8	-12.6
06011	12	Z	850	31	5.5	-4.1

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	850	29	2.1	0.5
06260	12	Z	850	9	1.9	0.9
06610	12	Z	850	32	3.0	2.0
06610	00	Z	850	30	2.5	1.9
07110	12	Z	850	32	2.9	-1.4
07110	00	Z	850	31	4.1	-2.6
07510	12	Z	850	34	16.0	5.5
07510	00	Z	850	31	3.2	1.7
07645	12	Z	850	32	7.1	-6.6
07645	00	Z	850	34	7.1	-6.2
07761	00	Z	850	29	7.4	-7.1
07761	12	Z	850	25	8.0	-7.5
08001	12	Z	850	31	3.8	2.0
08001	00	Z	850	31	3.3	0.7
08221	00	Z	850	30	2.5	1.8
08221	12	Z	850	31	3.6	3.0
08302	00	Z	850	25	7.0	-6.8
08302	12	Z	850	26	6.7	-6.5
08508	12	Z	850	30	14.9	2.3
08522	12	Z	850	31	3.8	3.3
10035	00	Z	850	31	12.6	12.3
10035	12	Z	850	32	12.9	12.7
10393	12	Z	850	31	2.5	-0.4
10393	00	Z	850	31	2.3	-0.4
10410	12	Z	850	35	1.9	0.2
10410	00	Z	850	33	2.0	-0.6
10739	12	Z	850	28	5.0	4.5
10739	00	Z	850	29	4.5	3.8
11035	00	Z	850	31	5.3	-2.2
11035	12	Z	850	31	11.6	1.5
12982	00	Z	850	31	1.8	0.9
12982	12	Z	850	31	2.1	0.4
16245	00	Z	850	31	4.4	3.7
16245	12	Z	850	31	3.1	2.1
16429	00	Z	850	30	5.0	3.8
16429	12	Z	850	30	3.1	2.4
16622	00	Z	850	31	10.5	9.9
16622	12	Z	850	0	0.0	0.0
16754	00	Z	850	29	4.5	2.3
17607	12	Z	850	28	1.5	0.0
26435	12	Z	850	15	0.9	-0.1
60018	00	Z	850	32	1.9	-0.7
60018	12	Z	850	31	2.4	0.2

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	12	Z	850	9	7.1	2.0
7JUNA4	00	Z	850	12	6.4	2.8
ASDE09	12	Z	850	1	11.3	-11.3
ATGU3F	12	Z	850	9	25.6	-23.2
ATGU3F	00	Z	850	10	29.7	-25.9
JNKN7J	12	Z	850	12	41.4	41.3
JNKN7J	00	Z	850	11	41.7	41.6
KJJF9X	12	Z	850	7	5.7	-3.7
KJJF9X	00	Z	850	8	35.3	8.5
KMPLHP	00	Z	850	4	62.9	61.6
LAGY8	00	Z	850	3	80.3	-80.3
LAGZ8	12	Z	850	1	76.2	76.2
LRYQE3	12	Z	850	13	9.6	-7.2
LRYQE3	00	Z	850	12	7.7	-4.8
UXK5JT	00	Z	850	4	9.8	-9.7
UXK5JT	12	Z	850	2	6.7	-6.6
XKQLWQ	12	Z	850	18	12.3	6.9
YLV96W	12	Z	850	13	6.0	-3.8
YLV96W	00	Z	850	9	6.2	-5.1
ZVQEQC	12	Z	850	21	2.9	1.6
ZVQEQC	00	Z	850	4	2.1	0.8

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 2024
         STANDARD OF COMPARISON: FIRST-GUESS FIELD
```

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	850	30	3.6	0.7	0.5
01001	12	V	850	30	4.0	-0.6	-0.4
01028	12	V	850	31	2.3	0.2	0.1
01028	00	V	850	30	2.5	-0.4	-0.1
01400	00	V	850	28	2.1	0.3	0.4
01400	12	V	850	28	2.1	0.2	-0.1
01415	12	V	850	30	2.8	-0.3	0.4
01415	00	V	850	29	2.9	0.1	0.5
02365	12	V	850	28	2.8	0.2	-0.5
02365	00	V	850	27	2.9	0.2	0.0
02591	12	V	850	30	2.3	0.3	0.0
02591	00	V	850	30	2.2	0.1	-0.1
02836	00	V	850	30	3.2	0.3	-0.3
02836	12	V	850	31	2.4	0.2	-0.8
02963	12	V	850	31	2.4	0.2	0.7
02963	00	V	850	29	2.1	-0.3	-0.9
03005	12	V	850	30	2.6	0.4	-0.7
03005	00	V	850	25	2.0	0.2	0.3
03238	00	V	850	30	2.7	-0.1	0.5
03238	12	V	850	1	2.0	1.9	0.5
03808	00	V	850	30	2.7	-0.3	-0.2
03808	12	V	850	28	2.2	0.1	0.0
03918	12	V	850	1	3.0	1.7	-2.5
03918	00	V	850	29	2.6	0.3	-0.4
03953	00	V	850	29	2.8	-0.3	0.2
03953	12	V	850	31	2.7	-0.3	0.0
04018	12	V	850	31	3.0	0.4	0.4
04018	00	V	850	28	3.0	-0.1	0.9
04220	12	V	850	29	3.0	1.1	-0.4
04220	00	V	850	30	2.8	0.1	0.0
04270	00	V	850	30	3.2	-0.1	0.2
04270	12	V	850	31	3.6	-0.4	-0.5
04320	00	V	850	30	3.8	-0.8	0.3
04320	12	V	850	31	3.3	-0.4	0.5
04339	00	V	850	30	4.0	0.6	1.2
04339	12	V	850	30	4.7	0.9	1.3
04360	12	V	850	15	4.7	1.9	0.7
04360	00	V	850	13	3.1	0.8	0.5
06011	12	V	850	31	3.3	-0.5	-1.0

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	850	27	2.2	-0.2	-0.3
06260	12	V	850	7	1.9	-0.6	0.2
06610	12	V	850	31	2.9	0.2	0.3
06610	00	V	850	29	2.5	-0.4	-0.6
07110	12	V	850	31	2.8	0.0	0.6
07110	00	V	850	30	2.5	-0.3	-0.1
07510	12	V	850	31	3.5	0.0	0.6
07510	00	V	850	29	2.3	0.8	0.0
07645	12	V	850	30	2.7	-0.6	0.3
07645	00	V	850	30	2.2	0.0	0.3
07761	00	V	850	27	2.8	-0.2	-0.3
07761	12	V	850	25	3.0	-0.3	-0.4
08001	12	V	850	31	2.7	0.2	0.7
08001	00	V	850	30	2.7	0.7	0.5
08221	00	V	850	29	3.0	0.7	0.8
08221	12	V	850	31	3.4	-0.4	0.0
08302	00	V	850	24	2.4	0.0	-0.9
08302	12	V	850	25	2.4	0.3	0.2
08508	12	V	850	30	3.2	-0.1	-0.3
08522	12	V	850	31	3.7	-0.1	-0.2
10035	00	V	850	30	2.2	-0.4	0.4
10035	12	V	850	31	1.8	0.2	0.0
10393	12	V	850	31	2.4	0.3	-0.5
10393	00	V	850	30	2.5	0.1	0.4
10410	12	V	850	31	2.1	0.1	-0.1
10410	00	V	850	30	2.6	0.4	-0.1
10739	12	V	850	28	2.4	-0.2	0.1
10739	00	V	850	27	2.8	0.2	-0.1
11035	00	V	850	29	3.1	0.4	-0.1
11035	12	V	850	31	3.0	0.9	0.4
12982	00	V	850	30	2.3	-0.6	0.0
12982	12	V	850	31	2.3	0.3	0.4
16245	00	V	850	30	3.0	0.7	-0.9
16245	12	V	850	31	3.0	0.8	-0.2
16429	00	V	850	29	3.2	0.0	-0.6
16429	12	V	850	30	2.7	0.0	0.4
16622	00	V	850	30	2.6	0.9	-0.5
16622	12	V	850	0	0.0	0.0	0.0
16754	00	V	850	28	2.3	-0.2	0.1
17607	12	V	850	28	2.9	1.4	0.5
26435	12	V	850	15	2.0	-0.1	0.7
60018	00	V	850	30	3.9	0.5	-0.3
60018	12	V	850	31	3.1	0.3	-0.3

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	12	V	850	9	2.4	-0.5	-0.8
7JUNA4	00	V	850	12	3.3	-0.6	0.0
ASDE09	12	V	850	1	3.4	3.2	1.0
ATGU3F	12	V	850	8	2.7	-0.5	0.1
ATGU3F	00	V	850	10	8.0	-2.3	-0.8
JNKN7J	12	V	850	12	2.9	0.8	0.5
JNKN7J	00	V	850	11	3.0	-0.5	0.1
KJJF9X	12	V	850	7	3.7	0.7	-0.9
KJJF9X	00	V	850	8	2.5	-0.5	-1.0
KMPLHP	00	V	850	4	1.8	0.7	0.2
LAGY8	00	V	850	3	3.0	0.7	2.6
LAGZ8	12	V	850	1	1.2	1.2	-0.2
LRYQE3	12	V	850	13	2.9	-0.1	1.1
LRYQE3	00	V	850	11	2.3	-0.8	0.3
UXK5JT	00	V	850	4	3.1	0.9	0.3
UXK5JT	12	V	850	2	2.5	-0.6	0.1
XKQLWQ	12	V	850	17	2.8	-0.6	0.0
YLV96W	12	V	850	13	4.1	-0.3	-0.2
YLV96W	00	V	850	9	2.4	0.2	0.3
ZVQEQC	12	V	850	21	3.2	-0.5	0.2
ZVQEQC	00	V	850	4	3.9	-0.2	-0.1

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 2024
         STANDARD OF COMPARISON: FIRST-GUESS FIELD


TIME = 99 => AVERAGE OF ALL OBSERVATIONS
GROSS ERROR LIMIT = 15 HPA
```

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
1000044	99	P	SUR	55	10	180	0	0.4	-3.3	3.4
1300001	99	P	SUR	11	-23	728	0	0.3	0.1	0.4
1300008	99	P	SUR	15	-38	504	0	0.5	0.1	0.5
1300130	99	P	SUR	28	-16	144	0	0.3	0.0	0.3
1300131	99	P	SUR	28	-17	738	0	0.4	-0.1	0.4
1301712	99	P	SUR	25	-63	744	0	0.3	-0.2	0.4
1301714	99	P	SUR	29	-64	744	0	0.3	0.0	0.3
1301718	99	P	SUR	31	-43	743	0	0.4	0.0	0.4
1301725	99	P	SUR	30	-48	744	0	0.4	-0.1	0.5
1301726	99	P	SUR	27	-52	744	0	0.4	-0.2	0.5
1301731	99	P	SUR	22	-51	743	0	0.4	0.1	0.4
1301735	99	P	SUR	23	-42	744	0	0.4	-1.2	1.3
1301736	99	P	SUR	32	-41	743	0	0.5	0.1	0.5
1301737	99	P	SUR	30	-58	744	0	0.4	-0.2	0.5
1301767	99	P	SUR	27	-25	742	0	0.3	-0.9	1.0
1301769	99	P	SUR	28	-30	744	0	0.2	0.2	0.3
1301770	99	P	SUR	28	-52	744	0	0.4	-0.1	0.4
1301771	99	P	SUR	26	-25	692	0	0.2	0.0	0.2
1301773	99	P	SUR	31	-18	743	0	0.2	0.0	0.2
1301778	99	P	SUR	23	-28	743	0	0.3	-0.1	0.3
1301782	99	P	SUR	58	-49	744	0	0.3	-0.1	0.3
1301784	99	P	SUR	37	-22	744	0	0.3	0.0	0.3
1301785	99	P	SUR	35	-19	737	0	0.3	0.1	0.3
1301786	99	P	SUR	35	-27	729	0	0.3	0.2	0.4
1301787	99	P	SUR	33	-14	738	0	0.3	-0.1	0.3
1301788	99	P	SUR	34	-13	733	0	0.3	0.1	0.3
1301793	99	P	SUR	63	-14	671	0	0.4	0.2	0.5
1301794	99	P	SUR	30	-18	678	0	0.3	0.2	0.4
1301797	99	P	SUR	19	-55	721	0	0.3	0.1	0.3
1301798	99	P	SUR	30	-41	744	0	0.4	0.3	0.5
1301799	99	P	SUR	29	-31	727	0	0.2	0.2	0.3
1301800	99	P	SUR	76	11	744	0	0.4	0.0	0.4
1301801	99	P	SUR	61	-9	744	0	0.4	0.4	0.6
1301802	99	P	SUR	67	12	741	0	0.4	-0.3	0.5
1301804	99	P	SUR	60	-22	743	0	0.5	-1.0	1.1
1301807	99	P	SUR	76	20	741	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
1301810	99	P	SUR	42	-44	744	0	0.6	-0.2	0.6
1301811	99	P	SUR	41	-41	743	0	0.4	0.1	0.4
1301812	99	P	SUR	44	-38	744	0	0.5	0.1	0.5
1301814	99	P	SUR	43	-25	743	0	0.4	0.0	0.4
1301816	99	P	SUR	43	-44	744	0	0.3	0.2	0.4
1301817	99	P	SUR	30	-63	744	0	0.4	0.0	0.4
1301818	99	P	SUR	33	-63	744	0	0.4	0.0	0.4
1301819	99	P	SUR	25	-26	744	0	0.4	0.0	0.4
1301820	99	P	SUR	31	-31	744	0	0.3	-0.1	0.3
1301822	99	P	SUR	22	-31	744	0	0.3	0.3	0.5
1301823	99	P	SUR	25	-30	744	0	0.3	0.1	0.3
1501638	99	P	SUR	16	-55	743	0	0.3	0.0	0.3
1701715	99	P	SUR	24	-58	692	0	0.3	-0.3	0.4
1701718	99	P	SUR	23	-68	654	654	0.0	0.0	0.0
1801556	99	P	SUR	33	-69	62	0	0.2	0.0	0.2
1801561	99	P	SUR	19	-67	3439	0	0.4	0.0	0.4
1801607	99	P	SUR	19	-66	3638	0	0.4	0.1	0.4
1801671	99	P	SUR	48	-30	741	0	0.4	-0.2	0.5
1801673	99	P	SUR	46	-43	733	6	3.8	0.9	4.0
1801674	99	P	SUR	39	-27	739	0	0.4	-1.5	1.6
1801676	99	P	SUR	47	-46	728	0	0.5	0.0	0.5
1801678	99	P	SUR	34	-16	743	0	0.3	0.4	0.5
1801777	99	P	SUR	42	-30	743	0	0.4	0.2	0.5
1801778	99	P	SUR	47	-42	744	0	0.4	0.3	0.5
1801853	99	P	SUR	53	-56	739	17	1.5	0.0	1.5
2801966	99	P	SUR	31	17	726	0	0.3	0.0	0.3
2801968	99	P	SUR	40	-49	738	0	0.5	0.1	0.5
2802008	99	P	SUR	65	-40	724	0	0.7	-0.4	0.8
2802063	99	P	SUR	88	40	744	0	0.4	-0.2	0.5
2802075	99	P	SUR	55	-8	689	0	0.4	-0.7	0.8
2802077	99	P	SUR	64	-60	650	110	2.0	-0.2	2.0
2802078	99	P	SUR	72	33	742	0	0.4	-0.3	0.5
2802100	99	P	SUR	66	-9	720	0	0.3	0.3	0.4
2802123	99	P	SUR	15	-21	527	0	0.3	0.1	0.3
2802124	99	P	SUR	17	-21	538	0	0.3	0.0	0.3
2802160	99	P	SUR	47	-53	744	0	0.5	0.4	0.6
3801569	99	P	SUR	47	-31	657	0	1.3	-1.6	2.1
3801596	99	P	SUR	36	-40	741	0	0.5	-0.2	0.5
3801616	99	P	SUR	66	-37	675	0	0.5	-0.1	0.5
3801676	99	P	SUR	69	-7	744	0	0.4	0.2	0.5
3801702	99	P	SUR	63	-41	743	0	0.5	-0.4	0.7
3801758	99	P	SUR	47	-54	268	0	0.3	0.3	0.4
4100040	99	P	SUR	15	-53	4459	0	0.3	-1.2	1.2

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
4100043	99	P	SUR	21	-65	4463	0	0.3	-0.1	0.3
4100044	99	P	SUR	22	-59	4462	0	0.4	-0.4	0.5
4100049	99	P	SUR	28	-62	4463	0	0.3	-0.5	0.6
4100052	99	P	SUR	18	-65	4294	0	0.4	-1.2	1.3
4100053	99	P	SUR	18	-66	4364	0	0.4	-0.8	0.8
4100056	99	P	SUR	18	-65	4333	0	0.4	-1.1	1.2
4100139	99	P	SUR	20	-38	558	0	0.3	0.1	0.3
4100300	99	P	SUR	16	-57	719	0	0.3	0.0	0.3
4101665	99	P	SUR	67	-7	744	0	0.3	-0.3	0.5
4101725	99	P	SUR	18	-63	742	0	0.3	-0.3	0.5
4101727	99	P	SUR	32	-63	744	0	0.5	0.0	0.5
4101728	99	P	SUR	31	-52	743	0	0.5	0.3	0.6
4101729	99	P	SUR	25	-56	744	0	0.8	-0.2	0.8
4101730	99	P	SUR	10	-37	744	0	0.4	0.0	0.4
4101753	99	P	SUR	32	-47	744	3	2.8	0.2	2.8
4101755	99	P	SUR	37	-61	743	0	0.8	0.2	0.8
4101845	99	P	SUR	73	13	744	0	0.4	0.0	0.4
4101851	99	P	SUR	28	-61	744	0	0.3	-1.2	1.2
4101859	99	P	SUR	17	-53	744	0	0.4	-0.1	0.4
4101861	99	P	SUR	24	-45	742	0	0.4	0.3	0.5
4101862	99	P	SUR	16	-46	743	0	0.4	-0.5	0.7
4101863	99	P	SUR	22	-38	743	0	0.3	0.0	0.3
4101870	99	P	SUR	19	-27	744	0	0.3	-0.2	0.3
4101873	99	P	SUR	25	-21	744	0	0.3	-0.1	0.3
4101875	99	P	SUR	23	-25	744	0	0.3	0.1	0.3
41040	99	P	SUR	15	-53	744	0	0.3	-1.2	1.2
41043	99	P	SUR	21	-65	744	0	0.4	-0.1	0.4
41044	99	P	SUR	22	-59	744	0	0.4	-0.4	0.6
41049	99	P	SUR	28	-62	744	0	0.3	-0.5	0.6
41052	99	P	SUR	18	-65	744	0	0.4	-1.2	1.2
41053	99	P	SUR	19	-66	744	0	0.4	-0.8	0.8
41056	99	P	SUR	18	-66	743	0	0.4	-1.1	1.2
4200060	99	P	SUR	16	-63	4463	0	0.3	-0.4	0.5
4200085	99	P	SUR	18	-67	4289	0	0.4	-0.8	0.9
42060	99	P	SUR	16	-63	744	0	0.4	-0.4	0.5
42085	99	P	SUR	18	-67	741	0	0.4	-0.8	0.9
4400008	99	P	SUR	40	-69	2522	0	0.4	-0.9	1.0
4400011	99	P	SUR	41	-67	4462	0	0.3	0.2	0.4
4400027	99	P	SUR	44	-67	4459	0	0.4	-0.7	0.8
4400032	99	P	SUR	44	-69	733	0	0.4	-0.1	0.4
4400033	99	P	SUR	44	-69	721	0	0.4	-1.3	1.4
4400034	99	P	SUR	44	-68	736	0	0.4	-0.4	0.5
4400488	99	P	SUR	45	-61	723	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
4400489	99	P	SUR	45	-61	743	0	0.4	0.1	0.4
44008	99	P	SUR	41	-69	420	0	0.5	-0.9	1.0
44011	99	P	SUR	41	-67	744	0	0.4	0.2	0.4
4401584	99	P	SUR	34	-63	744	0	0.4	0.0	0.4
4401588	99	P	SUR	69	15	656	0	0.4	0.0	0.4
4402618	99	P	SUR	39	-41	687	0	0.4	0.0	0.4
4402656	99	P	SUR	28	-37	744	0	0.4	-0.2	0.4
4402674	99	P	SUR	23	-63	744	0	0.3	0.1	0.3
4402675	99	P	SUR	31	-64	744	0	0.4	-0.1	0.4
4402676	99	P	SUR	30	-39	743	0	0.3	0.0	0.3
44027	99	P	SUR	44	-67	744	0	0.4	-0.7	0.8
4402721	99	P	SUR	19	-55	744	0	0.3	0.2	0.4
4402729	99	P	SUR	52	-18	744	0	0.5	0.0	0.5
4402730	99	P	SUR	34	-29	682	0	0.4	-0.1	0.4
4402731	99	P	SUR	44	-28	713	0	0.6	0.1	0.6
4402733	99	P	SUR	52	-30	741	0	0.4	0.0	0.4
4402736	99	P	SUR	27	-23	743	0	0.3	-0.1	0.3
4402737	99	P	SUR	54	-37	744	0	0.5	-0.3	0.6
4402739	99	P	SUR	43	-21	741	0	0.5	-0.1	0.5
4402743	99	P	SUR	29	-30	744	0	0.3	-1.0	1.1
4402744	99	P	SUR	32	-54	741	0	0.5	0.0	0.5
4402747	99	P	SUR	34	-31	744	0	0.3	0.0	0.3
4402749	99	P	SUR	61	-12	744	0	0.4	-0.1	0.4
4402750	99	P	SUR	53	-34	744	0	0.5	-0.5	0.7
4402882	99	P	SUR	38	-44	603	0	0.5	0.3	0.6
4402884	99	P	SUR	25	-65	720	0	0.3	0.3	0.4
4402885	99	P	SUR	25	-42	636	0	0.4	0.4	0.5
44032	99	P	SUR	44	-69	733	0	0.4	-0.1	0.4
44033	99	P	SUR	44	-69	721	0	0.4	-1.3	1.3
44034	99	P	SUR	44	-68	736	0	0.4	-0.4	0.6
4403568	99	P	SUR	32	-38	743	0	0.5	0.2	0.5
4403569	99	P	SUR	24	-22	40	0	0.4	-0.3	0.5
44078	99	P	SUR	60	-40	739	0	0.5	-0.9	1.0
44137	99	P	SUR	42	-62	741	0	0.5	-0.2	0.5
44139	99	P	SUR	44	-57	727	0	0.4	-0.2	0.5
44150	99	P	SUR	43	-64	237	0	0.3	-0.1	0.3
44258	99	P	SUR	45	-63	742	0	0.3	0.0	0.3
44488	99	P	SUR	45	-61	723	0	0.4	0.0	0.4
44489	99	P	SUR	46	-61	743	0	0.4	0.1	0.4
4601782	99	P	SUR	26	-47	744	0	0.5	0.4	0.7
4701529	99	P	SUR	86	33	744	0	0.4	-0.2	0.5
4701530	99	P	SUR	86	2	743	0	0.4	-0.4	0.6
4701555	99	P	SUR	64	-22	30	0	0.3	-6.0	6.0

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
4701558	99	P	SUR	79	-18	61	0	0.4	-4.4	4.5
4701561	99	P	SUR	66	-21	743	0	0.5	-0.1	0.5
4801771	99	P	SUR	55	-29	744	744	0.0	0.0	0.0
4802506	99	P	SUR	58	-8	740	0	0.5	-0.6	0.8
4802582	99	P	SUR	62	-38	744	44	4.5	0.4	4.5
4802594	99	P	SUR	82	-18	744	0	0.4	-0.5	0.7
4802608	99	P	SUR	84	-20	741	60	5.1	0.4	5.1
4802664	99	P	SUR	83	-57	744	0	0.4	-0.3	0.5
4802669	99	P	SUR	84	-10	676	0	0.4	-0.2	0.5
4803914	99	P	SUR	23	-53	1822	0	0.5	0.0	0.5
4803997	99	P	SUR	49	-46	726	0	0.5	-0.2	0.5
4804003	99	P	SUR	59	-54	726	0	0.4	-0.1	0.4
4804016	99	P	SUR	15	-46	714	0	0.4	0.0	0.4
4804120	99	P	SUR	63	-3	706	0	0.3	0.4	0.5
4804127	99	P	SUR	21	-19	563	0	0.4	0.2	0.5
4804128	99	P	SUR	39	12	299	0	0.4	0.1	0.4
4804130	99	P	SUR	14	-22	523	0	0.3	-0.3	0.5
4804174	99	P	SUR	47	-54	279	0	0.3	0.3	0.5
5801955	99	P	SUR	16	-67	3808	0	0.4	0.0	0.4
5801958	99	P	SUR	30	-66	1297	0	0.4	-0.1	0.4
5801972	99	P	SUR	42	-50	737	0	0.4	0.0	0.4
5801975	99	P	SUR	38	-33	713	0	0.5	0.1	0.5
5801976	99	P	SUR	49	-25	728	0	0.5	-0.2	0.5
5801977	99	P	SUR	17	-60	729	0	0.4	0.0	0.4
5801983	99	P	SUR	30	-19	592	0	0.3	0.1	0.3
5802034	99	P	SUR	49	-1	728	0	0.3	-0.6	0.7
5802070	99	P	SUR	75	26	743	0	0.4	-0.1	0.4
5802072	99	P	SUR	74	35	419	145	0.4	-0.2	0.4
5802086	99	P	SUR	86	-55	744	0	0.4	-0.3	0.5
5802095	99	P	SUR	62	-20	733	0	0.4	-0.3	0.5
5802096	99	P	SUR	65	-21	746	0	0.5	0.3	0.6
5802112	99	P	SUR	20	-20	562	0	0.4	0.3	0.5
5802115	99	P	SUR	39	18	325	0	0.3	0.1	0.4
5802118	99	P	SUR	18	-20	548	0	0.3	0.2	0.4
5802156	99	P	SUR	89	7	743	0	0.4	-0.2	0.5
6100001	99	P	SUR	43	8	722	0	0.4	-0.1	0.4
6100002	99	P	SUR	42	5	744	0	0.4	0.0	0.4
6100196	99	P	SUR	42	4	740	0	0.4	0.2	0.5
6100197	99	P	SUR	40	4	740	0	0.4	0.3	0.5
6100198	99	P	SUR	37	-2	740	0	0.5	0.5	0.7
6100280	99	P	SUR	41	1	740	0	0.5	0.2	0.5
6100281	99	P	SUR	40	0	740	0	0.6	0.0	0.6
6100417	99	P	SUR	38	0	740	0	0.4	0.4	0.6

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6100430	99	P	SUR	40	2	740	0	0.4	0.2	0.4
6101007	99	P	SUR	36	25	233	0	0.4	-0.5	0.7
6101009	99	P	SUR	35	25	213	0	0.4	-0.3	0.5
6101031	99	P	SUR	42	8	519	0	0.3	0.0	0.3
6101032	99	P	SUR	42	10	2776	14	0.5	-0.1	0.5
6200001	99	P	SUR	45	-5	741	0	0.4	-0.1	0.4
6200024	99	P	SUR	44	-3	657	0	0.5	0.2	0.5
6200025	99	P	SUR	44	-6	740	0	0.5	0.3	0.5
6200050	99	P	SUR	50	-4	744	0	0.4	0.0	0.4
6200083	99	P	SUR	43	-9	740	0	0.5	0.1	0.5
6200084	99	P	SUR	42	-9	740	0	0.5	0.0	0.5
6200085	99	P	SUR	36	-7	738	0	0.4	0.2	0.5
6200086	99	P	SUR	55	7	14	0	0.5	-0.5	0.7
6200087	99	P	SUR	55	7	71	0	0.4	-0.6	0.7
6200091	99	P	SUR	53	-5	744	0	0.4	-0.1	0.4
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	-0.2	0.4
6200095	99	P	SUR	53	-16	744	0	0.5	-0.3	0.6
6200103	99	P	SUR	50	-3	742	0	0.3	0.0	0.3
6200163	99	P	SUR	47	-8	742	0	0.3	-0.2	0.4
6200191	99	P	SUR	41	-10	369	0	0.5	-0.6	0.8
6200192	99	P	SUR	40	-10	368	0	0.6	-0.6	0.8
6200442	99	P	SUR	49	-16	744	0	0.4	-0.3	0.5
6201066	99	P	SUR	55	7	736	0	0.3	0.3	0.4
6201081	99	P	SUR	38	-9	369	0	0.3	-0.3	0.5
6202114	99	P	SUR	54	6	65	0	0.3	-0.1	0.3
6202598	99	P	SUR	30	-23	744	0	0.2	0.0	0.2
6202637	99	P	SUR	68	39	648	0	0.3	0.0	0.3
62030	99	P	SUR	50	-4	1415	0	0.3	-0.1	0.3
6203607	99	P	SUR	25	-49	744	0	1.0	-0.4	1.1
6203612	99	P	SUR	47	-28	744	28	1.6	0.0	1.6
6203615	99	P	SUR	38	-52	744	1	1.8	-0.5	1.9
6203621	99	P	SUR	26	-64	741	0	2.2	-0.2	2.2
6203625	99	P	SUR	30	-51	744	4	2.8	-0.1	2.8
6203632	99	P	SUR	37	-50	744	0	1.1	0.1	1.1
6203634	99	P	SUR	28	-47	744	69	2.8	-0.6	2.9
6203639	99	P	SUR	28	-43	744	0	2.6	0.4	2.6
6203651	99	P	SUR	32	-18	731	0	0.2	0.0	0.2
6203656	99	P	SUR	63	-36	744	0	0.5	-0.2	0.6
6203663	99	P	SUR	83	33	744	0	0.4	-0.3	0.5
6203664	99	P	SUR	73	-5	591	48	3.1	-0.6	3.2
6203668	99	P	SUR	82	26	744	10	3.2	-1.3	3.5

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6203669	99	P	SUR	80	16	744	0	0.5	-0.2	0.5
6203753	99	P	SUR	53	-34	744	0	0.5	-0.5	0.7
6203768	99	P	SUR	31	-46	506	0	0.4	0.1	0.4
6203771	99	P	SUR	26	-53	744	0	0.4	-0.2	0.4
6203772	99	P	SUR	37	-62	744	0	0.4	0.0	0.4
6203773	99	P	SUR	35	-34	744	0	0.3	-0.6	0.7
6203823	99	P	SUR	63	2	744	0	0.4	0.3	0.5
6203825	99	P	SUR	72	12	740	0	0.4	0.1	0.4
6203830	99	P	SUR	61	-9	741	0	0.4	-0.1	0.4
6203832	99	P	SUR	62	-15	743	0	0.4	0.2	0.5
6203839	99	P	SUR	32	-51	744	0	0.4	-0.3	0.5
6203842	99	P	SUR	26	-51	744	0	0.4	0.0	0.4
6203846	99	P	SUR	28	-42	744	0	0.4	-0.2	0.4
6203849	99	P	SUR	38	-59	744	0	0.5	0.0	0.5
6203853	99	P	SUR	74	35	744	0	0.4	0.1	0.4
6203854	99	P	SUR	55	-28	740	0	0.4	0.1	0.4
6203865	99	P	SUR	47	-5	741	0	0.4	0.0	0.4
6203890	99	P	SUR	12	-46	744	0	0.4	-0.4	0.5
6203894	99	P	SUR	22	-33	744	0	0.3	0.2	0.3
6204603	99	P	SUR	43	4	657	0	0.4	0.5	0.6
6204604	99	P	SUR	37	11	554	0	0.4	-2.2	2.2
6204612	99	P	SUR	36	11	30	0	0.5	0.0	0.5
6204613	99	P	SUR	41	3	741	0	0.4	-0.4	0.5
62050	99	P	SUR	50	-4	1487	0	0.4	0.0	0.4
62091	99	P	SUR	53	-5	744	0	0.4	-0.1	0.4
62092	99	P	SUR	51	-11	744	0	0.4	-0.2	0.5
62093	99	P	SUR	55	-10	744	0	0.4	-0.2	0.5
62094	99	P	SUR	52	-7	744	0	0.4	-0.2	0.4
62095	99	P	SUR	53	-16	744	0	0.5	-0.3	0.6
62102	99	P	SUR	58	2	1285	0	0.6	0.2	0.6
62103	99	P	SUR	50	-3	1480	0	0.3	0.0	0.3
62104	99	P	SUR	57	1	1487	0	0.4	0.0	0.4
62105	99	P	SUR	55	-13	1487	0	0.6	-0.2	0.6
62107	99	P	SUR	50	-6	1487	0	0.4	-0.4	0.6
62112	99	P	SUR	58	0	1487	0	0.4	0.2	0.4
62113	99	P	SUR	58	0	1487	0	0.6	0.2	0.6
62114	99	P	SUR	58	0	1488	0	0.5	0.2	0.5
62115	99	P	SUR	58	-3	1487	0	0.4	0.0	0.4
62116	99	P	SUR	58	1	1485	0	0.6	0.1	0.6
62118	99	P	SUR	58	1	1487	0	0.4	0.3	0.5
62119	99	P	SUR	57	2	1454	0	0.4	0.1	0.4
62120	99	P	SUR	56	2	1457	0	0.5	-0.1	0.5
62121	99	P	SUR	54	3	1488	0	0.4	0.4	0.6

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
62122	99	P	SUR	57	2	1487	0	0.4	0.2	0.4
62124	99	P	SUR	54	-4	1481	0	0.4	0.1	0.4
62127	99	P	SUR	54	1	1196	0	0.3	0.3	0.4
62129	99	P	SUR	58	0	1487	0	0.5	0.3	0.6
62130	99	P	SUR	59	1	1487	0	0.4	-0.1	0.5
62131	99	P	SUR	54	1	1488	0	0.4	0.6	0.7
62132	99	P	SUR	56	2	1483	0	0.5	0.4	0.7
62133	99	P	SUR	57	1	1488	0	0.6	0.3	0.6
62134	99	P	SUR	58	1	1381	0	0.3	0.2	0.4
62135	99	P	SUR	54	2	14	0	0.1	0.5	0.5
62138	99	P	SUR	54	0	1484	0	0.4	0.5	0.7
62140	99	P	SUR	57	1	1487	0	0.4	0.1	0.4
62143	99	P	SUR	58	2	1487	0	0.4	0.5	0.7
62144	99	P	SUR	53	2	1488	0	0.3	0.2	0.4
62145	99	P	SUR	53	3	1488	0	0.3	0.2	0.4
62146	99	P	SUR	57	2	1487	0	0.4	0.2	0.5
62148	99	P	SUR	54	2	1218	4	0.3	0.5	0.6
62149	99	P	SUR	54	1	1488	0	0.3	0.4	0.5
62151	99	P	SUR	57	2	1487	0	0.3	0.3	0.4
62152	99	P	SUR	57	2	1486	0	0.4	0.5	0.6
62153	99	P	SUR	57	2	1447	0	0.4	0.3	0.5
62154	99	P	SUR	56	2	1487	0	0.3	0.1	0.4
62155	99	P	SUR	58	1	1129	0	0.3	0.5	0.6
62157	99	P	SUR	58	0	1487	0	0.4	-0.2	0.5
62160	99	P	SUR	57	2	1487	0	0.4	0.3	0.5
62161	99	P	SUR	58	1	1487	0	0.6	-0.1	0.6
62162	99	P	SUR	57	1	1459	0	0.4	0.1	0.4
62163	99	P	SUR	48	-9	1481	0	0.4	-0.2	0.4
62164	99	P	SUR	57	1	1488	0	0.3	0.2	0.4
62165	99	P	SUR	54	1	1178	0	0.4	0.3	0.5
62168	99	P	SUR	58	1	1487	0	0.4	0.1	0.4
62170	99	P	SUR	51	2	1487	0	0.3	-0.1	0.3
62297	99	P	SUR	59	2	1487	0	0.4	0.1	0.4
62302	99	P	SUR	61	-2	1487	0	0.6	0.1	0.6
62304	99	P	SUR	51	2	1485	0	0.4	-0.1	0.4
62305	99	P	SUR	50	0	1488	0	0.3	-0.3	0.5
62442	99	P	SUR	49	-16	1487	0	0.4	-0.2	0.5
6301001	99	P	SUR	64	5	742	0	0.4	0.0	0.4
6301004	99	P	SUR	72	20	590	0	0.5	-0.4	0.6
6301582	99	P	SUR	76	2	744	27	3.9	-1.1	4.1
63055	99	P	SUR	61	2	1488	0	0.5	0.1	0.5
63056	99	P	SUR	60	2	1488	0	0.8	0.6	1.0
63057	99	P	SUR	59	2	1475	0	0.5	-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
63058	99	P	SUR	53	2	953	0	0.3	0.0	0.3
63059	99	P	SUR	58	-1	1487	0	0.4	0.4	0.6
63102	99	P	SUR	61	1	1488	0	0.5	0.0	0.5
63103	99	P	SUR	61	1	1486	0	0.8	0.5	1.0
63108	99	P	SUR	61	2	1488	0	0.6	0.0	0.6
63109	99	P	SUR	60	2	1487	0	0.4	-0.4	0.6
63110	99	P	SUR	60	2	1487	0	0.5	-0.1	0.6
63111	99	P	SUR	61	2	1488	0	0.5	-0.4	0.6
63112	99	P	SUR	61	1	1485	0	0.4	-0.3	0.5
63115	99	P	SUR	62	1	1488	0	0.5	0.1	0.5
63118	99	P	SUR	58	0	1127	0	0.4	-0.4	0.6
6400045	99	P	SUR	59	-12	742	0	0.4	-0.4	0.6
6401583	99	P	SUR	62	-15	743	0	0.5	0.0	0.5
6401584	99	P	SUR	62	-7	345	0	0.4	0.2	0.4
6401603	99	P	SUR	76	11	487	4	2.6	-0.5	2.6
6401759	99	P	SUR	63	-20	744	0	0.5	-0.3	0.6
6401763	99	P	SUR	66	12	743	0	0.4	0.0	0.4
6402596	99	P	SUR	58	-47	1	0	0.0	-10.8	10.8
6402616	99	P	SUR	26	-49	744	0	0.5	-0.2	0.5
6402617	99	P	SUR	31	-58	744	0	0.4	0.1	0.4
6402618	99	P	SUR	21	-49	744	0	0.4	-0.2	0.5
6402619	99	P	SUR	22	-51	744	0	0.4	-0.1	0.4
6402621	99	P	SUR	28	-26	744	0	0.2	0.3	0.4
6402622	99	P	SUR	24	-33	744	0	0.3	0.1	0.3
64041	99	P	SUR	61	-3	1487	0	0.5	0.0	0.5
64045	99	P	SUR	59	-12	1485	0	0.5	-0.4	0.6
6600021	99	P	SUR	55	14	61	0	0.3	-1.0	1.1
6600022	99	P	SUR	54	14	142	0	0.4	-0.4	0.5
6600024	99	P	SUR	55	13	172	0	0.3	-1.2	1.3
6801771	99	P	SUR	46	-46	734	0	0.5	-0.1	0.5
6801790	99	P	SUR	37	-21	727	0	0.3	-0.1	0.3
6801791	99	P	SUR	31	-34	743	0	0.3	0.3	0.4
6801879	99	P	SUR	10	-32	744	0	0.8	-0.1	0.8
6801900	99	P	SUR	87	-60	742	0	0.4	-0.1	0.4
6801907	99	P	SUR	67	-13	734	0	0.4	0.1	0.4
6801922	99	P	SUR	18	-20	542	0	0.3	0.0	0.3
6801928	99	P	SUR	38	5	273	0	0.4	-0.1	0.4
6801929	99	P	SUR	16	-21	531	0	0.3	0.1	0.3
6801974	99	P	SUR	48	-53	41	9	1.6	0.6	1.7
7801572	99	P	SUR	21	-55	733	0	0.3	-0.1	0.3
7801588	99	P	SUR	30	-22	646	0	0.2	0.2	0.3
7801697	99	P	SUR	42	-32	742	0	0.4	-0.2	0.5
7801699	99	P	SUR	35	-59	744	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
7801742	99	P	SUR	21	-19	556	0	0.4	0.1	0.4
7801755	99	P	SUR	23	-19	578	0	0.4	0.0	0.4
7810290	99	P	SUR	34	-69	743	0	0.4	-0.1	0.4
7810292	99	P	SUR	40	-34	743	0	0.4	0.1	0.4
7810293	99	P	SUR	40	-56	743	0	0.5	0.2	0.6
7810294	99	P	SUR	36	-70	745	0	0.6	-0.1	0.6
7810295	99	P	SUR	44	-40	747	0	0.5	-0.2	0.5
7810297	99	P	SUR	37	-45	743	0	0.6	0.1	0.6
7810298	99	P	SUR	38	-55	744	0	0.5	0.0	0.5
7810299	99	P	SUR	42	-44	607	0	0.6	0.0	0.6
7810310	99	P	SUR	40	-38	724	0	0.5	-0.1	0.5
7810313	99	P	SUR	43	-62	717	0	0.3	0.3	0.5
7810314	99	P	SUR	41	-65	745	0	0.4	0.0	0.4
7810315	99	P	SUR	43	-31	746	0	0.4	-0.1	0.4
7810316	99	P	SUR	40	-32	742	0	0.4	0.0	0.4
7810317	99	P	SUR	39	-34	746	0	0.4	0.0	0.4
7810318	99	P	SUR	35	-54	744	0	0.5	0.2	0.5
7810319	99	P	SUR	45	-37	744	0	0.4	0.0	0.4
7810320	99	P	SUR	39	-59	743	0	0.4	0.1	0.4
7810321	99	P	SUR	37	-41	745	0	0.4	0.2	0.5
7810322	99	P	SUR	24	-67	732	0	0.4	0.3	0.5
7810323	99	P	SUR	29	-62	727	0	0.3	0.2	0.4
7810324	99	P	SUR	32	-63	728	0	0.4	0.0	0.4
7810325	99	P	SUR	32	-64	744	0	0.4	0.0	0.4
7810379	99	P	SUR	40	-57	746	0	0.6	0.2	0.6
7810380	99	P	SUR	35	-61	745	0	0.5	0.4	0.6
7811002	99	P	SUR	52	-56	744	0	0.4	0.3	0.5

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

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


TIME = 99 => AVERAGE OF ALL OBSERVATIONS


GROSS ERROR LIMIT FOR VECTOR WIND = 25 M/S
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WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
1000044	99	SPEED	SUR	55	10	181	0	0	1.4	1.5	2.0
1300001	99	SPEED	SUR	11	-23	728	0	0	1.2	0.7	1.4
1300008	99	SPEED	SUR	15	-38	504	0	0	1.0	-0.3	1.1
1300130	99	SPEED	SUR	28	-16	144	0	0	1.1	-0.3	1.1
1300131	99	SPEED	SUR	28	-17	719	0	0	2.2	1.8	2.8
1801561	99	SPEED	SUR	19	-67	3439	0	0	1.2	0.6	1.3
1801607	99	SPEED	SUR	19	-66	3638	0	0	1.2	0.3	1.2
4100040	99	SPEED	SUR	15	-53	4462	0	0	1.1	0.0	1.1
4100043	99	SPEED	SUR	21	-65	4460	0	0	1.1	0.1	1.1
4100044	99	SPEED	SUR	22	-59	4462	0	0	1.3	0.0	1.3
4100049	99	SPEED	SUR	28	-62	4461	0	0	1.2	0.0	1.2
4100052	99	SPEED	SUR	18	-65	4294	0	0	1.2	0.1	1.2
4100053	99	SPEED	SUR	18	-66	4364	0	0	1.6	0.2	1.6
4100056	99	SPEED	SUR	18	-65	4333	0	0	1.4	0.0	1.4
4100139	99	SPEED	SUR	20	-38	489	0	0	0.9	0.1	0.9
4100300	99	SPEED	SUR	16	-57	710	0	0	0.9	-0.3	1.0
41040	99	SPEED	SUR	15	-53	744	0	0	1.1	0.0	1.1
41043	99	SPEED	SUR	21	-65	744	0	0	1.1	0.1	1.1
41044	99	SPEED	SUR	22	-59	744	0	0	1.4	0.0	1.4
41049	99	SPEED	SUR	28	-62	744	0	0	1.2	0.1	1.2
41052	99	SPEED	SUR	18	-65	744	0	0	1.2	0.2	1.2
41053	99	SPEED	SUR	19	-66	744	0	0	1.7	-0.2	1.7
41056	99	SPEED	SUR	18	-66	743	0	0	1.4	0.1	1.4
4200060	99	SPEED	SUR	16	-63	4462	0	0	1.1	0.2	1.1
4200085	99	SPEED	SUR	18	-67	4298	0	0	1.4	0.0	1.4
42060	99	SPEED	SUR	16	-63	743	0	0	1.2	0.2	1.2
42085	99	SPEED	SUR	18	-67	742	0	0	1.5	0.3	1.5
4400008	99	SPEED	SUR	40	-69	2519	1	0	1.3	0.0	1.3
4400011	99	SPEED	SUR	41	-67	4461	0	0	1.2	0.0	1.2
4400027	99	SPEED	SUR	44	-67	4457	0	0	1.2	0.0	1.2
4400032	99	SPEED	SUR	44	-69	733	0	0	1.4	0.2	1.4
4400033	99	SPEED	SUR	44	-69	722	0	0	1.4	0.2	1.5
4400034	99	SPEED	SUR	44	-68	736	0	0	1.4	0.1	1.4
4400488	99	SPEED	SUR	45	-61	723	0	0	1.5	0.8	1.7

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
4400489	99	SPEED	SUR	45	-61	743	0	0	1.5	1.3	2.0
44008	99	SPEED	SUR	41	-69	420	0	0	1.4	0.0	1.4
44011	99	SPEED	SUR	41	-67	744	0	0	1.2	0.0	1.2
44027	99	SPEED	SUR	44	-67	744	0	0	1.3	0.1	1.3
44032	99	SPEED	SUR	44	-69	733	0	0	1.4	0.2	1.4
44033	99	SPEED	SUR	44	-69	722	0	0	1.5	0.5	1.5
44034	99	SPEED	SUR	44	-68	736	0	0	1.4	0.1	1.5
44078	99	SPEED	SUR	60	-40	739	16	0	1.6	-1.3	2.1
44137	99	SPEED	SUR	42	-62	741	0	0	1.3	0.2	1.3
44139	99	SPEED	SUR	44	-57	727	0	0	1.1	0.2	1.1
44150	99	SPEED	SUR	43	-64	237	6	3	1.4	0.6	1.6
44258	99	SPEED	SUR	45	-63	742	0	0	1.4	0.2	1.4
44488	99	SPEED	SUR	45	-61	723	0	0	1.6	1.3	2.0
44489	99	SPEED	SUR	46	-61	743	0	0	1.6	1.5	2.2
4803914	99	SPEED	SUR	23	-53	1262	0	0	1.1	0.5	1.2
5801955	99	SPEED	SUR	16	-67	3808	0	0	1.1	0.4	1.2
5801958	99	SPEED	SUR	30	-66	1297	0	0	1.2	0.9	1.5
6100001	99	SPEED	SUR	43	8	719	0	0	1.6	-0.1	1.6
6100002	99	SPEED	SUR	42	5	744	0	0	1.3	-0.3	1.3
6100196	99	SPEED	SUR	42	4	722	0	0	1.5	-0.8	1.7
6100197	99	SPEED	SUR	40	4	731	0	0	1.5	-0.6	1.6
6100198	99	SPEED	SUR	37	-2	703	0	0	1.6	-0.7	1.7
6100280	99	SPEED	SUR	41	1	730	0	0	1.7	-0.5	1.7
6100281	99	SPEED	SUR	40	0	732	0	0	2.1	0.3	2.2
6100417	99	SPEED	SUR	38	0	734	0	0	1.3	-0.3	1.3
6100430	99	SPEED	SUR	40	2	731	0	0	1.6	-0.6	1.7
6101007	99	SPEED	SUR	36	25	233	0	0	1.3	-0.5	1.4
6101009	99	SPEED	SUR	35	25	213	0	0	1.5	0.9	1.7
6101031	99	SPEED	SUR	42	8	2787	0	0	1.5	0.0	1.5
6101032	99	SPEED	SUR	42	10	2788	0	0	1.7	-0.5	1.8
6200001	99	SPEED	SUR	45	-5	737	0	0	1.1	-0.4	1.2
6200024	99	SPEED	SUR	44	-3	641	0	0	1.6	-0.6	1.7
6200025	99	SPEED	SUR	44	-6	726	0	0	1.5	-0.8	1.7
6200050	99	SPEED	SUR	50	-4	743	0	0	1.1	-0.2	1.1
6200083	99	SPEED	SUR	43	-9	733	0	0	1.2	-0.5	1.3
6200084	99	SPEED	SUR	42	-9	733	0	0	1.3	-1.0	1.7
6200085	99	SPEED	SUR	36	-7	734	0	0	1.4	-0.2	1.4
6200086	99	SPEED	SUR	55	7	14	0	0	2.0	2.5	3.2
6200087	99	SPEED	SUR	55	7	71	0	0	1.4	1.0	1.7
6200091	99	SPEED	SUR	53	-5	744	0	0	1.1	0.4	1.2
6200092	99	SPEED	SUR	51	-11	744	0	0	1.2	0.5	1.3

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
6200093	99	SPEED	SUR	55	-10	744	0	0	1.2	-0.3	1.3
6200094	99	SPEED	SUR	52	-7	744	0	0	1.3	-1.1	1.7
6200095	99	SPEED	SUR	53	-16	744	0	0	1.2	0.2	1.2
6200103	99	SPEED	SUR	50	-3	742	0	0	1.1	-0.2	1.1
6200163	99	SPEED	SUR	47	-8	742	0	0	1.1	0.2	1.1
6200442	99	SPEED	SUR	49	-16	743	0	0	1.2	-0.3	1.2
6201066	99	SPEED	SUR	55	7	736	0	0	1.5	0.3	1.5
6202114	99	SPEED	SUR	54	6	65	0	0	1.1	0.0	1.1
62030	99	SPEED	SUR	50	-4	1415	0	0	1.3	1.3	1.8
62050	99	SPEED	SUR	50	-4	1485	0	0	1.0	0.5	1.1
62091	99	SPEED	SUR	53	-5	744	0	0	1.2	0.7	1.4
62092	99	SPEED	SUR	51	-11	744	0	0	1.3	0.5	1.4
62093	99	SPEED	SUR	55	-10	744	0	0	1.3	-0.3	1.3
62094	99	SPEED	SUR	52	-7	744	0	0	1.4	-1.0	1.7
62095	99	SPEED	SUR	53	-16	744	0	0	1.2	0.3	1.3
62102	99	SPEED	SUR	58	2	1283	0	0	1.3	0.1	1.3
62103	99	SPEED	SUR	50	-3	1480	0	0	1.1	-0.3	1.2
62104	99	SPEED	SUR	57	1	1487	0	0	1.2	-0.2	1.2
62105	99	SPEED	SUR	55	-13	1487	0	0	1.2	0.6	1.3
62107	99	SPEED	SUR	50	-6	1487	0	0	1.3	0.1	1.3
62112	99	SPEED	SUR	58	0	1449	0	0	1.5	0.0	1.5
62113	99	SPEED	SUR	58	0	8	0	0	0.9	-1.7	1.9
62114	99	SPEED	SUR	58	0	1488	0	0	1.6	1.0	1.9
62118	99	SPEED	SUR	58	1	1487	0	0	1.3	0.7	1.5
62119	99	SPEED	SUR	57	2	258	0	0	1.8	-2.0	2.7
62120	99	SPEED	SUR	56	2	1455	0	0	1.4	-0.9	1.6
62121	99	SPEED	SUR	54	3	1488	0	0	1.4	-0.7	1.6
62122	99	SPEED	SUR	57	2	1487	0	0	1.1	-0.3	1.1
62129	99	SPEED	SUR	58	0	1487	0	0	1.6	0.6	1.7
62133	99	SPEED	SUR	57	1	1486	0	0	1.5	0.3	1.5
62134	99	SPEED	SUR	58	1	1381	0	0	1.2	-1.4	1.9
62140	99	SPEED	SUR	57	1	740	0	0	1.0	0.0	1.0
62143	99	SPEED	SUR	58	2	1487	0	0	1.8	-0.6	1.9
62144	99	SPEED	SUR	53	2	1486	0	0	2.3	-1.2	2.5
62145	99	SPEED	SUR	53	3	1476	0	0	1.4	-0.1	1.5
62146	99	SPEED	SUR	57	2	1469	0	0	1.4	-0.2	1.4
62148	99	SPEED	SUR	54	2	1218	0	0	1.4	-0.5	1.5
62149	99	SPEED	SUR	54	1	1488	0	0	1.2	0.2	1.2
62152	99	SPEED	SUR	57	2	1230	0	0	1.6	-1.0	1.9
62154	99	SPEED	SUR	56	2	1487	0	0	1.3	0.2	1.3
62155	99	SPEED	SUR	58	1	1127	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
62163	99	SPEED	SUR	48	-9	1481	0	0	1.1	0.6	1.2
62164	99	SPEED	SUR	57	1	1488	0	0	1.6	-1.3	2.1
62165	99	SPEED	SUR	54	1	1416	0	0	1.8	-0.6	1.9
62170	99	SPEED	SUR	51	2	1487	0	0	1.4	0.6	1.5
62304	99	SPEED	SUR	51	2	1483	0	0	1.4	0.6	1.6
62442	99	SPEED	SUR	49	-16	1485	0	0	1.1	0.5	1.2
6301001	99	SPEED	SUR	64	5	742	0	0	1.8	-0.4	1.8
6301004	99	SPEED	SUR	72	20	590	0	0	1.4	-0.8	1.6
63055	99	SPEED	SUR	61	2	1018	0	0	1.7	-2.1	2.7
63056	99	SPEED	SUR	60	2	1488	0	0	1.6	0.6	1.7
63057	99	SPEED	SUR	59	2	1475	0	0	2.5	-0.8	2.6
63058	99	SPEED	SUR	53	2	940	0	0	1.3	-0.5	1.4
63103	99	SPEED	SUR	61	1	1486	0	0	1.7	0.3	1.7
63108	99	SPEED	SUR	61	2	1488	0	0	1.7	0.2	1.8
63109	99	SPEED	SUR	60	2	1487	0	0	1.5	0.5	1.6
63110	99	SPEED	SUR	60	2	1487	0	0	1.7	-0.2	1.7
63112	99	SPEED	SUR	61	1	1485	0	0	1.3	-0.2	1.3
63115	99	SPEED	SUR	62	1	1488	0	0	1.5	-0.3	1.6
64041	99	SPEED	SUR	61	-3	853	0	0	1.2	-0.4	1.3
6600021	99	SPEED	SUR	55	14	61	0	0	1.2	0.5	1.3
6600022	99	SPEED	SUR	54	14	142	0	0	1.5	-0.1	1.5
6600024	99	SPEED	SUR	55	13	172	0	0	1.1	0.9	1.4

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

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DRIFTER MONITORING STATISTICS (EUCOS)
         MONITORING CENTRE     : ECMWF
         ELEMENT MONITORED     : WIND DIRECTION (DEGREES)
         AREA                  : 10N - 90N, 70W - 40E
         PERIOD                : OCT 2024
         STANDARD OF COMPARISON: FIRST-GUESS FIELD
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```
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	485	0	0	20.0	9.1	22.0
1300008	99	DIRN	SUR	15	-38	465	0	0	12.3	3.5	12.8
1300130	99	DIRN	SUR	28	-16	92	0	2	51.3	-46.0	68.8
1300131	99	DIRN	SUR	28	-17	321	0	1	11.6	8.3	14.3
1801561	99	DIRN	SUR	19	-67	2356	0	1	19.7	2.9	19.9
1801562	99	DIRN	SUR	32	-75	2193	0	0	17.1	-1.4	17.1
1801577	99	DIRN	SUR	29	-85	2340	0	0	13.4	3.0	13.8
1801607	99	DIRN	SUR	19	-66	2527	0	0	18.4	0.7	18.4
4100002	99	DIRN	SUR	32	-75	3790	0	0	14.9	1.4	14.9
4100004	99	DIRN	SUR	33	-79	3999	0	0	11.9	8.5	14.6
4100008	99	DIRN	SUR	31	-81	3573	0	0	13.8	10.7	17.5
4100009	99	DIRN	SUR	29	-80	3689	0	0	17.9	2.5	18.1
4100010	99	DIRN	SUR	29	-78	3863	0	0	14.1	3.5	14.6
4100013	99	DIRN	SUR	33	-78	3909	0	0	11.9	6.4	13.5
4100024	99	DIRN	SUR	34	-78	524	0	0	14.0	2.6	14.3
4100025	99	DIRN	SUR	35	-75	3918	0	1	11.9	5.9	13.2
4100029	99	DIRN	SUR	33	-80	591	0	0	15.6	-10.9	19.0
4100033	99	DIRN	SUR	32	-80	597	0	0	15.8	1.2	15.8
4100037	99	DIRN	SUR	34	-77	632	0	0	17.7	-6.7	18.9
4100038	99	DIRN	SUR	34	-78	594	0	0	14.4	-1.1	14.4
4100040	99	DIRN	SUR	15	-53	3318	0	0	12.7	4.5	13.5
4100043	99	DIRN	SUR	21	-65	3311	0	0	13.8	3.6	14.3
4100044	99	DIRN	SUR	22	-59	2573	0	0	17.7	4.7	18.3
4100047	99	DIRN	SUR	27	-71	1181	0	0	17.4	2.8	17.6
4100049	99	DIRN	SUR	28	-62	3422	0	0	14.6	5.8	15.7
4100052	99	DIRN	SUR	18	-65	3417	0	0	15.2	3.3	15.5
4100053	99	DIRN	SUR	18	-66	1813	0	1	24.5	-1.6	24.6
4100056	99	DIRN	SUR	18	-65	3487	0	0	17.9	2.4	18.1
4100064	99	DIRN	SUR	34	-77	83	0	0	9.4	-3.7	10.1
4100066	99	DIRN	SUR	33	-80	631	0	0	16.5	-13.1	21.0
4100069	99	DIRN	SUR	29	-81	242	1	0	20.9	-3.5	21.2
4100082	99	DIRN	SUR	36	-75	3865	0	1	12.4	-15.2	19.6

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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
4100083	99	DIRN	SUR	36	-75	3808	0	0	15.2	-6.1	16.4
4100139	99	DIRN	SUR	20	-38	480	0	0	10.3	3.4	10.8
41002	99	DIRN	SUR	32	-75	623	0	0	14.9	1.3	15.0
4100300	99	DIRN	SUR	16	-57	578	0	1	14.2	1.8	14.4
41004	99	DIRN	SUR	33	-79	654	0	0	11.6	8.5	14.4
41008	99	DIRN	SUR	31	-81	589	0	0	13.4	10.5	17.0
41009	99	DIRN	SUR	29	-80	604	0	0	18.2	2.2	18.3
41010	99	DIRN	SUR	29	-79	641	0	0	14.1	3.5	14.6
41013	99	DIRN	SUR	33	-78	643	0	0	12.3	6.8	14.1
41024	99	DIRN	SUR	34	-79	537	0	0	14.1	3.0	14.4
41025	99	DIRN	SUR	35	-76	650	0	1	12.7	5.9	14.0
41029	99	DIRN	SUR	33	-80	578	0	0	15.3	-10.5	18.6
41033	99	DIRN	SUR	32	-80	579	0	0	15.9	0.8	15.9
41037	99	DIRN	SUR	34	-77	625	0	0	17.9	-6.8	19.2
41038	99	DIRN	SUR	34	-78	590	0	0	14.3	0.1	14.3
41040	99	DIRN	SUR	15	-53	541	0	0	14.1	4.0	14.6
41043	99	DIRN	SUR	21	-65	534	0	0	13.6	2.9	13.9
41044	99	DIRN	SUR	22	-59	410	0	0	18.9	4.4	19.4
41047	99	DIRN	SUR	28	-72	195	0	0	18.2	3.6	18.5
41049	99	DIRN	SUR	28	-62	559	0	0	14.8	6.3	16.1
41052	99	DIRN	SUR	18	-65	582	0	0	16.9	2.1	17.0
41053	99	DIRN	SUR	19	-66	321	0	2	23.8	-2.0	23.9
41056	99	DIRN	SUR	18	-66	579	0	0	19.1	3.3	19.4
41064	99	DIRN	SUR	34	-77	83	0	0	10.7	-3.9	11.4
41066	99	DIRN	SUR	33	-80	618	0	0	16.3	-13.4	21.1
41069	99	DIRN	SUR	29	-81	236	0	0	20.2	-3.6	20.6
41082	99	DIRN	SUR	36	-75	640	0	1	12.7	-15.2	19.7
41083	99	DIRN	SUR	36	-75	626	0	1	15.9	-5.9	17.0
4200013	99	DIRN	SUR	27	-83	650	0	0	16.5	-8.2	18.4
4200022	99	DIRN	SUR	28	-84	427	0	0	10.5	-5.8	12.0
4200023	99	DIRN	SUR	26	-83	305	1	3	31.3	9.2	32.7
4200026	99	DIRN	SUR	25	-83	963	1	1	15.7	-5.1	16.5
4200036	99	DIRN	SUR	29	-85	3804	0	0	11.9	1.5	12.0
4200056	99	DIRN	SUR	20	-85	3946	0	1	15.9	8.7	18.2
4200058	99	DIRN	SUR	15	-75	3410	0	0	18.2	11.6	21.6
4200060	99	DIRN	SUR	16	-63	3730	0	0	13.1	6.5	14.6
4200085	99	DIRN	SUR	18	-67	2905	0	0	25.8	16.3	30.5
42013	99	DIRN	SUR	27	-83	335	0	0	15.2	-8.6	17.5
42022	99	DIRN	SUR	28	-84	213	0	0	11.2	-6.2	12.8
42023	99	DIRN	SUR	26	-83	93	0	2	31.0	7.7	31.9
42026	99	DIRN	SUR	25	-84	488	0	0	16.9	-4.5	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
42036	99	DIRN	SUR	29	-85	617	0	0	13.4	0.3	13.4
42056	99	DIRN	SUR	20	-85	647	0	1	15.2	8.5	17.4
42058	99	DIRN	SUR	15	-75	553	0	0	18.7	11.3	21.9
42060	99	DIRN	SUR	16	-63	600	0	0	13.6	5.7	14.7
42085	99	DIRN	SUR	18	-67	455	0	0	24.1	11.5	26.7
4400007	99	DIRN	SUR	44	-70	3146	0	0	18.2	4.0	18.6
4400008	99	DIRN	SUR	40	-69	2199	1	0	12.7	16.3	20.7
4400009	99	DIRN	SUR	38	-75	3395	0	0	11.6	3.8	12.2
4400011	99	DIRN	SUR	41	-67	3835	0	0	12.2	9.0	15.2
4400013	99	DIRN	SUR	42	-71	3545	0	0	14.2	7.0	15.8
4400014	99	DIRN	SUR	37	-75	3706	0	0	10.5	4.4	11.4
4400020	99	DIRN	SUR	41	-70	3849	0	1	14.1	2.7	14.4
4400025	99	DIRN	SUR	40	-73	3789	0	0	13.1	5.4	14.2
4400027	99	DIRN	SUR	44	-67	3720	0	0	16.1	9.1	18.5
4400029	99	DIRN	SUR	43	-71	609	0	0	15.0	4.1	15.5
4400030	99	DIRN	SUR	43	-70	557	0	0	16.6	3.1	16.9
4400032	99	DIRN	SUR	44	-69	565	0	0	15.3	3.9	15.8
4400033	99	DIRN	SUR	44	-69	523	0	0	17.4	4.1	17.9
4400034	99	DIRN	SUR	44	-68	576	0	1	15.5	5.3	16.4
4400041	99	DIRN	SUR	37	-77	759	0	0	12.5	1.6	12.7
4400042	99	DIRN	SUR	38	-76	2647	0	0	14.5	-2.1	14.7
4400043	99	DIRN	SUR	39	-76	3905	0	0	16.2	6.1	17.3
4400058	99	DIRN	SUR	38	-76	3868	0	0	15.4	0.7	15.5
4400062	99	DIRN	SUR	39	-76	3732	0	0	16.6	-4.2	17.2
4400063	99	DIRN	SUR	39	-76	1616	0	0	15.9	6.6	17.2
4400064	99	DIRN	SUR	37	-76	3944	0	0	14.4	0.9	14.4
4400065	99	DIRN	SUR	40	-74	390	0	0	16.9	12.8	21.2
4400072	99	DIRN	SUR	37	-76	4116	0	0	15.0	1.5	15.1
4400073	99	DIRN	SUR	43	-71	1428	0	0	14.5	3.8	15.0
4400079	99	DIRN	SUR	36	-75	3804	0	0	13.5	-11.8	18.0
4400488	99	DIRN	SUR	45	-61	619	0	0	17.9	-25.4	31.1
4400489	99	DIRN	SUR	45	-61	584	0	0	18.4	-30.5	35.6
44007	99	DIRN	SUR	44	-70	510	0	0	18.0	4.3	18.5
44008	99	DIRN	SUR	41	-69	361	0	1	13.0	16.2	20.8
44009	99	DIRN	SUR	39	-75	549	0	0	11.9	3.5	12.4
44011	99	DIRN	SUR	41	-67	630	0	0	12.8	8.9	15.6
44013	99	DIRN	SUR	42	-71	560	0	0	14.4	6.2	15.7
44014	99	DIRN	SUR	37	-75	610	0	0	10.2	3.9	10.9
44020	99	DIRN	SUR	42	-70	628	0	1	14.5	3.2	14.9
44025	99	DIRN	SUR	40	-73	612	0	0	13.5	5.9	14.8
44027	99	DIRN	SUR	44	-67	607	0	0	16.8	9.2	19.1

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
44029	99	DIRN	SUR	43	-71	594	0	0	15.0	3.8	15.5
44030	99	DIRN	SUR	43	-70	549	0	0	16.2	2.9	16.5
44032	99	DIRN	SUR	44	-69	542	0	0	15.2	3.7	15.7
44033	99	DIRN	SUR	44	-69	499	0	0	17.1	3.4	17.4
44034	99	DIRN	SUR	44	-68	556	0	1	15.6	5.2	16.4
44041	99	DIRN	SUR	37	-77	83	0	0	12.0	0.9	12.0
44042	99	DIRN	SUR	38	-76	300	0	0	14.8	-1.1	14.8
44043	99	DIRN	SUR	39	-76	428	0	0	18.2	6.0	19.1
44058	99	DIRN	SUR	38	-76	430	0	0	15.9	0.4	15.9
44062	99	DIRN	SUR	39	-76	457	0	0	17.3	-3.7	17.7
44063	99	DIRN	SUR	39	-76	197	0	0	15.9	7.0	17.4
44064	99	DIRN	SUR	37	-76	465	0	0	15.3	1.7	15.4
44065	99	DIRN	SUR	40	-74	66	0	0	16.8	12.4	20.9
44072	99	DIRN	SUR	37	-76	449	0	0	15.3	1.0	15.4
44073	99	DIRN	SUR	43	-71	347	0	0	14.6	3.4	15.0
44078	99	DIRN	SUR	60	-40	648	16	4	19.3	-18.0	26.4
44079	99	DIRN	SUR	36	-75	621	0	0	13.5	-12.3	18.3
44137	99	DIRN	SUR	42	-62	677	0	0	12.3	-9.7	15.7
44139	99	DIRN	SUR	44	-57	659	0	0	15.6	-9.7	18.3
44150	99	DIRN	SUR	43	-64	195	6	0	9.8	-2.5	10.1
44258	99	DIRN	SUR	45	-63	663	0	0	15.0	3.1	15.3
44488	99	DIRN	SUR	45	-61	600	0	1	17.8	-26.5	31.9
44489	99	DIRN	SUR	46	-61	573	0	0	18.3	-31.1	36.1
4500003	99	DIRN	SUR	45	-83	3968	0	1	14.6	4.4	15.2
4500005	99	DIRN	SUR	42	-82	3478	0	0	14.7	7.4	16.4
4500008	99	DIRN	SUR	44	-82	4104	0	0	13.3	8.7	15.9
4500012	99	DIRN	SUR	44	-77	3754	0	0	14.6	6.4	15.9
4500132	99	DIRN	SUR	42	-81	618	0	0	15.2	0.2	15.2
4500135	99	DIRN	SUR	44	-77	644	0	0	16.9	2.7	17.1
4500137	99	DIRN	SUR	46	-81	699	0	1	16.3	-1.6	16.4
4500139	99	DIRN	SUR	43	-80	541	0	0	14.9	0.5	14.9
4500142	99	DIRN	SUR	43	-79	600	0	0	20.0	0.9	20.0
4500143	99	DIRN	SUR	45	-81	692	0	1	16.5	0.7	16.6
4500159	99	DIRN	SUR	44	-79	550	0	2	20.3	1.9	20.3
4500162	99	DIRN	SUR	45	-83	1869	0	0	14.3	1.2	14.3
4500163	99	DIRN	SUR	44	-84	1478	0	0	13.4	3.0	13.8
4500164	99	DIRN	SUR	42	-82	573	0	0	23.0	-24.3	33.4
4500165	99	DIRN	SUR	45	-83	2870	0	10	36.7	37.1	52.2
4500175	99	DIRN	SUR	46	-85	386	0	1	25.1	-1.5	25.2
4500176	99	DIRN	SUR	42	-82	2706	0	1	18.8	-9.6	21.1
4500178	99	DIRN	SUR	45	-73	260	0	0	13.6	-2.6	13.9

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
4500196	99	DIRN	SUR	42	-82	2644	0	1	20.8	5.8	21.6
4500200	99	DIRN	SUR	42	-83	986	0	0	17.5	21.9	28.0
4500203	99	DIRN	SUR	41	-83	2486	0	0	27.4	-10.9	29.5
4500204	99	DIRN	SUR	42	-82	1791	0	2	21.2	-9.2	23.1
4500206	99	DIRN	SUR	42	-82	1577	0	3	28.8	-30.4	41.9
4500207	99	DIRN	SUR	42	-81	1346	0	5	31.2	-42.1	52.4
4500208	99	DIRN	SUR	42	-81	1412	0	1	20.6	-11.5	23.6
4500209	99	DIRN	SUR	43	-82	1755	0	1	17.1	-36.9	40.7
45003	99	DIRN	SUR	45	-83	653	0	0	15.4	4.1	15.9
45005	99	DIRN	SUR	42	-82	574	0	0	16.1	8.3	18.1
45008	99	DIRN	SUR	44	-82	679	0	0	13.8	8.3	16.1
45012	99	DIRN	SUR	44	-77	614	0	0	14.9	6.0	16.1
45132	99	DIRN	SUR	43	-81	603	0	0	15.4	-0.6	15.4
45135	99	DIRN	SUR	44	-77	632	0	0	17.5	2.5	17.7
45137	99	DIRN	SUR	46	-81	692	0	1	17.3	-2.2	17.5
45139	99	DIRN	SUR	43	-80	553	0	0	16.3	1.4	16.3
45142	99	DIRN	SUR	43	-79	590	0	0	20.6	0.6	20.6
45143	99	DIRN	SUR	45	-81	677	0	1	16.3	-0.3	16.3
45147	99	DIRN	SUR	42	-82	357	0	0	18.0	-5.0	18.7
45149	99	DIRN	SUR	44	-82	667	0	0	15.2	-5.9	16.3
45151	99	DIRN	SUR	45	-79	512	0	0	17.5	-1.4	17.6
45152	99	DIRN	SUR	46	-80	552	0	1	20.3	2.2	20.4
45154	99	DIRN	SUR	46	-83	640	0	0	15.4	4.5	16.0
45159	99	DIRN	SUR	44	-79	517	0	2	18.2	0.0	18.2
45162	99	DIRN	SUR	45	-83	608	0	0	15.1	1.6	15.2
45163	99	DIRN	SUR	44	-84	491	0	0	13.9	3.6	14.3
45164	99	DIRN	SUR	42	-82	560	0	0	22.0	-25.2	33.5
45165	99	DIRN	SUR	45	-83	485	0	9	37.0	37.6	52.7
45175	99	DIRN	SUR	46	-85	136	0	1	23.4	-1.4	23.5
45176	99	DIRN	SUR	42	-82	559	0	2	20.7	-7.0	21.9
45178	99	DIRN	SUR	45	-73	80	0	0	14.6	-4.6	15.3
45196	99	DIRN	SUR	42	-82	504	0	1	20.1	6.0	20.9
45200	99	DIRN	SUR	42	-83	177	0	1	16.5	22.1	27.6
45203	99	DIRN	SUR	41	-83	423	0	0	28.1	-10.3	29.9
45204	99	DIRN	SUR	42	-82	284	0	1	19.9	-9.1	21.9
45206	99	DIRN	SUR	42	-82	255	0	4	30.2	-28.6	41.6
45207	99	DIRN	SUR	42	-81	246	0	4	30.0	-43.2	52.6
45208	99	DIRN	SUR	42	-81	251	0	1	18.0	-13.1	22.2
45209	99	DIRN	SUR	43	-82	423	0	1	17.5	-36.9	40.8
4803914	99	DIRN	SUR	23	-53	1026	0	0	12.2	2.1	12.4
5801955	99	DIRN	SUR	16	-67	3218	0	0	15.4	-0.2	15.4

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
5801958	99	DIRN	SUR	30	-66	1177	0	0	12.6	1.9	12.7
6100198	99	DIRN	SUR	37	-2	442	0	1	15.6	-3.4	16.0
6100281	99	DIRN	SUR	40	0	385	0	4	28.4	1.6	28.4
6100417	99	DIRN	SUR	38	0	539	0	0	15.2	12.6	19.8
6200001	99	DIRN	SUR	45	-5	595	0	0	14.8	0.0	14.8
6200024	99	DIRN	SUR	44	-3	447	0	0	20.2	9.7	22.4
6200025	99	DIRN	SUR	44	-6	434	0	1	15.6	-1.2	15.7
6200050	99	DIRN	SUR	50	-4	706	0	0	13.8	2.7	14.0
6200083	99	DIRN	SUR	43	-9	615	0	1	18.2	3.5	18.5
6200084	99	DIRN	SUR	42	-9	534	0	0	16.3	13.1	20.9
6200085	99	DIRN	SUR	36	-7	576	0	0	14.8	9.6	17.6
6200091	99	DIRN	SUR	53	-5	701	0	0	13.2	0.3	13.2
6200092	99	DIRN	SUR	51	-11	658	0	0	11.7	3.3	12.1
6200093	99	DIRN	SUR	55	-10	708	0	0	10.8	5.6	12.1
6200094	99	DIRN	SUR	52	-7	645	0	0	11.9	0.8	12.0
6200095	99	DIRN	SUR	53	-16	714	0	0	12.2	2.4	12.4
6200103	99	DIRN	SUR	50	-3	694	0	0	16.9	7.4	18.5
6200163	99	DIRN	SUR	47	-8	699	0	0	12.7	-1.6	12.8
6200442	99	DIRN	SUR	49	-16	707	0	0	12.5	-6.9	14.2
62030	99	DIRN	SUR	50	-4	1158	0	0	14.1	5.6	15.2
62050	99	DIRN	SUR	50	-4	1397	0	0	14.0	2.5	14.2
62091	99	DIRN	SUR	53	-5	692	0	0	13.0	-0.3	13.0
62092	99	DIRN	SUR	51	-11	659	0	0	12.1	2.8	12.4
62093	99	DIRN	SUR	55	-10	703	0	0	10.8	4.8	11.8
62094	99	DIRN	SUR	52	-7	636	0	0	12.2	0.4	12.2
62095	99	DIRN	SUR	53	-16	706	0	0	12.0	2.0	12.2
62103	99	DIRN	SUR	50	-3	1381	0	0	17.0	7.2	18.5
62105	99	DIRN	SUR	55	-13	1433	0	0	11.2	-6.3	12.9
62107	99	DIRN	SUR	50	-6	1396	0	0	13.6	5.1	14.5
62112	99	DIRN	SUR	58	0	1359	0	0	9.3	-2.2	9.6
62114	99	DIRN	SUR	58	0	1402	0	0	9.1	0.4	9.1
62163	99	DIRN	SUR	48	-9	1393	0	0	12.6	-1.6	12.7
62442	99	DIRN	SUR	49	-16	1412	0	0	13.1	-6.9	14.8
64041	99	DIRN	SUR	61	-3	731	0	0	12.0	10.8	16.2

4.12 Table 24 - List of Assimilated BUFR Encoded Radiosonde Stations

ASDE09	ATGU3FT	DBLK	JNKN7JF	JPBN	KJJF9XN	KMPLHPW	LAGY8	LAGZ8
LRYQE3U	UXK5JTU	XKQLWQB	YLV96WM	ZVQEQCM	7JUNA4N	7KPB	01001	01004
01010	01028	01241	01400	01415	01492	02185	02365	02591
02836	02963	03005	03023	03238	03354	03743	03808	03882
03918	03953	04018	04220	04270	04320	04339	04360	04417
06011	06260	06458	06610	07110	07145	07510	07645	07761
08001	08023	08190	08221	08302	08383	08430	08508	08522
08536	10035	10113	10184	10238	10304	10393	10410	10548
10618	10739	10771	10868	10954	10962	11010	11035	11120
11240	11520	11747	11952	12120	12374	12425	12575	12843
12982	13275	13388	14015	14240	14430	15420	15614	16045
16064	16113	16144	16224	16245	16332	16429	16546	16622
16716	16754	17030	17064	17095	17130	17196	17220	17240
17351	17516	17607	20674	22008	22522	22820	22845	23205
23472	23884	23921	23955	24266	24641	24688	24908	24947
26038	26435	26477	26629	26708	27459	27707	27713	27962
28225	28445	28661	28695	29612	29698	30557	30673	30935
31004	31770	31873	31977	34122	34172	34731	35121	40179
40186	42027	42056	42111	42182	42314	42339	42348	42361
42399	42410	42492	42516	42623	42634	42647	42675	42867
42874	42971	43003	43014	43041	43049	43063	43086	43128
43150	43185	43243	43279	43346	43353	43369	43371	43466
45004	47102	47104	47138	47155	47169	47186	47230	47401
47412	47582	47646	47678	47741	47778	47807	47827	47909
47918	47945	47971	47991	48601	48615	48650	48657	48698
50527	50557	50774	50953	51076	51243	51431	51463	51644
51656	51709	51777	51828	51839	52203	52267	52323	52418
52533	52652	52681	52818	52836	52866	52983	53068	53463
53513	53543	53614	53772	53845	53915	54102	54135	54161
54218	54292	54340	54374	54511	54662	54727	54857	55299
55591	56029	56046	56080	56137	56146	56187	56492	56571
56651	56691	56739	56778	56964	56985	57083	57127	57131
57178	57245	57461	57494	57516	57541	57687	57749	57816
57957	57972	57993	58027	58150	58203	58238	58362	58424
58457	58606	58633	58665	58725	58847	59023	59134	59211
59265	59280	59293	59316	59431	59758	59981	60018	60096
60155	60253	60715	61901	61980	61998	65344	66160	67083
68263	68424	68442	68512	68816	68842	70026	70133	70200
70219	70231	70261	70273	70308	70316	70326	70350	70361
70398	71043	71081	71082	71109	71119	71603	71722	71802
71811	71815	71816	71823	71845	71867	71906	71907	71908
71909	71913	71917	71924	71925	71926	71934	71945	71957
71964	72201	72202	72206	72208	72210	72215	72230	72233
72235	72240	72248	72249	72250	72251	72261	72265	72274
72293	72305	72317	72318	72327	72340	72357	72363	72364
72365	72376	72388	72402	72403	72426	72440	72451	72456
72476	72489	72493	72501	72518	72520	72528	72558	72562
72572	72582	72597	72632	72634	72645	72649	72659	72662
72672	72681	72694	72712	72747	72764	72768	72776	72786
72797	73033	73110	73111	74389	74455	74560	76225	76256
76405	76458	76526	76595	76612	76644	76654	76679	76692
76743	76903	78384	78397	78486	78583	78897	78954	78970
78988	80001	81405	82965	84622	85442	85586	85799	85934
87155	87344	87418	87585	87623	87715	87860	88889	89002
89055	89514	89564	89571	89592	89611	89625	89642	89859
91165	91212	91285	91334	91348	91376	91408	91413	91592
91925	91938	91948	91958	93112	93417	93844	94001	94005
94120	94155	94170	94203	94299	94302	94312	94326	94332
94403	94430	94461	94510	94578	94610	94637	94653	94659

94672	94711	94767	94775	94802	94821	94866	94910	94995
94996	94998	95282	95527	96413	96441	96471	96481	96996

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

ASDE09	ATGU3FT	DBLK	JNKN7JF	KJJF9XN	KMPLHPW	LAGY8	LAGZ8	LRYQE3U
UXK5JTU	XKQLWQB	YLV96WM	ZVQEQCM	7JUNA4N	7KPB	01001	01004	01010
01028	01241	01400	01415	01492	02836	02963	06610	07110
07145	07510	07645	07761	08001	08023	08190	08221	08302
08383	08430	08508	08522	08536	11010	11035	11120	11240
12575	17607	40186	48698	50527	50557	50774	50953	51076
51243	51431	51463	51644	51656	51709	51777	51828	51839
52203	52267	52323	52418	52533	52652	52681	52818	52836
52866	52983	53068	53463	53513	53543	53614	53772	53845
53915	54102	54135	54161	54218	54292	54340	54374	54511
54662	54727	54857	55299	55591	56029	56046	56080	56137
56146	56187	56492	56571	56651	56691	56739	56778	56964
56985	57083	57127	57131	57178	57245	57461	57494	57516
57541	57687	57749	57816	57957	57972	57993	58027	58150
58203	58238	58362	58424	58457	58606	58633	58665	58725
58847	59023	59134	59211	59265	59280	59293	59316	59431
59758	59981	60253	67083	72806	76743	76903	84516	84622
84754	87585	89002	89514	89642	89859	91925	91938	91948
91958	94001	94005	94767					

5 Annex - Explanations of figures and tables

5.1 General

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

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

5.2 Data Availability

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

5.3 Data Quality

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

It should be noted that:

(i) all results are based on software that may undergo further development;

(ii) although the quality of the ECMWF first-guess fields is of a generally high standard this is only true to a limited extent in the tropics, where small-scale processes such as convection are of much greater importance than in mid-latitudes, and the observations will sometimes not be representative of the scales of motion given by the first-guess;

(iii) the first-guess fields themselves will vary in accuracy depending on the density and quality of data, particularly in the upstream regions and over Antarctica and the southern hemisphere mid-latitudes. Direct comparisons between stations (or airlines) should preferably be restricted to observations in a reasonably homogeneous climatic region.

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

standard pressure level are shown. Units of RMS, standard deviation and bias are hPa in tables 1 and 4, m in table 7 and 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.