



ECMWF

Global Data Monitoring Report

November 2024

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

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Summary of Revisions (in reverse order)

- Revision 30 (Nov 23) – Coverage charts for AIREP/AMDARs updated:
Added MODE-S and ADS-C to Figure 5 and Figure 18
- Revision 29 (Dec 22) – Coverage charts for ATOVS AMSU-A updated:
METOP-C replaces Aqua-ATOVS (Figure 9.2)
METOP-B replaces METOP-ATOVS (Figure 9.3)
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 percentage of rejection.

1 Introduction

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

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

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

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

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

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

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

2 Data summary - History of events

2.1 Radiosondes

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

Ident	Time	Oct	Nov	Ident	Time	Oct	Nov
04339	(00)	31	15	32061	(00)	0	30
07145	(12)	25	6	32098	(12)	0	29
16144	(12)	28	12	32215	(12)	0	29
25428	(00)	26	7	35700	(00)	0	29
34122	(12)	26	15	35700	(12)	0	30
41256	(00)	30	3	43371	(00)	2	31
48453	(12)	24	4	43371	(12)	2	28
59981	(00)	23	8	47058	(00)	3	22
63985	(00)	28	11	47058	(12)	0	11
63985	(12)	27	11	61291	(00)	16	28
68512	(12)	13	0	61291	(12)	16	29
72712	(00)	31	18	61980	(12)	0	28
82411	(12)	12	1	71934	(12)	4	29
82917	(12)	12	0	78807	(00)	3	30
96147	(00)	28	7	83649	(12)	19	30
96147	(12)	31	8	-	-	-	-
96633	(00)	25	0	-	-	-	-
96749	(00)	21	0	-	-	-	-
96749	(12)	22	0	-	-	-	-

2.2 Drifting Buoys

Surface pressure observations from **1328** 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 TEMP SHIPS and PILOT SHIPS received during the month.

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

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

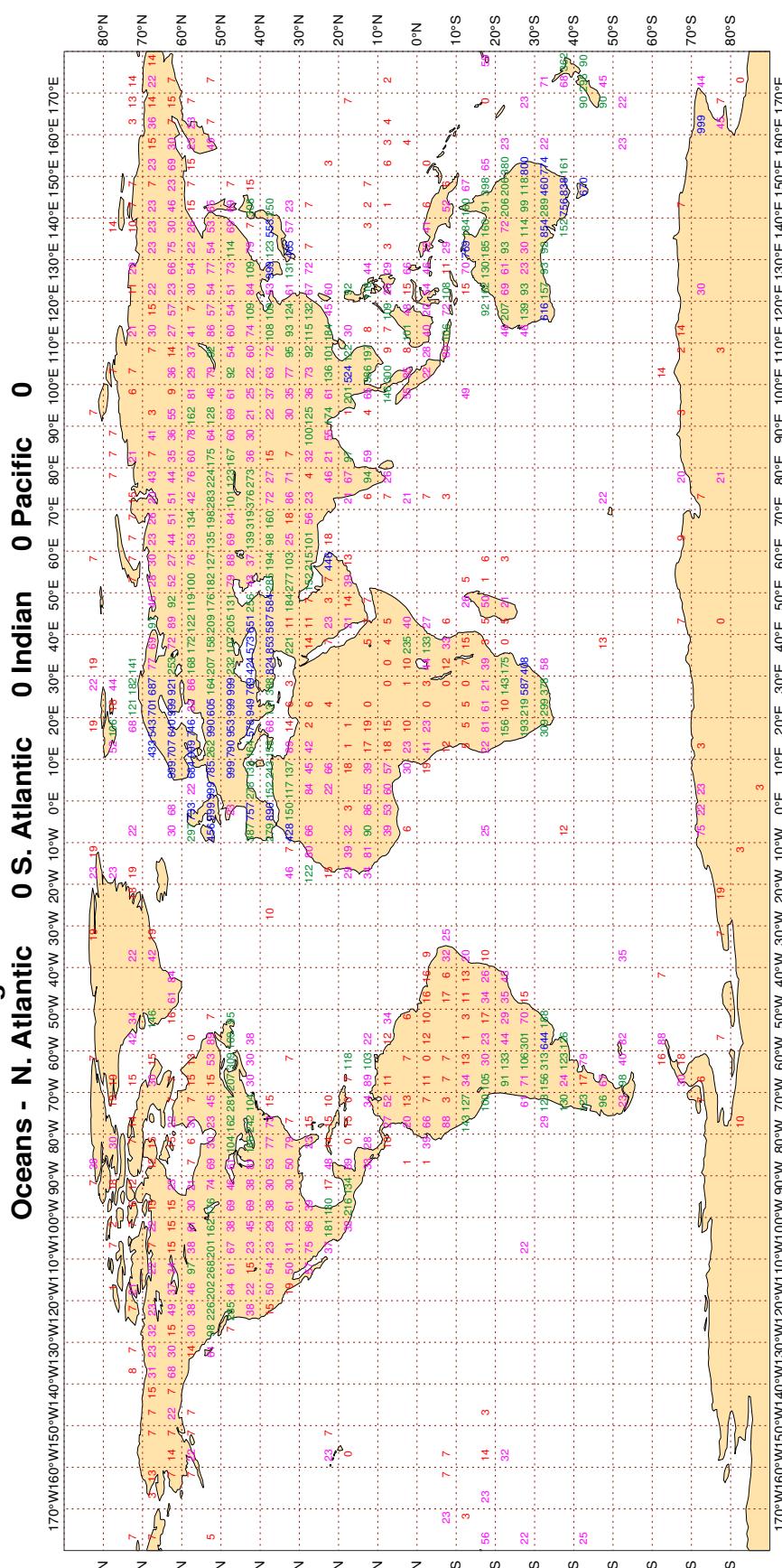
Fig	Parameter	Level/Layer
14	SATOB - Mean observed wind	1000-700 hPa
15	SATOB - Mean observed wind	400-150 hPa
16	SATOB - Mean observed minus first-guess wind	1000-700 hPa
17	SATOB - Mean observed minus first-guess wind	400-150 hPa
18	AIRCRAFT WIND - Mean observed minus first-guess	300-150 hPa

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

3.2.1 Figure 1 - Availability - SYNOP PRESSURE

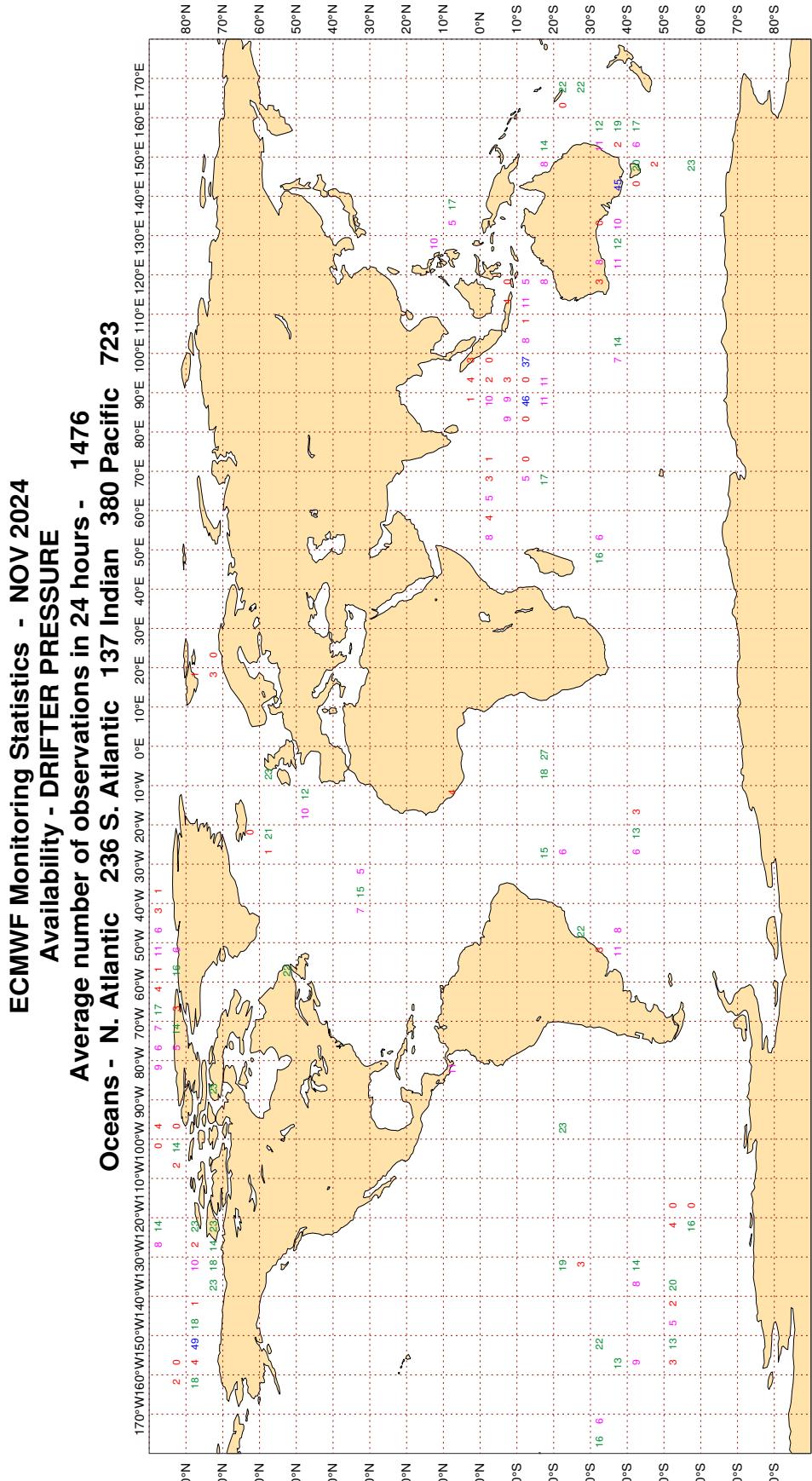
Figure 1

ECMWF Monitoring Statistics - NOV 2024
Availability - SYNOP/SHIP (manual, auto) pressure
Average number of observations in 24 hours - 96275
LAND - WMO Region I: 7025 II: 20083 III: 4955 IV: 8676
Region V: 14603 VI: 39055 Antarctic: 1879



3.2.2 Figure 2 - Availability - DRIFTER PRESSURE

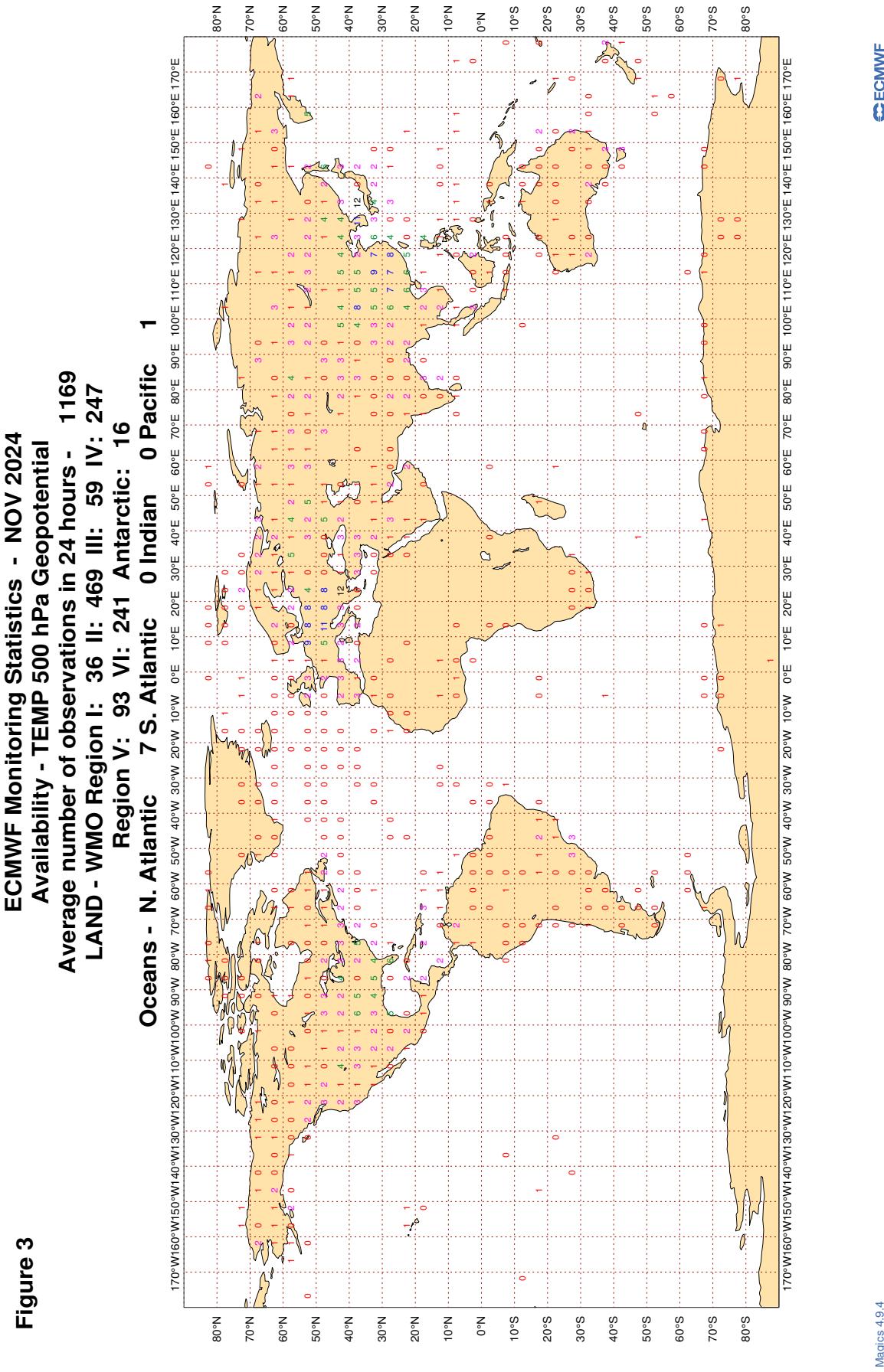
Figure 2



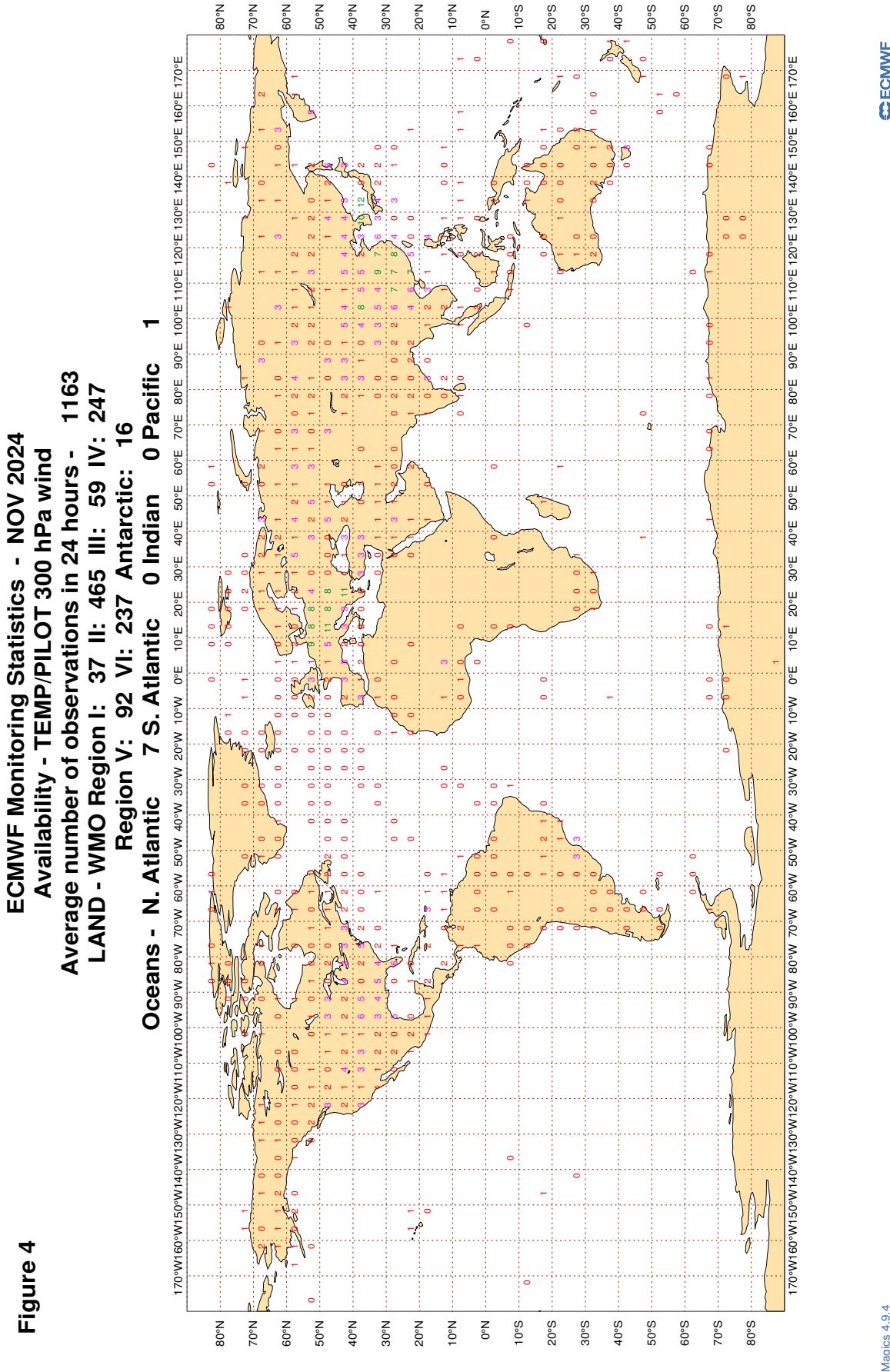
Magics 4.9.4

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3.2.3 Figure 3 - Availability - TEMP 500 hPa geopotential

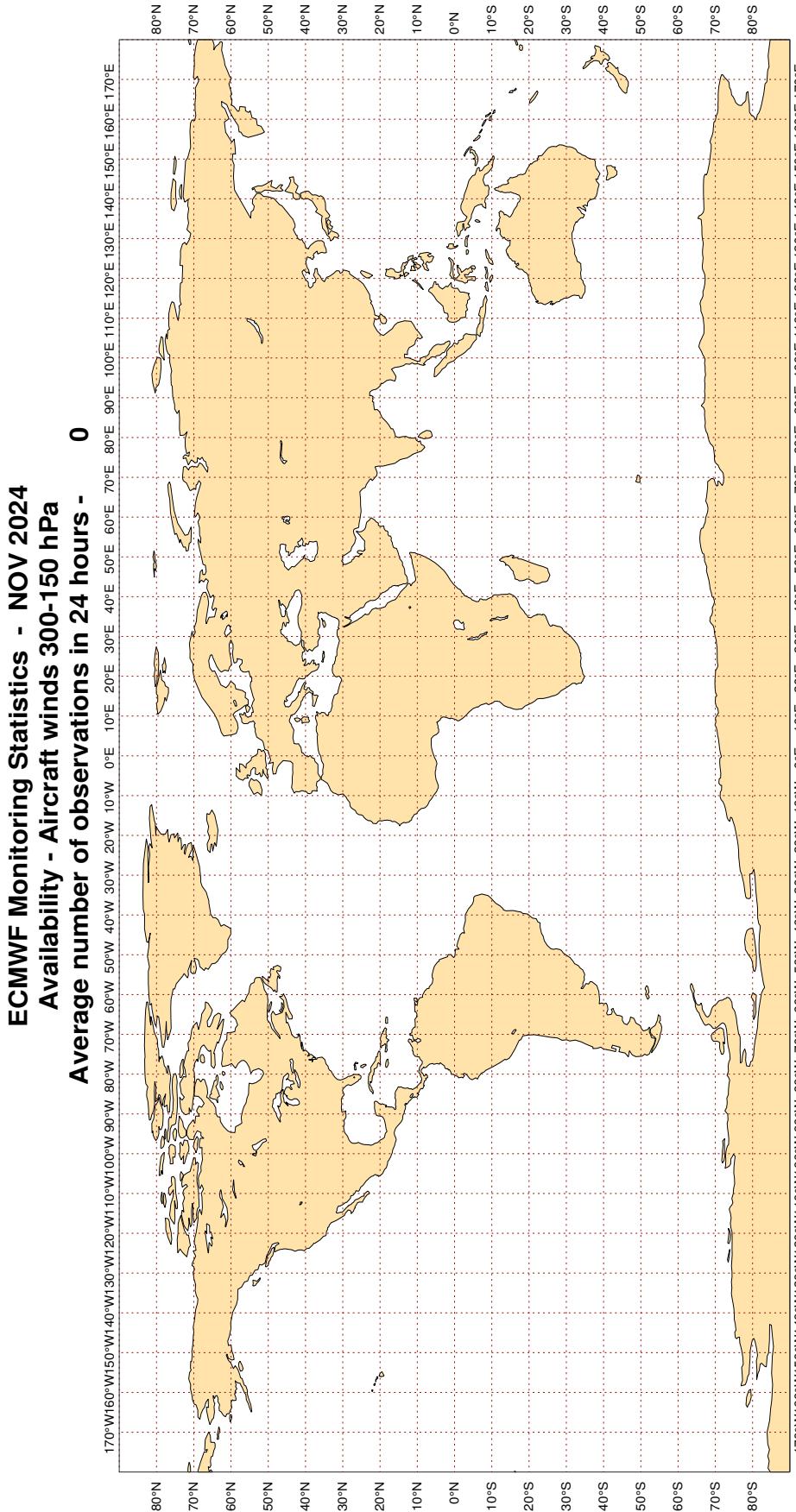


3.2.4 Figure 4 - Availability - TEMP/PILOT 300 hPa wind



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

Figure 5

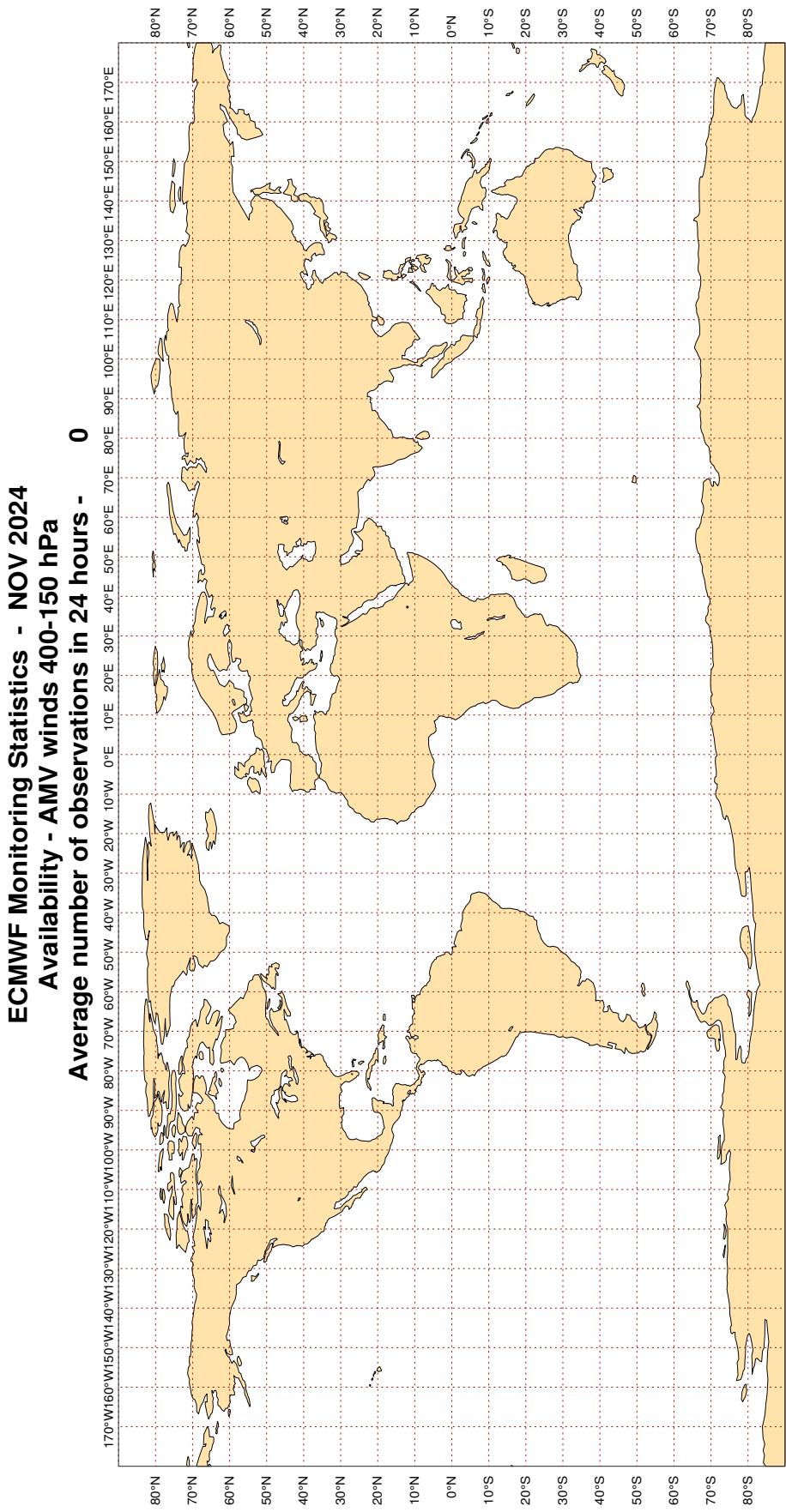


Magics 4.9.4

ECMWF

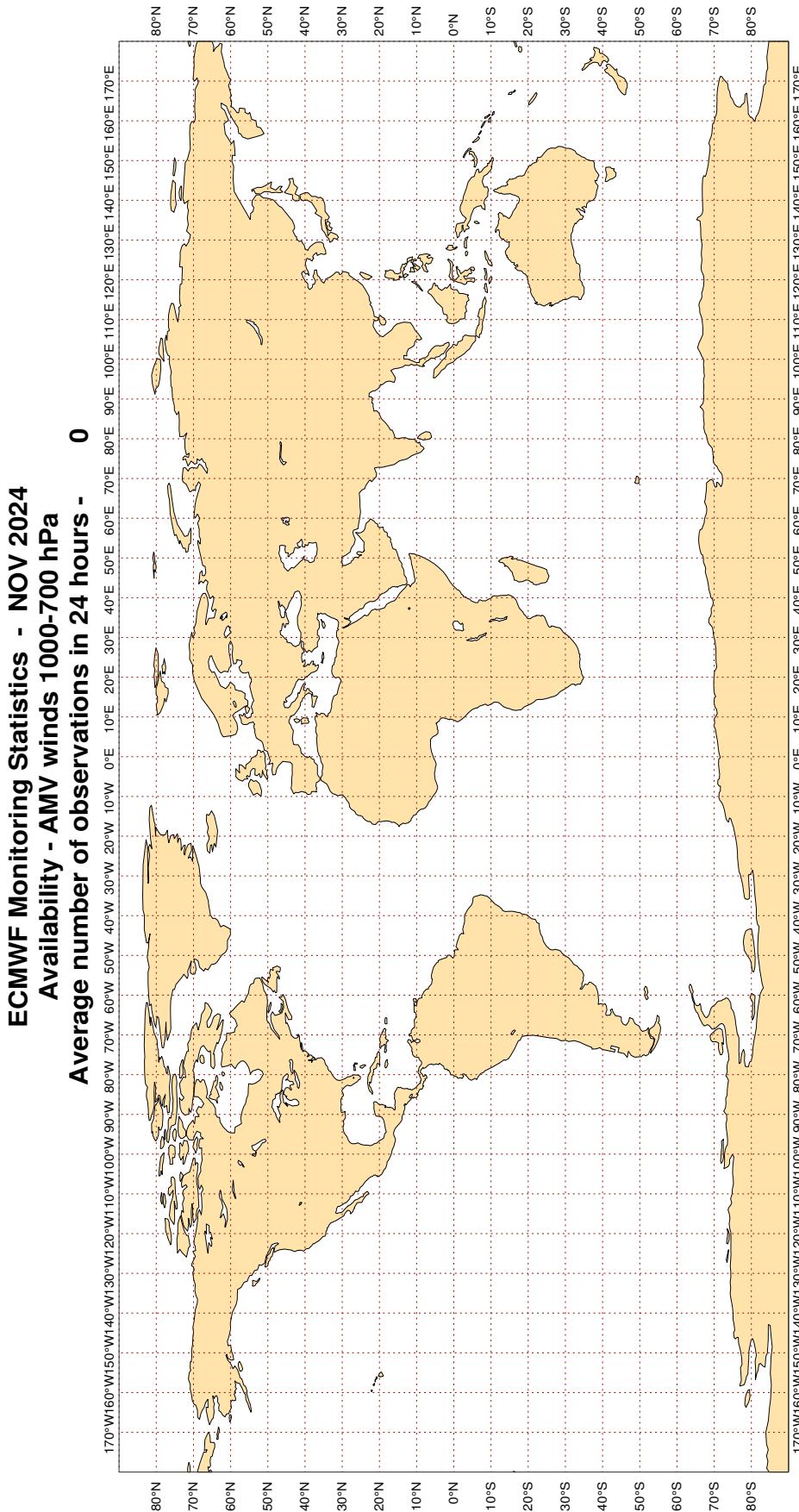
3.2.6 Figure 6 - Availability - SATOB winds 400-150 hPa

Figure 6



Magics 4.9.4



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

Magics 4.9.4

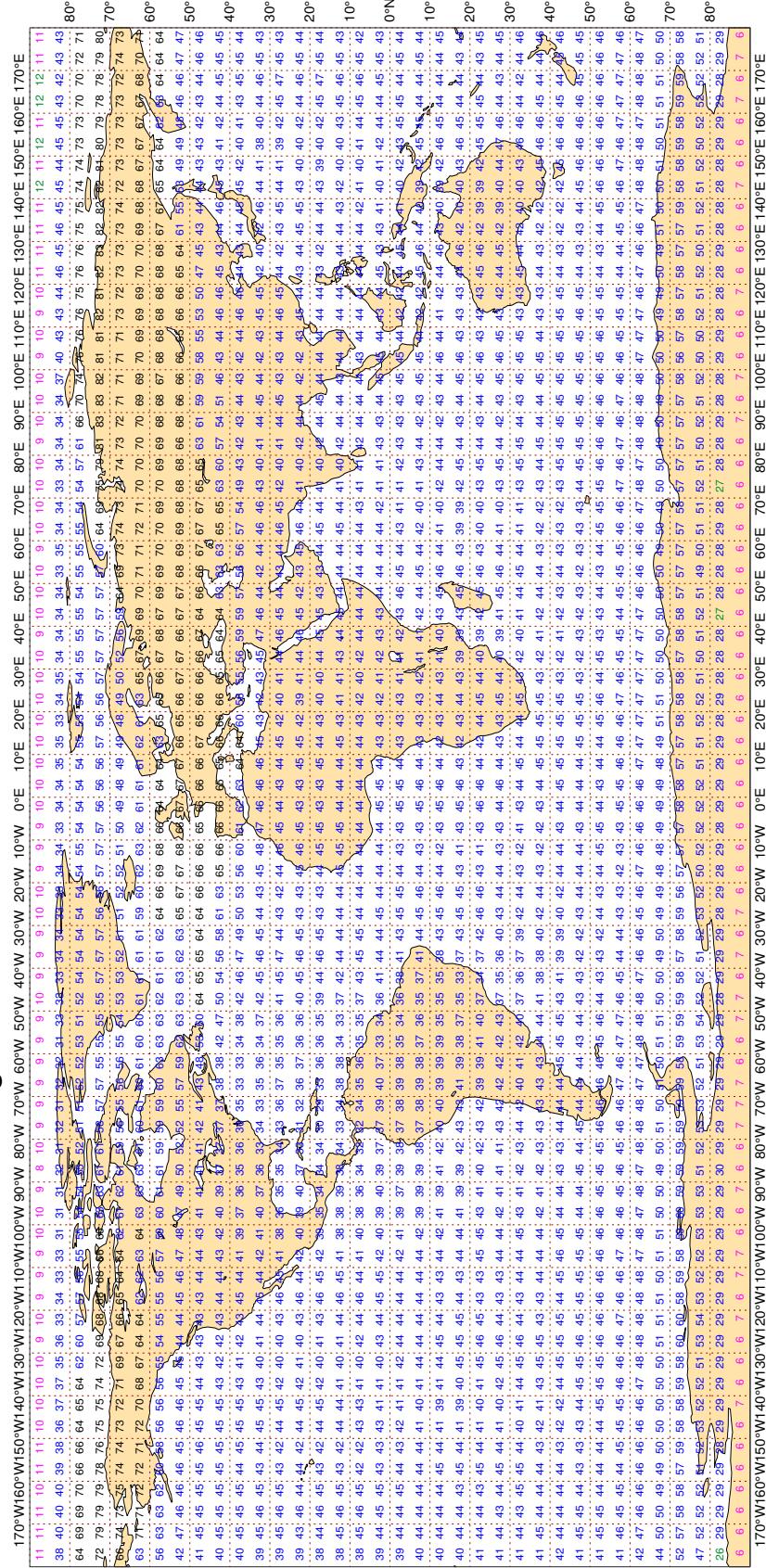
ECMWF

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

Figure 8

ECMWF Monitoring Statistics - NOV 2024
Availability - NOAA15 ATOVS : AMSU-A

Average number of observations in 24 hours - 119000



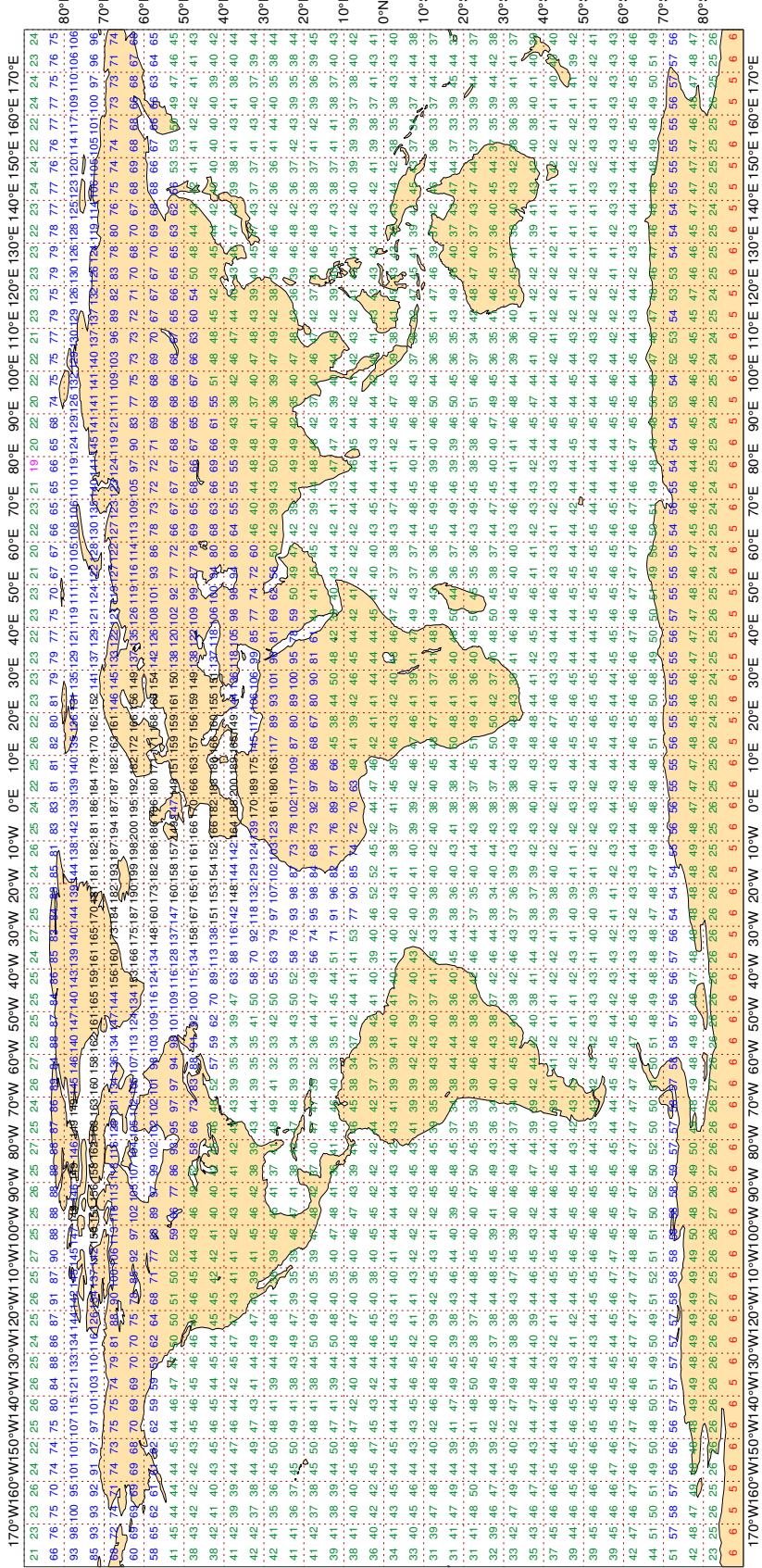
Magics 4.9.4

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

Figure 9.1

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

Average number of observations in 24 hours - 151907



Magics 4.9.4

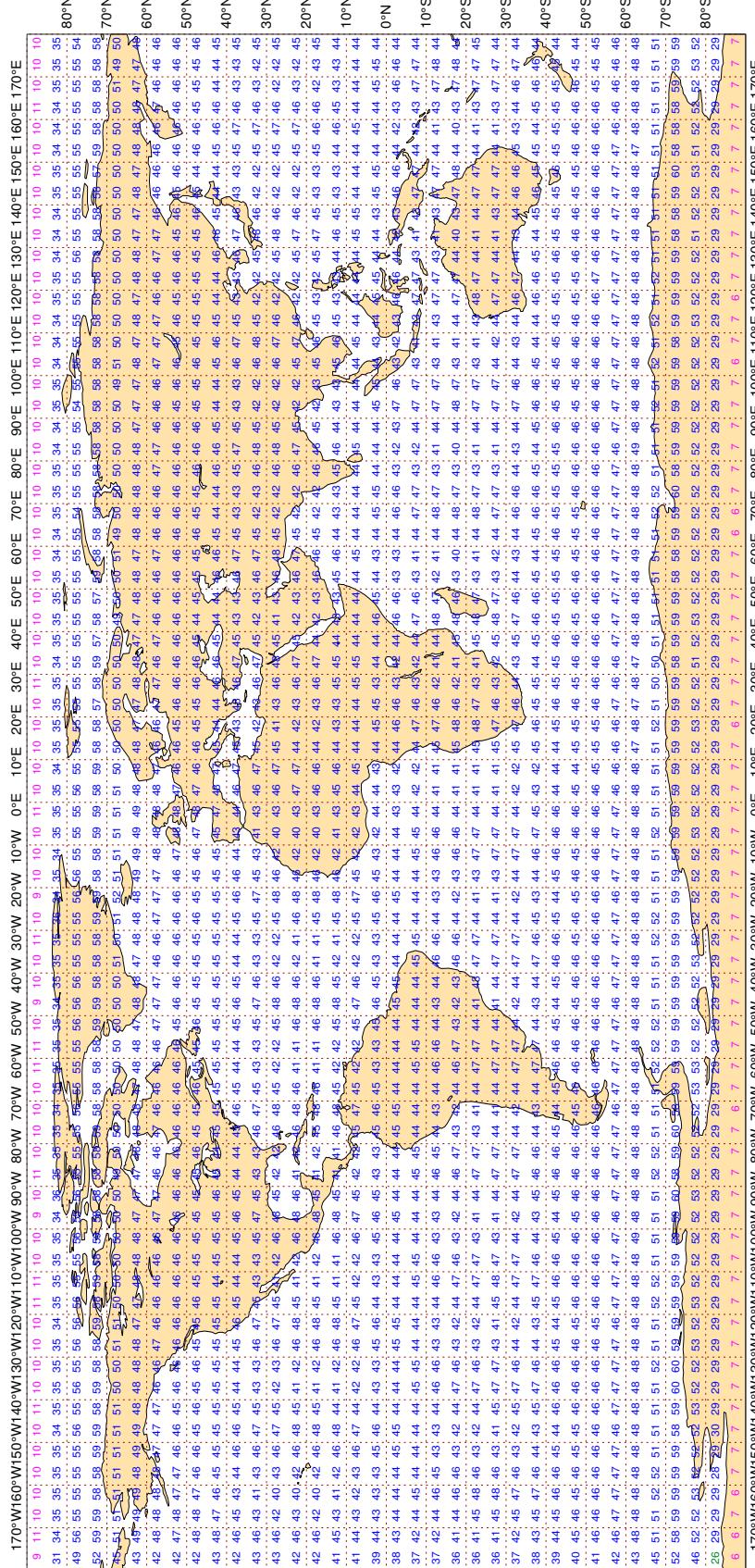
ECMWF

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

Figure 9.2

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

Average number of observations in 24 hours - 114968



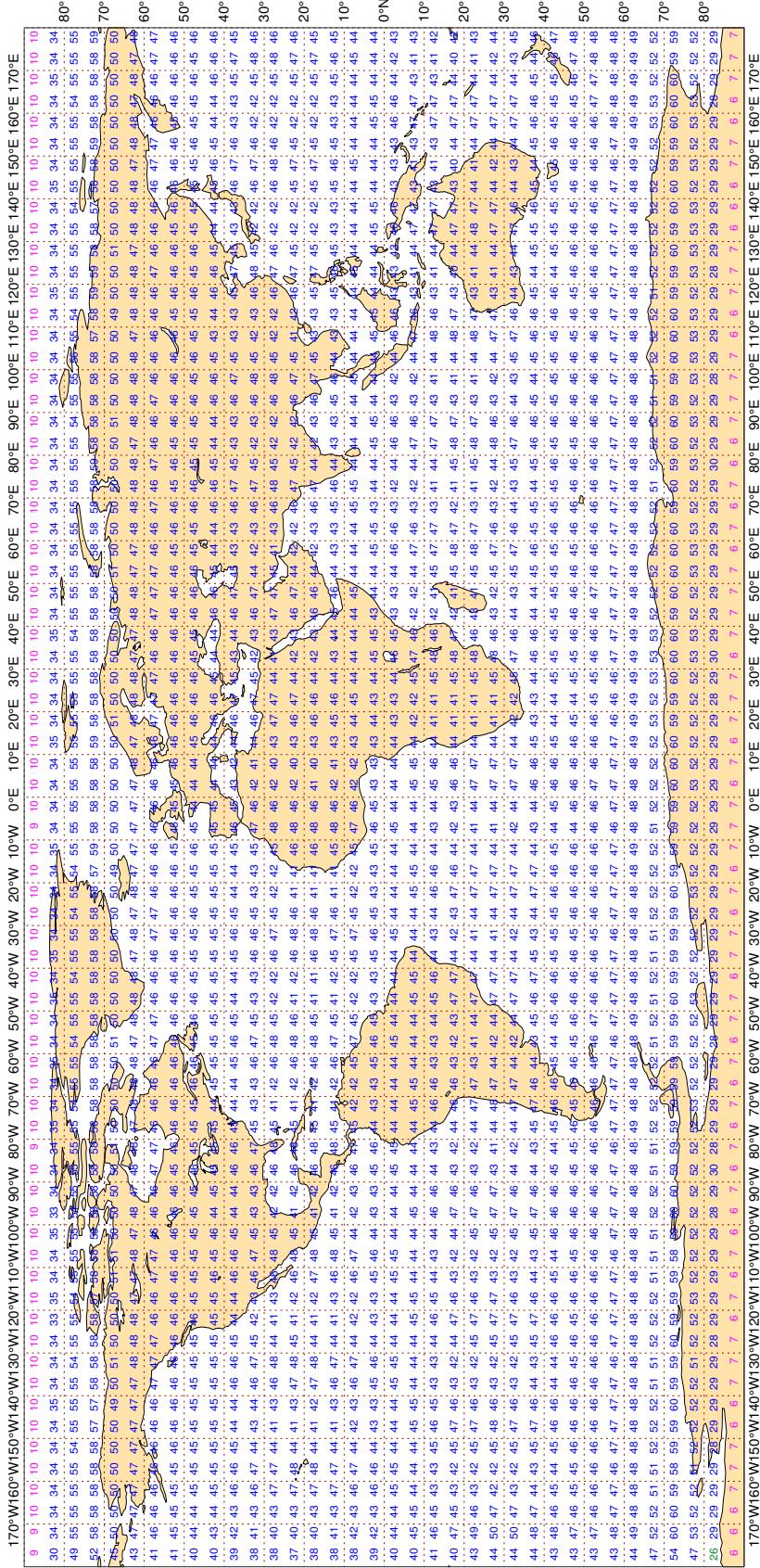
Magics 4.9.4

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

Figure 9.3

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

Average number of observations in 24 hours - 114959



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 : NOV 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
2EIF7	99	P	SUR	38	0	0.8	5.0	5.0
32ST0	99	P	SUR	108	1	3.3	6.9	7.7
3E3566	99	P	SUR	43	0	1.1	5.9	6.0
3E5193	99	P	SUR	46	0	0.6	3.6	3.7
3EBY2	99	P	SUR	57	22	2.9	12.1	12.4
3EPL4	99	P	SUR	29	0	3.1	6.0	6.7
3FEN2	99	P	SUR	22	0	1.1	3.1	3.3
3FWH8	99	P	SUR	24	0	1.5	11.4	11.5
3FYP8	99	P	SUR	32	0	1.0	6.9	6.9
41082	99	P	SUR	120	0	1.9	-8.3	8.5
45218	99	P	SUR	27	27	0.0	0.0	0.0
6QZJ45L	99	P	SUR	38	0	1.8	-4.3	4.6
7JUN	99	P	SUR	29	0	1.0	-3.1	3.3
7KBS	99	P	SUR	15	0	0.5	6.2	6.2
7KBT	99	P	SUR	59	0	2.3	3.4	4.1
7NC9H6B	99	P	SUR	18	0	3.7	3.6	5.2
9HA3062	99	P	SUR	25	0	0.4	-5.0	5.0
9HA5209	99	P	SUR	68	0	4.4	7.4	8.5
9HA5823	99	P	SUR	21	1	5.5	0.3	5.5
9HJB9	99	P	SUR	20	0	2.0	3.7	4.2
9V8372	99	P	SUR	27	0	2.4	4.7	5.3
9V9404	99	P	SUR	44	0	2.4	4.7	5.3
9VHK7	99	P	SUR	45	0	0.5	-6.7	6.7
ATAH2	99	P	SUR	26	0	1.1	-10.7	10.7
AUTP	99	P	SUR	16	0	1.5	4.5	4.7
AWXA	99	P	SUR	41	0	2.8	-3.9	4.8
BKIE	99	P	SUR	15	0	2.1	8.4	8.6
C6EO5	99	P	SUR	15	0	0.8	8.5	8.5
C6TQ6	99	P	SUR	19	0	2.7	-5.0	5.7
CCLU	99	P	SUR	16	0	0.5	-3.7	3.7
CCMF	99	P	SUR	19	0	1.9	5.0	5.3
CQ2132	99	P	SUR	18	0	2.8	8.1	8.6

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
D5DG4	99	P	SUR	39	1	1.8	-5.6	5.8
D5ZH9	99	P	SUR	55	2	4.0	3.9	5.6
ENDJTLV	99	P	SUR	20	0	2.0	3.3	3.9
HWQ33VU	99	P	SUR	20	0	2.4	3.8	4.5
JPTX	99	P	SUR	63	0	2.9	4.7	5.5
LAHR7	99	P	SUR	17	0	0.4	6.4	6.4
LAPE7	99	P	SUR	18	0	1.1	5.2	5.3
LAQL7	99	P	SUR	21	0	1.0	5.2	5.3
LAVD4	99	P	SUR	18	0	0.5	5.7	5.7
MVNXQEB	99	P	SUR	35	0	1.5	-3.0	3.4
OZHS2	99	P	SUR	71	0	0.9	5.7	5.8
QHXYKSM	99	P	SUR	32	0	2.5	3.0	3.9
RLPLFCX	99	P	SUR	15	0	2.6	7.0	7.5
SBPQ	99	P	SUR	103	0	1.4	-4.4	4.7
UBUO6	99	P	SUR	24	0	1.3	-3.0	3.3
V7A4787	99	P	SUR	114	1	2.7	4.8	5.5
V7A6081	99	P	SUR	50	0	2.1	3.5	4.1
V7A6082	99	P	SUR	95	0	1.6	5.4	5.6
V7QK9	99	P	SUR	22	0	2.4	3.7	4.4
V7QT7	99	P	SUR	33	0	1.7	4.5	4.8
VRCI9	99	P	SUR	20	0	4.1	4.8	6.3
VREX4	99	P	SUR	18	0	1.0	7.2	7.3
VRFS2	99	P	SUR	25	0	2.3	-5.9	6.4
VRLJ4	99	P	SUR	23	0	2.1	6.3	6.7
VRLT9	99	P	SUR	30	0	1.5	4.7	4.9
VRLZ4	99	P	SUR	33	0	0.8	3.0	3.1
VRNL9	99	P	SUR	22	0	1.7	5.6	5.8
VRVC9	99	P	SUR	27	0	1.4	-7.1	7.3
WCY2920	99	P	SUR	115	0	0.9	-4.1	4.2
WDK5676	99	P	SUR	118	0	1.0	-3.5	3.7
WGEB	99	P	SUR	115	0	0.5	5.9	5.9
WNTL	99	P	SUR	35	0	0.4	3.1	3.1
WTEK	99	P	SUR	148	6	6.5	4.7	8.0
ZGOK7	99	P	SUR	32	0	2.2	3.7	4.3

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

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

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

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

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

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

SELECTION CRITERIA: NO. OF OBS. $\geq 15(50)$ (WIND SPEEDS $> 3\text{m/s}$), AND ,
 Manual (Automatic) ABSOLUTE BIAS $\geq 30(25)$ DEGREES, OR,
 STANDARD DEVIATION $\geq 70(50)$ 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
44150	99	DIRN	SUR	52	1	0	85.1	13.0	86.1
44488	99	DIRN	SUR	109	0	0	14.6	-31.0	34.2
44489	99	DIRN	SUR	101	0	0	14.3	-34.5	37.4
45165	99	DIRN	SUR	22	0	0	30.3	47.7	56.5
45209	99	DIRN	SUR	41	0	0	12.8	-35.4	37.6
46092	99	DIRN	SUR	65	0	0	29.3	36.9	47.2
46204	99	DIRN	SUR	104	0	0	24.0	34.2	41.8

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 : NOV 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
1501711	99	P	SUR	-27	3	710	0	2.6	-6.5	7.0
1501718	99	P	SUR	-34	-42	715	202	8.9	2.8	9.3
1601752	99	P	SUR	-32	101	429	399	4.2	-9.2	10.1
1701718	99	P	SUR	21	-70	700	640	6.9	0.4	6.9
2302627	99	P	SUR	11	73	636	597	2.0	-12.8	12.9
2302635	99	P	SUR	11	81	318	52	7.2	-2.2	7.5
2501575	99	P	SUR	72	-155	694	513	3.9	0.2	3.9
2501591	99	P	SUR	72	-159	677	359	3.8	-0.1	3.8
2802077	99	P	SUR	61	-61	132	96	3.6	-1.3	3.8
2802108	99	P	SUR	39	-151	133	0	1.9	-4.8	5.2
3201836	99	P	SUR	10	-166	716	630	2.7	-12.0	12.3
3301523	99	P	SUR	-15	-39	710	0	0.6	-4.2	4.3
3301702	99	P	SUR	-41	20	717	93	6.5	0.2	6.5
3401636	99	P	SUR	-32	-118	696	0	0.3	-5.3	5.3
3801693	99	P	SUR	-4	112	259	259	0.0	0.0	0.0
3801723	99	P	SUR	53	-133	67	2	2.1	11.9	12.0
4100082	99	P	SUR	36	-75	4257	10	1.9	-8.3	8.5
41082	99	P	SUR	36	-75	718	1	1.9	-8.3	8.5
4500218	99	P	SUR	44	-88	164	164	0.0	0.0	0.0
45218	99	P	SUR	44	-88	164	164	0.0	0.0	0.0
4601776	99	P	SUR	29	-130	527	0	3.3	-6.7	7.4
4601855	99	P	SUR	49	-179	715	418	6.0	-5.9	8.4
4701543	99	P	SUR	72	-151	517	517	0.0	0.0	0.0
4701545	99	P	SUR	85	169	330	330	0.0	0.0	0.0
4701555	99	P	SUR	64	-22	28	0	0.3	-6.0	6.0
4701558	99	P	SUR	79	-18	60	0	0.4	-4.5	4.5
4801771	99	P	SUR	55	-25	719	719	0.0	0.0	0.0
4802662	99	P	SUR	70	-125	719	695	1.3	13.4	13.5
5103563	99	P	SUR	34	-153	625	216	6.6	2.7	7.2
5201828	99	P	SUR	-46	-158	718	0	2.0	4.7	5.1
5501735	99	P	SUR	-43	-137	715	715	0.0	0.0	0.0
5802090	99	P	SUR	-9	101	300	300	0.0	0.0	0.0

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

WMO IDENT	OBS TIME	ELM	ME LEVEL	LAT	N LONG	N OBS	GROSS	SD	BIAS	RMS
5802091	99	P	SUR	-21	90	300	300	0.0	0.0	0.0
5802114	99	P	SUR	-14	-8	400	0	2.1	-4.0	4.5
6203616	99	P	SUR	21	-73	299	194	7.0	2.3	7.4
6204503	99	P	SUR	-21	-41	395	0	1.6	-5.6	5.8
6801904	99	P	SUR	-17	94	300	300	0.0	0.0	0.0
7801693	99	P	SUR	19	-172	717	0	0.3	-5.5	5.5
7801750	99	P	SUR	26	-134	696	678	0.9	13.8	13.9
7810070	99	P	SUR	33	-117	89	0	0.4	-6.9	6.9
7810071	99	P	SUR	33	-117	89	0	0.4	-7.2	7.2
7810072	99	P	SUR	33	-117	64	0	0.4	-6.9	6.9
7810073	99	P	SUR	33	-117	63	0	0.0	-7.1	7.1
7810074	99	P	SUR	33	-117	27	0	0.4	-6.8	6.8
7810075	99	P	SUR	33	-117	65	0	2.3	-6.4	6.8
7810076	99	P	SUR	33	-117	64	0	0.4	-7.0	7.0
7810077	99	P	SUR	33	-117	63	0	0.4	-6.9	6.9
7810078	99	P	SUR	33	-117	63	0	0.4	-6.7	6.7
7810079	99	P	SUR	33	-117	65	0	0.4	-7.1	7.1
7810080	99	P	SUR	33	-117	60	0	0.4	-6.8	6.8
7810081	99	P	SUR	33	-117	64	0	0.4	-6.9	6.9
7810082	99	P	SUR	33	-117	64	0	0.4	-6.8	6.8
7810083	99	P	SUR	33	-117	64	0	0.0	-6.9	6.9
7810084	99	P	SUR	33	-117	64	0	0.4	-6.9	6.9
7810085	99	P	SUR	33	-117	64	0	0.4	-6.9	7.0
7810086	99	P	SUR	33	-117	61	0	0.4	-7.1	7.1
7810087	99	P	SUR	33	-117	64	0	0.0	-6.9	6.9
7810088	99	P	SUR	33	-117	64	0	0.4	-6.6	6.6
7810089	99	P	SUR	33	-117	64	0	0.4	-6.9	6.9
7810090	99	P	SUR	33	-117	64	0	0.4	-7.0	7.0
7810091	99	P	SUR	33	-117	63	0	0.0	-7.1	7.1
7810092	99	P	SUR	33	-117	64	0	0.0	-7.2	7.2
7810093	99	P	SUR	33	-117	63	0	0.4	-7.0	7.0
7810094	99	P	SUR	33	-117	64	0	0.4	-6.8	6.8
7810095	99	P	SUR	33	-117	64	0	0.0	-6.8	6.8
7810096	99	P	SUR	33	-117	64	0	0.0	-6.8	6.8
7810097	99	P	SUR	33	-117	64	0	0.4	-6.9	6.9
7810098	99	P	SUR	33	-117	64	0	0.4	-6.9	6.9
7810099	99	P	SUR	33	-117	64	0	0.0	-7.2	7.2
7810100	99	P	SUR	33	-117	65	0	0.0	-7.0	7.0
7810101	99	P	SUR	33	-117	65	0	0.4	-7.0	7.0
7810102	99	P	SUR	33	-117	65	0	0.0	-6.9	6.9
7810103	99	P	SUR	33	-117	65	0	2.4	-6.6	7.0
7810104	99	P	SUR	33	-117	63	0	2.4	-6.5	6.9

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

WMO IDENT	OBS TIME	ELM	ME LEVEL	LAT	N LONG	N OBS	GROSS	SD	BIAS	RMS
7810105	99	P	SUR	33	-117	62	0	0.0	-7.2	7.2
7810106	99	P	SUR	33	-117	64	0	0.4	-7.0	7.0
7810107	99	P	SUR	33	-117	62	0	0.4	-6.8	6.8
7810108	99	P	SUR	33	-117	64	0	0.0	-6.9	6.9
7810109	99	P	SUR	33	-117	65	0	0.0	-6.7	6.7
7810388	99	P	SUR	19	-95	115	115	0.0	0.0	0.0

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

LIST OF SUSPECT STATIONS : DRIFTER
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND SPEED (M/S)
 AREA : GLOBAL
 PERIOD : NOV 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
2200106	99	SPEED	SUR	36	130	650	0	0	3.2	-6.6	7.3

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

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

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

TIME = 99 => AVERAGE OF ALL OBSERVATIONS

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
1300009	99	DIRN	SUR	8	-38	64	0	0	43.2	52.2	67.7
2200297	99	DIRN	SUR	34	125	658	1	0	31.4	32.9	45.5
2300003	99	DIRN	SUR	-1	81	210	0	0	89.1	93.2	129.0
2300452	99	DIRN	SUR	12	68	156	0	0	15.8	-44.0	46.8
23452	99	DIRN	SUR	12	68	146	0	0	17.1	-44.5	47.7
4400488	99	DIRN	SUR	45	-61	656	0	0	14.8	-29.7	33.2
4400489	99	DIRN	SUR	45	-61	589	0	0	13.5	-33.3	35.9
44078	99	DIRN	SUR	60	-40	662	1	0	26.8	-20.4	33.7
44150	99	DIRN	SUR	43	-64	337	15	0	86.8	12.2	87.6
44488	99	DIRN	SUR	45	-61	638	0	0	14.8	-30.7	34.1
44489	99	DIRN	SUR	46	-61	594	0	0	14.3	-33.7	36.6
4500164	99	DIRN	SUR	42	-82	323	0	0	20.9	-24.8	32.4
4500165	99	DIRN	SUR	45	-83	786	0	0	30.2	45.3	54.5
4500174	99	DIRN	SUR	42	-88	97	0	0	5.9	43.8	44.2
4500203	99	DIRN	SUR	41	-83	643	0	0	25.6	-25.6	36.2
4500209	99	DIRN	SUR	43	-82	976	0	0	15.5	-38.8	41.8
4500218	99	DIRN	SUR	44	-88	101	0	0	32.8	26.2	42.0
45164	99	DIRN	SUR	42	-82	318	0	0	21.7	-25.0	33.2
45165	99	DIRN	SUR	45	-83	138	0	0	30.7	46.6	55.8
45203	99	DIRN	SUR	41	-83	106	0	0	25.6	-24.1	35.2
45209	99	DIRN	SUR	43	-82	244	0	0	15.8	-37.9	41.0
45218	99	DIRN	SUR	44	-88	98	0	0	19.6	30.7	36.4
4600092	99	DIRN	SUR	37	-122	394	0	0	32.0	35.0	47.4
46092	99	DIRN	SUR	37	-122	368	0	0	29.4	35.1	45.7
46204	99	DIRN	SUR	51	-129	622	0	0	21.5	34.8	40.9
4804181	99	DIRN	SUR	-16	150	413	0	0	10.4	22.4	24.7
6200086	99	DIRN	SUR	55	7	109	0	0	15.9	23.9	28.7
62140	99	DIRN	SUR	57	1	360	0	0	35.5	-23.7	42.7
62165	99	DIRN	SUR	54	1	1175	0	0	11.7	29.1	31.3
6301004	99	DIRN	SUR	72	20	650	0	0	12.8	20.7	24.4
6600022	99	DIRN	SUR	54	14	178	0	0	50.7	55.3	75.0

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

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

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

ONLY THE WORST LEVEL IS SHOWN (WITH UNWEIGHTED RMS)

WMO IDENT	OBS TIME	ELM	LEV	LAT	LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
01400	00	Z	1000	57	3	27	0	5.6	78.0	78.2
01400	12	Z	1000	57	3	26	0	5.6	78.3	78.5
22217	00	Z	400	67	32	28	10	66.0	-34.6	74.5
22217	12	Z	70	67	32	13	4	128.3	33.8	132.7
38341	00	Z	200	43	71	18	6	128.0	3.8	128.1
38341	12	Z	250	43	71	19	5	117.8	-12.5	118.5
47102	12	Z	70	38	125	14	0	156.7	114.7	194.2
47102	00	Z	100	38	125	17	1	136.7	31.3	140.2
47230	00	Z	50	37	126	14	3	181.3	-46.2	187.1
48698	12	Z	250	1	104	12	0	11.2	69.7	70.6
60630	00	Z	1000	27	3	15	0	37.4	0.9	37.4
65344	12	Z	1000	6	2	30	0	6.7	31.7	32.4
65548	12	Z	925	7	-8	30	0	7.8	37.9	38.7
68842	12	Z	1000	-34	26	22	0	26.0	17.5	31.3
68994	00	Z	850	-47	38	29	0	8.5	32.6	33.7
68994	12	Z	1000	-47	38	29	0	5.8	27.5	28.1
76644	00	Z	850	21	-90	25	0	4.0	39.0	39.2
76644	12	Z	925	21	-90	22	0	14.3	31.4	34.5
76679	00	Z	500	19	-99	19	0	57.6	-43.9	72.4
78988	12	Z	1000	12	-69	24	0	30.3	20.1	36.4
80371	12	Z	250	1	-78	12	2	6.6	217.6	217.7
91680	00	Z	1000	-18	177	26	0	3.5	29.9	30.1
JNKN7J	12	Z	1000	39	-67	11	0	2.9	41.1	41.2
JNKN7J	00	Z	1000	38	-71	12	0	4.8	37.8	38.1
KMPLHP	12	Z	925	51	-11	10	0	9.7	66.6	67.3
KMPLHP	00	Z	1000	51	-16	11	0	9.9	69.9	70.6

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

LIST OF SUSPECT STATIONS : RADIOSONDSES
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND (M/S)
 AREA : GLOBAL
 PERIOD : NOV 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
12120	00	V	150	55	18	17	0	-3.2	4.8	15.0
17607	12	V	100	35	33	12	0	-13.5	-2.6	18.9
22217	00	V	250	67	32	25	0	-5.1	2.7	16.7
32540	12	V	150	53	159	28	0	-2.7	-2.5	16.3
38341	00	V	250	43	71	21	0	-3.7	-2.8	17.0
38341	12	V	250	43	71	17	0	-1.9	-5.6	19.7
40179	00	V	100	32	35	16	0	-25.2	-5.1	28.2
40179	12	V	100	32	35	22	0	-19.1	-4.6	25.1
47058	00	V	100	39	126	21	0	-9.8	3.4	16.2
47058	12	V	150	39	126	10	0	-15.3	5.2	18.5
47102	12	V	150	38	125	21	0	-14.5	-3.9	19.7
47102	00	V	150	38	125	16	0	-15.3	-6.0	22.3
47230	00	V	150	37	126	17	0	-9.0	-3.3	17.4
47230	12	V	150	37	126	16	0	-7.1	-3.0	15.7

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

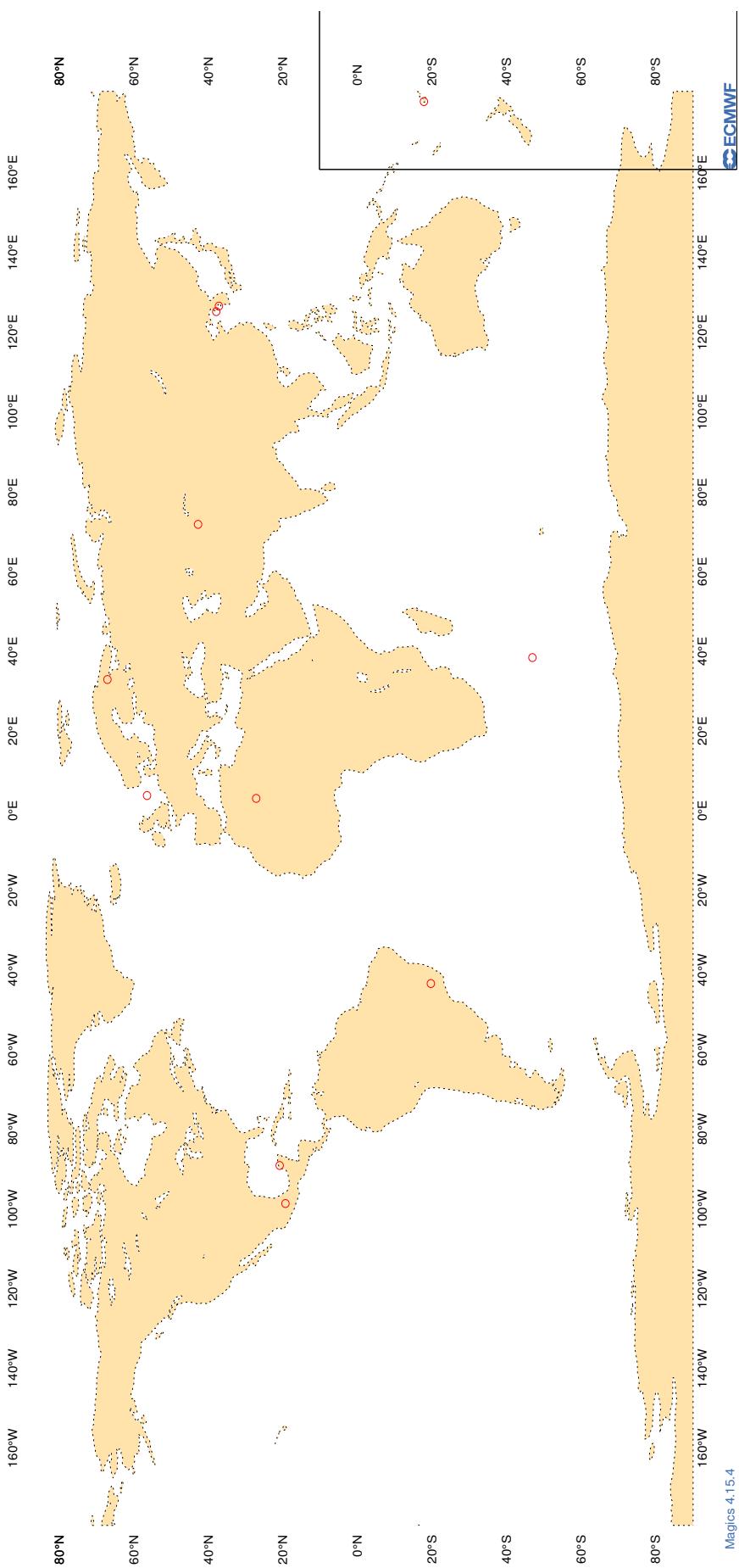
LIST OF SUSPECT STATIONS : RADIOSONDSES
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND DIRECTION (DEGREES)
 AREA : GLOBAL
 PERIOD : NOV 2024
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

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

WMO IDENT	OBS TIME	ELM	LAT	LONG	NUM OBS	BIAS	MAX SPREAD	SD
47230	12	DD	37	126	21	-10.4	8.5	21.9
48327	00	DD	19	99	22	-12.1	5.1	10.5
51463	12	DD	44	88	28	-10.8	3.0	5.3
51463	00	DD	44	88	29	-10.5	1.6	5.9
54340	12	DD	42	124	28	-13.1	1.0	2.9
54340	00	DD	42	124	29	-12.2	2.3	5.4

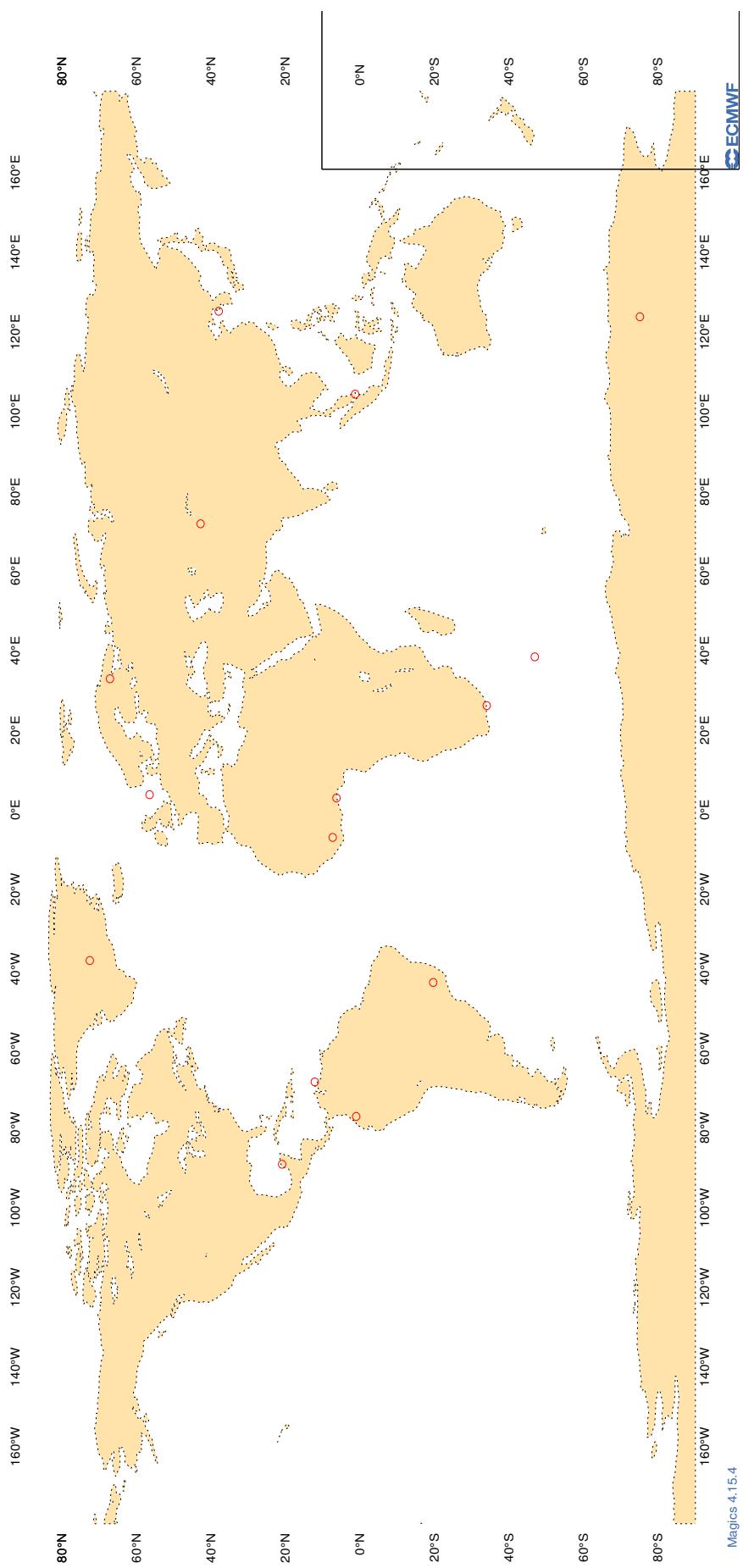
3.2.21 Figure 10 - Suspect TEMP observations - geopotential : 00 UTC**Figure 10**

**ECMWF Monitoring Statistics - NOV 2024 00 UTC
Suspect TEMP Observations - GEOPOTENTIAL**



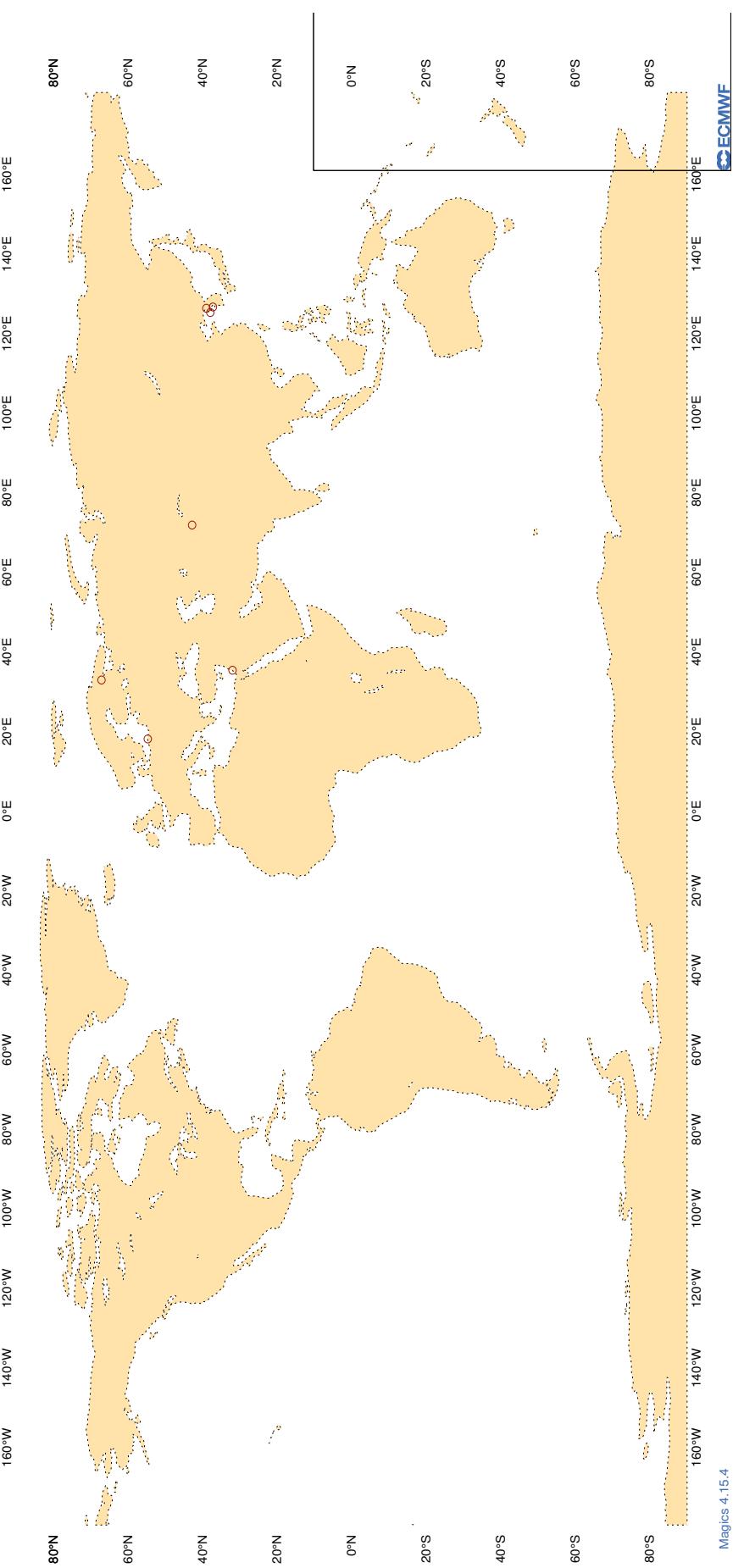
3.2.22 Figure 11 - Suspect TEMP observations - geopotential : 12 UTC**Figure 11**

ECMWF Monitoring Statistics - NOV 2024 12 UTC
Suspect TEMP Observations - GEOPOTENTIAL



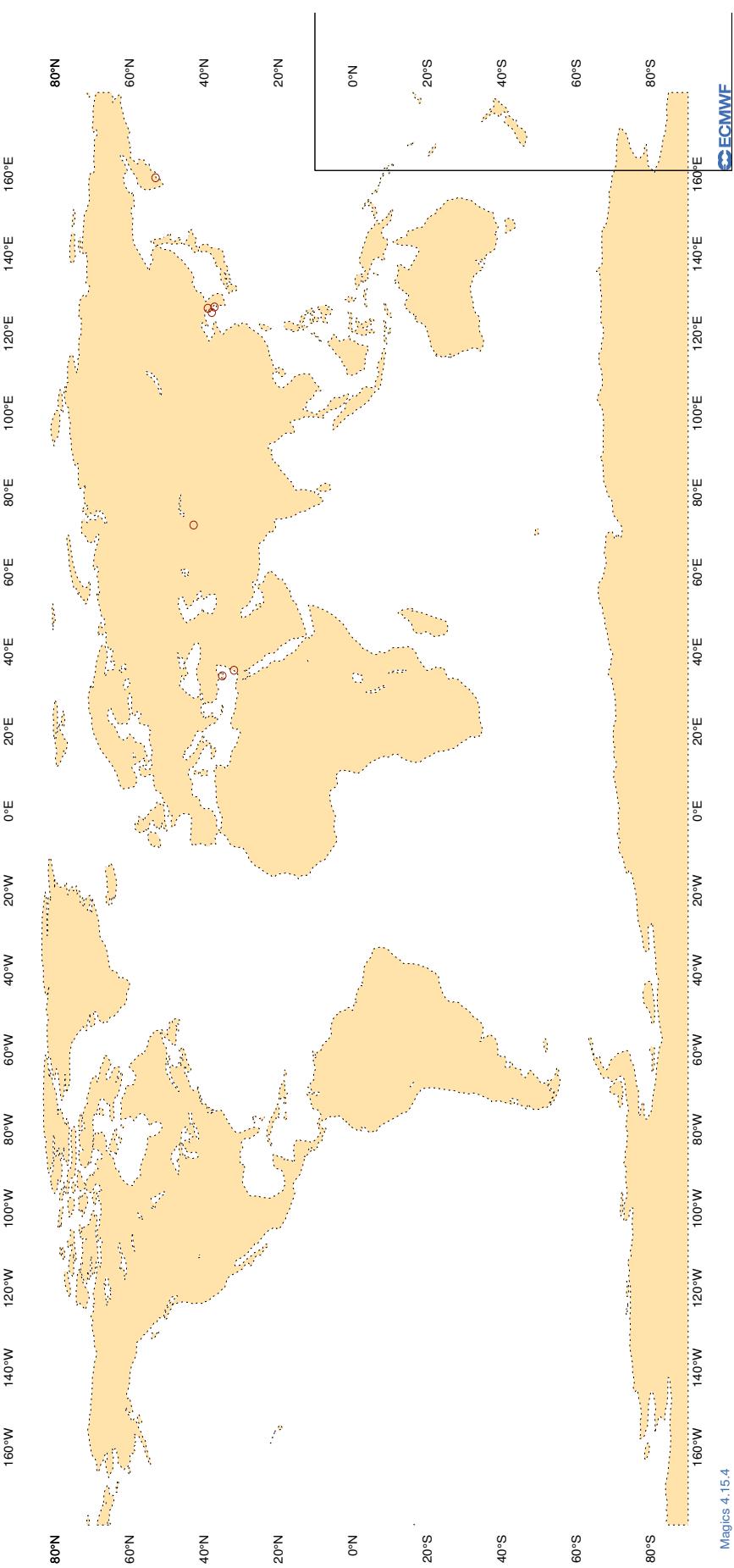
3.2.23 Figure 12 - Suspect TEMP/PILOT observations - wind : 00 UTC

Figure 12
ECMWF Monitoring Statistics - NOV 2024 00 UTC
Suspect TEMP/PILOT observations - WIND



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

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



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

RADIOSONDE MONITORING STATISTICS (SHIPS)

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

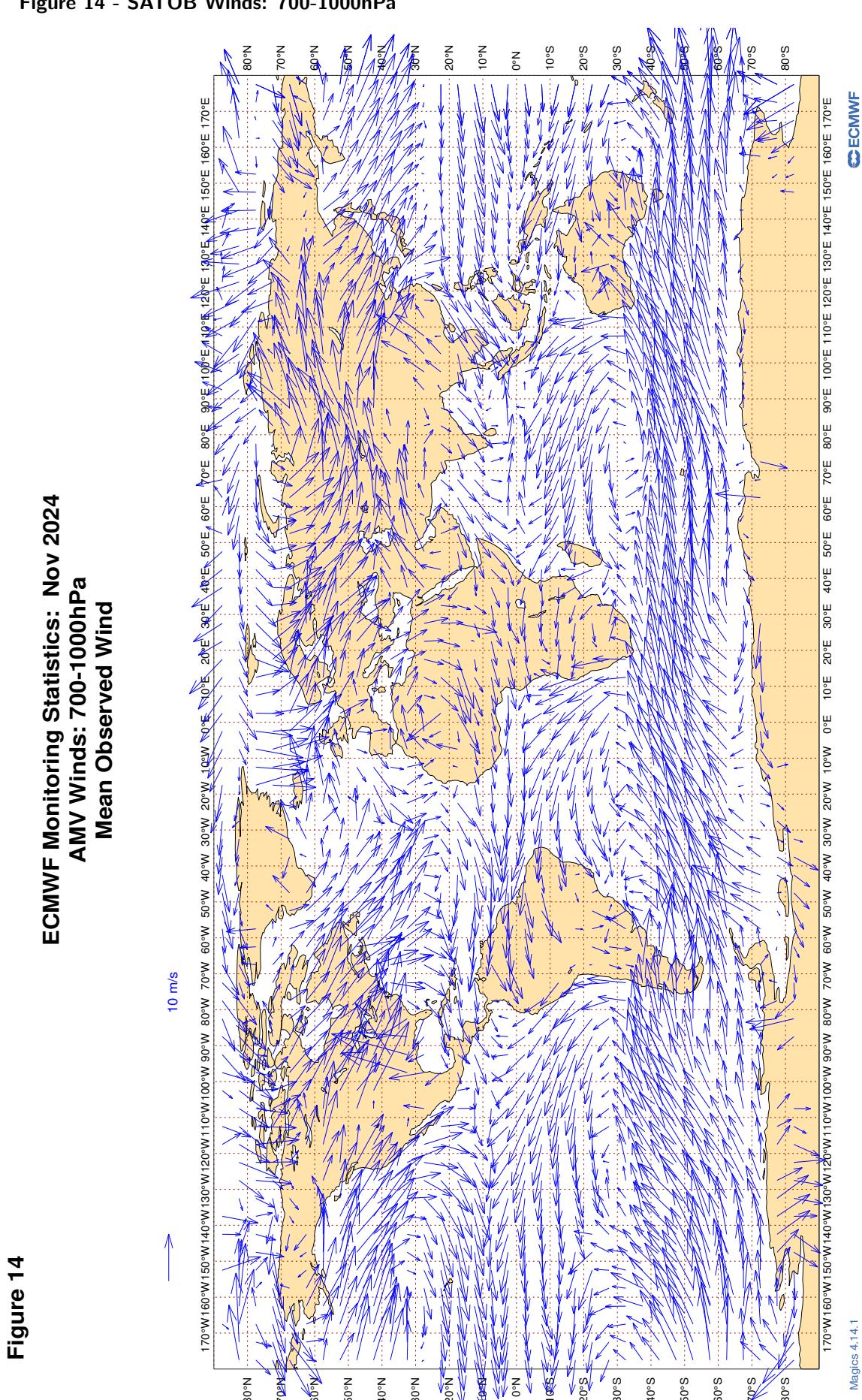
WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
2EERVT	12	Z	100	0	0.0	0.0
2EERVT	00	Z	100	0	0.0	0.0
2TDJJ8	12	Z	100	2	12.3	12.3
7JUNA4	12	Z	100	8	11.9	-4.0
7JUNA4	00	Z	100	6	6.7	-2.1
7KPB	00	Z	100	1	9.9	9.9
9ZT9MR	12	Z	100	6	32.4	-28.6
9ZT9MR	00	Z	100	5	13.5	-12.0
ASDE09	12	Z	100	1	9.0	-9.0
ATGU3F	00	Z	100	3	44.9	-43.3
ATGU3F	12	Z	100	6	41.2	-26.2
JNKN7J	12	Z	100	11	39.4	36.0
JNKN7J	00	Z	100	12	30.4	27.8
JNSR	12	Z	100	10	7.3	-0.9
JNSR	00	Z	100	8	9.5	2.0
JPBN	12	Z	100	1	6.9	6.9
KJJF9X	12	Z	100	4	22.3	-21.7
KJJF9X	00	Z	100	3	31.5	-29.9
KMPLHP	12	Z	100	10	42.0	40.7
KMPLHP	00	Z	100	9	47.9	47.1
LAGY8	12	Z	100	3	20.3	-19.6
LAGY8	00	Z	100	1	3.3	-3.3
LAGZ8	12	Z	100	3	45.7	45.6
LRYQE3	12	Z	100	9	10.1	0.0
LRYQE3	00	Z	100	7	28.3	-16.9
UBQW2	00	Z	100	1	10.1	10.1
UBQW2	12	Z	100	1	213.8	213.8
USCAT	00	Z	100	1	1.0	1.0
WDK38H	12	Z	100	13	16.8	-14.7
XKQLWQ	12	Z	100	18	30.1	26.0
YLV96W	12	Z	100	7	29.3	16.7
YLV96W	00	Z	100	7	14.2	-8.8
ZVQEQC	12	Z	100	25	13.0	10.7

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

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

WMO IDENT	OB TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
2EERVT	12	V	100	0	0.0	0.0	0.0
2EERVT	00	V	100	0	0.0	0.0	0.0
2TDJJ8	12	V	100	2	3.3	2.7	-1.3
7JUNA4	12	V	100	8	3.1	0.3	0.9
7JUNA4	00	V	100	6	2.4	-0.5	-1.3
7KPB	00	V	100	1	0.9	0.9	0.0
9ZT9MR	12	V	100	6	6.5	-3.3	-0.6
9ZT9MR	00	V	100	5	5.6	-1.9	0.2
ASDE09	12	V	100	1	3.8	3.5	1.4
ATGU3F	00	V	100	3	2.2	-1.6	0.4
ATGU3F	12	V	100	6	4.1	0.2	0.1
JNKN7J	12	V	100	11	4.0	-0.3	0.4
JNKN7J	00	V	100	12	3.2	0.0	-0.3
JNSR	12	V	100	10	4.7	-0.9	-2.6
JNSR	00	V	100	7	2.9	-0.9	-1.0
JPBN	12	V	100	1	9.3	7.6	-5.4
KJJF9X	12	V	100	4	3.4	1.6	1.1
KJJF9X	00	V	100	3	4.9	-0.7	1.4
KMPLHP	12	V	100	10	3.4	0.0	1.0
KMPLHP	00	V	100	9	3.0	-0.8	-1.2
LAGY8	12	V	100	3	3.4	-0.5	0.3
LAGY8	00	V	100	1	4.5	-3.8	2.5
LAGZ8	12	V	100	3	4.8	1.9	1.3
LRYQE3	12	V	100	9	3.8	0.2	0.8
LRYQE3	00	V	100	7	4.0	1.4	1.6
UBQW2	00	V	100	1	1.8	0.6	1.7
UBQW2	12	V	100	1	22.5	-21.7	-6.0
USCAT	00	V	100	1	5.4	-1.5	-5.2
WDK38H	12	V	100	13	2.4	-0.7	0.1
XKQLWQ	12	V	100	17	3.6	0.8	-0.4
YLV96W	12	V	100	7	3.6	1.2	1.9
YLV96W	00	V	100	7	2.9	-2.4	-0.9
ZVQEQC	12	V	100	25	5.1	0.3	-0.2

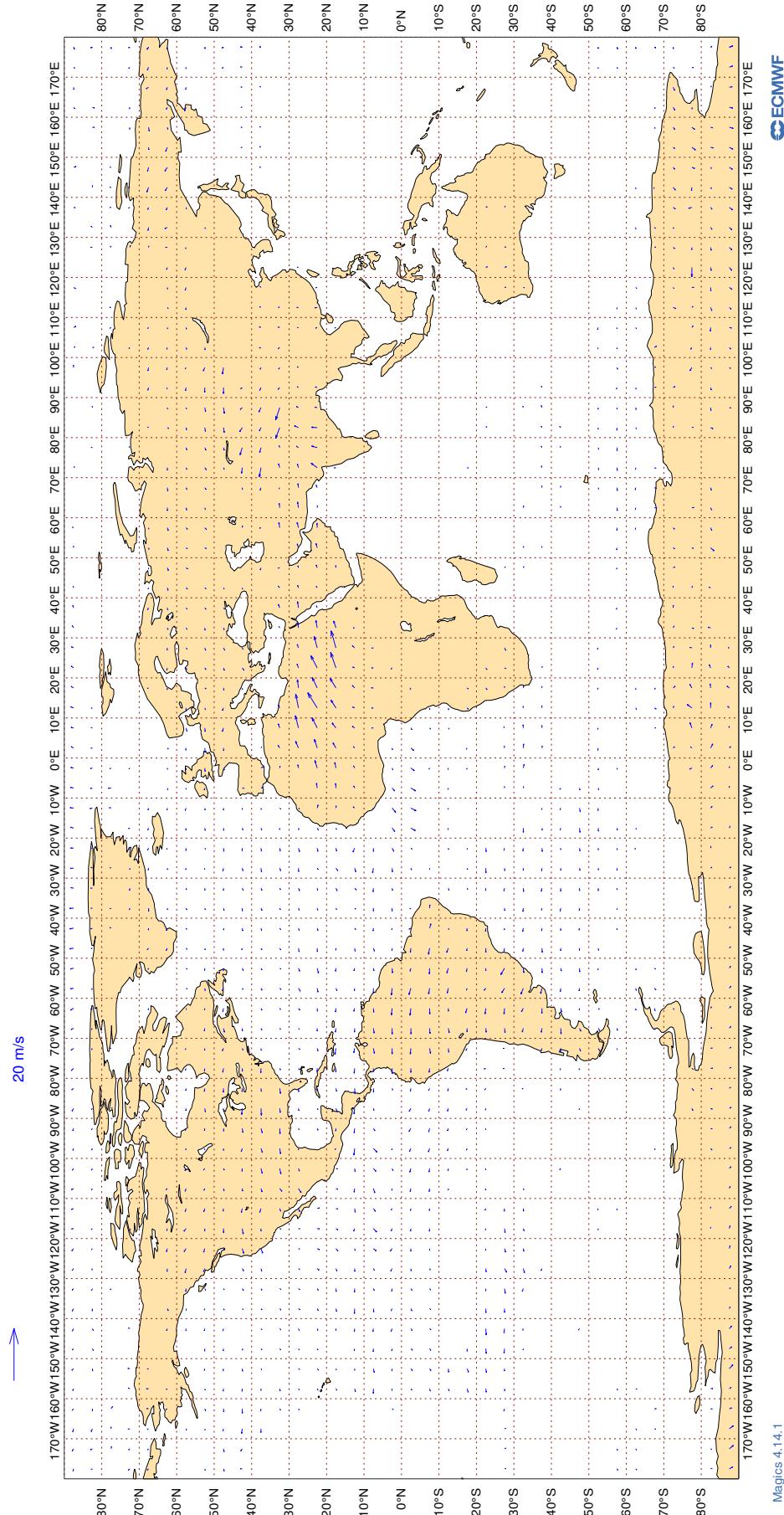
3.2.27 Figure 14 - SATOB Winds: 700-1000hPa



3.2.28 Figure 15 - SATOB Winds: 150- 400hPa

Figure 15

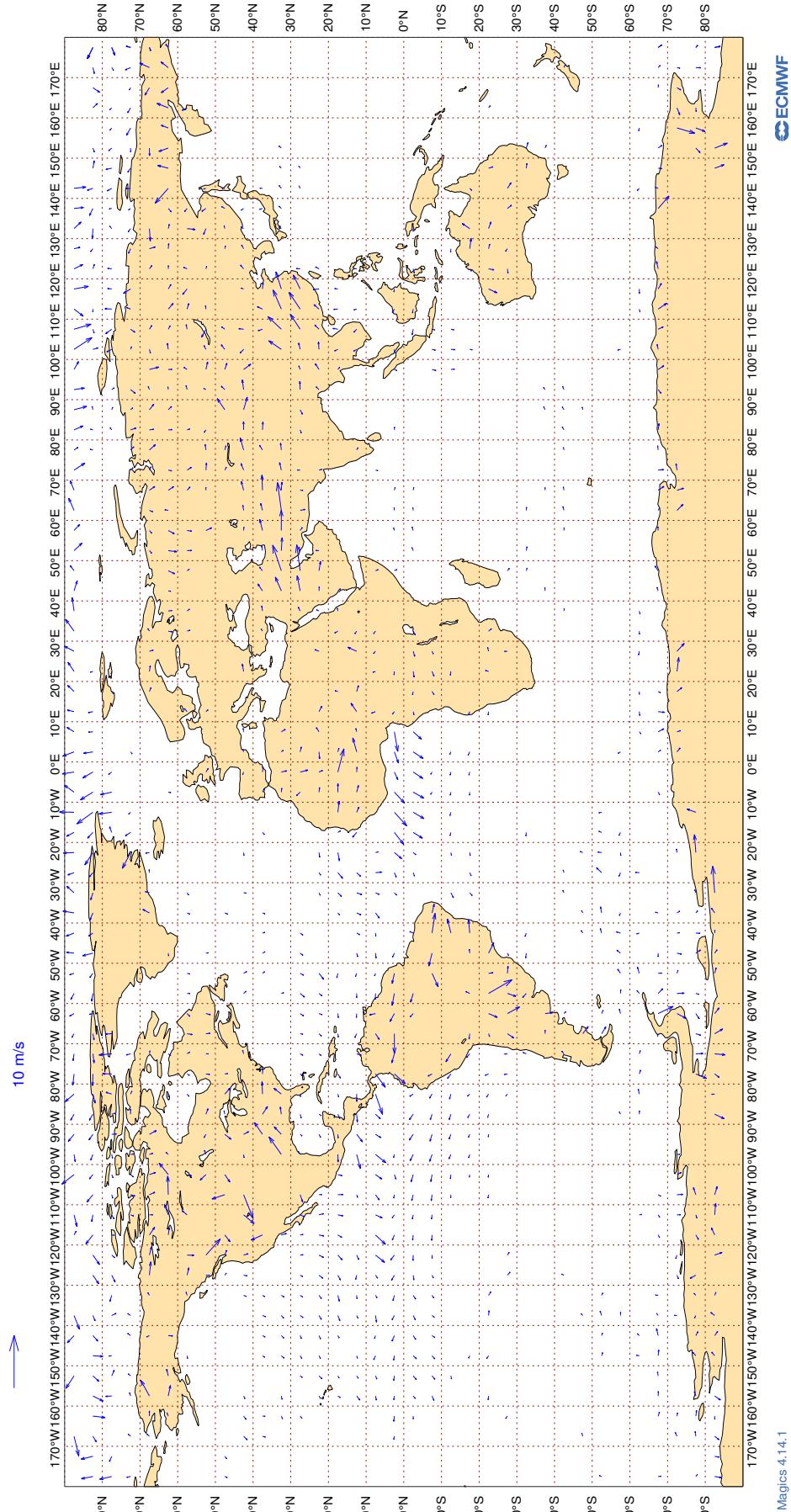
ECMWF Monitoring Statistics: Nov 2024
AMV Winds: 150- 400hPa
Wind bias: Observation - FG



3.2.29 Figure 16 - SATOB Winds: 700-1000hPa

Figure 16

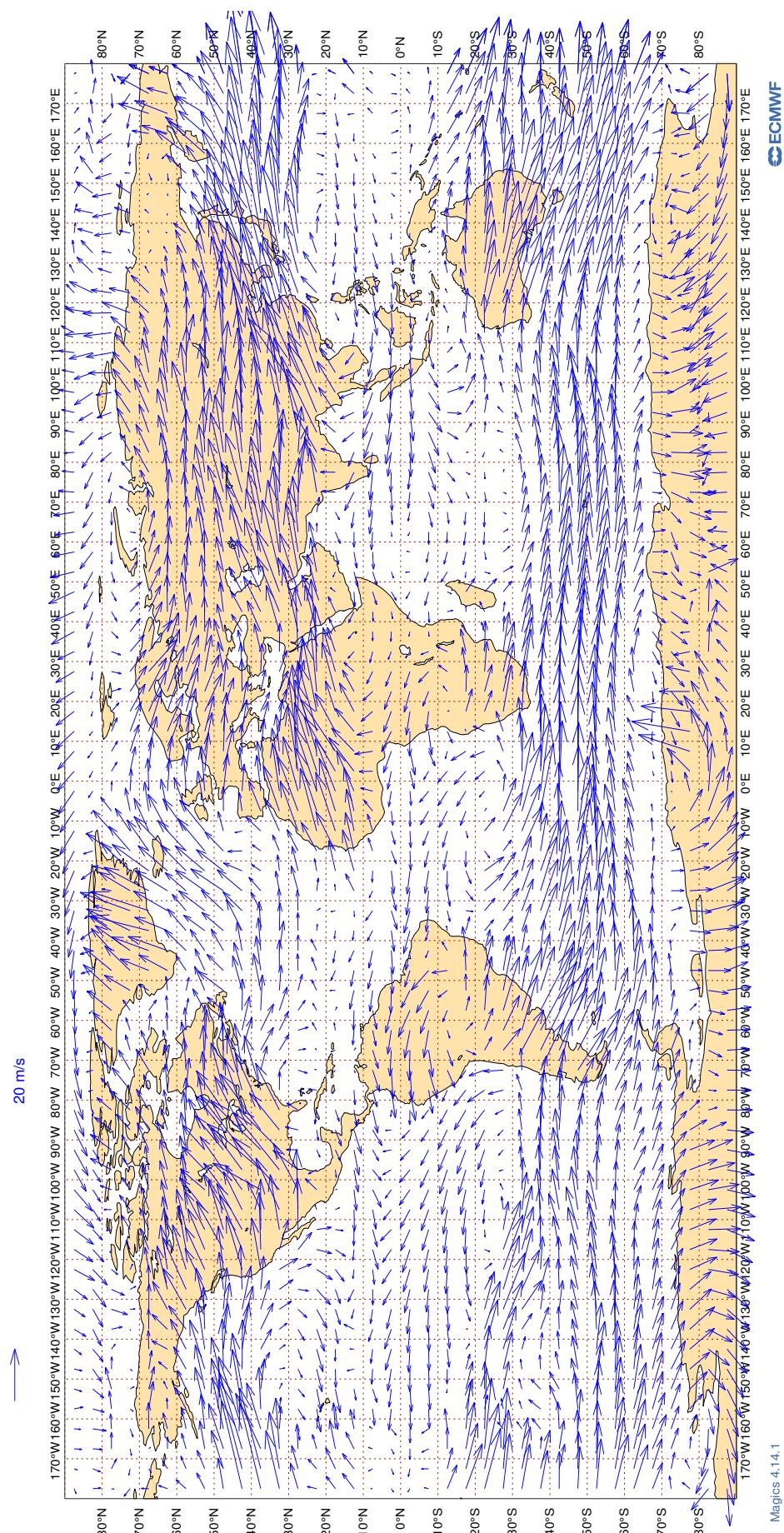
ECMWF Monitoring Statistics: Nov 2024
AMV Winds: 700-1000hPa
Wind bias: Observation - FG



Magics 4.14.1

3.2.30 Figure 17 - SATOB Winds: 150- 400hPa

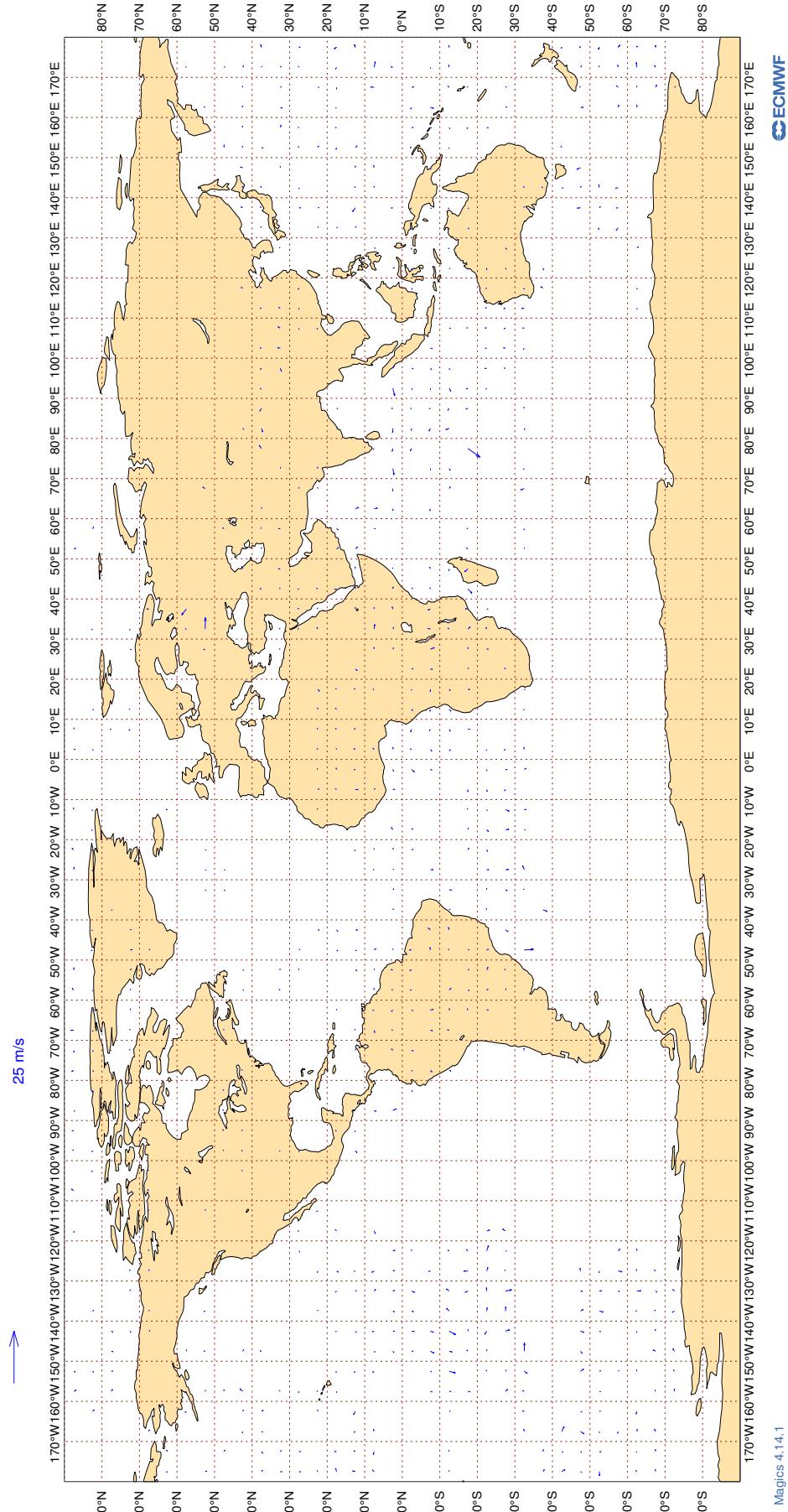
Figure 17
ECMWF Monitoring Statistics: Nov 2024
AMV Winds: 150- 400hPa
Mean Observed Wind



3.2.31 Figure 18 - AIRCRAFT Winds: 150- 300hPa

Figure 18

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



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

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : VECTOR WIND (M/S)
 AREA : GLOBAL
 PERIOD : NOV 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	SPEED BIAS
AAB	99	V	300-150	130	0	0	3.5	0.0
AAL	99	V	300-150	34607	7	0	5.7	0.1
AAR	99	V	300-150	195	0	0	4.5	-0.8
ABB	99	V	300-150	916	0	0	3.1	0.1
ABD	99	V	300-150	1258	0	0	3.9	0.3
ABP	99	V	300-150	85	0	0	3.0	0.1
ACA	99	V	300-150	23748	5	0	5.2	0.1
ACI	99	V	300-150	192	0	0	4.5	0.6
ADS	99	V	300-150	21	0	0	3.0	1.0
ADY	99	V	300-150	141	0	2	2.5	0.3
AEA	99	V	300-150	690	7	0	5.8	-0.2
AFR	99	V	300-150	32944	1	0	4.0	0.1
AHY	99	V	300-150	73	0	0	10.5	0.9
AIC	99	V	300-150	7061	1	0	5.4	0.1
AJO	99	V	300-150	42	0	0	4.7	-1.2
AJT	99	V	300-150	215	0	0	3.7	0.0
ALK	99	V	300-150	1639	0	1	2.9	0.6
AMX	99	V	300-150	5148	16	0	7.9	0.0
ANA	99	V	300-150	224	1	0	6.3	0.4
ANZ	99	V	300-150	12531	0	0	3.9	0.3
AOJ	99	V	300-150	172	0	0	3.6	0.3
ARL	99	V	300-150	60	0	0	4.8	-0.3
ASA	99	V	300-150	73	0	7	6.1	0.5
ASL	99	V	300-150	603	0	0	3.6	0.3
ASY	99	V	300-150	135	0	0	4.6	0.4

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEED BIAS
ATC	99	V	300-150	326	2	0	8.4	0.6
ATN	99	V	300-150	97	0	4	6.8	0.2
AUA	99	V	300-150	4651	6	0	5.5	0.1
AVA	99	V	300-150	855	12	0	8.8	0.0
AWC	99	V	300-150	94	0	0	3.6	0.7
AXM	99	V	300-150	41	2	0	4.0	1.2
AXY	99	V	300-150	75	0	0	4.6	0.4
AZG	99	V	300-150	883	0	0	3.6	-0.3
BAF	99	V	300-150	73	0	0	3.8	0.2
BAW	99	V	300-150	48029	5	0	5.3	0.0
BBA	99	V	300-150	21	0	0	3.7	0.3
BBB	99	V	300-150	33	0	0	3.9	1.1
BBC	99	V	300-150	1197	5	0	4.4	0.4
BCS	99	V	300-150	1599	0	0	3.6	0.1
BEL	99	V	300-150	605	0	0	3.7	0.2
BFF	99	V	300-150	28	0	0	10.7	1.0
BLU	99	V	300-150	100	0	0	4.5	0.6
BLX	99	V	300-150	473	3	0	7.9	0.0
BMW	99	V	300-150	34	0	0	3.5	1.6
BOX	99	V	300-150	5067	0	0	3.4	0.1
BOX	99	V	300-150	36	0	0	3.2	0.4
BTX	99	V	300-150	154	0	0	3.8	0.6
BVR	99	V	300-150	32	0	0	2.2	0.3
CAL	99	V	300-150	1228	0	0	3.1	0.4
CAZ	99	V	300-150	23	0	0	5.0	-2.0
CBJ	99	V	300-150	34	0	0	4.9	1.0
CCA	99	V	300-150	789	0	0	3.0	0.6
CEB	99	V	300-150	647	0	0	2.7	0.5
CEF	99	V	300-150	25	0	0	3.0	0.9
CES	99	V	300-150	1821	0	0	3.6	0.5
CFC	99	V	300-150	271	0	0	4.2	-0.1
CFG	99	V	300-150	6250	0	0	3.6	0.2
CHG	99	V	300-150	655	0	0	3.8	-0.3
CHH	99	V	300-150	798	4	0	6.4	0.2
CJT	99	V	300-150	924	0	0	4.0	-0.3
CKS	99	V	300-150	323	0	0	4.1	-0.9
CLX	99	V	300-150	4767	0	0	3.9	-0.3
CLY	99	V	300-150	51	0	0	3.8	-0.2
CMB	99	V	300-150	1623	0	0	3.8	-0.2
CND	99	V	300-150	300	0	0	3.9	0.2
CNV	99	V	300-150	131	0	0	3.3	-0.6
CPA	99	V	300-150	3085	0	0	3.2	0.2
CRL	99	V	300-150	794	0	0	3.6	0.1

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEED BIAS
CRV	99	V	300-150	75	0	0	3.2	0.5
CSC	99	V	300-150	802	0	0	2.8	0.5
CSG	99	V	300-150	140	0	0	2.7	0.2
CSN	99	V	300-150	612	1	0	4.4	0.3
CSS	99	V	300-150	180	0	0	3.4	0.4
CSZ	99	V	300-150	58	0	0	2.7	0.6
CTM	99	V	300-150	53	0	0	4.6	0.1
CTV	99	V	300-150	255	0	0	3.3	0.4
CXA	99	V	300-150	72	3	0	2.8	0.5
DAH	99	V	300-150	722	0	0	3.8	0.1
DAL	99	V	300-150	50162	0	0	3.7	0.1
DCM	99	V	300-150	28	0	0	4.1	0.5
DGX	99	V	300-150	57	0	0	3.4	0.0
DHK	99	V	300-150	3069	0	0	3.9	-0.2
DHX	99	V	300-150	1106	0	0	3.4	0.5
DJT	99	V	300-150	1924	0	0	3.8	0.2
DLH	99	V	300-150	25761	1	0	3.8	0.0
DSO	99	V	300-150	52	0	0	4.0	1.7
DUB	99	V	300-150	22	0	0	4.0	0.4
EAL	99	V	300-150	125	0	0	4.8	0.0
EAU	99	V	300-150	74	0	0	3.2	0.7
EDG	99	V	300-150	25	0	4	3.4	-0.2
EDW	99	V	300-150	1607	0	0	3.5	0.2
EIN	99	V	300-150	16681	0	0	3.6	0.1
EJM	99	V	300-150	589	0	0	3.5	0.1
ELY	99	V	300-150	5415	15	0	7.5	0.1
EMO	99	V	300-150	30	0	0	3.6	0.6
ETD	99	V	300-150	18378	2	0	5.2	0.2
ETH	99	V	300-150	7910	2	0	5.6	0.2
EUK	99	V	300-150	1563	0	0	3.8	0.1
EVA	99	V	300-150	1002	0	0	3.5	0.4
EVE	99	V	300-150	235	0	0	3.5	0.5
EXS	99	V	300-150	4809	0	0	3.2	0.0
EZY	99	V	300-150	86	0	0	3.5	0.4
FBU	99	V	300-150	1757	0	0	3.8	-0.1
FDX	99	V	300-150	8027	0	0	3.3	0.0
FGO	99	V	300-150	57	0	0	2.5	0.2
FIN	99	V	300-150	2276	0	0	3.2	0.4
FJI	99	V	300-150	2213	0	0	4.3	0.5
FJO	99	V	300-150	108	0	0	3.1	0.0
FPY	99	V	300-150	3322	0	0	3.3	0.1
FWI	99	V	300-150	1565	0	0	3.7	0.3
FYG	99	V	300-150	97	0	0	3.5	0.5

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEED BIAS
GAF	99	V	300-150	131	0	0	3.2	-0.2
GCK	99	V	300-150	166	0	0	3.7	0.5
GEC	99	V	300-150	1392	0	0	3.2	0.2
GES	99	V	300-150	169	0	0	3.6	-0.2
GFA	99	V	300-150	2280	1	0	6.0	0.4
GIA	99	V	300-150	1714	0	0	3.0	0.5
GJE	99	V	300-150	50	0	0	3.7	-0.3
GKY	99	V	300-150	20	0	0	4.4	-1.0
GNJ	99	V	300-150	43	0	0	3.1	0.8
GOL	99	V	300-150	50	0	0	5.5	-0.9
GSM	99	V	300-150	107	0	0	4.3	-0.5
GTI	99	V	300-150	2218	0	0	3.8	0.0
GTR	99	V	300-150	227	0	0	3.1	0.8
HAI	99	V	300-150	21	0	0	3.0	-0.2
HAL	99	V	300-150	683	0	1	5.0	0.4
HFM	99	V	300-150	148	0	0	4.3	0.4
HGO	99	V	300-150	44	0	0	4.1	2.2
HIM	99	V	300-150	39	0	0	2.1	0.2
HKC	99	V	300-150	29	0	0	2.4	0.4
HKE	99	V	300-150	23	0	0	2.4	1.5
HLF	99	V	300-150	149	0	0	2.6	0.2
HUE	99	V	300-150	90	0	0	6.1	2.0
HVN	99	V	300-150	1289	0	0	3.9	0.8
HYP	99	V	300-150	43	0	0	2.9	-0.2
HYS	99	V	300-150	311	0	0	3.3	0.3
HZS	99	V	300-150	33	0	0	4.0	-1.5
IBE	99	V	300-150	3826	0	0	4.0	0.1
ICE	99	V	300-150	8570	0	0	3.4	0.2
ICL	99	V	300-150	102	0	0	3.9	0.0
ICV	99	V	300-150	202	0	0	4.5	-0.5
IFA	99	V	300-150	392	0	0	4.0	-0.2
IFC	99	V	300-150	49	0	0	2.9	1.0
IGA	99	V	300-150	184	0	0	3.8	0.3
IGO	99	V	300-150	730	0	0	2.7	0.5
IJM	99	V	300-150	128	0	1	4.2	0.1
INB	99	V	300-150	36	0	0	4.6	-0.2
IRM	99	V	300-150	26	0	0	2.2	0.2
ITY	99	V	300-150	3872	0	0	3.6	0.1
JAF	99	V	300-150	549	10	0	8.8	0.1
JAL	99	V	300-150	734	0	0	4.2	0.2
JAS	99	V	300-150	58	0	0	3.2	0.5
JBU	99	V	300-150	6037	0	0	3.9	0.0
JCO	99	V	300-150	115	0	0	3.3	0.2

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEED BIAS
JEF	99	V	300-150	24	0	0	4.0	0.1
JET	99	V	300-150	25	0	0	3.9	0.0
JME	99	V	300-150	139	0	0	3.4	0.3
JML	99	V	300-150	31	0	0	4.0	-0.3
JST	99	V	300-150	919	0	0	3.8	0.4
JTL	99	V	300-150	48	0	0	5.0	0.6
JZR	99	V	300-150	34	0	0	3.0	1.0
KAC	99	V	300-150	2767	0	0	2.8	0.4
KAF	99	V	300-150	78	0	0	4.0	0.4
KAI	99	V	300-150	133	2	0	4.4	0.3
KAL	99	V	300-150	468	1	0	3.3	0.6
KAY	99	V	300-150	21	0	0	3.6	0.3
KCE	99	V	300-150	61	0	0	3.2	0.0
KFE	99	V	300-150	21	0	0	2.6	-0.5
KIW	99	V	300-150	47	0	0	4.8	1.2
KLM	99	V	300-150	18289	7	0	5.8	0.1
KOC	99	V	300-150	74	0	0	3.4	-0.1
KPO	99	V	300-150	33	0	0	4.3	0.2
KQA	99	V	300-150	406	2	0	9.3	0.1
LAE	99	V	300-150	136	0	0	4.1	-0.1
LCO	99	V	300-150	714	0	0	4.3	-1.1
LDX	99	V	300-150	38	0	0	2.4	-0.3
LEA	99	V	300-150	32	0	0	3.5	-0.3
LHO	99	V	300-150	50	0	0	4.4	0.2
LMJ	99	V	300-150	41	0	0	3.4	0.3
LNI	99	V	300-150	998	0	1	2.8	0.5
LNX	99	V	300-150	57	0	0	3.5	0.3
LOT	99	V	300-150	4069	11	0	7.0	0.2
LRQ	99	V	300-150	83	0	0	2.8	0.5
LRT	99	V	300-150	32	0	0	3.6	-0.7
LVA	99	V	300-150	27	0	0	2.8	0.4
LXJ	99	V	300-150	399	0	0	3.5	0.5
MAS	99	V	300-150	6405	0	0	3.7	0.6
MAU	99	V	300-150	401	0	0	4.7	1.3
MED	99	V	300-150	48	0	0	3.8	0.3
MJF	99	V	300-150	33	0	0	3.9	-0.2
MLM	99	V	300-150	121	0	0	3.5	0.7
MMD	99	V	300-150	244	0	0	3.5	0.3
MMF	99	V	300-150	137	0	0	3.3	-0.1
MMZ	99	V	300-150	104	0	0	3.5	0.8
MNB	99	V	300-150	570	0	0	3.7	0.2
MPH	99	V	300-150	487	0	0	3.8	-0.1
MSR	99	V	300-150	2330	6	0	4.8	0.1

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEED BIAS
MVJ	99	V	300-150	52	0	0	4.0	0.5
MXD	99	V	300-150	602	0	0	3.0	0.5
NBT	99	V	300-150	1456	12	0	8.1	0.2
NCR	99	V	300-150	520	0	0	3.8	0.1
NEW	99	V	300-150	34	0	0	6.2	-1.4
NJE	99	V	300-150	465	0	0	3.9	0.2
NOJ	99	V	300-150	36	0	0	4.6	-0.2
NOS	99	V	300-150	1312	10	0	7.9	0.1
NOV	99	V	300-150	21	0	0	2.7	0.1
NUM	99	V	300-150	40	0	0	3.3	0.5
OAE	99	V	300-150	674	0	0	4.2	0.0
OCN	99	V	300-150	4224	0	0	3.6	0.1
OLI	99	V	300-150	50	0	0	4.1	0.0
OMA	99	V	300-150	2401	1	0	7.8	0.3
ORF	99	V	300-150	35	0	0	4.2	1.6
PAL	99	V	300-150	1594	0	0	2.8	0.5
PAT	99	V	300-150	68	0	0	3.6	-0.4
PEX	99	V	300-150	75	0	0	3.8	0.2
PIA	99	V	300-150	340	0	0	2.9	0.2
PJS	99	V	300-150	20	0	0	2.7	-0.1
PJZ	99	V	300-150	79	0	0	4.4	0.7
PRD	99	V	300-150	24	0	0	3.3	-0.5
PUE	99	V	300-150	173	0	0	3.1	0.5
PVA	99	V	300-150	276	0	0	3.2	0.1
QAF	99	V	300-150	93	0	0	2.9	0.3
QFA	99	V	300-150	5016	0	0	5.4	0.2
QFX	99	V	300-150	164	0	0	3.6	0.6
QNT	99	V	300-150	49	0	0	3.3	0.4
QQE	99	V	300-150	346	0	0	3.7	0.2
QTR	99	V	300-150	40422	0	0	3.6	0.3
RAM	99	V	300-150	687	13	0	9.2	-0.1
RBA	99	V	300-150	502	4	0	7.8	0.7
RCH	99	V	300-150	1897	0	0	4.9	0.5
RCR	99	V	300-150	60	0	0	2.5	0.5
RJA	99	V	300-150	1577	17	0	8.4	0.1
RKK	99	V	300-150	79	0	0	4.4	0.5
ROJ	99	V	300-150	32	0	0	4.2	1.2
RRR	99	V	300-150	157	0	0	4.5	-0.1
RYR	99	V	300-150	984	0	0	3.3	0.2
RZO	99	V	300-150	338	0	0	5.5	-0.2
SAM	99	V	300-150	267	0	0	3.8	0.0
SAS	99	V	300-150	5995	0	0	3.4	0.1
SAZ	99	V	300-150	120	0	0	3.2	0.0

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEED BIAS
SCX	99	V	300-150	82	1	2	4.8	0.5
SEY	99	V	300-150	114	0	0	4.4	0.9
SIA	99	V	300-150	18015	0	0	3.9	0.4
SIO	99	V	300-150	108	0	0	3.7	0.3
SKV	99	V	300-150	55	0	0	4.2	0.4
SLM	99	V	300-150	123	0	0	3.3	0.3
SON	99	V	300-150	50	0	0	5.7	1.6
SPA	99	V	300-150	81	0	0	3.5	1.2
SRR	99	V	300-150	33	0	0	3.2	0.2
SSG	99	V	300-150	29	0	0	2.6	0.0
SVA	99	V	300-150	11640	1	0	5.0	0.3
SVW	99	V	300-150	346	0	0	3.6	0.4
SWA	99	V	300-150	28	4	11	4.7	0.6
SWR	99	V	300-150	10625	0	0	3.7	0.2
SWW	99	V	300-150	43	0	0	3.9	0.0
SYB	99	V	300-150	113	0	0	4.1	-0.1
TAM	99	V	300-150	49	0	0	5.0	-0.3
TAP	99	V	300-150	2870	0	0	4.1	0.2
TAR	99	V	300-150	271	0	0	3.8	0.2
TAY	99	V	300-150	135	0	0	3.8	-0.8
TBJ	99	V	300-150	47	0	0	2.9	-0.2
TEU	99	V	300-150	93	0	0	3.5	-0.6
TFF	99	V	300-150	34	0	0	5.8	-0.9
TFL	99	V	300-150	1290	13	0	9.0	0.0
TGW	99	V	300-150	1131	2	0	7.5	0.3
THA	99	V	300-150	6185	0	0	3.9	0.6
THT	99	V	300-150	2080	4	0	6.7	0.4
THY	99	V	300-150	24088	3	0	4.7	0.2
TJS	99	V	300-150	27	0	0	2.8	-0.4
TMN	99	V	300-150	421	0	0	4.4	0.4
TOM	99	V	300-150	4618	13	0	8.8	0.0
TOR	99	V	300-150	34	0	0	4.2	-0.5
TSC	99	V	300-150	4683	0	0	3.8	0.2
TUA	99	V	300-150	60	0	0	3.5	-0.2
TUA	99	V	300-150	25	0	0	5.9	1.3
TVR	99	V	300-150	171	0	1	4.4	0.5
TWY	99	V	300-150	630	0	0	3.8	0.2
UAE	99	V	300-150	38299	0	0	3.2	0.3
UAF	99	V	300-150	90	0	0	2.4	0.2
UAL	99	V	300-150	66321	4	1	5.3	0.0
UBT	99	V	300-150	1726	16	0	8.4	0.0
UGD	99	V	300-150	65	0	0	2.7	0.6
ULC	99	V	300-150	147	0	0	3.8	-0.7

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEED BIAS
UPS	99	V	300-150	6542	0	0	3.7	-0.2
URO	99	V	300-150	51	0	0	2.8	1.5
UZB	99	V	300-150	876	1	0	4.9	0.5
UZS	99	V	300-150	103	0	0	2.7	0.3
VCJ	99	V	300-150	60	0	0	3.9	1.0
VIR	99	V	300-150	20283	4	0	4.9	0.1
VJA	99	V	300-150	50	0	0	3.7	0.3
VJC	99	V	300-150	273	0	0	3.6	0.3
VJH	99	V	300-150	214	0	0	5.8	0.2
VJT	99	V	300-150	1676	0	0	3.6	0.3
VKG	99	V	300-150	165	0	0	3.5	0.3
VLZ	99	V	300-150	45	0	0	5.7	1.4
VOZ	99	V	300-150	174	0	0	3.8	0.3
VSV	99	V	300-150	70	0	0	2.5	0.2
VTI	99	V	300-150	1147	0	0	3.5	0.3
WDY	99	V	300-150	34	0	0	3.1	0.0
WFL	99	V	300-150	698	0	0	3.6	0.5
WJA	99	V	300-150	988	17	0	7.8	-0.3
WWI	99	V	300-150	64	0	0	3.8	-0.5
XAX	99	V	300-150	1018	0	0	3.6	0.5
XRO	99	V	300-150	65	0	0	5.0	0.5

4 EUCOS Area Monitoring Statistics

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

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

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

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

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	12	Z	50	29	8.7	-0.5
01001	00	Z	50	28	13.3	7.1
01028	12	Z	50	29	7.0	-3.3
01028	00	Z	50	30	11.3	-3.7
01400	00	Z	50	25	81.4	80.9
01400	12	Z	50	24	77.9	77.3
01415	00	Z	50	29	11.3	3.5
01415	12	Z	50	29	12.5	3.4
02365	00	Z	50	17	12.5	9.6
02365	12	Z	50	16	10.9	1.1
02591	00	Z	50	25	14.2	9.5
02591	12	Z	50	19	8.7	5.7
02836	12	Z	50	20	7.6	0.3
02836	00	Z	50	18	10.1	3.8
02963	00	Z	50	21	8.4	0.5
02963	12	Z	50	23	7.6	1.9
03005	00	Z	50	27	7.9	1.3
03005	12	Z	50	30	14.7	-1.1
03238	00	Z	50	28	9.3	3.8
03238	12	Z	50	2	5.7	-5.0
03808	12	Z	50	30	8.7	2.5
03808	00	Z	50	27	7.5	2.9
03918	00	Z	50	28	10.8	8.0
03918	12	Z	50	5	6.1	2.2
039189	00	Z	50	0	0.0	0.0
03953	12	Z	50	29	10.9	-6.9
03953	00	Z	50	29	10.5	-6.8
04018	00	Z	50	27	12.6	5.8
04018	12	Z	50	25	14.0	4.0
04220	12	Z	50	28	14.8	-12.2
04220	00	Z	50	30	16.8	-13.0
04270	12	Z	50	29	17.1	-10.5
04270	00	Z	50	29	22.1	-14.5
04320	00	Z	50	30	18.7	-4.2
04320	12	Z	50	29	17.0	-10.1
043204	00	Z	50	0	0.0	0.0
04339	00	Z	50	12	21.6	-19.2
04339	12	Z	50	19	24.2	-16.9
04360	12	Z	50	12	40.7	-38.4

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
04360	00	Z	50	11	35.6	-33.3
06011	12	Z	50	29	20.1	-18.2
06260	00	Z	50	28	11.1	2.5
06260	12	Z	50	4	9.6	3.8
06610	00	Z	50	29	18.2	4.1
06610	12	Z	50	30	13.9	2.6
07110	00	Z	50	28	23.9	-22.2
07110	12	Z	50	29	15.9	-12.0
07510	12	Z	50	27	32.3	-29.3
07510	00	Z	50	26	36.7	-36.0
07645	00	Z	50	24	19.3	-15.5
07645	12	Z	50	30	44.7	-10.7
07761	00	Z	50	21	7.6	-1.6
07761	12	Z	50	25	20.6	-3.0
08001	00	Z	50	30	8.8	4.0
08001	12	Z	50	30	6.3	2.7
08221	12	Z	50	30	7.3	3.2
08221	00	Z	50	29	7.2	4.0
08302	00	Z	50	28	6.5	-1.9
08302	12	Z	50	29	10.4	-8.5
08508	12	Z	50	27	16.7	0.3
08522	12	Z	50	30	5.3	1.7
10035	12	Z	50	30	18.3	15.5
10035	00	Z	50	27	19.3	16.4
10393	12	Z	50	29	10.2	0.5
10393	00	Z	50	30	8.5	2.0
10410	12	Z	50	29	7.4	1.2
10410	00	Z	50	28	9.6	2.8
10739	00	Z	50	30	15.9	6.3
10739	12	Z	50	29	11.4	6.8
11035	00	Z	50	30	14.5	1.1
11035	12	Z	50	30	20.3	5.8
12982	00	Z	50	30	7.1	3.0
12982	12	Z	50	30	6.8	0.5
16245	00	Z	50	25	9.4	2.3
16245	12	Z	50	28	9.6	-2.8
16429	12	Z	50	30	7.3	1.3
16429	00	Z	50	28	8.0	5.6
16622	12	Z	50	2	13.0	-12.4
16622	00	Z	50	23	11.4	2.1
16754	00	Z	50	21	9.1	5.7
17607	12	Z	50	24	40.9	-28.4
26435	12	Z	50	5	15.3	-5.0

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
2EERVT	12	Z	50	0	0.0	0.0
2EERVT	00	Z	50	0	0.0	0.0
2TDJJ8	12	Z	50	2	11.1	9.6
60018	00	Z	50	30	7.5	4.1
60018	12	Z	50	30	6.1	1.9
7JUNA4	12	Z	50	8	17.0	-4.6
7JUNA4	00	Z	50	6	7.5	-2.3
9ZT9MR	12	Z	50	6	26.3	-24.2
9ZT9MR	00	Z	50	4	13.4	-9.0
ASDE09	12	Z	50	1	10.8	-10.8
ATGU3F	00	Z	50	3	52.4	-50.0
ATGU3F	12	Z	50	5	39.9	-22.8
JNKN7J	12	Z	50	11	54.9	44.3
JNKN7J	00	Z	50	11	33.2	30.6
KJJF9X	12	Z	50	4	31.4	-30.4
KJJF9X	00	Z	50	3	38.9	-36.8
KMPLHP	12	Z	50	9	48.0	44.1
KMPLHP	00	Z	50	8	45.8	44.8
LRYQE3	12	Z	50	9	24.5	7.9
LRYQE3	00	Z	50	6	26.9	-12.6
WDK38H	12	Z	50	13	15.2	-13.0
XKQLWQ	12	Z	50	16	41.9	36.8
YLV96W	12	Z	50	7	72.9	55.4
YLV96W	00	Z	50	7	23.2	-7.2
ZVQEQC	12	Z	50	25	9.4	4.5

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

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	12	V	50	28	3.9	0.0	0.0
01001	00	V	50	28	4.5	1.2	-1.4
01028	12	V	50	28	3.4	-0.3	-0.1
01028	00	V	50	28	3.3	0.1	-0.4
01400	00	V	50	22	3.8	-0.3	0.4
01400	12	V	50	20	4.0	0.8	1.1
01415	00	V	50	28	5.1	-1.8	-0.4
01415	12	V	50	29	4.6	-0.4	-0.4
02365	00	V	50	17	4.9	-1.1	0.6
02365	12	V	50	14	4.9	0.1	-2.4
02591	00	V	50	22	4.2	-0.2	-0.8
02591	12	V	50	18	3.4	-0.1	0.8
02836	12	V	50	13	4.1	1.5	0.2
02836	00	V	50	12	4.9	-0.3	-0.2
02963	00	V	50	18	3.5	0.5	0.4
02963	12	V	50	21	4.2	-0.2	0.5
03005	00	V	50	24	4.0	-0.5	-0.4
03005	12	V	50	30	3.4	0.0	-0.6
03238	00	V	50	26	3.6	-0.2	-0.2
03238	12	V	50	2	3.4	1.1	3.2
03808	12	V	50	29	3.7	-0.5	-0.5
03808	00	V	50	24	3.6	1.2	-0.2
03918	00	V	50	27	3.5	0.5	-0.7
03918	12	V	50	5	2.6	-0.4	0.2
039189	00	V	50	0	0.0	0.0	0.0
03953	12	V	50	29	3.5	0.2	-0.1
03953	00	V	50	29	3.4	0.1	-0.6
04018	00	V	50	24	3.1	-0.1	-0.4
04018	12	V	50	24	4.1	0.6	-0.2
04220	12	V	50	28	3.2	-0.1	-1.1
04220	00	V	50	29	3.4	1.3	0.2
04270	12	V	50	29	4.1	-0.6	0.3
04270	00	V	50	28	4.6	0.3	0.8
04320	00	V	50	29	3.8	-0.6	-0.6
04320	12	V	50	29	3.8	0.5	-0.1
043204	00	V	50	0	0.0	0.0	0.0
04339	00	V	50	12	5.0	1.4	-0.1
04339	12	V	50	19	4.0	0.4	-0.1
04360	12	V	50	12	4.2	0.5	0.6

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
04360	00	V	50	11	4.3	-0.1	2.1
06011	12	V	50	29	3.8	0.4	-0.6
06260	00	V	50	24	3.6	-0.6	0.1
06260	12	V	50	4	2.8	0.9	-0.9
06610	00	V	50	28	4.6	0.3	0.2
06610	12	V	50	30	4.6	-0.9	0.3
07110	00	V	50	25	3.3	0.9	0.1
07110	12	V	50	29	3.3	-0.2	-0.1
07510	12	V	50	27	3.8	0.4	0.2
07510	00	V	50	23	3.0	0.2	0.2
07645	00	V	50	23	4.1	-0.1	-0.5
07645	12	V	50	30	3.7	0.2	0.6
07761	00	V	50	20	4.3	0.1	0.1
07761	12	V	50	25	3.7	0.5	-0.3
08001	00	V	50	25	3.4	0.4	0.1
08001	12	V	50	30	3.6	-0.4	-0.6
08221	12	V	50	30	3.0	0.0	-0.2
08221	00	V	50	29	3.3	0.0	-0.2
08302	00	V	50	24	4.2	-0.5	-0.2
08302	12	V	50	29	4.0	-0.1	-0.4
08508	12	V	50	27	3.8	0.6	-0.7
08522	12	V	50	30	3.3	0.3	0.5
10035	12	V	50	30	3.6	0.3	0.1
10035	00	V	50	26	3.6	0.3	0.4
10393	12	V	50	27	4.0	1.0	-1.1
10393	00	V	50	26	3.0	0.6	0.3
10410	12	V	50	29	3.7	-0.3	0.2
10410	00	V	50	28	3.6	0.2	0.3
10739	00	V	50	29	3.8	0.3	0.0
10739	12	V	50	29	3.5	-0.7	-0.3
11035	00	V	50	26	4.6	0.1	0.9
11035	12	V	50	30	3.3	-0.3	0.5
12982	00	V	50	29	3.7	-0.1	0.6
12982	12	V	50	30	3.3	0.2	0.4
16245	00	V	50	24	3.3	0.2	-0.6
16245	12	V	50	28	3.8	0.3	0.1
16429	12	V	50	30	3.8	-0.5	0.0
16429	00	V	50	27	3.5	0.6	-0.3
16622	12	V	50	2	3.2	-0.5	2.2
16622	00	V	50	21	3.4	1.0	0.7
16754	00	V	50	15	2.8	0.0	1.5
17607	12	V	50	7	10.1	-4.2	-3.0
26435	12	V	50	2	3.4	-1.0	-2.7

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
2EERVT	12	V	50	0	0.0	0.0	0.0
2EERVT	00	V	50	0	0.0	0.0	0.0
2TDJJ8	12	V	50	2	3.4	2.1	-2.4
60018	00	V	50	27	3.6	0.2	-1.5
60018	12	V	50	30	3.4	0.3	0.2
7JUNA4	12	V	50	8	3.5	-0.7	0.4
7JUNA4	00	V	50	6	2.9	1.4	-0.1
9ZT9MR	12	V	50	6	10.0	-3.8	-0.7
9ZT9MR	00	V	50	4	2.4	-0.1	0.6
ASDE09	12	V	50	1	2.0	1.5	-1.3
ATGU3F	00	V	50	3	1.9	1.3	0.5
ATGU3F	12	V	50	5	2.7	1.7	0.4
JNKN7J	12	V	50	11	4.2	-1.4	0.7
JNKN7J	00	V	50	11	3.1	-0.3	0.0
KJJF9X	12	V	50	4	3.0	-0.9	0.6
KJJF9X	00	V	50	3	2.5	-1.2	-1.1
KMPLHP	12	V	50	9	3.6	0.2	-1.2
KMPLHP	00	V	50	8	4.0	-0.8	1.0
LRYQE3	12	V	50	9	2.9	0.3	-0.1
LRYQE3	00	V	50	6	3.0	-1.4	0.0
WDK38H	12	V	50	12	2.7	-0.6	0.6
XKQLWQ	12	V	50	15	3.6	-0.7	1.3
YLV96W	12	V	50	7	4.1	-0.4	1.2
YLV96W	00	V	50	7	4.0	-2.4	-0.8
ZVQEQC	12	V	50	25	3.4	0.1	0.5

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 : NOV 2024
STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	12	Z	100	30	7.7	-3.4
01001	00	Z	100	28	10.5	5.0
01028	12	Z	100	30	8.1	-5.1
01028	00	Z	100	30	8.3	-5.4
01400	00	Z	100	26	78.9	78.6
01400	12	Z	100	26	77.6	77.1
01415	00	Z	100	29	9.8	1.6
01415	12	Z	100	29	9.5	0.5
02365	00	Z	100	18	9.3	2.5
02365	12	Z	100	16	9.7	-2.6
02591	00	Z	100	28	11.8	6.8
02591	12	Z	100	27	8.5	5.9
02836	12	Z	100	27	8.4	-3.5
02836	00	Z	100	23	8.2	-1.3
02963	00	Z	100	27	7.4	0.1
02963	12	Z	100	28	7.8	-1.1
03005	00	Z	100	28	6.5	-1.0
03005	12	Z	100	31	12.7	-1.0
03238	00	Z	100	30	6.2	0.6
03238	12	Z	100	2	3.9	-3.9
03808	12	Z	100	30	7.0	2.0
03808	00	Z	100	27	5.7	0.1
03918	00	Z	100	29	8.8	3.9
03918	12	Z	100	5	3.5	2.3
039189	00	Z	100	0	0.0	0.0
03953	12	Z	100	29	11.2	-6.9
03953	00	Z	100	30	9.9	-7.7
04018	00	Z	100	28	12.8	2.0
04018	12	Z	100	27	8.6	-2.5
04220	12	Z	100	29	14.2	-12.3
04220	00	Z	100	30	13.3	-10.1
04270	12	Z	100	29	14.4	-12.7
04270	00	Z	100	30	20.9	-15.6
04320	00	Z	100	30	10.7	-5.4
04320	12	Z	100	30	14.6	-9.4
043204	00	Z	100	0	0.0	0.0
04339	00	Z	100	15	23.5	-20.8
04339	12	Z	100	19	25.1	-16.6
04360	12	Z	100	12	35.8	-34.8

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
04360	00	Z	100	11	32.2	-31.6
06011	12	Z	100	30	18.6	-16.5
06260	00	Z	100	29	9.0	0.4
06260	12	Z	100	4	7.8	4.1
06610	00	Z	100	30	20.2	-1.7
06610	12	Z	100	30	15.3	1.6
07110	00	Z	100	28	21.4	-20.0
07110	12	Z	100	28	15.5	-12.8
07510	12	Z	100	28	26.1	-24.3
07510	00	Z	100	28	29.4	-28.9
07645	00	Z	100	28	18.7	-15.5
07645	12	Z	100	29	29.1	-10.6
07761	00	Z	100	23	8.8	-2.7
07761	12	Z	100	25	18.3	-4.1
08001	00	Z	100	30	7.6	2.3
08001	12	Z	100	30	6.1	2.0
08221	12	Z	100	30	6.1	4.1
08221	00	Z	100	29	6.8	2.5
08302	00	Z	100	28	7.3	-6.1
08302	12	Z	100	29	8.8	-7.6
08508	12	Z	100	29	16.0	3.5
08522	12	Z	100	30	5.2	3.1
10035	12	Z	100	30	15.8	14.0
10035	00	Z	100	30	14.1	12.4
10393	12	Z	100	29	5.0	0.3
10393	00	Z	100	30	6.9	-0.1
10410	12	Z	100	31	6.2	-0.6
10410	00	Z	100	30	7.6	0.8
10739	00	Z	100	30	12.9	4.3
10739	12	Z	100	29	9.2	6.3
11035	00	Z	100	30	12.0	-0.4
11035	12	Z	100	30	14.4	2.1
12982	00	Z	100	30	4.5	0.9
12982	12	Z	100	30	5.1	-0.2
16245	00	Z	100	28	5.6	1.7
16245	12	Z	100	28	7.9	-1.3
16429	12	Z	100	30	4.9	1.3
16429	00	Z	100	28	5.3	4.0
16622	12	Z	100	2	6.8	-6.1
16622	00	Z	100	24	11.0	1.5
16754	00	Z	100	28	6.9	3.7
17607	12	Z	100	25	46.2	-24.1
26435	12	Z	100	10	8.4	-4.8

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
2EERVT	12	Z	100	0	0.0	0.0
2EERVT	00	Z	100	0	0.0	0.0
2TDJJ8	12	Z	100	2	12.3	12.3
60018	00	Z	100	30	5.9	3.7
60018	12	Z	100	30	5.5	0.5
7JUNA4	12	Z	100	8	11.9	-4.0
7JUNA4	00	Z	100	6	6.7	-2.1
9ZT9MR	12	Z	100	6	32.4	-28.6
9ZT9MR	00	Z	100	5	13.5	-12.0
ASDE09	12	Z	100	1	9.0	-9.0
ATGU3F	00	Z	100	3	44.9	-43.3
ATGU3F	12	Z	100	6	41.2	-26.2
JNKN7J	12	Z	100	11	39.4	36.0
JNKN7J	00	Z	100	12	30.4	27.8
KJJF9X	12	Z	100	4	22.3	-21.7
KJJF9X	00	Z	100	3	31.5	-29.9
KMPLHP	12	Z	100	10	42.0	40.7
KMPLHP	00	Z	100	9	47.9	47.1
LRYQE3	12	Z	100	9	10.1	0.0
LRYQE3	00	Z	100	7	28.3	-16.9
WDK38H	12	Z	100	13	16.8	-14.7
XKQLWQ	12	Z	100	18	30.1	26.0
YLV96W	12	Z	100	7	29.3	16.7
YLV96W	00	Z	100	7	14.2	-8.8
ZVQEQC	12	Z	100	25	13.0	10.7

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

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	12	V	100	30	3.2	0.2	0.5
01001	00	V	100	28	3.1	0.5	-0.3
01028	12	V	100	29	2.6	0.4	-0.5
01028	00	V	100	30	2.3	0.1	0.1
01400	00	V	100	25	3.1	0.2	-0.1
01400	12	V	100	26	2.6	0.0	-0.1
01415	00	V	100	29	3.6	-0.6	-0.3
01415	12	V	100	29	3.9	0.5	0.2
02365	00	V	100	17	3.8	0.3	-1.2
02365	12	V	100	16	3.1	-0.2	0.4
02591	00	V	100	26	3.3	0.3	-0.5
02591	12	V	100	26	3.7	0.0	-0.3
02836	12	V	100	21	3.0	-0.6	-0.4
02836	00	V	100	21	3.5	0.8	-0.9
02963	00	V	100	24	3.0	0.1	0.6
02963	12	V	100	26	3.1	0.0	-0.4
03005	00	V	100	27	3.0	-0.2	0.3
03005	12	V	100	30	3.4	0.4	-0.5
03238	00	V	100	29	3.2	0.2	0.2
03238	12	V	100	2	4.2	1.7	0.0
03808	12	V	100	30	3.4	-0.9	0.8
03808	00	V	100	27	2.9	-0.2	-0.6
03918	00	V	100	28	3.3	0.6	0.9
03918	12	V	100	5	3.2	-0.7	0.1
039189	00	V	100	0	0.0	0.0	0.0
03953	12	V	100	29	3.3	0.0	-0.5
03953	00	V	100	30	2.9	-0.4	0.0
04018	00	V	100	28	4.4	-0.2	0.8
04018	12	V	100	27	4.5	0.5	1.1
04220	12	V	100	29	2.9	0.1	0.0
04220	00	V	100	30	2.7	-0.1	-0.5
04270	12	V	100	29	3.3	-0.5	0.0
04270	00	V	100	30	4.4	-1.0	0.5
04320	00	V	100	30	3.4	0.2	-0.7
04320	12	V	100	30	3.1	0.8	-0.2
043204	00	V	100	0	0.0	0.0	0.0
04339	00	V	100	15	3.8	0.2	-1.7
04339	12	V	100	19	3.6	-0.6	-0.2
04360	12	V	100	12	3.2	-0.8	0.4

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
04360	00	V	100	11	3.3	-0.3	-0.8
06011	12	V	100	30	3.8	0.4	-0.7
06260	00	V	100	26	3.0	0.0	-0.4
06260	12	V	100	4	2.1	0.2	-0.2
06610	00	V	100	29	3.8	0.4	-1.0
06610	12	V	100	30	2.7	0.3	-0.2
07110	00	V	100	26	2.7	0.5	-0.9
07110	12	V	100	28	2.3	-0.2	-0.4
07510	12	V	100	28	2.6	0.5	0.2
07510	00	V	100	25	3.0	0.4	-0.1
07645	00	V	100	28	3.5	-0.7	-0.7
07645	12	V	100	29	3.1	-0.3	0.6
07761	00	V	100	23	3.4	0.0	0.5
07761	12	V	100	25	3.8	0.2	0.1
08001	00	V	100	29	4.3	-1.0	0.3
08001	12	V	100	30	3.4	1.2	0.7
08221	12	V	100	30	4.0	-1.2	-0.2
08221	00	V	100	29	3.3	-0.1	0.2
08302	00	V	100	28	4.2	0.5	-0.5
08302	12	V	100	29	4.2	0.2	-0.6
08508	12	V	100	29	3.8	-0.2	-0.2
08522	12	V	100	30	3.3	-0.1	-0.5
10035	12	V	100	30	2.6	0.0	-0.1
10035	00	V	100	30	3.0	0.4	0.5
10393	12	V	100	29	2.8	0.3	0.0
10393	00	V	100	27	3.3	0.3	0.3
10410	12	V	100	30	3.1	0.2	-0.5
10410	00	V	100	30	2.9	0.3	-0.3
10739	00	V	100	30	3.6	-0.6	0.1
10739	12	V	100	29	3.1	-0.6	0.3
11035	00	V	100	27	3.4	-0.2	-0.5
11035	12	V	100	30	3.1	0.5	0.1
12982	00	V	100	30	3.3	0.1	0.2
12982	12	V	100	30	3.1	0.0	-0.2
16245	00	V	100	28	3.3	0.5	0.5
16245	12	V	100	28	3.2	-0.1	-0.1
16429	12	V	100	30	3.3	-0.1	-0.5
16429	00	V	100	27	3.6	0.0	0.5
16622	12	V	100	2	2.3	-0.2	-0.6
16622	00	V	100	22	3.0	-0.8	0.3
16754	00	V	100	23	3.6	0.5	0.3
17607	12	V	100	12	18.9	-13.5	-2.6
26435	12	V	100	3	1.7	0.3	1.1

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
2EERVT	12	V	100	0	0.0	0.0	0.0
2EERVT	00	V	100	0	0.0	0.0	0.0
2TDJJ8	12	V	100	2	3.3	2.7	-1.3
60018	00	V	100	28	4.0	0.2	-0.5
60018	12	V	100	30	4.4	0.3	0.2
7JUNA4	12	V	100	8	3.1	0.3	0.9
7JUNA4	00	V	100	6	2.4	-0.5	-1.3
9ZT9MR	12	V	100	6	6.5	-3.3	-0.6
9ZT9MR	00	V	100	5	5.6	-1.9	0.2
ASDE09	12	V	100	1	3.8	3.5	1.4
ATGU3F	00	V	100	3	2.2	-1.6	0.4
ATGU3F	12	V	100	6	4.1	0.2	0.1
JNKN7J	12	V	100	11	4.0	-0.3	0.4
JNKN7J	00	V	100	12	3.2	0.0	-0.3
KJJF9X	12	V	100	4	3.4	1.6	1.1
KJJF9X	00	V	100	3	4.9	-0.7	1.4
KMPLHP	12	V	100	10	3.4	0.0	1.0
KMPLHP	00	V	100	9	3.0	-0.8	-1.2
LRYQE3	12	V	100	9	3.8	0.2	0.8
LRYQE3	00	V	100	7	4.0	1.4	1.6
WDK38H	12	V	100	13	2.4	-0.7	0.1
XKQLWQ	12	V	100	17	3.6	0.8	-0.4
YLV96W	12	V	100	7	3.6	1.2	1.9
YLV96W	00	V	100	7	2.9	-2.4	-0.9
ZVQEQC	12	V	100	25	5.1	0.3	-0.2

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 : NOV 2024
STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	12	Z	500	30	5.3	0.0
01001	00	Z	500	28	7.7	5.1
01028	12	Z	500	30	4.0	-1.3
01028	00	Z	500	30	3.9	-1.6
01400	00	Z	500	26	79.2	78.9
01400	12	Z	500	26	80.1	79.9
01415	00	Z	500	29	5.5	3.9
01415	12	Z	500	29	5.9	5.2
02365	00	Z	500	18	5.7	3.9
02365	12	Z	500	17	4.2	0.4
02591	00	Z	500	28	8.0	7.3
02591	12	Z	500	28	8.3	7.3
02836	12	Z	500	32	5.1	0.2
02836	00	Z	500	30	4.8	1.3
02963	00	Z	500	30	4.9	2.9
02963	12	Z	500	30	5.0	1.5
03005	00	Z	500	28	3.9	0.7
03005	12	Z	500	31	13.4	1.3
03238	00	Z	500	30	4.2	2.9
03238	12	Z	500	2	3.3	-1.9
03808	12	Z	500	30	4.1	3.3
03808	00	Z	500	27	4.4	3.8
03918	00	Z	500	29	7.8	7.2
03918	12	Z	500	5	8.2	8.0
039189	00	Z	500	0	0.0	0.0
03953	12	Z	500	29	4.4	0.1
03953	00	Z	500	30	4.7	-1.1
04018	00	Z	500	28	5.6	2.3
04018	12	Z	500	29	3.8	-0.3
04220	12	Z	500	30	6.5	-4.4
04220	00	Z	500	30	5.3	-3.9
04270	12	Z	500	30	10.9	-8.4
04270	00	Z	500	30	9.0	-7.1
04320	00	Z	500	30	4.4	0.6
04320	12	Z	500	30	7.9	-1.3
043204	00	Z	500	0	0.0	0.0
04339	00	Z	500	15	12.3	-11.3
04339	12	Z	500	21	13.5	-12.3
04360	12	Z	500	13	14.9	-14.3

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
04360	00	Z	500	13	14.9	-14.2
06011	12	Z	500	30	9.5	-5.7
06260	00	Z	500	30	7.1	1.0
06260	12	Z	500	4	3.4	3.1
06610	00	Z	500	30	17.3	-0.7
06610	12	Z	500	30	12.1	0.5
07110	00	Z	500	31	8.8	-6.2
07110	12	Z	500	26	7.4	-4.1
07510	12	Z	500	31	4.7	-3.3
07510	00	Z	500	30	6.8	-5.6
07645	00	Z	500	25	10.3	-8.2
07645	12	Z	500	31	7.8	-5.9
07761	00	Z	500	26	3.6	-0.4
07761	12	Z	500	27	5.0	-0.8
08001	00	Z	500	30	4.1	2.0
08001	12	Z	500	30	3.5	2.6
08221	12	Z	500	30	4.7	4.4
08221	00	Z	500	29	4.1	3.7
08302	00	Z	500	28	5.7	-5.5
08302	12	Z	500	29	6.3	-5.5
08508	12	Z	500	29	13.7	7.0
08522	12	Z	500	30	6.6	5.4
10035	12	Z	500	33	14.5	14.4
10035	00	Z	500	31	14.3	14.1
10393	12	Z	500	32	2.2	0.3
10393	00	Z	500	33	2.9	1.0
10410	12	Z	500	31	3.1	1.4
10410	00	Z	500	31	3.1	1.3
10739	00	Z	500	30	5.3	5.1
10739	12	Z	500	29	5.2	5.0
11035	00	Z	500	30	5.6	-1.3
11035	12	Z	500	30	5.8	-0.1
12982	00	Z	500	30	2.4	0.9
12982	12	Z	500	30	3.1	0.1
16245	00	Z	500	28	4.0	3.2
16245	12	Z	500	28	3.4	2.2
16429	12	Z	500	30	4.3	3.2
16429	00	Z	500	28	4.8	4.3
16622	12	Z	500	4	5.8	5.7
16622	00	Z	500	28	7.0	4.4
16754	00	Z	500	29	4.8	3.3
17607	12	Z	500	25	2.8	0.5
26435	12	Z	500	15	4.1	0.0

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
2EERVT	12	Z	500	0	0.0	0.0
2EERVT	00	Z	500	0	0.0	0.0
2TDJJ8	12	Z	500	2	15.2	15.2
60018	00	Z	500	30	4.3	2.4
60018	12	Z	500	32	4.0	1.8
7JUNA4	12	Z	500	8	6.9	5.4
7JUNA4	00	Z	500	6	9.1	3.3
9ZT9MR	12	Z	500	6	25.8	-22.4
9ZT9MR	00	Z	500	5	14.9	-13.3
ASDE09	12	Z	500	1	2.0	-2.0
ATGU3F	00	Z	500	3	24.8	-24.6
ATGU3F	12	Z	500	5	33.9	-21.8
JNKN7J	12	Z	500	11	35.3	34.9
JNKN7J	00	Z	500	13	33.9	31.8
KJJF9X	12	Z	500	4	13.2	-12.4
KJJF9X	00	Z	500	5	49.5	8.6
KMPLHP	12	Z	500	10	60.1	59.4
KMPLHP	00	Z	500	10	63.1	62.7
LRYQE3	12	Z	500	10	7.3	-6.4
LRYQE3	00	Z	500	7	28.6	-15.9
WDK38H	12	Z	500	15	12.9	-12.5
XKQLWQ	12	Z	500	20	16.1	13.3
YLV96W	12	Z	500	7	13.9	-8.1
YLV96W	00	Z	500	8	6.2	-1.8
ZVQEQC	12	Z	500	26	5.9	5.3

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

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	12	V	500	30	3.2	0.7	0.6
01001	00	V	500	28	3.0	-0.8	0.0
01028	12	V	500	30	2.7	-0.1	-0.1
01028	00	V	500	30	2.6	-0.3	-0.1
01400	00	V	500	26	2.4	-0.1	-0.2
01400	12	V	500	26	2.0	0.1	0.2
01415	00	V	500	29	2.5	0.0	-0.1
01415	12	V	500	29	3.0	0.8	0.0
02365	00	V	500	18	3.2	1.0	-0.3
02365	12	V	500	17	2.9	0.5	-0.1
02591	00	V	500	28	2.1	-0.1	-0.3
02591	12	V	500	28	2.1	0.4	0.1
02836	12	V	500	30	3.5	0.2	-0.2
02836	00	V	500	30	2.6	0.1	0.1
02963	00	V	500	29	3.2	0.1	0.7
02963	12	V	500	30	2.3	0.1	0.2
03005	00	V	500	28	3.2	0.6	0.6
03005	12	V	500	30	3.5	0.7	0.8
03238	00	V	500	30	2.1	0.6	-0.3
03238	12	V	500	2	0.9	-0.3	-0.7
03808	12	V	500	30	2.8	0.3	0.3
03808	00	V	500	27	2.7	-0.1	-0.4
03918	00	V	500	29	2.8	0.4	0.6
03918	12	V	500	5	2.6	0.0	-0.4
039189	00	V	500	0	0.0	0.0	0.0
03953	12	V	500	29	2.5	-0.3	0.0
03953	00	V	500	30	3.0	0.0	-0.3
04018	00	V	500	28	2.3	-0.6	0.1
04018	12	V	500	29	2.3	0.4	-0.2
04220	12	V	500	30	1.9	0.2	-0.2
04220	00	V	500	30	2.8	0.2	0.3
04270	12	V	500	30	2.7	0.5	0.2
04270	00	V	500	30	3.2	-0.1	0.5
04320	00	V	500	30	2.1	0.3	0.2
04320	12	V	500	30	2.6	-0.2	0.5
043204	00	V	500	0	0.0	0.0	0.0
04339	00	V	500	15	2.4	-0.1	0.0
04339	12	V	500	21	3.0	0.6	-0.2
04360	12	V	500	13	2.6	-0.7	0.7

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
04360	00	V	500	13	3.3	1.0	-0.4
06011	12	V	500	30	2.8	-0.2	-0.2
06260	00	V	500	29	2.6	0.2	0.2
06260	12	V	500	4	4.4	0.3	0.2
06610	00	V	500	30	2.3	-0.3	-0.2
06610	12	V	500	30	2.2	0.2	-0.3
07110	00	V	500	30	2.3	-0.5	-0.3
07110	12	V	500	26	3.2	0.4	0.5
07510	12	V	500	29	2.3	0.8	0.3
07510	00	V	500	28	2.2	0.0	-0.2
07645	00	V	500	24	2.0	-0.1	0.3
07645	12	V	500	29	1.9	0.1	-0.1
07761	00	V	500	25	2.2	0.2	-0.1
07761	12	V	500	26	2.0	-0.2	-0.1
08001	00	V	500	30	2.7	0.1	0.5
08001	12	V	500	30	2.9	0.3	-0.1
08221	12	V	500	30	2.2	-0.3	-0.4
08221	00	V	500	29	1.9	0.2	0.1
08302	00	V	500	28	2.0	0.0	0.0
08302	12	V	500	29	2.1	-0.4	0.0
08508	12	V	500	29	3.3	0.3	-0.9
08522	12	V	500	30	2.8	0.2	0.0
10035	12	V	500	30	3.2	0.6	-0.4
10035	00	V	500	30	2.0	-0.2	-0.1
10393	12	V	500	30	2.8	0.0	0.0
10393	00	V	500	30	1.7	0.1	-0.2
10410	12	V	500	30	2.1	-0.1	0.3
10410	00	V	500	30	2.8	0.6	-0.3
10739	00	V	500	30	2.5	0.5	0.2
10739	12	V	500	29	1.8	0.4	-0.2
11035	00	V	500	30	2.7	0.0	0.2
11035	12	V	500	30	2.6	0.0	-0.3
12982	00	V	500	30	2.1	0.1	-0.2
12982	12	V	500	30	2.5	0.3	-0.9
16245	00	V	500	28	2.3	0.2	-0.2
16245	12	V	500	28	2.3	0.6	-0.3
16429	12	V	500	30	1.7	0.5	-0.3
16429	00	V	500	27	2.3	0.5	-0.6
16622	12	V	500	4	1.3	-0.2	0.7
16622	00	V	500	28	2.4	-0.2	-0.1
16754	00	V	500	26	2.1	-0.2	0.1
17607	12	V	500	24	2.5	0.1	-0.4
26435	12	V	500	15	3.2	0.6	-0.6

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
2EERVT	12	V	500	0	0.0	0.0	0.0
2EERVT	00	V	500	0	0.0	0.0	0.0
2TDJJ8	12	V	500	2	1.8	-1.6	-0.6
60018	00	V	500	30	2.6	0.4	0.0
60018	12	V	500	30	3.2	0.9	-0.5
7JUNA4	12	V	500	8	1.7	0.4	-0.8
7JUNA4	00	V	500	6	1.9	0.5	0.2
9ZT9MR	12	V	500	6	2.4	1.4	0.8
9ZT9MR	00	V	500	5	2.5	-0.4	0.1
ASDE09	12	V	500	1	1.5	0.1	-1.5
ATGU3F	00	V	500	3	3.1	0.4	2.8
ATGU3F	12	V	500	5	2.4	-0.2	1.0
JNKN7J	12	V	500	11	3.9	0.6	0.0
JNKN7J	00	V	500	13	2.9	-0.4	0.6
KJJF9X	12	V	500	4	1.9	0.3	-0.4
KJJF9X	00	V	500	5	7.6	4.2	-0.7
KMPLHP	12	V	500	10	3.4	-0.4	-0.3
KMPLHP	00	V	500	10	3.1	-0.2	0.4
LRYQE3	12	V	500	10	2.9	0.7	-0.3
LRYQE3	00	V	500	7	2.6	0.3	-0.1
WDK38H	12	V	500	15	1.8	0.0	0.2
XKQLWQ	12	V	500	20	2.1	0.0	-0.5
YLV96W	12	V	500	7	2.2	-0.1	1.1
YLV96W	00	V	500	8	2.0	0.2	-0.7
ZVQEQC	12	V	500	25	2.7	-0.4	0.1

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 : NOV 2024
STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	12	Z	850	30	3.0	-0.9
01001	00	Z	850	28	6.7	3.3
01028	12	Z	850	30	3.8	-1.9
01028	00	Z	850	30	2.7	-0.8
01400	00	Z	850	27	79.0	78.8
01400	12	Z	850	26	79.9	79.6
01415	00	Z	850	29	5.9	5.3
01415	12	Z	850	29	5.5	4.9
02365	00	Z	850	18	4.9	4.2
02365	12	Z	850	17	3.5	1.6
02591	00	Z	850	28	6.4	6.0
02591	12	Z	850	28	7.7	7.3
02836	12	Z	850	32	2.1	0.2
02836	00	Z	850	30	3.1	1.0
02963	00	Z	850	30	3.1	1.9
02963	12	Z	850	30	3.2	2.3
03005	00	Z	850	28	3.1	-0.4
03005	12	Z	850	31	13.4	2.7
03238	00	Z	850	30	3.8	2.6
03238	12	Z	850	2	4.3	4.2
03808	12	Z	850	30	3.5	2.2
03808	00	Z	850	27	3.7	2.3
03918	00	Z	850	29	7.1	6.7
03918	12	Z	850	5	7.9	7.3
039189	00	Z	850	1	55.3	-55.3
03953	12	Z	850	30	4.0	-0.1
03953	00	Z	850	30	2.3	-0.1
04018	00	Z	850	28	2.7	0.2
04018	12	Z	850	29	1.8	0.5
04220	12	Z	850	30	4.6	-2.9
04220	00	Z	850	30	4.6	-3.2
04270	12	Z	850	31	8.7	-8.1
04270	00	Z	850	30	7.9	-7.3
04320	00	Z	850	30	4.7	-0.8
04320	12	Z	850	30	6.9	-2.6
043204	00	Z	850	1	3.2	-3.2
04339	00	Z	850	15	11.4	-10.7
04339	12	Z	850	22	13.0	-12.5
04360	12	Z	850	13	11.2	-10.4

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
04360	00	Z	850	13	11.8	-11.3
06011	12	Z	850	30	7.2	-3.3
06260	00	Z	850	30	6.9	-0.7
06260	12	Z	850	4	1.4	0.0
06610	00	Z	850	30	17.6	-1.9
06610	12	Z	850	30	14.4	-1.9
07110	00	Z	850	32	4.4	-2.9
07110	12	Z	850	25	3.6	-1.7
07510	12	Z	850	31	3.6	2.7
07510	00	Z	850	31	3.2	2.7
07645	00	Z	850	26	5.8	-5.5
07645	12	Z	850	31	6.6	-6.3
07761	00	Z	850	25	4.0	-2.9
07761	12	Z	850	27	4.2	-3.3
08001	00	Z	850	30	2.6	0.8
08001	12	Z	850	30	2.7	1.6
08221	12	Z	850	30	3.2	2.2
08221	00	Z	850	29	2.4	1.7
08302	00	Z	850	29	8.6	-8.1
08302	12	Z	850	29	8.7	-8.4
08508	12	Z	850	29	12.1	5.5
08522	12	Z	850	30	3.8	2.7
10035	12	Z	850	33	13.1	12.9
10035	00	Z	850	31	13.6	13.4
10393	12	Z	850	33	11.2	1.2
10393	00	Z	850	33	1.6	0.2
10410	12	Z	850	31	1.8	0.5
10410	00	Z	850	31	2.3	-0.1
10739	00	Z	850	30	4.0	3.2
10739	12	Z	850	29	3.7	3.1
11035	00	Z	850	31	4.6	-1.8
11035	12	Z	850	30	2.6	0.3
12982	00	Z	850	30	2.2	0.6
12982	12	Z	850	30	2.1	0.3
16245	00	Z	850	28	2.4	1.8
16245	12	Z	850	28	1.8	0.7
16429	12	Z	850	30	2.4	1.7
16429	00	Z	850	28	2.9	2.3
16622	12	Z	850	4	4.0	3.5
16622	00	Z	850	29	6.8	5.4
16754	00	Z	850	29	4.6	2.3
17607	12	Z	850	25	2.3	-1.3
26435	12	Z	850	15	1.7	-0.3

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
2EERVT	12	Z	850	0	0.0	0.0
2EERVT	00	Z	850	0	0.0	0.0
2TDJJ8	12	Z	850	2	13.0	12.9
60018	00	Z	850	30	3.0	0.8
60018	12	Z	850	32	2.6	1.2
7JUNA4	12	Z	850	8	8.1	6.8
7JUNA4	00	Z	850	6	8.6	4.3
9ZT9MR	12	Z	850	7	13.1	-11.5
9ZT9MR	00	Z	850	6	11.5	-11.4
ASDE09	12	Z	850	1	4.3	-4.3
ATGU3F	00	Z	850	3	26.2	-26.2
ATGU3F	12	Z	850	5	26.6	-26.4
JNKN7J	12	Z	850	12	40.4	40.3
JNKN7J	00	Z	850	13	38.0	37.6
KJJF9X	12	Z	850	4	11.0	-10.3
KJJF9X	00	Z	850	5	16.9	-14.4
KMPLHP	12	Z	850	10	65.6	64.9
KMPLHP	00	Z	850	12	68.2	67.7
LRYQE3	12	Z	850	10	6.4	-5.4
LRYQE3	00	Z	850	6	4.5	-4.0
WDK38H	12	Z	850	15	13.4	-12.8
XKQLWQ	12	Z	850	20	7.6	4.7
YLV96W	12	Z	850	7	10.5	-7.9
YLV96W	00	Z	850	8	6.8	-3.5
ZVQEQC	12	Z	850	26	3.8	2.8

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

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	12	V	850	30	3.3	0.0	-0.3
01001	00	V	850	28	3.4	1.1	-0.1
01028	12	V	850	30	2.7	0.2	-0.1
01028	00	V	850	30	3.4	0.2	-0.8
01400	00	V	850	27	2.4	0.1	0.2
01400	12	V	850	26	1.9	-0.2	0.2
01415	00	V	850	29	3.2	0.9	0.1
01415	12	V	850	29	2.8	0.2	-0.5
02365	00	V	850	18	2.7	-0.4	-0.1
02365	12	V	850	17	2.9	-0.6	-0.6
02591	00	V	850	28	3.1	-0.4	-0.1
02591	12	V	850	28	2.8	0.8	-0.2
02836	12	V	850	30	3.0	-0.6	0.3
02836	00	V	850	30	2.6	0.7	0.1
02963	00	V	850	29	2.4	0.4	-0.2
02963	12	V	850	30	3.0	-0.2	0.0
03005	00	V	850	28	3.1	0.6	0.2
03005	12	V	850	30	3.5	-0.6	0.5
03238	00	V	850	30	1.9	-0.5	0.3
03238	12	V	850	2	4.2	1.5	-2.2
03808	12	V	850	30	2.5	0.0	-0.2
03808	00	V	850	27	2.5	0.2	-0.2
03918	00	V	850	29	2.4	-0.4	-0.5
03918	12	V	850	5	1.6	-0.3	1.0
039189	00	V	850	1	2.9	1.5	2.5
03953	12	V	850	30	3.3	0.2	0.3
03953	00	V	850	30	2.5	0.1	0.4
04018	00	V	850	28	3.0	0.1	0.7
04018	12	V	850	29	2.9	0.5	0.2
04220	12	V	850	30	3.3	0.0	0.7
04220	00	V	850	30	3.0	0.9	0.0
04270	12	V	850	30	3.9	-0.2	-0.1
04270	00	V	850	30	3.2	-0.8	0.2
04320	00	V	850	30	4.7	-0.3	0.7
04320	12	V	850	30	4.3	-0.1	1.1
043204	00	V	850	1	5.5	-4.3	-3.5
04339	00	V	850	15	4.1	0.0	0.8
04339	12	V	850	22	4.7	0.5	-1.3
04360	12	V	850	13	5.1	0.7	-0.6

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
04360	00	V	850	13	5.2	-1.3	-0.2
06011	12	V	850	30	3.3	0.1	-0.2
06260	00	V	850	29	2.6	0.3	-0.1
06260	12	V	850	4	1.6	0.8	-0.5
06610	00	V	850	30	2.8	-0.2	-0.2
06610	12	V	850	30	2.1	-0.1	-0.5
07110	00	V	850	30	2.1	0.2	-0.1
07110	12	V	850	25	2.5	-0.7	-0.3
07510	12	V	850	29	3.0	-0.2	0.4
07510	00	V	850	29	2.5	0.1	-0.6
07645	00	V	850	25	3.8	-0.9	-0.2
07645	12	V	850	29	2.4	0.1	-0.3
07761	00	V	850	24	2.3	-0.1	0.4
07761	12	V	850	26	2.5	-0.2	-0.2
08001	00	V	850	30	2.6	0.6	0.0
08001	12	V	850	30	3.3	-0.3	0.2
08221	12	V	850	30	3.1	0.1	0.1
08221	00	V	850	29	2.3	0.2	-0.5
08302	00	V	850	28	3.0	0.1	-0.6
08302	12	V	850	29	2.2	0.7	0.2
08508	12	V	850	29	3.7	-0.7	-1.1
08522	12	V	850	30	3.1	0.7	-0.2
10035	12	V	850	30	2.4	0.0	-0.2
10035	00	V	850	30	2.9	-0.4	-0.8
10393	12	V	850	30	3.2	0.2	-0.8
10393	00	V	850	30	2.1	-0.1	-0.6
10410	12	V	850	30	2.3	-0.3	0.1
10410	00	V	850	30	2.4	-0.4	-0.8
10739	00	V	850	30	2.1	0.0	0.0
10739	12	V	850	29	2.1	-0.5	0.1
11035	00	V	850	30	3.0	-0.5	-0.2
11035	12	V	850	30	3.3	0.2	0.3
12982	00	V	850	30	2.1	-0.2	0.3
12982	12	V	850	30	3.0	-0.3	0.3
16245	00	V	850	28	2.7	0.6	-0.5
16245	12	V	850	28	2.4	-0.2	-0.3
16429	12	V	850	30	2.5	0.2	0.0
16429	00	V	850	27	2.2	0.4	0.0
16622	12	V	850	4	2.0	0.3	0.9
16622	00	V	850	29	2.5	0.0	-0.4
16754	00	V	850	26	3.0	1.2	-0.7
17607	12	V	850	25	3.5	1.1	0.6
26435	12	V	850	15	2.5	0.9	-0.6

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
2EERVT	12	V	850	0	0.0	0.0	0.0
2EERVT	00	V	850	0	0.0	0.0	0.0
2TDJJ8	12	V	850	2	4.6	-1.5	3.8
60018	00	V	850	30	3.1	0.4	0.1
60018	12	V	850	30	2.4	0.0	-0.1
7JUNA4	12	V	850	8	2.6	-0.1	-0.4
7JUNA4	00	V	850	6	2.3	-1.1	0.6
9ZT9MR	12	V	850	7	2.8	-0.4	0.5
9ZT9MR	00	V	850	6	5.6	-2.5	-0.6
ASDE09	12	V	850	1	0.4	-0.3	0.3
ATGU3F	00	V	850	3	2.2	-0.7	-0.5
ATGU3F	12	V	850	5	3.8	-0.4	2.5
JNKN7J	12	V	850	12	3.4	-0.8	0.9
JNKN7J	00	V	850	13	2.7	-0.5	-0.5
KJJF9X	12	V	850	4	1.3	0.5	0.6
KJJF9X	00	V	850	5	5.7	2.4	-0.5
KMPLHP	12	V	850	10	2.1	0.1	0.9
KMPLHP	00	V	850	12	4.6	1.9	-0.1
LRYQE3	12	V	850	10	3.1	-0.1	0.7
LRYQE3	00	V	850	6	3.1	0.6	0.1
WDK38H	12	V	850	15	2.4	0.1	0.4
XKQLWQ	12	V	850	20	2.6	0.4	-1.0
YLV96W	12	V	850	7	2.6	0.4	1.1
YLV96W	00	V	850	8	4.2	-1.2	-0.8
ZVQEQC	12	V	850	26	2.6	0.0	0.2

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 : NOV 2024
STANDARD OF COMPARISON: FIRST-GUESS FIELD

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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
1000044	99	P	SUR	55	10	117	0	0.4	-3.4	3.4
1300001	99	P	SUR	11	-23	704	0	0.3	0.3	0.4
1300008	99	P	SUR	15	-38	472	0	0.3	0.2	0.3
1300130	99	P	SUR	28	-16	708	0	0.3	0.2	0.4
1300131	99	P	SUR	28	-17	708	0	0.3	0.0	0.3
1301712	99	P	SUR	24	-63	574	0	0.4	-0.2	0.4
1301714	99	P	SUR	29	-65	717	0	0.3	0.0	0.3
1301718	99	P	SUR	33	-41	717	0	0.3	-0.2	0.4
1301725	99	P	SUR	33	-44	717	0	0.4	-0.2	0.4
1301726	99	P	SUR	27	-51	715	0	0.4	-0.1	0.4
1301731	99	P	SUR	21	-53	716	0	0.6	-0.2	0.7
1301735	99	P	SUR	24	-45	717	0	0.3	-1.3	1.3
1301736	99	P	SUR	33	-39	717	0	0.3	-0.1	0.3
1301737	99	P	SUR	29	-60	616	0	0.3	-0.2	0.4
1301767	99	P	SUR	26	-26	717	0	0.5	-0.8	1.0
1301769	99	P	SUR	29	-30	717	0	0.2	-0.1	0.3
1301770	99	P	SUR	28	-52	717	0	0.3	-0.1	0.3
1301771	99	P	SUR	26	-27	712	0	0.3	-0.2	0.3
1301773	99	P	SUR	29	-20	716	0	0.3	-0.1	0.3
1301778	99	P	SUR	22	-29	717	0	0.2	-0.2	0.3
1301782	99	P	SUR	57	-51	716	1	0.3	-0.1	0.3
1301784	99	P	SUR	38	-22	717	0	0.4	0.0	0.4
1301785	99	P	SUR	35	-19	715	0	0.4	0.0	0.4
1301786	99	P	SUR	37	-28	706	0	0.3	0.1	0.3
1301787	99	P	SUR	30	-14	711	0	0.3	-0.3	0.4
1301788	99	P	SUR	33	-11	713	0	0.3	0.0	0.3
1301793	99	P	SUR	64	-15	631	0	0.6	0.4	0.8
1301794	99	P	SUR	29	-19	528	0	0.3	0.1	0.3
1301797	99	P	SUR	19	-57	669	0	0.5	0.0	0.5
1301798	99	P	SUR	31	-41	715	0	0.3	0.2	0.4
1301799	99	P	SUR	28	-30	704	0	0.3	0.0	0.3
1301800	99	P	SUR	77	9	714	0	2.7	-0.8	2.8
1301801	99	P	SUR	61	-7	714	0	0.5	0.4	0.6
1301802	99	P	SUR	67	12	717	0	0.4	-0.3	0.5
1301804	99	P	SUR	60	-23	716	0	0.5	-0.7	0.9
1301807	99	P	SUR	76	23	717	27	1.8	0.2	1.8

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
1301810	99	P	SUR	39	-39	717	0	0.5	-0.3	0.6
1301811	99	P	SUR	41	-34	712	0	0.4	0.0	0.5
1301812	99	P	SUR	39	-41	124	0	0.4	-0.1	0.4
1301814	99	P	SUR	44	-23	714	0	0.4	0.0	0.4
1301816	99	P	SUR	45	-34	717	0	0.4	0.1	0.4
1301817	99	P	SUR	33	-66	714	0	0.4	0.0	0.4
1301818	99	P	SUR	33	-67	717	0	0.4	0.0	0.4
1301819	99	P	SUR	26	-26	717	0	0.3	-0.3	0.4
1301820	99	P	SUR	30	-30	718	0	0.4	-0.2	0.4
1301822	99	P	SUR	24	-32	717	0	0.3	0.1	0.3
1301823	99	P	SUR	27	-30	716	0	0.3	-0.1	0.3
1501638	99	P	SUR	16	-60	704	0	0.4	-0.1	0.4
1701715	99	P	SUR	25	-59	661	0	0.4	-0.2	0.4
1801561	99	P	SUR	26	-68	1767	0	0.3	0.0	0.3
1801607	99	P	SUR	19	-67	2834	0	0.4	0.2	0.4
1801670	99	P	SUR	47	-45	269	0	0.6	0.1	0.6
1801671	99	P	SUR	47	-26	715	0	0.4	-0.2	0.5
1801673	99	P	SUR	50	-44	712	0	2.5	0.2	2.5
1801674	99	P	SUR	39	-27	713	0	0.4	-1.5	1.6
1801675	99	P	SUR	50	-49	588	0	0.7	0.2	0.8
1801676	99	P	SUR	48	-43	709	0	0.5	-0.1	0.5
1801678	99	P	SUR	30	-15	715	0	0.3	0.3	0.4
1801716	99	P	SUR	21	-32	269	0	0.2	0.0	0.2
1801777	99	P	SUR	41	-30	707	0	0.5	0.1	0.5
1801778	99	P	SUR	49	-43	704	0	0.4	0.2	0.5
1801853	99	P	SUR	53	-56	707	0	0.4	0.0	0.4
2801966	99	P	SUR	31	17	692	0	1.4	-0.3	1.5
2801968	99	P	SUR	44	-47	703	0	0.5	0.0	0.5
2802007	99	P	SUR	17	-26	402	0	0.2	0.0	0.2
2802008	99	P	SUR	65	-40	621	0	0.9	-0.1	1.0
2802010	99	P	SUR	22	-32	147	0	0.3	-0.1	0.3
2802062	99	P	SUR	87	25	719	0	0.4	-0.1	0.4
2802063	99	P	SUR	88	10	719	0	0.4	-0.2	0.5
2802077	99	P	SUR	61	-61	132	96	3.6	-1.3	3.8
2802100	99	P	SUR	66	-7	683	0	0.7	0.3	0.8
2802123	99	P	SUR	15	-21	715	0	0.4	-0.1	0.4
2802124	99	P	SUR	18	-23	710	0	0.3	0.0	0.3
2802160	99	P	SUR	47	-55	716	0	0.4	0.4	0.6
3801569	99	P	SUR	46	-30	143	0	1.6	-2.2	2.8
3801571	99	P	SUR	55	-52	674	0	0.5	0.0	0.5
3801575	99	P	SUR	50	-48	592	0	0.7	-0.1	0.7
3801596	99	P	SUR	36	-39	717	0	0.5	-0.3	0.6
3801598	99	P	SUR	37	-62	714	0	0.4	-0.1	0.4

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
3801612	99	P	SUR	17	-30	150	0	0.2	0.0	0.2
3801625	99	P	SUR	17	-28	383	0	0.2	0.3	0.4
3801676	99	P	SUR	69	-5	707	0	0.5	0.3	0.5
3801702	99	P	SUR	61	-49	717	0	0.4	-0.1	0.4
4100040	99	P	SUR	15	-53	4281	0	0.3	-1.2	1.2
4100043	99	P	SUR	21	-65	4282	0	0.4	-0.1	0.4
4100044	99	P	SUR	22	-59	4271	0	0.4	-0.4	0.6
4100049	99	P	SUR	28	-62	4284	0	0.4	-0.5	0.6
4100052	99	P	SUR	18	-65	4252	0	0.4	-1.3	1.3
4100053	99	P	SUR	18	-66	4266	0	0.4	-1.0	1.1
4100056	99	P	SUR	18	-65	4249	0	0.4	-1.1	1.2
4100139	99	P	SUR	20	-38	138	0	0.2	0.1	0.2
4100300	99	P	SUR	16	-57	705	0	0.4	-0.1	0.4
4101665	99	P	SUR	67	-6	716	0	0.5	-0.3	0.5
4101725	99	P	SUR	18	-63	706	0	0.4	-0.3	0.5
4101727	99	P	SUR	30	-65	704	0	0.4	0.1	0.4
4101728	99	P	SUR	33	-55	704	0	0.5	0.3	0.6
4101729	99	P	SUR	26	-55	704	3	2.8	-0.4	2.8
4101753	99	P	SUR	31	-47	703	0	0.3	0.2	0.4
4101755	99	P	SUR	34	-65	703	0	0.7	0.1	0.7
4101845	99	P	SUR	74	18	717	0	0.5	0.1	0.5
4101851	99	P	SUR	28	-60	717	0	0.3	-1.1	1.2
4101859	99	P	SUR	17	-53	716	0	0.4	-0.2	0.4
4101861	99	P	SUR	28	-49	717	0	0.4	0.2	0.4
4101862	99	P	SUR	16	-52	717	0	0.4	-0.5	0.6
4101863	99	P	SUR	20	-39	717	0	0.3	-0.2	0.3
4101870	99	P	SUR	20	-30	715	0	0.2	-0.2	0.3
4101873	99	P	SUR	26	-23	717	0	0.3	-0.3	0.5
4101875	99	P	SUR	24	-25	714	0	0.2	0.0	0.2
41040	99	P	SUR	15	-53	714	0	0.3	-1.2	1.2
41043	99	P	SUR	21	-65	716	0	0.4	-0.1	0.4
41044	99	P	SUR	22	-59	713	0	0.4	-0.4	0.6
41049	99	P	SUR	28	-62	716	0	0.4	-0.5	0.6
41052	99	P	SUR	18	-65	720	0	0.4	-1.3	1.3
41053	99	P	SUR	19	-66	719	0	0.4	-1.0	1.1
41056	99	P	SUR	18	-66	719	0	0.4	-1.1	1.2
4200060	99	P	SUR	16	-63	4285	0	0.4	-0.5	0.6
4200085	99	P	SUR	18	-67	4229	0	0.5	-0.9	1.0
42060	99	P	SUR	16	-63	716	0	0.4	-0.5	0.6
42085	99	P	SUR	18	-67	718	0	0.5	-0.9	1.0
4400011	99	P	SUR	41	-67	4286	0	0.5	0.2	0.5
4400027	99	P	SUR	44	-67	4282	0	0.5	-0.9	1.0
4400032	99	P	SUR	44	-69	719	0	0.5	-0.4	0.6

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
4400033	99	P	SUR	44	-69	717	0	0.5	-1.5	1.6
4400034	99	P	SUR	44	-68	719	0	0.5	-0.6	0.7
4400488	99	P	SUR	45	-61	714	0	0.5	-0.1	0.5
4400489	99	P	SUR	45	-61	702	0	0.6	-0.2	0.6
44011	99	P	SUR	41	-67	716	0	0.5	0.2	0.5
4401584	99	P	SUR	33	-62	704	0	0.4	-0.1	0.4
4401588	99	P	SUR	69	15	593	0	0.5	0.0	0.5
4402618	99	P	SUR	38	-36	662	0	0.4	0.0	0.4
4402656	99	P	SUR	28	-39	715	0	0.3	-0.5	0.6
4402674	99	P	SUR	26	-62	716	0	0.4	0.1	0.4
4402675	99	P	SUR	31	-67	717	0	0.4	-0.1	0.4
4402676	99	P	SUR	30	-36	716	0	0.3	-0.1	0.3
44027	99	P	SUR	44	-67	712	0	0.5	-0.9	1.0
4402721	99	P	SUR	19	-60	717	0	0.5	0.2	0.5
4402729	99	P	SUR	53	-14	715	0	0.4	0.1	0.4
4402730	99	P	SUR	36	-31	657	0	0.5	-0.2	0.5
4402731	99	P	SUR	45	-26	689	0	0.5	0.0	0.5
4402733	99	P	SUR	50	-27	716	0	0.6	0.0	0.6
4402736	99	P	SUR	25	-27	717	0	0.3	-0.2	0.3
4402737	99	P	SUR	54	-37	715	0	0.4	-0.3	0.5
4402739	99	P	SUR	41	-19	717	0	0.4	0.0	0.4
4402743	99	P	SUR	28	-32	716	0	0.3	-1.3	1.3
4402744	99	P	SUR	35	-57	717	0	0.4	-0.1	0.4
4402747	99	P	SUR	34	-26	717	0	0.3	-0.1	0.3
4402749	99	P	SUR	62	-12	717	0	0.4	-0.1	0.5
4402750	99	P	SUR	53	-35	716	0	0.4	-0.5	0.7
4402882	99	P	SUR	34	-48	453	0	0.4	0.3	0.5
4402884	99	P	SUR	25	-62	671	0	0.4	0.3	0.5
4402885	99	P	SUR	25	-43	11	0	0.2	0.4	0.4
44032	99	P	SUR	44	-69	715	0	0.5	-0.4	0.7
44033	99	P	SUR	44	-69	713	0	0.5	-1.5	1.5
44034	99	P	SUR	44	-68	715	0	0.5	-0.5	0.8
4403568	99	P	SUR	32	-40	715	0	0.3	0.0	0.3
44078	99	P	SUR	60	-40	714	0	0.5	-0.8	1.0
44137	99	P	SUR	42	-62	708	0	0.5	-0.3	0.6
44139	99	P	SUR	44	-57	655	0	0.4	-0.2	0.5
44150	99	P	SUR	43	-64	389	0	0.6	-0.3	0.6
44258	99	P	SUR	45	-63	699	0	0.6	-0.2	0.6
44488	99	P	SUR	45	-61	704	0	0.5	-0.2	0.5
44489	99	P	SUR	46	-61	693	0	0.6	-0.1	0.6
4601782	99	P	SUR	30	-49	717	0	0.4	0.4	0.6
4701529	99	P	SUR	85	17	706	0	0.4	0.0	0.5
4701530	99	P	SUR	83	-3	706	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
4701555	99	P	SUR	64	-22	28	0	0.3	-6.0	6.0
4701558	99	P	SUR	79	-18	60	0	0.4	-4.5	4.5
4701561	99	P	SUR	66	-21	706	0	0.8	-0.2	0.8
4801771	99	P	SUR	55	-25	719	719	0.0	0.0	0.0
4802506	99	P	SUR	58	-8	719	0	0.4	-0.4	0.6
4802582	99	P	SUR	56	-40	706	68	4.5	-1.1	4.6
4802594	99	P	SUR	82	-18	706	0	0.5	-0.4	0.6
4802608	99	P	SUR	81	-10	706	0	0.6	-0.2	0.6
4802664	99	P	SUR	83	-59	719	0	0.5	0.0	0.5
4802669	99	P	SUR	79	-6	593	0	0.6	-0.2	0.7
4803997	99	P	SUR	49	-43	706	0	0.4	-0.3	0.5
4804003	99	P	SUR	58	-56	704	0	0.3	0.0	0.3
4804016	99	P	SUR	15	-47	694	0	0.3	0.0	0.3
4804120	99	P	SUR	64	2	695	0	0.5	0.3	0.6
4804127	99	P	SUR	21	-20	710	0	0.3	0.0	0.3
4804128	99	P	SUR	39	12	709	0	0.3	-0.1	0.3
4804130	99	P	SUR	14	-22	713	0	0.3	-0.4	0.5
5801955	99	P	SUR	17	-66	2964	0	0.4	0.1	0.4
5801972	99	P	SUR	42	-49	705	0	0.5	0.0	0.5
5801975	99	P	SUR	38	-33	612	0	0.4	0.0	0.4
5801976	99	P	SUR	50	-25	701	0	0.5	-0.1	0.5
5801977	99	P	SUR	18	-63	701	0	0.4	-0.1	0.5
5801983	99	P	SUR	29	-20	650	0	0.3	0.0	0.3
5802011	99	P	SUR	17	-27	390	0	0.2	0.1	0.2
5802019	99	P	SUR	45	-41	238	1	0.5	0.1	0.5
5802026	99	P	SUR	45	-35	273	0	0.4	-0.2	0.4
5802033	99	P	SUR	22	-30	273	0	0.2	-0.1	0.2
5802034	99	P	SUR	49	-1	681	0	0.4	-0.6	0.7
5802070	99	P	SUR	76	28	706	0	0.7	0.0	0.7
5802086	99	P	SUR	85	-47	719	0	0.5	0.0	0.5
5802095	99	P	SUR	62	-20	703	0	0.5	-0.1	0.5
5802096	99	P	SUR	65	-21	714	0	0.6	-0.5	0.8
5802112	99	P	SUR	20	-21	711	0	0.3	0.1	0.3
5802115	99	P	SUR	38	18	705	0	0.3	0.1	0.3
5802118	99	P	SUR	18	-21	704	0	0.2	0.1	0.3
5802156	99	P	SUR	88	-21	719	0	0.4	-0.2	0.5
6100001	99	P	SUR	43	8	690	0	0.5	-0.3	0.6
6100002	99	P	SUR	42	5	705	0	0.4	-0.2	0.4
6100196	99	P	SUR	42	4	417	0	0.5	-0.1	0.5
6100197	99	P	SUR	40	4	708	0	0.4	0.2	0.4
6100198	99	P	SUR	37	-2	366	0	0.4	0.2	0.4
6100280	99	P	SUR	41	1	707	0	0.5	0.2	0.5
6100281	99	P	SUR	40	0	297	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
6100417	99	P	SUR	38	0	707	0	0.4	0.4	0.5
6100430	99	P	SUR	40	2	707	0	0.4	0.2	0.4
6101007	99	P	SUR	36	25	172	0	0.4	-0.7	0.8
6101031	99	P	SUR	42	8	704	0	0.3	-0.1	0.3
6101032	99	P	SUR	42	10	688	1	0.4	-0.3	0.5
6101034	99	P	SUR	42	6	572	0	0.4	-0.3	0.5
6101035	99	P	SUR	40	7	54	0	0.2	-0.4	0.5
6200001	99	P	SUR	45	-5	702	0	0.3	0.0	0.3
6200024	99	P	SUR	44	-3	662	0	0.4	0.2	0.5
6200025	99	P	SUR	44	-6	704	0	0.5	0.3	0.6
6200050	99	P	SUR	50	-4	551	0	0.3	-0.1	0.3
6200083	99	P	SUR	43	-9	705	0	0.5	0.1	0.5
6200084	99	P	SUR	42	-9	704	0	0.5	0.0	0.5
6200085	99	P	SUR	36	-7	561	0	0.4	0.0	0.5
6200086	99	P	SUR	55	7	110	0	2.0	-0.6	2.1
6200087	99	P	SUR	55	7	132	0	0.3	-0.4	0.5
6200091	99	P	SUR	53	-5	715	0	0.4	-0.1	0.4
6200092	99	P	SUR	51	-11	715	0	0.4	-0.2	0.5
6200093	99	P	SUR	55	-10	715	0	0.4	-0.2	0.5
6200094	99	P	SUR	52	-7	715	0	0.4	-0.2	0.4
6200095	99	P	SUR	53	-16	715	0	0.4	-0.2	0.5
6200103	99	P	SUR	50	-3	705	0	0.3	0.0	0.3
6200163	99	P	SUR	47	-8	705	0	0.3	-0.2	0.4
6200442	99	P	SUR	49	-16	705	0	0.4	-0.2	0.4
6201066	99	P	SUR	55	7	648	0	0.4	0.2	0.4
6202113	99	P	SUR	54	7	65	0	0.4	0.1	0.4
6202114	99	P	SUR	54	6	116	0	0.4	-0.1	0.5
6202598	99	P	SUR	29	-25	704	0	0.3	-0.2	0.4
62030	99	P	SUR	50	-4	990	0	0.3	-0.2	0.4
6203607	99	P	SUR	27	-50	558	0	4.1	2.3	4.7
6203612	99	P	SUR	48	-25	704	0	0.5	0.2	0.5
6203615	99	P	SUR	36	-55	704	0	0.6	-0.2	0.6
6203621	99	P	SUR	26	-67	701	0	1.5	0.2	1.5
6203625	99	P	SUR	30	-52	704	0	0.4	-0.3	0.5
6203632	99	P	SUR	35	-53	703	0	2.0	0.0	2.0
6203634	99	P	SUR	29	-47	704	0	0.3	0.2	0.4
6203639	99	P	SUR	29	-42	704	0	0.9	-0.3	0.9
6203651	99	P	SUR	31	-19	653	0	0.3	-0.1	0.3
6203656	99	P	SUR	59	-38	703	0	0.6	-0.1	0.6
6203663	99	P	SUR	81	15	683	3	3.1	-0.1	3.1
6203664	99	P	SUR	71	5	571	0	1.5	0.3	1.5
6203668	99	P	SUR	80	14	701	17	1.9	-0.3	1.9
6203669	99	P	SUR	80	16	705	0	0.6	-0.1	0.6

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6203753	99	P	SUR	53	-34	716	0	0.4	-0.5	0.7
6203771	99	P	SUR	26	-54	642	0	0.3	-0.1	0.4
6203772	99	P	SUR	35	-67	658	0	0.4	-0.1	0.5
6203773	99	P	SUR	34	-28	645	0	0.4	-0.7	0.8
6203823	99	P	SUR	66	12	713	0	0.9	-0.1	0.9
6203825	99	P	SUR	74	20	717	0	0.5	0.2	0.5
6203830	99	P	SUR	63	-6	717	0	0.5	-0.1	0.5
6203831	99	P	SUR	62	-17	205	0	0.4	0.6	0.7
6203832	99	P	SUR	62	-15	717	0	0.5	0.3	0.5
6203837	99	P	SUR	61	-12	338	0	0.5	0.3	0.6
6203839	99	P	SUR	33	-50	716	0	0.3	-0.4	0.5
6203842	99	P	SUR	28	-53	717	0	0.3	0.0	0.3
6203846	99	P	SUR	30	-44	716	0	0.3	-0.3	0.5
6203849	99	P	SUR	36	-64	716	0	0.4	0.0	0.4
6203853	99	P	SUR	75	38	715	8	2.7	-0.7	2.8
6203854	99	P	SUR	56	-27	716	0	0.5	0.3	0.5
6203865	99	P	SUR	50	-5	717	0	0.3	0.0	0.3
6203890	99	P	SUR	12	-46	716	0	0.4	-0.3	0.5
6203894	99	P	SUR	23	-33	711	0	0.3	-0.1	0.3
6204603	99	P	SUR	42	5	640	0	0.4	0.4	0.6
6204604	99	P	SUR	37	11	641	0	0.2	-2.3	2.3
6204613	99	P	SUR	42	6	713	0	0.3	-0.5	0.6
62050	99	P	SUR	50	-4	1434	0	0.4	-0.1	0.4
62091	99	P	SUR	53	-5	715	0	0.4	-0.1	0.4
62092	99	P	SUR	51	-11	715	0	0.4	-0.2	0.5
62093	99	P	SUR	55	-10	715	0	0.4	-0.2	0.5
62094	99	P	SUR	52	-7	715	0	0.4	-0.2	0.4
62095	99	P	SUR	53	-16	715	0	0.4	-0.2	0.5
62102	99	P	SUR	58	2	1316	0	0.4	0.1	0.4
62103	99	P	SUR	50	-3	1435	0	0.3	0.0	0.3
62104	99	P	SUR	57	1	1425	0	0.4	-0.2	0.4
62105	99	P	SUR	55	-13	1435	0	0.9	-0.2	0.9
62107	99	P	SUR	50	-6	1435	0	0.4	-0.5	0.6
62112	99	P	SUR	58	0	1425	0	0.4	0.1	0.4
62113	99	P	SUR	58	0	1425	0	0.6	-0.1	0.6
62114	99	P	SUR	58	0	1425	0	0.5	0.1	0.5
62115	99	P	SUR	58	-3	1425	0	0.4	-0.2	0.4
62116	99	P	SUR	58	1	1425	0	0.4	-0.1	0.4
62118	99	P	SUR	58	1	1395	0	0.4	0.2	0.4
62119	99	P	SUR	57	2	1425	0	0.4	0.0	0.4
62120	99	P	SUR	56	2	1403	0	0.5	-0.2	0.5
62121	99	P	SUR	54	3	1377	0	0.6	0.2	0.6
62122	99	P	SUR	57	2	1425	0	0.4	0.0	0.4

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
62124	99	P	SUR	54	-4	1425	0	0.3	0.0	0.3
62127	99	P	SUR	54	1	1425	0	0.3	0.1	0.3
62129	99	P	SUR	58	0	1425	0	0.5	0.1	0.5
62130	99	P	SUR	59	1	1425	0	0.4	-0.3	0.6
62131	99	P	SUR	54	1	1425	0	0.3	0.4	0.5
62132	99	P	SUR	56	2	1381	0	0.6	0.5	0.8
62133	99	P	SUR	57	1	1423	0	0.4	0.0	0.4
62134	99	P	SUR	58	1	1425	0	0.3	0.2	0.4
62135	99	P	SUR	54	2	114	0	0.3	0.4	0.5
62138	99	P	SUR	54	0	1423	0	0.4	0.4	0.6
62140	99	P	SUR	57	1	1425	0	0.4	0.0	0.4
62143	99	P	SUR	58	2	1425	0	0.5	0.6	0.8
62144	99	P	SUR	53	2	1425	0	0.4	0.0	0.4
62145	99	P	SUR	53	3	1407	0	0.4	0.1	0.4
62146	99	P	SUR	57	2	1425	0	0.5	0.2	0.6
62148	99	P	SUR	54	2	1021	0	0.7	0.4	0.8
62149	99	P	SUR	54	1	1425	0	0.3	0.2	0.4
62151	99	P	SUR	57	2	1425	0	0.3	0.2	0.3
62152	99	P	SUR	57	2	1425	0	0.4	0.4	0.6
62153	99	P	SUR	57	2	1177	0	0.4	0.3	0.5
62154	99	P	SUR	56	2	1423	0	0.3	0.0	0.3
62155	99	P	SUR	58	1	1425	0	0.4	0.3	0.5
62157	99	P	SUR	58	0	1421	0	0.4	-0.3	0.5
62160	99	P	SUR	57	2	1425	0	0.3	0.1	0.3
62161	99	P	SUR	58	1	1425	0	0.6	-0.2	0.7
62162	99	P	SUR	57	1	1419	0	0.4	-0.1	0.4
62163	99	P	SUR	48	-9	1435	0	0.3	-0.2	0.3
62164	99	P	SUR	57	1	1425	0	0.3	0.3	0.5
62165	99	P	SUR	54	1	1413	0	0.6	0.3	0.7
62168	99	P	SUR	58	1	1425	0	0.4	0.0	0.4
62170	99	P	SUR	51	2	1270	0	0.4	-0.2	0.5
62297	99	P	SUR	59	2	1425	0	0.6	-0.2	0.6
62302	99	P	SUR	61	-2	1404	0	0.6	-0.2	0.7
62304	99	P	SUR	51	2	1435	0	0.4	-0.1	0.4
62305	99	P	SUR	50	0	1435	0	0.4	-0.4	0.6
62442	99	P	SUR	49	-16	1435	0	0.4	-0.2	0.4
6301001	99	P	SUR	64	5	692	0	0.4	0.0	0.5
6301004	99	P	SUR	72	20	675	7	1.4	-0.3	1.5
6301582	99	P	SUR	73	1	703	20	2.0	0.8	2.2
63055	99	P	SUR	61	2	1348	0	0.5	0.0	0.5
63056	99	P	SUR	60	2	1425	0	0.6	0.3	0.6
63057	99	P	SUR	59	2	1425	0	0.4	-0.5	0.7
63058	99	P	SUR	53	2	914	0	0.3	-0.1	0.3

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
63059	99	P	SUR	58	-1	1425	0	0.4	0.3	0.5
63102	99	P	SUR	61	1	1425	0	0.6	0.1	0.6
63103	99	P	SUR	61	1	1425	0	0.6	0.2	0.6
63108	99	P	SUR	61	2	1425	0	0.6	0.0	0.6
63109	99	P	SUR	60	2	1417	0	0.4	-0.5	0.6
63110	99	P	SUR	60	2	1419	0	0.4	-0.3	0.5
63111	99	P	SUR	61	2	1425	0	0.5	-0.5	0.7
63112	99	P	SUR	61	1	1425	0	0.4	-0.4	0.6
63115	99	P	SUR	62	1	1417	0	0.7	0.2	0.7
63118	99	P	SUR	58	0	1425	0	0.4	-0.3	0.5
6400045	99	P	SUR	59	-12	705	0	0.4	-0.3	0.5
6401583	99	P	SUR	61	-14	674	94	1.2	0.2	1.2
6401603	99	P	SUR	74	11	704	63	2.0	0.4	2.1
6401604	99	P	SUR	88	-58	700	0	0.5	0.2	0.5
6401759	99	P	SUR	64	-23	704	0	0.7	0.0	0.7
6401763	99	P	SUR	66	12	704	0	0.5	0.2	0.5
6402596	99	P	SUR	58	-45	1	0	0.0	-7.7	7.7
6402616	99	P	SUR	27	-46	717	0	0.3	-0.2	0.4
6402617	99	P	SUR	32	-56	717	0	0.3	0.1	0.4
6402618	99	P	SUR	19	-51	716	0	0.4	-0.1	0.4
6402619	99	P	SUR	20	-54	717	0	0.4	-0.1	0.4
6402621	99	P	SUR	28	-27	717	0	0.2	0.2	0.3
6402622	99	P	SUR	25	-34	717	0	0.3	0.0	0.3
6402634	99	P	SUR	39	2	606	0	0.3	0.0	0.3
6402635	99	P	SUR	39	2	605	0	0.3	-0.1	0.3
6402636	99	P	SUR	39	1	584	0	0.3	-0.2	0.4
6402637	99	P	SUR	38	1	411	0	0.6	-0.2	0.7
6402638	99	P	SUR	39	3	401	0	0.3	0.0	0.3
64041	99	P	SUR	61	-3	1425	0	0.5	-0.2	0.5
64045	99	P	SUR	59	-12	1435	0	0.4	-0.4	0.6
6600021	99	P	SUR	55	14	72	0	0.4	-1.0	1.1
6600022	99	P	SUR	54	14	194	0	0.5	-0.4	0.6
6600024	99	P	SUR	55	13	141	0	0.5	-1.3	1.3
6801771	99	P	SUR	51	-42	715	0	0.6	-0.2	0.6
6801790	99	P	SUR	38	-22	669	0	0.4	0.0	0.4
6801791	99	P	SUR	30	-33	717	0	0.3	0.2	0.4
6801879	99	P	SUR	14	-30	704	0	0.3	0.1	0.3
6801900	99	P	SUR	86	-47	710	0	0.5	0.2	0.5
6801907	99	P	SUR	67	-11	711	0	0.6	0.2	0.6
6801922	99	P	SUR	18	-23	716	0	0.3	-0.1	0.3
6801928	99	P	SUR	39	5	709	0	0.4	-0.2	0.4
6801929	99	P	SUR	18	-22	712	0	0.3	0.1	0.3
7801571	99	P	SUR	47	-47	245	0	0.5	0.3	0.5

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
7801572	99	P	SUR	20	-59	701	0	0.4	-0.1	0.5
7801588	99	P	SUR	29	-24	623	0	0.3	0.1	0.3
7801616	99	P	SUR	23	-27	313	0	0.2	-0.2	0.3
7801627	99	P	SUR	12	-30	249	0	0.2	0.3	0.4
7801697	99	P	SUR	41	-27	707	0	0.4	-0.2	0.4
7801699	99	P	SUR	32	-61	707	0	0.4	0.1	0.4
7801722	99	P	SUR	85	-66	712	0	0.4	-0.5	0.7
7801742	99	P	SUR	22	-21	708	0	0.3	-0.1	0.3
7801755	99	P	SUR	22	-21	717	0	0.3	-0.2	0.3
7810292	99	P	SUR	41	-33	511	0	0.5	0.2	0.5
7810293	99	P	SUR	39	-43	302	0	0.4	0.0	0.4
7810295	99	P	SUR	44	-38	716	0	0.5	-0.2	0.5
7810297	99	P	SUR	31	-47	715	0	0.4	0.0	0.4
7810298	99	P	SUR	36	-57	720	0	0.4	-0.2	0.5
7810310	99	P	SUR	42	-31	701	0	0.6	-0.1	0.6
7810312	99	P	SUR	36	-69	717	0	0.4	-0.1	0.4
7810313	99	P	SUR	41	-66	692	0	0.6	0.4	0.7
7810314	99	P	SUR	38	-57	725	0	0.5	-0.1	0.5
7810315	99	P	SUR	42	-25	715	0	0.4	0.0	0.4
7810316	99	P	SUR	39	-30	712	0	0.4	0.0	0.4
7810317	99	P	SUR	39	-31	717	0	0.4	-0.1	0.4
7810318	99	P	SUR	35	-55	714	0	0.3	0.1	0.4
7810319	99	P	SUR	47	-29	713	0	0.5	0.1	0.5
7810320	99	P	SUR	36	-61	714	0	0.4	0.0	0.4
7810321	99	P	SUR	36	-43	715	0	0.4	0.1	0.4
7810322	99	P	SUR	24	-68	703	0	0.4	0.3	0.5
7810323	99	P	SUR	27	-61	699	0	0.4	0.1	0.4
7810324	99	P	SUR	33	-66	704	0	0.4	0.0	0.4
7810325	99	P	SUR	31	-64	713	0	0.4	-0.1	0.4
7810329	99	P	SUR	36	-69	716	0	0.5	0.2	0.5
7810332	99	P	SUR	34	-66	713	0	0.4	0.0	0.4
7810377	99	P	SUR	35	-69	711	0	0.4	0.1	0.4
7810378	99	P	SUR	35	-69	715	0	0.4	0.1	0.4
7810379	99	P	SUR	38	-45	716	0	0.4	0.1	0.4
7810380	99	P	SUR	37	-63	719	0	0.4	0.3	0.5
7811002	99	P	SUR	52	-56	714	0	0.4	0.2	0.4
9334674	99	P	SUR	27	-59	5	0	0.6	3.6	3.7

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

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

TIME = 99 => AVERAGE OF ALL OBSERVATIONS

GROSS ERROR LIMIT FOR VECTOR WIND = 25 M/S

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
1000044	99	SPEED	SUR	55	10	117	0	0	1.5	1.6	2.2
1300001	99	SPEED	SUR	11	-23	704	0	0	0.8	0.7	1.0
1300008	99	SPEED	SUR	15	-38	472	0	0	0.6	0.1	0.6
1300130	99	SPEED	SUR	28	-16	689	0	0	1.7	0.0	1.7
1300131	99	SPEED	SUR	28	-17	666	0	0	1.7	0.2	1.7
1801561	99	SPEED	SUR	26	-68	221	0	0	1.1	0.3	1.2
1801607	99	SPEED	SUR	19	-67	2834	0	0	1.4	0.5	1.5
4100040	99	SPEED	SUR	15	-53	4283	0	0	1.0	-0.1	1.0
4100043	99	SPEED	SUR	21	-65	4279	0	0	1.3	0.2	1.3
4100044	99	SPEED	SUR	22	-59	4283	0	0	1.4	-0.1	1.4
4100049	99	SPEED	SUR	28	-62	4283	0	0	1.2	-0.2	1.2
4100052	99	SPEED	SUR	18	-65	4251	0	0	1.7	0.1	1.7
4100053	99	SPEED	SUR	18	-66	4266	0	0	1.8	0.7	2.0
4100056	99	SPEED	SUR	18	-65	4249	0	0	1.7	0.0	1.8
4100139	99	SPEED	SUR	20	-38	118	0	0	1.1	0.0	1.1
4100300	99	SPEED	SUR	16	-57	705	0	0	1.2	-0.1	1.2
41040	99	SPEED	SUR	15	-53	716	0	0	1.0	-0.4	1.1
41043	99	SPEED	SUR	21	-65	716	0	0	1.4	0.0	1.4
41044	99	SPEED	SUR	22	-59	715	0	0	1.5	-0.3	1.5
41049	99	SPEED	SUR	28	-62	716	0	0	1.4	-0.4	1.4
41052	99	SPEED	SUR	18	-65	719	0	0	1.8	0.1	1.8
41053	99	SPEED	SUR	19	-66	719	0	0	1.9	0.1	1.9
41056	99	SPEED	SUR	18	-66	719	0	0	1.8	-0.2	1.8
4200060	99	SPEED	SUR	16	-63	4285	0	0	1.5	0.4	1.6
4200085	99	SPEED	SUR	18	-67	4229	0	0	1.7	0.2	1.7
42060	99	SPEED	SUR	16	-63	716	0	0	1.6	0.3	1.6
42085	99	SPEED	SUR	18	-67	718	0	0	1.7	0.5	1.8
4400011	99	SPEED	SUR	41	-67	4283	0	0	1.3	-0.5	1.3
4400027	99	SPEED	SUR	44	-67	4282	0	0	1.3	0.2	1.4
4400032	99	SPEED	SUR	44	-69	719	0	0	1.4	0.5	1.5
4400033	99	SPEED	SUR	44	-69	718	0	0	1.6	0.6	1.7
4400034	99	SPEED	SUR	44	-68	719	0	0	1.6	0.3	1.6
4400488	99	SPEED	SUR	45	-61	714	0	0	1.5	0.5	1.5
4400489	99	SPEED	SUR	45	-61	702	0	0	1.7	1.9	2.5

DRIFTER MONITORING STATISTICS (EUCOS)
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND SPEED (M/S)

(CONTINU)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
44011	99	SPEED	SUR	41	-67	716	0	0	1.5	-0.9	1.7
44027	99	SPEED	SUR	44	-67	712	0	0	1.3	-0.2	1.3
44032	99	SPEED	SUR	44	-69	715	0	0	1.4	0.2	1.4
44033	99	SPEED	SUR	44	-69	714	0	0	1.6	0.6	1.7
44034	99	SPEED	SUR	44	-68	715	0	0	1.5	-0.1	1.5
44078	99	SPEED	SUR	60	-40	714	1	0	1.9	-1.6	2.4
44137	99	SPEED	SUR	42	-62	708	0	0	1.3	-0.7	1.5
44139	99	SPEED	SUR	44	-57	652	0	0	1.4	0.0	1.4
44150	99	SPEED	SUR	43	-64	373	15	0	1.5	-0.3	1.5
44258	99	SPEED	SUR	45	-63	699	0	0	1.4	0.5	1.5
44488	99	SPEED	SUR	45	-61	704	0	0	1.5	0.8	1.7
44489	99	SPEED	SUR	46	-61	693	0	0	1.6	1.9	2.5
5801955	99	SPEED	SUR	17	-66	2964	0	0	1.6	0.6	1.7
6100001	99	SPEED	SUR	43	8	687	0	0	1.5	0.1	1.5
6100002	99	SPEED	SUR	42	5	705	0	0	1.4	0.2	1.4
6100196	99	SPEED	SUR	42	4	415	0	0	1.3	-0.4	1.3
6100197	99	SPEED	SUR	40	4	697	0	0	1.3	-0.5	1.4
6100198	99	SPEED	SUR	37	-2	354	0	0	1.3	-0.6	1.4
6100280	99	SPEED	SUR	41	1	700	0	0	1.6	-0.5	1.7
6100281	99	SPEED	SUR	40	0	284	0	0	1.5	0.3	1.5
6100417	99	SPEED	SUR	38	0	695	0	0	1.3	-0.7	1.5
6100430	99	SPEED	SUR	40	2	685	0	0	1.5	-0.4	1.5
6101007	99	SPEED	SUR	36	25	172	0	0	1.6	-0.9	1.9
6101031	99	SPEED	SUR	42	8	704	0	0	1.3	0.3	1.3
6101032	99	SPEED	SUR	42	10	702	0	0	1.7	0.5	1.8
6101034	99	SPEED	SUR	42	6	572	0	0	1.4	0.7	1.6
6101035	99	SPEED	SUR	40	7	54	0	0	0.9	0.9	1.3
6200001	99	SPEED	SUR	45	-5	698	0	0	1.2	-0.6	1.3
6200024	99	SPEED	SUR	44	-3	646	0	0	1.5	-0.7	1.7
6200025	99	SPEED	SUR	44	-6	671	0	0	1.6	-0.6	1.7
6200050	99	SPEED	SUR	50	-4	550	0	0	1.1	0.1	1.1
6200083	99	SPEED	SUR	43	-9	705	0	0	1.3	-0.3	1.3
6200084	99	SPEED	SUR	42	-9	696	0	0	1.3	-0.7	1.5
6200085	99	SPEED	SUR	36	-7	558	0	0	1.5	0.1	1.5
6200086	99	SPEED	SUR	55	7	110	0	0	2.5	1.7	3.0
6200087	99	SPEED	SUR	55	7	129	0	0	1.8	1.1	2.1
6200091	99	SPEED	SUR	53	-5	715	0	0	1.1	0.3	1.2
6200092	99	SPEED	SUR	51	-11	715	0	0	1.3	0.4	1.4
6200093	99	SPEED	SUR	55	-10	715	0	0	1.5	-0.2	1.5
6200094	99	SPEED	SUR	52	-7	715	0	0	1.5	-1.2	1.9
6200095	99	SPEED	SUR	53	-16	715	0	0	1.2	0.2	1.2

DRIFTER MONITORING STATISTICS (EUCOS)
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND SPEED (M/S)

(CONTINU)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
6200103	99	SPEED	SUR	50	-3	705	0	0	1.2	0.2	1.2
6200163	99	SPEED	SUR	47	-8	705	0	0	1.1	-0.1	1.1
6200442	99	SPEED	SUR	49	-16	309	0	0	0.9	-0.5	1.1
6201066	99	SPEED	SUR	55	7	646	0	0	1.5	0.2	1.5
6202113	99	SPEED	SUR	54	7	65	0	0	1.7	0.3	1.8
6202114	99	SPEED	SUR	54	6	115	0	0	1.7	0.2	1.7
62030	99	SPEED	SUR	50	-4	984	0	0	1.6	1.2	2.0
62050	99	SPEED	SUR	50	-4	1432	0	0	1.3	0.1	1.3
62091	99	SPEED	SUR	53	-5	715	0	0	1.1	0.6	1.3
62092	99	SPEED	SUR	51	-11	715	0	0	1.4	0.5	1.5
62093	99	SPEED	SUR	55	-10	715	0	0	1.5	-0.1	1.5
62094	99	SPEED	SUR	52	-7	715	0	0	1.5	-1.1	1.9
62095	99	SPEED	SUR	53	-16	715	0	0	1.2	0.3	1.2
62102	99	SPEED	SUR	58	2	1316	0	0	1.3	-0.1	1.3
62103	99	SPEED	SUR	50	-3	1435	0	0	1.4	0.0	1.4
62104	99	SPEED	SUR	57	1	1423	0	0	1.5	-0.3	1.5
62105	99	SPEED	SUR	55	-13	1435	0	0	1.4	0.5	1.5
62107	99	SPEED	SUR	50	-6	1433	0	0	1.4	0.4	1.5
62112	99	SPEED	SUR	58	0	1141	0	0	1.8	-0.7	1.9
62113	99	SPEED	SUR	58	0	2	0	0	0.0	-1.4	1.4
62114	99	SPEED	SUR	58	0	1419	0	0	1.6	0.6	1.7
62118	99	SPEED	SUR	58	1	1395	0	0	1.6	0.2	1.6
62120	99	SPEED	SUR	56	2	1405	0	0	1.4	-1.0	1.7
62121	99	SPEED	SUR	54	3	1375	0	0	1.3	-0.7	1.4
62122	99	SPEED	SUR	57	2	1425	0	0	1.4	-0.4	1.5
62129	99	SPEED	SUR	58	0	1425	0	0	1.6	0.2	1.6
62131	99	SPEED	SUR	54	1	737	0	0	1.7	0.1	1.7
62133	99	SPEED	SUR	57	1	725	0	0	2.0	-0.2	2.0
62134	99	SPEED	SUR	58	1	1425	0	0	1.5	-1.4	2.0
62140	99	SPEED	SUR	57	1	404	0	0	1.0	0.0	1.0
62143	99	SPEED	SUR	58	2	1425	0	0	2.1	-1.0	2.3
62144	99	SPEED	SUR	53	2	1421	0	0	1.6	-1.1	2.0
62145	99	SPEED	SUR	53	3	1407	0	0	1.3	0.0	1.3
62146	99	SPEED	SUR	57	2	1425	0	0	1.5	0.0	1.5
62148	99	SPEED	SUR	54	2	1021	0	0	1.6	-0.6	1.7
62149	99	SPEED	SUR	54	1	1425	0	0	1.3	-0.1	1.3
62152	99	SPEED	SUR	57	2	1425	0	0	1.6	-1.2	2.0
62154	99	SPEED	SUR	56	2	1423	0	0	1.5	-0.3	1.5
62155	99	SPEED	SUR	58	1	1420	0	0	1.7	0.1	1.7
62163	99	SPEED	SUR	48	-9	1435	0	0	1.1	0.1	1.1
62164	99	SPEED	SUR	57	1	1425	0	0	1.6	-1.4	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
62165	99	SPEED	SUR	54	1	1413	0	0	1.3	-0.5	1.4
62170	99	SPEED	SUR	51	2	1268	0	0	1.4	0.7	1.5
62304	99	SPEED	SUR	51	2	1429	0	0	1.5	0.8	1.7
62442	99	SPEED	SUR	49	-16	621	0	0	0.9	0.0	1.0
6301001	99	SPEED	SUR	64	5	692	0	0	1.5	-0.5	1.5
6301004	99	SPEED	SUR	72	20	675	0	0	1.5	-1.6	2.2
63055	99	SPEED	SUR	61	2	338	0	0	1.4	-1.5	2.1
63056	99	SPEED	SUR	60	2	1423	0	0	1.6	0.4	1.7
63057	99	SPEED	SUR	59	2	1425	0	0	2.2	-1.1	2.5
63058	99	SPEED	SUR	53	2	911	0	0	1.1	-0.6	1.3
63103	99	SPEED	SUR	61	1	1425	0	0	1.7	0.0	1.7
63108	99	SPEED	SUR	61	2	1425	0	0	1.7	-0.1	1.7
63109	99	SPEED	SUR	60	2	1417	0	0	1.7	0.3	1.7
63110	99	SPEED	SUR	60	2	1419	0	0	1.7	-0.5	1.7
63112	99	SPEED	SUR	61	1	1423	0	0	1.4	-0.5	1.5
63115	99	SPEED	SUR	62	1	1417	0	0	1.4	-0.5	1.5
64041	99	SPEED	SUR	61	-3	1419	0	0	1.6	-0.1	1.6
6600021	99	SPEED	SUR	55	14	72	0	0	1.2	0.5	1.3
6600022	99	SPEED	SUR	54	14	194	0	0	1.5	-0.1	1.5
6600024	99	SPEED	SUR	55	13	141	0	0	1.4	1.0	1.7
9334674	99	SPEED	SUR	27	-59	5	0	0	0.9	-0.1	0.9

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 : NOV 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
1300001	99	DIRN	SUR	11	-23	659	0	0	12.1	6.7	13.8
1300008	99	DIRN	SUR	15	-38	472	0	0	8.7	3.3	9.3
1300130	99	DIRN	SUR	28	-16	349	0	0	15.2	0.2	15.2
1300131	99	DIRN	SUR	28	-17	280	0	0	18.7	-4.6	19.3
1801561	99	DIRN	SUR	26	-68	221	0	0	8.5	2.0	8.7
1801562	99	DIRN	SUR	32	-80	2266	0	0	14.5	1.0	14.5
1801577	99	DIRN	SUR	28	-84	2596	0	0	15.0	5.9	16.2
1801607	99	DIRN	SUR	19	-67	2347	0	0	17.4	4.1	17.9
4100002	99	DIRN	SUR	32	-75	3881	0	0	18.7	4.5	19.2
4100004	99	DIRN	SUR	33	-79	3704	0	0	16.1	7.4	17.7
4100008	99	DIRN	SUR	31	-81	3056	0	0	17.0	9.6	19.5
4100009	99	DIRN	SUR	29	-80	3511	0	0	13.4	0.5	13.5
4100010	99	DIRN	SUR	29	-78	3389	0	0	11.7	4.2	12.5
4100013	99	DIRN	SUR	33	-78	3637	0	0	14.3	7.2	16.0
4100024	99	DIRN	SUR	34	-78	458	0	0	17.2	5.6	18.1
4100025	99	DIRN	SUR	35	-75	3851	0	0	15.5	11.3	19.1
4100029	99	DIRN	SUR	33	-80	482	0	0	21.0	-3.1	21.2
4100033	99	DIRN	SUR	32	-80	502	0	0	23.6	7.9	24.9
4100037	99	DIRN	SUR	34	-77	18	0	0	16.8	15.2	22.7
4100038	99	DIRN	SUR	34	-78	505	0	0	16.6	-0.3	16.6
4100040	99	DIRN	SUR	15	-53	4109	0	0	11.3	1.0	11.4
4100043	99	DIRN	SUR	21	-65	3899	0	0	17.8	6.7	19.1
4100044	99	DIRN	SUR	22	-59	3675	0	0	21.1	8.2	22.7
4100049	99	DIRN	SUR	28	-62	3757	0	0	17.2	7.8	18.9
4100052	99	DIRN	SUR	18	-65	3542	0	0	24.2	6.2	25.0
4100053	99	DIRN	SUR	18	-66	2022	0	0	32.7	-2.1	32.8
4100056	99	DIRN	SUR	18	-65	3268	0	0	26.9	4.7	27.3
4100064	99	DIRN	SUR	34	-77	260	0	0	13.8	-13.8	19.5
4100066	99	DIRN	SUR	33	-80	538	0	0	21.8	-2.8	22.0
4100082	99	DIRN	SUR	36	-75	3874	0	0	15.0	-10.8	18.5
4100083	99	DIRN	SUR	36	-75	3905	0	0	16.6	-4.4	17.2
4100139	99	DIRN	SUR	20	-38	65	0	0	21.0	2.7	21.2

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
41002	99	DIRN	SUR	32	-75	641	0	0	18.6	4.1	19.0
4100300	99	DIRN	SUR	16	-57	626	0	0	14.4	0.7	14.4
41004	99	DIRN	SUR	33	-79	611	0	0	16.8	7.5	18.5
41008	99	DIRN	SUR	31	-81	503	0	0	17.7	8.7	19.7
41009	99	DIRN	SUR	29	-80	584	0	0	13.2	0.9	13.2
41010	99	DIRN	SUR	29	-79	555	0	0	11.5	4.1	12.2
41013	99	DIRN	SUR	33	-78	603	0	0	14.7	7.8	16.6
41024	99	DIRN	SUR	34	-79	478	0	0	17.8	6.0	18.8
41025	99	DIRN	SUR	35	-76	634	0	0	14.8	11.0	18.4
41029	99	DIRN	SUR	33	-80	483	0	0	21.1	-3.2	21.3
41033	99	DIRN	SUR	32	-80	474	0	0	23.1	7.2	24.2
41037	99	DIRN	SUR	34	-77	17	0	0	17.8	18.2	25.4
41038	99	DIRN	SUR	34	-78	517	0	0	17.1	1.2	17.2
41040	99	DIRN	SUR	15	-53	683	0	0	11.6	0.6	11.6
41043	99	DIRN	SUR	21	-65	645	0	0	17.0	7.1	18.4
41044	99	DIRN	SUR	22	-59	599	0	0	22.3	8.7	23.9
41049	99	DIRN	SUR	28	-62	622	0	0	17.2	7.7	18.9
41052	99	DIRN	SUR	18	-65	607	0	0	24.6	6.4	25.5
41053	99	DIRN	SUR	19	-66	370	0	0	32.9	-2.1	32.9
41056	99	DIRN	SUR	18	-66	538	0	0	26.5	5.3	27.0
41064	99	DIRN	SUR	34	-77	261	0	0	14.9	-14.5	20.8
41066	99	DIRN	SUR	33	-80	525	0	0	23.3	-3.8	23.6
41082	99	DIRN	SUR	36	-75	632	0	0	14.6	-10.6	18.1
41083	99	DIRN	SUR	36	-75	653	0	0	17.2	-4.0	17.7
4200013	99	DIRN	SUR	27	-83	1156	0	0	17.2	-6.4	18.3
4200022	99	DIRN	SUR	28	-84	1197	0	0	13.3	-3.6	13.8
4200036	99	DIRN	SUR	29	-85	3758	0	0	12.6	1.7	12.7
4200056	99	DIRN	SUR	20	-85	3915	0	0	13.3	6.9	15.0
4200058	99	DIRN	SUR	15	-75	3159	0	0	23.9	10.3	26.0
4200060	99	DIRN	SUR	16	-63	3120	0	0	21.4	8.8	23.1
4200085	99	DIRN	SUR	18	-67	2747	0	0	28.4	12.6	31.1
42013	99	DIRN	SUR	27	-83	568	0	0	18.6	-5.9	19.5
42022	99	DIRN	SUR	28	-84	585	0	0	13.5	-4.1	14.1
42036	99	DIRN	SUR	29	-85	621	0	0	12.9	0.8	12.9
42056	99	DIRN	SUR	20	-85	643	0	0	13.2	6.1	14.6
42058	99	DIRN	SUR	15	-75	522	0	0	22.6	9.6	24.6
42060	99	DIRN	SUR	16	-63	509	0	0	22.6	8.3	24.1
42085	99	DIRN	SUR	18	-67	435	0	0	25.7	9.3	27.3
4400007	99	DIRN	SUR	44	-70	3880	0	0	16.7	3.3	17.1
4400009	99	DIRN	SUR	38	-75	3720	0	0	13.5	5.8	14.7
4400011	99	DIRN	SUR	41	-67	3999	0	0	12.3	7.2	14.2

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
4400013	99	DIRN	SUR	42	-71	3828	0	0	14.3	6.9	15.9
4400014	99	DIRN	SUR	37	-75	3809	0	0	13.6	7.2	15.4
4400020	99	DIRN	SUR	41	-70	3856	0	0	12.8	5.2	13.8
4400025	99	DIRN	SUR	40	-73	4117	0	0	12.7	5.3	13.7
4400027	99	DIRN	SUR	44	-67	4039	0	0	12.1	5.0	13.1
4400029	99	DIRN	SUR	43	-71	649	0	0	15.0	3.6	15.4
4400030	99	DIRN	SUR	43	-70	644	0	0	15.9	2.5	16.1
4400032	99	DIRN	SUR	44	-69	679	0	0	15.3	0.6	15.3
4400033	99	DIRN	SUR	44	-69	659	0	0	14.7	0.2	14.7
4400034	99	DIRN	SUR	44	-68	682	0	0	12.8	-0.8	12.8
4400041	99	DIRN	SUR	37	-77	1644	0	0	16.7	2.1	16.9
4400043	99	DIRN	SUR	39	-76	4466	0	0	18.4	5.4	19.2
4400058	99	DIRN	SUR	38	-76	4449	0	0	16.7	3.1	17.0
4400062	99	DIRN	SUR	39	-76	4408	0	0	18.7	-2.2	18.8
4400063	99	DIRN	SUR	39	-76	4072	0	0	18.9	2.3	19.0
4400064	99	DIRN	SUR	37	-76	4666	0	0	16.4	5.2	17.2
4400065	99	DIRN	SUR	40	-74	3961	0	0	12.6	7.6	14.8
4400072	99	DIRN	SUR	37	-76	4735	0	0	15.8	4.9	16.5
4400073	99	DIRN	SUR	43	-71	2825	0	0	16.2	2.8	16.4
4400079	99	DIRN	SUR	36	-75	3827	0	0	13.1	-11.0	17.1
4400488	99	DIRN	SUR	45	-61	656	0	0	14.8	-29.7	33.2
4400489	99	DIRN	SUR	45	-61	589	0	0	13.5	-33.3	35.9
44007	99	DIRN	SUR	44	-70	646	0	0	16.5	3.2	16.8
44009	99	DIRN	SUR	39	-75	614	0	0	13.5	5.3	14.5
44011	99	DIRN	SUR	41	-67	665	0	0	13.1	7.2	15.0
44013	99	DIRN	SUR	42	-71	636	0	0	14.5	6.1	15.8
44014	99	DIRN	SUR	37	-75	627	0	0	13.7	7.0	15.4
44020	99	DIRN	SUR	42	-70	641	0	0	13.2	5.1	14.1
44025	99	DIRN	SUR	40	-73	684	0	0	14.9	4.4	15.5
44027	99	DIRN	SUR	44	-67	668	0	0	12.8	4.6	13.6
44029	99	DIRN	SUR	43	-71	641	0	0	15.9	3.3	16.2
44030	99	DIRN	SUR	43	-70	638	0	0	15.9	2.8	16.2
44032	99	DIRN	SUR	44	-69	674	0	0	15.8	0.5	15.8
44033	99	DIRN	SUR	44	-69	645	0	0	13.7	-0.2	13.7
44034	99	DIRN	SUR	44	-68	673	0	0	13.6	-1.0	13.6
44041	99	DIRN	SUR	37	-77	210	0	0	18.1	4.8	18.7
44043	99	DIRN	SUR	39	-76	506	0	0	19.7	5.4	20.4
44058	99	DIRN	SUR	38	-76	492	0	0	16.5	4.2	17.0
44062	99	DIRN	SUR	39	-76	529	0	0	20.5	0.4	20.5
44063	99	DIRN	SUR	39	-76	463	0	0	21.6	2.6	21.8
44064	99	DIRN	SUR	37	-76	554	0	0	16.8	5.4	17.7

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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
44065	99	DIRN	SUR	40	-74	659	0	0	12.9	6.9	14.6
44072	99	DIRN	SUR	37	-76	528	0	0	17.3	5.6	18.1
44073	99	DIRN	SUR	43	-71	472	0	0	16.8	4.0	17.3
44078	99	DIRN	SUR	60	-40	662	1	0	26.8	-20.4	33.7
44079	99	DIRN	SUR	36	-75	641	0	0	14.9	-10.5	18.2
44137	99	DIRN	SUR	42	-62	669	0	0	11.4	-11.2	16.0
44139	99	DIRN	SUR	44	-57	619	0	0	16.9	-8.6	18.9
44150	99	DIRN	SUR	43	-64	337	15	0	86.8	12.2	87.6
44258	99	DIRN	SUR	45	-63	644	0	0	14.8	-2.0	15.0
44488	99	DIRN	SUR	45	-61	638	0	0	14.8	-30.7	34.1
44489	99	DIRN	SUR	46	-61	594	0	0	14.3	-33.7	36.6
4500003	99	DIRN	SUR	45	-83	3732	0	0	13.4	3.9	14.0
4500005	99	DIRN	SUR	42	-82	3816	0	0	12.7	8.8	15.5
4500008	99	DIRN	SUR	44	-82	3830	0	0	12.3	7.8	14.6
4500012	99	DIRN	SUR	44	-77	3950	0	0	15.3	5.9	16.5
4500132	99	DIRN	SUR	42	-81	630	0	0	16.4	-0.3	16.4
4500135	99	DIRN	SUR	44	-77	546	0	0	15.2	4.9	16.0
4500137	99	DIRN	SUR	46	-81	642	0	0	16.4	-1.8	16.5
4500139	99	DIRN	SUR	43	-80	165	0	0	14.8	1.8	14.9
4500142	99	DIRN	SUR	43	-79	630	0	0	16.8	-3.2	17.1
4500143	99	DIRN	SUR	45	-81	653	0	0	16.3	1.8	16.3
4500159	99	DIRN	SUR	44	-79	207	0	0	28.6	-0.7	28.6
4500162	99	DIRN	SUR	45	-83	115	0	0	12.9	-3.4	13.3
4500164	99	DIRN	SUR	42	-82	323	0	0	20.9	-24.8	32.4
4500165	99	DIRN	SUR	45	-83	786	0	0	30.2	45.3	54.5
4500176	99	DIRN	SUR	42	-82	2064	0	0	13.9	-10.4	17.4
4500196	99	DIRN	SUR	42	-82	1941	0	0	17.0	6.0	18.0
4500203	99	DIRN	SUR	41	-83	643	0	0	25.6	-25.6	36.2
4500209	99	DIRN	SUR	43	-82	976	0	0	15.5	-38.8	41.8
45003	99	DIRN	SUR	45	-83	623	0	0	14.3	3.7	14.8
45005	99	DIRN	SUR	42	-82	639	0	0	13.0	9.5	16.1
45008	99	DIRN	SUR	44	-82	635	0	0	12.3	7.9	14.6
45012	99	DIRN	SUR	44	-77	658	0	0	16.4	6.0	17.5
45132	99	DIRN	SUR	43	-81	613	0	0	15.7	-1.7	15.8
45135	99	DIRN	SUR	44	-77	533	0	0	15.6	4.2	16.1
45137	99	DIRN	SUR	46	-81	622	0	0	16.8	-2.1	16.9
45139	99	DIRN	SUR	43	-80	163	0	0	14.9	2.2	15.1
45142	99	DIRN	SUR	43	-79	622	0	0	19.2	-4.1	19.7
45143	99	DIRN	SUR	45	-81	636	0	0	16.4	0.7	16.4
45147	99	DIRN	SUR	42	-82	507	0	0	17.8	-4.0	18.2
45149	99	DIRN	SUR	44	-82	641	0	0	15.7	-4.7	16.4

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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
45151	99	DIRN	SUR	45	-79	584	0	0	15.5	-3.5	15.9
45152	99	DIRN	SUR	46	-80	239	0	0	18.0	1.7	18.0
45154	99	DIRN	SUR	46	-83	586	0	0	21.7	5.8	22.5
45159	99	DIRN	SUR	44	-79	192	0	0	25.1	-0.7	25.1
45162	99	DIRN	SUR	45	-83	37	0	0	14.2	-1.6	14.3
45164	99	DIRN	SUR	42	-82	318	0	0	21.7	-25.0	33.2
45165	99	DIRN	SUR	45	-83	138	0	0	30.7	46.6	55.8
45176	99	DIRN	SUR	42	-82	375	0	0	16.1	-9.2	18.5
45196	99	DIRN	SUR	42	-82	367	0	0	16.0	7.2	17.5
45203	99	DIRN	SUR	41	-83	106	0	0	25.6	-24.1	35.2
45209	99	DIRN	SUR	43	-82	244	0	0	15.8	-37.9	41.0
5801955	99	DIRN	SUR	17	-66	2388	0	0	21.2	2.8	21.4
6100198	99	DIRN	SUR	37	-2	250	0	0	14.5	1.3	14.6
6100281	99	DIRN	SUR	40	0	132	0	0	25.8	2.2	25.9
6100417	99	DIRN	SUR	38	0	472	0	0	18.8	-3.7	19.2
6200001	99	DIRN	SUR	45	-5	605	0	0	13.8	-1.0	13.8
6200024	99	DIRN	SUR	44	-3	473	0	0	18.4	8.0	20.0
6200025	99	DIRN	SUR	44	-6	391	0	0	17.0	-2.8	17.2
6200050	99	DIRN	SUR	50	-4	481	0	0	22.5	-8.0	23.9
6200083	99	DIRN	SUR	43	-9	550	0	0	18.0	4.1	18.5
6200084	99	DIRN	SUR	42	-9	503	0	0	15.2	11.2	18.9
6200085	99	DIRN	SUR	36	-7	468	0	0	21.2	9.7	23.3
6200091	99	DIRN	SUR	53	-5	657	0	0	15.4	0.8	15.4
6200092	99	DIRN	SUR	51	-11	625	0	0	15.9	4.0	16.4
6200093	99	DIRN	SUR	55	-10	686	0	0	13.3	4.7	14.1
6200094	99	DIRN	SUR	52	-7	628	0	0	14.9	1.6	15.0
6200095	99	DIRN	SUR	53	-16	645	0	0	14.0	4.3	14.6
6200103	99	DIRN	SUR	50	-3	616	0	0	14.4	12.0	18.7
6200163	99	DIRN	SUR	47	-8	669	0	0	13.5	-2.3	13.7
6200442	99	DIRN	SUR	49	-16	274	0	0	13.1	-5.5	14.2
62030	99	DIRN	SUR	50	-4	702	0	0	14.4	2.2	14.5
62050	99	DIRN	SUR	50	-4	1281	0	0	28.2	-4.7	28.6
62091	99	DIRN	SUR	53	-5	648	0	0	15.4	0.5	15.4
62092	99	DIRN	SUR	51	-11	619	0	0	16.0	3.5	16.4
62093	99	DIRN	SUR	55	-10	684	0	0	13.5	4.3	14.2
62094	99	DIRN	SUR	52	-7	615	0	0	15.0	1.1	15.0
62095	99	DIRN	SUR	53	-16	639	0	0	14.5	3.7	14.9
62103	99	DIRN	SUR	50	-3	1257	0	0	14.8	12.1	19.1
62105	99	DIRN	SUR	55	-13	1380	0	0	18.1	-10.2	20.7
62107	99	DIRN	SUR	50	-6	1320	0	0	16.9	3.7	17.3
62112	99	DIRN	SUR	58	0	1073	0	0	15.5	3.0	15.8

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
62114	99	DIRN	SUR	58	0	1358	0	0	12.8	-0.6	12.8
62163	99	DIRN	SUR	48	-9	1362	0	0	13.6	-2.2	13.8
62442	99	DIRN	SUR	49	-16	547	0	0	13.4	-5.4	14.5
64041	99	DIRN	SUR	61	-3	1343	0	0	10.6	8.9	13.9
9193264	99	DIRN	SUR	24	-83	38	0	0	25.9	-13.4	29.2
9334674	99	DIRN	SUR	27	-59	5	0	0	23.3	-19.4	30.3

4.12 Table 24 - List of Assimilated BUFR Encoded Radiosonde Stations

ASDE09	ATGU3FT	JNKN7JF	JNSR	JPBN	KJJF9XN	KMPLHPW	LAGZ8	LRYQE3U
WDK38HS	XKQLWQB	YLV96WM	ZVQEQCM	2EERVTP	2TDJJ8J	7JUNA4N	7KPB	9ZT9MRK
01001	01004	01010	01028	01241	01400	01415	01492	02185
02365	02591	02836	02963	03005	03023	03238	03354	03743
03808	03882	03918	03953	04018	04220	04270	04320	04339
04360	04417	06011	06260	06458	06610	07110	07145	07510
07645	07761	08001	08023	08190	08221	08302	08383	08430
08508	08522	08536	10035	10113	10184	10238	10304	10393
10410	10548	10618	10739	10771	10868	10954	10962	11010
11035	11120	11240	11520	11747	11952	12120	12374	12425
12575	12843	12982	13275	13388	14015	14240	14430	15420
15614	16045	16064	16113	16144	16224	16245	16332	16429
16546	16622	16716	16754	17030	17064	17095	17196	17220
17240	17351	17516	17607	20674	22008	22522	22820	22845
23205	23472	23884	23921	23955	24266	24641	24688	24908
24947	26038	26435	26477	26629	26708	27459	27707	27713
27962	28225	28445	28661	28695	29612	29698	30557	30673
30935	31004	31770	31873	31977	34122	34172	34731	35121
40179	40186	42027	42056	42111	42182	42314	42339	42348
42361	42399	42410	42492	42516	42622	42623	42634	42647
42675	42867	42874	42886	42971	43003	43014	43041	43049
43086	43128	43150	43185	43243	43279	43346	43353	43369
43466	45004	47102	47104	47138	47155	47169	47186	47191
47193	47230	47401	47412	47582	47646	47678	47741	47778
47807	47827	47909	47918	47945	47971	47991	48601	48615
48650	48657	48698	50527	50557	50774	50953	51076	51243
51431	51463	51644	51656	51709	51777	51828	51839	52203
52267	52323	52418	52533	52652	52681	52818	52836	52866
52983	53068	53463	53513	53543	53614	53772	53845	53915
54102	54135	54161	54218	54292	54340	54374	54511	54662
54727	54857	55299	55591	56029	56046	56080	56137	56146
56187	56492	56571	56651	56691	56739	56778	56964	56985
57083	57127	57131	57178	57245	57461	57494	57516	57541
57687	57749	57816	57957	57972	57993	58027	58150	58203
58238	58362	58424	58457	58606	58633	58665	58725	58847
59023	59134	59211	59265	59280	59293	59316	59431	59758
59981	60018	60096	60155	60253	60715	61901	61980	61998
65344	66160	67083	68263	68424	68442	68512	68816	68842
70026	70133	70200	70219	70231	70261	70273	70308	70316
70326	70350	70361	70398	71043	71081	71082	71109	71119
71194	71603	71722	71802	71811	71815	71816	71823	71845
71867	71906	71907	71908	71909	71913	71917	71924	71925
71926	71934	71945	71957	71964	72201	72202	72206	72208
72210	72215	72230	72233	72235	72240	72248	72249	72250
72251	72261	72265	72274	72293	72305	72317	72318	72327
72340	72357	72363	72364	72365	72376	72388	72402	72403
72413	72426	72440	72451	72456	72476	72489	72493	72501
72518	72520	72528	72558	72562	72572	72582	72597	72632
72634	72645	72649	72659	72662	72672	72681	72694	72712
72747	72764	72768	72776	72786	72797	73033	73110	73111
74389	74455	74560	76256	76394	76405	76458	76526	76595
76612	76644	76654	76679	76692	76743	76903	78397	78486
78583	78897	78954	78970	78988	80001	81405	82965	84516
84622	84754	85442	85586	85799	85934	87155	87344	87418
87585	87623	87715	87860	88889	89002	89022	89055	89514
89564	89571	89592	89611	89625	89642	89859	91165	91212
91285	91334	91348	91376	91408	91413	91592	91925	91938
91948	91958	93112	93417	93844	94001	94005	94120	94155
94170	94203	94299	94302	94312	94326	94332	94403	94430

94461	94510	94578	94610	94637	94653	94659	94672	94711
94767	94775	94802	94821	94866	94910	94995	94996	94998
95282	95527	95954	96413	96441	96471	96481	96996	

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

ASDE09	ATGU3FT	JNKN7JF	KJJF9XN	KMPLHPW	LAGY8	LAGZ8	LRYQE3U	pacific
WDK38HS	XKQLWQB	YLV96WM	ZVQEQCM	2EERVTP	2TDJJ8J	7JUNA4N	7KPB	9ZT9MRK
01001	01004	01010	01028	01241	01400	01415	01492	02836
02963	06610	07110	07145	07510	07645	07761	08001	08023
08190	08221	08302	08383	08430	08508	08522	08536	11010
11035	11120	11240	12575	17607	40186	42622	47191	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	60096
60155	60253	67083	71194	72413	72806	76743	76903	87585
89002	89642	89859	91925	91938	91948	91958	94001	94005
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 PI-LOTSHIPs 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.