ECMWF Global Data Monitoring Report

January 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	Dec	Jan	Ident	Time	Dec	Jan
02185	(00)	31	10	02591	(00)	14	27
03354	(00)	26	1	02591	(12)	16	27
40766	(00)	27	12	03743	(12)	3	19
40848	(00)	18	7	42314	(00)	3	14
41316	(00)	31	8	43003	(00)	5	30
42410	(00)	28	2	43003	(12)	5	31
42410	(12)	29	0	43285	(00)	0	29
42724	(00)	26	4	43295	(00)	0	13
42874	(00)	28	9	47600	(00)	13	24
42874	(12)	35	10	48453	(12)	0	16
42886	(00)	27	7	61024	(12)	0	16
42886	(12)	29	2	62378	(12)	0	16
43041	(00)	25	6	64400	(00)	7	23
43041	(12)	16	0	64400	(12)	4	26
43110	(00)	14	0	64700	(12)	0	13
43185	(00)	27	13	68263	(00)	7	25
43185	(12)	26	7	68263	(12)	4	29
43353	(00)	27	12	74005	(00)	9	25
43353	(12)	24	9	96509	(12)	18	30
47122	(00)	28	0	-	-	-	-
47122	(12)	27	0	-	-	-	-
47158	(00)	27	0	-	-	-	-
47158	(12)	27	0	-	-	-	-
48407	(00)	28	2	-	-	-	-
48480	(00)	29	3	-	-	-	-
48568	(00)	21	0	-	-	-	-
48657	(00)	29	3	-	-	-	-
58968	(00)	19	0	-	-	-	-
58968	(12)	13	0	-	-	-	-
58974	(00)	15	0	-	-	-	-
58974	(12)	16	0	-	-	-	-
59362	(00)	20	0	-	-	-	-
60760	(00)	45	18	-	-	-	-
61291	(00)	20	0	-	-	-	-
61291	(12)	25	1	-	-	-	-
62378	(00)	15	0	-	-	-	-
62414	(00)	21	9	-	-	-	-
68842	(00)	23	1	-	-	-	-
68842	(12)	23	1	-	-	-	-
71907	(12)	25	0	-	-	-	-
78866	(12)	30	14	-	-	-	-
80028	(12)	29	10	-	-	-	-
80094	(12)	28	15	-	-	-	-
82244	(00)	25	10	-	-	-	-
83768	(12)	31	16	-	-	-	-
83840	(00)	20	7	-	-	-	-
91680	(12)	29	4	-	-	-	-
96413	(12)	29	4	-	-	-	-
96441	(00)	29	4	-	-	-	-
98558	(00)	26	0	-	-	-	-

2.2 Drifting Buoys

Surface pressure observations from **1454** drifting buoys were received during the month.

3 Global monitoring statistics

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

3.1 Data Availability

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

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

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

3.2 Data Quality

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

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

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

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

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

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

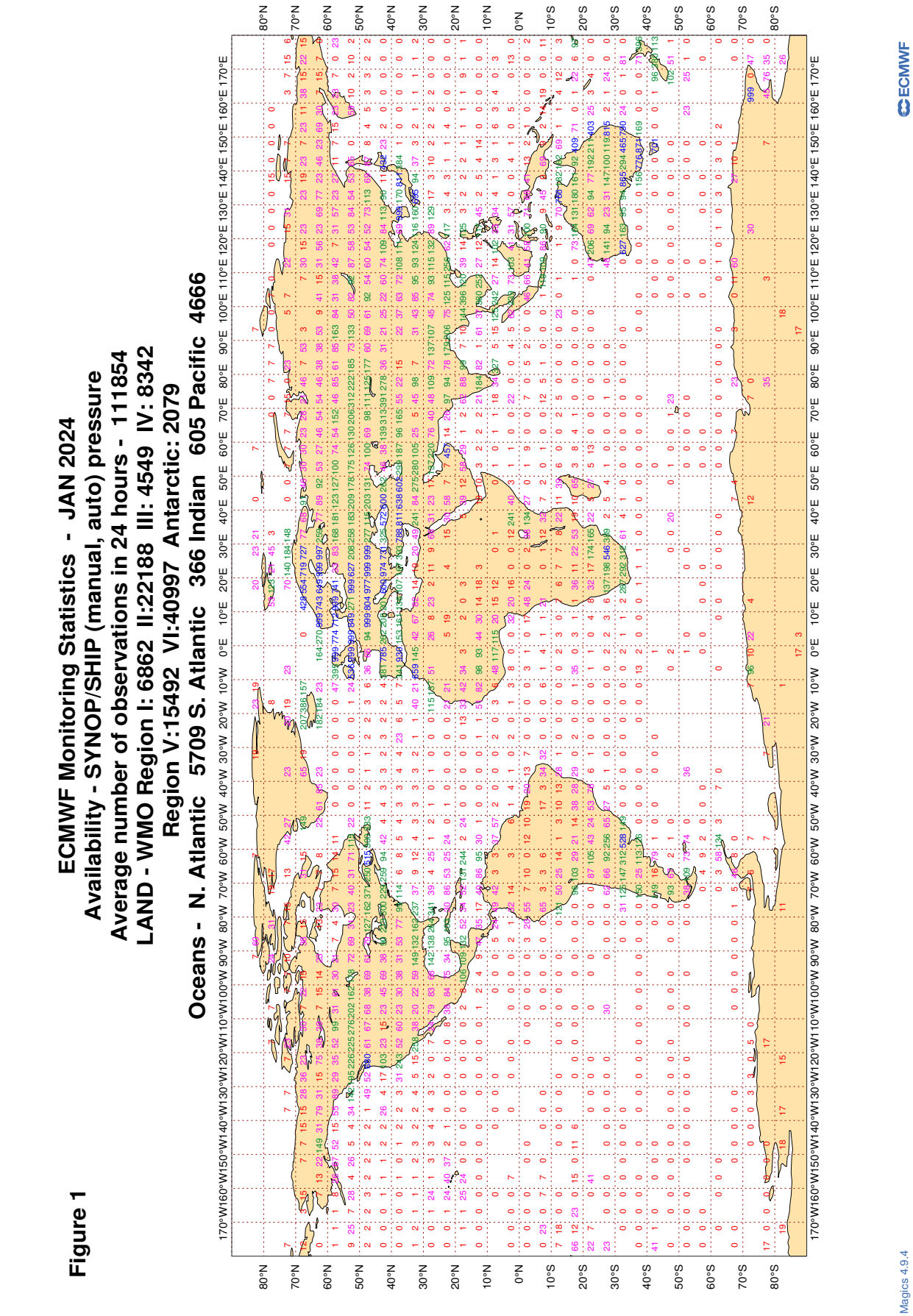
Tab	Parameter	Observation Time
10	Geopotential	00 and 12 UTC
11	Wind	00 and 12 UTC

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

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

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

3.2.1 Figure 1 - Availability - SYNOP PRESSURE



3.2.2 Figure 2 - Availability - DRIFTER PRESSURE

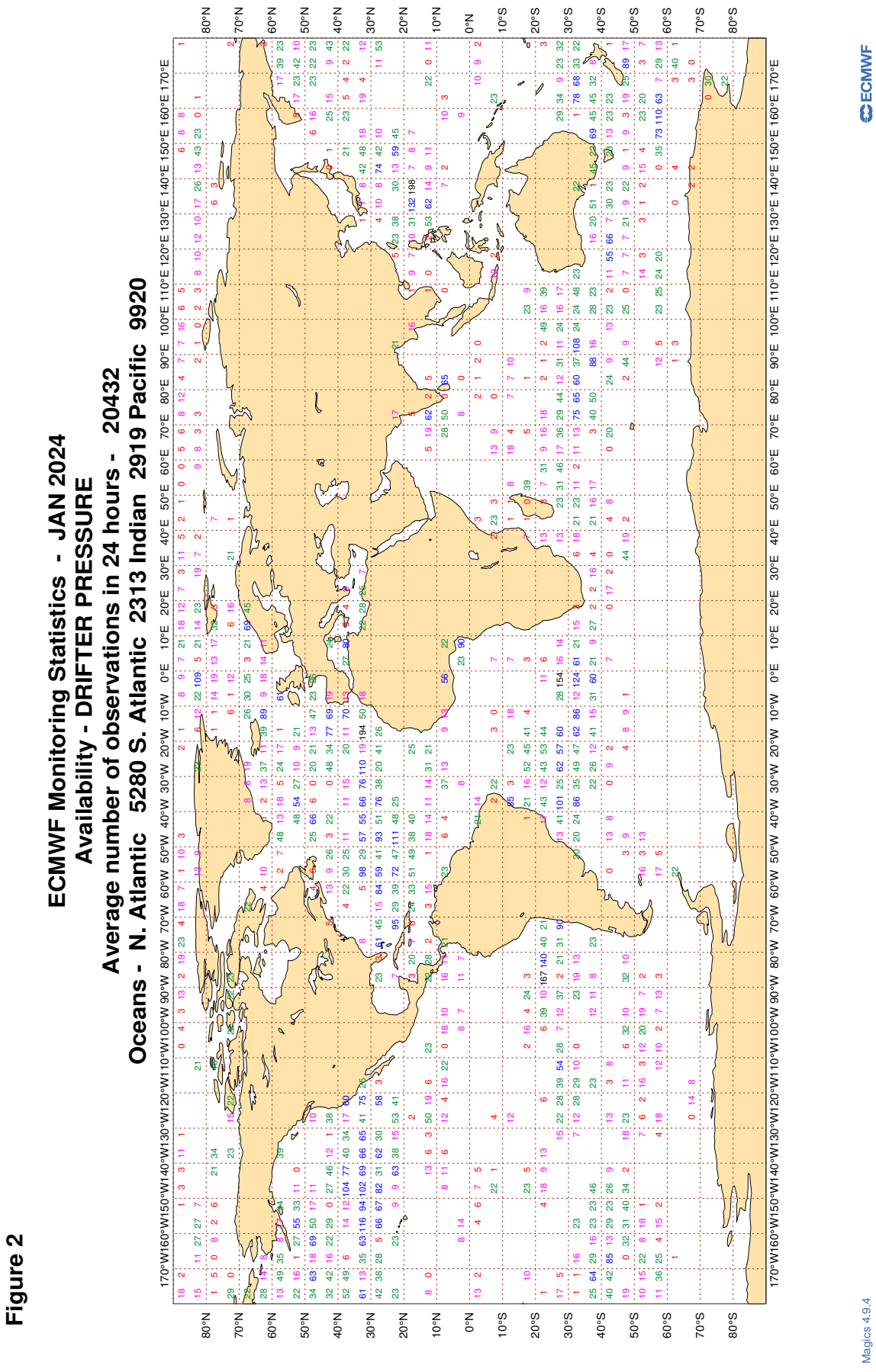


Figure 2

3.2.3 Figure 3 - Availability - TEMP 500 hPa geopotential

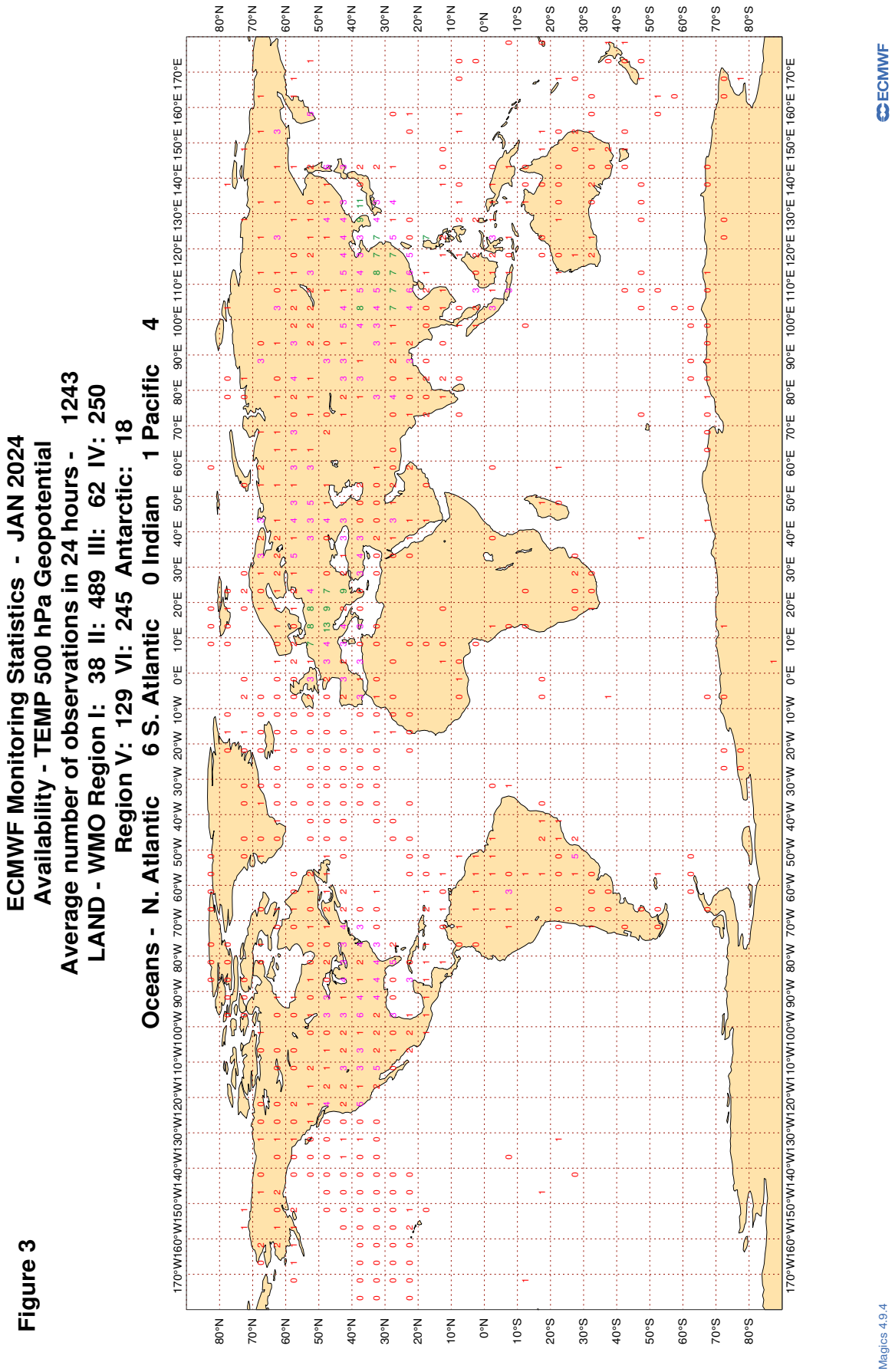


Figure 3

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

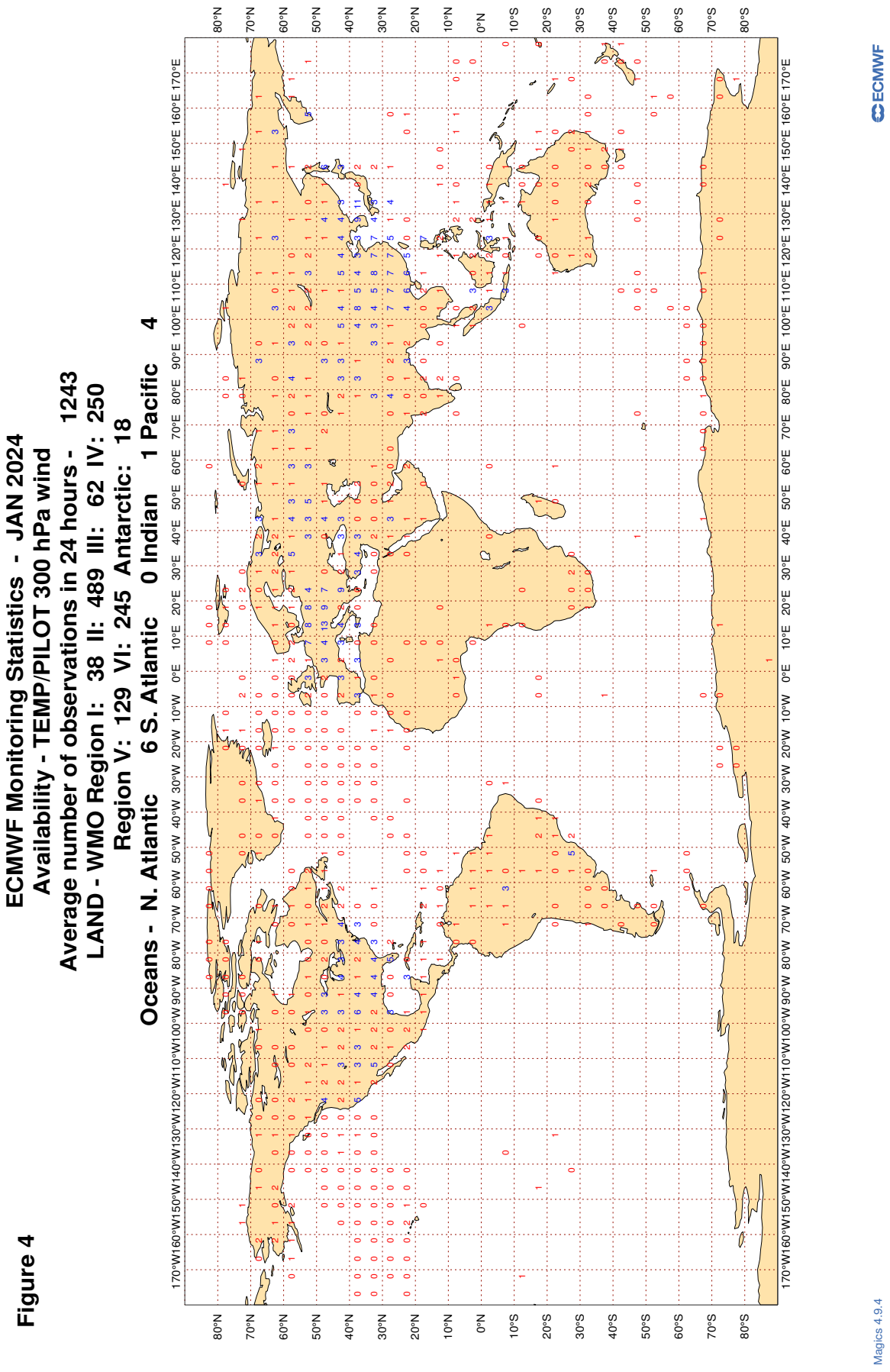


Figure 4

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

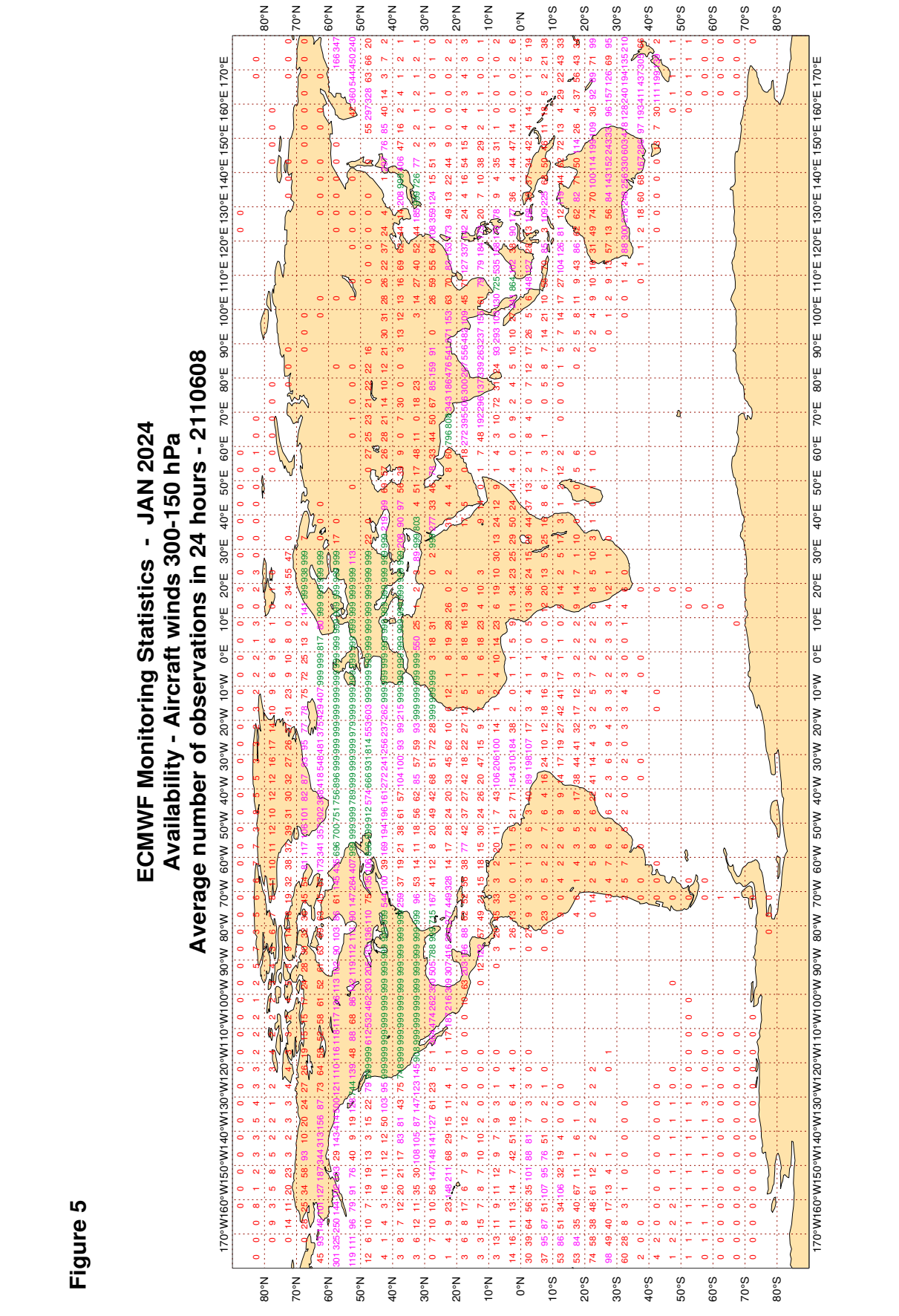


Figure 5

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

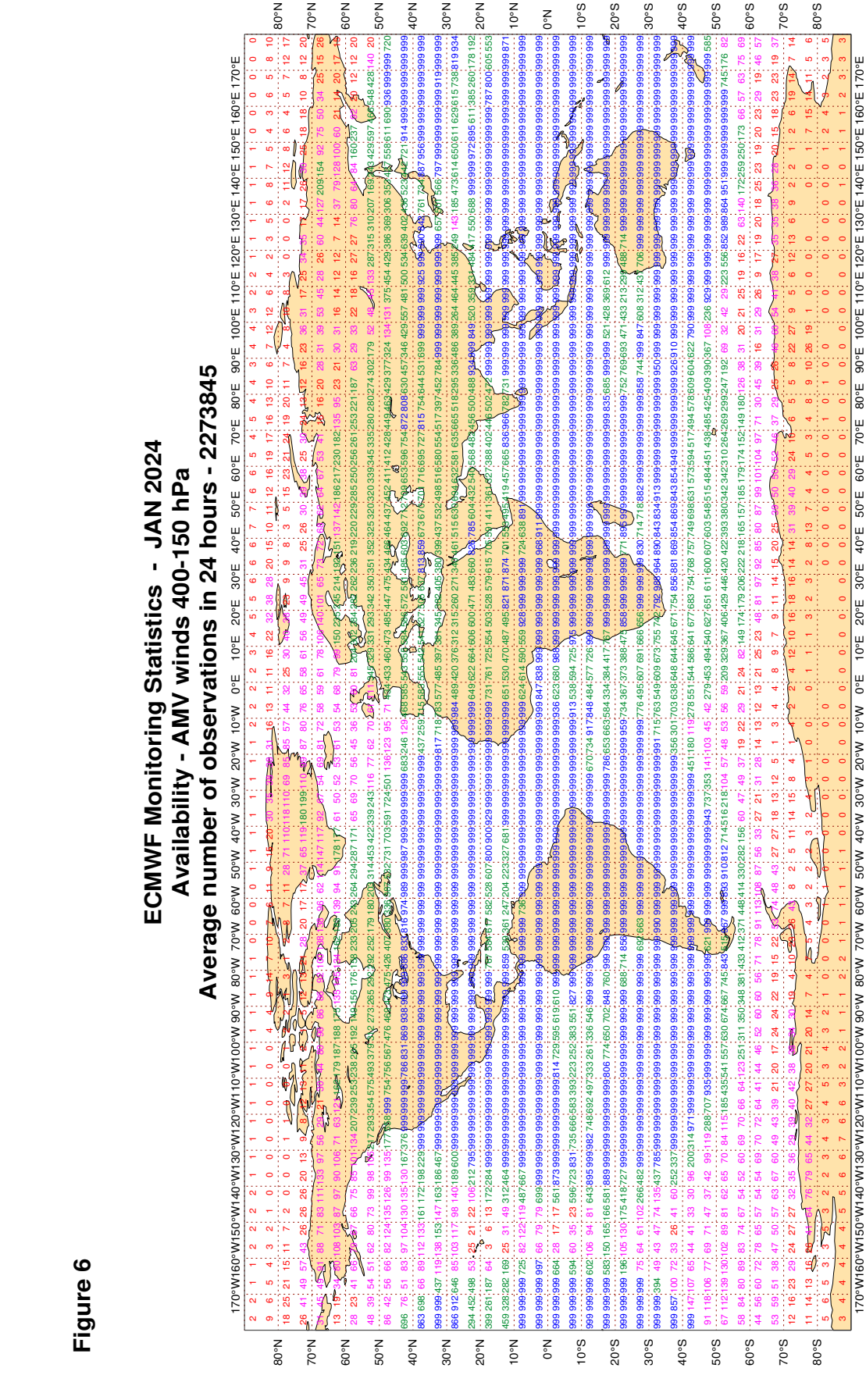


Figure 6

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

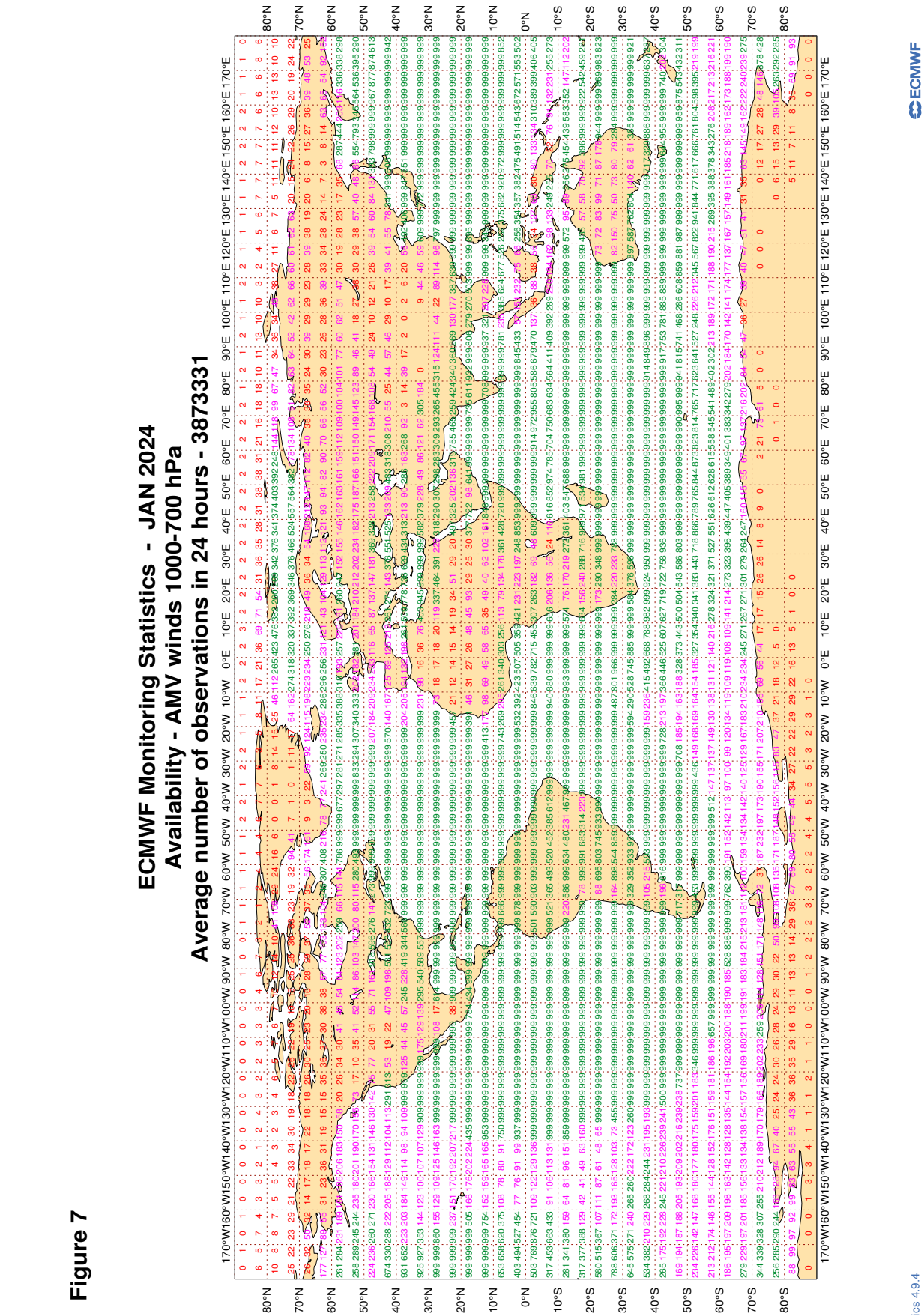


Figure 7

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

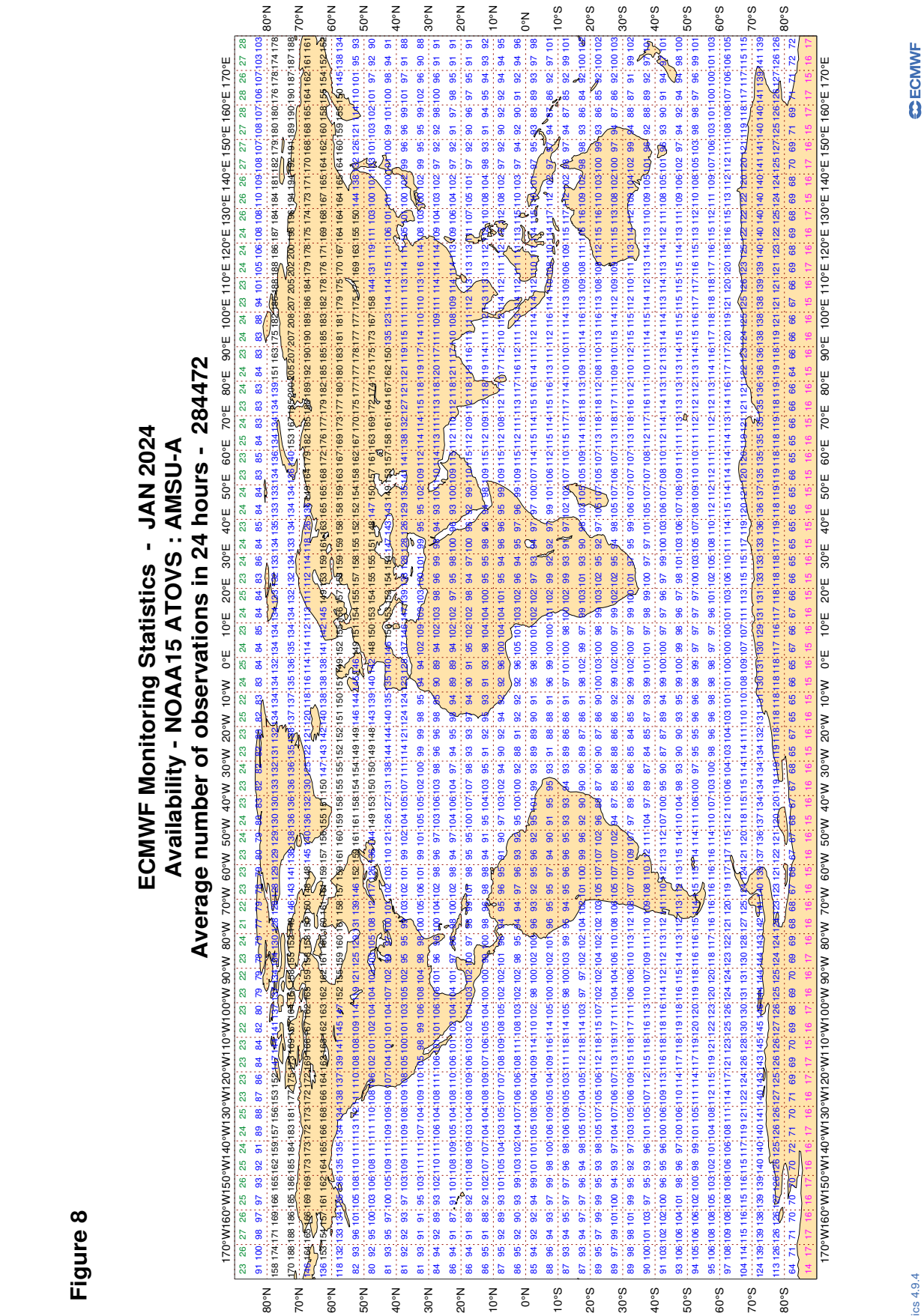
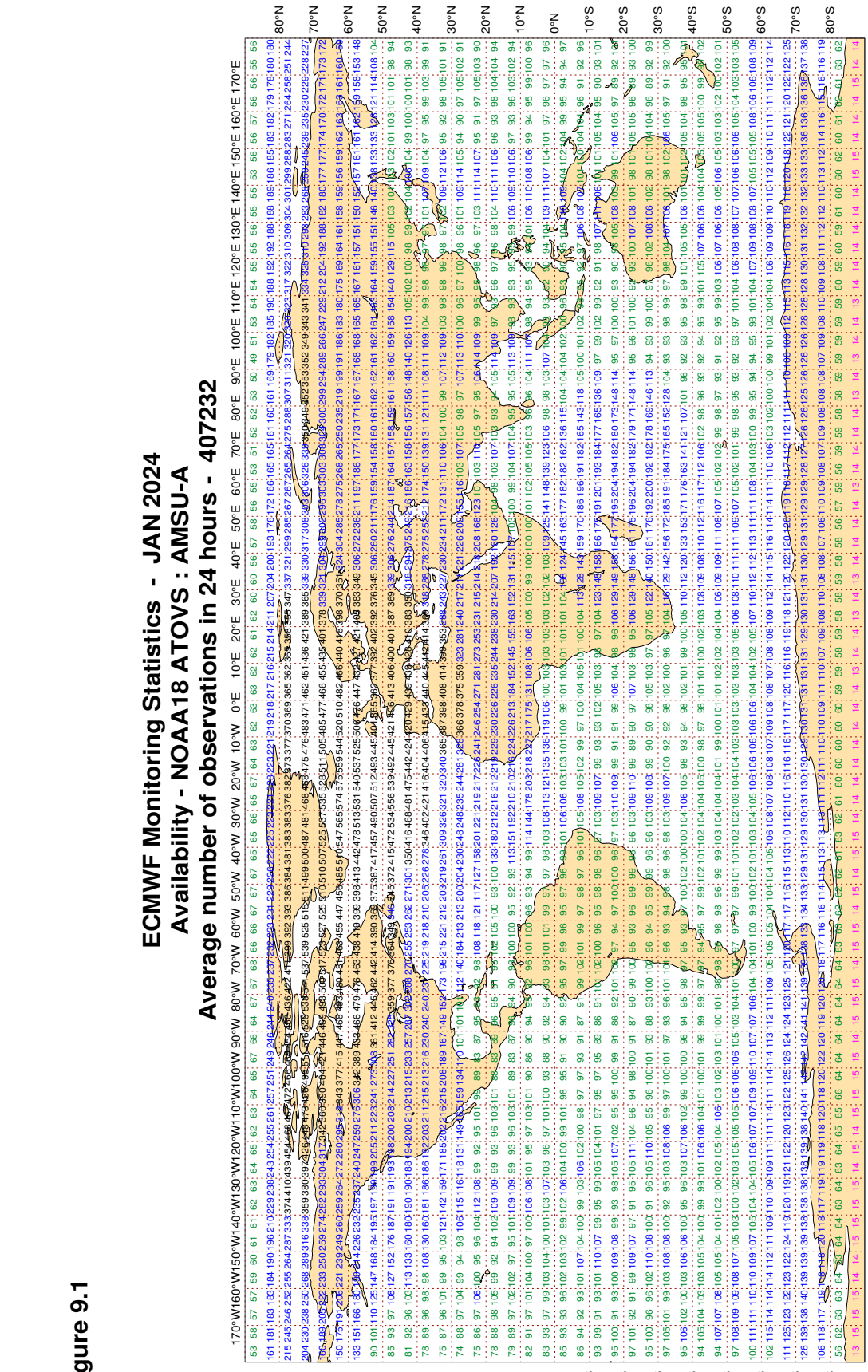


Figure 8

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

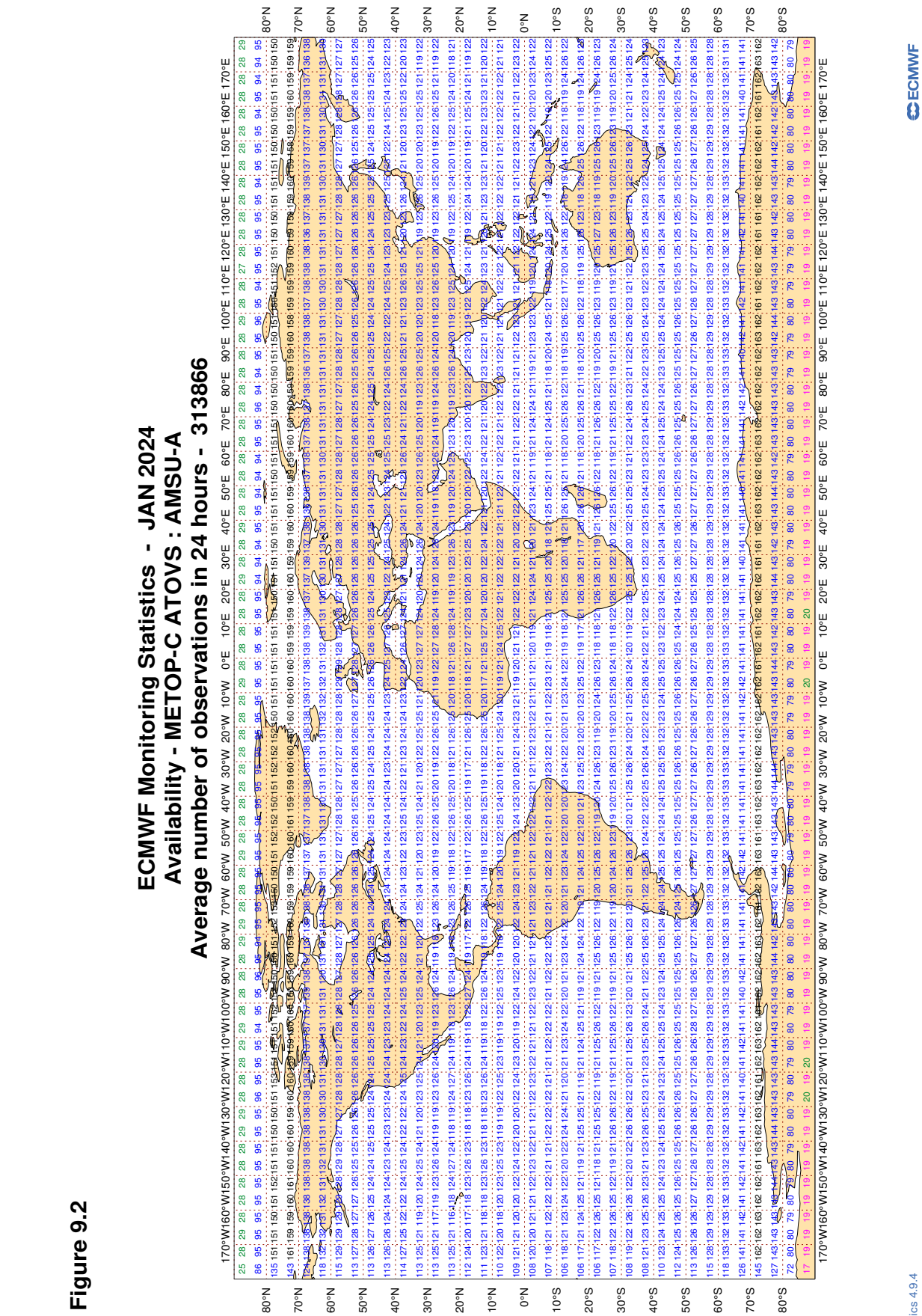


Figure 9.2

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

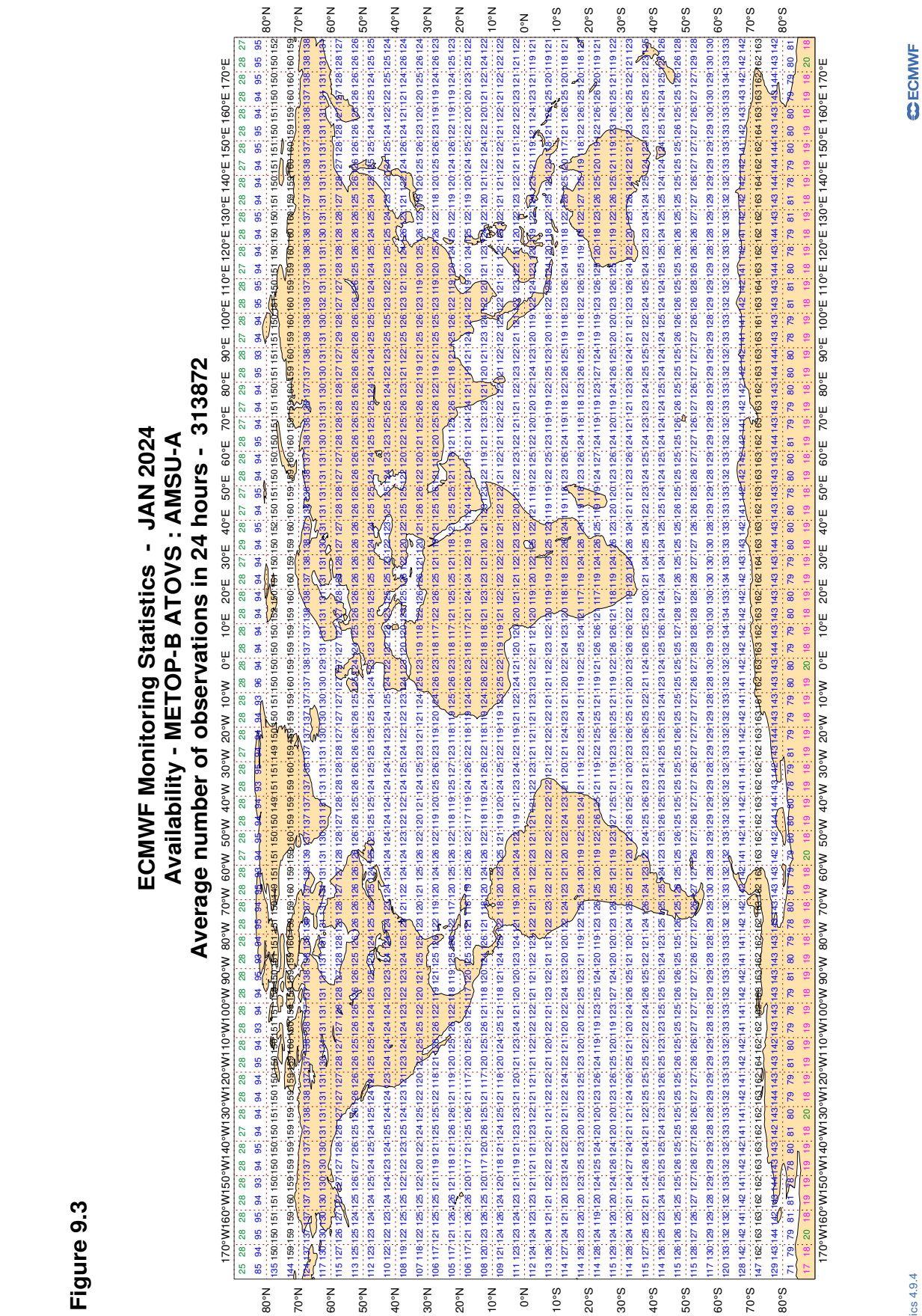


Figure 9.3

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                : JAN 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
3EBY2	99	P	SUR	30	1	2.2	8.8	9.1
3EPL4	99	P	SUR	20	0	0.8	6.6	6.6
3FEN2	99	P	SUR	40	0	1.2	3.1	3.4
3FUY2	99	P	SUR	28	0	0.8	-3.5	3.6
7JEX	99	P	SUR	40	0	1.1	-4.1	4.2
7JUN	99	P	SUR	25	0	2.1	-3.6	4.2
7JZJ	99	P	SUR	18	0	0.7	-4.6	4.6
7KDA	99	P	SUR	18	0	2.7	-4.0	4.8
7KOA	99	P	SUR	16	0	2.1	6.5	6.8
8QVU8QS	99	P	SUR	63	20	2.1	-0.4	2.1
9HA3062	99	P	SUR	15	0	0.4	-5.0	5.0
9HA4902	99	P	SUR	22	0	3.1	7.0	7.7
9HA5063	99	P	SUR	90	0	1.5	6.8	7.0
9HA5209	99	P	SUR	26	1	2.1	11.3	11.5
9HA5677	99	P	SUR	15	0	1.4	3.6	3.8
9HJB9	99	P	SUR	21	0	2.6	3.2	4.2
9V2728	99	P	SUR	17	0	2.7	5.3	6.0
9V2908	99	P	SUR	20	0	2.1	3.1	3.7
9V7730	99	P	SUR	26	0	2.6	-3.2	4.2
9V9404	99	P	SUR	52	0	1.8	8.7	8.9
9V9450	99	P	SUR	22	0	1.1	4.7	4.8
AUYL	99	P	SUR	23	0	2.3	5.0	5.5
AVBF	99	P	SUR	15	0	0.7	8.7	8.8
BNPC	99	P	SUR	86	3	5.8	-3.0	6.5
BNSK	99	P	SUR	80	62	0.6	0.0	0.6
C6SE5	99	P	SUR	48	0	0.9	-4.4	4.5
C6TX6	99	P	SUR	15	0	2.2	5.6	6.0
C6VG7	99	P	SUR	28	0	0.4	-3.2	3.2
C6VV8	99	P	SUR	16	0	0.7	-3.0	3.1
CG2960	99	P	SUR	63	20	2.1	-0.4	2.1
H8EW	99	P	SUR	32	0	1.9	6.5	6.8
KIAB	99	P	SUR	16	0	1.3	3.3	3.5

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

WMO IDENT	OBS TIME	ELM	LEVEL	NUM OBS	NUM GROSS	SD	BIAS	RMS
KRAU	99	P	SUR	23	0	1.4	6.7	6.9
LAHR7	99	P	SUR	57	0	0.6	3.7	3.7
LAPE7	99	P	SUR	47	0	1.7	3.7	4.1
LAQL7	99	P	SUR	46	0	1.1	4.6	4.7
LAQM7	99	P	SUR	61	0	1.2	3.3	3.5
LAVD4	99	P	SUR	15	0	1.1	5.7	5.8
LOCW	99	P	SUR	54	0	1.3	-4.8	5.0
NWS0003	99	P	SUR	31	0	5.2	-3.3	6.1
OBAA	99	P	SUR	31	1	1.1	-6.9	7.0
OWLD2	99	P	SUR	29	0	0.9	-3.4	3.5
OYYK2	99	P	SUR	25	0	1.1	3.1	3.3
UBBO5	99	P	SUR	19	0	1.1	-3.6	3.7
UBRW	99	P	SUR	28	0	3.1	-5.5	6.4
UBSH	99	P	SUR	30	0	0.7	-3.6	3.7
UCJT	99	P	SUR	35	0	2.1	-3.6	4.2
UCSJ	99	P	SUR	25	0	7.1	1.4	7.2
UDAD	99	P	SUR	120	1	3.8	4.5	6.0
UGYU	99	P	SUR	24	0	1.3	-3.3	3.5
UHMI	99	P	SUR	25	7	5.4	-9.1	10.5
V7A6085	99	P	SUR	37	0	1.6	4.2	4.5
V7BN9	99	P	SUR	42	0	1.9	4.7	5.1
V7DQ3	99	P	SUR	66	2	2.5	4.5	5.2
V7QT7	99	P	SUR	15	0	2.1	4.8	5.2
V7ZZ6	99	P	SUR	41	0	4.0	-4.1	5.8
VRCB4	99	P	SUR	19	0	0.5	-4.7	4.8
VRCI9	99	P	SUR	25	0	1.1	5.1	5.2
VRDB3	99	P	SUR	16	0	0.6	-5.1	5.1
VRDU8	99	P	SUR	16	0	2.5	-4.5	5.2
VRFI7	99	P	SUR	65	0	1.1	-3.8	3.9
VRFU8	99	P	SUR	16	0	1.4	-5.1	5.3
VRGO2	99	P	SUR	43	0	1.3	4.8	5.0
VRGO3	99	P	SUR	32	0	1.4	7.6	7.7
VRGO6	99	P	SUR	24	0	2.4	-4.5	5.1
VRGO8	99	P	SUR	21	0	0.5	5.2	5.3
VRLJ4	99	P	SUR	22	0	1.0	7.6	7.6
VRLZ3	99	P	SUR	27	0	2.9	3.6	4.6
VRNL9	99	P	SUR	31	0	3.0	4.4	5.4
VRNR5	99	P	SUR	65	0	2.2	3.6	4.2
VROB9	99	P	SUR	29	0	2.3	6.2	6.6
VROO4	99	P	SUR	21	0	1.3	11.1	11.2
VRQS3	99	P	SUR	30	0	1.1	6.9	7.0

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
VRQX5	99	P	SUR	33	2	1.6	12.0	12.1
VRRH6	99	P	SUR	18	0	0.5	4.1	4.1
VRTF2	99	P	SUR	27	0	1.6	4.6	4.8
VRZQ8	99	P	SUR	17	0	1.6	4.1	4.4
VTSJ	99	P	SUR	19	0	1.0	-10.7	10.7
WACW	99	P	SUR	15	0	3.8	4.2	5.7
WCY2920	99	P	SUR	130	0	0.8	-4.3	4.4
WDF2493	99	P	SUR	102	0	0.6	4.0	4.1
WDK5676	99	P	SUR	127	0	1.0	-3.5	3.7
WGEB	99	P	SUR	111	0	0.6	6.5	6.5
WLMQ	99	P	SUR	25	0	0.5	5.8	5.8
WTED	99	P	SUR	85	10	6.9	-3.6	7.8
WYM9567	99	P	SUR	114	0	0.7	-3.2	3.3
ZQBVSBE	99	P	SUR	50	25	5.2	-4.0	6.6

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                : JAN 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
46181	99	SPEED	SUR	28	0	0	3.6	5.7	6.7
46185	99	SPEED	SUR	63	0	0	3.2	-9.0	9.5

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                : JAN 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
44488	99	DIRN	SUR	100	0	0	17.4	-31.9	36.3
44489	99	DIRN	SUR	95	0	0	16.3	-33.7	37.4
46145	99	DIRN	SUR	96	0	0	15.5	-46.1	48.7
46204	99	DIRN	SUR	83	0	0	13.6	41.6	43.8

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                 : JAN 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
0022684	99	P	SUR	29	132	712	45	5.4	-4.4	7.0
0022948	99	P	SUR	33	139	103	88	0.7	-13.8	13.8
0022949	99	P	SUR	16	109	143	0	2.5	-6.9	7.3
0022951	99	P	SUR	25	125	87	19	3.2	-10.4	10.9
1301704	99	P	SUR	0	8	724	0	1.1	10.2	10.3
1501727	99	P	SUR	-16	-39	725	0	0.4	-7.4	7.4
1501729	99	P	SUR	-28	-39	737	432	0.0	-14.5	14.5
1601701	99	P	SUR	-62	-59	728	728	0.0	0.0	0.0
1701718	99	P	SUR	13	-44	729	619	1.0	13.5	13.6
1801790	99	P	SUR	6	80	142	0	0.5	-6.0	6.0
2101820	99	P	SUR	34	-178	738	148	8.1	-1.4	8.3
2300094	99	P	SUR	13	84	191	0	1.0	-5.6	5.7
23094	99	P	SUR	13	84	163	0	0.8	-5.8	5.9
2802107	99	P	SUR	49	-160	730	122	6.9	1.5	7.1
3301523	99	P	SUR	-15	-39	736	0	0.4	-4.2	4.2
3301702	99	P	SUR	-41	-24	737	38	6.9	-0.3	6.9
3401636	99	P	SUR	-28	-119	737	0	0.4	-4.8	4.8
3801565	99	P	SUR	-10	45	92	92	0.0	0.0	0.0
4101848	99	P	SUR	40	-55	25	21	0.1	0.2	0.3
4403558	99	P	SUR	46	-2	31	26	3.4	-10.9	11.4
4601776	99	P	SUR	30	-133	738	327	5.4	-5.5	7.7
4602563	99	P	SUR	28	-169	737	118	0.9	13.3	13.4
4602593	99	P	SUR	32	-168	659	0	2.4	4.1	4.8
4701536	99	P	SUR	72	-175	131	131	0.0	0.0	0.0
4701545	99	P	SUR	81	162	38	16	0.3	0.7	0.8
4701558	99	P	SUR	79	-18	59	0	0.7	-4.5	4.6
4801636	99	P	SUR	75	-142	618	312	8.4	2.9	8.8
4802662	99	P	SUR	70	-125	711	673	3.2	8.2	8.8
5102809	99	P	SUR	10	-109	737	737	0.0	0.0	0.0
5103563	99	P	SUR	31	-152	552	432	8.8	5.3	10.3
5501735	99	P	SUR	-48	-155	744	744	0.0	0.0	0.0
5802068	99	P	SUR	47	-55	392	63	6.5	1.4	6.6

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

WMO IDENT	OBS TIME	ELM	ME LAT	N LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS	
6801915	99	P	SUR	46	-176	720	188	6.5	4.6	7.9
6801917	99	P	SUR	48	-177	735	117	6.9	-0.5	6.9

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                : JAN 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
4600181	99	SPEED	SUR	54	-129	174	0	0	3.4	5.6	6.5
4600185	99	SPEED	SUR	53	-130	380	0	0	3.1	-9.0	9.5
46181	99	SPEED	SUR	54	-129	174	0	0	3.4	5.8	6.7
46185	99	SPEED	SUR	53	-130	379	0	0	3.1	-9.0	9.5
6101008	99	SPEED	SUR	37	22	230	0	0	3.1	-5.9	6.7

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

```
          LIST OF SUSPECT STATIONS         : DRIFTER
                    MONITORING CENTRE      : ECMWF
                    ELEMENT MONITORED      : WIND DIRECTION (DEGREES)
                    PERIOD                 : JAN 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
2200185	99	DIRN	SUR	37	125	481	1	0	65.7	65.3	92.6
2300095	99	DIRN	SUR	10	94	198	0	0	13.8	29.8	32.8
23095	99	DIRN	SUR	10	94	143	0	0	12.3	31.5	33.9
23453	99	DIRN	SUR	8	73	55	0	0	27.6	25.1	37.3
3200319	99	DIRN	SUR	-8	-110	48	0	0	8.5	-22.1	23.7
32319	99	DIRN	SUR	-8	-110	48	0	0	8.6	-22.0	23.6
4400488	99	DIRN	SUR	45	-61	309	0	0	17.6	-30.8	35.5
4400489	99	DIRN	SUR	45	-61	282	0	0	17.5	-33.8	38.0
44078	99	DIRN	SUR	60	-40	688	0	0	15.1	-20.8	25.7
44488	99	DIRN	SUR	45	-61	617	0	0	16.4	-32.7	36.6
44489	99	DIRN	SUR	46	-61	579	0	0	15.5	-34.7	37.9
4600145	99	DIRN	SUR	54	-132	581	0	0	14.9	-44.6	47.1
4600204	99	DIRN	SUR	51	-129	493	0	0	13.5	42.8	44.9
46145	99	DIRN	SUR	54	-132	581	0	0	15.5	-45.3	47.9
46204	99	DIRN	SUR	51	-129	495	0	0	13.8	42.1	44.3
6200086	99	DIRN	SUR	55	7	288	0	0	11.5	23.4	26.1
63112	99	DIRN	SUR	61	1	1425	0	0	10.8	-21.0	23.6
6600022	99	DIRN	SUR	54	14	145	2	0	58.7	53.1	79.2
6600024	99	DIRN	SUR	55	13	29	0	0	11.0	22.8	25.3

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                : JAN 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	12	Z	1000	57	3	25	0	3.9	76.1	76.2
01400	00	Z	1000	57	3	27	0	13.8	72.8	74.1
04417	12	Z	925	73	-38	27	5	31.0	-56.2	64.2
06458	00	Z	1000	51	5	29	0	9.4	30.6	32.0
23078	00	Z	50	69	88	10	2	154.7	7.4	154.9
23884	00	Z	250	62	90	30	0	39.3	-72.3	82.3
23884	12	Z	250	62	90	30	0	40.2	-70.1	80.8
25403	00	Z	400	66	151	29	0	35.1	-50.6	61.6
38341	12	Z	200	43	71	16	4	114.7	-111.4	159.9
38341	00	Z	250	43	71	17	5	100.9	-85.4	132.2
40766	00	Z	70	34	47	21	8	127.5	71.2	146.0
42339	12	Z	850	26	73	18	3	24.1	39.9	46.6
42348	12	Z	150	27	76	13	0	45.7	99.4	109.4
42623	00	Z	925	25	94	24	6	28.3	23.1	36.5
42874	12	Z	700	21	82	10	0	31.9	46.5	56.4
43049	00	Z	850	19	85	26	1	24.4	21.0	32.2
43295	00	Z	400	13	78	13	0	54.4	36.0	65.2
48698	12	Z	200	1	104	15	0	9.6	76.3	76.9
62403	12	Z	925	26	33	11	2	43.9	67.5	80.5
65548	12	Z	925	7	-8	29	0	6.1	31.0	31.6
68994	00	Z	925	-47	38	29	2	9.0	33.1	34.3
68994	12	Z	850	-47	38	28	0	7.0	30.5	31.3
72393	12	Z	1000	35	-121	31	1	28.8	12.3	31.3
78486	12	Z	1000	18	-70	19	0	2.5	30.6	30.7
78486	00	Z	1000	18	-70	19	0	2.5	31.2	31.3
82824	12	Z	1000	-9	-64	30	0	36.8	20.4	42.1
82824	00	Z	1000	-9	-64	30	0	39.9	21.3	45.2
89514	00	Z	925	-71	12	10	0	10.8	-37.9	39.4
91680	00	Z	1000	-18	177	26	0	4.2	29.6	29.9
96315	00	Z	1000	5	115	31	0	8.3	56.5	57.1
JNKN7J	12	Z	1000	48	-11	11	0	3.9	37.5	37.7

LIST OF SUSPECT STATIONS (CONTINUED)

WMO IDENT	OBS TIME	ELM	LEV	LAT	LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
JNKN7J	00	Z	1000	50	-8	11	0	4.0	40.4	40.6

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                : JAN 2024
                    STANDARD OF COMPARISON: FIRST-GUESS FIELD


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


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

WMO IDENT	OBS TIME	ELM	LEV	LAT	LONG	NUM OBS	NUM GROSS	UBIAS	VBIAS	RMS
17607	12	V	100	35	33	24	0	-9.4	-0.5	19.2
38341	12	V	150	43	71	7	3	-13.9	-5.9	31.1
38341	00	V	150	43	71	8	4	-20.3	-6.2	30.1
40179	12	V	150	32	35	9	1	-18.6	1.3	29.0
40179	00	V	300	32	35	10	0	-27.9	-5.8	36.0
40754	12	V	300	36	51	15	0	-3.4	-0.4	15.2
42027	00	V	100	34	75	19	0	-8.7	0.2	17.4

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                : JAN 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
42971	12	DD	20	86	7	-17.0	5.1	10.8
42971	00	DD	20	86	12	-11.8	5.9	12.2
54340	12	DD	42	124	31	-12.0	0.6	3.6
54340	00	DD	42	124	31	-11.8	0.6	3.8

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

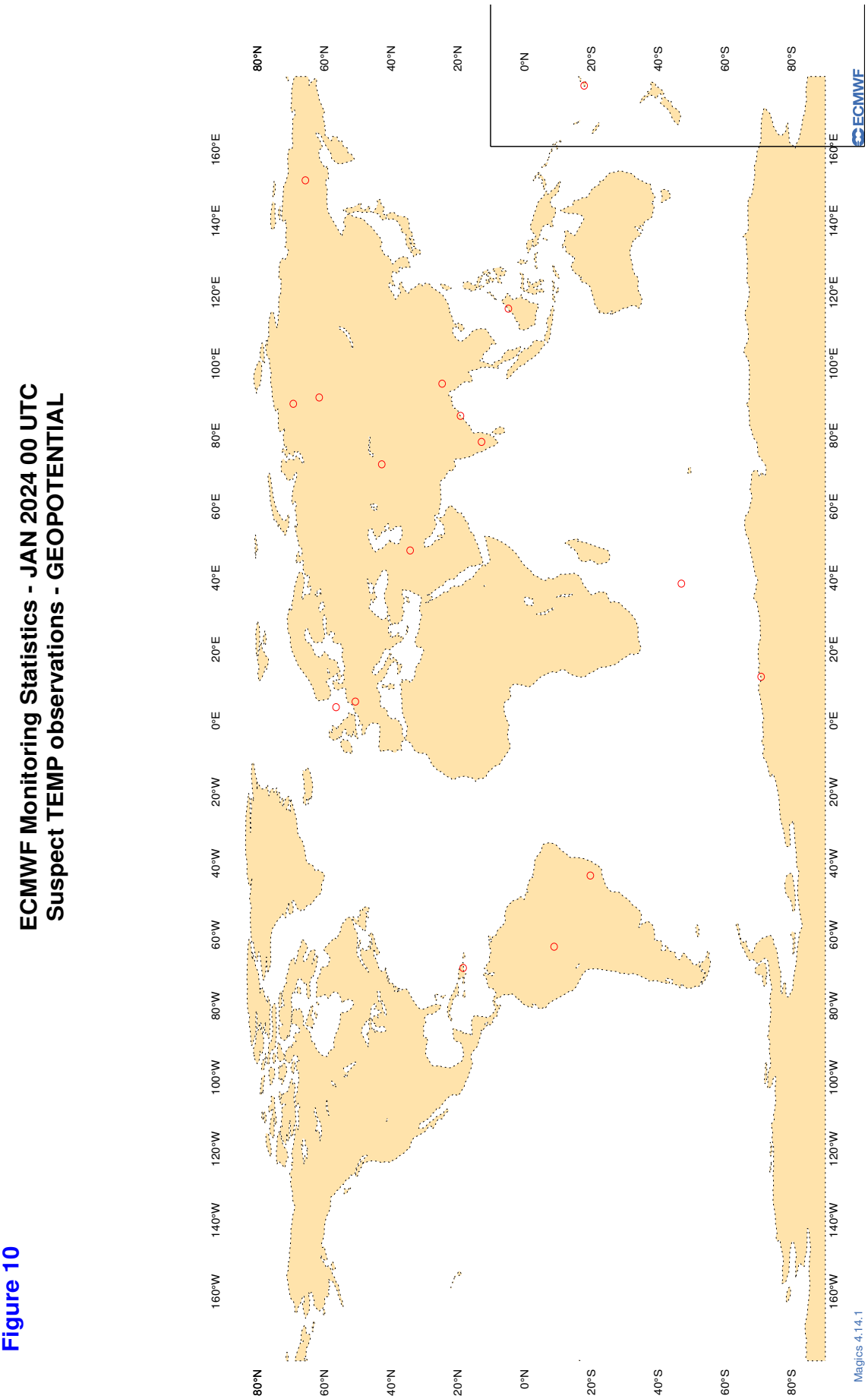
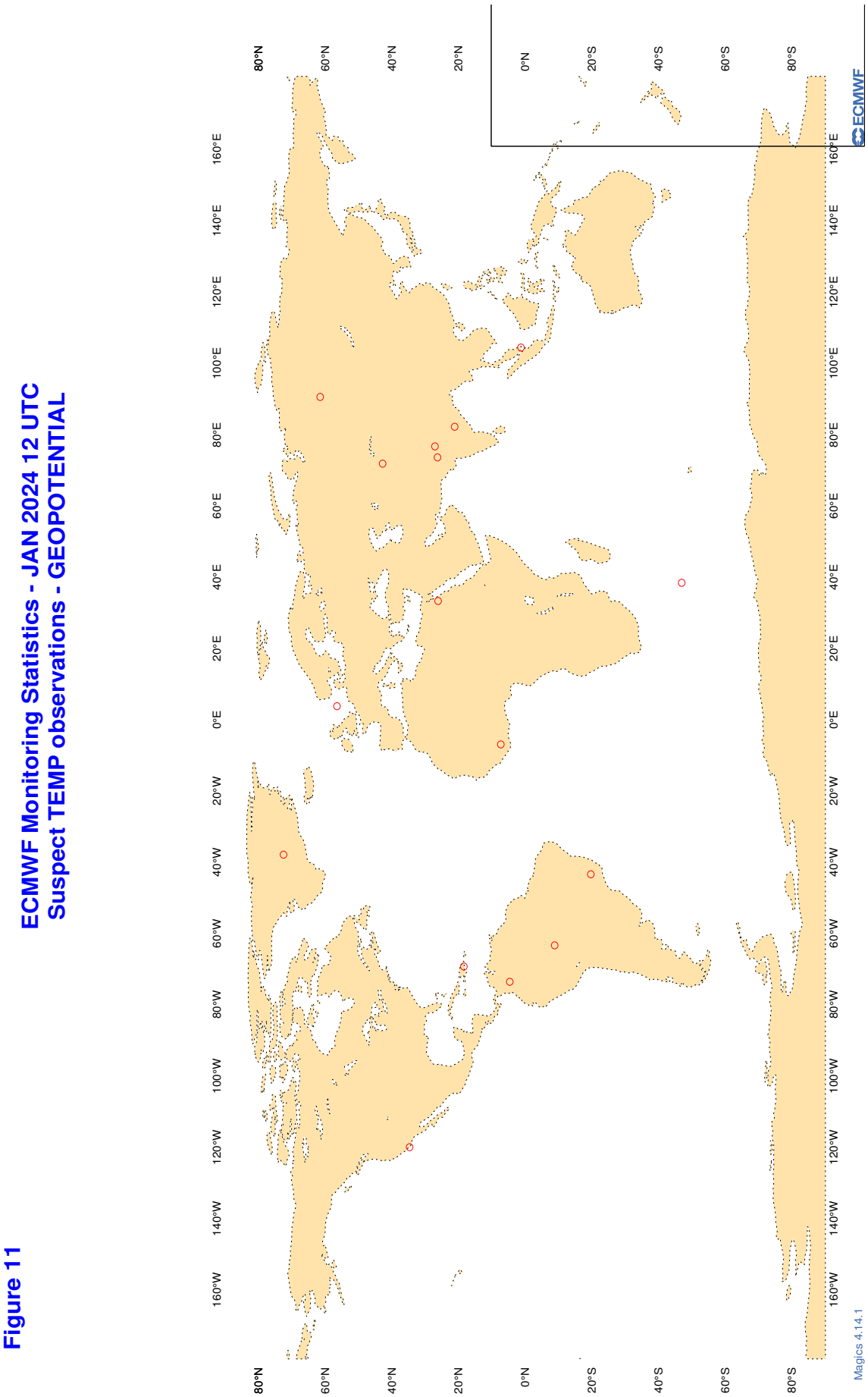


Figure 10

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



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

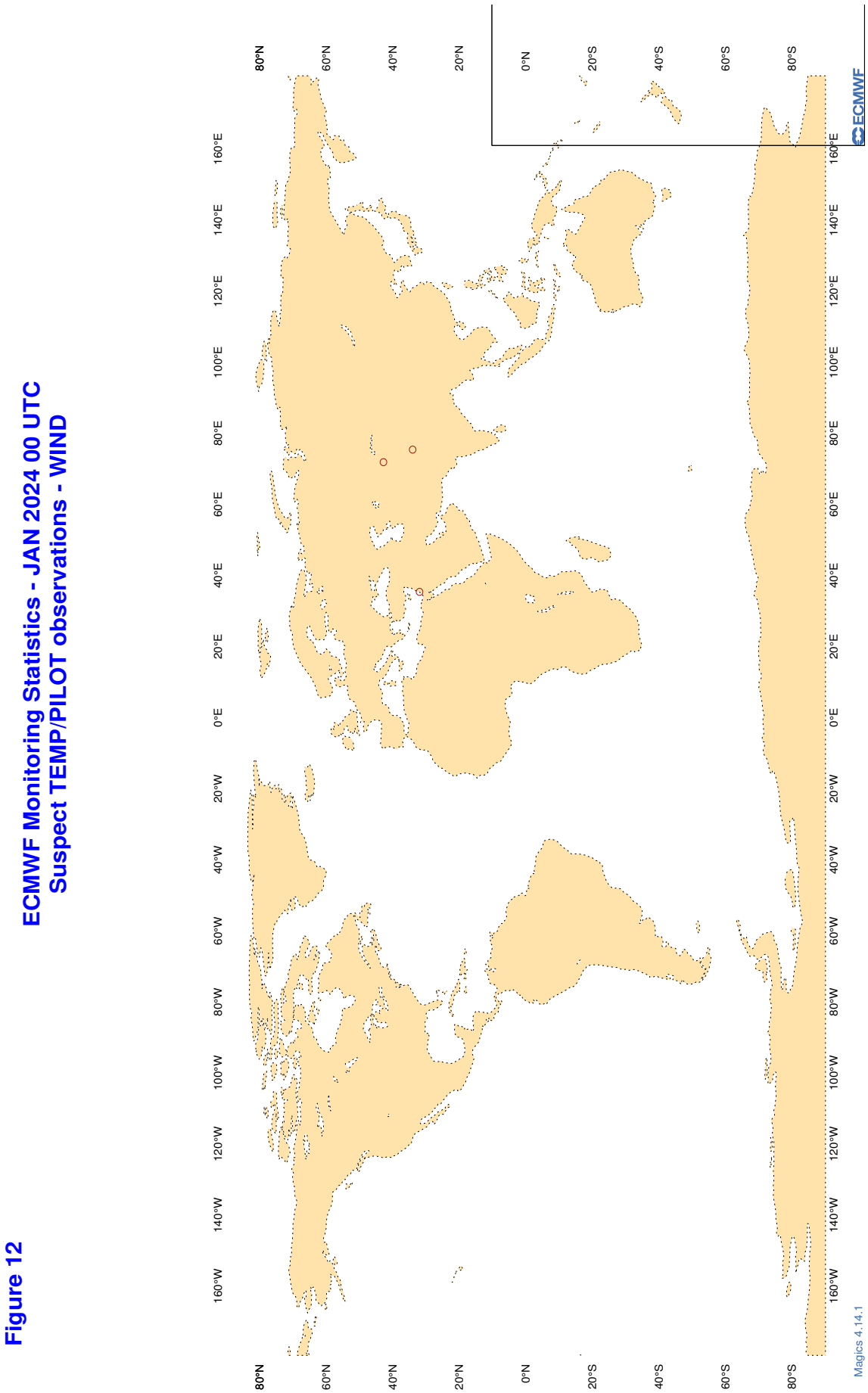
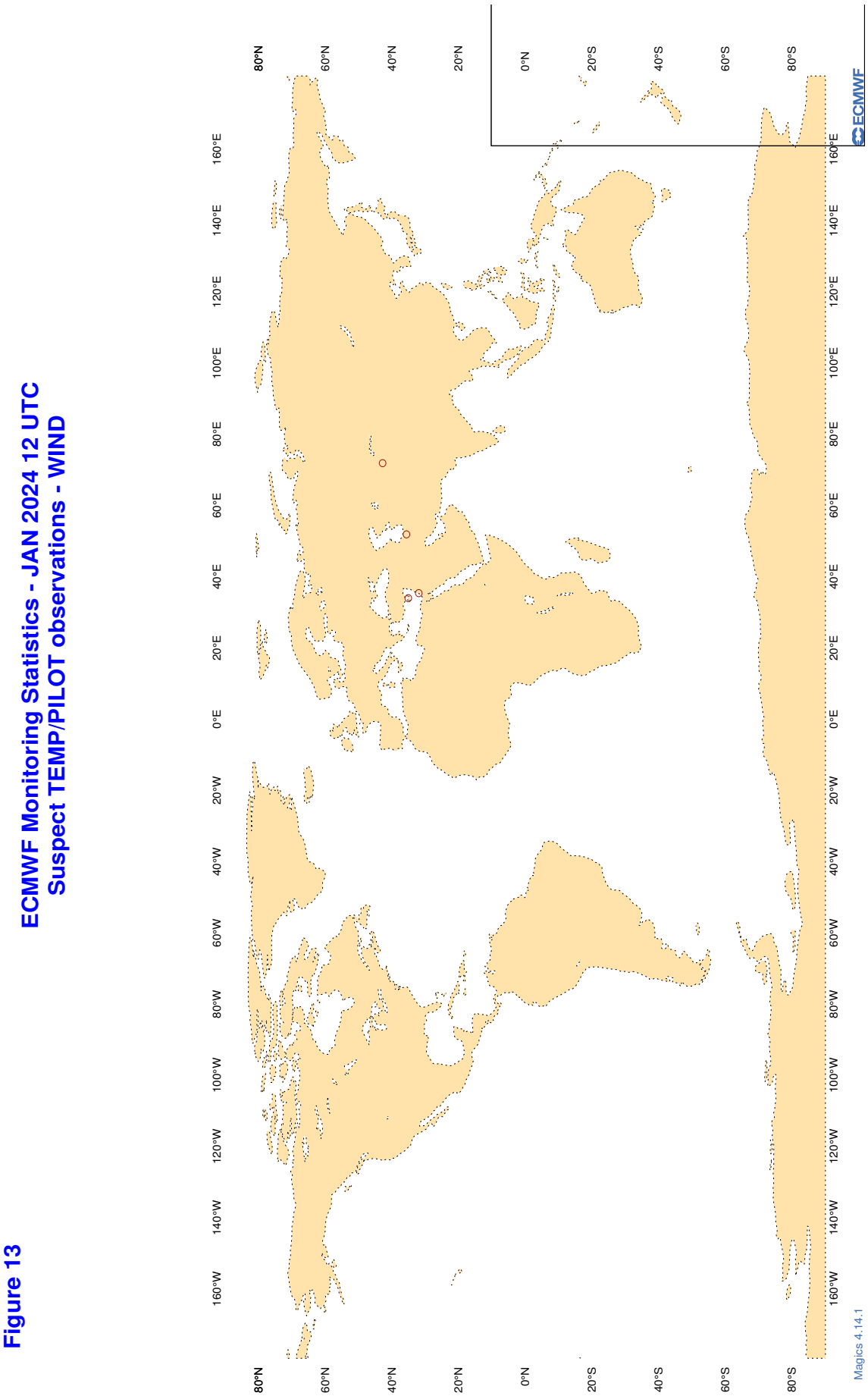


Figure 12

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	00	Z	100	7	11.3	-2.2
7JUNA4	12	Z	100	7	14.0	3.9
ASDE09	12	Z	100	2	49.2	-25.7
ATGU3F	00	Z	100	5	46.6	-38.1
ATGU3F	12	Z	100	7	45.9	-41.8
BPMWB2	12	Z	100	8	8.3	-3.7
BPMWB2	00	Z	100	8	8.0	-4.7
DBLK	00	Z	100	13	12.1	11.5
DBLK	12	Z	100	16	11.6	11.0
FPUW5G	12	Z	100	6	11.5	8.0
GQBZLZ	00	Z	100	4	27.0	-18.6
GQBZLZ	12	Z	100	6	51.6	-44.4
JNKN7J	00	Z	100	13	25.4	23.4
JNKN7J	12	Z	100	11	23.1	18.5
KJJF9X	00	Z	100	4	14.5	-3.5
KJJF9X	12	Z	100	5	18.5	-9.9
KMPLHP	00	Z	100	5	40.6	40.4
KMPLHP	12	Z	100	6	36.8	35.2
LAGY8	00	Z	100	3	14.9	-1.6
LAGY8	12	Z	100	1	11.4	11.4
LAGZ8	12	Z	100	3	75.9	74.7
LRYQE3	00	Z	100	4	10.7	-10.0
LRYQE3	12	Z	100	8	68.2	53.6
USBOD	00	Z	100	18	14.0	-11.3
USBOD	12	Z	100	11	6.9	-3.5
USCAT	00	Z	100	5	7.2	-3.8
USSIO	00	Z	100	1	18.9	-18.9
USTAC	00	Z	100	21	13.8	-10.2
USTAC	12	Z	100	10	10.0	-4.7
USYUB	00	Z	100	4	20.1	-19.2
USYUB	12	Z	100	5	8.9	-1.4
UXK5JT	00	Z	100	5	23.8	-5.1
UXK5JT	12	Z	100	5	46.2	-23.1
WDK38H	12	Z	100	7	9.3	-5.4
XKQLWQ	12	Z	100	22	47.5	35.6
YLV96W	12	Z	100	8	30.2	27.3
YLV96W	00	Z	100	8	12.8	-8.2
ZVQEQC	12	Z	100	11	9.9	0.6

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	00	V	100	7	3.2	-1.2	0.9
7JUNA4	12	V	100	7	3.2	1.0	1.7
ASDE09	12	V	100	2	2.9	-0.7	-0.8
ATGU3F	00	V	100	5	2.1	0.7	0.6
ATGU3F	12	V	100	7	2.6	-1.1	0.8
BPMWB2	12	V	100	8	4.2	-2.0	0.9
BPMWB2	00	V	100	8	2.5	-0.9	1.1
DBLK	00	V	100	13	3.1	-0.3	-0.4
DBLK	12	V	100	16	2.2	0.0	0.1
FPUW5G	12	V	100	6	4.1	-2.0	0.0
GQBZLZ	00	V	100	4	4.5	-2.3	1.7
GQBZLZ	12	V	100	6	4.6	-0.5	-0.6
JNKN7J	00	V	100	13	2.8	0.6	-0.5
JNKN7J	12	V	100	11	3.0	0.1	-0.8
KJJF9X	00	V	100	4	4.2	0.4	1.5
KJJF9X	12	V	100	5	3.4	1.2	1.5
KMPLHP	00	V	100	5	2.4	-1.2	-0.7
KMPLHP	12	V	100	6	3.1	1.4	-0.5
LAGY8	00	V	100	3	3.4	-0.2	-1.2
LAGY8	12	V	100	1	0.2	-0.1	-0.2
LAGZ8	12	V	100	3	2.7	-0.8	-0.6
LRYQE3	00	V	100	4	3.6	0.3	2.6
LRYQE3	12	V	100	8	2.7	0.9	-0.4
USBOD	00	V	100	13	3.3	0.8	0.4
USBOD	12	V	100	6	4.2	0.1	-1.6
USCAT	00	V	100	2	3.0	1.9	0.1
USSIO	00	V	100	1	4.7	1.9	-4.3
USTAC	00	V	100	12	3.2	-0.7	-0.4
USTAC	12	V	100	5	6.1	1.8	0.8
USYUB	00	V	100	3	7.7	5.7	-1.0
USYUB	12	V	100	4	3.8	1.5	1.6
UXK5JT	00	V	100	5	4.2	-1.8	-0.8
UXK5JT	12	V	100	5	5.9	0.0	0.1
WDK38H	12	V	100	7	1.9	-0.5	0.0
XKQLWQ	12	V	100	22	3.8	0.3	1.0
YLV96W	12	V	100	8	2.8	0.8	0.8
YLV96W	00	V	100	8	3.3	-0.6	0.2
ZVQEQC	12	V	100	11	10.2	-1.6	-0.1

3.2.27 Figure 14 - SATOB Winds: 700-1000hPa

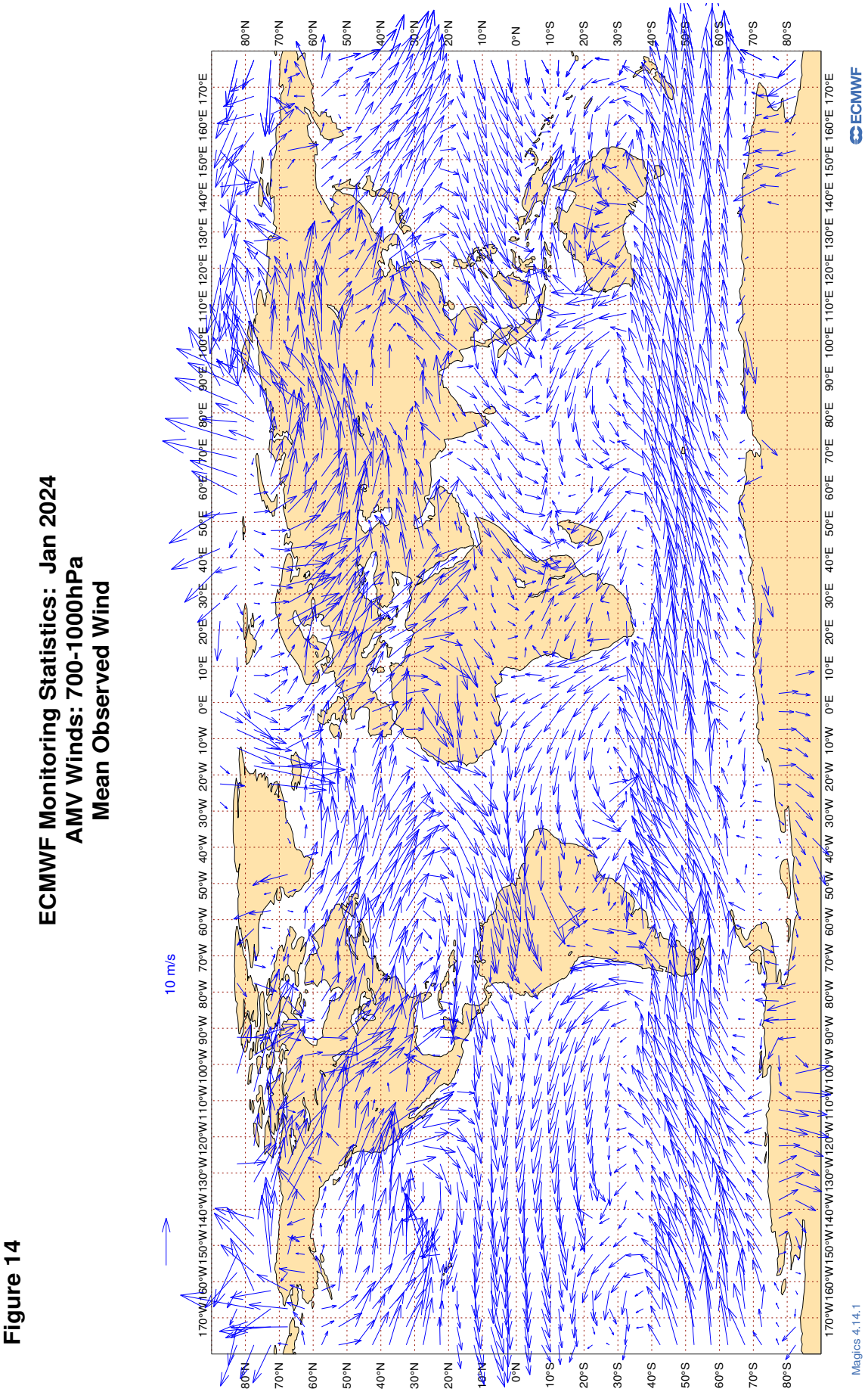


Figure 14

3.2.28 Figure 15 - SATOB Winds: 150- 400hPa

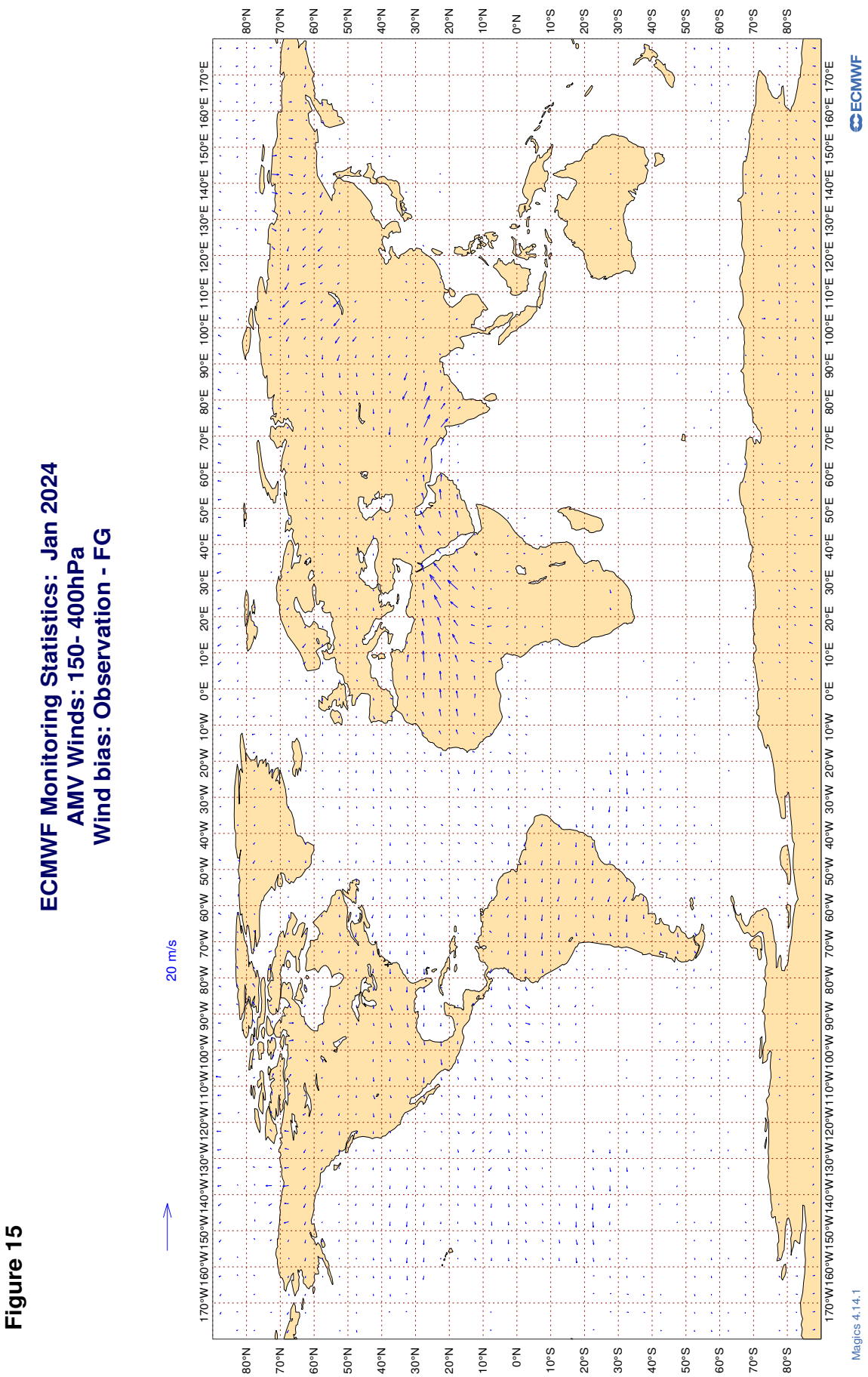


Figure 15

3.2.29 Figure 16 - SATOB Winds: 700-1000hPa

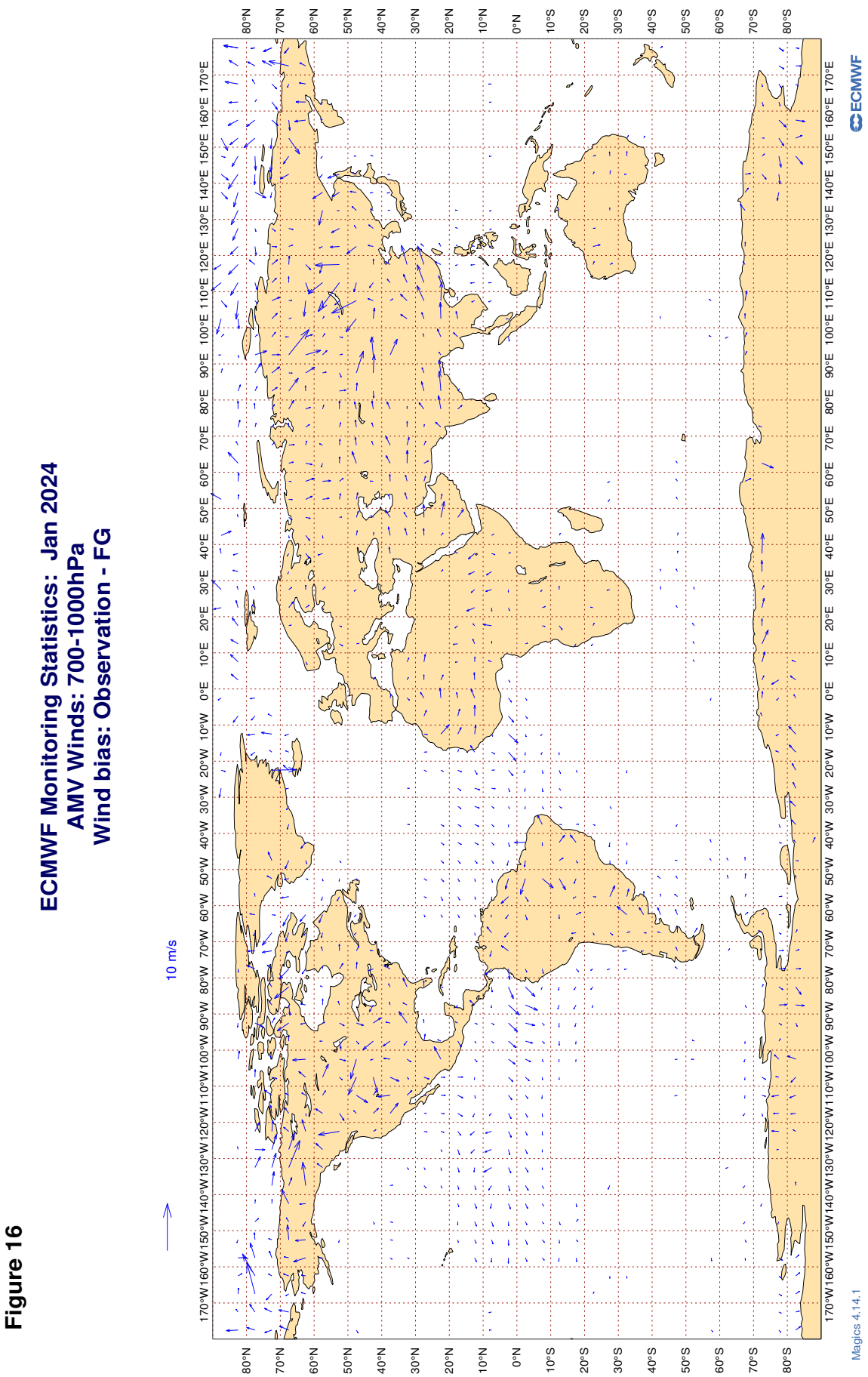


Figure 16

3.2.30 Figure 17 - SATOB Winds: 150- 400hPa

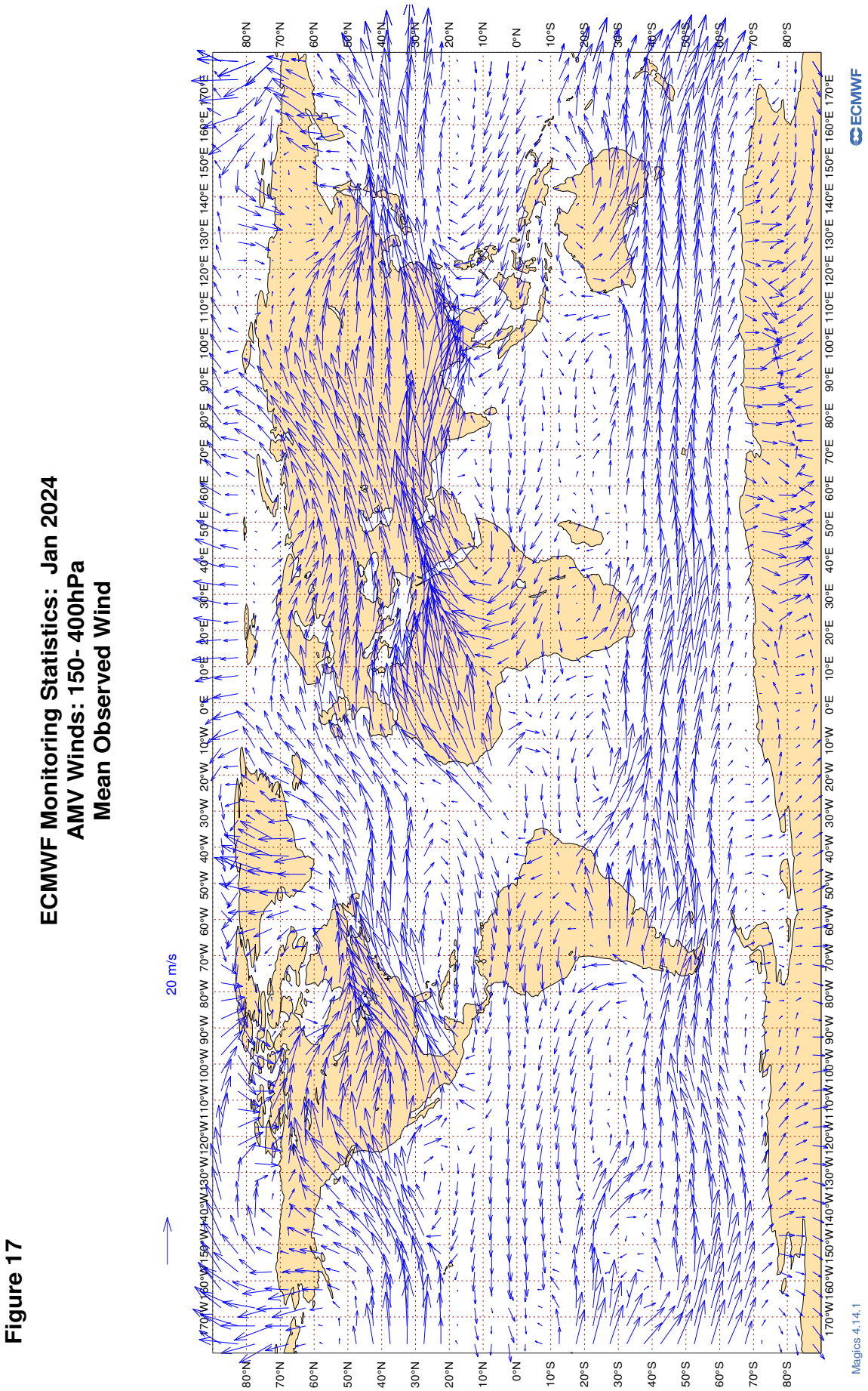


Figure 17

3.2.31 Figure 18 - AIRCRAFT Winds: 150- 300hPa

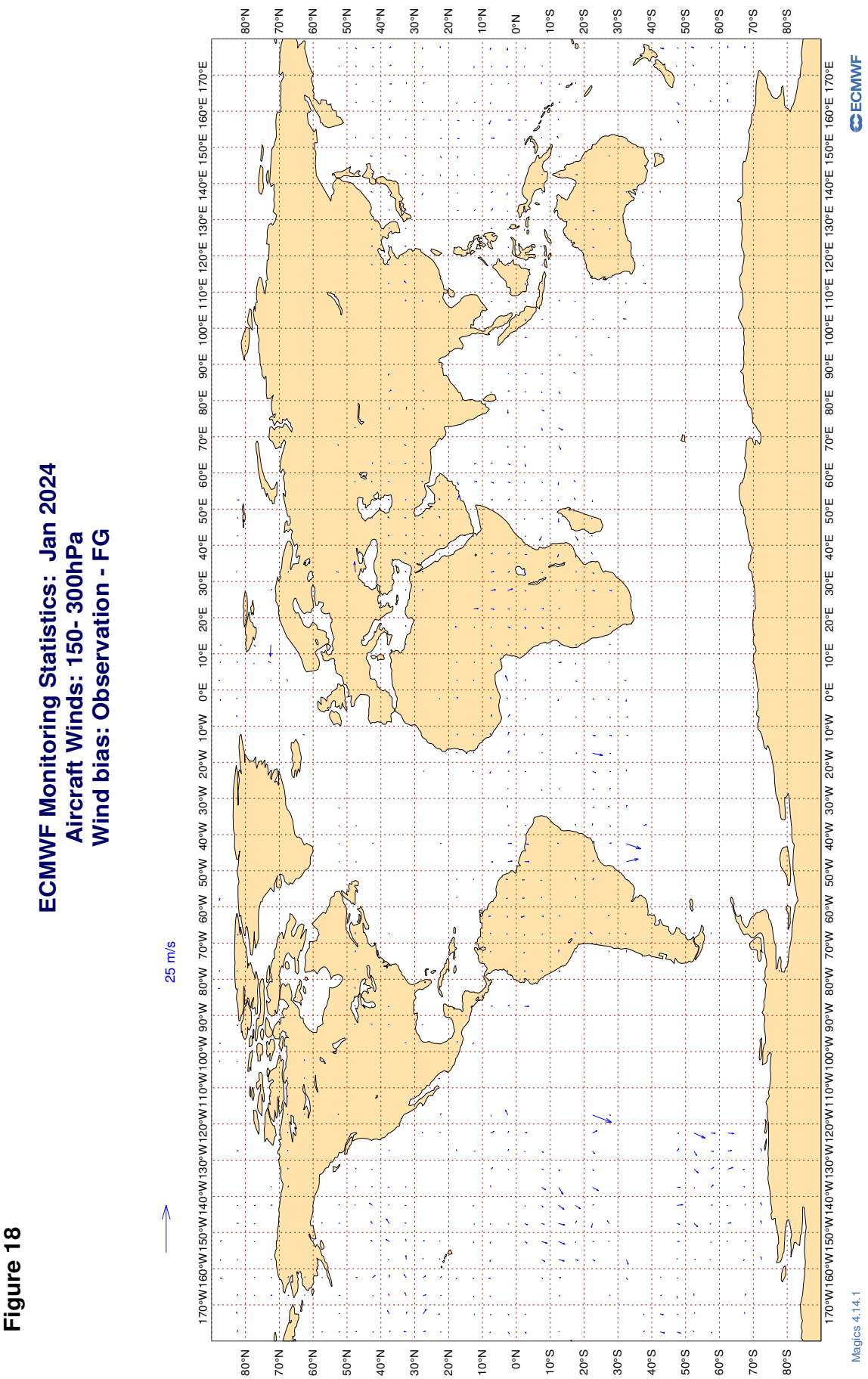


Figure 18

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 : JAN 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	37	0	0	3.5	0.6
AAL	99	V	300-150	39054	5	0	5.7	0.2
AAR	99	V	300-150	249	0	0	3.9	-0.8
ABB	99	V	300-150	742	0	0	3.4	0.3
ABD	99	V	300-150	1322	0	0	3.9	-0.2
ABP	99	V	300-150	158	0	0	3.3	0.1
ABX	99	V	300-150	20	0	0	3.4	-0.7
ACA	99	V	300-150	23145	5	0	5.1	0.1
ACH	99	V	300-150	35	0	0	3.7	-0.5
ACI	99	V	300-150	565	0	0	5.1	0.8
AEA	99	V	300-150	365	8	4	7.8	0.9
AEW	99	V	300-150	24	0	0	2.8	1.0
AFR	99	V	300-150	31550	1	0	4.2	0.1
AIC	99	V	300-150	5568	1	0	4.9	0.2
AJT	99	V	300-150	185	0	0	2.9	0.0
ALK	99	V	300-150	2501	0	0	3.1	0.3
AMX	99	V	300-150	4783	13	0	6.8	0.1
ANA	99	V	300-150	267	1	0	4.2	0.6
ANZ	99	V	300-150	18001	0	0	4.5	0.2
AOJ	99	V	300-150	248	0	0	3.5	0.3
ARG	99	V	300-150	31	0	0	2.9	0.1
ASA	99	V	300-150	90	6	2	7.4	0.4
ASL	99	V	300-150	798	0	0	3.4	0.2
ASY	99	V	300-150	38	0	0	3.7	1.4

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
ATC	99	V	300-150	317	2	0	7.0	0.4
ATG	99	V	300-150	115	0	0	3.6	1.4
ATN	99	V	300-150	92	1	4	5.1	0.4
AUA	99	V	300-150	3682	0	0	4.0	0.2
AUH	99	V	300-150	33	15	0	3.7	1.0
AVA	99	V	300-150	455	7	2	7.1	-0.2
AWC	99	V	300-150	76	0	0	4.2	-0.4
AXM	99	V	300-150	71	0	0	4.3	0.6
AXY	99	V	300-150	152	0	1	3.7	0.9
AZG	99	V	300-150	845	3	0	3.8	-0.2
BAH	99	V	300-150	36	0	0	2.7	0.2
BAW	99	V	300-150	45833	2	0	4.6	0.1
BBC	99	V	300-150	1062	4	0	5.1	0.4
BCS	99	V	300-150	1602	0	0	3.5	0.4
BEL	99	V	300-150	620	0	0	3.4	0.4
BFY	99	V	300-150	49	0	2	3.3	0.2
BLX	99	V	300-150	740	6	0	7.2	-0.1
BOX	99	V	300-150	4191	0	0	3.5	0.1
BOX	99	V	300-150	97	0	0	3.0	0.2
BQB	99	V	300-150	40	0	0	2.8	-0.3
BTX	99	V	300-150	128	0	0	3.7	-0.2
BVR	99	V	300-150	29	0	0	3.3	-0.1
CAL	99	V	300-150	1513	1	0	3.6	0.6
CAZ	99	V	300-150	49	0	0	3.2	0.0
CBJ	99	V	300-150	216	0	0	2.8	0.3
CCA	99	V	300-150	260	0	0	3.5	0.5
CEB	99	V	300-150	795	0	0	3.2	0.5
CES	99	V	300-150	1210	0	0	3.6	0.3
CFC	99	V	300-150	297	0	0	4.6	0.4
CFG	99	V	300-150	5023	0	0	3.9	0.2
CHG	99	V	300-150	279	0	0	3.9	0.0
CHH	99	V	300-150	414	0	0	3.3	0.2
CJT	99	V	300-150	610	0	0	4.1	-0.1
CKS	99	V	300-150	275	0	0	3.3	-0.3
CLX	99	V	300-150	4750	0	0	3.8	-0.4
CLY	99	V	300-150	41	0	0	4.0	0.1
CMA	99	V	300-150	102	0	0	3.5	-0.1
CMB	99	V	300-150	1287	0	0	3.7	-0.1
CND	99	V	300-150	318	0	1	4.7	0.5
CNV	99	V	300-150	182	0	0	4.0	0.4
CPA	99	V	300-150	2860	0	0	3.5	0.4
CRK	99	V	300-150	47	0	0	3.6	0.4
CRL	99	V	300-150	1021	0	1	3.6	0.2

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
CSC	99	V	300-150	1030	0	0	3.0	0.5
CSG	99	V	300-150	39	0	0	2.9	-0.5
CSN	99	V	300-150	485	0	0	5.0	0.5
CSS	99	V	300-150	170	0	0	3.7	1.0
CTM	99	V	300-150	61	0	0	4.0	-0.5
CTV	99	V	300-150	49	0	0	3.7	0.3
CXA	99	V	300-150	61	0	0	2.8	0.5
DAH	99	V	300-150	793	0	0	3.4	0.3
DAL	99	V	300-150	46215	0	0	3.5	0.2
DCM	99	V	300-150	23	0	0	3.1	1.3
DEE	99	V	300-150	31	0	0	8.4	-2.3
DGX	99	V	300-150	61	0	0	3.6	0.0
DHK	99	V	300-150	3391	0	0	3.6	-0.1
DHX	99	V	300-150	675	0	0	3.5	0.5
DJT	99	V	300-150	1651	0	0	3.8	0.2
DLH	99	V	300-150	23840	1	0	4.0	0.0
EAL	99	V	300-150	110	0	0	3.3	0.5
EAU	99	V	300-150	32	0	0	7.4	2.4
EDC	99	V	300-150	175	0	0	3.9	-0.4
EDW	99	V	300-150	1581	0	0	3.9	0.5
EIN	99	V	300-150	11525	0	0	3.4	0.2
EJM	99	V	300-150	773	0	0	3.6	0.2
ELY	99	V	300-150	5855	11	0	6.3	-0.1
EMO	99	V	300-150	20	0	0	3.0	0.7
ESW	99	V	300-150	29	0	0	4.1	0.1
ETD	99	V	300-150	16959	2	0	4.8	0.2
ETH	99	V	300-150	7346	3	0	5.5	0.2
EUK	99	V	300-150	1486	0	0	3.6	0.3
EVA	99	V	300-150	1744	1	1	4.0	0.5
EVE	99	V	300-150	189	0	0	4.4	0.8
EXS	99	V	300-150	3510	0	0	3.6	0.0
FBU	99	V	300-150	1980	0	0	3.7	0.0
FDX	99	V	300-150	7293	0	0	3.5	0.1
FFM	99	V	300-150	36	0	0	3.8	0.3
FIN	99	V	300-150	2862	0	0	3.3	0.3
FJI	99	V	300-150	2868	0	0	4.6	0.6
FJO	99	V	300-150	60	0	0	3.7	0.2
FLI	99	V	300-150	20	0	0	2.8	0.6
FPY	99	V	300-150	3724	0	0	3.2	0.1
FRV	99	V	300-150	22	0	0	3.4	0.3
FRX	99	V	300-150	40	0	0	4.7	2.8
FSY	99	V	300-150	33	0	0	3.6	0.0
FVS	99	V	300-150	37	0	0	3.8	0.8

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
FWI	99	V	300-150	2455	0	0	4.0	0.1
FYG	99	V	300-150	43	0	0	4.5	0.8
GAF	99	V	300-150	155	0	0	3.4	0.3
GCK	99	V	300-150	109	0	0	3.6	0.0
GEC	99	V	300-150	1431	0	0	3.5	0.2
GES	99	V	300-150	51	0	0	3.3	0.5
GFA	99	V	300-150	1860	1	0	4.4	0.5
GIA	99	V	300-150	930	0	0	3.1	0.3
GLH	99	V	300-150	21	0	0	3.0	0.8
GLJ	99	V	300-150	53	0	0	4.2	0.5
GNJ	99	V	300-150	96	0	0	3.5	0.8
GON	99	V	300-150	37	0	0	4.0	0.1
GRB	99	V	300-150	36	0	0	3.0	0.3
GSM	99	V	300-150	116	0	0	4.0	0.0
GTI	99	V	300-150	1742	0	0	3.8	-0.2
HAL	99	V	300-150	824	0	0	4.4	0.4
HDB	99	V	300-150	37	0	0	5.4	1.7
HFM	99	V	300-150	74	0	0	3.2	0.2
HGO	99	V	300-150	30	0	0	4.2	2.9
HIM	99	V	300-150	88	0	0	3.1	0.1
HKC	99	V	300-150	185	0	0	3.2	0.4
HLF	99	V	300-150	49	0	0	2.5	0.3
HMZ	99	V	300-150	54	0	0	3.8	1.1
HUE	99	V	300-150	45	0	0	5.8	0.3
HVN	99	V	300-150	1209	0	0	3.8	0.8
IAM	99	V	300-150	83	0	0	4.4	1.2
IBE	99	V	300-150	4438	0	1	3.8	0.2
IBY	99	V	300-150	36	0	0	4.0	0.5
ICE	99	V	300-150	6320	0	0	3.3	0.1
ICL	99	V	300-150	83	0	0	3.7	0.5
ICV	99	V	300-150	234	0	0	3.6	-0.7
IFA	99	V	300-150	524	0	0	3.7	0.5
IGO	99	V	300-150	84	0	0	2.5	0.0
IJM	99	V	300-150	80	0	1	3.1	0.3
ITY	99	V	300-150	3521	0	0	3.9	0.3
JAF	99	V	300-150	638	11	0	7.2	0.2
JAL	99	V	300-150	137	0	1	3.9	0.3
JAS	99	V	300-150	55	0	0	3.9	0.2
JBU	99	V	300-150	7444	0	0	3.6	0.1
JCO	99	V	300-150	49	0	0	3.8	-0.1
JCT	99	V	300-150	40	0	0	3.9	-0.3
JEF	99	V	300-150	32	0	0	3.1	0.7
JET	99	V	300-150	29	0	0	3.6	-0.8

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
JME	99	V	300-150	64	0	0	4.0	0.6
JNY	99	V	300-150	22	0	0	4.2	1.7
JST	99	V	300-150	397	0	0	4.0	0.3
KAC	99	V	300-150	2878	0	0	3.0	0.3
KAF	99	V	300-150	51	0	0	4.0	-0.5
KAI	99	V	300-150	142	1	1	5.1	0.5
KAL	99	V	300-150	886	1	0	4.1	0.7
KAY	99	V	300-150	138	0	0	3.8	0.5
KKY	99	V	300-150	40	0	0	4.6	1.1
KLM	99	V	300-150	18780	6	0	5.6	0.1
KOC	99	V	300-150	42	0	0	3.9	0.3
KQA	99	V	300-150	730	6	1	7.2	0.2
LCO	99	V	300-150	510	0	0	4.2	-0.8
LDX	99	V	300-150	95	0	0	3.5	0.1
LEA	99	V	300-150	28	0	0	5.2	0.3
LEX	99	V	300-150	20	0	0	3.6	0.5
LNI	99	V	300-150	1302	0	0	3.1	0.2
LNX	99	V	300-150	66	0	2	3.8	-0.2
LOT	99	V	300-150	4713	8	0	6.8	0.2
LPE	99	V	300-150	175	9	1	9.1	0.6
LUC	99	V	300-150	38	0	0	2.6	0.4
LXA	99	V	300-150	29	0	0	3.3	-0.5
LXJ	99	V	300-150	473	0	0	3.6	0.1
MAS	99	V	300-150	7002	0	0	3.5	0.4
MAU	99	V	300-150	552	0	0	4.5	0.9
MAV	99	V	300-150	33	0	0	3.4	0.2
MED	99	V	300-150	34	0	0	3.0	-0.5
MLM	99	V	300-150	95	0	0	4.1	0.9
MLT	99	V	300-150	237	0	0	3.8	0.4
MMD	99	V	300-150	202	0	0	3.3	0.4
MMF	99	V	300-150	20	0	0	2.9	-1.4
MNB	99	V	300-150	323	0	0	3.5	0.5
MPH	99	V	300-150	543	0	0	4.2	-0.5
MSR	99	V	300-150	2492	6	0	5.2	0.0
MXD	99	V	300-150	338	0	0	3.0	0.3
NAH	99	V	300-150	31	0	0	3.3	0.0
NBT	99	V	300-150	1170	7	0	8.2	0.0
NCR	99	V	300-150	452	0	0	3.9	-0.5
NEW	99	V	300-150	32	0	0	3.4	0.2
NIV	99	V	300-150	35	0	0	3.8	0.3
NJE	99	V	300-150	442	0	0	3.5	0.2
NLS	99	V	300-150	34	0	0	4.4	0.3
NOJ	99	V	300-150	91	0	0	3.6	0.2

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
NOS	99	V	300-150	1598	11	0	7.2	0.1
NUM	99	V	300-150	79	0	0	4.0	0.7
OAE	99	V	300-150	406	0	0	4.8	0.0
OCN	99	V	300-150	4394	0	0	3.8	0.3
OMA	99	V	300-150	3572	1	0	4.8	0.5
PAC	99	V	300-150	215	0	0	3.5	-0.2
PAL	99	V	300-150	2266	0	0	3.1	0.3
PEG	99	V	300-150	31	0	0	2.7	-0.3
PEX	99	V	300-150	66	0	0	3.3	0.1
PIA	99	V	300-150	513	0	0	3.5	0.8
PJS	99	V	300-150	32	0	0	3.7	0.7
PUE	99	V	300-150	301	0	2	3.8	0.5
PVA	99	V	300-150	85	0	0	3.3	-0.5
QAF	99	V	300-150	71	0	0	3.3	0.1
QFA	99	V	300-150	5819	3	0	6.4	0.2
QFX	99	V	300-150	71	0	0	3.2	0.7
QQE	99	V	300-150	291	0	0	3.8	0.0
QTR	99	V	300-150	40489	0	0	3.9	0.2
RAM	99	V	300-150	741	13	1	7.2	0.0
RBA	99	V	300-150	343	1	0	5.3	0.0
RCH	99	V	300-150	1951	0	0	4.7	0.0
RCR	99	V	300-150	55	0	0	7.5	0.8
RDN	99	V	300-150	45	0	0	2.6	0.7
RHH	99	V	300-150	33	0	0	7.1	1.7
RJA	99	V	300-150	1953	11	0	6.8	-0.1
ROJ	99	V	300-150	27	0	0	3.5	0.4
RRR	99	V	300-150	418	0	0	3.9	0.1
RSF	99	V	300-150	35	0	0	4.5	0.3
RYR	99	V	300-150	1196	0	0	3.5	0.0
RZO	99	V	300-150	404	0	3	4.4	0.2
SAM	99	V	300-150	216	0	0	3.2	-0.3
SAS	99	V	300-150	5515	0	0	3.3	0.2
SAZ	99	V	300-150	130	0	0	3.2	0.2
SCX	99	V	300-150	68	0	4	5.3	0.2
SEF	99	V	300-150	34	0	0	3.8	0.1
SEY	99	V	300-150	74	0	0	4.7	1.0
SIA	99	V	300-150	15036	0	0	3.7	0.2
SIO	99	V	300-150	63	0	0	3.6	0.3
SJE	99	V	300-150	36	0	0	3.8	-0.7
SKV	99	V	300-150	32	0	0	2.7	-0.2
SLM	99	V	300-150	127	0	0	3.8	0.5
SME	99	V	300-150	33	0	0	4.2	0.8
SON	99	V	300-150	41	0	0	3.8	-0.5

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
SPA	99	V	300-150	78	0	0	4.1	0.7
SVA	99	V	300-150	12513	1	0	4.3	0.3
SVW	99	V	300-150	166	0	1	4.0	0.2
SWA	99	V	300-150	39	3	3	5.7	1.1
SWR	99	V	300-150	10815	0	1	3.7	0.1
SWW	99	V	300-150	104	0	0	4.1	1.0
SYB	99	V	300-150	59	0	2	4.8	-0.1
TAG	99	V	300-150	33	0	0	4.5	1.0
TAM	99	V	300-150	80	3	4	4.8	0.0
TAP	99	V	300-150	2649	0	1	3.7	0.0
TAR	99	V	300-150	393	0	0	3.6	0.0
TAY	99	V	300-150	101	0	0	4.0	0.0
TEU	99	V	300-150	59	0	0	3.8	-0.3
TFF	99	V	300-150	113	0	0	4.6	0.7
TFL	99	V	300-150	1720	10	0	7.4	0.2
TGW	99	V	300-150	1143	1	0	6.5	0.6
THA	99	V	300-150	6201	0	0	3.8	0.4
THT	99	V	300-150	2607	4	0	8.3	0.0
THY	99	V	300-150	21899	3	0	4.5	0.1
TLJ	99	V	300-150	22	0	0	4.6	0.5
TMN	99	V	300-150	262	0	0	4.3	0.7
TOM	99	V	300-150	5218	12	0	6.7	0.1
TRK	99	V	300-150	43	0	0	2.7	-0.3
TSC	99	V	300-150	5236	0	0	3.5	0.2
TVL	99	V	300-150	35	0	0	2.4	0.5
TWY	99	V	300-150	608	0	0	3.6	0.0
UAE	99	V	300-150	36014	0	0	3.3	0.2
UAF	99	V	300-150	193	0	0	3.8	-0.2
UAG	99	V	300-150	24	0	0	5.9	-0.4
UAL	99	V	300-150	60105	3	1	5.4	0.1
UBT	99	V	300-150	2923	11	0	8.0	0.1
UGD	99	V	300-150	51	0	0	3.0	0.4
ULC	99	V	300-150	93	0	0	3.8	0.2
UNI	99	V	300-150	109	0	0	4.2	0.1
UPS	99	V	300-150	5846	0	0	3.6	-0.1
UZB	99	V	300-150	800	4	0	5.4	0.5
VCG	99	V	300-150	74	0	0	4.3	1.4
VIR	99	V	300-150	20507	3	0	4.8	0.1
VJC	99	V	300-150	310	0	0	3.2	0.3
VJH	99	V	300-150	502	2	0	4.7	-0.3
VJT	99	V	300-150	1793	0	0	3.8	0.3
VKG	99	V	300-150	278	0	0	3.3	0.2
VLZ	99	V	300-150	144	0	0	3.9	0.3

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
VSV	99	V	300-150	44	0	0	3.2	1.0
VTI	99	V	300-150	3199	0	0	2.9	0.2
VXS	99	V	300-150	30	0	0	3.0	0.1
WFL	99	V	300-150	376	0	1	3.9	0.9
WGN	99	V	300-150	93	0	0	4.0	0.1
WJA	99	V	300-150	895	7	1	7.0	-0.1
XAX	99	V	300-150	1320	0	0	3.6	0.3
XLS	99	V	300-150	51	0	0	3.7	-0.4
XRO	99	V	300-150	52	0	0	3.8	0.7

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 $10\,^{\circ}$N - $90\,^{\circ}$N, $70\,^{\circ}$W - $40\,^{\circ}$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 $10\,^{\circ}$N - $90\,^{\circ}$N, $70\,^{\circ}$W - $40\,^{\circ}$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                : JAN 2024
         STANDARD OF COMPARISON: FIRST-GUESS FIELD
```

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	50	26	24.9	-20.9
01001	12	Z	50	31	14.5	1.9
01028	12	Z	50	31	8.6	-6.1
01028	00	Z	50	29	12.3	-3.6
01400	12	Z	50	18	73.1	72.3
01400	00	Z	50	20	74.7	73.7
01415	00	Z	50	30	13.1	3.2
01415	12	Z	50	30	11.5	-0.2
02365	12	Z	50	22	8.7	-1.1
02365	00	Z	50	19	11.1	-2.0
02591	00	Z	50	25	11.5	3.2
02591	12	Z	50	24	10.1	1.5
02836	00	Z	50	18	8.9	-2.7
02836	12	Z	50	30	10.4	-5.0
02963	12	Z	50	29	8.3	-4.5
02963	00	Z	50	27	8.9	-2.5
03005	12	Z	50	30	10.3	-3.9
03005	00	Z	50	25	11.9	-2.4
03238	12	Z	50	5	8.7	-1.1
03238	00	Z	50	31	10.0	3.3
03808	12	Z	50	31	8.1	1.5
03808	00	Z	50	31	9.6	0.0
03918	00	Z	50	29	12.3	3.2
03918	12	Z	50	4	10.9	4.4
03953	00	Z	50	30	11.9	-7.2
03953	12	Z	50	31	13.7	-4.8
04018	12	Z	50	26	8.2	-0.5
04018	00	Z	50	26	7.0	-0.4
04220	00	Z	50	29	20.2	-17.6
04220	12	Z	50	31	20.0	-18.1
04270	00	Z	50	30	22.4	-17.2
04270	12	Z	50	31	28.6	-25.0
04320	12	Z	50	30	16.2	-9.1
04320	00	Z	50	30	13.3	-7.3
04339	00	Z	50	24	16.7	-10.8
04339	12	Z	50	28	29.8	-21.6
04360	00	Z	50	22	16.8	-10.2
04360	12	Z	50	23	24.1	-19.9
06011	00	Z	50	0	0.0	0.0

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06011	12	Z	50	24	26.9	-24.2
06260	00	Z	50	27	6.8	-1.6
06260	12	Z	50	6	15.8	-0.2
06610	12	Z	50	33	11.5	2.6
06610	00	Z	50	30	21.8	7.4
07110	00	Z	50	21	42.6	-41.0
07110	12	Z	50	28	35.0	-31.6
07510	00	Z	50	30	30.4	-25.4
07510	12	Z	50	29	24.2	-20.4
07645	12	Z	50	20	25.9	-18.7
07645	00	Z	50	26	42.0	-36.8
07761	00	Z	50	31	21.3	-11.8
07761	12	Z	50	30	21.1	-3.3
08001	12	Z	50	31	6.9	1.0
08001	00	Z	50	31	7.9	4.1
08221	00	Z	50	31	8.8	5.4
08221	12	Z	50	31	11.0	6.2
08302	12	Z	50	26	8.3	-4.5
08302	00	Z	50	25	8.9	-5.9
08508	12	Z	50	31	13.4	1.6
08522	12	Z	50	30	9.6	6.7
10035	00	Z	50	30	16.1	14.1
10035	12	Z	50	30	11.2	8.0
10393	12	Z	50	31	7.8	-2.0
10393	00	Z	50	29	9.2	-1.0
10410	12	Z	50	31	10.1	-6.7
10410	00	Z	50	29	9.9	-3.9
10739	12	Z	50	31	7.9	2.5
10739	00	Z	50	30	10.7	5.4
11035	12	Z	50	31	53.8	25.4
11035	00	Z	50	31	16.7	0.2
12982	00	Z	50	30	10.3	0.3
12982	12	Z	50	31	8.4	-2.2
16245	12	Z	50	29	8.2	-0.1
16245	00	Z	50	30	6.4	-0.3
16429	12	Z	50	29	8.5	2.2
16429	00	Z	50	29	6.3	3.0
16622	00	Z	50	26	12.7	5.3
16622	12	Z	50	3	4.0	3.9
16754	00	Z	50	22	12.1	1.2
16754	12	Z	50	2	8.1	7.4
17607	12	Z	50	27	25.7	-12.4
26435	12	Z	50	8	8.0	-2.4

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
60018	12	Z	50	29	7.4	1.1
60018	00	Z	50	27	8.8	6.5
7JUNA4	00	Z	50	7	13.9	0.0
7JUNA4	12	Z	50	6	33.0	19.1
ASDE09	12	Z	50	2	44.8	-20.8
ATGU3F	00	Z	50	3	62.7	-34.4
ATGU3F	12	Z	50	6	49.3	-45.3
BPMWB2	12	Z	50	8	7.1	1.5
BPMWB2	00	Z	50	7	7.7	-2.5
FPUW5G	12	Z	50	6	6.4	4.6
GQBZLZ	00	Z	50	3	22.3	-9.0
GQBZLZ	12	Z	50	5	61.6	-57.1
JNKN7J	00	Z	50	13	24.5	21.9
JNKN7J	12	Z	50	11	31.7	17.3
KJJF9X	00	Z	50	4	19.1	-8.8
KJJF9X	12	Z	50	5	25.0	-10.3
KMPLHP	00	Z	50	4	36.8	34.6
KMPLHP	12	Z	50	6	36.9	31.5
LRYQE3	00	Z	50	4	10.1	-9.1
LRYQE3	12	Z	50	8	122.1	98.0
UXK5JT	00	Z	50	5	27.1	-8.1
UXK5JT	12	Z	50	5	49.4	-23.5
WDK38H	12	Z	50	7	10.9	-7.7
XKQLWQ	12	Z	50	20	59.8	48.6
YLV96W	12	Z	50	8	91.2	89.8
YLV96W	00	Z	50	8	17.1	-12.8
ZVQEQC	12	Z	50	11	9.7	-0.8

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	50	23	3.3	0.3	0.2
01001	12	V	50	31	3.0	-0.1	0.0
01028	12	V	50	30	3.4	0.3	-0.8
01028	00	V	50	23	3.2	0.1	-0.3
01400	12	V	50	18	2.9	-0.3	-0.3
01400	00	V	50	16	2.8	0.2	-0.4
01415	00	V	50	29	3.7	0.2	0.3
01415	12	V	50	30	4.8	0.0	0.2
02365	12	V	50	21	3.6	-1.0	-0.3
02365	00	V	50	17	2.9	-1.0	0.1
02591	00	V	50	21	5.5	-0.7	-0.8
02591	12	V	50	23	3.2	0.0	-0.6
02836	00	V	50	15	3.2	0.6	-0.1
02836	12	V	50	24	3.5	-0.6	0.0
02963	12	V	50	29	3.3	0.9	0.1
02963	00	V	50	25	2.9	0.9	0.3
03005	12	V	50	30	3.8	-0.3	0.6
03005	00	V	50	23	3.7	-1.2	0.9
03238	12	V	50	5	4.1	0.0	0.8
03238	00	V	50	26	5.0	-0.7	-0.5
03808	12	V	50	31	3.0	0.4	0.2
03808	00	V	50	30	3.9	0.0	0.3
03918	00	V	50	29	3.6	1.4	-1.0
03918	12	V	50	4	3.5	-1.2	0.8
03953	00	V	50	29	2.5	-0.2	0.0
03953	12	V	50	31	3.3	0.8	0.8
04018	12	V	50	24	3.8	0.5	0.0
04018	00	V	50	22	3.2	-0.1	0.8
04220	00	V	50	29	3.0	0.3	0.5
04220	12	V	50	31	3.1	0.0	0.0
04270	00	V	50	28	6.3	-0.9	-0.5
04270	12	V	50	31	4.3	1.2	0.6
04320	12	V	50	30	4.0	1.4	0.4
04320	00	V	50	30	3.3	-0.2	-0.6
04339	00	V	50	22	3.8	1.1	0.0
04339	12	V	50	28	3.1	0.2	0.8
04360	00	V	50	20	2.5	0.2	0.9
04360	12	V	50	23	5.2	0.9	0.8
06011	00	V	50	0	0.0	0.0	0.0

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06011	12	V	50	24	3.3	-0.1	-0.2
06260	00	V	50	26	4.0	1.1	-0.4
06260	12	V	50	6	3.6	-0.4	1.0
06610	12	V	50	31	4.7	0.7	0.5
06610	00	V	50	30	5.7	-1.0	0.7
07110	00	V	50	20	3.2	-0.2	-0.6
07110	12	V	50	27	3.5	0.8	0.2
07510	00	V	50	29	3.0	0.1	0.4
07510	12	V	50	29	3.7	-0.7	-0.1
07645	12	V	50	20	3.5	1.1	0.5
07645	00	V	50	26	3.5	0.1	-0.6
07761	00	V	50	30	3.3	-0.3	-0.4
07761	12	V	50	30	4.6	0.3	-0.8
08001	12	V	50	31	3.4	0.1	0.2
08001	00	V	50	31	3.4	-0.2	-0.2
08221	00	V	50	31	3.0	-0.7	-1.4
08221	12	V	50	30	3.4	0.0	0.1
08302	12	V	50	26	3.6	0.2	0.0
08302	00	V	50	23	3.5	0.7	-1.0
08508	12	V	50	31	3.3	0.0	0.4
08522	12	V	50	30	3.5	0.2	-0.4
10035	00	V	50	29	4.1	0.5	-0.4
10035	12	V	50	30	3.8	0.4	0.1
10393	12	V	50	31	3.9	-0.3	-0.3
10393	00	V	50	29	3.7	0.1	-0.7
10410	12	V	50	31	3.7	0.5	-0.6
10410	00	V	50	29	3.5	0.3	-0.2
10739	12	V	50	31	4.3	-1.1	-0.1
10739	00	V	50	30	4.2	-0.3	-0.8
11035	12	V	50	31	6.0	-0.4	0.7
11035	00	V	50	27	4.0	0.0	0.1
12982	00	V	50	26	3.2	-0.5	0.0
12982	12	V	50	31	4.1	-0.1	-0.2
16245	12	V	50	29	2.9	-0.2	-1.2
16245	00	V	50	30	3.8	0.1	-0.4
16429	12	V	50	29	4.3	-0.4	-0.2
16429	00	V	50	28	3.7	0.6	-0.2
16622	00	V	50	21	4.4	0.8	0.2
16622	12	V	50	1	4.3	4.2	-0.7
16754	00	V	50	17	3.5	0.9	0.2
16754	12	V	50	2	3.0	0.3	0.1
17607	12	V	50	14	10.4	-5.8	-0.3
26435	12	V	50	6	2.8	0.2	0.7

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
60018	12	V	50	28	4.2	-0.3	-0.2
60018	00	V	50	27	4.2	0.1	0.2
7JUNA4	00	V	50	7	4.4	-0.7	0.8
7JUNA4	12	V	50	6	4.5	0.5	0.4
ASDE09	12	V	50	2	1.5	0.7	-1.3
ATGU3F	00	V	50	3	2.9	0.5	-0.3
ATGU3F	12	V	50	6	3.6	-1.0	1.4
BPMWB2	12	V	50	8	2.3	0.7	-1.2
BPMWB2	00	V	50	7	4.4	-0.6	-1.3
FPUW5G	12	V	50	6	3.4	-1.6	-1.1
GQBZLZ	00	V	50	3	1.9	-0.5	0.3
GQBZLZ	12	V	50	5	2.4	-1.0	-0.3
JNKN7J	00	V	50	13	4.4	0.0	-1.7
JNKN7J	12	V	50	11	3.6	-0.8	-0.8
KJJF9X	00	V	50	4	3.0	0.2	-1.5
KJJF9X	12	V	50	5	2.7	2.0	-0.8
KMPLHP	00	V	50	4	2.1	-0.8	0.5
KMPLHP	12	V	50	6	3.6	0.9	0.7
LRYQE3	00	V	50	4	2.4	-0.1	1.9
LRYQE3	12	V	50	8	3.1	0.6	1.0
UXK5JT	00	V	50	5	3.5	-1.6	-1.3
UXK5JT	12	V	50	5	4.3	1.2	1.3
WDK38H	12	V	50	4	2.2	0.2	-1.3
XKQLWQ	12	V	50	18	3.3	0.8	0.5
YLV96W	12	V	50	8	3.5	0.1	1.9
YLV96W	00	V	50	8	2.6	0.0	1.0
ZVQEQC	12	V	50	11	5.6	-0.4	-0.3

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	100	28	23.1	-19.6
01001	12	Z	100	31	11.6	2.5
01028	12	Z	100	31	6.8	-4.8
01028	00	Z	100	31	8.4	-3.2
01400	12	Z	100	23	75.7	75.1
01400	00	Z	100	23	73.8	73.4
01415	00	Z	100	30	10.4	1.5
01415	12	Z	100	31	9.5	0.1
02365	12	Z	100	22	6.7	-0.5
02365	00	Z	100	23	5.8	0.3
02591	00	Z	100	27	7.7	4.4
02591	12	Z	100	27	6.3	3.4
02836	00	Z	100	25	5.4	-2.3
02836	12	Z	100	31	6.4	-3.0
02963	12	Z	100	29	6.9	-3.0
02963	00	Z	100	27	6.0	-2.1
03005	12	Z	100	31	8.7	-3.7
03005	00	Z	100	26	9.1	-2.5
03238	12	Z	100	5	6.2	-1.0
03238	00	Z	100	32	11.9	-0.8
03808	12	Z	100	31	5.8	0.7
03808	00	Z	100	31	7.2	0.8
03918	00	Z	100	29	9.9	4.0
03918	12	Z	100	4	7.4	1.8
03953	00	Z	100	30	10.7	-7.1
03953	12	Z	100	31	10.9	-4.0
04018	12	Z	100	28	7.0	-1.6
04018	00	Z	100	28	6.7	1.8
04220	00	Z	100	30	17.1	-15.4
04220	12	Z	100	30	18.6	-17.7
04270	00	Z	100	31	19.7	-16.2
04270	12	Z	100	31	24.8	-21.9
04320	12	Z	100	30	13.2	-5.8
04320	00	Z	100	30	11.0	-7.6
04339	00	Z	100	25	14.5	-10.2
04339	12	Z	100	30	21.6	-16.4
04360	00	Z	100	27	14.8	-11.0
04360	12	Z	100	27	21.9	-17.9
06011	00	Z	100	0	0.0	0.0

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06011	12	Z	100	29	22.7	-19.0
06260	00	Z	100	29	5.1	-2.4
06260	12	Z	100	6	7.8	-0.4
06610	12	Z	100	33	7.4	1.6
06610	00	Z	100	31	12.8	-2.1
07110	00	Z	100	24	33.6	-32.6
07110	12	Z	100	28	28.2	-26.3
07510	00	Z	100	30	24.7	-21.6
07510	12	Z	100	30	18.6	-15.5
07645	12	Z	100	23	30.9	-19.0
07645	00	Z	100	29	32.1	-27.7
07761	00	Z	100	31	14.4	-9.8
07761	12	Z	100	31	15.8	-2.7
08001	12	Z	100	31	6.9	0.8
08001	00	Z	100	31	7.0	1.7
08221	00	Z	100	31	7.1	4.2
08221	12	Z	100	31	8.2	4.8
08302	12	Z	100	27	8.4	-5.0
08302	00	Z	100	27	9.1	-7.1
08508	12	Z	100	31	12.0	3.8
08522	12	Z	100	31	7.8	4.9
10035	00	Z	100	31	13.7	11.4
10035	12	Z	100	31	12.3	9.5
10393	12	Z	100	31	7.3	-0.2
10393	00	Z	100	31	7.0	-2.4
10410	12	Z	100	31	7.5	-4.7
10410	00	Z	100	32	6.8	-2.5
10739	12	Z	100	31	6.9	2.7
10739	00	Z	100	31	8.5	0.9
11035	12	Z	100	31	29.6	10.4
11035	00	Z	100	31	13.6	-1.8
12982	00	Z	100	30	7.0	-3.0
12982	12	Z	100	31	6.7	-2.4
16245	12	Z	100	30	6.5	0.3
16245	00	Z	100	30	4.6	-0.2
16429	12	Z	100	29	8.8	0.8
16429	00	Z	100	29	5.6	1.1
16622	00	Z	100	31	11.7	8.7
16622	12	Z	100	3	11.3	10.4
16754	00	Z	100	27	8.4	-0.1
16754	12	Z	100	2	11.5	11.4
17607	12	Z	100	29	33.2	-14.6
26435	12	Z	100	11	5.3	-2.0

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
60018	12	Z	100	31	4.9	2.9
60018	00	Z	100	31	5.7	3.3
7JUNA4	00	Z	100	7	11.3	-2.2
7JUNA4	12	Z	100	7	14.0	3.9
ASDE09	12	Z	100	2	49.2	-25.7
ATGU3F	00	Z	100	5	46.6	-38.1
ATGU3F	12	Z	100	7	45.9	-41.8
BPMWB2	12	Z	100	8	8.3	-3.7
BPMWB2	00	Z	100	8	8.0	-4.7
FPUW5G	12	Z	100	6	11.5	8.0
GQBZLZ	00	Z	100	4	27.0	-18.6
GQBZLZ	12	Z	100	6	51.6	-44.4
JNKN7J	00	Z	100	13	25.4	23.4
JNKN7J	12	Z	100	11	23.1	18.5
KJJF9X	00	Z	100	4	14.5	-3.5
KJJF9X	12	Z	100	5	18.5	-9.9
KMPLHP	00	Z	100	5	40.6	40.4
KMPLHP	12	Z	100	6	36.8	35.2
LRYQE3	00	Z	100	4	10.7	-10.0
LRYQE3	12	Z	100	8	68.2	53.6
UXK5JT	00	Z	100	5	23.8	-5.1
UXK5JT	12	Z	100	5	46.2	-23.1
WDK38H	12	Z	100	7	9.3	-5.4
XKQLWQ	12	Z	100	22	47.5	35.6
YLV96W	12	Z	100	8	30.2	27.3
YLV96W	00	Z	100	8	12.8	-8.2
ZVQEQC	12	Z	100	11	9.9	0.6

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	100	25	3.8	1.1	0.0
01001	12	V	100	31	3.3	0.0	0.0
01028	12	V	100	31	2.7	0.2	-0.3
01028	00	V	100	28	2.9	0.1	-0.4
01400	12	V	100	22	2.8	0.0	-0.1
01400	00	V	100	21	3.5	0.3	-0.8
01415	00	V	100	29	3.5	0.0	0.0
01415	12	V	100	31	3.5	-0.3	0.0
02365	12	V	100	22	2.5	0.3	-0.7
02365	00	V	100	20	3.4	-0.2	-0.3
02591	00	V	100	26	3.6	-0.5	-1.4
02591	12	V	100	27	3.1	0.6	0.4
02836	00	V	100	21	2.6	-0.2	-0.8
02836	12	V	100	28	2.6	-0.3	-0.6
02963	12	V	100	29	3.3	-0.2	0.6
02963	00	V	100	26	3.4	0.4	0.5
03005	12	V	100	30	3.3	-0.3	-0.7
03005	00	V	100	24	3.0	-0.1	-0.4
03238	12	V	100	5	3.1	1.2	0.4
03238	00	V	100	28	3.5	0.3	-0.2
03808	12	V	100	31	3.3	1.0	-0.2
03808	00	V	100	31	3.5	-0.2	0.5
03918	00	V	100	29	3.8	0.1	0.4
03918	12	V	100	4	2.4	1.0	-0.2
03953	00	V	100	30	3.3	0.2	-1.0
03953	12	V	100	31	3.5	0.3	0.7
04018	12	V	100	27	3.8	0.0	0.2
04018	00	V	100	28	3.3	-0.4	0.0
04220	00	V	100	30	3.1	0.2	-0.3
04220	12	V	100	30	2.7	-0.3	0.3
04270	00	V	100	31	4.4	-0.7	-0.2
04270	12	V	100	31	4.4	0.2	0.8
04320	12	V	100	30	2.7	0.1	-0.4
04320	00	V	100	30	3.0	0.4	0.7
04339	00	V	100	25	2.8	0.1	0.3
04339	12	V	100	30	3.4	0.9	-0.5
04360	00	V	100	27	3.4	1.4	0.6
04360	12	V	100	27	3.0	0.5	0.8
06011	00	V	100	0	0.0	0.0	0.0

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06011	12	V	100	29	3.4	0.6	0.2
06260	00	V	100	28	3.0	0.2	-0.2
06260	12	V	100	6	1.8	0.5	-0.2
06610	12	V	100	31	4.5	-0.1	-0.6
06610	00	V	100	31	3.5	-0.1	-0.2
07110	00	V	100	23	3.0	0.3	-0.2
07110	12	V	100	27	3.3	0.9	-0.6
07510	00	V	100	29	3.0	0.2	-1.0
07510	12	V	100	30	3.4	0.4	0.5
07645	12	V	100	23	3.0	0.0	0.3
07645	00	V	100	29	3.7	-0.7	-0.9
07761	00	V	100	30	3.9	0.8	-0.9
07761	12	V	100	31	4.3	0.7	-0.3
08001	12	V	100	31	4.2	0.8	-0.4
08001	00	V	100	31	3.0	0.5	-0.5
08221	00	V	100	31	3.6	-0.7	0.1
08221	12	V	100	31	4.1	0.5	0.1
08302	12	V	100	27	4.4	-0.5	-0.2
08302	00	V	100	24	4.0	1.1	-0.1
08508	12	V	100	31	4.3	0.2	-0.2
08522	12	V	100	30	4.7	-0.9	-1.1
10035	00	V	100	31	3.3	0.2	0.1
10035	12	V	100	31	2.9	0.4	-0.1
10393	12	V	100	31	3.1	-0.7	0.1
10393	00	V	100	31	2.7	0.1	-0.8
10410	12	V	100	31	3.0	0.7	-1.1
10410	00	V	100	31	3.2	1.1	-0.4
10739	12	V	100	31	2.6	-0.3	-0.1
10739	00	V	100	31	3.3	0.6	-0.7
11035	12	V	100	31	3.7	-0.4	-0.3
11035	00	V	100	28	3.5	-0.5	-1.2
12982	00	V	100	29	3.7	0.7	0.2
12982	12	V	100	31	3.3	0.7	0.6
16245	12	V	100	29	3.5	0.8	0.3
16245	00	V	100	30	3.1	0.0	-0.5
16429	12	V	100	29	4.4	0.6	-0.7
16429	00	V	100	29	3.5	0.5	-0.5
16622	00	V	100	26	4.4	0.0	-0.3
16622	12	V	100	1	3.6	3.6	-0.6
16754	00	V	100	24	3.1	0.3	-0.1
16754	12	V	100	2	3.7	-0.9	0.2
17607	12	V	100	24	19.2	-9.4	-0.5
26435	12	V	100	10	3.0	1.6	0.1

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
60018	12	V	100	31	4.5	-0.1	-1.1
60018	00	V	100	29	4.5	0.4	0.3
7JUNA4	00	V	100	7	3.2	-1.2	0.9
7JUNA4	12	V	100	7	3.2	1.0	1.7
ASDE09	12	V	100	2	2.9	-0.7	-0.8
ATGU3F	00	V	100	5	2.1	0.7	0.6
ATGU3F	12	V	100	7	2.6	-1.1	0.8
BPMWB2	12	V	100	8	4.2	-2.0	0.9
BPMWB2	00	V	100	8	2.5	-0.9	1.1
FPUW5G	12	V	100	6	4.1	-2.0	0.0
GQBZLZ	00	V	100	4	4.5	-2.3	1.7
GQBZLZ	12	V	100	6	4.6	-0.5	-0.6
JNKN7J	00	V	100	13	2.8	0.6	-0.5
JNKN7J	12	V	100	11	3.0	0.1	-0.8
KJJF9X	00	V	100	4	4.2	0.4	1.5
KJJF9X	12	V	100	5	3.4	1.2	1.5
KMPLHP	00	V	100	5	2.4	-1.2	-0.7
KMPLHP	12	V	100	6	3.1	1.4	-0.5
LRYQE3	00	V	100	4	3.6	0.3	2.6
LRYQE3	12	V	100	8	2.7	0.9	-0.4
UXK5JT	00	V	100	5	4.2	-1.8	-0.8
UXK5JT	12	V	100	5	5.9	0.0	0.1
WDK38H	12	V	100	7	1.9	-0.5	0.0
XKQLWQ	12	V	100	22	3.8	0.3	1.0
YLV96W	12	V	100	8	2.8	0.8	0.8
YLV96W	00	V	100	8	3.3	-0.6	0.2
ZVQEQC	12	V	100	11	10.2	-1.6	-0.1

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	500	29	13.2	-10.8
01001	12	Z	500	31	11.0	5.4
01028	12	Z	500	31	4.7	-2.1
01028	00	Z	500	31	3.8	-1.2
01400	12	Z	500	25	78.1	77.8
01400	00	Z	500	27	77.2	75.8
01415	00	Z	500	30	7.5	4.9
01415	12	Z	500	31	6.3	3.8
02365	12	Z	500	23	4.5	2.1
02365	00	Z	500	23	4.7	4.0
02591	00	Z	500	27	8.4	7.7
02591	12	Z	500	27	8.6	7.7
02836	00	Z	500	31	4.0	0.9
02836	12	Z	500	34	4.7	-0.2
02963	12	Z	500	29	4.1	2.4
02963	00	Z	500	27	3.4	2.2
03005	12	Z	500	31	5.7	-0.8
03005	00	Z	500	28	3.8	-0.3
03238	12	Z	500	5	4.4	3.8
03238	00	Z	500	32	5.0	2.9
03808	12	Z	500	31	4.2	3.6
03808	00	Z	500	31	5.8	5.1
03918	00	Z	500	29	9.7	9.0
03918	12	Z	500	4	6.9	6.0
03953	00	Z	500	31	3.5	-0.1
03953	12	Z	500	32	7.0	2.5
04018	12	Z	500	28	5.0	2.3
04018	00	Z	500	28	4.9	3.4
04220	00	Z	500	31	10.1	-8.4
04220	12	Z	500	31	9.6	-8.5
04270	00	Z	500	31	12.1	-9.0
04270	12	Z	500	31	11.2	-9.4
04320	12	Z	500	30	15.8	3.0
04320	00	Z	500	30	3.9	-0.8
04339	00	Z	500	30	9.3	-7.6
04339	12	Z	500	30	10.7	-6.9
04360	00	Z	500	29	22.6	-5.3
04360	12	Z	500	28	11.3	-9.9
06011	00	Z	500	1	13.8	-13.8

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06011	12	Z	500	33	10.9	-7.1
06260	00	Z	500	29	3.6	0.8
06260	12	Z	500	6	6.4	-0.1
06610	12	Z	500	34	2.5	1.0
06610	00	Z	500	31	3.1	1.8
07110	00	Z	500	27	13.7	-13.1
07110	12	Z	500	31	11.2	-10.4
07510	00	Z	500	30	6.3	-2.7
07510	12	Z	500	31	6.6	-1.7
07645	12	Z	500	31	8.3	-6.6
07645	00	Z	500	31	11.2	-9.4
07761	00	Z	500	31	5.0	-1.6
07761	12	Z	500	31	4.5	1.1
08001	12	Z	500	31	4.3	3.3
08001	00	Z	500	31	4.6	3.6
08221	00	Z	500	31	5.1	3.8
08221	12	Z	500	31	4.5	3.5
08302	12	Z	500	29	7.3	-5.6
08302	00	Z	500	29	7.9	-6.7
08508	12	Z	500	31	9.1	6.4
08522	12	Z	500	31	8.1	6.5
10035	00	Z	500	31	14.7	14.4
10035	12	Z	500	31	13.9	13.6
10393	12	Z	500	31	3.4	0.6
10393	00	Z	500	31	3.1	0.5
10410	12	Z	500	32	3.0	-0.1
10410	00	Z	500	32	4.1	1.1
10739	12	Z	500	31	5.4	4.6
10739	00	Z	500	31	6.6	5.5
11035	12	Z	500	31	26.9	6.1
11035	00	Z	500	30	6.1	-0.4
12982	00	Z	500	31	3.1	0.6
12982	12	Z	500	31	3.5	0.8
16245	12	Z	500	31	2.5	1.8
16245	00	Z	500	30	2.9	1.8
16429	12	Z	500	29	3.6	2.8
16429	00	Z	500	30	3.4	1.9
16622	00	Z	500	31	11.1	10.2
16622	12	Z	500	4	8.4	8.0
16754	00	Z	500	27	5.7	0.2
16754	12	Z	500	2	6.0	5.6
17607	12	Z	500	29	11.4	-0.1
26435	12	Z	500	15	3.4	1.8

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
60018	12	Z	500	34	4.9	3.5
60018	00	Z	500	31	4.0	1.9
7JUNA4	00	Z	500	7	5.5	-1.9
7JUNA4	12	Z	500	7	6.6	-2.9
ASDE09	12	Z	500	2	60.0	-39.6
ATGU3F	00	Z	500	5	46.0	-18.5
ATGU3F	12	Z	500	8	29.8	-28.4
BPMWB2	12	Z	500	9	5.0	-4.0
BPMWB2	00	Z	500	9	8.1	-6.7
FPUW5G	12	Z	500	6	10.5	8.1
GQBZLZ	00	Z	500	4	19.5	-12.3
GQBZLZ	12	Z	500	9	49.7	-42.7
JNKN7J	00	Z	500	13	33.9	33.3
JNKN7J	12	Z	500	11	33.7	33.2
KJJF9X	00	Z	500	5	7.6	-3.5
KJJF9X	12	Z	500	5	19.4	-9.5
KMPLHP	00	Z	500	5	44.8	44.7
KMPLHP	12	Z	500	7	44.3	43.9
LRYQE3	00	Z	500	5	7.4	-4.8
LRYQE3	12	Z	500	9	9.0	1.0
UXK5JT	00	Z	500	7	19.9	-9.6
UXK5JT	12	Z	500	6	58.2	-27.0
WDK38H	12	Z	500	8	5.7	-0.6
XKQLWQ	12	Z	500	22	28.1	17.7
YLV96W	12	Z	500	8	8.5	-6.7
YLV96W	00	Z	500	8	5.6	-3.4
ZVQEQC	12	Z	500	12	13.4	-0.1

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

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	500	29	2.7	-0.3	-0.1
01001	12	V	500	31	4.0	0.4	0.8
01028	12	V	500	31	3.0	0.4	-0.2
01028	00	V	500	31	2.5	-0.3	0.1
01400	12	V	500	25	4.1	0.0	-0.9
01400	00	V	500	27	2.3	-0.4	0.0
01415	00	V	500	29	4.2	0.4	-0.8
01415	12	V	500	31	3.9	0.6	0.0
02365	12	V	500	23	2.5	0.7	-0.5
02365	00	V	500	23	2.3	0.0	0.0
02591	00	V	500	27	2.5	0.0	0.0
02591	12	V	500	27	2.4	0.2	-0.2
02836	00	V	500	31	2.6	0.2	-0.8
02836	12	V	500	31	2.5	0.2	-0.4
02963	12	V	500	29	2.2	0.4	-0.1
02963	00	V	500	27	2.3	-0.4	-0.2
03005	12	V	500	31	3.0	0.3	0.2
03005	00	V	500	26	3.7	0.1	0.4
03238	12	V	500	5	2.1	-0.1	0.1
03238	00	V	500	31	2.6	0.6	-0.1
03808	12	V	500	31	2.5	0.0	-0.1
03808	00	V	500	31	3.4	0.1	-0.3
03918	00	V	500	29	3.1	0.0	-1.0
03918	12	V	500	4	2.6	0.6	-0.9
03953	00	V	500	30	2.6	0.8	0.5
03953	12	V	500	31	2.9	0.1	0.5
04018	12	V	500	27	4.2	0.4	0.0
04018	00	V	500	28	3.6	-0.8	-0.7
04220	00	V	500	31	2.8	0.5	-0.4
04220	12	V	500	31	2.8	-0.5	0.6
04270	00	V	500	31	4.6	0.2	0.0
04270	12	V	500	31	3.5	0.6	0.0
04320	12	V	500	30	3.1	0.4	0.7
04320	00	V	500	30	3.0	0.8	0.2
04339	00	V	500	30	3.7	0.6	-0.9
04339	12	V	500	30	3.4	0.0	-0.1
04360	00	V	500	28	3.8	0.9	0.2
04360	12	V	500	28	3.1	-0.3	-0.1
06011	00	V	500	1	5.4	-4.3	3.3

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06011	12	V	500	31	3.1	0.3	-0.5
06260	00	V	500	28	2.1	0.0	0.2
06260	12	V	500	6	3.0	1.0	-0.5
06610	12	V	500	31	2.3	0.0	0.4
06610	00	V	500	31	2.4	0.0	-0.2
07110	00	V	500	27	3.0	0.1	-0.6
07110	12	V	500	28	2.6	-0.2	0.0
07510	00	V	500	30	2.4	-0.1	0.2
07510	12	V	500	31	2.8	-0.2	-0.6
07645	12	V	500	27	2.8	0.1	0.3
07645	00	V	500	29	2.0	0.4	-0.4
07761	00	V	500	31	2.3	0.3	-0.5
07761	12	V	500	31	2.6	-0.1	0.2
08001	12	V	500	31	2.5	0.2	0.2
08001	00	V	500	31	2.6	0.0	-0.4
08221	00	V	500	31	2.5	0.1	-0.5
08221	12	V	500	31	2.3	0.3	0.2
08302	12	V	500	28	2.2	0.4	-0.4
08302	00	V	500	27	2.3	0.0	0.2
08508	12	V	500	31	4.4	-0.2	0.7
08522	12	V	500	31	3.5	0.3	0.7
10035	00	V	500	31	2.6	0.6	-0.4
10035	12	V	500	31	2.6	-0.2	-0.3
10393	12	V	500	31	2.3	0.1	-0.5
10393	00	V	500	31	1.7	0.1	-0.5
10410	12	V	500	31	2.0	0.0	-0.2
10410	00	V	500	31	2.1	0.7	-0.1
10739	12	V	500	31	2.1	0.3	0.0
10739	00	V	500	31	1.7	0.4	-0.1
11035	12	V	500	31	2.3	0.7	-0.7
11035	00	V	500	28	2.2	0.4	-0.5
12982	00	V	500	31	2.6	-0.4	-0.2
12982	12	V	500	31	2.5	0.4	-0.2
16245	12	V	500	30	2.3	0.5	-0.1
16245	00	V	500	30	2.1	0.4	-0.5
16429	12	V	500	29	3.5	-0.5	-0.8
16429	00	V	500	30	2.9	0.5	-0.3
16622	00	V	500	30	2.6	0.2	0.5
16622	12	V	500	2	1.8	-1.4	0.5
16754	00	V	500	27	3.5	0.0	0.6
16754	12	V	500	2	5.5	4.1	0.3
17607	12	V	500	29	6.1	-1.9	-0.3
26435	12	V	500	15	2.6	-0.4	0.2

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
60018	12	V	500	31	2.9	0.6	-0.4
60018	00	V	500	31	2.8	0.5	0.0
7JUNA4	00	V	500	7	2.2	-0.3	-0.5
7JUNA4	12	V	500	7	2.4	-0.1	-0.2
ASDE09	12	V	500	2	1.3	-1.2	-0.1
ATGU3F	00	V	500	5	2.2	0.1	1.0
ATGU3F	12	V	500	8	3.7	0.3	1.1
BPMWB2	12	V	500	9	2.8	-0.7	-0.2
BPMWB2	00	V	500	9	1.6	0.6	-0.2
FPUW5G	12	V	500	6	1.5	0.5	0.5
GQBZLZ	00	V	500	4	2.3	1.4	0.5
GQBZLZ	12	V	500	9	2.4	0.2	-0.8
JNKN7J	00	V	500	13	3.3	-0.7	0.0
JNKN7J	12	V	500	11	2.4	1.1	-0.3
KJJF9X	00	V	500	5	3.6	-0.1	1.6
KJJF9X	12	V	500	5	1.3	-0.3	-0.2
KMPLHP	00	V	500	5	3.0	1.1	1.0
KMPLHP	12	V	500	7	1.8	-0.9	0.7
LRYQE3	00	V	500	5	5.5	-0.6	-2.7
LRYQE3	12	V	500	9	2.8	-0.4	-0.3
UXK5JT	00	V	500	7	2.1	0.1	-1.5
UXK5JT	12	V	500	6	2.3	0.6	0.9
WDK38H	12	V	500	8	1.9	0.2	-0.3
XKQLWQ	12	V	500	22	2.9	0.2	-0.1
YLV96W	12	V	500	8	3.5	1.6	-0.1
YLV96W	00	V	500	8	3.4	0.7	0.0
ZVQEQC	12	V	500	12	8.1	-3.1	0.4

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

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	850	31	10.6	-9.3
01001	12	Z	850	31	10.2	5.7
01028	12	Z	850	31	4.0	-2.3
01028	00	Z	850	31	2.7	-1.2
01400	12	Z	850	25	78.2	77.9
01400	00	Z	850	27	75.6	74.3
01415	00	Z	850	31	6.3	4.7
01415	12	Z	850	31	6.3	5.4
02365	12	Z	850	23	5.7	5.0
02365	00	Z	850	23	6.6	5.3
02591	00	Z	850	27	7.3	6.9
02591	12	Z	850	27	7.5	6.9
02836	00	Z	850	31	2.7	1.4
02836	12	Z	850	34	2.9	1.1
02963	12	Z	850	29	2.9	2.4
02963	00	Z	850	27	3.1	2.2
03005	12	Z	850	32	4.7	0.3
03005	00	Z	850	28	4.4	0.1
03238	12	Z	850	5	3.8	0.9
03238	00	Z	850	32	4.5	2.9
03808	12	Z	850	31	4.1	3.2
03808	00	Z	850	31	4.2	3.3
03918	00	Z	850	29	8.7	8.0
03918	12	Z	850	4	5.3	4.8
03953	00	Z	850	31	2.9	-1.2
03953	12	Z	850	32	5.1	0.7
04018	12	Z	850	29	3.8	1.0
04018	00	Z	850	28	2.7	0.4
04220	00	Z	850	31	5.6	-4.5
04220	12	Z	850	31	5.4	-4.9
04270	00	Z	850	30	7.4	-6.5
04270	12	Z	850	31	7.1	-6.0
04320	12	Z	850	31	14.8	-0.3
04320	00	Z	850	30	5.7	-1.7
04339	00	Z	850	29	12.1	-11.5
04339	12	Z	850	30	11.8	-9.6
04360	00	Z	850	29	9.3	-7.6
04360	12	Z	850	28	10.6	-9.8
06011	00	Z	850	1	2.8	-2.8

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06011	12	Z	850	33	10.9	-1.2
06260	00	Z	850	29	3.2	1.6
06260	12	Z	850	6	4.1	-1.1
06610	12	Z	850	34	2.4	0.5
06610	00	Z	850	31	2.5	0.7
07110	00	Z	850	27	7.2	-6.3
07110	12	Z	850	31	7.1	-5.9
07510	00	Z	850	30	3.0	1.7
07510	12	Z	850	31	3.0	1.2
07645	12	Z	850	31	6.0	-5.3
07645	00	Z	850	31	4.8	-4.0
07761	00	Z	850	31	2.2	0.0
07761	12	Z	850	31	2.1	0.2
08001	12	Z	850	31	3.1	1.4
08001	00	Z	850	31	2.6	1.0
08221	00	Z	850	31	2.7	1.4
08221	12	Z	850	31	3.2	1.5
08302	12	Z	850	29	10.4	-10.2
08302	00	Z	850	29	9.1	-9.0
08508	12	Z	850	31	6.0	4.1
08522	12	Z	850	31	4.7	3.8
10035	00	Z	850	31	14.3	14.0
10035	12	Z	850	31	14.0	13.7
10393	12	Z	850	31	3.2	-0.1
10393	00	Z	850	31	3.3	1.1
10410	12	Z	850	32	2.9	-0.1
10410	00	Z	850	32	2.5	0.6
10739	12	Z	850	31	4.1	2.6
10739	00	Z	850	31	4.7	4.0
11035	12	Z	850	31	3.3	1.1
11035	00	Z	850	32	3.1	-0.1
12982	00	Z	850	31	2.9	0.9
12982	12	Z	850	31	2.6	0.6
16245	12	Z	850	31	2.5	1.5
16245	00	Z	850	30	3.1	1.2
16429	12	Z	850	29	2.3	1.2
16429	00	Z	850	30	3.0	1.0
16622	00	Z	850	32	10.1	9.9
16622	12	Z	850	3	5.9	5.6
16754	00	Z	850	28	3.1	1.2
16754	12	Z	850	2	3.3	3.3
17607	12	Z	850	29	2.2	0.2
26435	12	Z	850	15	1.6	0.3

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
60018	12	Z	850	34	2.7	0.5
60018	00	Z	850	33	2.2	-0.1
7JUNA4	00	Z	850	7	6.3	-2.1
7JUNA4	12	Z	850	7	4.2	-1.6
ASDE09	12	Z	850	2	62.1	-44.8
ATGU3F	00	Z	850	5	27.7	-24.1
ATGU3F	12	Z	850	8	29.2	-28.8
BPMWB2	12	Z	850	9	5.0	-4.5
BPMWB2	00	Z	850	9	6.0	-5.4
FPUW5G	12	Z	850	6	7.2	4.5
GQBZLZ	00	Z	850	4	20.4	-16.8
GQBZLZ	12	Z	850	10	26.4	-11.0
JNKN7J	00	Z	850	13	38.1	37.8
JNKN7J	12	Z	850	11	37.2	37.0
KJJF9X	00	Z	850	5	2.6	-1.5
KJJF9X	12	Z	850	5	17.1	-9.2
KMPLHP	00	Z	850	5	46.6	46.6
KMPLHP	12	Z	850	7	49.0	48.6
LRYQE3	00	Z	850	6	6.6	-4.5
LRYQE3	12	Z	850	9	5.2	0.6
UXK5JT	00	Z	850	7	8.0	-2.7
UXK5JT	12	Z	850	7	10.6	-4.9
WDK38H	12	Z	850	8	6.6	1.1
XKQLWQ	12	Z	850	22	23.0	8.3
YLV96W	12	Z	850	8	6.1	-5.2
YLV96W	00	Z	850	8	6.5	-4.9
ZVQEQC	12	Z	850	12	2.4	-0.3

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	850	30	3.3	0.2	-1.2
01001	12	V	850	31	4.4	1.2	0.8
01028	12	V	850	31	3.6	-0.1	0.3
01028	00	V	850	31	3.3	-0.1	-0.1
01400	12	V	850	25	3.1	-0.5	0.3
01400	00	V	850	27	2.5	-0.2	0.1
01415	00	V	850	30	4.1	0.5	0.0
01415	12	V	850	31	2.9	0.3	0.0
02365	12	V	850	23	2.8	0.0	0.1
02365	00	V	850	23	2.4	-0.1	-0.6
02591	00	V	850	27	2.8	0.1	-0.4
02591	12	V	850	27	2.8	0.6	-0.1
02836	00	V	850	31	2.8	0.0	-0.3
02836	12	V	850	31	2.1	-0.5	0.1
02963	12	V	850	29	2.6	0.3	-0.3
02963	00	V	850	27	2.5	0.2	-0.4
03005	12	V	850	31	3.1	0.1	-0.1
03005	00	V	850	26	2.3	0.0	-0.3
03238	12	V	850	5	3.1	0.6	1.5
03238	00	V	850	31	3.2	0.2	0.0
03808	12	V	850	31	2.8	0.1	-0.5
03808	00	V	850	31	2.7	0.0	-0.3
03918	00	V	850	29	3.0	-0.6	0.6
03918	12	V	850	4	2.4	1.1	0.2
03953	00	V	850	30	2.5	-0.4	0.1
03953	12	V	850	31	2.7	0.3	0.3
04018	12	V	850	27	3.5	0.4	0.2
04018	00	V	850	28	3.6	0.6	0.4
04220	00	V	850	31	3.3	0.1	-0.1
04220	12	V	850	31	3.0	-0.5	-1.1
04270	00	V	850	30	4.1	0.6	0.7
04270	12	V	850	31	4.9	2.5	0.7
04320	12	V	850	31	4.1	-0.5	0.4
04320	00	V	850	30	3.4	-0.2	0.5
04339	00	V	850	29	5.3	0.6	0.9
04339	12	V	850	30	5.0	0.7	2.0
04360	00	V	850	28	7.3	2.7	1.1
04360	12	V	850	28	5.3	1.6	0.6
06011	00	V	850	1	8.6	7.4	4.4

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06011	12	V	850	31	4.0	0.2	-0.5
06260	00	V	850	28	1.8	-0.3	0.0
06260	12	V	850	6	1.8	-0.1	-0.1
06610	12	V	850	31	2.8	0.3	0.2
06610	00	V	850	31	2.0	0.2	-0.5
07110	00	V	850	27	2.9	-0.7	0.4
07110	12	V	850	28	2.6	0.1	-0.4
07510	00	V	850	30	2.4	0.2	0.0
07510	12	V	850	31	2.9	-0.2	-0.1
07645	12	V	850	27	3.5	-0.4	0.9
07645	00	V	850	29	3.1	-0.6	0.5
07761	00	V	850	31	2.7	0.4	-0.6
07761	12	V	850	31	2.7	-0.5	0.5
08001	12	V	850	31	4.1	0.1	-0.6
08001	00	V	850	31	2.5	0.2	0.4
08221	00	V	850	31	3.0	0.0	-0.9
08221	12	V	850	31	2.5	0.5	-0.5
08302	12	V	850	28	2.6	0.5	0.0
08302	00	V	850	27	3.1	0.0	-0.7
08508	12	V	850	31	5.5	-0.2	-2.0
08522	12	V	850	31	3.9	1.1	-0.5
10035	00	V	850	31	2.8	-0.3	-0.3
10035	12	V	850	31	2.5	-0.1	0.0
10393	12	V	850	31	2.7	0.2	-0.3
10393	00	V	850	31	2.3	0.0	-0.2
10410	12	V	850	31	2.6	-0.6	0.4
10410	00	V	850	31	2.0	-0.7	-0.3
10739	12	V	850	31	2.7	-0.4	-0.2
10739	00	V	850	31	2.2	-0.3	0.3
11035	12	V	850	31	2.6	0.4	-0.1
11035	00	V	850	30	4.4	0.8	-0.4
12982	00	V	850	31	2.8	0.5	0.0
12982	12	V	850	31	2.6	0.2	-0.7
16245	12	V	850	30	3.0	0.3	0.0
16245	00	V	850	30	3.0	0.2	-0.6
16429	12	V	850	29	3.2	0.0	-1.3
16429	00	V	850	30	3.0	0.9	-0.8
16622	00	V	850	31	3.0	-0.4	0.3
16622	12	V	850	2	1.5	0.3	1.4
16754	00	V	850	28	3.8	1.5	-1.0
16754	12	V	850	2	1.7	-1.2	-0.3
17607	12	V	850	29	2.4	0.4	-0.2
26435	12	V	850	15	2.5	-0.4	0.0

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
60018	12	V	850	31	3.2	1.1	0.1
60018	00	V	850	31	2.8	-0.4	0.4
7JUNA4	00	V	850	7	1.9	-0.8	-0.1
7JUNA4	12	V	850	7	1.9	-0.6	-0.5
ASDE09	12	V	850	2	1.5	0.3	-1.3
ATGU3F	00	V	850	5	2.1	-1.3	0.0
ATGU3F	12	V	850	8	4.5	0.5	2.9
BPMWB2	12	V	850	9	2.0	1.1	-0.2
BPMWB2	00	V	850	9	2.3	-0.8	-0.2
FPUW5G	12	V	850	6	3.3	-1.7	0.5
GQBZLZ	00	V	850	4	5.4	2.6	-1.7
GQBZLZ	12	V	850	10	5.8	1.9	0.5
JNKN7J	00	V	850	13	3.5	0.6	-0.4
JNKN7J	12	V	850	11	2.6	0.2	0.0
KJJF9X	00	V	850	5	3.4	0.9	-1.9
KJJF9X	12	V	850	5	4.1	2.6	-0.2
KMPLHP	00	V	850	5	1.6	-0.5	-1.1
KMPLHP	12	V	850	7	2.5	0.7	-0.4
LRYQE3	00	V	850	6	2.8	0.4	-1.3
LRYQE3	12	V	850	9	2.5	0.6	0.7
UXK5JT	00	V	850	7	2.3	-0.3	-0.5
UXK5JT	12	V	850	7	6.3	1.1	-0.9
WDK38H	12	V	850	8	4.2	1.3	1.2
XKQLWQ	12	V	850	22	3.3	-0.1	0.4
YLV96W	12	V	850	8	2.2	0.4	-0.4
YLV96W	00	V	850	8	2.8	0.2	0.7
ZVQEQC	12	V	850	12	4.2	1.5	-0.4

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

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


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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
03380	99	P	SUR	54	0	1488	0	0.4	-0.4	0.6
1300001	99	P	SUR	11	-23	614	0	0.3	0.2	0.4
1300008	99	P	SUR	15	-38	608	0	0.2	0.1	0.3
1300130	99	P	SUR	28	-16	744	0	0.4	0.3	0.5
1300131	99	P	SUR	28	-17	744	0	0.4	0.1	0.4
1301608	99	P	SUR	33	-59	511	0	1.1	-0.2	1.1
1301619	99	P	SUR	38	-25	744	0	0.4	-0.1	0.4
1301622	99	P	SUR	14	-52	744	0	0.2	0.1	0.2
1301629	99	P	SUR	22	-47	744	0	0.2	0.0	0.2
1301700	99	P	SUR	20	-59	726	0	0.2	-0.2	0.3
1301712	99	P	SUR	24	-63	739	0	0.2	0.0	0.2
1301714	99	P	SUR	25	-60	739	0	0.3	0.1	0.3
1301718	99	P	SUR	30	-48	738	0	0.3	0.0	0.3
1301719	99	P	SUR	26	-55	739	0	0.3	0.5	0.6
1301723	99	P	SUR	15	-59	738	0	0.2	0.8	0.8
1301725	99	P	SUR	24	-38	738	0	0.3	-0.1	0.3
1301726	99	P	SUR	24	-43	738	0	0.3	0.0	0.3
1301731	99	P	SUR	25	-41	736	0	0.3	0.1	0.3
1301735	99	P	SUR	32	-41	739	0	0.4	-1.0	1.1
1301736	99	P	SUR	26	-37	737	0	0.3	0.1	0.3
1301737	99	P	SUR	28	-55	738	0	0.3	-0.2	0.4
1301763	99	P	SUR	14	-40	5	5	0.0	0.0	0.0
1301767	99	P	SUR	34	-17	667	0	0.4	-0.7	0.8
1301769	99	P	SUR	30	-20	737	0	0.4	1.0	1.1
1301770	99	P	SUR	29	-24	738	0	0.4	0.0	0.4
1301771	99	P	SUR	33	-16	692	2	0.5	-0.2	0.5
1301773	99	P	SUR	39	-12	738	0	0.3	0.0	0.3
1301774	99	P	SUR	27	-58	739	0	0.3	0.2	0.3
1301777	99	P	SUR	41	-30	69	0	0.4	0.2	0.4
1301778	99	P	SUR	32	-21	738	0	0.4	-0.1	0.4
1301779	99	P	SUR	21	-54	729	0	0.2	0.0	0.2
1301783	99	P	SUR	19	-57	737	0	0.2	0.3	0.4
1301792	99	P	SUR	19	-48	723	0	0.3	-0.4	0.5
1301793	99	P	SUR	57	-22	713	0	0.6	0.0	0.6
1301794	99	P	SUR	41	-16	720	0	0.4	0.3	0.5
1301795	99	P	SUR	17	-42	632	0	0.2	0.0	0.2

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
1301796	99	P	SUR	17	-43	681	0	0.2	0.2	0.3
1301797	99	P	SUR	16	-47	696	0	0.2	0.2	0.3
1301798	99	P	SUR	32	-26	738	0	0.4	0.3	0.5
1301799	99	P	SUR	30	-27	723	0	0.4	0.2	0.4
1301803	99	P	SUR	61	-2	737	0	0.4	0.2	0.4
1301804	99	P	SUR	61	-15	737	0	0.6	0.2	0.6
1501638	99	P	SUR	18	-22	744	0	0.3	0.1	0.3
1701715	99	P	SUR	17	-51	683	0	0.3	-0.2	0.3
1701718	99	P	SUR	13	-44	729	619	1.0	13.5	13.6
1801671	99	P	SUR	51	-45	733	0	0.6	-0.2	0.6
1801678	99	P	SUR	50	-40	736	0	0.6	-0.1	0.6
1801681	99	P	SUR	31	18	524	7	1.5	-1.1	1.8
1801735	99	P	SUR	47	-4	643	0	0.4	0.3	0.5
1801768	99	P	SUR	85	-8	744	0	0.4	0.3	0.5
2601714	99	P	SUR	84	37	528	0	1.1	0.3	1.2
2801966	99	P	SUR	34	13	725	0	0.2	0.0	0.2
2801988	99	P	SUR	33	-15	736	0	0.4	-0.1	0.4
2802066	99	P	SUR	85	-3	744	0	0.5	0.2	0.5
2802075	99	P	SUR	44	-48	744	0	0.8	0.0	0.8
2802076	99	P	SUR	61	-35	744	0	0.5	-0.5	0.7
2802077	99	P	SUR	61	-35	744	0	0.5	0.4	0.7
3801550	99	P	SUR	68	-26	579	27	1.0	-0.2	1.0
3801569	99	P	SUR	47	-43	716	0	0.6	-0.2	0.6
3801572	99	P	SUR	34	22	731	0	0.3	-0.2	0.4
3801576	99	P	SUR	33	16	716	0	0.3	-0.7	0.7
3801586	99	P	SUR	77	14	645	1	2.3	1.4	2.7
3801596	99	P	SUR	33	-44	736	0	0.3	-0.1	0.4
3801665	99	P	SUR	87	18	744	0	0.5	0.4	0.7
3801676	99	P	SUR	67	-5	200	0	0.5	0.6	0.8
4100040	99	P	SUR	15	-53	4464	0	0.2	-0.7	0.7
4100043	99	P	SUR	21	-65	4464	0	0.3	-0.7	0.7
4100044	99	P	SUR	22	-59	4461	0	0.2	-0.5	0.5
4100046	99	P	SUR	24	-68	4464	0	0.3	0.0	0.3
4100049	99	P	SUR	28	-63	4464	0	0.3	-0.6	0.7
4100052	99	P	SUR	18	-65	4271	0	0.2	-1.0	1.0
4100053	99	P	SUR	18	-66	4407	0	0.3	-0.7	0.8
4100056	99	P	SUR	18	-65	138	0	0.2	-0.8	0.9
4100139	99	P	SUR	20	-38	742	0	0.2	0.1	0.2
4100300	99	P	SUR	16	-57	642	0	0.2	0.1	0.2
4101618	99	P	SUR	35	-59	147	0	0.4	-0.2	0.5
4101663	99	P	SUR	32	-30	44	0	0.3	-0.1	0.3
4101665	99	P	SUR	68	-7	739	0	0.7	-0.2	0.7
4101696	99	P	SUR	32	-39	656	0	0.4	-0.2	0.5

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
4101717	99	P	SUR	16	-62	51	1	2.0	-2.4	3.1
4101719	99	P	SUR	19	-50	743	0	0.6	0.0	0.6
4101725	99	P	SUR	18	-63	744	0	0.2	0.0	0.2
4101727	99	P	SUR	24	-46	743	0	0.3	0.1	0.3
4101728	99	P	SUR	27	-40	742	0	1.1	0.2	1.1
4101729	99	P	SUR	33	-55	744	32	2.6	-0.9	2.8
4101730	99	P	SUR	14	-22	744	0	0.3	0.3	0.5
4101743	99	P	SUR	36	-13	744	0	0.5	0.0	0.5
4101753	99	P	SUR	32	-45	743	0	0.4	0.4	0.5
4101755	99	P	SUR	32	-52	744	0	0.9	0.2	0.9
4101756	99	P	SUR	12	-62	333	0	0.6	-1.2	1.3
4101843	99	P	SUR	76	9	737	0	0.7	-0.2	0.8
4101845	99	P	SUR	69	-5	737	0	0.6	0.2	0.7
4101848	99	P	SUR	40	-55	25	21	0.1	0.2	0.3
4101851	99	P	SUR	28	-60	739	0	0.3	-0.6	0.7
4102547	99	P	SUR	27	-65	738	0	0.3	0.2	0.4
4102557	99	P	SUR	15	-69	739	0	0.2	0.2	0.3
4102559	99	P	SUR	40	-62	687	0	0.5	-0.2	0.6
41040	99	P	SUR	15	-53	744	0	0.2	-0.7	0.7
41043	99	P	SUR	21	-65	744	0	0.3	-0.7	0.7
41044	99	P	SUR	22	-59	743	0	0.3	-0.5	0.5
41046	99	P	SUR	24	-68	744	0	0.3	0.0	0.3
41049	99	P	SUR	28	-63	744	0	0.3	-0.6	0.7
41052	99	P	SUR	18	-65	715	0	0.2	-1.0	1.0
41053	99	P	SUR	19	-66	744	0	0.3	-0.7	0.8
41056	99	P	SUR	18	-66	138	0	0.2	-0.9	0.9
4200059	99	P	SUR	15	-67	4464	0	0.2	-0.6	0.6
4200060	99	P	SUR	16	-63	4464	0	0.2	-0.3	0.4
4200085	99	P	SUR	18	-67	3514	0	0.3	-0.8	0.8
42059	99	P	SUR	15	-68	744	0	0.2	-0.6	0.6
42060	99	P	SUR	16	-63	744	0	0.2	-0.3	0.4
42085	99	P	SUR	18	-67	719	0	0.3	-0.8	0.8
4400005	99	P	SUR	43	-69	4464	0	0.6	-0.6	0.9
4400008	99	P	SUR	40	-69	4464	0	0.6	-0.9	1.1
4400027	99	P	SUR	44	-67	4464	0	0.6	-0.9	1.1
4400032	99	P	SUR	44	-69	648	0	1.1	-0.6	1.3
4400033	99	P	SUR	44	-69	681	0	1.2	-1.3	1.8
4400037	99	P	SUR	43	-68	716	0	0.6	-0.2	0.7
4400150	99	P	SUR	43	-64	737	0	0.5	-0.3	0.6
4400488	99	P	SUR	45	-61	348	0	0.6	0.0	0.7
4400489	99	P	SUR	45	-61	326	0	0.7	-0.1	0.7
44005	99	P	SUR	43	-69	744	0	0.6	-0.7	0.9
44008	99	P	SUR	41	-69	744	0	0.6	-1.0	1.1

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
4401581	99	P	SUR	37	-67	742	2	1.6	-0.9	1.9
4401582	99	P	SUR	25	-49	744	0	0.3	0.3	0.4
4401584	99	P	SUR	27	-47	742	0	0.3	0.0	0.3
4401585	99	P	SUR	27	-62	741	0	0.3	0.0	0.3
4401587	99	P	SUR	80	26	395	0	3.4	-1.3	3.7
4401588	99	P	SUR	69	15	727	0	0.6	-0.9	1.1
4401864	99	P	SUR	26	-57	203	0	0.6	-0.2	0.6
4402613	99	P	SUR	35	-10	737	0	0.3	-0.4	0.5
4402618	99	P	SUR	31	-60	737	0	0.5	0.0	0.5
4402656	99	P	SUR	37	-37	738	2	2.4	-0.1	2.4
4402660	99	P	SUR	22	-60	736	0	0.2	0.4	0.4
4402663	99	P	SUR	30	-20	737	0	0.3	-0.2	0.4
4402670	99	P	SUR	20	-65	739	0	0.2	-0.2	0.3
4402672	99	P	SUR	18	-59	739	0	0.2	-0.2	0.3
4402674	99	P	SUR	30	-63	738	0	0.3	0.1	0.4
4402675	99	P	SUR	25	-46	738	0	0.3	-0.1	0.3
4402676	99	P	SUR	29	-35	737	0	0.3	0.0	0.3
44027	99	P	SUR	44	-67	744	0	0.6	-0.9	1.1
4402721	99	P	SUR	29	-16	739	0	0.3	0.2	0.4
4402726	99	P	SUR	51	-19	738	0	0.5	-0.2	0.5
4402729	99	P	SUR	50	-40	739	0	0.7	0.3	0.7
4402730	99	P	SUR	35	-36	738	0	0.3	0.0	0.3
4402731	99	P	SUR	47	-45	733	1	1.8	1.4	2.2
4402732	99	P	SUR	44	-9	739	0	1.5	0.2	1.5
4402733	99	P	SUR	43	-55	737	0	1.1	1.1	1.5
4402735	99	P	SUR	46	-28	737	0	0.5	-0.3	0.6
4402736	99	P	SUR	43	-12	738	0	0.4	0.0	0.4
4402737	99	P	SUR	52	-45	739	0	0.7	0.2	0.8
4402739	99	P	SUR	47	-41	736	0	0.8	0.2	0.8
4402740	99	P	SUR	47	-62	347	0	0.5	0.4	0.7
4402741	99	P	SUR	48	-27	738	0	0.5	0.0	0.5
4402742	99	P	SUR	45	-11	739	0	0.3	-0.2	0.4
4402743	99	P	SUR	46	-23	736	0	0.5	-0.6	0.8
4402744	99	P	SUR	42	-44	735	0	1.3	1.3	1.9
4402747	99	P	SUR	42	-26	738	0	0.5	0.2	0.5
4402749	99	P	SUR	51	-32	738	0	0.6	-0.2	0.6
4402750	99	P	SUR	54	-38	739	0	0.6	-0.6	0.8
4402878	99	P	SUR	38	-62	160	0	0.5	0.3	0.6
4402879	99	P	SUR	35	-57	450	0	0.4	0.3	0.5
4402881	99	P	SUR	47	-14	631	0	0.4	0.0	0.5
4402882	99	P	SUR	35	-53	692	0	0.6	0.2	0.6
4402885	99	P	SUR	31	-47	630	0	0.3	0.4	0.5
44032	99	P	SUR	44	-69	649	0	1.1	-0.6	1.3

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
44033	99	P	SUR	44	-69	681	0	1.2	-1.3	1.8
4403558	99	P	SUR	46	-2	31	26	3.4	-10.9	11.4
4403568	99	P	SUR	34	-38	744	0	0.5	0.2	0.5
4403569	99	P	SUR	43	-20	744	0	0.4	-0.2	0.4
44037	99	P	SUR	44	-68	716	0	0.7	-0.2	0.7
44078	99	P	SUR	60	-40	744	0	0.7	-1.0	1.2
44150	99	P	SUR	43	-64	737	0	0.6	-0.3	0.6
44258	99	P	SUR	45	-63	742	0	0.5	-0.2	0.6
44488	99	P	SUR	45	-61	718	0	0.6	-0.1	0.6
44489	99	P	SUR	46	-61	706	0	0.6	-0.1	0.6
4601782	99	P	SUR	30	-29	737	0	1.3	0.6	1.5
4701554	99	P	SUR	85	-8	730	0	0.5	-0.1	0.5
4701555	99	P	SUR	85	-2	730	0	0.5	-0.1	0.5
4701558	99	P	SUR	79	-18	59	0	0.7	-4.5	4.6
4701560	99	P	SUR	85	-6	730	0	0.4	0.0	0.4
4701561	99	P	SUR	85	-2	729	0	0.5	0.3	0.6
4801763	99	P	SUR	83	-27	741	0	0.9	0.2	0.9
4802506	99	P	SUR	57	-7	740	0	0.5	-0.1	0.5
4802582	99	P	SUR	87	29	730	0	0.5	0.0	0.5
4802592	99	P	SUR	85	-23	729	0	0.5	0.0	0.5
4802602	99	P	SUR	59	-28	729	0	0.5	0.0	0.5
4802603	99	P	SUR	81	6	728	0	0.5	0.0	0.5
4802664	99	P	SUR	84	-56	743	0	0.5	0.0	0.5
4803978	99	P	SUR	68	-27	607	0	0.7	-0.1	0.7
4804002	99	P	SUR	34	13	737	0	0.2	-0.5	0.6
5801972	99	P	SUR	47	-48	729	0	0.6	-0.1	0.6
5801975	99	P	SUR	40	-32	14	0	0.3	0.0	0.3
5801976	99	P	SUR	43	-48	714	0	0.7	-0.2	0.7
5801983	99	P	SUR	35	-19	724	0	0.4	0.2	0.4
5802034	99	P	SUR	47	-6	739	0	0.4	-0.1	0.4
5802061	99	P	SUR	85	-6	744	0	0.4	0.3	0.5
5802068	99	P	SUR	47	-55	392	63	6.5	1.4	6.6
5802077	99	P	SUR	30	-65	743	0	0.4	-0.1	0.4
6100001	99	P	SUR	43	8	725	0	0.5	-0.2	0.5
6100002	99	P	SUR	42	5	744	0	0.4	-0.3	0.5
6100196	99	P	SUR	42	4	744	0	0.4	0.5	0.6
6100197	99	P	SUR	40	4	129	0	0.6	0.2	0.6
6100198	99	P	SUR	37	-2	744	0	0.4	0.3	0.5
6100280	99	P	SUR	41	1	744	0	0.5	0.0	0.5
6100281	99	P	SUR	40	0	744	0	0.6	0.1	0.7
6100417	99	P	SUR	38	0	744	0	0.3	0.3	0.5
6100430	99	P	SUR	40	2	744	0	0.4	0.2	0.4
6101007	99	P	SUR	36	25	174	0	0.5	-0.5	0.7

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6101031	99	P	SUR	42	8	743	0	0.3	-0.1	0.3
6200001	99	P	SUR	45	-5	742	0	0.3	-0.1	0.3
6200024	99	P	SUR	44	-3	743	0	0.5	0.2	0.5
6200025	99	P	SUR	44	-6	744	0	0.4	0.2	0.5
6200029	99	P	SUR	49	-7	192	0	0.6	-0.4	0.7
6200050	99	P	SUR	50	-4	756	0	0.4	-0.1	0.4
6200081	99	P	SUR	51	-13	11	0	0.4	-0.4	0.5
6200082	99	P	SUR	44	-8	744	0	0.4	0.1	0.5
6200083	99	P	SUR	43	-9	744	0	0.5	-0.1	0.5
6200084	99	P	SUR	42	-9	744	0	0.5	0.2	0.5
6200085	99	P	SUR	36	-7	744	0	0.4	0.2	0.5
6200086	99	P	SUR	55	7	301	0	0.7	-0.4	0.8
6200091	99	P	SUR	53	-5	744	0	0.5	-0.3	0.6
6200092	99	P	SUR	51	-11	742	0	0.5	-0.3	0.5
6200093	99	P	SUR	55	-10	743	0	0.6	-0.3	0.7
6200094	99	P	SUR	52	-7	744	0	0.4	-0.2	0.5
6200095	99	P	SUR	53	-16	744	0	0.7	-0.5	0.8
6200103	99	P	SUR	50	-3	756	0	0.4	-0.5	0.6
6200105	99	P	SUR	55	-13	11	0	0.6	-1.3	1.5
6200163	99	P	SUR	47	-8	755	0	0.4	-0.2	0.4
6200191	99	P	SUR	41	-10	217	0	0.4	-0.6	0.7
6200192	99	P	SUR	40	-10	662	0	0.5	-0.5	0.7
6200199	99	P	SUR	40	-9	644	0	0.4	-0.6	0.7
6200200	99	P	SUR	36	-8	127	2	1.9	-0.4	2.0
6201065	99	P	SUR	54	7	663	0	0.4	1.0	1.1
6201066	99	P	SUR	55	7	741	0	0.4	0.3	0.5
6201081	99	P	SUR	38	-9	662	0	0.5	-0.4	0.6
6202597	99	P	SUR	47	-20	744	0	0.4	0.2	0.4
6202598	99	P	SUR	43	-23	743	0	0.4	0.1	0.4
6202637	99	P	SUR	63	-15	744	0	0.6	0.0	0.6
6202639	99	P	SUR	31	-33	692	0	0.4	-0.3	0.5
62029	99	P	SUR	50	-7	362	0	0.6	-0.4	0.7
6203516	99	P	SUR	41	-17	723	0	0.4	0.0	0.4
6203607	99	P	SUR	31	-26	743	0	0.4	0.2	0.5
6203612	99	P	SUR	34	-58	743	0	0.5	0.1	0.5
6203621	99	P	SUR	27	-41	744	0	0.9	-0.1	0.9
6203625	99	P	SUR	28	-39	744	0	0.6	-0.2	0.7
6203632	99	P	SUR	31	-57	744	0	0.4	0.3	0.5
6203634	99	P	SUR	31	-31	744	0	0.4	0.2	0.5
6203639	99	P	SUR	31	-30	744	0	0.4	-0.1	0.5
6203651	99	P	SUR	41	-16	744	0	0.3	0.2	0.4
6203656	99	P	SUR	85	-6	743	0	0.5	0.5	0.7
6203660	99	P	SUR	82	-3	743	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
6203661	99	P	SUR	86	9	743	0	0.6	0.0	0.6
6203667	99	P	SUR	85	15	743	0	0.6	-0.1	0.7
6203669	99	P	SUR	80	16	743	0	0.7	0.0	0.7
6203741	99	P	SUR	65	4	733	0	0.4	0.2	0.5
6203744	99	P	SUR	74	15	712	0	0.7	0.2	0.8
6203753	99	P	SUR	58	-51	739	0	0.6	-0.4	0.7
6203755	99	P	SUR	28	-18	738	0	0.4	-0.5	0.6
6203768	99	P	SUR	28	-31	739	0	0.4	0.1	0.4
6203771	99	P	SUR	26	-42	737	0	0.3	-0.2	0.3
6203772	99	P	SUR	24	-68	737	0	0.3	0.1	0.3
6203773	99	P	SUR	39	-59	739	0	0.5	-0.7	0.8
6203823	99	P	SUR	62	-16	739	0	0.6	0.3	0.7
6203824	99	P	SUR	62	-10	737	0	0.4	1.1	1.2
6203825	99	P	SUR	62	-12	737	0	0.5	0.2	0.5
6203826	99	P	SUR	64	-15	737	0	0.5	0.0	0.5
6203827	99	P	SUR	66	12	687	0	0.7	-0.2	0.7
6203839	99	P	SUR	33	-57	738	0	0.4	-0.4	0.5
6203840	99	P	SUR	24	-53	738	0	0.3	0.1	0.3
6203842	99	P	SUR	30	-33	737	0	0.4	-0.1	0.4
6203844	99	P	SUR	44	-19	737	0	0.4	0.2	0.5
6203845	99	P	SUR	57	-7	739	0	0.5	-0.4	0.6
6203846	99	P	SUR	30	-30	739	0	0.3	-0.2	0.4
6203848	99	P	SUR	57	-9	474	0	0.5	0.0	0.5
6203849	99	P	SUR	25	-47	737	0	0.3	0.1	0.3
6203853	99	P	SUR	70	11	738	6	0.9	0.0	0.9
6203854	99	P	SUR	58	-48	737	0	0.7	0.1	0.7
6203855	99	P	SUR	68	12	737	0	0.6	-0.4	0.7
6203861	99	P	SUR	25	-49	737	0	0.3	0.1	0.3
6203864	99	P	SUR	70	-11	737	0	0.8	0.0	0.8
6203865	99	P	SUR	58	-43	736	0	0.9	-0.2	0.9
6203866	99	P	SUR	69	15	736	0	0.5	-0.1	0.5
6203888	99	P	SUR	10	-40	738	0	0.2	0.0	0.2
6203890	99	P	SUR	13	-26	739	0	0.3	-0.1	0.3
6204603	99	P	SUR	41	7	659	0	0.3	0.5	0.6
6204604	99	P	SUR	39	5	712	0	0.3	-1.0	1.0
6204607	99	P	SUR	37	9	124	0	0.3	-3.0	3.0
6204609	99	P	SUR	39	6	720	0	0.3	-0.6	0.7
6204610	99	P	SUR	39	2	724	0	0.4	0.0	0.4
6204611	99	P	SUR	39	5	724	0	0.3	0.2	0.4
62050	99	P	SUR	50	-4	1487	0	0.4	-0.2	0.5
62081	99	P	SUR	51	-13	1488	0	0.5	-0.2	0.6
62091	99	P	SUR	53	-5	744	0	0.5	-0.3	0.6
62092	99	P	SUR	51	-11	742	0	0.5	-0.2	0.5

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
62093	99	P	SUR	55	-10	743	0	0.6	-0.4	0.7
62094	99	P	SUR	52	-7	744	0	0.4	-0.2	0.5
62095	99	P	SUR	53	-16	744	0	0.7	-0.5	0.8
62102	99	P	SUR	58	2	1396	0	0.7	0.2	0.8
62103	99	P	SUR	50	-3	1487	0	0.5	-0.5	0.7
62104	99	P	SUR	57	1	1488	0	0.6	-0.2	0.6
62105	99	P	SUR	55	-13	1488	0	1.1	-0.3	1.1
62107	99	P	SUR	50	-6	190	0	0.4	-0.2	0.4
62112	99	P	SUR	58	0	1488	0	0.5	0.1	0.5
62113	99	P	SUR	58	0	1488	0	0.9	0.0	0.9
62114	99	P	SUR	58	0	882	0	0.7	-0.2	0.8
62115	99	P	SUR	58	-3	1488	0	0.5	-0.2	0.5
62116	99	P	SUR	58	1	1488	0	0.6	-0.1	0.6
62118	99	P	SUR	58	1	1488	0	0.4	0.2	0.5
62119	99	P	SUR	57	2	1488	0	0.6	0.0	0.6
62120	99	P	SUR	56	2	1486	0	0.6	-0.2	0.7
62121	99	P	SUR	54	3	1488	0	0.6	0.3	0.7
62122	99	P	SUR	57	2	1486	0	0.6	-0.1	0.6
62124	99	P	SUR	54	-4	1488	0	0.4	-0.2	0.5
62127	99	P	SUR	54	1	1488	0	0.4	-0.1	0.5
62129	99	P	SUR	58	0	1488	0	0.8	0.1	0.8
62130	99	P	SUR	59	1	1488	0	0.6	-0.5	0.8
62131	99	P	SUR	54	1	16	0	0.5	-0.2	0.5
62132	99	P	SUR	56	2	1486	0	0.7	0.4	0.8
62133	99	P	SUR	57	1	1488	0	0.8	0.0	0.8
62134	99	P	SUR	58	1	1466	0	0.5	0.2	0.5
62140	99	P	SUR	57	1	1488	0	0.5	-0.1	0.5
62143	99	P	SUR	58	2	1330	0	0.7	0.6	0.9
62144	99	P	SUR	53	2	1488	0	0.5	0.1	0.5
62145	99	P	SUR	53	3	1488	0	0.4	0.2	0.4
62146	99	P	SUR	57	2	1398	0	0.7	0.1	0.8
62148	99	P	SUR	54	2	1488	0	0.5	1.0	1.1
62149	99	P	SUR	54	1	1488	0	0.4	0.1	0.4
62151	99	P	SUR	57	2	1480	0	0.4	0.1	0.5
62152	99	P	SUR	57	2	1488	0	0.6	0.4	0.7
62153	99	P	SUR	57	2	1488	0	0.5	0.2	0.5
62154	99	P	SUR	56	2	1488	0	0.4	-0.2	0.5
62155	99	P	SUR	58	1	1174	0	0.5	0.5	0.7
62157	99	P	SUR	58	0	1488	0	0.5	-0.2	0.5
62160	99	P	SUR	57	2	1488	0	0.6	0.0	0.6
62161	99	P	SUR	58	1	1486	0	0.9	-0.2	0.9
62162	99	P	SUR	57	1	1488	0	0.5	-0.2	0.5
62163	99	P	SUR	48	-9	1487	0	0.4	-0.2	0.5

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
62164	99	P	SUR	57	1	1488	0	0.4	0.3	0.5
62165	99	P	SUR	54	1	1486	0	0.6	0.1	0.6
62168	99	P	SUR	58	1	1488	0	0.4	-0.2	0.5
62170	99	P	SUR	51	2	1485	0	0.4	-0.2	0.5
62297	99	P	SUR	59	2	1488	0	0.5	-0.2	0.6
62302	99	P	SUR	61	-2	1487	0	0.8	-0.2	0.8
62304	99	P	SUR	51	2	1484	0	0.5	-0.1	0.5
62305	99	P	SUR	50	0	1488	0	0.4	-0.5	0.6
6301001	99	P	SUR	64	5	744	0	0.5	-0.2	0.5
6301008	99	P	SUR	68	15	744	0	0.6	-0.9	1.0
6301575	99	P	SUR	47	-15	742	0	0.4	0.3	0.5
6301577	99	P	SUR	67	7	744	0	0.6	-0.2	0.6
63055	99	P	SUR	61	2	1474	0	0.7	0.0	0.7
63056	99	P	SUR	60	2	1482	0	0.8	0.4	0.9
63057	99	P	SUR	59	2	1486	0	0.5	-0.2	0.5
63058	99	P	SUR	53	2	1371	0	0.4	-0.2	0.4
63059	99	P	SUR	58	-1	1488	0	0.5	0.2	0.5
63101	99	P	SUR	61	1	1488	0	0.7	0.2	0.7
63102	99	P	SUR	61	1	1488	0	0.7	0.0	0.7
63103	99	P	SUR	61	1	986	0	1.0	0.4	1.0
63108	99	P	SUR	61	2	1488	0	0.8	0.0	0.8
63109	99	P	SUR	60	2	1488	0	0.5	-0.7	0.8
63110	99	P	SUR	60	2	1442	0	1.1	-0.4	1.1
63111	99	P	SUR	61	2	1488	0	0.6	-0.7	0.9
63112	99	P	SUR	61	1	1470	0	0.5	-0.5	0.8
63115	99	P	SUR	62	1	1488	0	0.8	0.1	0.8
63117	99	P	SUR	61	1	1488	0	0.7	0.5	0.9
63118	99	P	SUR	58	1	1488	0	0.6	-0.5	0.8
6400045	99	P	SUR	59	-12	1467	0	0.5	-0.5	0.7
6400046	99	P	SUR	61	-4	1471	0	0.5	-0.4	0.6
6401583	99	P	SUR	59	-33	743	0	0.5	0.0	0.5
6401584	99	P	SUR	62	-26	743	0	0.6	0.3	0.6
6401590	99	P	SUR	70	32	683	0	0.6	-0.5	0.8
6401592	99	P	SUR	66	-6	743	2	2.2	0.9	2.3
6401759	99	P	SUR	56	-27	743	0	0.6	-0.2	0.6
6401763	99	P	SUR	66	12	743	0	0.6	0.0	0.6
6402551	99	P	SUR	49	-4	171	0	0.4	0.3	0.5
6402596	99	P	SUR	61	-41	1	0	0.0	2.6	2.6
6402615	99	P	SUR	22	-60	739	0	0.3	0.1	0.3
6402616	99	P	SUR	31	-43	737	0	0.4	-0.3	0.5
6402617	99	P	SUR	30	-48	737	0	0.3	0.2	0.4
6402618	99	P	SUR	21	-48	739	0	0.3	0.1	0.3
6402619	99	P	SUR	31	-14	738	0	0.3	0.0	0.3

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6402621	99	P	SUR	33	-16	739	0	0.3	0.3	0.5
6402622	99	P	SUR	30	-19	738	0	0.3	0.1	0.3
64041	99	P	SUR	61	-3	1488	0	0.6	-0.3	0.7
64045	99	P	SUR	59	-12	1483	0	0.5	-0.5	0.8
64046	99	P	SUR	61	-4	1487	0	0.5	-0.3	0.6
6600021	99	P	SUR	55	14	27	0	0.5	-1.2	1.3
6600022	99	P	SUR	54	14	160	0	2.3	-1.1	2.6
6600023	99	P	SUR	55	11	164	0	2.0	-0.5	2.1
6600024	99	P	SUR	55	13	60	0	2.7	-1.9	3.3
6801786	99	P	SUR	37	20	300	0	0.4	0.2	0.4
6801790	99	P	SUR	37	-14	733	0	0.3	0.0	0.3
6801791	99	P	SUR	32	-36	737	0	0.4	0.3	0.5
6801906	99	P	SUR	69	-66	736	0	0.7	-0.5	0.9
7801552	99	P	SUR	68	-8	744	4	2.3	0.1	2.3
7801588	99	P	SUR	36	-13	728	0	0.3	0.2	0.4
7801591	99	P	SUR	41	-11	730	0	0.3	0.1	0.3
7801698	99	P	SUR	67	-13	199	0	0.7	1.0	1.2

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

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


TIME = 99 => AVERAGE OF ALL OBSERVATIONS


GROSS ERROR LIMIT FOR VECTOR WIND = 25 M/S
```

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
1300001	99	SPEED	SUR	11	-23	614	0	0	0.8	0.5	0.9
1300002	99	SPEED	SUR	20	-23	607	0	0	1.0	0.3	1.0
1300008	99	SPEED	SUR	15	-38	608	0	0	0.7	-0.1	0.8
1300130	99	SPEED	SUR	28	-16	724	0	0	1.6	0.0	1.6
1300131	99	SPEED	SUR	28	-17	729	0	0	1.7	0.8	1.9
4100026	99	SPEED	SUR	12	-38	303	0	0	0.8	-0.1	0.8
4100040	99	SPEED	SUR	15	-53	4463	0	0	0.8	0.0	0.8
4100043	99	SPEED	SUR	21	-65	4464	0	0	1.0	0.0	1.0
4100044	99	SPEED	SUR	22	-59	4464	0	0	1.0	-0.2	1.0
4100046	99	SPEED	SUR	24	-68	4464	0	0	1.1	0.0	1.1
4100049	99	SPEED	SUR	28	-63	4464	0	0	1.1	-0.1	1.1
4100052	99	SPEED	SUR	18	-65	4371	0	0	0.9	-0.3	0.9
4100053	99	SPEED	SUR	18	-66	4402	0	0	1.3	0.1	1.3
4100056	99	SPEED	SUR	18	-65	138	0	0	1.0	-0.5	1.2
4100139	99	SPEED	SUR	20	-38	742	0	0	0.9	0.0	0.9
4100300	99	SPEED	SUR	16	-57	640	0	0	0.8	-0.4	0.9
41040	99	SPEED	SUR	15	-53	744	0	0	0.8	0.0	0.8
41043	99	SPEED	SUR	21	-65	744	0	0	1.1	0.1	1.1
41044	99	SPEED	SUR	22	-59	744	0	0	1.0	-0.2	1.0
41046	99	SPEED	SUR	24	-68	744	0	0	1.1	0.0	1.1
41049	99	SPEED	SUR	28	-63	744	0	0	1.2	0.0	1.2
41052	99	SPEED	SUR	18	-65	733	0	0	0.9	-0.2	1.0
41053	99	SPEED	SUR	19	-66	744	0	0	1.4	-0.5	1.5
41056	99	SPEED	SUR	18	-66	138	0	0	1.1	-0.4	1.2
4200059	99	SPEED	SUR	15	-67	4464	0	0	0.7	-0.1	0.7
4200060	99	SPEED	SUR	16	-63	4464	0	0	0.9	0.0	0.9
4200085	99	SPEED	SUR	18	-67	3547	0	0	1.1	-0.5	1.2
42059	99	SPEED	SUR	15	-68	744	0	0	0.8	0.0	0.8
42060	99	SPEED	SUR	16	-63	744	0	0	1.0	0.1	1.0
42085	99	SPEED	SUR	18	-67	725	0	0	1.1	0.1	1.1
4400005	99	SPEED	SUR	43	-69	4464	0	0	1.3	0.1	1.3
4400008	99	SPEED	SUR	40	-69	4463	0	0	1.3	0.0	1.3
4400027	99	SPEED	SUR	44	-67	4464	0	0	1.2	0.4	1.3
4400032	99	SPEED	SUR	44	-69	650	0	0	1.4	0.4	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
4400033	99	SPEED	SUR	44	-69	660	0	0	1.4	0.3	1.5
4400034	99	SPEED	SUR	44	-68	700	0	0	1.3	0.4	1.3
4400037	99	SPEED	SUR	43	-68	721	0	0	1.2	0.3	1.2
4400150	99	SPEED	SUR	43	-64	735	0	0	1.3	0.4	1.4
4400488	99	SPEED	SUR	45	-61	340	0	0	1.7	1.0	2.0
4400489	99	SPEED	SUR	45	-61	325	0	0	1.7	1.8	2.5
44005	99	SPEED	SUR	43	-69	744	0	0	1.3	0.0	1.3
44008	99	SPEED	SUR	41	-69	744	0	0	1.4	0.1	1.4
44027	99	SPEED	SUR	44	-67	744	0	0	1.3	0.5	1.3
44032	99	SPEED	SUR	44	-69	651	0	0	1.4	0.4	1.5
44033	99	SPEED	SUR	44	-69	660	0	0	1.4	0.7	1.6
44034	99	SPEED	SUR	44	-68	699	0	0	1.3	0.4	1.4
44037	99	SPEED	SUR	44	-68	721	0	0	1.2	0.3	1.3
44078	99	SPEED	SUR	60	-40	742	0	0	1.9	-2.3	3.0
44150	99	SPEED	SUR	43	-64	735	0	0	1.4	0.4	1.4
44258	99	SPEED	SUR	45	-63	742	0	0	1.4	0.7	1.6
44488	99	SPEED	SUR	45	-61	710	0	0	1.7	1.4	2.2
44489	99	SPEED	SUR	46	-61	705	0	0	1.6	1.8	2.4
6100001	99	SPEED	SUR	43	8	722	0	0	1.8	0.1	1.8
6100002	99	SPEED	SUR	42	5	744	0	0	1.4	0.1	1.4
6100196	99	SPEED	SUR	42	4	705	0	0	1.6	-0.4	1.7
6100197	99	SPEED	SUR	40	4	126	0	0	1.8	-0.3	1.8
6100198	99	SPEED	SUR	37	-2	732	0	0	1.7	-0.7	1.8
6100280	99	SPEED	SUR	41	1	717	0	0	1.6	-0.6	1.7
6100417	99	SPEED	SUR	38	0	728	0	0	1.3	-0.4	1.3
6100430	99	SPEED	SUR	40	2	691	0	0	1.8	-0.8	1.9
6101007	99	SPEED	SUR	36	25	174	0	0	2.2	-1.3	2.5
6101008	99	SPEED	SUR	37	22	230	0	0	3.1	-5.9	6.7
6101031	99	SPEED	SUR	42	8	743	0	0	1.6	-0.2	1.7
6200001	99	SPEED	SUR	45	-5	736	0	0	1.2	-0.3	1.2
6200024	99	SPEED	SUR	44	-3	730	0	0	1.7	-0.5	1.8
6200025	99	SPEED	SUR	44	-6	733	0	0	1.6	-0.7	1.7
6200029	99	SPEED	SUR	49	-7	192	0	0	1.9	-0.4	1.9
6200050	99	SPEED	SUR	50	-4	756	0	0	1.2	0.0	1.2
6200082	99	SPEED	SUR	44	-8	686	0	0	1.5	-1.2	2.0
6200083	99	SPEED	SUR	43	-9	739	0	0	1.5	-0.4	1.5
6200084	99	SPEED	SUR	42	-9	738	0	0	1.1	-0.8	1.4
6200085	99	SPEED	SUR	36	-7	738	0	0	1.3	-0.3	1.3
6200086	99	SPEED	SUR	55	7	301	0	0	2.1	1.4	2.5
6200091	99	SPEED	SUR	53	-5	744	0	0	1.0	0.4	1.1
6200092	99	SPEED	SUR	51	-11	742	0	0	1.4	-0.1	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
6200093	99	SPEED	SUR	55	-10	743	0	0	1.6	-0.7	1.7
6200094	99	SPEED	SUR	52	-7	744	0	0	1.0	0.3	1.1
6200095	99	SPEED	SUR	53	-16	744	0	0	1.6	-0.3	1.6
6200103	99	SPEED	SUR	50	-3	754	6	0	1.9	0.0	1.9
6200105	99	SPEED	SUR	55	-13	10	0	0	0.6	1.2	1.3
6200163	99	SPEED	SUR	47	-8	379	0	0	1.8	0.4	1.8
6200192	99	SPEED	SUR	40	-10	662	0	0	1.3	0.0	1.3
6200199	99	SPEED	SUR	40	-9	644	0	0	1.4	0.2	1.4
6200200	99	SPEED	SUR	36	-8	236	0	0	1.2	0.2	1.2
6201065	99	SPEED	SUR	54	7	663	0	0	1.8	-0.7	1.9
6201066	99	SPEED	SUR	55	7	741	0	0	1.6	0.6	1.7
62029	99	SPEED	SUR	50	-7	360	0	0	1.9	-0.3	1.9
62050	99	SPEED	SUR	50	-4	1487	0	0	1.1	0.7	1.3
62081	99	SPEED	SUR	51	-13	8	0	0	0.5	-0.3	0.6
62091	99	SPEED	SUR	53	-5	744	0	0	1.1	0.7	1.3
62092	99	SPEED	SUR	51	-11	742	0	0	1.4	-0.1	1.4
62093	99	SPEED	SUR	55	-10	743	0	0	1.6	-0.6	1.7
62094	99	SPEED	SUR	52	-7	744	0	0	1.1	0.4	1.1
62095	99	SPEED	SUR	53	-16	744	0	0	1.6	-0.2	1.6
62102	99	SPEED	SUR	58	2	1466	0	0	2.0	0.1	2.0
62103	99	SPEED	SUR	50	-3	1485	12	0	1.4	-0.3	1.5
62104	99	SPEED	SUR	57	1	1486	0	0	1.6	-0.4	1.7
62105	99	SPEED	SUR	55	-13	1486	0	0	1.3	0.5	1.4
62107	99	SPEED	SUR	50	-6	172	0	0	1.0	0.2	1.0
62112	99	SPEED	SUR	58	0	1488	0	0	2.5	-0.9	2.7
62113	99	SPEED	SUR	58	0	1488	0	0	2.2	0.1	2.2
62114	99	SPEED	SUR	58	0	882	0	0	2.4	1.0	2.7
62118	99	SPEED	SUR	58	1	1488	0	0	1.8	0.6	1.9
62119	99	SPEED	SUR	57	2	1484	0	0	2.8	-1.9	3.3
62120	99	SPEED	SUR	56	2	1488	0	0	1.5	-0.8	1.7
62121	99	SPEED	SUR	54	3	1488	0	0	1.5	-0.4	1.5
62122	99	SPEED	SUR	57	2	1488	0	0	1.8	-0.1	1.8
62129	99	SPEED	SUR	58	0	1488	0	0	2.0	0.3	2.0
62131	99	SPEED	SUR	54	1	16	0	0	1.2	1.9	2.2
62132	99	SPEED	SUR	56	2	270	0	0	3.2	-2.4	4.0
62133	99	SPEED	SUR	57	1	1454	0	0	1.8	-0.1	1.8
62134	99	SPEED	SUR	58	1	1462	0	0	1.9	-0.1	1.9
62140	99	SPEED	SUR	57	1	1448	0	0	1.6	0.2	1.6
62143	99	SPEED	SUR	58	2	1324	0	0	2.5	-1.1	2.7
62144	99	SPEED	SUR	53	2	1484	0	0	1.7	-0.5	1.7
62145	99	SPEED	SUR	53	3	1486	0	0	1.9	0.8	2.1

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
62146	99	SPEED	SUR	57	2	1352	0	0	1.6	0.3	1.7
62148	99	SPEED	SUR	54	2	1488	0	0	2.2	-0.6	2.2
62149	99	SPEED	SUR	54	1	1488	0	0	1.4	0.1	1.4
62152	99	SPEED	SUR	57	2	1488	0	0	1.8	-1.3	2.2
62154	99	SPEED	SUR	56	2	1486	0	0	1.6	0.0	1.6
62155	99	SPEED	SUR	58	1	1174	0	0	1.9	0.5	2.0
62163	99	SPEED	SUR	48	-9	736	0	0	1.3	0.7	1.5
62164	99	SPEED	SUR	57	1	1488	0	0	1.8	-1.4	2.3
62165	99	SPEED	SUR	54	1	1486	0	0	1.9	-0.8	2.1
62170	99	SPEED	SUR	51	2	1485	0	0	1.4	0.9	1.7
62304	99	SPEED	SUR	51	2	1474	0	0	1.5	1.3	1.9
62305	99	SPEED	SUR	50	0	8	0	0	1.2	0.1	1.2
6301001	99	SPEED	SUR	64	5	744	0	0	1.7	-0.2	1.7
6301008	99	SPEED	SUR	68	15	744	0	0	2.3	-0.1	2.3
63055	99	SPEED	SUR	61	2	1476	0	0	1.6	-1.2	2.0
63056	99	SPEED	SUR	60	2	906	0	0	1.6	0.9	1.9
63057	99	SPEED	SUR	59	2	1486	0	0	2.7	-0.9	2.8
63058	99	SPEED	SUR	53	2	1371	0	0	1.5	-0.1	1.5
63101	99	SPEED	SUR	61	1	1482	0	0	1.5	-0.6	1.6
63103	99	SPEED	SUR	61	1	1488	0	0	2.0	-0.1	2.0
63108	99	SPEED	SUR	61	2	1488	0	0	2.0	-0.1	2.0
63109	99	SPEED	SUR	60	2	1488	0	0	1.9	0.4	1.9
63110	99	SPEED	SUR	60	2	1488	0	0	1.6	-0.4	1.7
63112	99	SPEED	SUR	61	1	1470	0	0	1.4	-0.7	1.6
63115	99	SPEED	SUR	62	1	1488	0	0	1.6	-0.5	1.7
63117	99	SPEED	SUR	61	1	1488	0	0	1.6	-0.6	1.7
6400045	99	SPEED	SUR	59	-12	1467	0	0	1.7	0.1	1.7
6400046	99	SPEED	SUR	61	-4	449	0	0	5.0	4.8	6.9
64041	99	SPEED	SUR	61	-3	1486	0	0	1.6	-0.3	1.7
64045	99	SPEED	SUR	59	-12	1483	0	0	1.4	0.5	1.5
6600021	99	SPEED	SUR	55	14	27	0	0	1.1	1.1	1.6
6600022	99	SPEED	SUR	54	14	160	2	0	2.1	-0.5	2.1
6600023	99	SPEED	SUR	55	11	164	0	0	2.0	1.4	2.4
6600024	99	SPEED	SUR	55	13	33	0	0	1.9	0.5	2.0

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

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


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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
0835640	99	DIRN	SUR	17	-80	11	0	0	46.5	25.7	53.2
1300001	99	DIRN	SUR	11	-23	591	0	0	8.6	0.7	8.6
1300002	99	DIRN	SUR	20	-23	494	0	0	8.5	-1.8	8.7
1300008	99	DIRN	SUR	15	-38	584	0	0	8.9	3.0	9.4
1300130	99	DIRN	SUR	28	-16	436	0	0	14.0	6.0	15.3
1300131	99	DIRN	SUR	28	-17	366	0	0	16.0	4.7	16.6
4100002	99	DIRN	SUR	32	-75	4094	0	0	13.9	5.3	14.9
4100004	99	DIRN	SUR	33	-79	3978	0	0	17.8	8.3	19.7
4100008	99	DIRN	SUR	31	-81	3463	0	0	19.4	13.3	23.5
4100009	99	DIRN	SUR	29	-80	4157	0	0	13.9	6.0	15.2
4100013	99	DIRN	SUR	33	-78	4085	0	0	18.0	8.3	19.8
4100024	99	DIRN	SUR	34	-78	556	0	0	17.9	11.2	21.1
4100025	99	DIRN	SUR	35	-75	3156	0	0	22.3	3.8	22.6
4100026	99	DIRN	SUR	12	-38	303	0	0	9.5	4.0	10.3
4100029	99	DIRN	SUR	33	-80	547	0	0	19.0	1.1	19.1
4100033	99	DIRN	SUR	32	-80	548	0	0	23.2	-7.2	24.3
4100037	99	DIRN	SUR	34	-77	658	0	0	19.1	6.7	20.2
4100038	99	DIRN	SUR	34	-78	580	0	0	16.7	7.5	18.3
4100040	99	DIRN	SUR	15	-53	4463	0	0	9.2	5.9	10.9
4100043	99	DIRN	SUR	21	-65	4084	0	0	10.4	9.5	14.1
4100044	99	DIRN	SUR	22	-59	3945	0	0	14.9	5.5	15.8
4100046	99	DIRN	SUR	24	-68	3803	0	0	13.1	4.7	13.9
4100047	99	DIRN	SUR	27	-71	4067	0	0	19.2	9.8	21.6
4100049	99	DIRN	SUR	28	-63	3788	0	0	14.4	8.1	16.5
4100052	99	DIRN	SUR	18	-65	3822	0	0	10.1	5.6	11.5
4100053	99	DIRN	SUR	18	-66	3317	0	0	14.2	7.4	16.0
4100056	99	DIRN	SUR	18	-65	115	0	0	13.1	5.9	14.4
4100064	99	DIRN	SUR	34	-77	677	0	0	19.7	5.3	20.4
4100069	99	DIRN	SUR	29	-81	592	0	0	17.6	4.8	18.2
4100139	99	DIRN	SUR	20	-38	662	0	0	12.2	1.6	12.3
41002	99	DIRN	SUR	32	-75	671	0	0	13.8	5.4	14.8
4100300	99	DIRN	SUR	16	-57	638	0	0	8.7	-12.5	15.3

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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
41004	99	DIRN	SUR	33	-79	652	0	0	17.4	8.8	19.5
41008	99	DIRN	SUR	31	-81	562	0	0	20.3	13.8	24.6
41009	99	DIRN	SUR	29	-80	680	0	0	13.8	6.8	15.4
41013	99	DIRN	SUR	33	-78	667	0	0	16.9	9.0	19.1
41024	99	DIRN	SUR	34	-79	549	0	0	18.8	10.8	21.6
41025	99	DIRN	SUR	35	-76	524	0	0	21.3	5.1	21.9
41029	99	DIRN	SUR	33	-80	544	0	0	19.5	1.0	19.5
41033	99	DIRN	SUR	32	-80	533	0	0	23.9	-8.0	25.2
41037	99	DIRN	SUR	34	-77	643	0	0	18.7	6.7	19.9
41038	99	DIRN	SUR	34	-78	570	0	0	17.5	9.0	19.7
41040	99	DIRN	SUR	15	-53	744	0	0	10.0	5.5	11.4
41043	99	DIRN	SUR	21	-65	674	0	0	11.3	9.1	14.5
41044	99	DIRN	SUR	22	-59	645	0	0	15.1	5.6	16.1
41046	99	DIRN	SUR	24	-68	633	0	0	13.7	5.3	14.7
41047	99	DIRN	SUR	28	-72	667	0	0	18.5	10.8	21.4
41049	99	DIRN	SUR	28	-63	616	0	0	13.5	8.2	15.8
41052	99	DIRN	SUR	18	-65	634	0	0	10.3	5.1	11.5
41053	99	DIRN	SUR	19	-66	565	0	0	14.6	6.5	16.0
41056	99	DIRN	SUR	18	-66	115	0	0	12.9	5.8	14.2
41064	99	DIRN	SUR	34	-77	663	0	0	20.2	5.8	21.0
41069	99	DIRN	SUR	29	-81	593	0	0	20.3	3.9	20.7
4200013	99	DIRN	SUR	27	-83	1227	0	0	17.2	-1.6	17.3
4200022	99	DIRN	SUR	28	-84	1312	0	0	14.0	-3.2	14.4
4200023	99	DIRN	SUR	26	-83	1282	0	0	14.8	-2.3	15.0
4200026	99	DIRN	SUR	25	-83	1306	0	0	17.3	-2.5	17.5
4200036	99	DIRN	SUR	29	-85	4045	0	0	17.2	2.0	17.3
4200056	99	DIRN	SUR	20	-85	4132	0	0	11.8	-2.9	12.2
4200057	99	DIRN	SUR	17	-82	4408	0	0	10.2	3.3	10.8
4200058	99	DIRN	SUR	15	-75	4462	0	0	7.5	6.8	10.1
4200059	99	DIRN	SUR	15	-67	4433	0	0	7.8	3.2	8.4
4200060	99	DIRN	SUR	16	-63	4073	0	0	9.6	7.5	12.2
4200085	99	DIRN	SUR	18	-67	3051	0	0	13.0	12.0	17.7
42013	99	DIRN	SUR	27	-83	603	0	0	18.2	0.0	18.2
42022	99	DIRN	SUR	28	-84	647	0	0	15.3	-1.8	15.5
42023	99	DIRN	SUR	26	-83	635	0	0	14.3	-0.6	14.3
42026	99	DIRN	SUR	25	-84	641	0	0	17.3	-1.0	17.4
42036	99	DIRN	SUR	29	-85	664	0	0	18.3	2.2	18.5
42056	99	DIRN	SUR	20	-85	682	0	0	12.3	-3.5	12.8
42057	99	DIRN	SUR	17	-82	728	0	0	10.5	2.8	10.9
42058	99	DIRN	SUR	15	-75	744	0	0	8.1	6.1	10.1
42059	99	DIRN	SUR	15	-68	738	0	0	8.2	2.6	8.6

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
42060	99	DIRN	SUR	16	-63	675	0	0	10.6	7.0	12.7
42085	99	DIRN	SUR	18	-67	602	0	0	12.7	9.7	16.0
4400005	99	DIRN	SUR	43	-69	3916	0	0	12.3	1.5	12.4
4400007	99	DIRN	SUR	44	-70	3623	0	0	25.7	3.5	26.0
4400008	99	DIRN	SUR	40	-69	4145	0	0	11.6	15.1	19.1
4400009	99	DIRN	SUR	38	-75	3933	0	0	18.7	5.5	19.5
4400013	99	DIRN	SUR	42	-71	3968	0	0	15.3	5.0	16.0
4400014	99	DIRN	SUR	37	-75	3950	0	0	13.7	4.5	14.4
4400018	99	DIRN	SUR	42	-70	4086	0	0	12.9	3.7	13.4
4400020	99	DIRN	SUR	41	-70	3775	0	0	12.9	4.0	13.5
4400022	99	DIRN	SUR	41	-74	999	0	0	15.0	6.1	16.2
4400027	99	DIRN	SUR	44	-67	4072	0	0	12.7	6.8	14.4
4400029	99	DIRN	SUR	43	-71	671	0	0	14.0	-3.5	14.4
4400030	99	DIRN	SUR	43	-70	620	0	0	25.8	3.2	26.0
4400032	99	DIRN	SUR	44	-69	581	0	0	24.3	0.2	24.3
4400033	99	DIRN	SUR	44	-69	572	0	0	18.3	18.7	26.1
4400034	99	DIRN	SUR	44	-68	642	0	0	13.4	-3.2	13.8
4400037	99	DIRN	SUR	43	-68	647	0	0	12.8	3.1	13.2
4400039	99	DIRN	SUR	41	-73	441	0	0	35.6	1.1	35.6
4400041	99	DIRN	SUR	37	-77	2343	0	0	15.5	-1.5	15.5
4400042	99	DIRN	SUR	38	-76	5176	0	0	18.8	0.8	18.8
4400058	99	DIRN	SUR	38	-76	5748	0	0	19.6	1.0	19.7
4400062	99	DIRN	SUR	39	-76	5113	0	0	19.0	0.6	19.0
4400063	99	DIRN	SUR	39	-76	4114	0	0	20.1	3.6	20.4
4400064	99	DIRN	SUR	37	-76	5219	0	0	19.6	4.3	20.1
4400072	99	DIRN	SUR	37	-76	4876	0	0	18.8	3.2	19.1
4400073	99	DIRN	SUR	43	-71	2357	0	0	17.1	2.6	17.2
4400150	99	DIRN	SUR	43	-64	690	0	0	19.9	8.3	21.6
4400488	99	DIRN	SUR	45	-61	309	0	0	17.6	-30.8	35.5
4400489	99	DIRN	SUR	45	-61	282	0	0	17.5	-33.8	38.0
44005	99	DIRN	SUR	43	-69	650	0	0	12.3	1.4	12.4
44007	99	DIRN	SUR	44	-70	609	0	0	26.1	4.1	26.4
44008	99	DIRN	SUR	41	-69	683	0	0	12.4	15.8	20.1
44009	99	DIRN	SUR	39	-75	647	0	0	19.9	5.6	20.7
44013	99	DIRN	SUR	42	-71	654	0	0	16.2	3.6	16.6
44014	99	DIRN	SUR	37	-75	657	0	0	13.4	4.8	14.3
44018	99	DIRN	SUR	42	-70	669	0	0	12.4	3.3	12.9
44020	99	DIRN	SUR	42	-70	615	0	0	14.2	4.0	14.8
44022	99	DIRN	SUR	41	-74	264	0	0	15.0	6.0	16.2
44027	99	DIRN	SUR	44	-67	671	0	0	13.5	6.4	14.9
44029	99	DIRN	SUR	43	-71	662	0	0	14.6	-3.5	15.0

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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
44030	99	DIRN	SUR	43	-70	616	0	0	23.8	3.1	24.0
44032	99	DIRN	SUR	44	-69	577	0	0	24.6	1.1	24.6
44033	99	DIRN	SUR	44	-69	558	0	0	18.2	17.3	25.2
44034	99	DIRN	SUR	44	-68	635	0	0	14.0	-3.4	14.4
44037	99	DIRN	SUR	44	-68	637	0	0	12.3	2.9	12.7
44039	99	DIRN	SUR	41	-73	422	0	0	36.5	0.9	36.6
44041	99	DIRN	SUR	37	-77	247	0	0	16.0	-2.2	16.1
44042	99	DIRN	SUR	38	-76	564	0	0	18.6	1.2	18.7
44058	99	DIRN	SUR	38	-76	558	0	0	19.1	0.7	19.1
44062	99	DIRN	SUR	39	-76	584	0	0	21.5	0.7	21.5
44063	99	DIRN	SUR	39	-76	464	0	0	17.8	3.8	18.2
44064	99	DIRN	SUR	37	-76	594	0	0	20.3	4.8	20.8
44072	99	DIRN	SUR	37	-76	574	0	0	19.0	3.3	19.3
44073	99	DIRN	SUR	43	-71	516	0	0	14.3	3.2	14.6
44078	99	DIRN	SUR	60	-40	688	0	0	15.1	-20.8	25.7
44150	99	DIRN	SUR	43	-64	689	0	0	20.5	7.9	22.0
44258	99	DIRN	SUR	45	-63	666	0	0	15.4	-3.9	15.9
44488	99	DIRN	SUR	45	-61	617	0	0	16.4	-32.7	36.6
44489	99	DIRN	SUR	46	-61	579	0	0	15.5	-34.7	37.9
6100198	99	DIRN	SUR	37	-2	488	0	0	19.1	7.2	20.4
6100417	99	DIRN	SUR	38	0	486	0	0	12.0	-0.2	12.0
6200001	99	DIRN	SUR	45	-5	663	0	0	12.8	-1.1	12.8
6200024	99	DIRN	SUR	44	-3	518	0	0	19.3	-3.5	19.6
6200025	99	DIRN	SUR	44	-6	454	0	0	18.8	2.2	18.9
6200029	99	DIRN	SUR	49	-7	166	0	0	12.4	-2.2	12.6
6200050	99	DIRN	SUR	50	-4	710	0	0	10.5	1.5	10.6
6200082	99	DIRN	SUR	44	-8	582	0	0	10.0	0.4	10.0
6200083	99	DIRN	SUR	43	-9	613	0	0	14.2	-16.2	21.5
6200084	99	DIRN	SUR	42	-9	571	0	0	16.1	-0.9	16.1
6200085	99	DIRN	SUR	36	-7	548	0	0	16.6	8.8	18.7
6200091	99	DIRN	SUR	53	-5	725	0	0	10.8	3.1	11.3
6200092	99	DIRN	SUR	51	-11	710	0	0	12.2	3.7	12.8
6200093	99	DIRN	SUR	55	-10	698	0	0	12.2	1.0	12.3
6200094	99	DIRN	SUR	52	-7	707	0	0	12.6	4.6	13.4
6200095	99	DIRN	SUR	53	-16	704	0	0	12.7	1.9	12.8
6200103	99	DIRN	SUR	50	-3	686	6	0	29.0	5.7	29.6
6200105	99	DIRN	SUR	55	-13	10	0	0	3.0	-14.9	15.2
6200163	99	DIRN	SUR	47	-8	354	0	0	15.4	12.1	19.6
6200192	99	DIRN	SUR	40	-10	512	0	0	15.8	-6.5	17.1
6200199	99	DIRN	SUR	40	-9	438	0	0	17.4	4.7	18.0
6200200	99	DIRN	SUR	36	-8	175	0	0	16.4	3.0	16.7

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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
62029	99	DIRN	SUR	50	-7	316	0	0	14.1	-2.5	14.3
62050	99	DIRN	SUR	50	-4	1383	0	0	11.5	2.1	11.7
62081	99	DIRN	SUR	51	-13	8	0	0	13.9	8.2	16.1
62091	99	DIRN	SUR	53	-5	723	0	0	11.4	2.6	11.7
62092	99	DIRN	SUR	51	-11	709	0	0	12.3	3.1	12.7
62093	99	DIRN	SUR	55	-10	696	0	0	12.3	0.5	12.3
62094	99	DIRN	SUR	52	-7	703	0	0	12.9	4.3	13.6
62095	99	DIRN	SUR	53	-16	704	0	0	13.1	1.1	13.1
62103	99	DIRN	SUR	50	-3	1372	12	0	29.4	6.0	30.0
62105	99	DIRN	SUR	55	-13	1420	0	0	12.8	-8.5	15.4
62107	99	DIRN	SUR	50	-6	164	0	0	10.2	0.6	10.2
62112	99	DIRN	SUR	58	0	1359	0	0	11.1	-3.3	11.6
62114	99	DIRN	SUR	58	0	845	0	0	9.6	-0.1	9.7
62163	99	DIRN	SUR	48	-9	705	0	0	15.5	12.9	20.1
62305	99	DIRN	SUR	50	0	8	0	0	13.5	11.5	17.7
6400045	99	DIRN	SUR	59	-12	1429	0	0	10.1	-8.8	13.4
6400046	99	DIRN	SUR	61	-4	207	0	0	11.9	-9.0	14.9
64041	99	DIRN	SUR	61	-3	1421	0	0	10.5	9.3	14.1
64045	99	DIRN	SUR	59	-12	1450	0	0	11.1	-8.8	14.1

4.12 Table 24 - List of Assimilated BUFR Encoded Radiosonde Stations

ASDE09	ATGU3FT	BPMWB2N	DBLK	FPUW5GN	GQBZLZL	JNKN7JF	KJJF9XN	KMPLHPW
LAGY8	LAGZ8	LRYQE3U	USBOD	USCAT	USSIO	USTAC	USYUB	UXK5JTU
WDK38HS	XKQLWQB	YLV96WM	ZVQEQCM	7JUNA4N	01001	01004	01010	01028
01241	01400	01415	01492	02185	02365	02591	02836	02963
03005	03238	03354	03502	03743	03808	03882	03918	03953
04018	04089	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	22820	22845	23205	23472	23884
23921	23955	24641	24908	26038	26435	26477	26629	26708
27459	27707	27713	27962	28225	28445	28661	28695	29612
29698	30557	30673	30935	31004	31770	31873	31977	34122
34172	34731	35121	35671	40179	42079	42101	42123	42314
42339	42348	42369	42410	42647	42675	42724	42867	42874
42886	42971	43014	43041	43063	43086	43128	43150	43185
43333	43346	43353	43369	45004	47102	47104	47138	47155
47169	47186	47193	47230	47401	47412	47582	47600	47646
47678	47807	47827	47909	47918	47945	47971	47991	48601
48615	48650	48657	48698	50527	50557	50774	50953	51076
51243	51431	51463	51644	51656	51709	51777	51828	51839
52203	52267	52323	52418	52533	52652	52681	52818	52836
52866	52983	53068	53463	53513	53543	53614	53772	53845
53915	54102	54135	54161	54218	54292	54340	54374	54511
54662	54727	54857	55299	55591	56029	56046	56080	56137
56146	56187	56492	56571	56651	56691	56739	56778	56964
56985	57083	57127	57131	57178	57245	57461	57494	57516
57541	57687	57749	57816	57957	57972	57993	58027	58150
58203	58238	58362	58424	58457	58606	58633	58665	58725
58847	59023	59134	59211	59265	59280	59293	59316	59431
59758	59981	60018	60096	60155	60253	60715	60760	61901
61980	61998	63985	65344	66160	67083	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	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	72265	72274	72293	72305	72317	72318	72327	72340
72357	72363	72364	72365	72376	72388	72402	72403	72413
72426	72440	72451	72456	72476	72489	72493	72501	72518
72520	72528	72558	72562	72572	72582	72597	72632	72634
72645	72649	72659	72662	72672	72681	72694	72712	72747
72764	72768	72776	72786	72797	73033	73110	73111	74389
74455	74560	76225	76256	76405	76458	76526	76595	76612
76644	76654	76679	76692	76743	76903	78384	78397	78486
78583	78866	78897	78954	78970	80001	81405	82965	85442
85799	85934	87155	87344	87418	87582	87623	87715	87860
88889	89002	89022	89055	89564	89571	89592	89611	89625
89642	89662	89859	91165	91212	91285	91334	91348	91376
91408	91413	91592	91610	91925	91938	91948	91958	93112
93417	93817	93844	94001	94120	94155	94170	94203	94299
94302	94312	94326	94332	94403	94430	94461	94510	94578
94610	94637	94638	94653	94659	94672	94711	94767	94776

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

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

ASDE09	ATGU3FT	BPMWB2N	DBLK	FPUW5GN	GQBZLZL	JNKN7JF	KJJF9XN	KMPLHPW
LAGY8	LAGZ8	LRYQE3U	UXK5JTU	WDK38HS	XKQLWQB	YLV96WM	ZVQEQCM	7JUNA4N
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	47193	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	72413	73111	76743
76903	89002	89642	89859	91925	91938	91948	91958	94001
94653	94767							

5 Annex - Explanations of figures and tables

5.1 General

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

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

5.2 Data Availability

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

5.3 Data Quality

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

It should be noted that:

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

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

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

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

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