



ECMWF

Global Data Monitoring Report

December 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	Nov	Dec	Ident	Time	Nov	Dec
03882	(00)	21	0	07145	(00)	16	31
04360	(12)	13	1	07145	(12)	6	31
42220	(00)	28	10	23933	(00)	15	30
47102	(00)	29	0	23933	(12)	16	31
47102	(12)	27	2	30309	(00)	0	19
47230	(00)	35	21	30309	(12)	0	17
47230	(12)	37	18	31510	(12)	0	31
62414	(00)	11	0	31736	(00)	0	30
76595	(00)	18	7	40841	(12)	12	29
78897	(00)	26	3	42647	(12)	10	21
78970	(00)	23	11	61024	(12)	0	28
80028	(12)	30	13	76394	(00)	0	12
80094	(12)	30	15	82411	(12)	1	25
80259	(12)	28	15	83928	(12)	1	18
83746	(00)	27	0	89022	(12)	3	26
83746	(12)	26	0	91680	(12)	0	28
86218	(12)	24	0	96035	(00)	0	25
91348	(00)	27	14	96035	(12)	0	27
91348	(12)	29	15	96237	(00)	0	28
-	-	-	-	96237	(12)	0	30
-	-	-	-	96253	(00)	0	28
-	-	-	-	96253	(12)	0	30
-	-	-	-	96581	(00)	0	28
-	-	-	-	96581	(12)	0	28
-	-	-	-	96685	(00)	0	21
-	-	-	-	96685	(12)	0	18
-	-	-	-	96749	(00)	0	28
-	-	-	-	96749	(12)	0	29
-	-	-	-	96935	(12)	0	28
-	-	-	-	97014	(00)	1	29
-	-	-	-	97014	(12)	0	29
-	-	-	-	97072	(00)	0	29
-	-	-	-	97072	(12)	0	28
-	-	-	-	97180	(00)	0	28
-	-	-	-	97180	(12)	0	29
-	-	-	-	97230	(00)	1	25
-	-	-	-	97372	(00)	0	29
-	-	-	-	97372	(12)	0	28
-	-	-	-	97560	(00)	0	23
-	-	-	-	97560	(12)	0	26
-	-	-	-	97690	(00)	0	28
-	-	-	-	97724	(00)	0	25
-	-	-	-	97724	(12)	0	24
-	-	-	-	97900	(00)	0	16
-	-	-	-	97900	(12)	0	21
-	-	-	-	97980	(00)	0	22
-	-	-	-	97980	(12)	0	23

2.2 Drifting Buoys

Surface pressure observations from **1383** 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 - DEC 2024

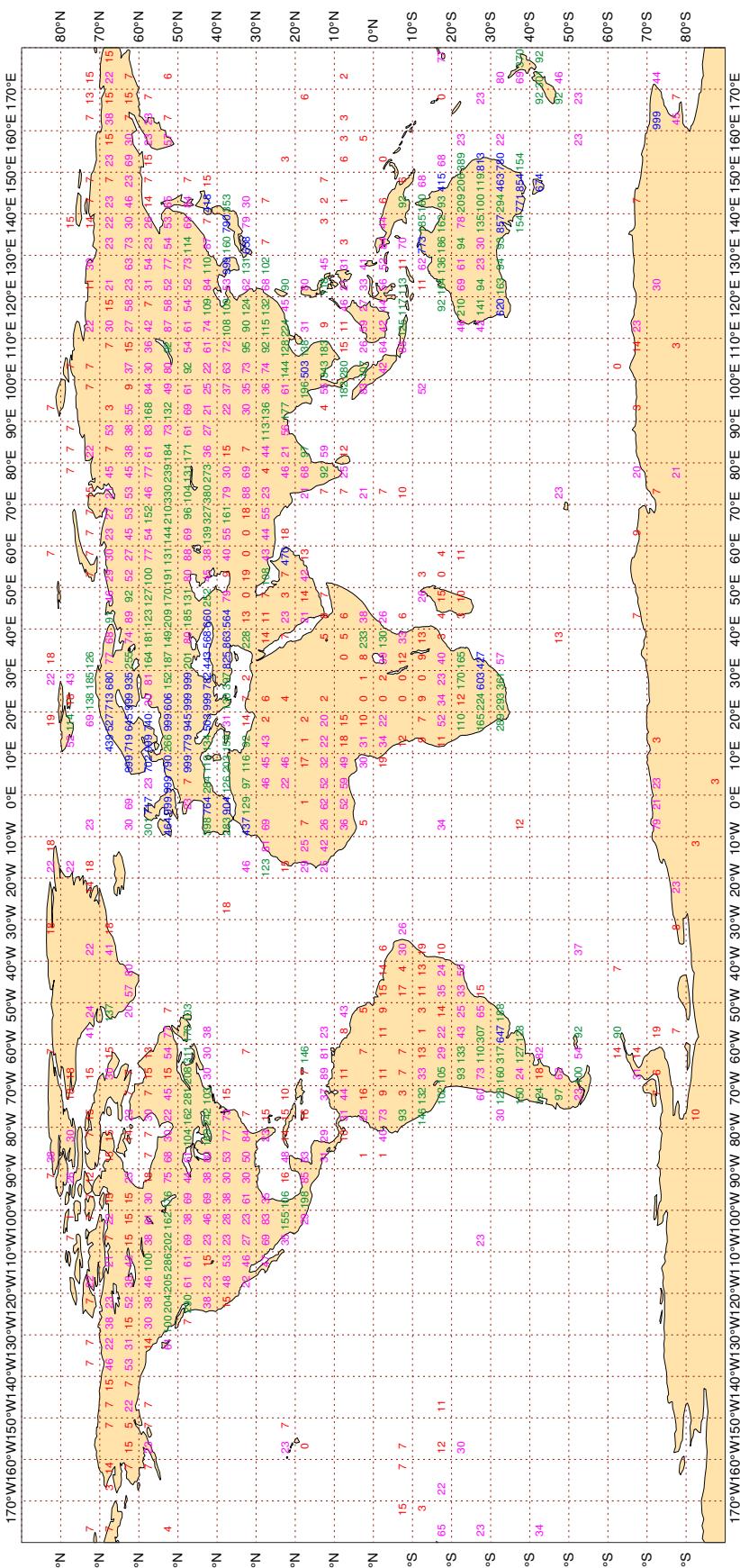
Availability - SYNOP/SHIP (manual, auto) pressure

Average number of observations in 24 hours - 95569

LAND - WMO Region I: 6506 II:19357 III: 5050 IV: 8550

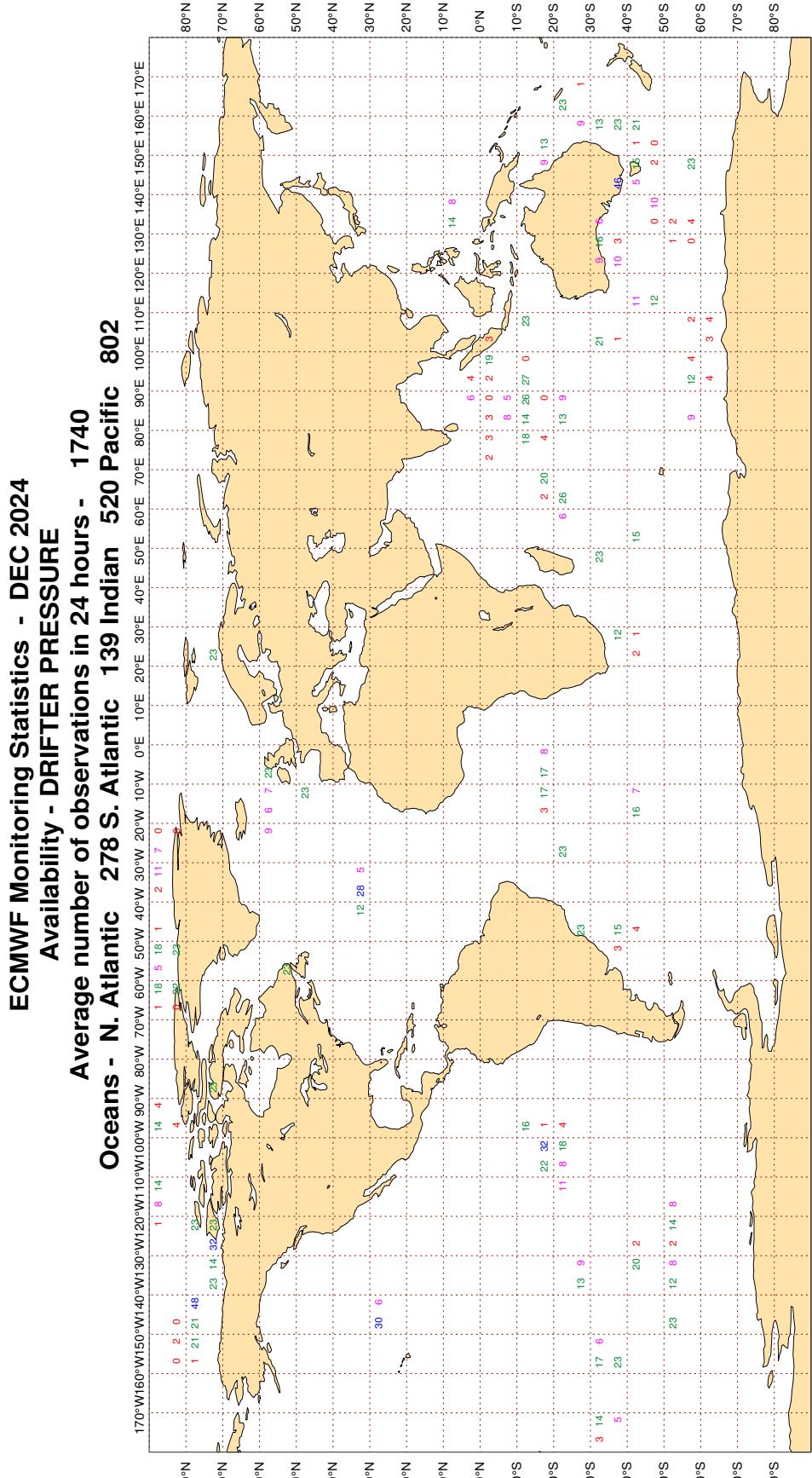
Region V:15053 VI:39306 Antarctic: 1747

Oceans - N. Atlantic 0 S. Atlantic 0 Indian 0 Pacific 0



3.2.2 Figure 2 - Availability - DRIFTER PRESSURE

Figure 2



Magics 4.9.4



3.2.3 Figure 3 - Availability - TEMP 500 hPa geopotential

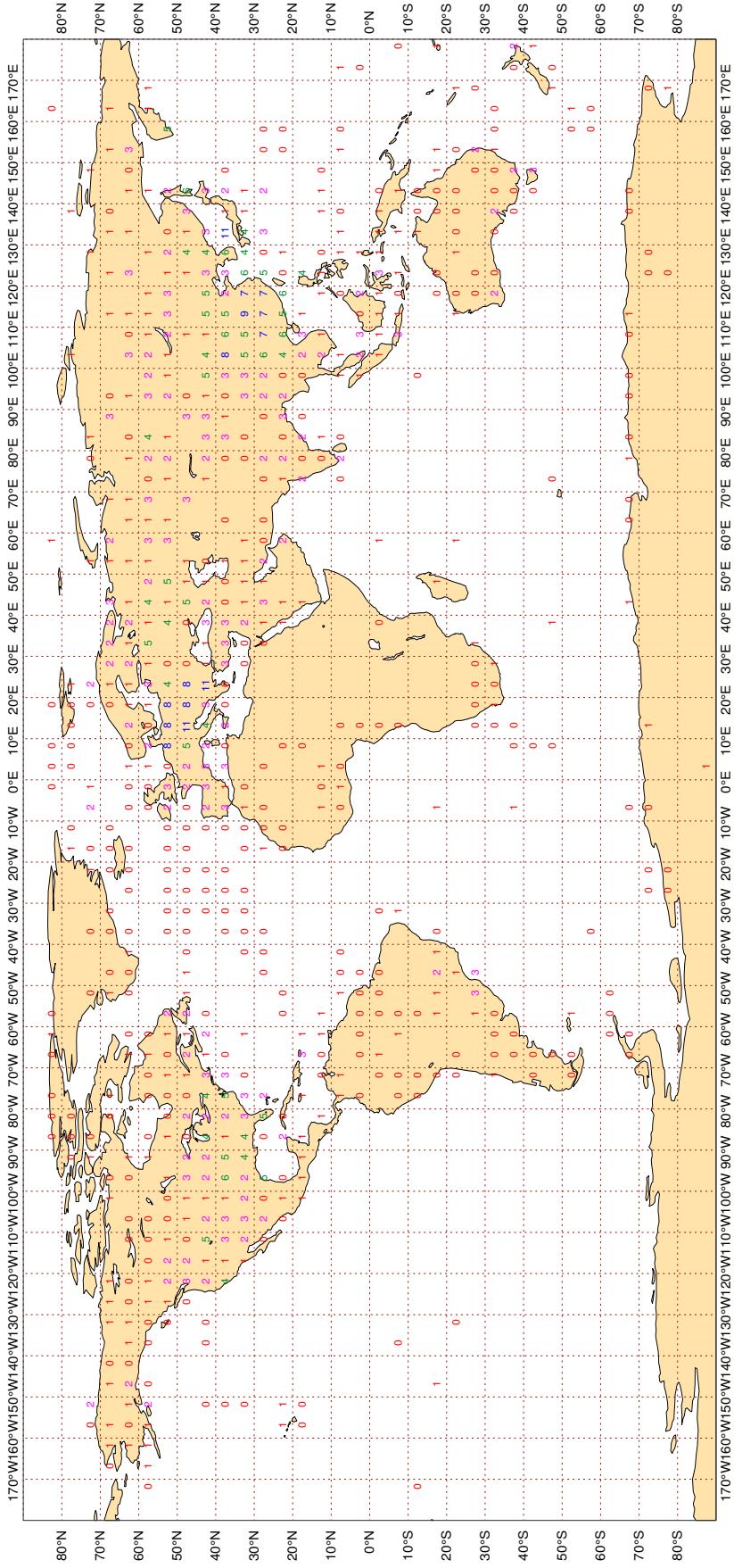
Figure 3

ECMWF Monitoring Statistics - DEC 2024
Availability - TEMP 500 hPa Geopotential
Average number of observations in 24 hours - 1192

LAND - WMO Region I: 38 II: 470 III: 57 IV: 245

Region V: 118 VI: 241 Antarctic: 16

Oceans - N. Atlantic 7 S. Atlantic 0 Indian 0 Pacific 1



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

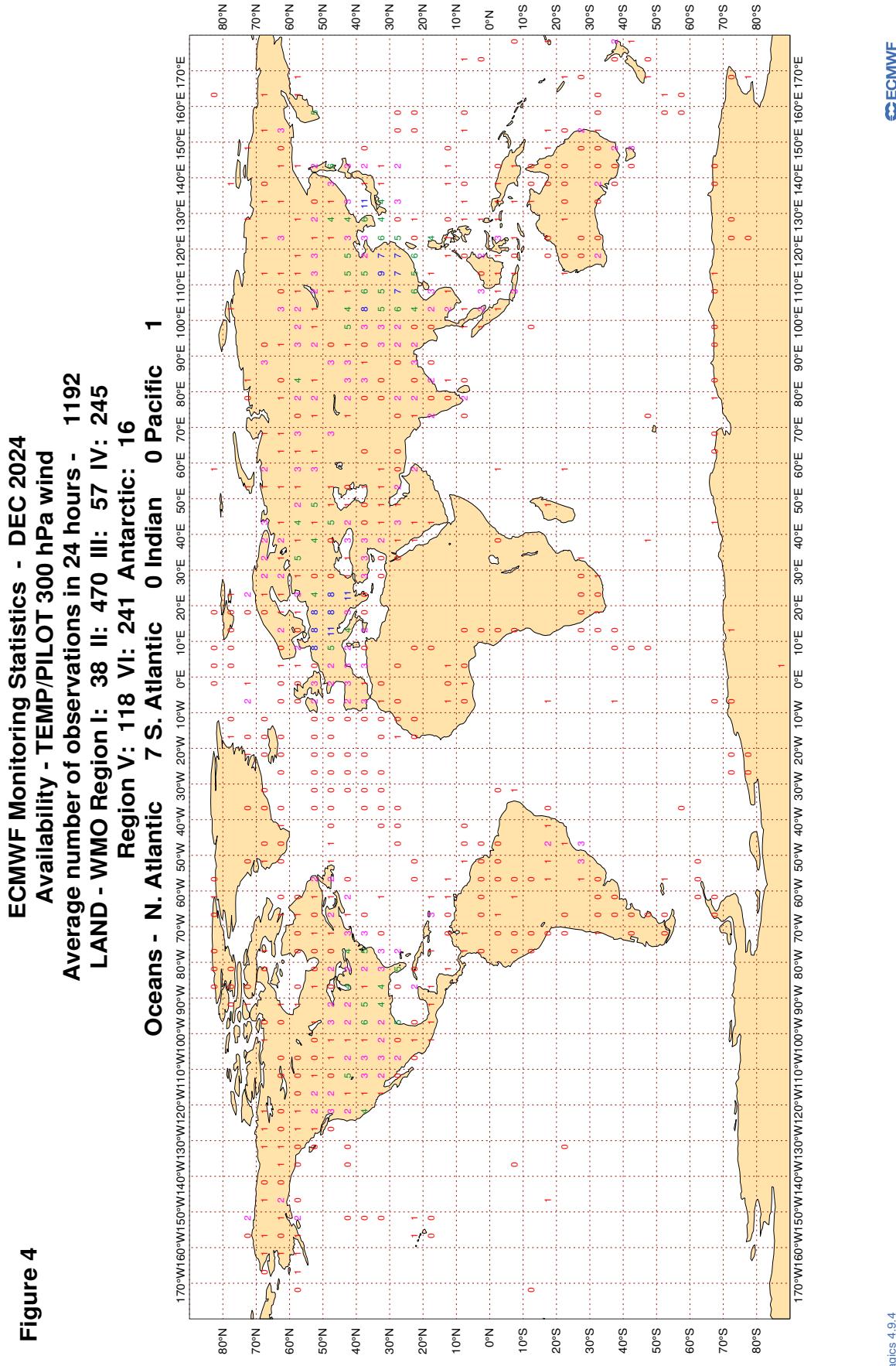
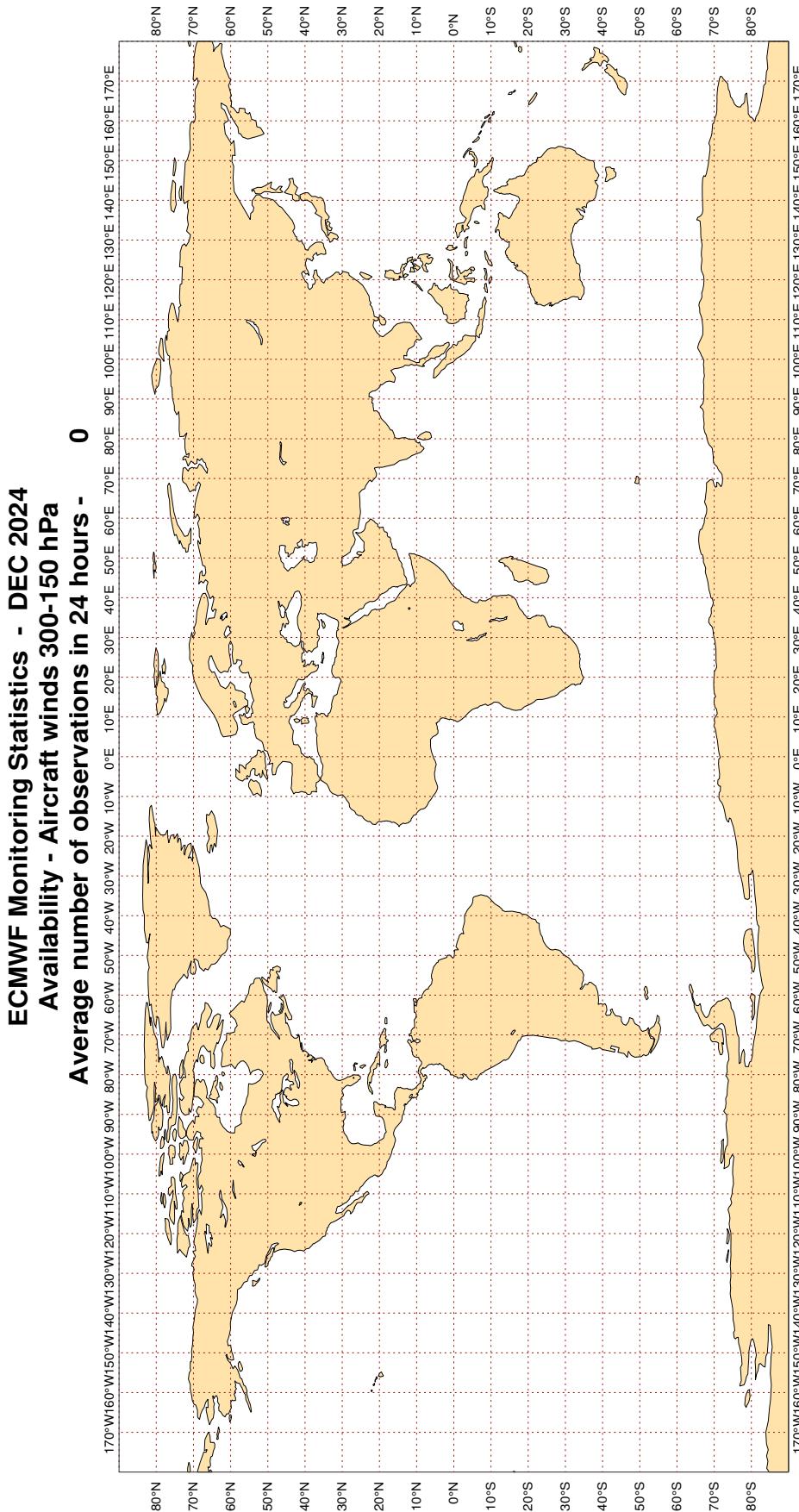


Figure 4

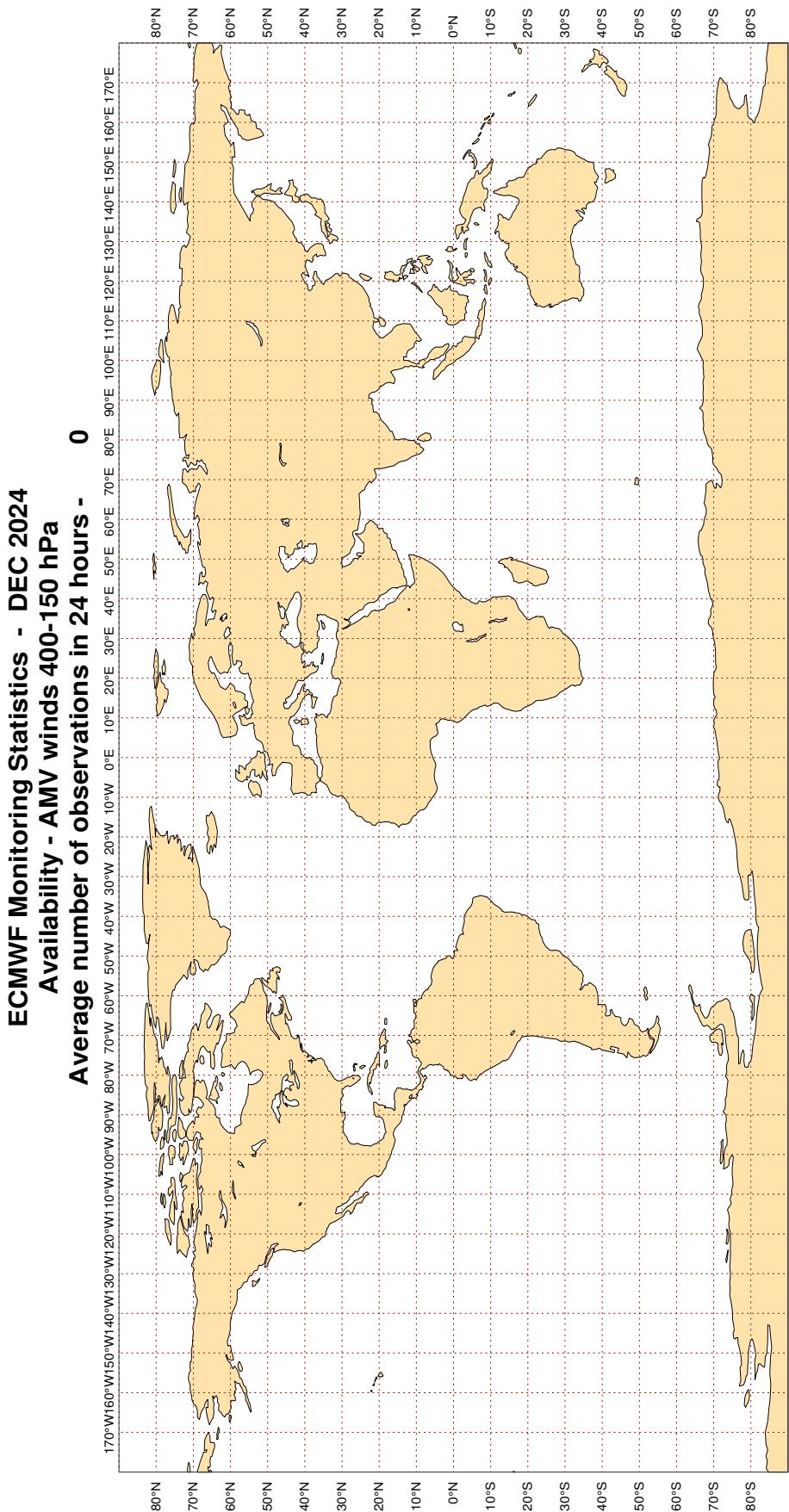
3.2.5 Figure 5 - Availability - AIRCRAFT winds 300-150 hPa**Figure 5**

Magics 4.9.4

ECMWF

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

Figure 6

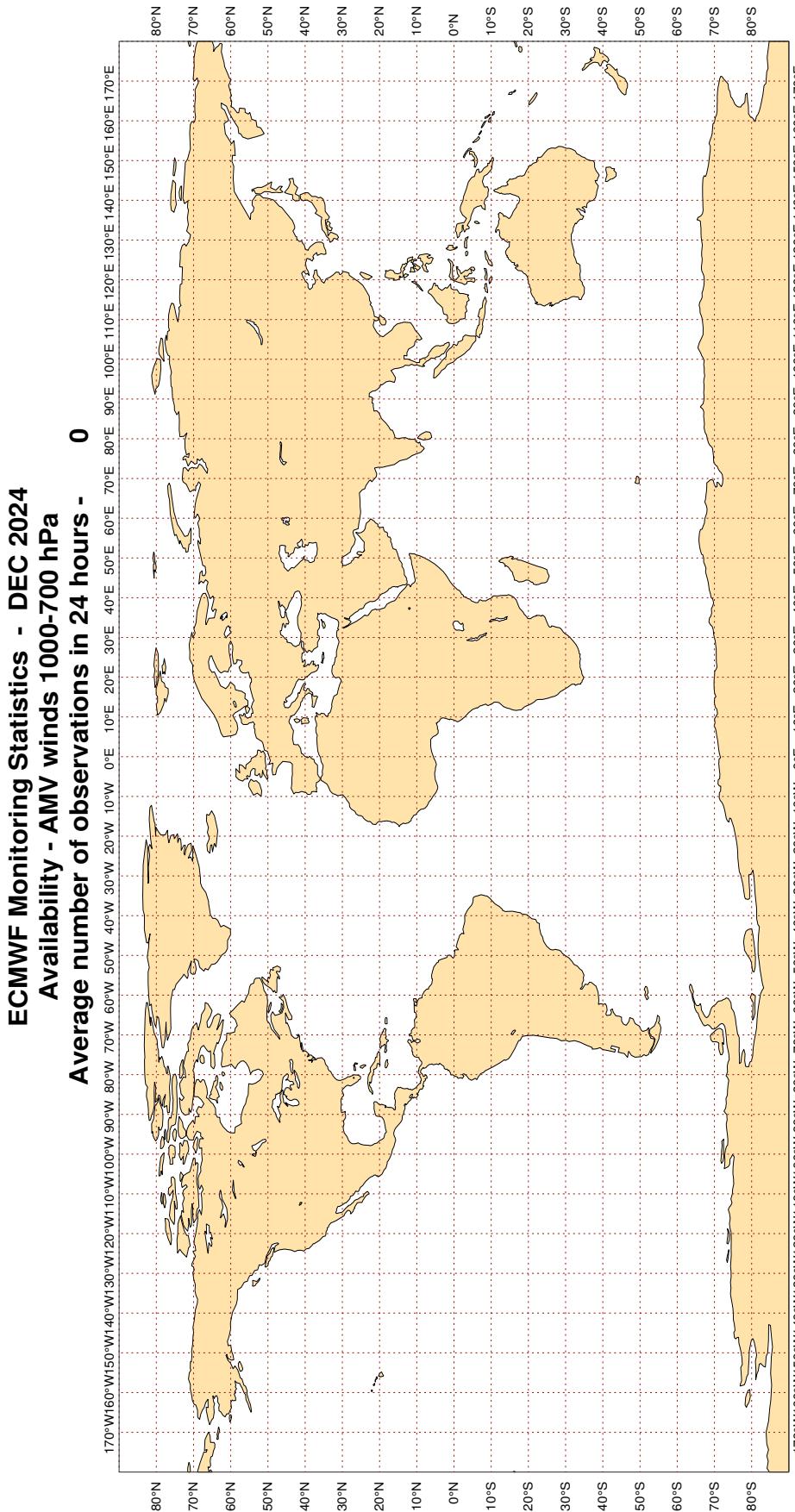


Magics 4.9.4

ECMWF

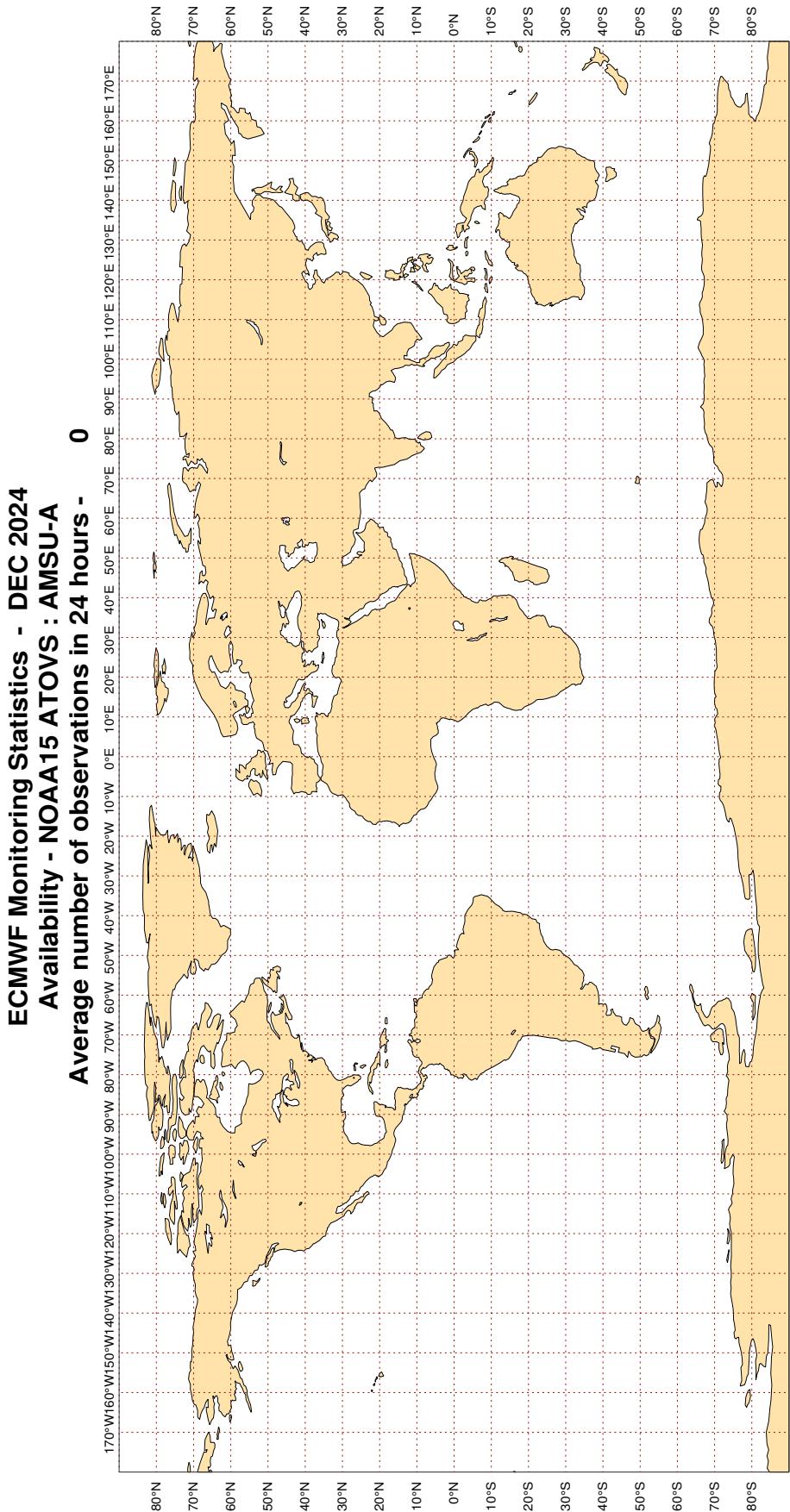
3.2.7 Figure 7 - Availability - SATOB winds 1000-700 hPa

Figure 7



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

Figure 8

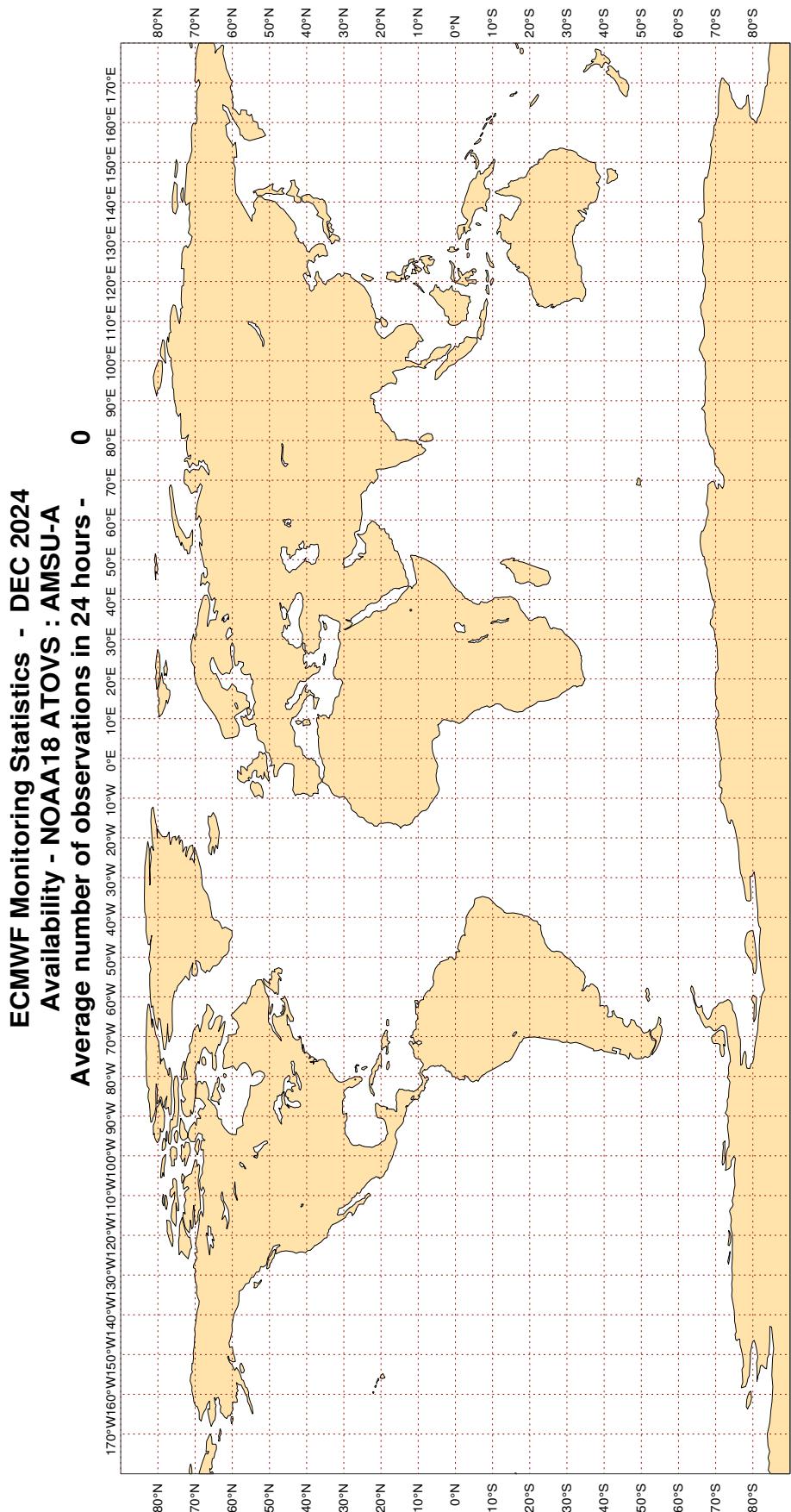


Magics 4.9.4



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

Figure 9.1

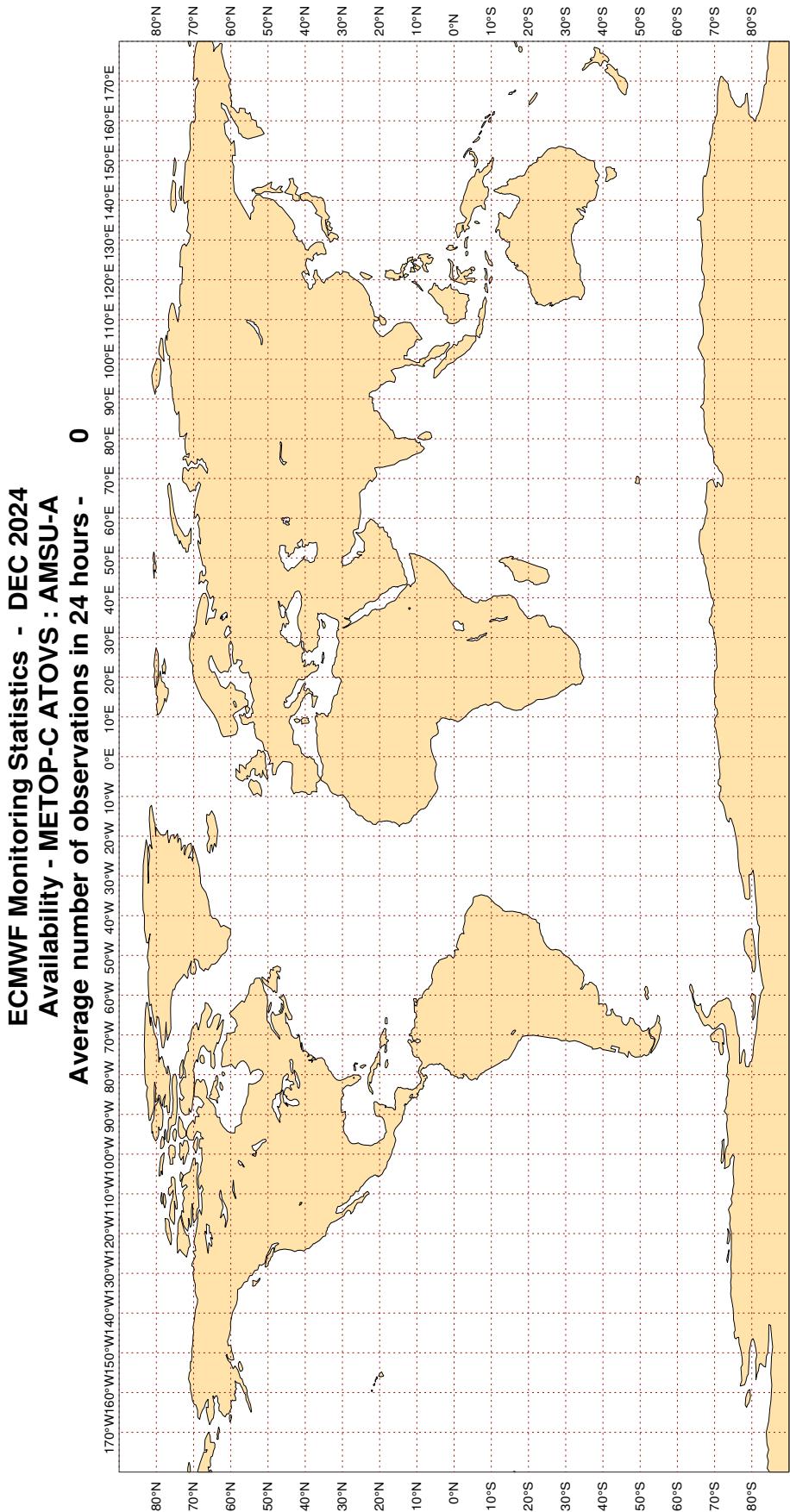


Magics 4.9.4

ECMWF

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

Figure 9.2

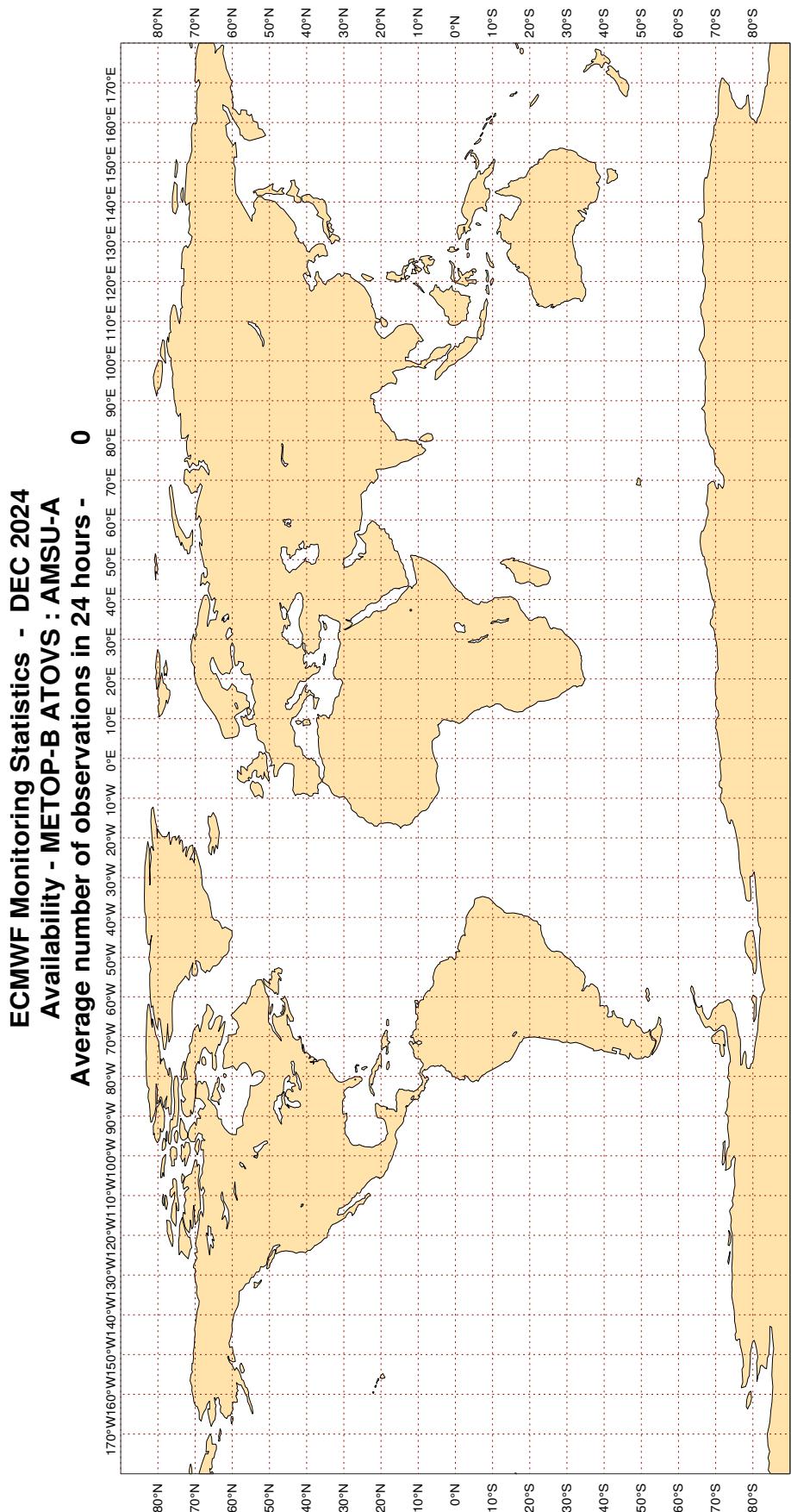


Magics 4.9.4



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

Figure 9.3



Magics 4.9.4

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

LIST OF SUSPECT STATIONS : SHIPS + FIXED MARINE PLATFORMS
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : SURFACE PRESSURE (HPA)
 AREA : GLOBAL
 PERIOD : DEC 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	31	0	1.1	5.2	5.3
2HDF9	99	P	SUR	35	0	2.9	3.3	4.4
3E5193	99	P	SUR	115	0	0.5	3.5	3.5
3EBY2	99	P	SUR	65	57	0.5	14.0	14.0
3EPL4	99	P	SUR	72	0	1.9	7.3	7.6
3FEN2	99	P	SUR	46	0	1.0	3.2	3.3
3FWH8	99	P	SUR	28	0	4.7	5.6	7.3
3FYP8	99	P	SUR	27	0	2.3	6.3	6.7
3GFKKCC	99	P	SUR	18	0	0.6	3.0	3.1
41082	99	P	SUR	124	0	2.1	-6.4	6.7
6QZJ45L	99	P	SUR	49	0	0.9	-4.8	4.9
7JUN	99	P	SUR	32	0	1.2	-3.4	3.6
7KBS	99	P	SUR	37	0	0.6	5.9	5.9
7KBT	99	P	SUR	89	0	2.5	3.3	4.2
7KEG	99	P	SUR	19	0	2.4	6.8	7.2
8QZLQRG	99	P	SUR	17	0	1.1	3.5	3.7
9HA4777	99	P	SUR	90	0	4.1	4.3	5.9
9HA5209	99	P	SUR	75	0	2.8	9.2	9.6
9HA5782	99	P	SUR	49	0	2.7	-4.0	4.9
9HA5823	99	P	SUR	56	0	4.5	5.3	6.9
9HJB9	99	P	SUR	36	0	2.2	3.7	4.3
9V3912	99	P	SUR	79	0	1.4	3.0	3.3
9V6624	99	P	SUR	16	0	1.3	-4.3	4.5
9V8776	99	P	SUR	17	0	3.9	7.1	8.1
9V9404	99	P	SUR	49	0	1.2	6.5	6.6
9VFV4	99	P	SUR	16	0	1.0	4.7	4.8
9VHK7	99	P	SUR	26	0	0.8	-7.1	7.1
ATAH2	99	P	SUR	24	3	1.9	-10.8	11.0
AVBC	99	P	SUR	17	0	0.4	3.5	3.5
AVBD	99	P	SUR	16	0	6.7	1.3	6.8
AWXA	99	P	SUR	30	4	4.1	-7.3	8.4
C6BU3	99	P	SUR	65	0	0.9	5.4	5.5

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

WMO IDENT	OBS TIME	ELM	LEVEL	NUM OBS	NUM GROSS	SD	BIAS	RMS
C6FR3	99	P	SUR	18	0	0.5	3.5	3.5
C6TX6	99	P	SUR	45	0	4.8	-3.7	6.0
D5264	99	P	SUR	30	0	1.2	7.7	7.8
HOPW	99	P	SUR	16	2	4.2	-7.4	8.5
JMVS	99	P	SUR	16	0	1.6	3.1	3.5
JPTX	99	P	SUR	38	0	2.8	5.6	6.3
KIAB	99	P	SUR	19	0	1.3	6.7	6.9
KUL7SEK	99	P	SUR	16	0	0.9	4.5	4.5
LAQL7	99	P	SUR	49	0	1.2	5.5	5.7
LAVD4	99	P	SUR	34	0	1.0	6.1	6.2
LAVN4	99	P	SUR	21	0	1.4	4.4	4.6
LOCW	99	P	SUR	36	0	1.2	-4.5	4.6
MVNXQEB	99	P	SUR	36	0	0.8	-3.5	3.6
OZHS2	99	P	SUR	47	0	0.6	5.4	5.5
UASP	99	P	SUR	15	6	0.8	1.1	1.3
V7A5254	99	P	SUR	92	1	5.0	2.4	5.6
V7A6073	99	P	SUR	18	0	2.7	3.3	4.3
V7QT7	99	P	SUR	31	1	0.7	4.7	4.7
VRBX7	99	P	SUR	35	0	2.1	-3.3	4.0
VRCB4	99	P	SUR	15	0	0.6	-5.0	5.0
VRCI9	99	P	SUR	27	0	2.0	4.2	4.7
VREX4	99	P	SUR	24	0	1.4	7.4	7.5
VRFS2	99	P	SUR	22	0	2.9	-5.8	6.5
VRLJ4	99	P	SUR	27	0	1.9	8.1	8.3
VRTU5	99	P	SUR	18	0	0.9	-5.8	5.9
VRVC6	99	P	SUR	32	0	0.7	3.9	4.0
VRVC9	99	P	SUR	21	0	2.2	-6.0	6.4
VRWN4	99	P	SUR	19	0	1.9	-5.4	5.8
WCY2920	99	P	SUR	124	0	0.6	-3.9	3.9
WDK5676	99	P	SUR	125	0	0.8	-3.5	3.6
WGEB	99	P	SUR	118	0	0.8	5.6	5.7
WNTL	99	P	SUR	96	0	0.5	3.0	3.1
WTEK	99	P	SUR	33	2	5.1	7.3	8.9
WYM9567	99	P	SUR	76	0	0.6	-3.3	3.3
WZU9GCQ	99	P	SUR	17	0	1.0	3.4	3.5
ZCDY2	99	P	SUR	15	0	2.1	5.0	5.4
ZGOK7	99	P	SUR	28	0	2.2	3.3	4.0

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 : DEC 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 : DEC 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
44489	99	DIRN	SUR	91	0	0	18.5	-35.7	40.2
46092	99	DIRN	SUR	58	0	0	37.0	40.1	54.5
46204	99	DIRN	SUR	111	0	0	10.7	31.0	32.8
62165	99	DIRN	SUR	118	0	0	13.6	34.0	36.6

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

LIST OF SUSPECT STATIONS : DRIFTER
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : SURFACE PRESSURE (HPA)
 AREA : GLOBAL
 PERIOD : DEC 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
0022688	99	P	SUR	9	108	601	3	4.6	-4.1	6.2
0022945	99	P	SUR	15	110	675	0	4.3	-4.0	5.9
1301787	99	P	SUR	30	-14	691	248	0.3	-0.1	0.4
1301795	99	P	SUR	25	-78	504	88	3.2	10.8	11.3
1501711	99	P	SUR	-24	-4	735	43	2.6	-11.5	11.8
1701718	99	P	SUR	22	-73	217	215	0.0	13.7	13.7
2302627	99	P	SUR	11	73	648	647	0.0	-14.9	14.9
2501557	99	P	SUR	74	170	28	28	0.0	0.0	0.0
2501575	99	P	SUR	72	-168	731	731	0.0	0.0	0.0
3201836	99	P	SUR	8	-166	743	734	1.0	-13.1	13.1
3301523	99	P	SUR	-15	-39	735	0	0.4	-4.0	4.0
3401636	99	P	SUR	-31	-117	690	0	0.3	-5.9	5.9
3801583	99	P	SUR	-41	87	300	0	1.8	4.2	4.6
3801693	99	P	SUR	-4	117	153	153	0.0	0.0	0.0
4100082	99	P	SUR	36	-75	4453	0	2.1	-6.4	6.7
4101864	99	P	SUR	-12	44	179	179	0.0	0.0	0.0
41082	99	P	SUR	36	-75	743	0	2.1	-6.4	6.7
4601776	99	P	SUR	28	-128	34	0	3.2	-4.8	5.8
4601855	99	P	SUR	49	-174	743	192	4.9	-2.6	5.6
4701543	99	P	SUR	72	-161	530	530	0.0	0.0	0.0
4701555	99	P	SUR	64	-22	26	0	0.5	-5.9	5.9
4701558	99	P	SUR	79	-18	62	0	0.5	-4.4	4.5
4801771	99	P	SUR	56	-23	744	744	0.0	0.0	0.0
4802662	99	P	SUR	70	-125	744	704	2.5	10.0	10.3
4804004	99	P	SUR	-5	-37	737	0	0.3	-5.7	5.7
5103563	99	P	SUR	33	-151	635	229	7.5	-2.7	8.0
5501735	99	P	SUR	-43	-133	743	743	0.0	0.0	0.0
5601758	99	P	SUR	-14	95	472	165	1.1	0.4	1.2
5802090	99	P	SUR	-12	95	310	310	0.0	0.0	0.0
5802091	99	P	SUR	-23	86	310	310	0.0	0.0	0.0
6203636	99	P	SUR	23	-75	173	3	4.1	-7.1	8.2
6801904	99	P	SUR	-19	92	310	310	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
6801911	99	P	SUR	-28	166	43	0	0.5	5.5	5.6
7801693	99	P	SUR	19	-173	743	0	0.0	-6.0	6.0
7801750	99	P	SUR	26	-132	729	726	1.1	13.9	13.9
7801759	99	P	SUR	23	148	727	0	4.4	4.9	6.6
7801770	99	P	SUR	55	-135	733	201	5.3	5.0	7.3
9334674	99	P	SUR	23	-53	22	0	1.0	5.4	5.5

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

LIST OF SUSPECT STATIONS : DRIFTER
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND SPEED (M/S)
 AREA : GLOBAL
 PERIOD : DEC 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	667	0	0	2.4	-8.3	8.6

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

LIST OF SUSPECT STATIONS : DRIFTER
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND DIRECTION (DEGREES)
 PERIOD : DEC 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
2200102	99	DIRN	SUR	35	126	326	0	0	57.1	48.3	74.7
2300003	99	DIRN	SUR	-1	81	309	0	0	31.3	124.7	128.5
2300452	99	DIRN	SUR	12	68	83	0	0	15.8	-41.0	44.0
23099	99	DIRN	SUR	13	80	56	0	0	105.6	5.5	105.8
23452	99	DIRN	SUR	12	68	183	0	0	12.0	-41.8	43.5
4400488	99	DIRN	SUR	45	-61	643	0	0	18.9	-28.9	34.6
4400489	99	DIRN	SUR	45	-61	555	0	0	16.6	-31.8	35.9
44488	99	DIRN	SUR	45	-61	631	0	0	19.9	-29.8	35.8
44489	99	DIRN	SUR	46	-61	567	0	0	17.2	-32.2	36.5
4500005	99	DIRN	SUR	42	-82	391	0	0	10.5	21.8	24.1
45005	99	DIRN	SUR	42	-82	66	0	0	10.6	23.3	25.7
4600092	99	DIRN	SUR	37	-122	312	0	0	31.7	38.6	50.0
46092	99	DIRN	SUR	37	-122	307	0	0	31.4	39.7	50.7
46204	99	DIRN	SUR	51	-129	672	0	0	11.9	32.3	34.4
6200086	99	DIRN	SUR	55	7	211	0	0	13.2	27.3	30.3
62148	99	DIRN	SUR	54	2	1425	0	0	12.7	20.9	24.5
62165	99	DIRN	SUR	54	1	1425	0	0	13.6	34.2	36.8
6301004	99	DIRN	SUR	72	20	76	0	0	24.0	31.8	39.9
6600022	99	DIRN	SUR	54	14	65	0	0	70.5	1.8	70.5

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 : DEC 2024
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

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

ONLY THE WORST LEVEL IS SHOWN (WITH UNWEIGHTED RMS)

WMO IDENT	OBS TIME	ELM	LEV	LAT	LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
01400	12	Z	1000	57	3	28	0	5.5	76.2	76.4
01400	00	Z	1000	57	3	30	0	15.0	74.1	75.6
22217	00	Z	300	67	32	28	7	83.1	-37.3	91.1
22217	12	Z	70	67	32	11	1	172.6	-67.6	185.4
24122	12	Z	300	69	112	30	0	48.0	-57.4	74.8
38341	00	Z	200	43	71	18	6	102.4	-37.7	109.1
38341	12	Z	250	43	71	24	12	143.7	-44.6	150.5
47230	12	Z	300	37	126	10	8	98.7	-97.3	138.6
47230	00	Z	400	37	126	15	10	68.9	-73.2	100.5
65344	12	Z	850	6	2	28	0	5.7	32.2	32.7
65548	12	Z	925	7	-8	30	0	11.6	32.9	34.9
68994	12	Z	1000	-47	38	30	0	6.3	28.2	28.9
68994	00	Z	1000	-47	38	29	0	11.3	28.0	30.2
76644	00	Z	1000	21	-90	26	0	7.7	32.6	33.5
76644	12	Z	850	21	-90	23	0	17.5	30.9	35.5
89514	00	Z	150	-71	12	17	1	111.8	105.6	153.8
91680	12	Z	1000	-18	177	28	0	3.7	33.3	33.5
91680	00	Z	1000	-18	177	30	0	3.5	30.7	30.9
97014	12	Z	1000	2	125	30	0	31.0	16.6	35.2
97372	12	Z	1000	-10	124	28	0	30.5	5.5	31.0

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 : DEC 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	250	55	18	10	0	-11.8	-0.9	21.9
12120	12	V	200	55	18	10	0	-12.5	2.6	22.8
38341	00	V	500	43	71	27	0	6.1	-4.6	15.2
38341	12	V	200	43	71	21	0	-0.3	-1.9	16.8
40179	00	V	100	32	35	19	1	-7.0	-3.0	17.5
40179	12	V	100	32	35	26	0	-9.1	-1.5	19.2
44373	12	V	150	44	104	26	0	-6.0	2.4	15.3
47058	00	V	150	39	126	25	0	-11.7	7.0	15.6
47230	12	V	400	37	126	13	0	-4.4	-7.7	20.1
47230	00	V	250	37	126	11	0	-7.5	-4.9	18.1
48407	00	V	1000	15	105	8	2	-6.0	9.0	18.0
53915	12	V	150	36	107	20	0	-13.1	1.2	15.4
53915	00	V	150	36	107	21	0	-6.6	-1.2	15.7

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

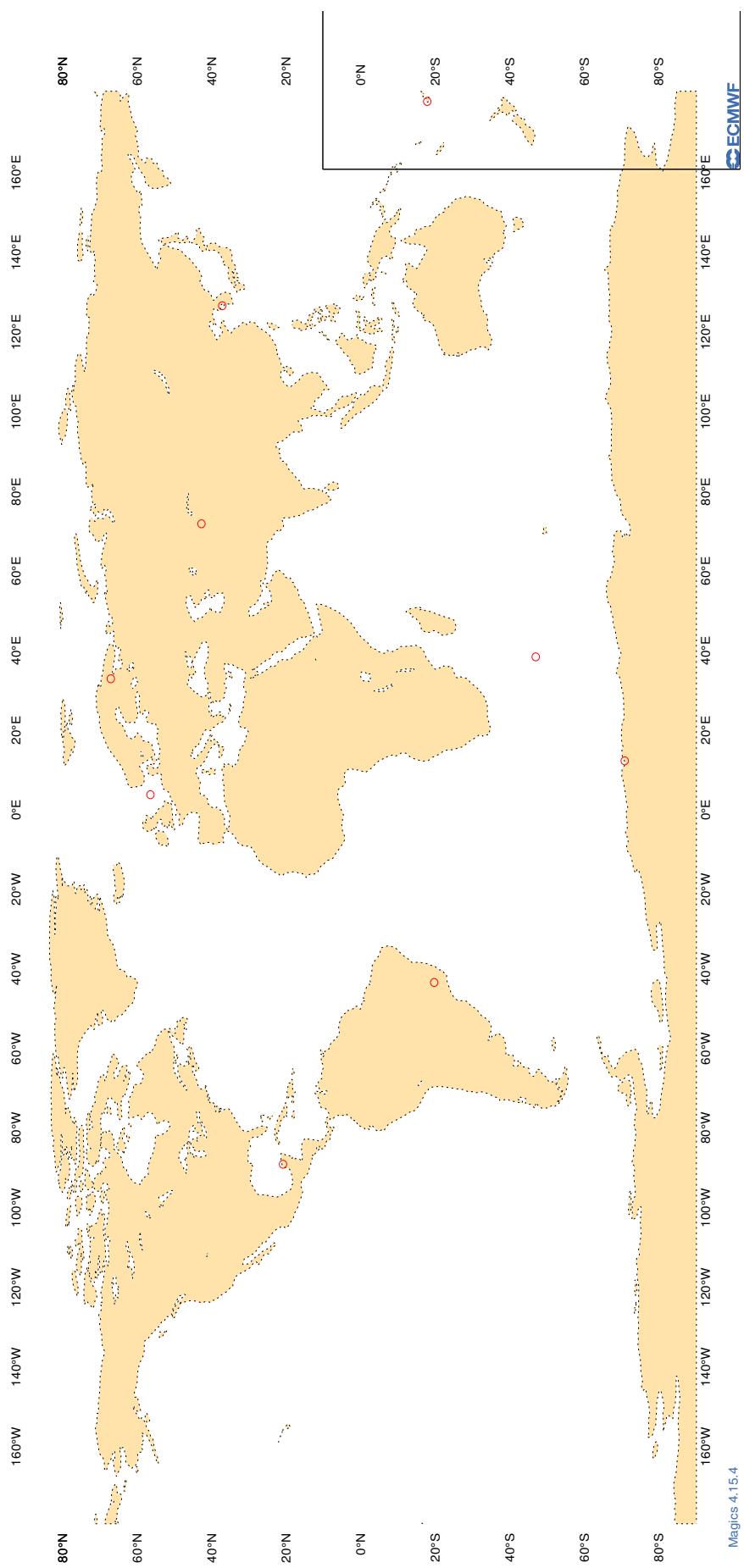
LIST OF SUSPECT STATIONS : RADIOSONDSES
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND DIRECTION (DEGREES)
 AREA : GLOBAL
 PERIOD : DEC 2024
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

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
38341	00	DD	43	71	21	-11.7	9.9	21.3
47230	12	DD	37	126	10	-15.4	6.1	25.5
48327	00	DD	19	99	25	-10.1	2.6	9.7
51463	12	DD	44	88	30	-11.6	3.3	6.8
51463	00	DD	44	88	29	-10.9	3.1	6.0
54340	12	DD	42	124	30	-12.3	0.8	3.4
54340	00	DD	42	124	29	-12.4	0.6	3.8

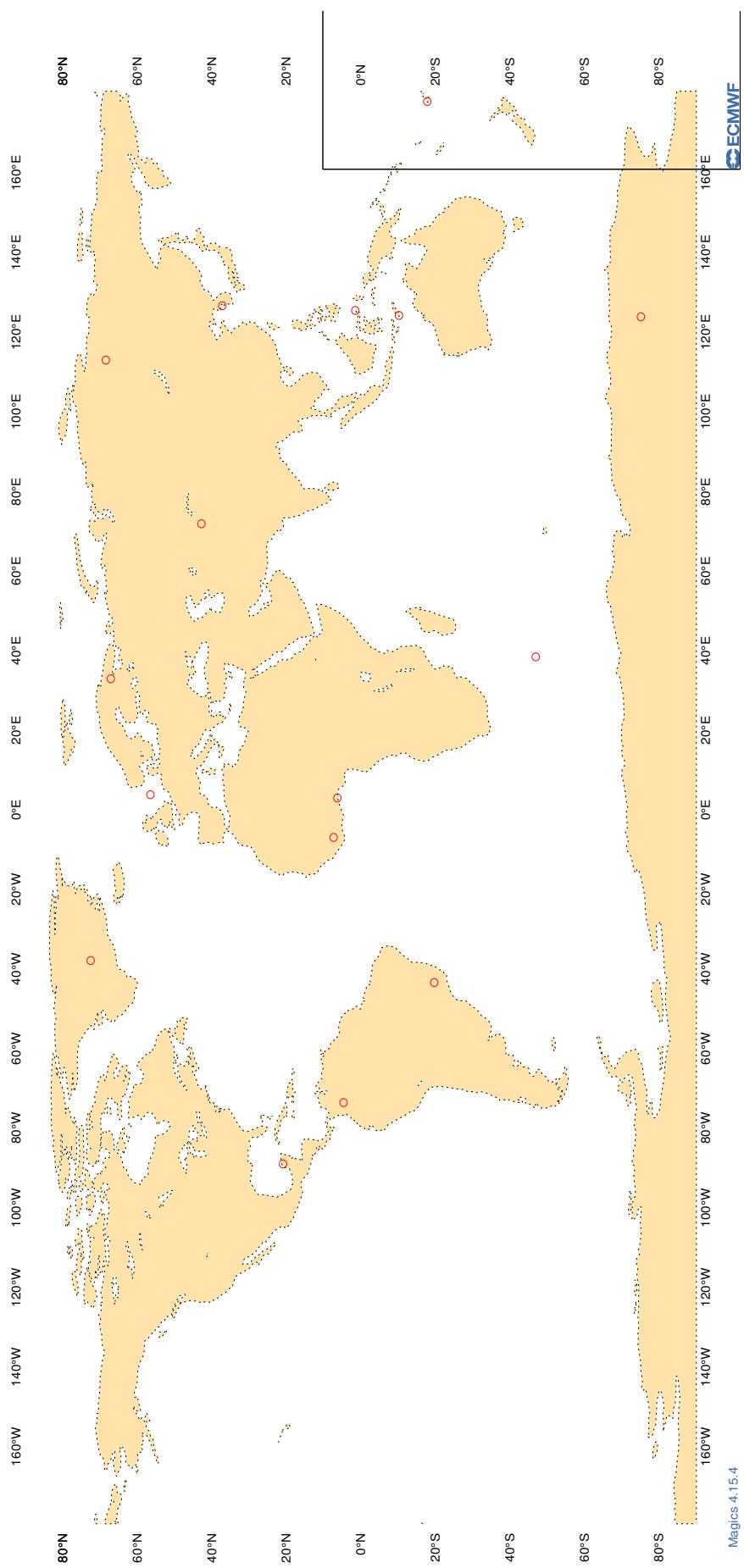
3.2.21 Figure 10 - Suspect TEMP observations - geopotential : 00 UTC**Figure 10**

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



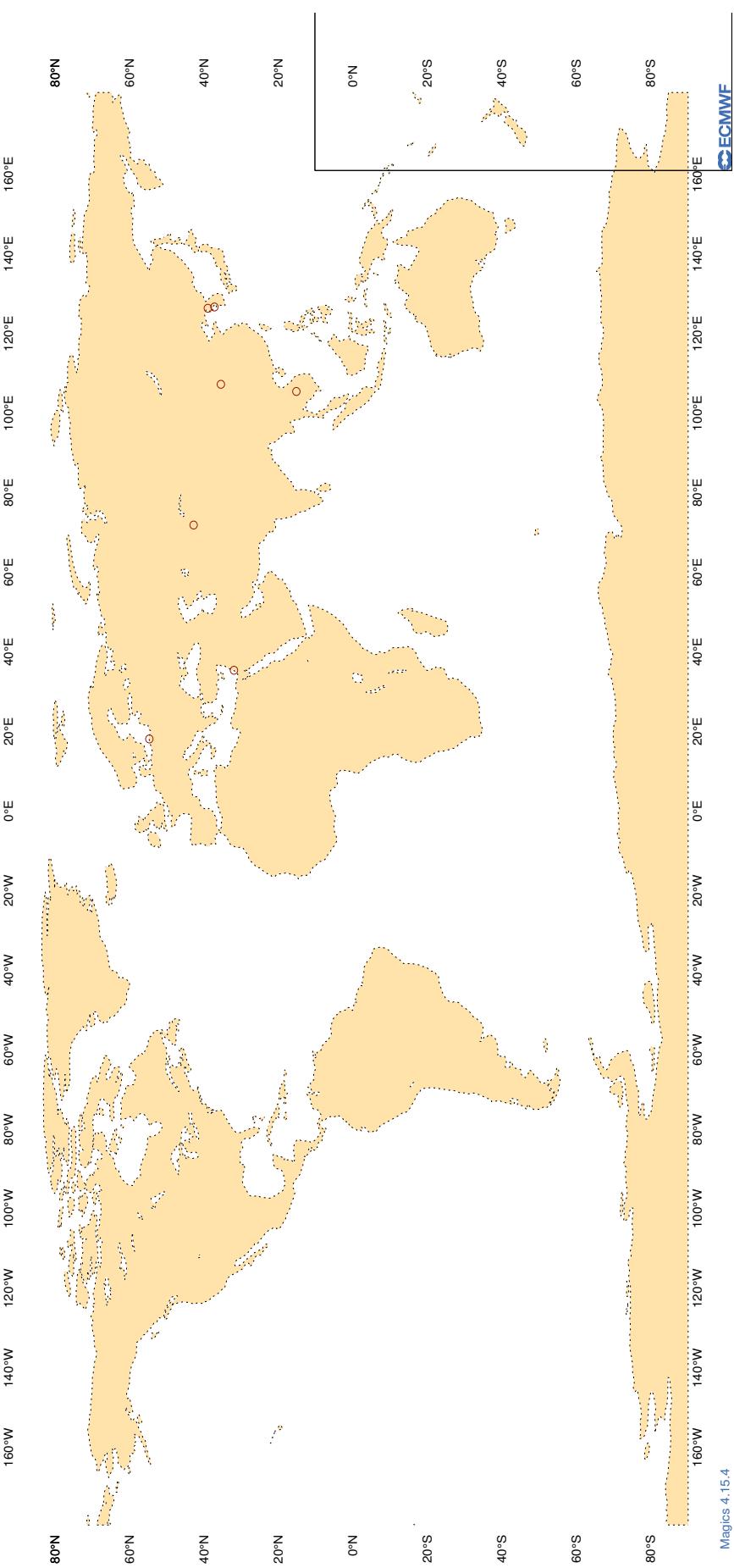
3.2.22 Figure 11 - Suspect TEMP observations - geopotential : 12 UTC**Figure 11**

**ECMWF Monitoring Statistics - DEC 2024 12 UTC
Suspect TEMP Observations - GEOPOTENTIAL**



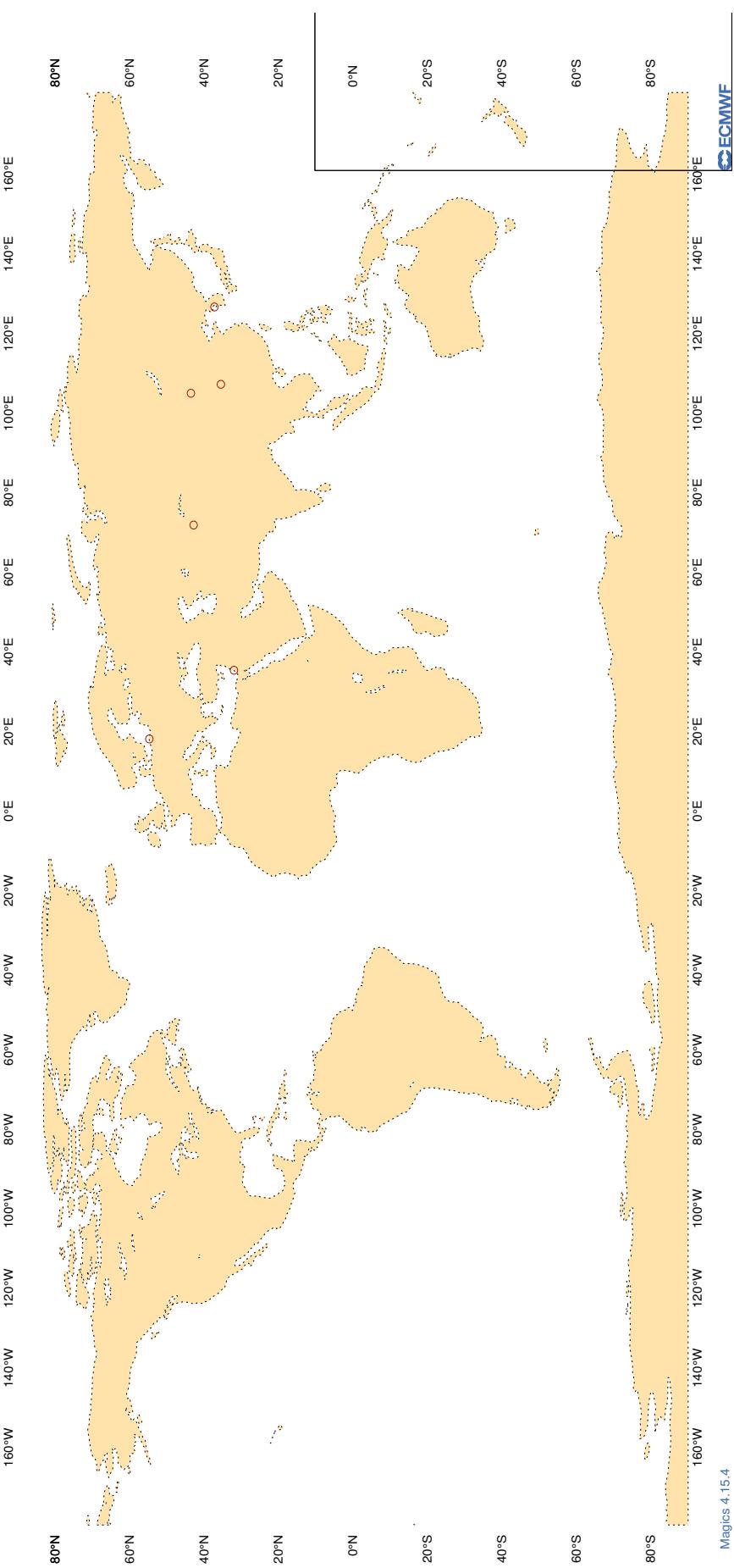
3.2.23 Figure 12 - Suspect TEMP/PILOT observations - wind : 00 UTC

Figure 12
ECMWF Monitoring Statistics - DEC 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 - DEC 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	:	DEC 2024
STANDARD OF COMPARISON: FIRST-GUESS FIELD		

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
2TDJJ8	12	Z	100	10	19.0	18.4
7JUNA4	12	Z	100	7	15.1	-13.1
7JUNA4	00	Z	100	8	5.8	0.7
7KPB	00	Z	100	1	25.4	-25.4
7KPB	12	Z	100	0	0.0	0.0
9ZT9MR	12	Z	100	5	64.9	-47.9
9ZT9MR	00	Z	100	8	47.8	-35.3
ASDE09	12	Z	100	1	10.7	-10.7
ATGU3F	12	Z	100	1	41.5	-41.5
ATGU3F	00	Z	100	1	4.8	-4.8
GQBZLZ	00	Z	100	0	0.0	0.0
GQBZLZ	12	Z	100	0	0.0	0.0
JNKN7J	00	Z	100	6	23.3	23.1
JNKN7J	12	Z	100	4	22.3	21.5
KJJF9X	12	Z	100	11	24.0	-21.8
KJJF9X	00	Z	100	10	20.9	-18.3
KMPLHP	00	Z	100	5	38.8	38.7
KMPLHP	12	Z	100	5	49.8	46.1
LAGY8	12	Z	100	1	55.5	-55.5
LAGY8	00	Z	100	2	32.9	-31.8
LAGZ8	12	Z	100	3	65.6	65.4
LRYQE3	12	Z	100	17	45.6	20.1
LRYQE3	00	Z	100	14	8.9	0.9
UBQW2	00	Z	100	10	13.4	-9.5
UBQW2	12	Z	100	8	29.2	-17.5
USBOD	00	Z	100	1	5.1	5.1
USBOD	12	Z	100	3	24.1	-17.0
USYUB	00	Z	100	4	9.6	-9.5
USYUB	12	Z	100	2	4.7	-3.9
UXK5JT	00	Z	100	0	0.0	0.0
UXK5JT	12	Z	100	0	0.0	0.0
WDK38H	12	Z	100	10	18.0	-16.3
XKQLWQ	12	Z	100	18	35.4	34.7
YLV96W	00	Z	100	6	6.9	-2.7
YLV96W	12	Z	100	6	9.8	-3.1
ZVQEQC	00	Z	100	3	11.0	9.0

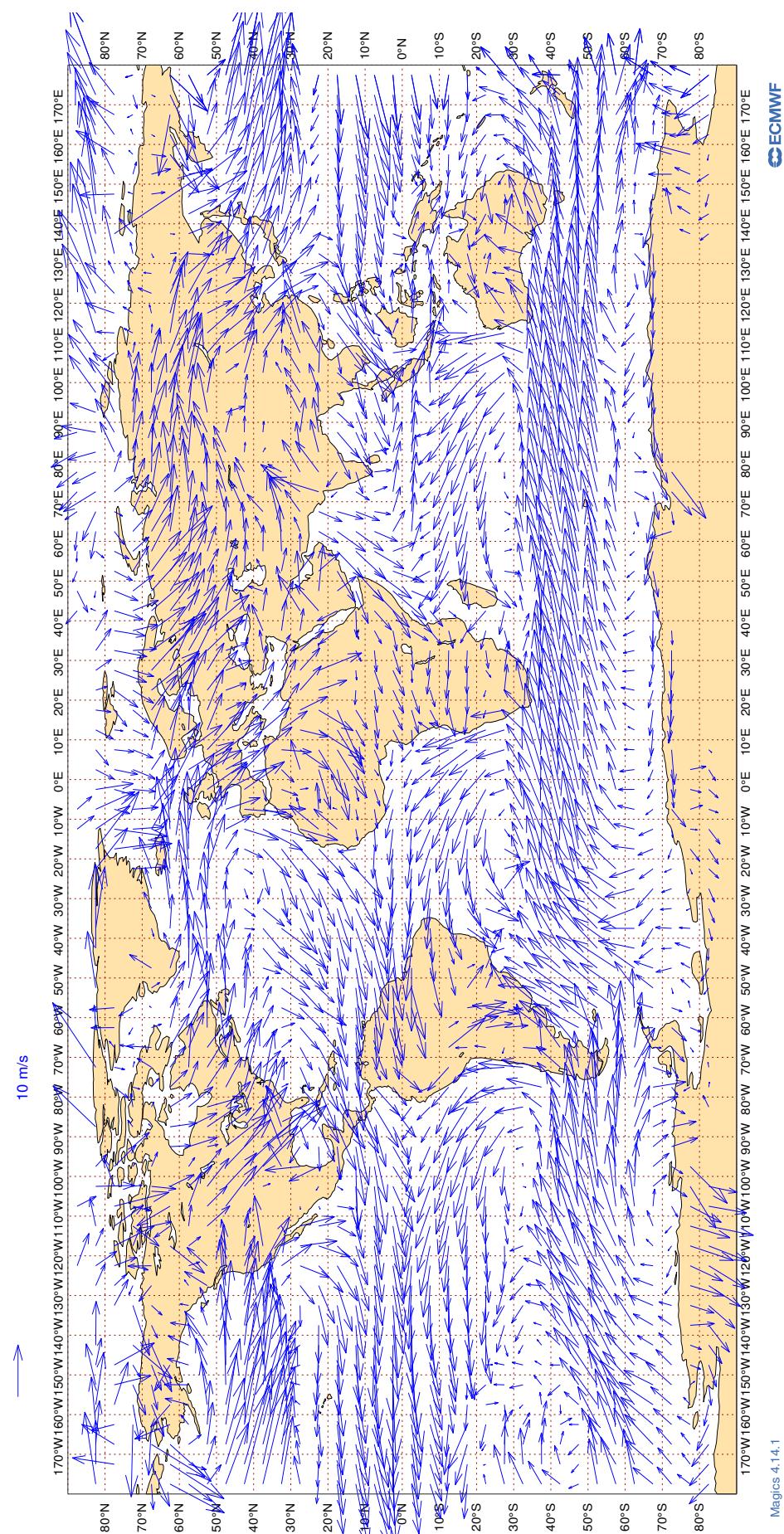
3.2.26 Table 11 - Radiosonde monitoring statistics (SHIPS): Wind (m/s)

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

WMO IDENT	OB TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
2TDJJ8	12	V	100	10	4.9	-0.1	1.6
7JUNA4	12	V	100	7	3.4	0.2	-0.2
7JUNA4	00	V	100	8	2.3	-1.2	1.0
7KPB	00	V	100	1	5.5	5.4	-1.1
7KPB	12	V	100	0	0.0	0.0	0.0
9ZT9MR	12	V	100	5	13.2	-4.3	3.7
9ZT9MR	00	V	100	7	12.7	-4.2	-2.8
ASDE09	12	V	100	1	6.5	6.0	-2.4
ATGU3F	12	V	100	1	2.6	-2.6	0.3
ATGU3F	00	V	100	1	4.1	2.3	-3.4
GQBZLZ	00	V	100	0	0.0	0.0	0.0
GQBZLZ	12	V	100	0	0.0	0.0	0.0
JNKN7J	00	V	100	6	2.4	-1.5	-0.5
JNKN7J	12	V	100	4	2.7	0.5	1.9
KJJF9X	12	V	100	10	4.0	-0.4	-0.6
KJJF9X	00	V	100	10	3.9	-0.2	0.9
KMPLHP	00	V	100	5	3.2	1.7	0.3
KMPLHP	12	V	100	5	3.8	-2.5	2.2
LAGY8	12	V	100	1	1.6	-0.5	1.5
LAGY8	00	V	100	2	5.3	-0.7	2.8
LAGZ8	12	V	100	3	3.5	-0.8	-0.6
LRYQE3	12	V	100	17	4.8	-1.4	1.2
LRYQE3	00	V	100	14	4.7	-0.1	0.2
UBQW2	00	V	100	9	2.5	-0.7	0.1
UBQW2	12	V	100	6	2.7	0.3	-1.0
USBOD	00	V	100	1	8.0	6.7	4.3
USBOD	12	V	100	1	3.8	3.7	-0.9
USYUB	00	V	100	2	8.9	5.1	0.2
USYUB	12	V	100	1	1.4	1.4	-0.1
UXK5JT	00	V	100	0	0.0	0.0	0.0
UXK5JT	12	V	100	0	0.0	0.0	0.0
WDK38H	12	V	100	10	2.1	0.3	-0.4
XKQLWQ	12	V	100	17	3.3	0.4	0.4
YLV96W	00	V	100	6	2.8	-0.2	-0.7
YLV96W	12	V	100	6	3.3	-0.9	0.0
ZVQEQC	00	V	100	3	2.3	0.6	2.0

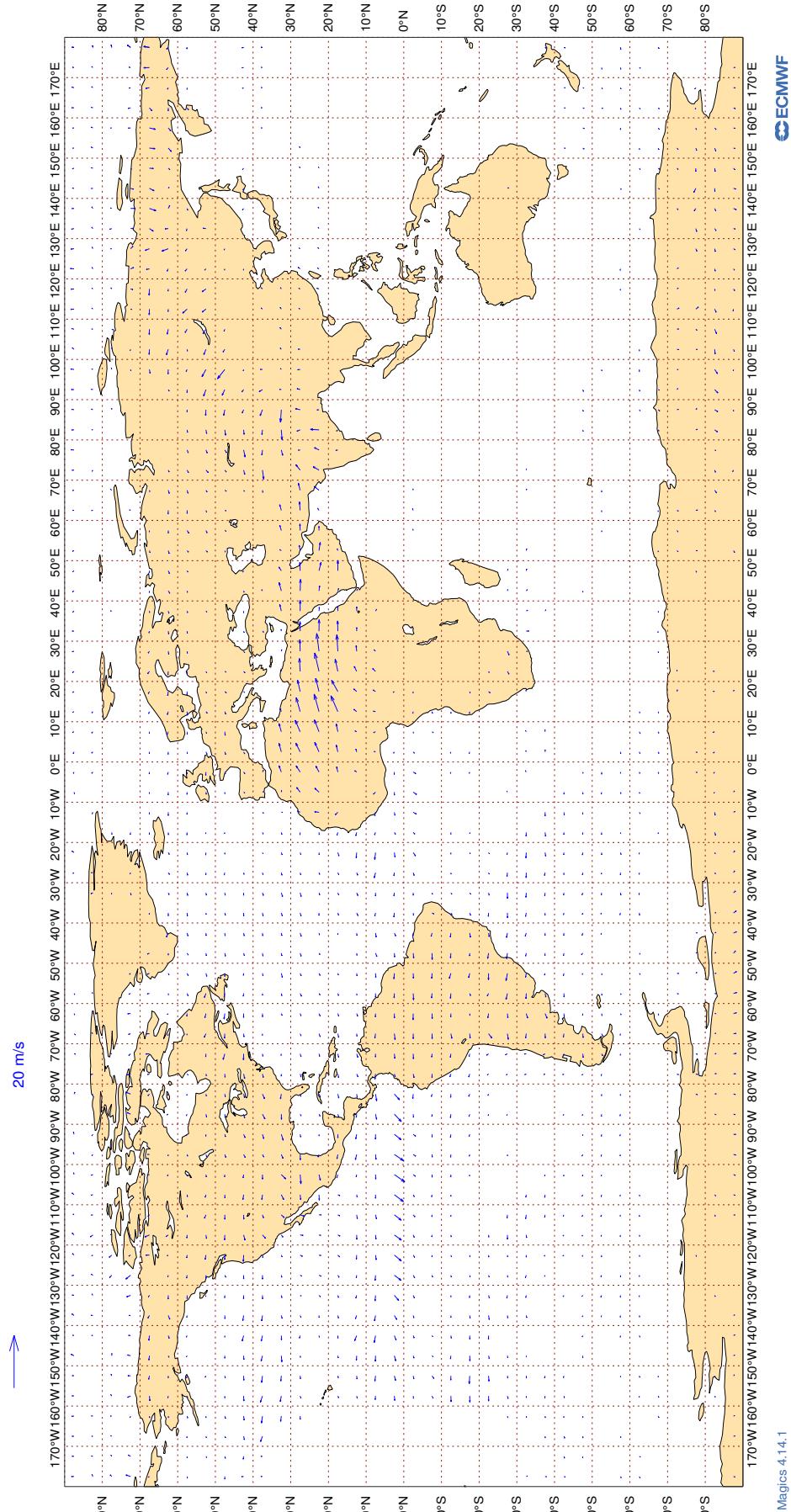
3.2.27 Figure 14 - SATOB Winds: 700-1000hPa

Figure 14
ECMWF Monitoring Statistics: Dec 2024
AMV Winds: 700-1000hPa
Mean Observed Wind



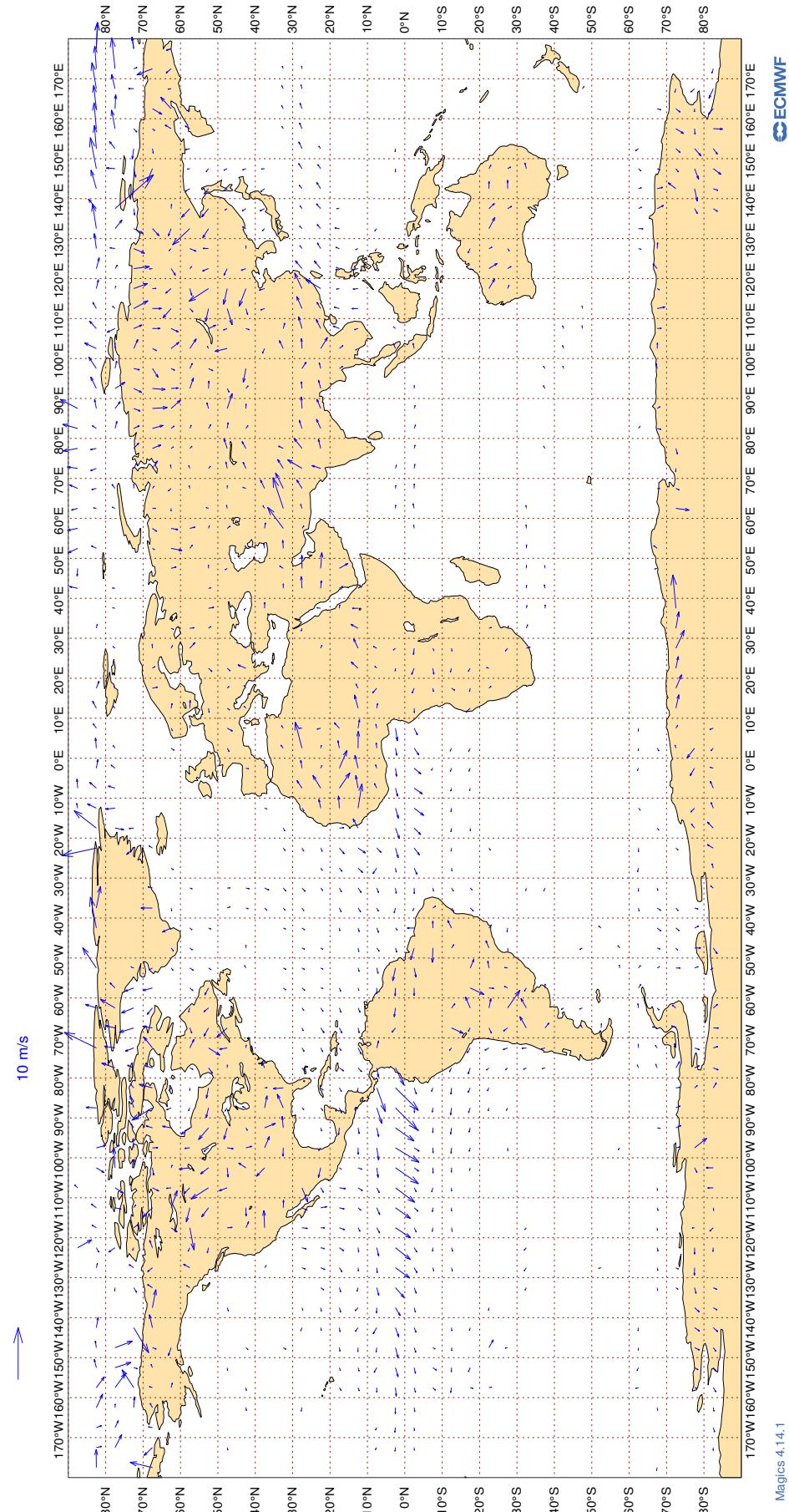
3.2.28 Figure 15 - SATOB Winds: 150- 400hPa

Figure 15
ECMWF Monitoring Statistics: Dec 2024
AMV Winds: 150- 400hPa
Wind bias: Observation - FG



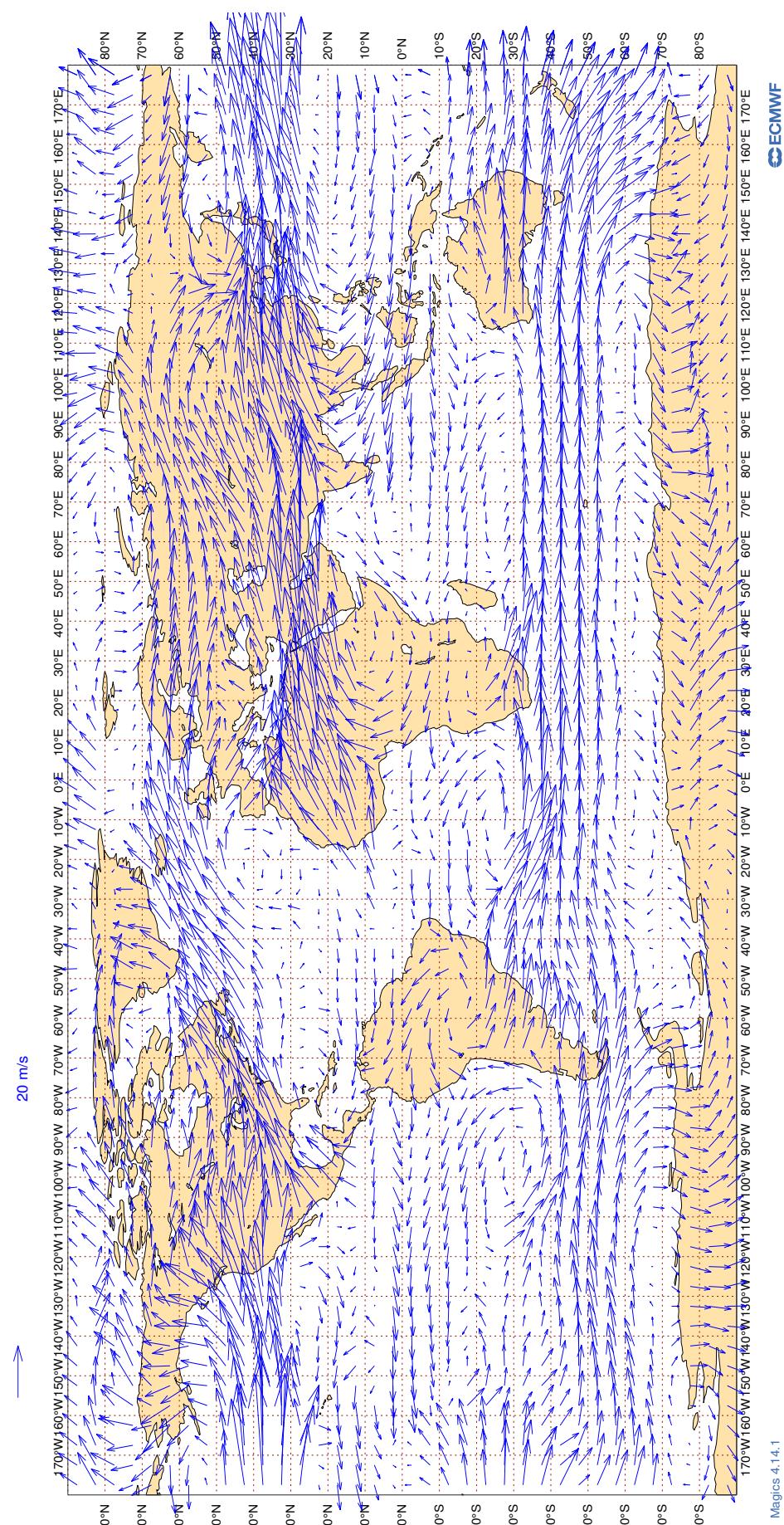
3.2.29 Figure 16 - SATOB Winds: 700-1000hPa

Figure 16
ECMWF Monitoring Statistics: Dec 2024
AMV Winds: 700-1000hPa
Wind bias: Observation - FG



3.2.30 Figure 17 - SATOB Winds: 150- 400hPa

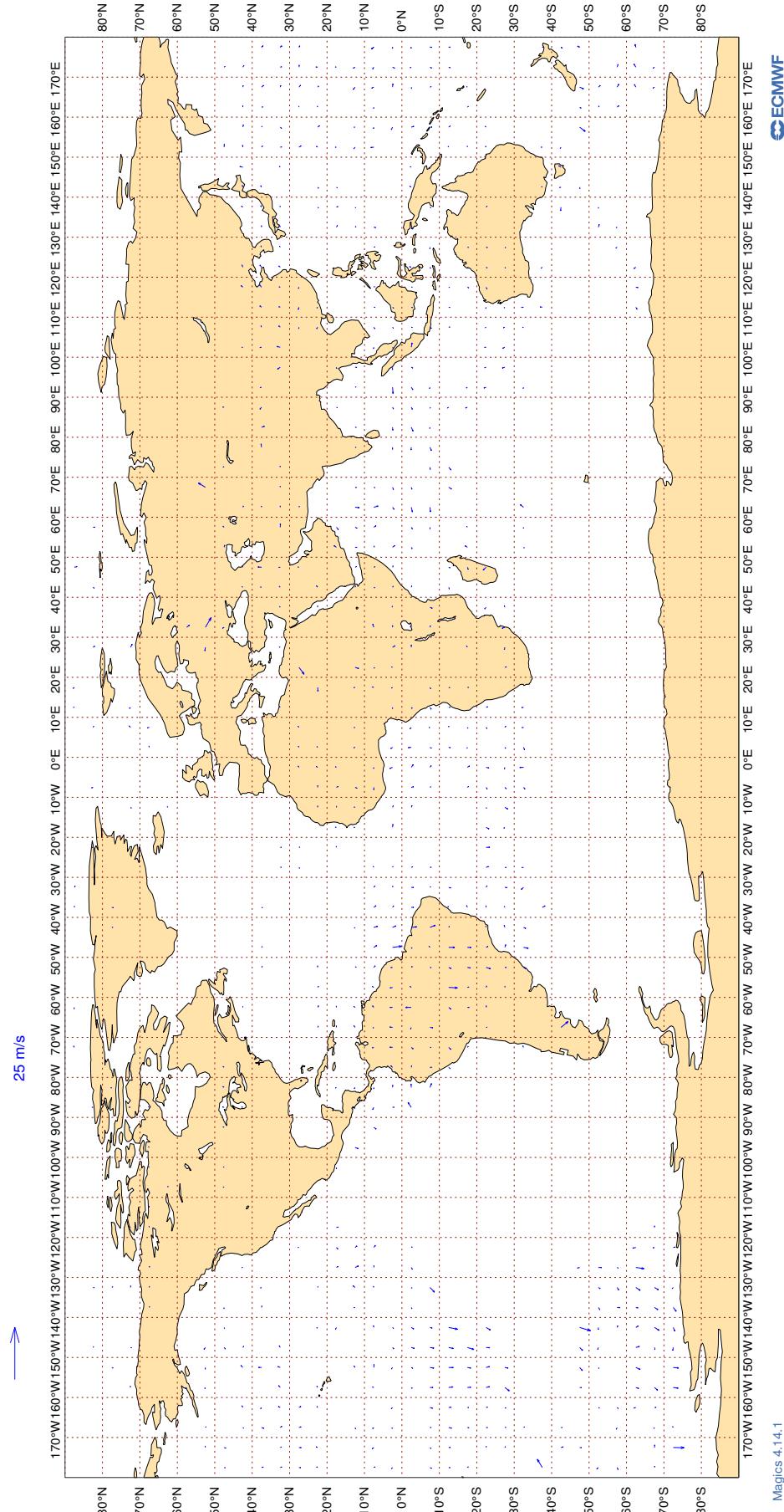
Figure 17
ECMWF Monitoring Statistics: Dec 2024
AMV Winds: 150- 400hPa
Mean Observed Wind



3.2.31 Figure 18 - AIRCRAFT Winds: 150- 300hPa

Figure 18

ECMWF Monitoring Statistics: Dec 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 : DEC 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	71	0	0	3.7	-0.5
AAL	99	V	300-150	36232	7	0	5.1	0.0
AAR	99	V	300-150	139	0	0	3.3	-0.7
ABB	99	V	300-150	1323	0	0	3.3	0.3
ABD	99	V	300-150	1132	0	0	3.8	-0.1
ABP	99	V	300-150	32	0	0	4.0	0.6
ACA	99	V	300-150	24519	5	0	4.4	0.0
ACI	99	V	300-150	298	0	0	4.2	0.1
ADN	99	V	300-150	22	0	0	3.4	0.8
ADS	99	V	300-150	26	0	0	3.1	-0.3
ADY	99	V	300-150	98	0	0	3.3	0.8
ADZ	99	V	300-150	77	0	0	3.3	0.4
AEA	99	V	300-150	571	7	0	6.0	0.0
AFR	99	V	300-150	36318	1	0	3.8	0.0
AHY	99	V	300-150	98	2	0	11.3	0.3
AIB	99	V	300-150	35	0	0	3.3	0.8
AIC	99	V	300-150	7269	2	0	5.8	0.2
AJO	99	V	300-150	53	0	0	4.3	-0.9
AJT	99	V	300-150	120	0	0	4.9	1.0
ALE	99	V	300-150	43	0	0	5.3	1.3
ALK	99	V	300-150	1855	0	0	3.2	0.5
ALX	99	V	300-150	39	0	0	4.5	1.8
AMX	99	V	300-150	4598	16	0	7.2	-0.4
ANA	99	V	300-150	220	2	0	6.3	0.5

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEED BIAS
ANZ	99	V	300-150	14810	0	0	4.3	0.3
AOJ	99	V	300-150	220	0	0	3.7	0.4
APZ	99	V	300-150	38	0	0	4.2	-0.1
ARL	99	V	300-150	31	0	0	4.5	0.0
ASA	99	V	300-150	50	0	0	7.9	0.9
ASL	99	V	300-150	643	0	0	3.5	0.3
ASY	99	V	300-150	52	0	0	3.7	0.9
ATC	99	V	300-150	468	6	0	9.2	0.2
ATN	99	V	300-150	190	1	2	5.5	0.3
AUA	99	V	300-150	4791	6	0	4.9	0.0
AVA	99	V	300-150	905	5	0	7.8	0.0
AVI	99	V	300-150	38	0	0	4.9	0.2
AVL	99	V	300-150	36	0	0	3.0	-0.2
AWC	99	V	300-150	40	0	0	3.4	0.5
AXM	99	V	300-150	61	0	7	4.8	0.5
AXY	99	V	300-150	114	0	0	3.1	0.2
AZG	99	V	300-150	961	0	0	3.5	-0.2
BAF	99	V	300-150	47	0	0	4.8	0.1
BAH	99	V	300-150	42	0	0	3.0	0.2
BAW	99	V	300-150	48705	5	0	4.6	0.0
BBB	99	V	300-150	23	0	0	3.1	0.6
BBC	99	V	300-150	1297	7	0	3.9	0.4
BCP	99	V	300-150	36	0	0	4.2	1.3
BCS	99	V	300-150	1773	0	0	3.3	0.2
BEL	99	V	300-150	725	0	0	3.5	0.2
BLU	99	V	300-150	93	0	0	3.7	1.2
BLX	99	V	300-150	635	9	0	8.8	0.3
BOX	99	V	300-150	5120	0	0	3.6	0.0
BOX	99	V	300-150	114	0	0	3.1	0.0
BQB	99	V	300-150	28	0	0	3.4	1.1
BRJ	99	V	300-150	23	0	0	3.9	1.4
BRK	99	V	300-150	68	0	0	2.8	-0.2
BTX	99	V	300-150	65	0	0	3.1	0.4
CAL	99	V	300-150	1280	0	0	3.6	0.5
CBJ	99	V	300-150	24	0	0	3.4	0.9
CCA	99	V	300-150	367	3	0	3.4	0.6
CEB	99	V	300-150	670	0	0	3.0	0.6
CES	99	V	300-150	1747	1	0	3.5	0.3
CFC	99	V	300-150	255	0	0	3.5	0.2
CFG	99	V	300-150	6060	0	0	3.6	0.1
CHG	99	V	300-150	732	0	0	3.5	0.0
CHH	99	V	300-150	913	7	0	4.6	0.3
CJT	99	V	300-150	1219	0	0	4.1	0.1

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEED BIAS
CKS	99	V	300-150	349	0	0	3.5	-0.2
CLF	99	V	300-150	53	0	0	4.0	-0.4
CLX	99	V	300-150	4946	0	0	4.0	-0.3
CLY	99	V	300-150	48	0	0	4.5	-0.5
CMB	99	V	300-150	1446	0	0	3.7	-0.4
CND	99	V	300-150	324	0	0	3.4	-0.2
CNK	99	V	300-150	31	0	0	5.8	-0.6
CNV	99	V	300-150	108	0	0	3.7	0.4
COL	99	V	300-150	24	0	0	4.4	-1.1
CPA	99	V	300-150	3163	0	0	3.5	0.2
CPI	99	V	300-150	20	0	0	4.0	-0.4
CRL	99	V	300-150	1035	0	0	3.3	0.2
CRV	99	V	300-150	39	0	0	3.7	-0.3
CSC	99	V	300-150	739	0	0	3.2	0.4
CSG	99	V	300-150	157	0	0	2.7	-0.1
CSN	99	V	300-150	437	0	0	4.8	0.5
CSS	99	V	300-150	162	0	0	3.3	0.1
CSZ	99	V	300-150	129	0	0	2.7	0.3
CTV	99	V	300-150	265	0	0	3.5	0.5
CXA	99	V	300-150	63	5	0	3.7	0.2
DAH	99	V	300-150	747	0	0	3.9	0.3
DAL	99	V	300-150	51578	0	0	3.5	0.1
DCF	99	V	300-150	25	0	0	3.4	0.1
DEC	99	V	300-150	34	0	0	4.8	1.0
DHK	99	V	300-150	3026	0	0	3.7	-0.2
DHX	99	V	300-150	891	0	0	3.6	0.7
DJT	99	V	300-150	2014	0	0	3.5	0.0
DLH	99	V	300-150	25571	1	0	3.7	-0.1
DWC	99	V	300-150	33	0	0	5.3	-1.8
EAL	99	V	300-150	22	0	0	6.5	-4.2
EAU	99	V	300-150	99	0	0	3.5	0.9
EDC	99	V	300-150	37	0	0	3.2	-1.1
EDW	99	V	300-150	1626	0	0	3.6	0.1
EIN	99	V	300-150	16579	0	0	3.4	0.1
EJM	99	V	300-150	512	0	0	4.0	0.5
ELY	99	V	300-150	6174	13	0	6.9	-0.1
EMO	99	V	300-150	40	0	0	3.5	0.6
ETD	99	V	300-150	17998	4	0	6.2	0.2
ETH	99	V	300-150	8447	4	0	6.0	0.1
EUK	99	V	300-150	1611	0	0	3.4	0.1
EVA	99	V	300-150	666	0	0	3.7	0.5
EVE	99	V	300-150	162	0	0	4.0	0.9
EXS	99	V	300-150	4876	0	0	3.1	0.1

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEED BIAS
EZY	99	V	300-150	121	0	0	3.4	0.0
FBU	99	V	300-150	2112	0	0	3.8	0.0
FDX	99	V	300-150	8344	0	0	3.5	0.1
FGO	99	V	300-150	114	0	0	3.2	0.7
FIN	99	V	300-150	2289	0	0	3.5	0.3
FJI	99	V	300-150	2755	0	0	4.2	0.4
FJO	99	V	300-150	146	0	0	3.9	0.8
FPY	99	V	300-150	3524	0	0	3.2	0.1
FWI	99	V	300-150	2495	0	0	3.7	0.1
FYG	99	V	300-150	60	0	0	4.2	0.3
GAF	99	V	300-150	141	0	0	3.1	0.6
GCK	99	V	300-150	225	0	0	4.1	0.8
GEC	99	V	300-150	1154	0	0	3.1	0.2
GES	99	V	300-150	123	0	0	4.0	-0.3
GFA	99	V	300-150	2207	4	0	8.3	0.4
GIA	99	V	300-150	1686	0	0	3.4	0.5
GJE	99	V	300-150	32	0	0	5.3	-0.2
GJI	99	V	300-150	42	0	0	3.4	0.8
GNJ	99	V	300-150	49	0	0	3.8	1.1
GRB	99	V	300-150	38	0	0	4.5	1.4
GRP	99	V	300-150	71	0	0	3.6	-0.1
GSM	99	V	300-150	28	0	0	3.2	-0.6
GTI	99	V	300-150	1863	0	0	3.9	-0.3
GTR	99	V	300-150	360	0	0	3.3	0.5
HAL	99	V	300-150	964	0	0	4.7	0.4
HCR	99	V	300-150	52	0	0	3.4	0.0
HFM	99	V	300-150	45	0	0	3.4	0.0
HGO	99	V	300-150	59	0	0	3.6	2.3
HIM	99	V	300-150	35	0	0	3.0	-0.5
HKC	99	V	300-150	34	0	0	3.7	0.4
HLF	99	V	300-150	76	0	0	2.8	0.5
HMZ	99	V	300-150	26	0	0	3.5	0.2
HOO	99	V	300-150	37	0	0	4.5	1.1
HOO	99	V	300-150	36	0	0	3.2	-0.5
HRN	99	V	300-150	28	0	4	4.0	-1.3
HRT	99	V	300-150	32	0	0	3.6	-0.2
HUA	99	V	300-150	40	0	0	3.1	0.6
HUE	99	V	300-150	79	0	0	6.0	0.4
HVN	99	V	300-150	832	2	0	4.7	0.8
HYP	99	V	300-150	52	0	0	3.9	0.6
HYS	99	V	300-150	491	0	0	3.4	0.0
IBE	99	V	300-150	3470	0	0	3.6	0.1
ICE	99	V	300-150	8572	0	0	3.3	0.1

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEED BIAS
ICL	99	V	300-150	163	0	0	3.7	-0.3
ICV	99	V	300-150	289	0	0	3.7	-0.3
IFA	99	V	300-150	477	0	0	3.7	0.1
IGA	99	V	300-150	104	0	0	4.0	0.5
IGO	99	V	300-150	653	0	0	3.1	0.6
IJM	99	V	300-150	159	0	0	4.7	0.8
ITY	99	V	300-150	3860	0	0	3.6	0.2
JAF	99	V	300-150	500	9	0	6.9	-0.3
JAL	99	V	300-150	794	5	0	7.4	0.2
JAS	99	V	300-150	108	0	0	4.4	0.1
JB	99	V	300-150	6172	0	0	3.6	0.1
JCO	99	V	300-150	108	0	0	3.4	-0.1
JEF	99	V	300-150	36	0	0	3.1	0.1
JET	99	V	300-150	48	0	0	3.4	0.0
JME	99	V	300-150	49	0	0	3.6	0.2
JST	99	V	300-150	1063	0	0	3.8	0.5
JTL	99	V	300-150	33	0	0	3.2	0.5
JZR	99	V	300-150	30	0	0	2.8	0.8
KAC	99	V	300-150	2479	0	0	3.0	0.5
KAF	99	V	300-150	35	0	0	2.8	0.5
KAI	99	V	300-150	153	1	0	5.2	0.2
KAL	99	V	300-150	425	0	0	3.2	0.6
KAY	99	V	300-150	176	0	0	3.9	-0.2
KCE	99	V	300-150	30	0	0	4.3	-0.9
KFE	99	V	300-150	32	0	0	4.0	1.2
KIW	99	V	300-150	71	0	0	4.3	-0.4
KLM	99	V	300-150	18495	8	0	4.9	0.0
KOC	99	V	300-150	41	0	0	5.1	0.4
KQA	99	V	300-150	543	5	0	11.8	0.1
LAE	99	V	300-150	130	0	0	3.7	-0.2
LCO	99	V	300-150	681	0	0	4.3	-1.2
LDX	99	V	300-150	72	0	0	3.9	0.5
LEA	99	V	300-150	50	0	0	4.9	0.9
LEX	99	V	300-150	30	0	0	3.3	0.4
LHO	99	V	300-150	31	0	3	6.6	-1.8
LJY	99	V	300-150	34	0	0	3.1	0.6
LMJ	99	V	300-150	22	0	0	3.6	0.3
LNI	99	V	300-150	1082	0	0	3.2	0.5
LNX	99	V	300-150	44	0	0	3.5	0.0
LOT	99	V	300-150	4071	11	0	6.4	-0.1
LRQ	99	V	300-150	27	0	0	4.9	2.2
LXJ	99	V	300-150	338	0	0	3.8	0.3
MAS	99	V	300-150	6705	0	0	3.9	0.6

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEED BIAS
MAU	99	V	300-150	432	0	0	4.9	1.1
MHV	99	V	300-150	37	0	0	3.8	0.1
MLM	99	V	300-150	67	0	0	4.1	0.6
MMD	99	V	300-150	354	0	0	3.8	0.0
MMF	99	V	300-150	69	0	0	3.2	-0.2
MMF	99	V	300-150	22	0	0	3.2	0.2
MNB	99	V	300-150	454	0	0	3.5	0.1
MPH	99	V	300-150	494	0	0	3.7	0.2
MSR	99	V	300-150	2557	7	0	5.3	0.0
MVJ	99	V	300-150	36	0	0	5.7	-1.0
MXD	99	V	300-150	249	0	0	3.2	0.1
NBT	99	V	300-150	1817	16	0	6.8	-0.4
NCR	99	V	300-150	363	0	0	3.8	-0.4
NEW	99	V	300-150	34	0	0	4.2	-0.8
NJE	99	V	300-150	653	0	0	3.8	0.2
NOS	99	V	300-150	1770	11	0	6.8	-0.1
NUM	99	V	300-150	35	0	0	3.6	0.4
OAE	99	V	300-150	322	0	0	3.9	-0.5
OCN	99	V	300-150	4580	0	0	3.8	0.1
OMA	99	V	300-150	2301	5	0	9.6	0.4
PAL	99	V	300-150	1430	0	0	3.1	0.4
PAT	99	V	300-150	22	0	0	3.8	1.7
PFT	99	V	300-150	35	3	3	6.5	0.5
PIA	99	V	300-150	337	0	0	3.3	0.3
PUE	99	V	300-150	240	0	0	3.5	0.3
PVA	99	V	300-150	170	0	0	3.8	-0.2
PVG	99	V	300-150	23	0	0	3.0	0.8
QAF	99	V	300-150	45	0	0	3.5	0.5
QFA	99	V	300-150	4547	2	0	6.3	0.1
QFX	99	V	300-150	54	0	0	3.8	0.1
QID	99	V	300-150	24	0	0	4.5	-1.2
QNT	99	V	300-150	56	0	0	4.0	0.7
QQE	99	V	300-150	520	0	0	3.7	0.2
QTR	99	V	300-150	40840	1	0	4.3	0.3
RAM	99	V	300-150	678	17	0	8.1	-0.4
RBA	99	V	300-150	513	5	0	8.8	0.4
RCH	99	V	300-150	2464	0	0	4.3	0.1
RCR	99	V	300-150	120	0	0	2.9	0.4
RHH	99	V	300-150	40	0	0	8.6	0.9
RJA	99	V	300-150	1849	19	0	7.7	-0.2
RJR	99	V	300-150	54	0	0	3.5	0.2
ROJ	99	V	300-150	66	0	0	3.8	-0.2
RRR	99	V	300-150	127	0	0	3.5	0.0

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEED BIAS
RSF	99	V	300-150	42	0	0	4.3	0.9
RYR	99	V	300-150	1036	0	0	3.3	0.3
RZO	99	V	300-150	275	0	0	3.9	0.0
SAM	99	V	300-150	321	0	0	4.6	0.1
SAS	99	V	300-150	5905	0	0	3.5	0.2
SAZ	99	V	300-150	71	0	0	5.3	-0.3
SCX	99	V	300-150	105	1	1	5.6	0.4
SDE	99	V	300-150	24	0	0	2.2	0.6
SEY	99	V	300-150	130	0	0	4.0	0.9
SIA	99	V	300-150	16096	0	0	4.2	0.4
SIO	99	V	300-150	224	0	0	3.7	-0.4
SJX	99	V	300-150	34	0	0	4.3	-1.9
SKV	99	V	300-150	148	0	0	3.5	0.1
SLM	99	V	300-150	178	0	0	2.9	0.2
SPA	99	V	300-150	46	0	0	5.5	-0.9
SRR	99	V	300-150	55	0	0	3.3	-0.1
SVA	99	V	300-150	11895	2	0	5.7	0.3
SVW	99	V	300-150	338	0	0	3.8	0.2
SWN	99	V	300-150	36	0	0	7.2	-1.0
SWR	99	V	300-150	11502	0	0	3.6	0.1
SWW	99	V	300-150	30	0	0	4.6	0.1
SYB	99	V	300-150	28	0	0	3.6	-1.3
TAG	99	V	300-150	25	0	0	3.9	2.0
TAM	99	V	300-150	85	4	0	9.9	0.3
TAP	99	V	300-150	2407	0	0	3.6	0.3
TAR	99	V	300-150	422	0	0	3.4	0.2
TAX	99	V	300-150	47	0	0	3.5	0.0
TAY	99	V	300-150	201	0	0	4.0	-0.9
TEU	99	V	300-150	60	0	0	4.8	-0.5
TFF	99	V	300-150	76	0	0	3.9	-0.2
TFL	99	V	300-150	1357	11	0	7.9	-0.3
TGW	99	V	300-150	1107	5	0	10.0	0.5
THA	99	V	300-150	4746	1	0	4.4	0.6
THT	99	V	300-150	2096	6	0	7.2	0.0
THY	99	V	300-150	23850	4	0	4.7	0.1
TMN	99	V	300-150	445	0	0	4.1	0.3
TOM	99	V	300-150	4281	11	0	7.6	-0.2
TOR	99	V	300-150	74	0	0	3.5	-0.3
TSC	99	V	300-150	5494	0	0	3.5	0.1
TUA	99	V	300-150	52	0	0	2.8	0.3
TVR	99	V	300-150	169	0	0	4.3	1.1
TWY	99	V	300-150	517	0	0	3.9	0.1
UAE	99	V	300-150	37166	0	0	3.5	0.3

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEED BIAS
UAF	99	V	300-150	81	0	0	4.1	0.5
UAG	99	V	300-150	26	0	0	3.7	0.3
UAL	99	V	300-150	62098	4	1	4.7	0.1
UBT	99	V	300-150	2117	16	0	6.5	-0.4
UGD	99	V	300-150	51	0	0	2.7	0.3
UKN	99	V	300-150	35	0	0	2.8	-0.3
ULC	99	V	300-150	148	0	0	4.4	0.9
UNI	99	V	300-150	52	0	0	4.9	-0.7
UPS	99	V	300-150	5786	0	0	3.5	-0.2
USY	99	V	300-150	21	0	0	2.1	0.8
UZB	99	V	300-150	826	5	0	5.9	0.5
UZS	99	V	300-150	184	0	0	3.2	0.5
VAL	99	V	300-150	36	0	0	5.1	-0.2
VCG	99	V	300-150	65	0	0	4.6	0.8
VCJ	99	V	300-150	103	0	0	4.0	0.7
VIR	99	V	300-150	19873	4	0	4.4	0.0
VJC	99	V	300-150	226	0	0	3.4	0.3
VJH	99	V	300-150	280	0	0	4.2	0.3
VJT	99	V	300-150	1945	0	0	3.8	0.5
VKG	99	V	300-150	338	0	0	3.6	0.4
VLZ	99	V	300-150	97	0	0	8.1	-0.6
VOZ	99	V	300-150	126	0	0	3.3	-0.2
VSV	99	V	300-150	91	0	0	2.8	-0.1
VXS	99	V	300-150	26	0	0	3.6	1.4
WAZ	99	V	300-150	21	0	0	2.9	0.3
WFL	99	V	300-150	637	0	0	3.5	-0.1
WJA	99	V	300-150	858	13	0	6.7	0.0
XAX	99	V	300-150	1201	0	0	4.2	0.7
XLS	99	V	300-150	42	0	0	3.9	0.6
XRO	99	V	300-150	20	0	0	3.4	-0.2

4 EUCOS Area Monitoring Statistics

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

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

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

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

RADIOSONDE MONITORING STATISTICS (EUCOS)

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	50	29	13.4	8.5
01001	12	Z	50	30	12.5	-6.2
01028	00	Z	50	31	8.9	-4.4
01028	12	Z	50	29	8.7	-4.8
01400	00	Z	50	29	80.8	79.1
01400	12	Z	50	27	83.5	82.6
01415	00	Z	50	31	15.0	-0.8
01415	12	Z	50	29	15.8	2.8
02365	00	Z	50	26	11.8	4.6
02365	12	Z	50	28	10.3	0.7
02591	12	Z	50	18	18.5	3.0
02591	00	Z	50	15	11.1	6.2
02836	00	Z	50	2	9.2	-8.4
02836	12	Z	50	7	11.7	1.3
02963	00	Z	50	20	8.1	-0.1
02963	12	Z	50	21	8.2	0.4
03005	00	Z	50	26	10.6	0.3
03005	12	Z	50	30	13.2	-3.8
03238	12	Z	50	5	19.0	14.6
03238	00	Z	50	28	14.9	5.7
03808	00	Z	50	27	7.9	3.7
03808	12	Z	50	30	7.3	2.3
03918	00	Z	50	29	17.5	7.7
03918	12	Z	50	4	11.0	9.2
03953	12	Z	50	30	9.7	-1.8
03953	00	Z	50	31	8.6	-4.2
04018	12	Z	50	21	15.4	2.0
04018	00	Z	50	23	14.7	-0.3
04220	00	Z	50	30	16.3	-13.6
04220	12	Z	50	30	15.2	-12.0
04270	12	Z	50	28	25.5	-21.4
04270	00	Z	50	28	19.5	-11.2
04320	12	Z	50	29	8.9	-3.9
04320	00	Z	50	29	14.5	-7.3
04339	12	Z	50	19	23.7	-20.5
04339	00	Z	50	22	72.5	-5.3
04360	00	Z	50	3	41.4	-40.1
04360	12	Z	50	1	30.2	-30.2
06011	12	Z	50	28	25.1	-21.9

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	50	29	46.4	-4.0
06260	12	Z	50	4	5.3	3.4
06610	00	Z	50	31	25.7	-3.1
06610	12	Z	50	31	20.9	1.2
07110	12	Z	50	29	22.6	-18.3
07110	00	Z	50	27	24.3	-22.5
07510	12	Z	50	30	42.9	-41.1
07510	00	Z	50	25	47.6	-46.7
07645	12	Z	50	30	22.2	-17.2
07645	00	Z	50	28	14.3	-10.2
07761	12	Z	50	28	20.9	-13.2
07761	00	Z	50	30	29.6	-17.2
08001	12	Z	50	31	10.1	7.1
08001	00	Z	50	30	7.8	4.8
08221	12	Z	50	31	8.6	5.1
08221	00	Z	50	29	8.3	6.5
08302	12	Z	50	29	7.7	-3.8
08302	00	Z	50	27	6.9	-1.6
08508	12	Z	50	30	30.2	-0.1
08522	12	Z	50	29	8.8	4.5
10035	12	Z	50	31	17.1	14.7
10035	00	Z	50	30	18.8	16.2
10393	00	Z	50	29	7.9	2.5
10393	12	Z	50	31	14.0	4.0
10410	00	Z	50	31	10.8	7.3
10410	12	Z	50	29	7.9	3.1
10739	12	Z	50	30	11.3	8.0
10739	00	Z	50	29	15.7	11.1
11035	00	Z	50	30	14.8	1.1
11035	12	Z	50	31	12.0	-4.4
12982	12	Z	50	30	6.9	4.3
12982	00	Z	50	31	9.7	-1.0
16245	00	Z	50	29	8.8	4.0
16245	12	Z	50	31	8.3	3.2
16429	00	Z	50	31	11.1	7.0
16429	12	Z	50	31	11.4	1.9
16622	00	Z	50	16	16.6	-8.9
16754	00	Z	50	25	8.1	4.1
17607	12	Z	50	25	7.4	-1.0
26435	12	Z	50	8	13.1	-4.6
2TDJJ8	12	Z	50	10	16.5	15.1
60018	12	Z	50	31	7.7	2.2
60018	00	Z	50	29	9.0	4.9

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	12	Z	50	7	21.0	-13.0
7JUNA4	00	Z	50	8	6.5	4.5
9ZT9MR	12	Z	50	5	58.2	-42.5
9ZT9MR	00	Z	50	6	57.8	-46.3
ASDE09	12	Z	50	1	5.9	-5.9
ATGU3F	12	Z	50	1	32.0	-32.0
ATGU3F	00	Z	50	2	8.4	-8.4
GQBZLZ	00	Z	50	0	0.0	0.0
GQBZLZ	12	Z	50	1	368.1	-368.1
JNKN7J	00	Z	50	6	23.8	23.6
JNKN7J	12	Z	50	3	29.5	27.1
KJJF9X	12	Z	50	11	29.5	-25.7
KJJF9X	00	Z	50	9	30.7	-28.7
KMPLHP	00	Z	50	4	41.7	40.6
KMPLHP	12	Z	50	5	56.6	49.1
LRYQE3	12	Z	50	16	84.5	44.6
LRYQE3	00	Z	50	13	10.0	1.6
UXK5JT	00	Z	50	0	0.0	0.0
UXK5JT	12	Z	50	0	0.0	0.0
WDK38H	12	Z	50	10	15.8	-14.5
XKQLWQ	12	Z	50	16	47.8	46.9
YLV96W	00	Z	50	6	9.0	-5.0
YLV96W	12	Z	50	6	29.9	8.0
ZVQEQC	00	Z	50	3	12.9	4.4

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 : DEC 2024
STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	50	24	2.8	-0.1	-0.1
01001	12	V	50	27	4.0	-0.4	0.6
01028	00	V	50	26	3.0	0.9	-0.5
01028	12	V	50	28	3.0	-0.2	-0.4
01400	00	V	50	24	4.1	-0.9	-0.7
01400	12	V	50	25	3.6	0.3	0.4
01415	00	V	50	23	4.2	0.4	0.7
01415	12	V	50	29	4.2	0.0	0.1
02365	00	V	50	25	4.4	0.1	0.2
02365	12	V	50	26	4.2	-0.2	-0.4
02591	12	V	50	12	3.2	1.5	-0.1
02591	00	V	50	10	2.8	0.0	0.0
02836	00	V	50	0	0.0	0.0	0.0
02836	12	V	50	3	2.9	2.4	-0.5
02963	00	V	50	14	3.8	-0.9	-0.4
02963	12	V	50	18	3.8	0.6	1.0
03005	00	V	50	22	3.0	-1.0	1.0
03005	12	V	50	29	4.7	-0.3	-0.5
03238	12	V	50	5	2.2	-0.6	-0.3
03238	00	V	50	25	4.0	0.1	0.6
03808	00	V	50	26	3.8	0.1	1.0
03808	12	V	50	30	3.7	0.1	0.6
03918	00	V	50	25	4.5	-1.2	0.3
03918	12	V	50	4	5.3	2.0	2.8
03953	12	V	50	30	4.3	-0.4	-0.4
03953	00	V	50	29	4.2	-0.3	0.0
04018	12	V	50	20	4.9	-0.4	-0.9
04018	00	V	50	15	3.9	1.1	-0.9
04220	00	V	50	28	3.1	0.6	0.4
04220	12	V	50	30	3.7	-0.5	0.0
04270	12	V	50	28	4.3	0.8	-0.2
04270	00	V	50	27	4.1	-0.3	-0.5
04320	12	V	50	29	4.1	0.3	-0.1
04320	00	V	50	28	3.9	0.3	0.0
04339	12	V	50	19	4.4	0.5	0.4
04339	00	V	50	22	4.1	0.4	0.0
04360	00	V	50	3	1.5	-0.1	0.4
04360	12	V	50	1	1.5	-0.7	1.3
06011	12	V	50	28	3.6	-0.1	0.0

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	50	26	4.3	-0.4	0.3
06260	12	V	50	4	4.3	-0.7	0.1
06610	00	V	50	29	4.2	-0.4	0.8
06610	12	V	50	31	4.1	0.5	0.3
07110	12	V	50	29	3.3	-0.3	0.4
07110	00	V	50	24	3.3	0.3	-0.8
07510	12	V	50	30	3.4	0.2	-0.6
07510	00	V	50	22	4.0	-0.4	-1.1
07645	12	V	50	30	4.4	1.1	-0.6
07645	00	V	50	25	3.7	0.7	0.2
07761	12	V	50	28	3.7	0.6	-1.3
07761	00	V	50	26	4.2	0.3	0.2
08001	12	V	50	31	3.2	-0.1	-0.5
08001	00	V	50	28	3.8	0.3	0.3
08221	12	V	50	31	3.7	0.9	-0.5
08221	00	V	50	25	3.5	-0.2	-0.2
08302	12	V	50	29	4.1	-0.4	-0.2
08302	00	V	50	24	3.4	0.7	0.8
08508	12	V	50	30	3.0	0.0	-0.3
08522	12	V	50	29	3.0	0.4	0.4
10035	12	V	50	31	3.6	-0.1	-0.6
10035	00	V	50	29	3.7	0.3	0.8
10393	00	V	50	27	3.2	0.0	0.3
10393	12	V	50	30	3.8	-0.6	0.1
10410	00	V	50	28	5.2	-0.7	0.3
10410	12	V	50	28	3.7	-0.2	-0.2
10739	12	V	50	30	3.6	0.1	-0.6
10739	00	V	50	28	4.1	-0.2	-0.3
11035	00	V	50	25	3.3	-0.1	-0.4
11035	12	V	50	31	3.1	-0.1	-0.2
12982	12	V	50	30	3.2	-0.2	-0.8
12982	00	V	50	27	3.3	-0.1	0.3
16245	00	V	50	27	3.0	-0.1	1.1
16245	12	V	50	31	4.1	-0.2	-0.4
16429	00	V	50	29	4.1	0.7	0.5
16429	12	V	50	31	4.6	-0.4	-0.4
16622	00	V	50	14	4.2	0.9	0.3
16754	00	V	50	19	3.9	0.1	-0.8
17607	12	V	50	16	4.4	1.0	-0.7
26435	12	V	50	8	3.2	0.4	0.3
2TDJJ8	12	V	50	10	3.9	1.7	-0.2
60018	12	V	50	31	3.6	0.6	0.3
60018	00	V	50	29	3.8	-0.3	0.3

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	12	V	50	7	3.3	-1.2	1.6
7JUNA4	00	V	50	8	6.2	-1.2	2.3
9ZT9MR	12	V	50	4	14.8	-8.0	-2.2
9ZT9MR	00	V	50	5	4.6	-1.6	2.7
ASDE09	12	V	50	1	0.2	0.1	0.2
ATGU3F	12	V	50	1	2.1	-1.9	-0.8
ATGU3F	00	V	50	2	4.8	-1.5	4.2
GQBZLZ	00	V	50	0	0.0	0.0	0.0
GQBZLZ	12	V	50	1	4.0	2.7	-2.9
JNKN7J	00	V	50	6	4.6	1.9	-1.2
JNKN7J	12	V	50	3	3.5	-0.6	-1.9
KJJF9X	12	V	50	10	3.7	0.2	-1.4
KJJF9X	00	V	50	9	2.8	0.3	-0.4
KMPLHP	00	V	50	4	3.3	-0.7	0.9
KMPLHP	12	V	50	5	3.2	1.3	0.0
LRYQE3	12	V	50	16	3.6	0.6	0.8
LRYQE3	00	V	50	13	4.8	-0.1	0.4
UXK5JT	00	V	50	0	0.0	0.0	0.0
UXK5JT	12	V	50	0	0.0	0.0	0.0
WDK38H	12	V	50	10	3.3	0.5	0.4
XKQLWQ	12	V	50	16	4.0	0.1	-1.0
YLV96W	00	V	50	6	2.9	0.4	0.8
YLV96W	12	V	50	6	2.2	-0.6	0.4
ZVQEQC	00	V	50	3	1.4	-0.2	0.8

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 : DEC 2024
STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	100	30	11.9	7.2
01001	12	Z	100	30	10.7	-5.6
01028	00	Z	100	31	7.9	-5.1
01028	12	Z	100	31	7.6	-5.3
01400	00	Z	100	30	78.5	77.2
01400	12	Z	100	28	79.9	79.3
01415	00	Z	100	31	14.9	-2.4
01415	12	Z	100	29	11.3	1.3
02365	00	Z	100	28	9.7	3.8
02365	12	Z	100	30	6.5	0.5
02591	12	Z	100	25	9.3	6.5
02591	00	Z	100	24	8.9	5.6
02836	00	Z	100	14	6.8	-3.5
02836	12	Z	100	21	7.9	-4.3
02963	00	Z	100	27	6.1	-0.2
02963	12	Z	100	27	6.7	-1.5
03005	00	Z	100	29	8.5	-4.0
03005	12	Z	100	30	15.7	-6.1
03238	12	Z	100	5	18.6	12.9
03238	00	Z	100	28	10.1	2.3
03808	00	Z	100	29	7.2	2.5
03808	12	Z	100	30	7.6	1.3
03918	00	Z	100	30	13.4	8.9
03918	12	Z	100	4	8.0	6.6
03953	12	Z	100	31	10.5	-3.1
03953	00	Z	100	31	10.2	-7.1
04018	12	Z	100	22	9.3	-3.6
04018	00	Z	100	25	11.0	-1.9
04220	00	Z	100	31	13.2	-11.5
04220	12	Z	100	30	14.4	-12.1
04270	12	Z	100	29	24.7	-19.0
04270	00	Z	100	29	21.1	-10.3
04320	12	Z	100	30	7.7	-5.2
04320	00	Z	100	30	12.5	-7.0
04339	12	Z	100	28	24.3	-20.8
04339	00	Z	100	28	39.0	-12.0
04360	00	Z	100	3	35.2	-34.3
04360	12	Z	100	1	30.3	-30.3
06011	12	Z	100	30	21.3	-19.2

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	100	30	47.2	-5.8
06260	12	Z	100	4	6.8	4.6
06610	00	Z	100	31	26.3	-5.7
06610	12	Z	100	31	20.5	-0.2
07110	12	Z	100	30	20.2	-18.1
07110	00	Z	100	27	22.0	-20.2
07510	12	Z	100	28	35.3	-34.4
07510	00	Z	100	26	39.8	-37.6
07645	12	Z	100	29	18.1	-14.5
07645	00	Z	100	28	15.0	-10.6
07761	12	Z	100	28	20.7	-12.9
07761	00	Z	100	30	26.6	-16.4
08001	12	Z	100	31	7.8	5.4
08001	00	Z	100	30	6.4	2.5
08221	12	Z	100	31	8.7	5.4
08221	00	Z	100	29	6.5	4.5
08302	12	Z	100	29	7.9	-5.3
08302	00	Z	100	28	6.4	-4.1
08508	12	Z	100	31	29.6	2.7
08522	12	Z	100	29	8.5	4.8
10035	12	Z	100	31	14.3	11.8
10035	00	Z	100	31	14.3	12.9
10393	00	Z	100	30	5.3	-0.2
10393	12	Z	100	31	7.0	1.0
10410	00	Z	100	31	7.7	2.6
10410	12	Z	100	31	7.0	1.1
10739	12	Z	100	31	10.3	6.9
10739	00	Z	100	34	9.5	5.1
11035	00	Z	100	31	14.5	-5.7
11035	12	Z	100	32	9.6	-4.4
12982	12	Z	100	30	3.8	1.5
12982	00	Z	100	31	6.6	-2.2
16245	00	Z	100	30	7.7	2.5
16245	12	Z	100	31	6.5	2.8
16429	00	Z	100	31	8.4	5.1
16429	12	Z	100	31	9.4	2.2
16622	00	Z	100	21	13.5	-9.4
16754	00	Z	100	27	7.2	-1.8
17607	12	Z	100	26	5.8	1.1
26435	12	Z	100	11	8.1	-2.9
2TDJJ8	12	Z	100	10	19.0	18.4
60018	12	Z	100	31	6.1	1.3
60018	00	Z	100	31	7.9	3.6

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	12	Z	100	7	15.1	-13.1
7JUNA4	00	Z	100	8	5.8	0.7
9ZT9MR	12	Z	100	5	64.9	-47.9
9ZT9MR	00	Z	100	8	47.8	-35.3
ASDE09	12	Z	100	1	10.7	-10.7
ATGU3F	12	Z	100	1	41.5	-41.5
ATGU3F	00	Z	100	1	4.8	-4.8
GQBZLZ	00	Z	100	0	0.0	0.0
GQBZLZ	12	Z	100	0	0.0	0.0
JNKN7J	00	Z	100	6	23.3	23.1
JNKN7J	12	Z	100	4	22.3	21.5
KJJF9X	12	Z	100	11	24.0	-21.8
KJJF9X	00	Z	100	10	20.9	-18.3
KMPLHP	00	Z	100	5	38.8	38.7
KMPLHP	12	Z	100	5	49.8	46.1
LRYQE3	12	Z	100	17	45.6	20.1
LRYQE3	00	Z	100	14	8.9	0.9
UXK5JT	00	Z	100	0	0.0	0.0
UXK5JT	12	Z	100	0	0.0	0.0
WDK38H	12	Z	100	10	18.0	-16.3
XKQLWQ	12	Z	100	18	35.4	34.7
YLV96W	00	Z	100	6	6.9	-2.7
YLV96W	12	Z	100	6	9.8	-3.1
ZVQEQC	00	Z	100	3	11.0	9.0

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 : DEC 2024
STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	100	29	2.8	0.4	0.0
01001	12	V	100	30	2.7	0.3	-0.1
01028	00	V	100	30	2.3	-0.1	0.1
01028	12	V	100	31	2.5	0.2	0.4
01400	00	V	100	29	3.2	0.4	0.3
01400	12	V	100	28	2.6	-0.2	0.2
01415	00	V	100	29	3.9	0.1	0.5
01415	12	V	100	29	3.7	-0.5	-0.3
02365	00	V	100	28	3.6	-0.5	0.4
02365	12	V	100	30	3.5	-0.3	0.0
02591	12	V	100	23	3.0	0.0	0.4
02591	00	V	100	20	3.4	-0.1	0.1
02836	00	V	100	9	2.2	0.1	-0.2
02836	12	V	100	12	2.5	-0.4	-0.3
02963	00	V	100	21	3.3	-0.1	0.5
02963	12	V	100	26	3.6	0.1	0.9
03005	00	V	100	28	3.1	0.8	-0.2
03005	12	V	100	30	3.6	-0.4	-0.2
03238	12	V	100	5	2.6	-0.5	-0.5
03238	00	V	100	27	4.3	0.5	-0.3
03808	00	V	100	28	3.6	-0.1	0.0
03808	12	V	100	30	3.2	-0.3	-0.2
03918	00	V	100	27	3.8	-0.5	-0.4
03918	12	V	100	4	2.7	0.7	0.0
03953	12	V	100	31	3.0	0.1	0.0
03953	00	V	100	30	3.7	-0.8	0.2
04018	12	V	100	22	3.7	0.3	0.5
04018	00	V	100	25	4.1	0.3	-0.6
04220	00	V	100	30	2.4	-0.6	0.6
04220	12	V	100	30	2.5	0.2	0.5
04270	12	V	100	29	3.5	0.0	-0.1
04270	00	V	100	28	4.0	-0.4	0.5
04320	12	V	100	30	2.8	0.2	0.3
04320	00	V	100	29	2.5	0.0	0.5
04339	12	V	100	28	3.4	-0.2	0.1
04339	00	V	100	27	2.7	-0.3	0.5
04360	00	V	100	3	1.7	-0.6	1.5
04360	12	V	100	1	3.0	2.9	-0.9
06011	12	V	100	30	3.2	0.2	0.1

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	100	28	2.8	0.6	0.0
06260	12	V	100	4	2.1	0.5	-0.4
06610	00	V	100	30	3.7	-0.6	-0.3
06610	12	V	100	31	4.3	0.6	0.1
07110	12	V	100	30	3.3	0.2	-0.2
07110	00	V	100	26	3.2	-0.3	-0.7
07510	12	V	100	28	3.2	0.0	0.2
07510	00	V	100	25	3.5	0.0	-0.1
07645	12	V	100	29	5.6	1.1	0.1
07645	00	V	100	27	4.3	0.2	0.2
07761	12	V	100	28	4.0	0.4	-0.3
07761	00	V	100	29	4.5	-0.1	-0.2
08001	12	V	100	31	3.1	-0.2	0.9
08001	00	V	100	28	3.9	0.1	0.3
08221	12	V	100	31	3.9	-0.4	0.6
08221	00	V	100	27	4.3	0.0	1.0
08302	12	V	100	29	3.7	0.6	-0.2
08302	00	V	100	26	3.3	0.2	-0.3
08508	12	V	100	31	3.3	-1.0	0.2
08522	12	V	100	29	3.7	-0.1	0.3
10035	12	V	100	31	3.3	0.5	-0.3
10035	00	V	100	30	3.3	0.6	-0.3
10393	00	V	100	28	2.9	-0.1	0.2
10393	12	V	100	31	3.0	0.3	0.1
10410	00	V	100	29	2.6	-0.1	-0.1
10410	12	V	100	31	3.4	0.2	0.1
10739	12	V	100	31	4.0	-0.3	-0.6
10739	00	V	100	29	2.9	0.7	-0.6
11035	00	V	100	26	3.8	0.3	-0.7
11035	12	V	100	31	3.1	0.6	-0.4
12982	12	V	100	30	2.9	0.2	0.2
12982	00	V	100	30	3.0	0.4	0.6
16245	00	V	100	29	4.0	-0.3	-0.1
16245	12	V	100	31	4.9	0.0	0.0
16429	00	V	100	30	3.6	-0.2	-0.2
16429	12	V	100	31	4.4	-0.3	0.6
16622	00	V	100	17	2.9	0.7	0.3
16754	00	V	100	22	4.6	1.3	-0.2
17607	12	V	100	20	3.3	0.2	-0.5
26435	12	V	100	10	2.8	-0.7	0.1
2TDJJ8	12	V	100	10	4.9	-0.1	1.6
60018	12	V	100	31	3.3	-0.1	-1.0
60018	00	V	100	30	3.7	0.3	0.2

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	12	V	100	7	3.4	0.2	-0.2
7JUNA4	00	V	100	8	2.3	-1.2	1.0
9ZT9MR	12	V	100	5	13.2	-4.3	3.7
9ZT9MR	00	V	100	7	12.7	-4.2	-2.8
ASDE09	12	V	100	1	6.5	6.0	-2.4
ATGU3F	12	V	100	1	2.6	-2.6	0.3
ATGU3F	00	V	100	1	4.1	2.3	-3.4
GQBZLZ	00	V	100	0	0.0	0.0	0.0
GQBZLZ	12	V	100	0	0.0	0.0	0.0
JNKN7J	00	V	100	6	2.4	-1.5	-0.5
JNKN7J	12	V	100	4	2.7	0.5	1.9
KJJF9X	12	V	100	10	4.0	-0.4	-0.6
KJJF9X	00	V	100	10	3.9	-0.2	0.9
KMPLHP	00	V	100	5	3.2	1.7	0.3
KMPLHP	12	V	100	5	3.8	-2.5	2.2
LRYQE3	12	V	100	17	4.8	-1.4	1.2
LRYQE3	00	V	100	14	4.7	-0.1	0.2
UXK5JT	00	V	100	0	0.0	0.0	0.0
UXK5JT	12	V	100	0	0.0	0.0	0.0
WDK38H	12	V	100	10	2.1	0.3	-0.4
XKQLWQ	12	V	100	17	3.3	0.4	0.4
YLV96W	00	V	100	6	2.8	-0.2	-0.7
YLV96W	12	V	100	6	3.3	-0.9	0.0
ZVQEQC	00	V	100	3	2.3	0.6	2.0

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 : DEC 2024
STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	500	31	10.6	8.9
01001	12	Z	500	30	4.3	-0.4
01028	00	Z	500	31	3.7	-2.0
01028	12	Z	500	31	2.8	-0.1
01400	00	Z	500	30	78.6	77.4
01400	12	Z	500	28	79.0	78.7
01415	00	Z	500	31	7.3	6.1
01415	12	Z	500	29	6.5	5.3
02365	00	Z	500	28	7.2	5.4
02365	12	Z	500	30	6.4	4.4
02591	12	Z	500	31	8.6	7.8
02591	00	Z	500	31	9.3	8.6
02836	00	Z	500	31	3.4	-1.1
02836	12	Z	500	34	3.7	-1.0
02963	00	Z	500	31	8.6	4.9
02963	12	Z	500	31	5.2	2.9
03005	00	Z	500	29	3.4	-1.2
03005	12	Z	500	30	13.7	-3.0
03238	12	Z	500	5	5.2	4.2
03238	00	Z	500	28	4.6	2.7
03808	00	Z	500	29	4.6	3.8
03808	12	Z	500	30	5.5	4.1
03918	00	Z	500	30	8.7	7.9
03918	12	Z	500	4	10.1	9.8
03953	12	Z	500	31	5.7	1.6
03953	00	Z	500	31	4.7	-1.2
04018	12	Z	500	24	5.0	0.8
04018	00	Z	500	25	4.8	1.3
04220	00	Z	500	31	5.0	-2.1
04220	12	Z	500	30	4.8	-2.8
04270	12	Z	500	31	13.6	-11.6
04270	00	Z	500	31	14.5	-8.5
04320	12	Z	500	31	4.1	-0.5
04320	00	Z	500	31	7.5	0.5
04339	12	Z	500	29	17.4	-12.7
04339	00	Z	500	29	12.6	-10.7
04360	00	Z	500	4	14.2	-13.7
04360	12	Z	500	1	11.9	-11.9
06011	12	Z	500	30	8.1	-5.9

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	500	30	5.4	3.6
06260	12	Z	500	4	4.6	1.8
06610	00	Z	500	31	29.8	-5.4
06610	12	Z	500	32	22.1	-2.4
07110	12	Z	500	31	8.6	-6.4
07110	00	Z	500	30	7.9	-6.0
07510	12	Z	500	28	7.8	-6.8
07510	00	Z	500	30	10.0	-9.4
07645	12	Z	500	30	6.6	-3.9
07645	00	Z	500	27	6.1	-4.2
07761	12	Z	500	31	6.0	-3.2
07761	00	Z	500	30	6.8	-5.7
08001	12	Z	500	31	4.9	4.1
08001	00	Z	500	30	4.0	3.5
08221	12	Z	500	32	5.2	4.6
08221	00	Z	500	29	4.5	3.8
08302	12	Z	500	30	6.4	-5.7
08302	00	Z	500	28	8.9	-7.2
08508	12	Z	500	31	11.2	3.1
08522	12	Z	500	31	6.5	4.9
10035	12	Z	500	32	14.2	14.1
10035	00	Z	500	33	15.3	15.1
10393	00	Z	500	31	3.3	2.1
10393	12	Z	500	31	3.0	2.3
10410	00	Z	500	33	4.2	2.4
10410	12	Z	500	31	2.6	1.7
10739	12	Z	500	31	6.6	5.9
10739	00	Z	500	34	6.7	6.4
11035	00	Z	500	35	4.6	1.5
11035	12	Z	500	35	5.6	1.2
12982	12	Z	500	30	2.9	1.8
12982	00	Z	500	31	4.3	1.7
16245	00	Z	500	30	4.3	3.2
16245	12	Z	500	31	4.5	3.8
16429	00	Z	500	31	5.9	4.4
16429	12	Z	500	31	5.3	4.0
16622	00	Z	500	30	3.8	2.2
16754	00	Z	500	28	5.1	-0.5
17607	12	Z	500	26	3.6	2.8
26435	12	Z	500	15	3.6	0.8
2TDJJ8	12	Z	500	10	21.3	21.2
60018	12	Z	500	31	5.1	4.2
60018	00	Z	500	32	5.5	3.9

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	12	Z	500	8	6.3	1.9
7JUNA4	00	Z	500	8	8.0	4.2
9ZT9MR	12	Z	500	4	20.0	-19.7
9ZT9MR	00	Z	500	9	43.4	-34.5
ASDE09	12	Z	500	1	21.4	-21.4
ATGU3F	12	Z	500	0	0.0	0.0
ATGU3F	00	Z	500	0	0.0	0.0
GQBZLZ	00	Z	500	0	0.0	0.0
GQBZLZ	12	Z	500	0	0.0	0.0
JNKN7J	00	Z	500	6	36.7	36.6
JNKN7J	12	Z	500	5	37.2	37.2
KJJF9X	12	Z	500	13	8.8	-7.4
KJJF9X	00	Z	500	10	9.6	-8.9
KMPLHP	00	Z	500	6	44.6	44.6
KMPLHP	12	Z	500	5	48.0	47.8
LRYQE3	12	Z	500	17	6.9	-3.5
LRYQE3	00	Z	500	16	8.9	-3.4
UXK5JT	00	Z	500	0	0.0	0.0
UXK5JT	12	Z	500	0	0.0	0.0
WDK38H	12	Z	500	11	15.4	-14.2
XKQLWQ	12	Z	500	19	11.1	10.2
YLV96W	00	Z	500	9	4.6	-0.4
YLV96W	12	Z	500	7	4.4	-2.5
ZVQEQC	00	Z	500	4	5.5	5.2

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

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	500	30	2.6	-0.1	-0.1
01001	12	V	500	30	3.0	0.0	-0.5
01028	00	V	500	30	2.7	0.7	-0.3
01028	12	V	500	31	3.0	0.2	-1.1
01400	00	V	500	29	2.1	-0.2	0.8
01400	12	V	500	28	2.9	-0.4	-0.5
01415	00	V	500	30	2.3	0.2	0.1
01415	12	V	500	29	3.3	-0.1	0.0
02365	00	V	500	28	3.0	0.1	-0.5
02365	12	V	500	30	2.9	0.6	0.1
02591	12	V	500	31	2.1	0.0	-0.3
02591	00	V	500	30	2.4	-0.1	0.1
02836	00	V	500	30	2.7	-0.4	-0.7
02836	12	V	500	31	2.6	0.0	-0.2
02963	00	V	500	29	2.5	0.4	-0.4
02963	12	V	500	31	2.1	0.3	-0.2
03005	00	V	500	28	3.3	-0.4	0.4
03005	12	V	500	30	3.0	0.2	0.6
03238	12	V	500	5	2.9	-0.9	0.8
03238	00	V	500	27	2.4	-0.1	0.4
03808	00	V	500	28	2.5	-0.1	-0.2
03808	12	V	500	30	2.7	-0.1	-0.2
03918	00	V	500	29	2.4	-0.2	-0.4
03918	12	V	500	4	2.2	1.1	0.2
03953	12	V	500	31	3.5	-0.1	1.2
03953	00	V	500	30	2.9	-0.7	-0.1
04018	12	V	500	24	3.2	1.0	0.0
04018	00	V	500	25	3.9	0.8	0.1
04220	00	V	500	30	3.5	0.4	0.3
04220	12	V	500	30	2.4	0.6	-0.3
04270	12	V	500	31	2.6	-0.4	-0.1
04270	00	V	500	30	3.5	0.5	0.3
04320	12	V	500	31	2.7	0.0	0.7
04320	00	V	500	30	2.3	0.3	-0.4
04339	12	V	500	29	4.1	1.4	0.6
04339	00	V	500	28	3.4	0.0	-0.1
04360	00	V	500	4	1.3	0.1	0.5
04360	12	V	500	1	2.2	-0.2	2.2
06011	12	V	500	30	2.8	0.3	0.3

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	500	29	2.3	-0.4	-0.4
06260	12	V	500	4	1.3	0.2	-0.1
06610	00	V	500	30	2.6	-0.6	0.0
06610	12	V	500	31	2.8	-0.3	-0.3
07110	12	V	500	31	2.7	0.1	0.1
07110	00	V	500	28	2.5	0.3	0.5
07510	12	V	500	27	1.9	0.3	-0.4
07510	00	V	500	28	1.9	-0.5	-0.2
07645	12	V	500	29	2.2	0.1	-0.1
07645	00	V	500	26	2.3	-0.2	0.4
07761	12	V	500	30	2.6	-0.1	0.2
07761	00	V	500	29	2.3	-0.5	0.0
08001	12	V	500	31	2.3	-0.4	-0.2
08001	00	V	500	30	2.0	-0.3	-0.1
08221	12	V	500	31	1.9	0.0	-0.2
08221	00	V	500	28	2.3	-0.4	-0.3
08302	12	V	500	29	2.3	0.1	0.1
08302	00	V	500	26	2.3	0.0	-0.1
08508	12	V	500	31	2.7	0.7	0.0
08522	12	V	500	31	3.7	-0.5	-0.3
10035	12	V	500	31	2.0	-0.2	0.5
10035	00	V	500	30	2.1	0.0	-0.1
10393	00	V	500	29	1.9	-0.1	0.0
10393	12	V	500	31	2.3	0.0	0.6
10410	00	V	500	29	2.5	-0.6	-0.5
10410	12	V	500	31	2.3	0.4	-0.2
10739	12	V	500	31	2.3	0.0	0.1
10739	00	V	500	30	2.6	-0.1	-0.2
11035	00	V	500	30	2.4	-0.6	-0.5
11035	12	V	500	31	2.6	-0.3	-0.4
12982	12	V	500	30	2.8	-0.1	-0.2
12982	00	V	500	30	2.2	0.0	0.0
16245	00	V	500	29	2.4	-0.1	-0.3
16245	12	V	500	31	3.0	-0.4	0.2
16429	00	V	500	30	2.8	0.2	0.0
16429	12	V	500	31	2.8	0.5	-0.1
16622	00	V	500	28	2.5	-0.1	-0.4
16754	00	V	500	25	2.7	-0.3	-0.2
17607	12	V	500	21	2.5	-0.1	0.3
26435	12	V	500	15	2.5	0.6	-1.0
2TDJJ8	12	V	500	10	3.4	-1.6	-0.6
60018	12	V	500	31	3.2	0.8	-0.3
60018	00	V	500	31	3.3	1.1	0.0

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	12	V	500	8	2.9	-0.2	1.2
7JUNA4	00	V	500	8	2.7	0.4	0.3
9ZT9MR	12	V	500	4	2.5	-1.4	-0.8
9ZT9MR	00	V	500	8	5.1	0.8	-0.6
ASDE09	12	V	500	1	2.1	-2.0	-0.6
ATGU3F	12	V	500	0	0.0	0.0	0.0
ATGU3F	00	V	500	0	0.0	0.0	0.0
GQBZLZ	00	V	500	0	0.0	0.0	0.0
GQBZLZ	12	V	500	0	0.0	0.0	0.0
JNKN7J	00	V	500	6	2.3	0.5	0.3
JNKN7J	12	V	500	5	2.9	-0.9	-0.3
KJJF9X	12	V	500	12	2.5	0.3	0.4
KJJF9X	00	V	500	10	2.3	0.0	-0.2
KMPLHP	00	V	500	6	2.6	-1.9	0.8
KMPLHP	12	V	500	5	3.5	1.9	0.3
LRYQE3	12	V	500	17	3.5	0.7	-0.5
LRYQE3	00	V	500	16	2.7	-0.4	0.6
UXK5JT	00	V	500	0	0.0	0.0	0.0
UXK5JT	12	V	500	0	0.0	0.0	0.0
WDK38H	12	V	500	11	1.7	-0.3	0.3
XKQLWQ	12	V	500	19	2.2	-0.1	-0.5
YLV96W	00	V	500	9	2.3	1.1	-0.4
YLV96W	12	V	500	7	1.8	0.2	0.2
ZVQEQC	00	V	500	4	2.6	-0.1	-0.4

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

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	850	31	9.4	8.0
01001	12	Z	850	30	2.6	-0.3
01028	00	Z	850	31	2.7	-0.1
01028	12	Z	850	31	2.7	-0.1
01400	00	Z	850	30	76.7	75.3
01400	12	Z	850	28	78.2	78.0
01415	00	Z	850	31	6.0	5.3
01415	12	Z	850	29	5.6	5.1
02365	00	Z	850	28	5.8	5.3
02365	12	Z	850	30	7.0	6.3
02591	12	Z	850	31	8.4	8.0
02591	00	Z	850	31	8.1	7.6
02836	00	Z	850	31	2.8	0.4
02836	12	Z	850	34	3.1	-0.7
02963	00	Z	850	31	4.5	3.2
02963	12	Z	850	31	4.1	3.4
03005	00	Z	850	29	3.7	-1.2
03005	12	Z	850	30	13.9	-3.0
03238	12	Z	850	5	4.2	2.2
03238	00	Z	850	28	4.2	2.3
03808	00	Z	850	29	3.3	2.2
03808	12	Z	850	30	4.4	3.8
03918	00	Z	850	30	7.9	7.4
03918	12	Z	850	4	6.8	6.2
03953	12	Z	850	31	5.6	2.3
03953	00	Z	850	31	3.5	-1.1
04018	12	Z	850	24	2.6	0.3
04018	00	Z	850	25	2.6	0.9
04220	00	Z	850	31	3.8	-2.0
04220	12	Z	850	30	4.2	-1.8
04270	12	Z	850	31	10.3	-9.1
04270	00	Z	850	29	10.5	-7.7
04320	12	Z	850	31	4.9	-1.7
04320	00	Z	850	31	8.7	-0.4
04339	12	Z	850	29	18.6	-12.7
04339	00	Z	850	29	11.0	-9.9
04360	00	Z	850	4	9.5	-5.5
04360	12	Z	850	1	16.9	-16.9
06011	12	Z	850	30	5.6	-3.0

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	850	30	3.0	0.8
06260	12	Z	850	4	2.0	-1.1
06610	00	Z	850	31	19.4	-3.9
06610	12	Z	850	32	12.6	-2.7
07110	12	Z	850	30	3.0	-0.7
07110	00	Z	850	30	2.6	-1.6
07510	12	Z	850	27	3.9	2.9
07510	00	Z	850	29	3.0	2.0
07645	12	Z	850	32	5.1	-4.5
07645	00	Z	850	28	6.0	-5.2
07761	12	Z	850	30	6.0	-5.1
07761	00	Z	850	31	7.2	-6.0
08001	12	Z	850	31	2.5	1.7
08001	00	Z	850	30	1.9	1.1
08221	12	Z	850	32	3.0	2.4
08221	00	Z	850	29	2.6	1.1
08302	12	Z	850	30	7.2	-6.9
08302	00	Z	850	28	8.6	-8.2
08508	12	Z	850	31	11.5	0.9
08522	12	Z	850	31	5.0	3.1
10035	12	Z	850	32	13.5	13.4
10035	00	Z	850	33	13.7	13.6
10393	00	Z	850	31	2.0	1.0
10393	12	Z	850	31	2.1	0.9
10410	00	Z	850	35	1.9	0.9
10410	12	Z	850	31	1.5	0.4
10739	12	Z	850	31	4.9	4.6
10739	00	Z	850	34	5.3	4.9
11035	00	Z	850	35	3.8	0.6
11035	12	Z	850	35	3.6	1.7
12982	12	Z	850	30	1.9	0.1
12982	00	Z	850	31	2.2	0.7
16245	00	Z	850	30	2.5	1.6
16245	12	Z	850	31	3.9	2.6
16429	00	Z	850	31	3.2	2.4
16429	12	Z	850	31	3.0	2.6
16622	00	Z	850	31	4.6	3.7
16754	00	Z	850	28	4.1	0.7
17607	12	Z	850	26	1.9	0.5
26435	12	Z	850	15	1.8	-0.3
2TDJJ8	12	Z	850	10	18.0	17.5
60018	12	Z	850	31	3.2	1.7
60018	00	Z	850	32	2.5	1.0

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	12	Z	850	8	7.2	5.3
7JUNA4	00	Z	850	8	7.3	3.4
9ZT9MR	12	Z	850	5	13.9	-13.5
9ZT9MR	00	Z	850	10	13.5	-13.0
ASDE09	12	Z	850	1	23.7	-23.7
ATGU3F	12	Z	850	1	19.3	-19.3
ATGU3F	00	Z	850	1	18.4	-18.4
GQBZLZ	00	Z	850	0	0.0	0.0
GQBZLZ	12	Z	850	0	0.0	0.0
JNKN7J	00	Z	850	6	38.9	38.8
JNKN7J	12	Z	850	6	39.6	39.5
KJJF9X	12	Z	850	14	8.2	-7.5
KJJF9X	00	Z	850	10	9.7	-9.5
KMPLHP	00	Z	850	6	50.6	50.5
KMPLHP	12	Z	850	5	53.1	53.0
LRYQE3	12	Z	850	17	6.1	-2.0
LRYQE3	00	Z	850	18	7.2	-3.0
UXK5JT	00	Z	850	0	0.0	0.0
UXK5JT	12	Z	850	0	0.0	0.0
WDK38H	12	Z	850	11	14.2	-13.6
XKQLWQ	12	Z	850	19	3.9	2.2
YLV96W	00	Z	850	9	2.7	-1.9
YLV96W	12	Z	850	7	3.9	-2.5
ZVQEQC	00	Z	850	4	3.3	-2.2

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 : DEC 2024
STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	850	30	4.1	1.0	0.2
01001	12	V	850	30	3.1	-0.8	-0.3
01028	00	V	850	30	2.9	0.0	0.7
01028	12	V	850	31	2.8	-0.3	0.2
01400	00	V	850	29	2.1	-0.3	0.2
01400	12	V	850	28	2.1	0.2	0.2
01415	00	V	850	30	3.1	0.5	0.3
01415	12	V	850	29	2.8	0.5	-0.2
02365	00	V	850	28	2.9	0.3	-0.4
02365	12	V	850	30	3.0	0.0	0.4
02591	12	V	850	31	2.5	0.0	-0.5
02591	00	V	850	30	2.5	0.2	-0.5
02836	00	V	850	30	3.6	-0.2	0.4
02836	12	V	850	31	3.2	0.1	-0.3
02963	00	V	850	29	2.6	-0.1	-0.1
02963	12	V	850	31	2.6	0.1	0.2
03005	00	V	850	28	2.8	0.1	-0.4
03005	12	V	850	30	3.1	0.0	0.7
03238	12	V	850	5	3.3	1.8	0.9
03238	00	V	850	27	3.1	0.1	-0.5
03808	00	V	850	28	2.9	0.4	-0.1
03808	12	V	850	30	2.5	-0.6	-0.4
03918	00	V	850	29	3.0	-0.3	0.6
03918	12	V	850	4	1.4	0.3	0.1
03953	12	V	850	31	3.4	0.6	0.4
03953	00	V	850	30	3.0	0.2	-0.1
04018	12	V	850	24	3.5	0.0	0.7
04018	00	V	850	25	2.3	-0.1	0.3
04220	00	V	850	30	4.0	-0.6	0.3
04220	12	V	850	30	3.9	-0.1	-0.2
04270	12	V	850	31	4.6	0.9	0.1
04270	00	V	850	28	4.8	0.7	0.2
04320	12	V	850	31	2.7	-0.2	0.5
04320	00	V	850	30	3.5	-0.1	1.1
04339	12	V	850	29	5.2	0.7	0.2
04339	00	V	850	28	7.5	1.5	1.3
04360	00	V	850	4	10.0	5.8	6.2
04360	12	V	850	1	3.4	1.8	-2.9
06011	12	V	850	30	2.9	0.3	-0.1

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	850	29	2.2	-0.2	-0.4
06260	12	V	850	4	5.2	0.0	-2.4
06610	00	V	850	30	2.4	-0.2	-0.1
06610	12	V	850	31	2.6	-0.2	0.2
07110	12	V	850	30	2.1	-0.6	0.1
07110	00	V	850	28	2.5	-0.1	-0.3
07510	12	V	850	26	2.4	0.0	-0.3
07510	00	V	850	27	2.3	-0.5	0.3
07645	12	V	850	31	3.5	0.1	0.5
07645	00	V	850	27	3.5	-0.2	-0.5
07761	12	V	850	29	3.2	0.4	0.6
07761	00	V	850	30	3.0	0.2	0.4
08001	12	V	850	31	2.6	0.1	-0.6
08001	00	V	850	30	2.2	0.0	-0.1
08221	12	V	850	31	3.1	0.3	0.2
08221	00	V	850	28	3.4	0.5	-0.4
08302	12	V	850	29	3.0	-0.3	-0.4
08302	00	V	850	26	3.4	-0.1	-0.3
08508	12	V	850	31	2.5	-0.1	-0.1
08522	12	V	850	31	3.0	-0.3	0.3
10035	12	V	850	31	2.6	0.5	0.0
10035	00	V	850	30	2.5	-0.1	0.5
10393	00	V	850	29	2.4	-0.2	0.4
10393	12	V	850	31	2.6	-0.1	-0.4
10410	00	V	850	29	2.1	0.1	-0.2
10410	12	V	850	31	2.4	0.2	0.4
10739	12	V	850	31	2.5	-0.2	-0.6
10739	00	V	850	30	2.3	0.1	-0.1
11035	00	V	850	30	3.2	-0.2	-1.1
11035	12	V	850	31	2.5	0.3	0.0
12982	12	V	850	30	2.5	-0.4	0.1
12982	00	V	850	30	2.9	0.6	-0.8
16245	00	V	850	29	3.7	1.0	0.3
16245	12	V	850	31	3.3	0.2	-0.4
16429	00	V	850	30	2.5	0.7	-0.1
16429	12	V	850	31	3.3	0.0	0.0
16622	00	V	850	29	3.4	0.5	0.3
16754	00	V	850	25	4.5	1.8	0.1
17607	12	V	850	26	2.9	0.6	-0.3
26435	12	V	850	15	2.3	0.4	-0.6
2TDJJ8	12	V	850	10	2.6	-1.0	0.2
60018	12	V	850	31	3.3	0.5	-0.4
60018	00	V	850	31	2.6	0.2	-0.3

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	12	V	850	8	3.7	0.7	-1.7
7JUNA4	00	V	850	8	2.8	-0.5	0.5
9ZT9MR	12	V	850	5	4.6	2.6	0.3
9ZT9MR	00	V	850	9	3.1	-0.3	0.3
ASDE09	12	V	850	1	0.7	-0.4	-0.6
ATGU3F	12	V	850	1	2.1	-1.6	-1.3
ATGU3F	00	V	850	1	2.4	-0.3	2.4
GQBZLZ	00	V	850	0	0.0	0.0	0.0
GQBZLZ	12	V	850	0	0.0	0.0	0.0
JNKN7J	00	V	850	6	3.0	-0.5	-0.8
JNKN7J	12	V	850	6	2.2	0.3	-0.9
KJJF9X	12	V	850	13	2.0	0.3	0.2
KJJF9X	00	V	850	10	1.6	-0.5	0.1
KMPLHP	00	V	850	6	2.6	-0.3	-0.3
KMPLHP	12	V	850	5	4.0	1.1	0.2
LRYQE3	12	V	850	17	3.5	0.2	0.4
LRYQE3	00	V	850	18	2.8	0.2	-0.4
UXK5JT	00	V	850	0	0.0	0.0	0.0
UXK5JT	12	V	850	0	0.0	0.0	0.0
WDK38H	12	V	850	11	3.1	1.9	0.7
XKQLWQ	12	V	850	19	2.6	0.3	0.0
YLV96W	00	V	850	9	3.1	0.8	0.2
YLV96W	12	V	850	7	2.4	0.6	-0.1
ZVQEQC	00	V	850	4	2.1	-0.8	1.2

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 : DEC 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	246	0	0.5	-3.5	3.5
1300001	99	P	SUR	11	-23	724	0	0.3	0.2	0.4
1300008	99	P	SUR	15	-38	466	0	0.2	0.2	0.3
1300130	99	P	SUR	28	-16	743	0	0.4	0.2	0.5
1300131	99	P	SUR	28	-17	398	0	0.4	0.1	0.5
1301714	99	P	SUR	28	-67	743	0	0.3	0.0	0.3
1301718	99	P	SUR	30	-42	743	0	0.3	0.0	0.3
1301725	99	P	SUR	30	-41	743	0	0.4	-0.1	0.4
1301726	99	P	SUR	26	-48	743	0	0.3	-0.1	0.3
1301731	99	P	SUR	21	-53	741	0	0.5	0.2	0.5
1301735	99	P	SUR	22	-47	743	0	0.3	-1.3	1.4
1301736	99	P	SUR	33	-38	743	0	0.4	0.1	0.4
1301737	99	P	SUR	31	-61	355	0	0.3	-0.3	0.5
1301767	99	P	SUR	24	-25	98	1	1.5	-0.3	1.6
1301769	99	P	SUR	29	-30	743	0	0.4	-0.1	0.4
1301770	99	P	SUR	27	-54	723	0	0.4	-0.1	0.4
1301771	99	P	SUR	25	-28	711	0	0.4	-0.1	0.5
1301773	99	P	SUR	28	-21	742	0	0.4	0.0	0.4
1301778	99	P	SUR	21	-30	742	0	0.3	-0.2	0.4
1301782	99	P	SUR	57	-51	742	2	0.6	0.0	0.6
1301784	99	P	SUR	37	-21	743	0	0.3	0.1	0.3
1301785	99	P	SUR	34	-18	729	0	0.3	0.2	0.4
1301786	99	P	SUR	37	-29	721	0	0.4	0.3	0.5
1301787	99	P	SUR	30	-14	691	248	0.3	-0.1	0.4
1301788	99	P	SUR	34	-10	728	0	0.3	0.0	0.3
1301793	99	P	SUR	63	-12	692	0	0.7	0.4	0.8
1301794	99	P	SUR	29	-20	185	0	0.4	0.2	0.4
1301797	99	P	SUR	20	-57	677	0	0.3	0.1	0.3
1301798	99	P	SUR	31	-38	743	0	0.4	0.3	0.5
1301799	99	P	SUR	26	-30	723	0	0.4	0.1	0.4
1301800	99	P	SUR	75	6	743	3	2.1	-0.4	2.1
1301801	99	P	SUR	61	-4	743	0	0.5	0.4	0.7
1301802	99	P	SUR	67	12	743	0	0.5	-0.3	0.6
1301804	99	P	SUR	59	-27	743	0	0.6	-0.9	1.1
1301807	99	P	SUR	77	18	743	9	2.4	0.4	2.4
1301810	99	P	SUR	39	-35	743	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
1301811	99	P	SUR	40	-33	559	0	0.4	0.2	0.4
1301814	99	P	SUR	43	-24	741	0	0.4	0.1	0.4
1301816	99	P	SUR	46	-31	743	0	0.4	0.3	0.5
1301818	99	P	SUR	32	-68	743	0	0.4	-0.1	0.4
1301819	99	P	SUR	24	-28	743	0	0.6	0.2	0.6
1301820	99	P	SUR	30	-31	742	0	0.5	0.2	0.5
1301822	99	P	SUR	22	-30	740	0	0.4	0.5	0.6
1301823	99	P	SUR	25	-29	743	0	0.4	0.2	0.5
1501638	99	P	SUR	18	-63	139	0	0.2	0.0	0.2
1701715	99	P	SUR	23	-57	476	0	0.4	-0.2	0.4
1801561	99	P	SUR	27	-68	96	0	0.7	0.0	0.7
1801607	99	P	SUR	19	-66	4085	2	0.4	0.0	0.4
1801670	99	P	SUR	47	-45	736	0	0.5	0.3	0.6
1801671	99	P	SUR	46	-22	742	0	0.3	-0.1	0.4
1801673	99	P	SUR	53	-46	299	2	3.2	-1.2	3.4
1801674	99	P	SUR	39	-27	741	0	0.4	-1.4	1.5
1801675	99	P	SUR	49	-48	737	0	0.5	0.3	0.6
1801676	99	P	SUR	52	-43	741	0	0.5	-0.1	0.5
1801678	99	P	SUR	30	-16	742	0	0.4	0.4	0.5
1801716	99	P	SUR	22	-33	743	0	0.4	0.1	0.4
1801777	99	P	SUR	42	-29	743	0	0.5	0.4	0.7
1801778	99	P	SUR	52	-46	743	0	0.4	0.3	0.5
1801853	99	P	SUR	53	-56	742	0	0.6	-0.4	0.7
2801966	99	P	SUR	31	17	681	0	1.6	-0.1	1.6
2801968	99	P	SUR	47	-40	737	0	0.5	-0.2	0.5
2802007	99	P	SUR	17	-27	743	0	0.3	0.0	0.3
2802008	99	P	SUR	65	-40	539	0	1.1	-0.1	1.1
2802010	99	P	SUR	23	-32	743	0	0.3	0.1	0.3
2802022	99	P	SUR	39	-63	743	0	0.4	-0.1	0.4
2802062	99	P	SUR	87	4	744	0	0.4	0.0	0.4
2802063	99	P	SUR	87	-9	744	0	0.4	-0.2	0.4
2802100	99	P	SUR	66	-8	718	0	0.6	0.4	0.7
2802123	99	P	SUR	15	-23	465	0	0.3	-2.7	2.8
2802124	99	P	SUR	19	-26	724	0	0.3	0.0	0.3
2802160	99	P	SUR	47	-58	744	0	0.4	0.6	0.8
3801571	99	P	SUR	50	-50	738	0	0.4	0.2	0.5
3801575	99	P	SUR	49	-49	738	0	0.5	0.1	0.5
3801596	99	P	SUR	38	-37	743	0	0.4	-0.2	0.4
3801598	99	P	SUR	36	-61	743	0	0.5	-0.1	0.5
3801612	99	P	SUR	17	-30	743	0	0.2	0.1	0.2
3801625	99	P	SUR	16	-30	742	0	0.3	0.4	0.4
3801676	99	P	SUR	72	5	742	0	0.6	0.4	0.7
3801702	99	P	SUR	64	-57	741	1	0.8	-0.1	0.8

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
4100040	99	P	SUR	15	-53	4436	0	0.3	-1.2	1.2
4100043	99	P	SUR	21	-65	4451	0	0.3	-0.2	0.4
4100044	99	P	SUR	22	-59	4442	0	0.3	-0.3	0.5
4100049	99	P	SUR	28	-62	4450	0	0.4	-0.6	0.7
4100052	99	P	SUR	18	-65	4436	0	0.3	-1.3	1.3
4100053	99	P	SUR	18	-66	4436	0	0.3	-1.0	1.0
4100056	99	P	SUR	18	-65	4424	0	0.3	-1.1	1.1
4100300	99	P	SUR	16	-57	741	0	0.3	0.0	0.3
4101665	99	P	SUR	66	-4	743	0	0.5	-0.2	0.6
4101725	99	P	SUR	18	-63	742	0	0.2	-0.3	0.4
4101727	99	P	SUR	29	-64	743	0	0.4	0.1	0.4
4101728	99	P	SUR	33	-50	743	0	0.6	0.4	0.7
4101729	99	P	SUR	27	-56	742	0	1.5	0.0	1.5
4101753	99	P	SUR	30	-45	743	33	2.2	0.8	2.3
4101755	99	P	SUR	32	-61	743	0	0.4	0.2	0.5
4101845	99	P	SUR	72	23	722	0	0.5	0.3	0.6
4101851	99	P	SUR	29	-62	743	0	0.3	-1.1	1.2
4101859	99	P	SUR	16	-56	743	0	0.3	-0.2	0.3
4101861	99	P	SUR	28	-48	743	0	0.4	0.2	0.5
4101862	99	P	SUR	16	-56	743	0	0.3	-0.5	0.6
4101863	99	P	SUR	21	-39	743	0	0.4	-0.1	0.4
4101870	99	P	SUR	19	-34	743	0	0.3	0.0	0.3
4101873	99	P	SUR	26	-21	743	0	0.3	-0.2	0.4
4101875	99	P	SUR	24	-25	743	0	0.3	0.0	0.3
41040	99	P	SUR	15	-53	742	0	0.3	-1.2	1.2
41043	99	P	SUR	21	-65	743	0	0.3	-0.2	0.4
41044	99	P	SUR	22	-59	743	0	0.3	-0.3	0.5
41049	99	P	SUR	28	-62	743	0	0.4	-0.6	0.7
41052	99	P	SUR	18	-65	743	0	0.3	-1.2	1.3
41053	99	P	SUR	19	-66	744	0	0.3	-1.0	1.0
41056	99	P	SUR	18	-66	744	0	0.3	-1.1	1.2
4200060	99	P	SUR	16	-63	4448	0	0.3	-0.4	0.5
4200085	99	P	SUR	18	-67	4366	0	0.3	-0.8	0.9
42060	99	P	SUR	16	-63	743	0	0.3	-0.4	0.5
42085	99	P	SUR	18	-67	740	0	0.3	-0.9	0.9
4400011	99	P	SUR	41	-67	4450	0	0.4	0.2	0.5
4400027	99	P	SUR	44	-67	4450	0	0.5	-1.0	1.1
4400032	99	P	SUR	44	-69	741	0	0.5	-0.3	0.6
4400033	99	P	SUR	44	-69	742	0	0.5	-1.4	1.5
4400034	99	P	SUR	44	-68	741	0	0.5	-0.5	0.7
4400488	99	P	SUR	45	-61	725	0	0.4	-0.1	0.5
4400489	99	P	SUR	45	-61	701	0	0.5	-0.2	0.5
44011	99	P	SUR	41	-67	743	0	0.4	0.2	0.5

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
4401582	99	P	SUR	35	-68	736	0	0.6	0.3	0.7
4401584	99	P	SUR	32	-58	743	0	0.4	0.0	0.4
4401588	99	P	SUR	69	15	663	0	0.6	0.1	0.6
4402618	99	P	SUR	38	-34	687	0	0.3	0.2	0.4
4402656	99	P	SUR	27	-40	743	0	0.3	-0.6	0.7
4402674	99	P	SUR	27	-61	743	0	0.4	0.0	0.4
4402675	99	P	SUR	31	-65	741	0	0.3	-0.2	0.4
4402676	99	P	SUR	29	-36	743	0	0.4	0.0	0.4
44027	99	P	SUR	44	-67	743	0	0.5	-1.0	1.1
4402721	99	P	SUR	18	-65	105	0	1.3	-0.1	1.3
4402729	99	P	SUR	53	-13	743	0	0.5	0.1	0.5
4402730	99	P	SUR	36	-31	681	0	0.5	0.0	0.5
4402731	99	P	SUR	47	-22	712	0	0.4	0.1	0.5
4402733	99	P	SUR	52	-30	743	0	0.4	0.0	0.4
4402736	99	P	SUR	23	-28	743	0	0.4	-0.1	0.4
4402737	99	P	SUR	54	-39	742	0	0.5	-0.3	0.6
4402739	99	P	SUR	40	-17	742	0	0.3	-0.1	0.3
4402743	99	P	SUR	27	-33	743	0	0.4	-1.2	1.2
4402744	99	P	SUR	36	-52	743	0	0.4	-0.1	0.4
4402747	99	P	SUR	33	-26	743	0	0.3	0.0	0.3
4402749	99	P	SUR	61	-13	743	0	0.5	-0.2	0.5
4402750	99	P	SUR	54	-36	743	0	0.5	-0.5	0.7
4402882	99	P	SUR	31	-46	282	0	0.4	0.4	0.6
4402884	99	P	SUR	24	-64	711	0	0.3	0.3	0.5
44032	99	P	SUR	44	-69	742	0	0.5	-0.3	0.6
44033	99	P	SUR	44	-69	743	0	0.5	-1.4	1.5
44034	99	P	SUR	44	-68	742	0	0.5	-0.6	0.7
4403568	99	P	SUR	31	-40	743	0	1.7	-0.1	1.8
44078	99	P	SUR	60	-40	742	0	0.8	-1.2	1.4
44137	99	P	SUR	42	-62	738	0	0.5	-0.3	0.5
44139	99	P	SUR	44	-57	733	0	0.4	-0.2	0.5
44150	99	P	SUR	43	-64	738	0	0.4	-0.2	0.5
44258	99	P	SUR	45	-63	718	0	0.4	-0.2	0.5
44488	99	P	SUR	45	-61	725	0	0.5	-0.1	0.5
44489	99	P	SUR	46	-61	701	0	0.5	-0.1	0.5
4601782	99	P	SUR	31	-49	742	0	1.3	0.7	1.5
4701529	99	P	SUR	85	2	743	0	0.5	-0.1	0.5
4701530	99	P	SUR	79	-4	182	0	0.7	-0.2	0.7
4701555	99	P	SUR	64	-22	26	0	0.5	-5.9	5.9
4701558	99	P	SUR	79	-18	62	0	0.5	-4.4	4.5
4701561	99	P	SUR	66	-21	743	0	0.7	0.0	0.7
4801771	99	P	SUR	56	-23	744	744	0.0	0.0	0.0
4802506	99	P	SUR	58	-8	744	0	0.5	-0.5	0.7

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
4802582	99	P	SUR	57	-38	743	87	2.9	0.4	2.9
4802594	99	P	SUR	82	-18	743	0	0.4	-0.3	0.5
4802608	99	P	SUR	78	-13	742	0	0.5	-0.2	0.6
4802664	99	P	SUR	83	-55	744	0	0.4	-0.1	0.5
4803997	99	P	SUR	53	-45	729	0	0.4	-0.3	0.5
4804003	99	P	SUR	59	-57	737	0	0.6	0.0	0.6
4804016	99	P	SUR	16	-51	732	0	0.4	0.0	0.4
4804120	99	P	SUR	67	8	688	0	0.6	0.4	0.8
4804127	99	P	SUR	21	-22	736	0	0.3	0.0	0.3
4804128	99	P	SUR	39	15	730	0	0.4	0.0	0.4
4804130	99	P	SUR	13	-23	731	0	0.3	-0.3	0.5
5801955	99	P	SUR	20	-67	588	0	0.3	0.1	0.3
5801972	99	P	SUR	48	-41	736	0	0.5	-0.2	0.5
5801975	99	P	SUR	38	-31	212	0	0.4	0.2	0.4
5801976	99	P	SUR	51	-26	735	0	0.5	0.0	0.5
5801977	99	P	SUR	17	-63	702	0	0.3	0.0	0.3
5801983	99	P	SUR	29	-19	595	0	0.5	0.0	0.5
5802011	99	P	SUR	17	-27	743	0	0.3	0.1	0.3
5802019	99	P	SUR	44	-42	743	0	0.5	0.2	0.6
5802026	99	P	SUR	44	-35	743	0	0.4	-0.1	0.4
5802033	99	P	SUR	21	-31	743	0	0.3	0.0	0.3
5802034	99	P	SUR	49	-1	171	0	0.7	-0.6	0.9
5802070	99	P	SUR	76	28	738	0	1.0	0.1	1.0
5802086	99	P	SUR	85	-35	744	0	0.5	-0.2	0.5
5802095	99	P	SUR	62	-24	729	0	0.6	-0.2	0.6
5802096	99	P	SUR	65	-21	735	0	0.7	-0.4	0.8
5802112	99	P	SUR	21	-23	728	0	0.3	0.2	0.4
5802115	99	P	SUR	39	18	730	0	0.5	0.1	0.5
5802118	99	P	SUR	18	-24	734	0	0.3	0.1	0.3
5802156	99	P	SUR	87	-35	740	0	0.4	-0.1	0.4
6100001	99	P	SUR	43	8	725	0	0.5	-0.4	0.6
6100002	99	P	SUR	42	5	709	0	0.8	-0.4	0.9
6100196	99	P	SUR	42	4	668	0	2.4	-0.8	2.5
6100197	99	P	SUR	40	4	635	0	3.0	1.2	3.2
6100198	99	P	SUR	37	-2	743	0	0.4	0.1	0.4
6100280	99	P	SUR	41	1	743	0	0.6	0.0	0.6
6100281	99	P	SUR	40	0	712	0	0.6	-0.3	0.7
6100417	99	P	SUR	38	0	743	0	0.4	0.2	0.5
6100430	99	P	SUR	40	2	743	0	0.4	0.2	0.5
6101031	99	P	SUR	42	8	743	0	0.4	-0.2	0.5
6101032	99	P	SUR	42	10	709	8	0.6	-0.3	0.7
6101034	99	P	SUR	42	5	742	0	0.5	-0.5	0.7
6101035	99	P	SUR	40	7	743	0	0.4	-0.4	0.6

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6200001	99	P	SUR	45	-5	741	0	0.3	-0.1	0.3
6200024	99	P	SUR	44	-3	659	0	0.4	0.1	0.4
6200025	99	P	SUR	44	-6	740	0	0.5	0.2	0.5
6200082	99	P	SUR	44	-8	443	0	0.4	0.2	0.5
6200083	99	P	SUR	43	-9	743	0	0.4	0.0	0.4
6200084	99	P	SUR	42	-9	743	0	0.4	-0.1	0.5
6200085	99	P	SUR	36	-7	743	0	0.4	0.0	0.4
6200086	99	P	SUR	55	7	216	0	0.4	-0.3	0.5
6200087	99	P	SUR	55	7	241	0	0.4	-0.4	0.6
6200091	99	P	SUR	53	-5	743	0	0.4	-0.2	0.5
6200092	99	P	SUR	51	-11	743	0	0.5	-0.3	0.5
6200093	99	P	SUR	55	-10	743	0	0.5	-0.3	0.5
6200094	99	P	SUR	52	-7	743	0	0.5	-0.3	0.6
6200095	99	P	SUR	53	-16	743	0	0.4	-0.3	0.5
6200103	99	P	SUR	50	-3	742	0	0.4	-0.1	0.4
6200163	99	P	SUR	48	-8	739	0	0.4	-0.3	0.5
6200442	99	P	SUR	50	-16	136	0	0.4	-0.3	0.5
6201065	99	P	SUR	54	7	501	0	0.4	1.1	1.1
6201066	99	P	SUR	55	7	742	0	0.4	0.2	0.4
6202113	99	P	SUR	54	7	178	0	0.3	0.0	0.3
6202114	99	P	SUR	54	6	172	0	0.3	-0.1	0.3
6202598	99	P	SUR	28	-26	742	0	0.4	-0.1	0.4
62030	99	P	SUR	50	-4	163	0	0.3	-0.2	0.3
6203612	99	P	SUR	46	-22	742	0	0.8	0.7	1.1
6203615	99	P	SUR	35	-51	742	0	0.4	-0.2	0.5
6203625	99	P	SUR	28	-49	743	0	0.4	-0.2	0.4
6203632	99	P	SUR	35	-51	743	2	1.2	0.5	1.3
6203634	99	P	SUR	31	-50	743	0	0.4	0.3	0.5
6203639	99	P	SUR	30	-40	743	0	2.3	-0.1	2.3
6203651	99	P	SUR	29	-20	736	0	0.4	0.0	0.4
6203656	99	P	SUR	60	-36	740	0	0.9	0.0	0.9
6203663	99	P	SUR	77	1	443	83	3.7	-0.7	3.8
6203664	99	P	SUR	70	14	741	3	2.5	0.7	2.6
6203668	99	P	SUR	80	14	742	0	0.5	-0.4	0.6
6203669	99	P	SUR	80	16	743	0	0.5	0.0	0.5
6203670	99	P	SUR	24	-17	700	15	0.4	0.2	0.4
6203671	99	P	SUR	19	-18	700	0	0.3	0.0	0.3
6203672	99	P	SUR	23	-17	701	0	0.4	0.3	0.5
6203673	99	P	SUR	21	-17	701	0	0.3	0.2	0.4
6203679	99	P	SUR	24	-21	660	0	0.4	0.0	0.4
6203681	99	P	SUR	26	-19	701	0	0.4	0.1	0.4
6203685	99	P	SUR	18	-26	707	0	0.3	0.2	0.4
6203686	99	P	SUR	18	-26	708	0	0.3	0.2	0.4

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6203687	99	P	SUR	16	-27	708	0	0.3	0.1	0.3
6203753	99	P	SUR	53	-35	652	0	0.5	-0.5	0.7
6203771	99	P	SUR	25	-57	670	0	0.3	-0.2	0.4
6203772	99	P	SUR	33	-64	675	0	0.3	-0.1	0.3
6203773	99	P	SUR	33	-25	680	0	0.4	-0.7	0.8
6203823	99	P	SUR	66	12	743	0	0.5	0.0	0.5
6203825	99	P	SUR	72	26	543	0	0.7	0.2	0.7
6203830	99	P	SUR	63	1	743	0	0.5	0.0	0.5
6203831	99	P	SUR	62	-20	743	0	0.5	0.4	0.7
6203832	99	P	SUR	62	-19	743	0	0.5	0.3	0.6
6203837	99	P	SUR	61	-12	743	0	0.6	0.2	0.6
6203839	99	P	SUR	33	-51	295	0	0.5	-0.3	0.5
6203842	99	P	SUR	28	-55	743	0	0.3	0.0	0.3
6203846	99	P	SUR	29	-42	743	0	0.3	-0.2	0.4
6203849	99	P	SUR	32	-59	743	0	0.3	-0.1	0.3
6203853	99	P	SUR	74	35	734	0	0.7	0.0	0.7
6203854	99	P	SUR	58	-23	743	0	0.6	0.2	0.6
6203865	99	P	SUR	51	-6	415	0	0.7	0.0	0.7
6203890	99	P	SUR	12	-51	743	0	0.3	-0.3	0.4
6203894	99	P	SUR	23	-32	724	0	0.4	0.1	0.4
6204603	99	P	SUR	42	8	241	0	0.5	0.4	0.6
6204604	99	P	SUR	37	11	692	0	0.4	-2.2	2.2
6204613	99	P	SUR	41	6	726	0	0.6	-0.8	1.0
62050	99	P	SUR	50	-4	1486	0	0.4	-0.2	0.5
62091	99	P	SUR	53	-5	743	0	0.4	-0.2	0.5
62092	99	P	SUR	51	-11	743	0	0.4	-0.2	0.5
62093	99	P	SUR	55	-10	743	0	0.4	-0.3	0.5
62094	99	P	SUR	52	-7	743	0	0.5	-0.3	0.6
62095	99	P	SUR	53	-16	743	0	0.4	-0.3	0.5
62102	99	P	SUR	58	2	1441	0	0.5	0.0	0.5
62103	99	P	SUR	50	-3	1483	0	0.4	-0.1	0.4
62104	99	P	SUR	57	1	1487	0	0.5	-0.3	0.5
62105	99	P	SUR	55	-13	1482	0	0.8	-0.5	1.0
62107	99	P	SUR	50	-6	1486	0	0.4	-0.6	0.7
62112	99	P	SUR	58	0	1486	0	0.4	0.1	0.4
62113	99	P	SUR	58	0	1487	0	0.7	0.1	0.7
62114	99	P	SUR	58	0	1483	0	0.6	0.1	0.6
62115	99	P	SUR	58	-3	1486	0	0.5	-0.1	0.5
62116	99	P	SUR	58	1	1487	0	0.5	-0.2	0.6
62118	99	P	SUR	58	1	1487	0	0.5	0.2	0.5
62119	99	P	SUR	57	2	1487	0	0.5	0.0	0.5
62120	99	P	SUR	56	2	1487	0	0.7	-0.5	0.9
62121	99	P	SUR	54	3	1485	0	0.6	0.2	0.6

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
62122	99	P	SUR	57	2	1487	0	0.5	0.1	0.6
62124	99	P	SUR	54	-4	1257	0	0.6	0.1	0.6
62127	99	P	SUR	54	1	1487	0	0.5	-0.1	0.5
62129	99	P	SUR	58	0	1170	0	0.7	0.3	0.8
62130	99	P	SUR	59	1	1487	0	0.5	-0.6	0.8
62131	99	P	SUR	54	1	1487	0	0.5	0.2	0.5
62132	99	P	SUR	56	2	1487	0	0.8	0.3	0.8
62133	99	P	SUR	57	1	1487	0	0.6	-0.2	0.6
62134	99	P	SUR	58	1	1487	0	0.4	0.2	0.5
62138	99	P	SUR	54	0	1485	0	0.6	0.4	0.7
62140	99	P	SUR	57	1	1487	0	0.5	-0.1	0.5
62143	99	P	SUR	58	2	1487	0	0.7	0.7	0.9
62144	99	P	SUR	53	2	1485	0	0.5	0.0	0.5
62145	99	P	SUR	53	3	1487	0	0.5	0.0	0.5
62146	99	P	SUR	57	2	1484	0	0.7	0.3	0.8
62148	99	P	SUR	54	2	1485	0	1.0	0.4	1.1
62149	99	P	SUR	54	1	1487	0	0.4	0.2	0.4
62151	99	P	SUR	57	2	1487	0	0.4	0.0	0.4
62152	99	P	SUR	57	2	1487	0	0.5	0.5	0.7
62153	99	P	SUR	57	2	1255	0	0.5	0.3	0.6
62154	99	P	SUR	56	2	1487	0	0.4	-0.1	0.4
62155	99	P	SUR	58	1	1487	0	0.5	0.4	0.7
62157	99	P	SUR	58	0	1487	0	0.4	-0.3	0.5
62160	99	P	SUR	57	2	1487	0	0.5	-0.1	0.5
62161	99	P	SUR	58	1	1487	0	0.7	-0.1	0.7
62162	99	P	SUR	57	1	1487	0	0.5	-0.2	0.5
62163	99	P	SUR	48	-9	1478	0	0.4	-0.3	0.5
62164	99	P	SUR	57	1	1487	0	0.5	0.4	0.7
62165	99	P	SUR	54	1	1487	0	0.8	0.2	0.9
62168	99	P	SUR	58	1	1487	0	0.4	0.0	0.4
62170	99	P	SUR	51	2	1415	0	0.4	-0.5	0.7
62297	99	P	SUR	59	2	1487	0	0.5	-0.3	0.5
62302	99	P	SUR	61	-2	1486	0	0.7	-0.1	0.7
62304	99	P	SUR	51	2	1487	0	0.5	-0.1	0.5
62305	99	P	SUR	50	0	1487	0	0.4	-0.5	0.6
62442	99	P	SUR	50	-16	273	0	0.5	-0.3	0.5
6301001	99	P	SUR	64	5	742	0	0.5	0.1	0.5
6301004	99	P	SUR	72	20	83	0	0.5	-0.3	0.6
6301582	99	P	SUR	69	6	742	38	3.6	-0.3	3.6
63055	99	P	SUR	61	2	1405	0	0.6	0.2	0.6
63056	99	P	SUR	60	2	1487	0	0.7	0.3	0.8
63057	99	P	SUR	59	2	1487	0	0.4	-0.5	0.7
63058	99	P	SUR	53	2	965	0	0.4	-0.3	0.5

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
63059	99	P	SUR	58	-1	1484	0	0.4	0.3	0.5
63102	99	P	SUR	61	1	1487	0	0.6	0.2	0.6
63103	99	P	SUR	61	1	1487	0	0.8	0.3	0.8
63108	99	P	SUR	61	2	1487	0	0.7	0.2	0.7
63109	99	P	SUR	60	2	1487	0	0.5	-0.5	0.6
63110	99	P	SUR	60	2	1487	0	0.5	-0.3	0.6
63111	99	P	SUR	61	2	1487	0	0.5	-0.6	0.8
63112	99	P	SUR	61	1	1487	0	0.5	-0.4	0.6
63115	99	P	SUR	62	1	1487	0	0.8	0.2	0.8
63118	99	P	SUR	58	1	1483	0	0.5	-0.4	0.6
6400045	99	P	SUR	59	-12	741	0	0.6	-0.5	0.8
6401603	99	P	SUR	71	22	60	0	0.5	-0.3	0.6
6401604	99	P	SUR	88	-61	235	0	0.5	0.1	0.5
6401759	99	P	SUR	64	-25	743	0	0.7	0.0	0.8
6401763	99	P	SUR	66	12	740	0	0.6	0.1	0.6
6402616	99	P	SUR	27	-47	743	0	0.3	-0.1	0.3
6402617	99	P	SUR	30	-55	743	0	0.4	0.2	0.4
6402618	99	P	SUR	18	-55	743	0	0.3	-0.1	0.3
6402619	99	P	SUR	23	-56	743	0	0.3	0.0	0.3
6402621	99	P	SUR	28	-26	743	0	0.4	0.2	0.5
6402622	99	P	SUR	26	-34	742	0	0.4	0.0	0.4
6402634	99	P	SUR	41	3	360	0	0.4	0.1	0.4
6402635	99	P	SUR	39	1	743	0	0.4	-0.3	0.5
6402636	99	P	SUR	38	1	743	0	0.4	-0.3	0.5
6402637	99	P	SUR	38	1	743	0	0.4	-0.4	0.6
6402638	99	P	SUR	39	4	743	0	0.3	-0.1	0.4
64041	99	P	SUR	61	-3	1486	0	0.5	-0.2	0.6
64045	99	P	SUR	59	-12	1486	0	0.6	-0.6	0.8
6600021	99	P	SUR	55	14	162	0	0.5	-1.1	1.2
6600022	99	P	SUR	54	14	89	0	0.4	-0.6	0.8
6600024	99	P	SUR	55	13	249	0	0.5	-1.5	1.5
6801771	99	P	SUR	49	-32	724	0	0.5	0.0	0.5
6801789	99	P	SUR	10	-18	740	0	0.3	0.0	0.3
6801790	99	P	SUR	38	-22	339	0	0.3	0.0	0.3
6801791	99	P	SUR	30	-33	743	0	0.4	0.3	0.5
6801811	99	P	SUR	43	-51	440	0	0.4	0.2	0.4
6801879	99	P	SUR	15	-30	743	0	0.3	0.0	0.3
6801897	99	P	SUR	84	-66	743	0	0.5	-0.1	0.5
6801900	99	P	SUR	86	-38	736	0	0.5	0.1	0.5
6801907	99	P	SUR	66	-10	733	0	0.6	0.3	0.7
6801922	99	P	SUR	18	-25	725	0	2.2	-3.6	4.2
6801928	99	P	SUR	38	11	731	0	0.4	0.0	0.4
6801929	99	P	SUR	17	-24	734	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
7801571	99	P	SUR	44	-49	739	0	0.6	0.5	0.8
7801572	99	P	SUR	20	-59	728	0	0.3	-0.1	0.3
7801588	99	P	SUR	29	-25	641	0	0.4	0.1	0.4
7801616	99	P	SUR	22	-26	743	0	0.3	-0.1	0.4
7801627	99	P	SUR	12	-30	743	0	0.3	0.2	0.4
7801647	99	P	SUR	16	-30	536	0	0.3	-0.2	0.3
7801697	99	P	SUR	40	-30	743	0	0.4	0.1	0.4
7801699	99	P	SUR	33	-55	742	0	0.7	0.2	0.7
7801722	99	P	SUR	85	-58	738	0	0.5	-0.7	0.9
7801723	99	P	SUR	86	-67	744	0	0.5	0.1	0.5
7801742	99	P	SUR	22	-21	726	0	0.4	0.0	0.4
7801755	99	P	SUR	22	-21	740	0	0.4	-0.1	0.4
7810295	99	P	SUR	45	-36	742	0	0.5	0.0	0.5
7810297	99	P	SUR	28	-47	742	0	0.4	0.0	0.4
7810298	99	P	SUR	36	-51	427	0	0.5	-0.1	0.5
7810310	99	P	SUR	40	-31	729	0	0.4	0.2	0.5
7810312	99	P	SUR	35	-66	743	0	0.4	-0.1	0.4
7810313	99	P	SUR	40	-58	680	0	0.5	0.3	0.6
7810314	99	P	SUR	38	-51	742	0	0.4	-0.1	0.4
7810315	99	P	SUR	45	-22	745	0	0.3	0.0	0.3
7810316	99	P	SUR	38	-29	742	0	0.4	0.2	0.4
7810317	99	P	SUR	41	-27	743	0	0.3	0.0	0.3
7810318	99	P	SUR	34	-51	744	0	0.4	0.2	0.4
7810319	99	P	SUR	47	-28	742	0	0.4	0.1	0.5
7810320	99	P	SUR	34	-59	743	0	0.4	0.0	0.4
7810321	99	P	SUR	35	-38	207	0	0.3	0.2	0.4
7810322	99	P	SUR	24	-69	734	0	0.4	0.3	0.5
7810323	99	P	SUR	30	-64	730	0	0.4	0.1	0.4
7810325	99	P	SUR	31	-60	743	0	0.4	-0.1	0.4
7810328	99	P	SUR	37	-55	742	0	0.4	0.1	0.5
7810329	99	P	SUR	35	-67	743	0	0.4	0.2	0.4
7810332	99	P	SUR	33	-68	742	0	0.4	-0.1	0.4
7810377	99	P	SUR	35	-69	743	0	0.4	0.1	0.4
7810378	99	P	SUR	34	-66	743	0	0.4	0.0	0.4
7810379	99	P	SUR	36	-43	743	0	0.3	0.3	0.5
7810380	99	P	SUR	37	-58	744	0	0.5	0.2	0.5
7811002	99	P	SUR	52	-56	743	0	0.6	0.2	0.6
9193264	99	P	SUR	50	-2	11	0	0.3	0.0	0.3
9334674	99	P	SUR	23	-53	22	0	1.0	5.4	5.5

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 : DEC 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	246	0	0	1.8	1.9	2.6
1300001	99	SPEED	SUR	11	-23	724	0	0	0.8	0.8	1.2
1300008	99	SPEED	SUR	15	-38	466	0	0	0.8	0.0	0.8
1300130	99	SPEED	SUR	28	-16	727	0	0	1.4	-0.1	1.4
1300131	99	SPEED	SUR	28	-17	392	0	0	1.9	1.3	2.2
1801607	99	SPEED	SUR	19	-66	4135	0	0	1.2	0.4	1.3
4100040	99	SPEED	SUR	15	-53	4449	0	0	1.1	0.2	1.1
4100043	99	SPEED	SUR	21	-65	4449	0	0	1.2	0.2	1.2
4100044	99	SPEED	SUR	22	-59	4448	0	0	1.1	-0.1	1.1
4100049	99	SPEED	SUR	28	-62	4447	0	0	1.2	0.0	1.2
4100052	99	SPEED	SUR	18	-65	4436	0	0	1.2	-0.3	1.3
4100053	99	SPEED	SUR	18	-66	4436	0	0	1.4	0.5	1.5
4100056	99	SPEED	SUR	18	-65	4424	0	0	1.2	-0.2	1.2
4100300	99	SPEED	SUR	16	-57	741	0	0	1.0	-0.2	1.0
41040	99	SPEED	SUR	15	-53	743	0	0	1.2	-0.2	1.3
41043	99	SPEED	SUR	21	-65	743	0	0	1.3	-0.1	1.3
41044	99	SPEED	SUR	22	-59	743	0	0	1.2	-0.6	1.4
41049	99	SPEED	SUR	28	-62	743	0	0	1.3	-0.5	1.5
41052	99	SPEED	SUR	18	-65	743	0	0	1.3	-0.7	1.5
41053	99	SPEED	SUR	19	-66	744	0	0	1.5	-0.5	1.6
41056	99	SPEED	SUR	18	-66	744	0	0	1.3	-0.6	1.4
4200060	99	SPEED	SUR	16	-63	4448	0	0	1.0	0.2	1.0
4200085	99	SPEED	SUR	18	-67	4375	0	0	1.3	-0.1	1.3
42060	99	SPEED	SUR	16	-63	743	0	0	1.1	-0.2	1.1
42085	99	SPEED	SUR	18	-67	741	0	0	1.4	0.1	1.4
4400011	99	SPEED	SUR	41	-67	4450	0	0	1.3	-0.1	1.3
4400027	99	SPEED	SUR	44	-67	4449	0	0	1.3	0.2	1.3
4400032	99	SPEED	SUR	44	-69	741	0	0	1.3	0.6	1.4
4400033	99	SPEED	SUR	44	-69	742	0	0	1.6	0.5	1.7
4400034	99	SPEED	SUR	44	-68	742	0	0	1.3	0.5	1.4
4400488	99	SPEED	SUR	45	-61	725	0	0	1.4	1.1	1.8
4400489	99	SPEED	SUR	45	-61	701	0	0	1.5	2.2	2.7
44011	99	SPEED	SUR	41	-67	743	0	0	1.4	-0.7	1.6
44027	99	SPEED	SUR	44	-67	743	0	0	1.4	-0.3	1.4

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

(CONTINU)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
44032	99	SPEED	SUR	44	-69	742	0	0	1.4	0.1	1.4
44033	99	SPEED	SUR	44	-69	743	0	0	1.7	0.3	1.7
44034	99	SPEED	SUR	44	-68	743	0	0	1.5	0.0	1.5
44078	99	SPEED	SUR	60	-40	743	10	0	2.2	-2.3	3.2
44137	99	SPEED	SUR	42	-62	738	0	0	1.6	-0.7	1.7
44139	99	SPEED	SUR	44	-57	733	0	0	1.7	-0.4	1.8
44150	99	SPEED	SUR	43	-64	738	0	0	1.5	-0.5	1.6
44258	99	SPEED	SUR	45	-63	718	0	0	1.3	0.2	1.4
44488	99	SPEED	SUR	45	-61	725	0	0	1.6	1.3	2.0
44489	99	SPEED	SUR	46	-61	701	0	0	1.5	2.0	2.5
5801955	99	SPEED	SUR	20	-67	588	0	0	0.8	0.1	0.8
6100001	99	SPEED	SUR	43	8	722	0	0	1.7	0.2	1.8
6100002	99	SPEED	SUR	42	5	709	0	0	1.3	0.3	1.3
6100196	99	SPEED	SUR	42	4	584	0	0	2.0	0.0	2.0
6100197	99	SPEED	SUR	40	4	705	0	0	1.6	-0.6	1.7
6100198	99	SPEED	SUR	37	-2	725	0	0	1.5	-0.6	1.6
6100280	99	SPEED	SUR	41	1	741	0	0	1.8	-0.2	1.8
6100281	99	SPEED	SUR	40	0	703	0	0	1.9	1.0	2.1
6100417	99	SPEED	SUR	38	0	720	0	0	1.3	-0.6	1.5
6100430	99	SPEED	SUR	40	2	706	0	0	1.5	-0.6	1.7
6101031	99	SPEED	SUR	42	8	743	0	0	1.4	0.0	1.4
6101032	99	SPEED	SUR	42	10	743	0	0	1.8	0.5	1.9
6101034	99	SPEED	SUR	42	5	742	0	0	1.6	1.1	1.9
6101035	99	SPEED	SUR	40	7	743	0	0	1.4	1.2	1.9
6200001	99	SPEED	SUR	45	-5	737	0	0	1.3	-0.5	1.4
6200024	99	SPEED	SUR	44	-3	644	0	0	1.5	-0.8	1.7
6200025	99	SPEED	SUR	44	-6	722	0	0	1.5	-0.6	1.6
6200082	99	SPEED	SUR	44	-8	441	0	0	1.2	-0.7	1.4
6200083	99	SPEED	SUR	43	-9	735	0	0	1.2	-0.6	1.3
6200084	99	SPEED	SUR	42	-9	731	0	0	1.3	-0.6	1.5
6200085	99	SPEED	SUR	36	-7	740	0	0	1.3	0.1	1.3
6200086	99	SPEED	SUR	55	7	215	0	0	2.0	1.5	2.5
6200087	99	SPEED	SUR	55	7	240	0	0	1.7	1.2	2.1
6200091	99	SPEED	SUR	53	-5	743	0	0	1.4	0.5	1.4
6200092	99	SPEED	SUR	51	-11	743	0	0	1.1	0.4	1.2
6200093	99	SPEED	SUR	55	-10	743	0	0	1.5	-0.7	1.6
6200094	99	SPEED	SUR	52	-7	743	0	0	1.6	-1.7	2.3
6200095	99	SPEED	SUR	53	-16	743	0	0	1.1	0.1	1.1
6200103	99	SPEED	SUR	50	-3	741	0	0	1.1	-0.1	1.1
6200163	99	SPEED	SUR	48	-8	739	0	0	1.2	0.1	1.2
6201065	99	SPEED	SUR	54	7	501	0	0	2.0	-0.9	2.2

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
6201066	99	SPEED	SUR	55	7	740	0	0	1.4	0.4	1.5
6202113	99	SPEED	SUR	54	7	179	0	0	1.4	0.5	1.5
6202114	99	SPEED	SUR	54	6	173	0	0	1.3	0.4	1.4
62030	99	SPEED	SUR	50	-4	119	0	0	1.2	0.8	1.5
62050	99	SPEED	SUR	50	-4	1484	0	0	1.3	-0.4	1.3
62091	99	SPEED	SUR	53	-5	743	0	0	1.4	0.8	1.6
62092	99	SPEED	SUR	51	-11	743	0	0	1.2	0.5	1.3
62093	99	SPEED	SUR	55	-10	743	0	0	1.5	-0.6	1.6
62094	99	SPEED	SUR	52	-7	743	0	0	1.7	-1.6	2.3
62095	99	SPEED	SUR	53	-16	743	0	0	1.1	0.2	1.1
62102	99	SPEED	SUR	58	2	1441	0	0	1.4	-0.4	1.4
62103	99	SPEED	SUR	50	-3	1481	0	0	1.2	-0.2	1.2
62104	99	SPEED	SUR	57	1	1485	0	0	1.5	-0.3	1.5
62105	99	SPEED	SUR	55	-13	1482	0	0	1.3	0.0	1.3
62107	99	SPEED	SUR	50	-6	1484	0	0	1.3	0.4	1.3
62112	99	SPEED	SUR	58	0	1486	0	0	1.6	-0.8	1.8
62114	99	SPEED	SUR	58	0	1483	0	0	1.9	0.6	2.0
62118	99	SPEED	SUR	58	1	1485	0	0	1.7	0.6	1.8
62120	99	SPEED	SUR	56	2	1487	0	0	1.3	-0.8	1.5
62121	99	SPEED	SUR	54	3	1485	1	0	1.5	-0.3	1.6
62122	99	SPEED	SUR	57	2	1109	0	0	2.0	-0.4	2.0
62129	99	SPEED	SUR	58	0	1170	0	0	1.9	0.4	1.9
62131	99	SPEED	SUR	54	1	1229	0	0	1.9	0.3	1.9
62133	99	SPEED	SUR	57	1	4	0	0	0.8	-1.9	2.0
62134	99	SPEED	SUR	58	1	1487	0	0	1.5	-1.7	2.3
62140	99	SPEED	SUR	57	1	2	0	0	0.0	-5.3	5.3
62143	99	SPEED	SUR	58	2	1487	0	0	2.2	-1.0	2.4
62144	99	SPEED	SUR	53	2	1485	0	0	1.7	-0.4	1.8
62145	99	SPEED	SUR	53	3	1487	0	0	1.5	0.6	1.6
62146	99	SPEED	SUR	57	2	1484	2	0	1.6	0.1	1.6
62148	99	SPEED	SUR	54	2	1485	0	0	2.1	-0.4	2.1
62149	99	SPEED	SUR	54	1	1487	0	0	1.4	0.2	1.4
62152	99	SPEED	SUR	57	2	1487	0	0	1.8	-1.4	2.3
62154	99	SPEED	SUR	56	2	1487	0	0	1.4	0.1	1.4
62155	99	SPEED	SUR	58	1	1487	0	0	1.7	0.3	1.7
62163	99	SPEED	SUR	48	-9	1478	0	0	1.3	0.0	1.3
62164	99	SPEED	SUR	57	1	1487	0	0	1.8	-1.6	2.4
62165	99	SPEED	SUR	54	1	1487	0	0	1.7	-0.5	1.8
62170	99	SPEED	SUR	51	2	1415	0	0	1.4	1.0	1.7
62304	99	SPEED	SUR	51	2	1469	0	0	1.6	1.3	2.1
6301001	99	SPEED	SUR	64	5	742	0	0	1.3	-0.3	1.4

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

(CONTINU)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
6301004	99	SPEED	SUR	72	20	83	0	0	1.5	-1.2	1.9
63055	99	SPEED	SUR	61	2	858	0	0	1.7	-2.2	2.8
63056	99	SPEED	SUR	60	2	1485	0	0	1.7	0.4	1.7
63057	99	SPEED	SUR	59	2	1487	0	0	2.8	-1.6	3.2
63058	99	SPEED	SUR	53	2	964	0	0	1.4	-0.3	1.4
63103	99	SPEED	SUR	61	1	1487	0	0	1.9	-0.1	1.9
63108	99	SPEED	SUR	61	2	1487	0	0	1.8	-0.2	1.8
63109	99	SPEED	SUR	60	2	1483	0	0	1.7	0.4	1.7
63110	99	SPEED	SUR	60	2	1485	0	0	1.6	-0.7	1.8
63112	99	SPEED	SUR	61	1	1487	0	0	1.4	-0.7	1.6
63115	99	SPEED	SUR	62	1	1487	0	0	1.6	-0.9	1.8
64041	99	SPEED	SUR	61	-3	1486	0	0	1.5	-0.5	1.6
6600021	99	SPEED	SUR	55	14	162	0	0	1.0	0.8	1.3
6600022	99	SPEED	SUR	54	14	89	0	0	1.6	0.2	1.6
6600024	99	SPEED	SUR	55	13	249	0	0	1.6	1.2	2.0
9193264	99	SPEED	SUR	50	-2	11	0	0	1.6	-0.1	1.7
9334674	99	SPEED	SUR	23	-53	22	0	0	2.0	0.9	2.2

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

DRIFTER MONITORING STATISTICS (EUCOS)
MONITORING CENTRE : ECMWF
ELEMENT MONITORED : WIND DIRECTION (DEGREES)
AREA : 10N - 90N, 70W - 40E
PERIOD : DEC 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	704	0	0	10.4	2.6	10.8
1300008	99	DIRN	SUR	15	-38	435	0	0	9.9	2.5	10.2
1300130	99	DIRN	SUR	28	-16	516	0	0	15.7	1.7	15.8
1300131	99	DIRN	SUR	28	-17	295	0	0	16.6	-1.8	16.7
1801562	99	DIRN	SUR	32	-79	2479	0	0	18.4	3.0	18.6
1801577	99	DIRN	SUR	28	-84	2853	0	0	11.1	1.7	11.3
1801607	99	DIRN	SUR	19	-66	3863	0	0	15.6	2.0	15.7
4100002	99	DIRN	SUR	32	-75	4095	0	0	16.9	2.9	17.1
4100004	99	DIRN	SUR	33	-79	3976	0	0	18.2	8.5	20.1
4100008	99	DIRN	SUR	31	-81	3593	0	0	17.6	10.8	20.7
4100009	99	DIRN	SUR	29	-80	3843	0	0	19.1	3.9	19.5
4100010	99	DIRN	SUR	29	-78	4044	0	0	17.2	7.9	18.9
4100013	99	DIRN	SUR	33	-78	3848	0	0	19.5	8.0	21.1
4100024	99	DIRN	SUR	34	-78	510	0	0	16.8	4.8	17.5
4100025	99	DIRN	SUR	35	-75	4314	0	0	19.5	7.4	20.8
4100029	99	DIRN	SUR	33	-80	570	0	0	20.0	-7.9	21.5
4100033	99	DIRN	SUR	32	-80	599	0	0	21.2	3.5	21.5
4100038	99	DIRN	SUR	34	-78	587	0	0	17.2	0.4	17.2
4100040	99	DIRN	SUR	15	-53	4137	0	0	16.5	-1.0	16.5
4100043	99	DIRN	SUR	21	-65	4070	0	0	15.6	0.7	15.6
4100044	99	DIRN	SUR	22	-59	4111	0	0	14.4	6.1	15.7
4100049	99	DIRN	SUR	28	-62	4146	0	0	21.6	8.0	23.0
4100052	99	DIRN	SUR	18	-65	4246	0	0	16.6	4.5	17.2
4100053	99	DIRN	SUR	18	-66	2905	0	0	18.6	-5.5	19.4
4100056	99	DIRN	SUR	18	-65	4111	0	0	18.9	0.6	19.0
4100064	99	DIRN	SUR	34	-77	669	0	0	16.1	-17.8	24.0
4100066	99	DIRN	SUR	33	-80	624	0	0	21.1	-9.3	23.1
4100068	99	DIRN	SUR	28	-80	479	0	0	29.1	-2.4	29.2
4100069	99	DIRN	SUR	29	-81	405	0	0	19.0	4.8	19.6
4100082	99	DIRN	SUR	36	-75	4153	0	0	16.1	-11.9	20.0
4100083	99	DIRN	SUR	36	-75	3804	0	0	15.5	-6.1	16.6
41002	99	DIRN	SUR	32	-75	675	0	0	16.4	2.7	16.6

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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
4100300	99	DIRN	SUR	16	-57	652	0	0	13.1	2.3	13.3
41004	99	DIRN	SUR	33	-79	662	0	0	18.7	8.6	20.6
41008	99	DIRN	SUR	31	-81	590	0	0	18.9	10.3	21.5
41009	99	DIRN	SUR	29	-80	639	0	0	18.3	4.5	18.9
41010	99	DIRN	SUR	29	-79	670	0	0	18.5	8.6	20.3
41013	99	DIRN	SUR	33	-78	639	0	0	20.8	8.1	22.3
41024	99	DIRN	SUR	34	-79	533	0	0	17.8	4.8	18.5
41025	99	DIRN	SUR	35	-76	721	0	0	18.7	7.2	20.0
41029	99	DIRN	SUR	33	-80	560	0	0	20.0	-7.6	21.4
41033	99	DIRN	SUR	32	-80	579	0	0	20.9	3.0	21.1
41038	99	DIRN	SUR	34	-78	579	0	0	19.5	1.7	19.6
41040	99	DIRN	SUR	15	-53	690	0	0	16.5	-1.7	16.6
41043	99	DIRN	SUR	21	-65	679	0	0	16.0	0.0	16.0
41044	99	DIRN	SUR	22	-59	668	0	0	15.8	5.4	16.6
41049	99	DIRN	SUR	28	-62	687	0	0	21.3	7.9	22.7
41052	99	DIRN	SUR	18	-65	704	0	0	17.3	4.3	17.8
41053	99	DIRN	SUR	19	-66	501	0	0	20.4	-6.1	21.3
41056	99	DIRN	SUR	18	-66	688	0	0	19.5	0.8	19.5
41064	99	DIRN	SUR	34	-77	674	0	0	16.3	-17.6	24.0
41066	99	DIRN	SUR	33	-80	621	0	0	21.3	-8.9	23.1
41068	99	DIRN	SUR	28	-80	476	0	0	30.8	-3.2	30.9
41069	99	DIRN	SUR	29	-81	405	0	0	21.5	5.7	22.2
41082	99	DIRN	SUR	36	-75	683	0	0	16.4	-12.7	20.8
41083	99	DIRN	SUR	36	-75	635	0	0	16.5	-5.5	17.4
4200013	99	DIRN	SUR	27	-83	1274	0	0	13.3	-2.2	13.5
4200022	99	DIRN	SUR	28	-84	1343	0	0	11.8	-2.0	12.0
4200036	99	DIRN	SUR	29	-85	4169	0	0	14.1	2.8	14.4
4200056	99	DIRN	SUR	20	-85	4270	0	0	17.6	5.9	18.6
4200058	99	DIRN	SUR	15	-75	4441	0	0	9.2	7.2	11.7
4200060	99	DIRN	SUR	16	-63	4211	0	0	11.0	3.8	11.7
4200085	99	DIRN	SUR	18	-67	3842	0	0	19.6	10.0	22.0
42013	99	DIRN	SUR	27	-83	637	0	0	13.7	-2.4	13.9
42022	99	DIRN	SUR	28	-84	670	0	0	12.1	-1.7	12.2
42036	99	DIRN	SUR	29	-85	694	0	0	14.0	2.4	14.2
42056	99	DIRN	SUR	20	-85	717	0	0	19.0	5.5	19.8
42058	99	DIRN	SUR	15	-75	740	0	0	10.3	6.3	12.1
42060	99	DIRN	SUR	16	-63	698	0	0	11.8	3.1	12.2
42085	99	DIRN	SUR	18	-67	624	0	0	19.2	7.3	20.5
4400007	99	DIRN	SUR	44	-70	3745	0	0	23.5	4.8	23.9
4400009	99	DIRN	SUR	38	-75	3899	0	0	14.8	8.4	17.1
4400011	99	DIRN	SUR	41	-67	3995	0	0	14.0	9.2	16.8

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
4400013	99	DIRN	SUR	42	-71	3905	0	0	14.5	9.5	17.3
4400014	99	DIRN	SUR	37	-75	4111	0	0	13.2	6.5	14.7
4400020	99	DIRN	SUR	41	-70	3812	0	0	15.8	7.9	17.6
4400025	99	DIRN	SUR	40	-73	4021	0	0	12.0	6.5	13.7
4400027	99	DIRN	SUR	44	-67	3945	0	0	12.8	7.8	15.0
4400029	99	DIRN	SUR	43	-71	641	0	0	14.6	6.2	15.8
4400030	99	DIRN	SUR	43	-70	626	0	0	22.6	1.2	22.7
4400032	99	DIRN	SUR	44	-69	667	0	0	15.4	3.5	15.7
4400033	99	DIRN	SUR	44	-69	628	0	0	17.5	1.8	17.6
4400034	99	DIRN	SUR	44	-68	668	0	0	13.8	2.2	13.9
4400041	99	DIRN	SUR	37	-77	645	0	0	11.5	-2.8	11.8
4400043	99	DIRN	SUR	39	-76	1175	0	0	17.2	8.4	19.1
4400058	99	DIRN	SUR	38	-76	1321	0	0	15.7	1.9	15.9
4400062	99	DIRN	SUR	39	-76	1090	0	0	13.8	-9.8	16.9
4400063	99	DIRN	SUR	39	-76	1122	0	0	13.4	5.1	14.3
4400064	99	DIRN	SUR	37	-76	1290	0	0	13.2	0.9	13.3
4400065	99	DIRN	SUR	40	-74	3880	0	0	15.0	7.7	16.9
4400072	99	DIRN	SUR	37	-76	1209	0	0	14.2	1.8	14.3
4400073	99	DIRN	SUR	43	-71	3061	0	0	18.8	4.7	19.4
4400079	99	DIRN	SUR	36	-75	4278	0	0	18.1	-11.3	21.3
4400488	99	DIRN	SUR	45	-61	643	0	0	18.9	-28.9	34.6
4400489	99	DIRN	SUR	45	-61	555	0	0	16.6	-31.8	35.9
44007	99	DIRN	SUR	44	-70	623	0	0	24.1	5.7	24.8
44009	99	DIRN	SUR	39	-75	648	0	0	15.9	8.4	18.0
44011	99	DIRN	SUR	41	-67	668	0	0	14.2	9.6	17.2
44013	99	DIRN	SUR	42	-71	643	0	0	15.2	7.8	17.1
44014	99	DIRN	SUR	37	-75	685	0	0	13.9	6.0	15.1
44020	99	DIRN	SUR	42	-70	627	0	0	16.8	8.0	18.6
44025	99	DIRN	SUR	40	-73	664	0	0	12.4	6.0	13.8
44027	99	DIRN	SUR	44	-67	651	0	0	13.7	7.6	15.7
44029	99	DIRN	SUR	43	-71	644	0	0	13.8	6.0	15.1
44030	99	DIRN	SUR	43	-70	623	0	0	22.0	1.2	22.0
44032	99	DIRN	SUR	44	-69	660	0	0	15.5	3.3	15.8
44033	99	DIRN	SUR	44	-69	622	0	0	16.9	1.1	17.0
44034	99	DIRN	SUR	44	-68	665	0	0	15.0	1.8	15.1
44041	99	DIRN	SUR	37	-77	104	0	0	14.4	-2.1	14.5
44043	99	DIRN	SUR	39	-76	145	0	0	12.7	6.7	14.3
44058	99	DIRN	SUR	38	-76	166	0	0	15.5	1.4	15.5
44062	99	DIRN	SUR	39	-76	147	0	0	15.3	-9.1	17.8
44063	99	DIRN	SUR	39	-76	146	0	0	15.1	4.6	15.8
44064	99	DIRN	SUR	37	-76	184	0	0	14.3	0.4	14.3

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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
44065	99	DIRN	SUR	40	-74	644	0	0	14.8	7.2	16.5
44072	99	DIRN	SUR	37	-76	171	0	0	15.0	1.1	15.1
44073	99	DIRN	SUR	43	-71	513	0	0	19.2	6.0	20.1
44078	99	DIRN	SUR	60	-40	677	10	0	25.6	-16.0	30.1
44079	99	DIRN	SUR	36	-75	710	0	0	17.3	-12.0	21.0
44137	99	DIRN	SUR	42	-62	665	0	0	16.4	-7.9	18.2
44139	99	DIRN	SUR	44	-57	658	0	0	18.6	-7.6	20.1
44150	99	DIRN	SUR	43	-64	666	0	0	18.1	-6.4	19.2
44258	99	DIRN	SUR	45	-63	625	0	0	14.5	0.3	14.5
44488	99	DIRN	SUR	45	-61	631	0	0	19.9	-29.8	35.8
44489	99	DIRN	SUR	46	-61	567	0	0	17.2	-32.2	36.5
4500003	99	DIRN	SUR	45	-83	2478	0	0	12.7	5.0	13.7
4500005	99	DIRN	SUR	42	-82	391	0	0	10.5	21.8	24.1
4500008	99	DIRN	SUR	44	-82	3434	0	0	15.5	7.7	17.3
4500012	99	DIRN	SUR	44	-77	1324	0	0	17.7	8.7	19.7
4500132	99	DIRN	SUR	42	-81	235	0	0	12.0	-0.1	12.0
4500137	99	DIRN	SUR	46	-81	176	0	0	15.3	-2.4	15.5
4500142	99	DIRN	SUR	43	-79	229	0	0	14.3	1.0	14.3
4500143	99	DIRN	SUR	45	-81	336	0	0	25.6	1.9	25.7
45003	99	DIRN	SUR	45	-83	413	0	0	13.8	6.2	15.1
45005	99	DIRN	SUR	42	-82	66	0	0	10.6	23.3	25.7
45008	99	DIRN	SUR	44	-82	568	0	0	15.3	7.5	17.0
45012	99	DIRN	SUR	44	-77	219	0	0	16.4	8.8	18.6
45132	99	DIRN	SUR	43	-81	235	0	0	13.5	-0.5	13.5
45137	99	DIRN	SUR	46	-81	171	0	0	16.0	-4.5	16.7
45142	99	DIRN	SUR	43	-79	223	0	0	14.0	-0.4	14.0
45143	99	DIRN	SUR	45	-81	327	0	0	22.8	-1.5	22.8
45147	99	DIRN	SUR	42	-82	47	0	0	8.8	4.0	9.7
45149	99	DIRN	SUR	44	-82	215	0	0	17.9	-3.2	18.2
45151	99	DIRN	SUR	45	-79	28	0	0	11.2	-2.1	11.4
5801955	99	DIRN	SUR	20	-67	586	0	0	8.9	1.8	9.0
6100198	99	DIRN	SUR	37	-2	527	0	0	17.8	5.0	18.5
6100281	99	DIRN	SUR	40	0	341	0	0	23.2	-4.8	23.7
6100417	99	DIRN	SUR	38	0	460	0	0	35.4	9.1	36.5
6200001	99	DIRN	SUR	45	-5	614	0	0	13.6	0.0	13.6
6200024	99	DIRN	SUR	44	-3	453	0	0	18.6	10.3	21.2
6200025	99	DIRN	SUR	44	-6	417	0	0	18.0	-3.6	18.3
6200082	99	DIRN	SUR	44	-8	303	0	0	21.5	6.9	22.6
6200083	99	DIRN	SUR	43	-9	557	0	0	16.8	4.2	17.3
6200084	99	DIRN	SUR	42	-9	496	0	0	19.5	1.1	19.5
6200085	99	DIRN	SUR	36	-7	609	0	0	17.5	6.8	18.8

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
6200091	99	DIRN	SUR	53	-5	710	0	0	12.8	2.1	12.9
6200092	99	DIRN	SUR	51	-11	713	0	0	9.1	6.2	11.0
6200093	99	DIRN	SUR	55	-10	674	0	0	11.2	1.5	11.3
6200094	99	DIRN	SUR	52	-7	690	0	0	11.8	-4.2	12.5
6200095	99	DIRN	SUR	53	-16	697	0	0	11.2	5.2	12.3
6200103	99	DIRN	SUR	50	-3	627	0	0	13.5	12.9	18.7
6200163	99	DIRN	SUR	48	-8	650	0	0	12.9	-0.4	12.9
62030	99	DIRN	SUR	50	-4	99	0	0	10.8	2.4	11.0
62050	99	DIRN	SUR	50	-4	1284	0	0	15.6	4.7	16.2
62091	99	DIRN	SUR	53	-5	707	0	0	12.9	1.6	13.0
62092	99	DIRN	SUR	51	-11	711	0	0	9.4	5.9	11.1
62093	99	DIRN	SUR	55	-10	668	0	0	11.7	1.1	11.7
62094	99	DIRN	SUR	52	-7	683	0	0	11.8	-4.7	12.7
62095	99	DIRN	SUR	53	-16	695	0	0	11.6	4.6	12.5
62103	99	DIRN	SUR	50	-3	1256	0	0	13.9	12.8	18.9
62105	99	DIRN	SUR	55	-13	1373	0	0	13.4	-12.1	18.1
62107	99	DIRN	SUR	50	-6	1353	0	0	11.6	3.0	12.0
62112	99	DIRN	SUR	58	0	1385	0	0	12.2	2.3	12.4
62114	99	DIRN	SUR	58	0	1396	0	0	11.4	0.9	11.4
62163	99	DIRN	SUR	48	-9	1290	0	0	12.6	-0.4	12.6
64041	99	DIRN	SUR	61	-3	1422	0	0	12.1	10.3	15.9
9193264	99	DIRN	SUR	50	-2	11	0	0	19.6	-24.6	31.5
9334674	99	DIRN	SUR	23	-53	22	0	0	31.7	-1.9	31.8

4.12 Table 24 - List of Assimilated BUFR Encoded Radiosonde Stations

ASDE09	ATGU3FT	GQBZLZL	JNKN7JF	KJJF9XN	KMPLHPW	LAGY8	LAGZ8	LRYQE3U
USBOD	USYUB	UXK5JTU	WDK38HS	XKQLWQB	YLV96WM	ZVQEQCM	2TDJJ8J	7JUNA4N
7KPB	9ZT9MRK	01001	01004	01010	01028	01241	01400	01415
01492	02185	02365	02591	02836	02963	03005	03238	03354
03502	03743	03808	03918	03953	04018	04220	04270	04320
04339	04360	04417	06011	06260	06458	06610	07110	07145
07510	07645	07761	08001	08023	08190	08221	08302	08383
08430	08508	08522	08536	10035	10113	10184	10238	10304
10393	10410	10548	10618	10739	10771	10868	10954	10962
11010	11035	11120	11240	11520	11747	11952	12120	12374
12425	12575	12843	12982	13275	13388	14015	14240	14430
15420	15614	16045	16064	16113	16144	16224	16245	16332
16429	16546	16622	16716	16754	17030	17064	17095	17130
17196	17220	17240	17351	17516	17607	20674	22008	22522
22820	22845	23205	23472	23884	23921	23955	24266	24641
24688	24908	24947	26038	26435	26477	26629	26708	27459
27707	27713	27962	28225	28445	28661	28695	29612	29698
30557	30673	30935	31004	31770	31873	31977	34122	34172
34731	35121	40179	40186	42027	42056	42111	42182	42314
42339	42348	42399	42410	42492	42516	42622	42623	42634
42647	42675	42867	42874	42886	42971	43003	43014	43041
43049	43063	43086	43128	43150	43185	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	61901	61980	61998
65344	66160	67083	68263	68424	68442	68512	68816	68842
70026	70133	70200	70219	70231	70261	70273	70308	70316
70326	70350	70361	70398	71043	71081	71082	71109	71119
71603	71722	71802	71811	71815	71816	71823	71845	71867
71906	71907	71908	71909	71913	71917	71924	71925	71926
71934	71945	71957	71964	72201	72202	72206	72208	72210
72215	72230	72233	72235	72240	72248	72249	72250	72251
72261	72265	72274	72293	72305	72317	72318	72327	72340
72357	72363	72364	72365	72376	72388	72402	72403	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	76805	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	89062
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	GQBZLZL	JNKN7JF	KJJF9XN	KMPLHPW	LAGY8	LAGZ8	LRYQE3U
USBOD	USYUB	UXK5JTU	WDK38HS	XKQLWQB	YLV96WM	ZVQEBCM	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	72413	76743	76903	84372
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.