



ECMWF Global Data Monitoring Report

June 2024

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

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

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

Contents

1	Introduction	4
2	Data summary - History of events	5
2.1	Radiosondes	5
2.2	Drifting Buoys	7
3	Global monitoring statistics	7
3.1	Data Availability	7
3.2	Data Quality	7
3.2.1	Figure 1 - Availability - SYNOP PRESSURE	9
3.2.2	Figure 2 - Availability - DRIFTER PRESSURE	10
3.2.3	Figure 3 - Availability - TEMP 500 hPa geopotential	11
3.2.4	Figure 4 - Availability - TEMP/PILOT 300 hPa wind	12
3.2.5	Figure 5 - Availability - AIRCRAFT winds 300-150 hPa	13
3.2.6	Figure 6 - Availability - SATOB winds 400-150 hPa	14
3.2.7	Figure 7 - Availability - SATOB winds 1000-700 hPa	15
3.2.8	Figure 8 - Availability - NOAA15 ATOVS : AMSU-A	16
3.2.9	Figure 9.1 - Availability - NOAA18 ATOVS : AMSU-A	17
3.2.10	Figure 9.2 - Availability - AQUA ATOVS : AMSU-A	18
3.2.11	Figure 9.3 - Availability - METOP ATOVS : AMSU-A	19
3.2.12	Table 1 - Suspect ships and fixed marine platforms: Surface pressure - (hPa)	20
3.2.13	Table 2 - Suspect ships and fixed marine platforms: Wind speed (m/s)	23
3.2.14	Table 3 - Suspect ships and fixed marine platforms: Wind direction (DEGREES)	24
3.2.15	Table 4 - Suspect drifters: Surface pressure (HPA)	25
3.2.16	Table 5 - Suspect drifters: Wind speed (m/s)	26
3.2.17	Table 6 - Suspect drifters: Wind direction (degrees)	27
3.2.18	Table 7 - Suspect radiosondes: Geopotential height (metres)	29
3.2.19	Table 8 - Suspect radiosondes: Wind (m/s)	30
3.2.20	Table 9 - Suspect radiosondes: Wind direction (degrees)	31
3.2.21	Figure 10 - Suspect TEMP observations - geopotential : 00 UTC	32
3.2.22	Figure 11 - Suspect TEMP observations - geopotential : 12 UTC	33
3.2.23	Figure 12 - Suspect TEMP/PILOT observations - wind : 00 UTC	34
3.2.24	Figure 13 - Suspect TEMP/PILOT observations - wind : 12 UTC	35
3.2.25	Table 10 - Radiosonde monitoring statistics (SHIPs): Geopotential height (metres)	36
3.2.26	Table 11 - Radiosonde monitoring statistics (SHIPs): Wind (m/s)	37
3.2.27	Figure 14 - SATOB Winds: 700-1000hPa	38
3.2.28	Figure 15 - SATOB Winds: 150- 400hPa	39
3.2.29	Figure 16 - SATOB Winds: 700-1000hPa	40
3.2.30	Figure 17 - SATOB Winds: 150- 400hPa	41
3.2.31	Figure 18 - AIRCRAFT Winds: 150- 300hPa	42
3.2.32	Table 12 - Airep Monitoring Statistics For Airline Carriers (Global)	43
4	EUCOS Area Monitoring Statistics	52
4.1	Table 13 - Radiosonde Monitoring Statistics (EUCOS): 50 hPa Geopotential height (metres)	53
4.2	Table 14 - Radiosonde Monitoring Statistics (EUCOS): 50 hPa Wind (m/s)	56
4.3	Table 15 - Radiosonde Monitoring Statistics (EUCOS): 100 hPa Geopotential height (metres)	59
4.4	Table 16 - Radiosonde Monitoring Statistics (EUCOS): 100 hPa Wind (m/s)	62
4.5	Table 17 - Radiosonde Monitoring Statistics (EUCOS): 500 hPa Geopotential height (metres)	65
4.6	Table 18 - Radiosonde Monitoring Statistics (EUCOS): 500 hPa Wind (m/s)	68
4.7	Table 19 - Radiosonde Monitoring Statistics (EUCOS): 850 hPa Geopotential height (metres)	71
4.8	Table 20 - Radiosonde Monitoring Statistics (EUCOS): 850 hPa Wind (m/s)	74
4.9	Table 21 - Drifter Monitoring Statistics (EUCOS): Surface pressure (hpa)	77
4.10	Table 22 - Drifter Monitoring Statistics (EUCOS): Wind speed (m/s)	87
4.11	Table 23 - Drifter Monitoring Statistics (EUCOS): Wind direction	91
4.12	Table 24 - List of Assimilated BUFR Encoded Radiosonde Stations	97
4.13	Table 25 - List of BUFR Encoded Radiosonde Stations with no TAC Counterpart	99

5 Annex - Explanations of figures and tables	100
5.1 General	100
5.2 Data Availability	100
5.3 Data Quality	100

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)
SATOBS 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	May	Jun	Ident	Time	May	Jun
02591	(12)	31	17	30309	(00)	10	23
16716	(12)	28	4	30309	(12)	11	25
28722	(00)	19	0	42101	(00)	0	14
28722	(12)	19	0	42623	(00)	4	30
29231	(00)	30	5	42886	(00)	1	13
29231	(12)	30	5	42886	(12)	1	14
32477	(12)	30	0	43295	(00)	10	27
32618	(00)	30	1	43333	(00)	2	13
42027	(00)	20	1	47741	(00)	9	32
42027	(12)	24	0	47741	(12)	9	29
60715	(00)	16	0	47778	(00)	9	31
60760	(00)	31	0	47778	(12)	9	30
64500	(00)	21	0	48407	(00)	17	28
64500	(12)	43	0	48480	(12)	0	11
71802	(12)	24	12	62378	(12)	12	25
72265	(00)	29	17	65578	(00)	0	25
72265	(12)	29	9	65578	(12)	0	29
74004	(12)	13	0	68592	(00)	16	31
76225	(00)	31	13	72214	(00)	9	21
78384	(00)	29	14	72214	(12)	7	21
78384	(12)	27	10	74626	(12)	0	15
78988	(00)	30	11	78897	(00)	0	29
78988	(12)	29	12	78970	(00)	0	26
80028	(12)	31	0	82099	(00)	14	30
80094	(12)	29	0	82965	(12)	3	30
80259	(12)	28	0	89009	(00)	1	25
85586	(00)	30	11	91765	(12)	5	21
85586	(12)	31	10	94005	(00)	0	24
89009	(12)	27	0	94005	(12)	0	24
94638	(00)	19	0	-	-	-	-
96996	(00)	29	15	-	-	-	-

2.2 Drifting Buoys

Surface pressure observations from **1346** drifting buoys were received during the month.

3 Global monitoring statistics

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

3.1 Data Availability

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

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

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

3.2 Data Quality

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

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

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

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

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

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

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

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

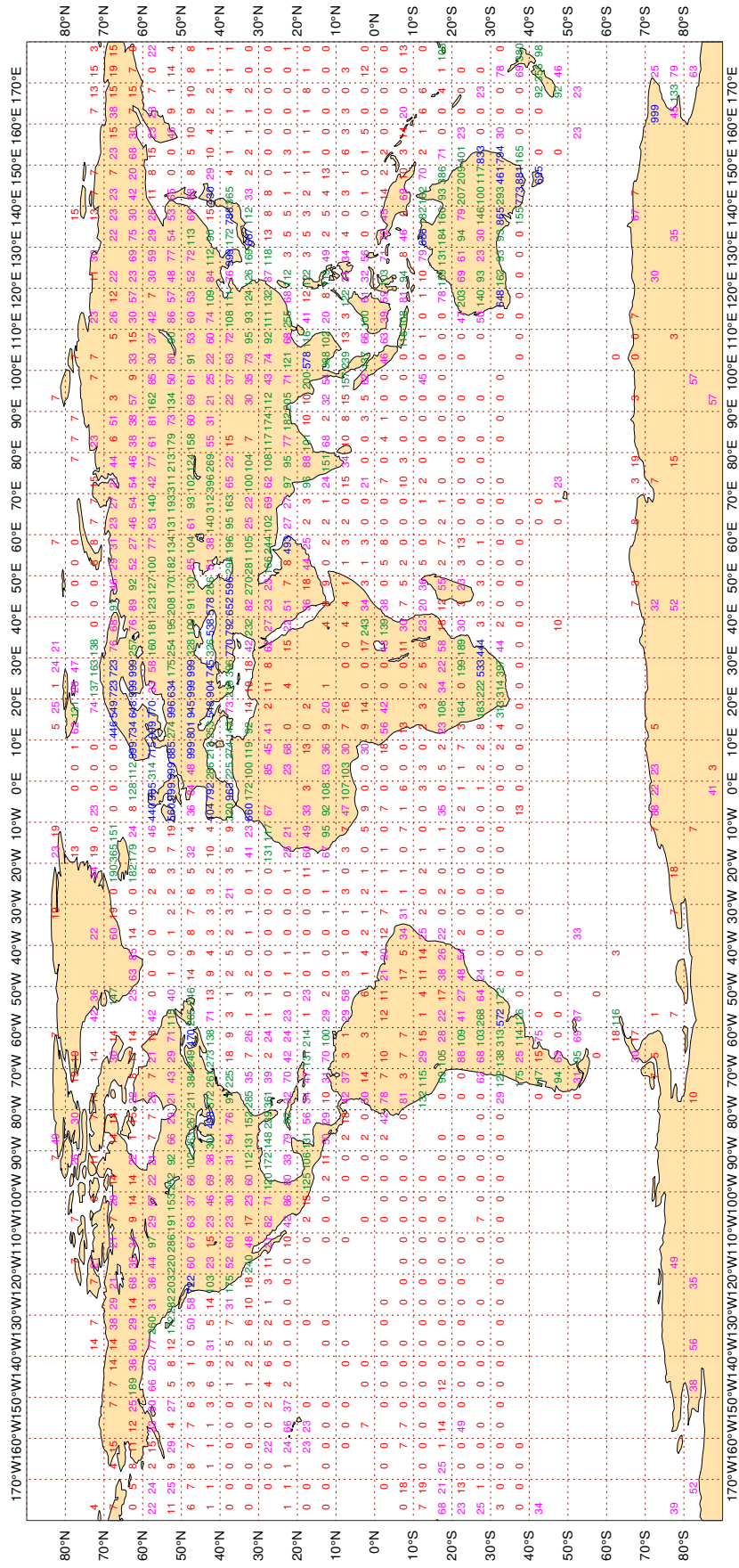
Fig	Parameter	Level/Layer
14	SATOB - Mean observed wind	1000-700 hPa
15	SATOB - Mean observed wind	400-150 hPa
16	SATOB - Mean observed minus first-guess wind	1000-700 hPa
17	SATOB - Mean observed minus first-guess wind	400-150 hPa
18	AIRCRAFT WIND - Mean observed minus first-guess	300-150 hPa

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

3.2.1 Figure 1 - Availability - SYNOP PRESSURE

ECMWF Monitoring Statistics - JUN 2024
 Availability - SYNOP/SHIP (manual, auto) pressure
 Average number of observations in 24 hours - 114089
 LAND - WMO Region I: 7945 II:22110 III: 4759 IV: 8142
 Region V:15313 VI:40595 Antarctic: 2804
 Oceans - N. Atlantic 5623 S. Atlantic 180 Indian 539 Pacific 6078

Figure 1



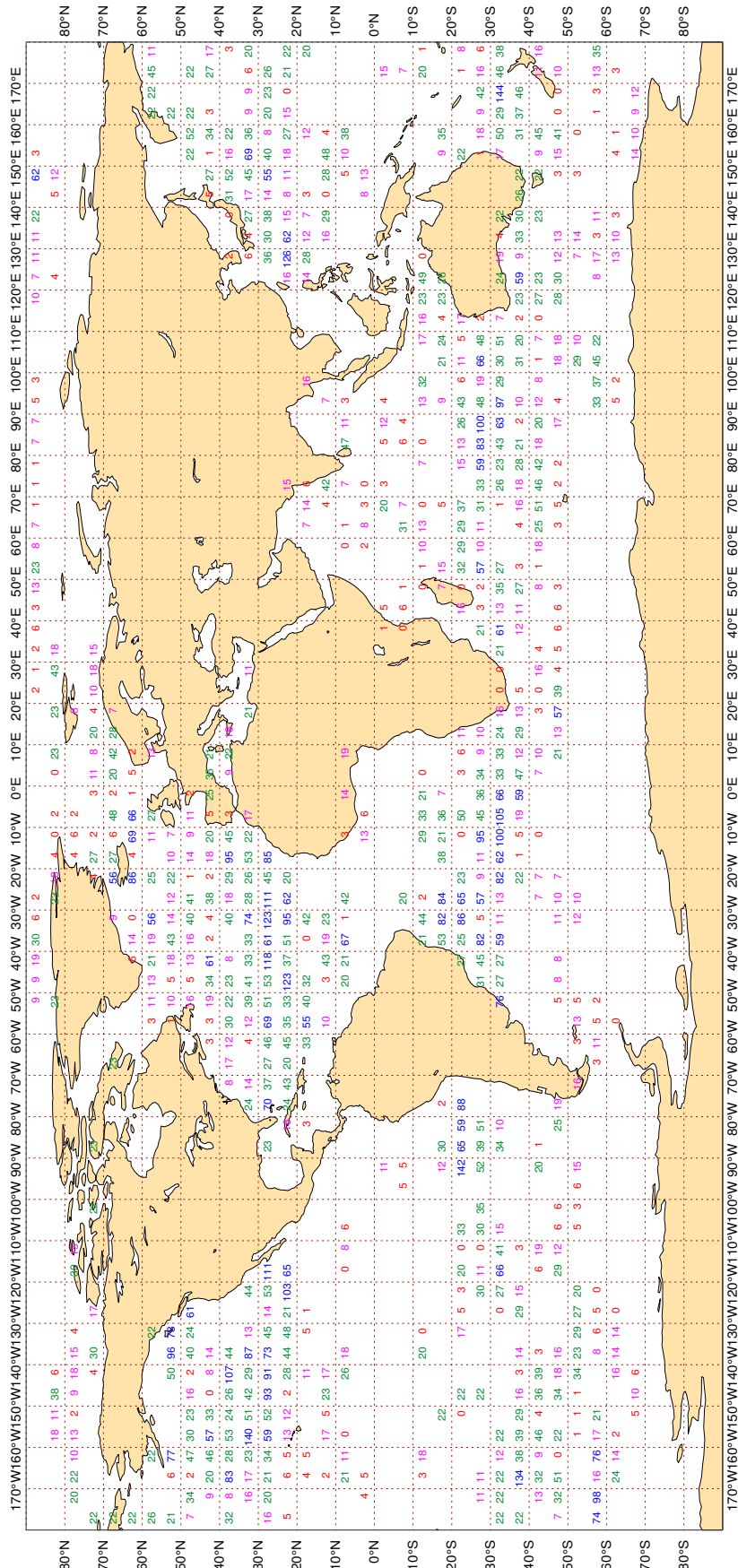
Magics 4.9.4



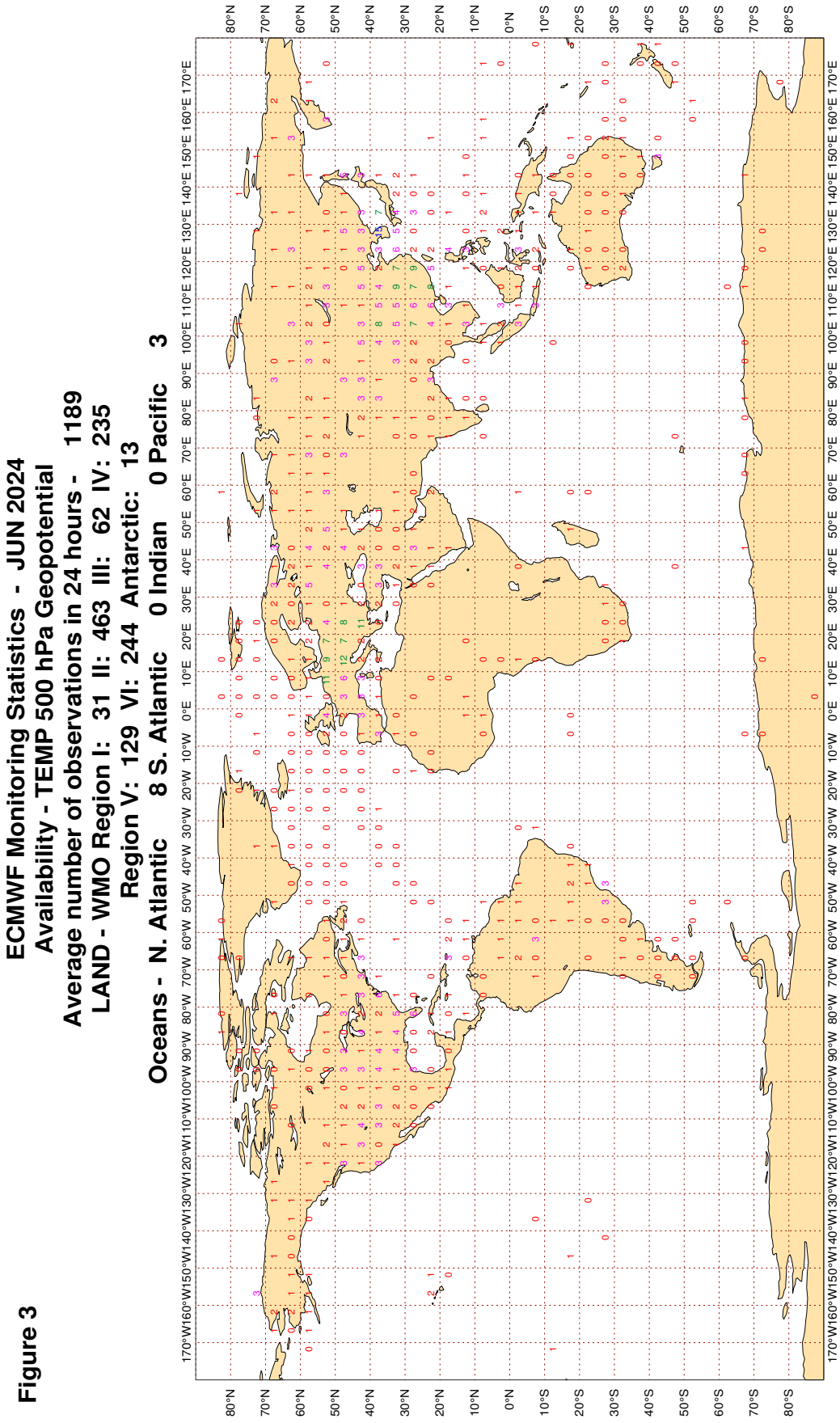
3.2.2 Figure 2 - Availability - DRIFTER PRESSURE

Figure 2

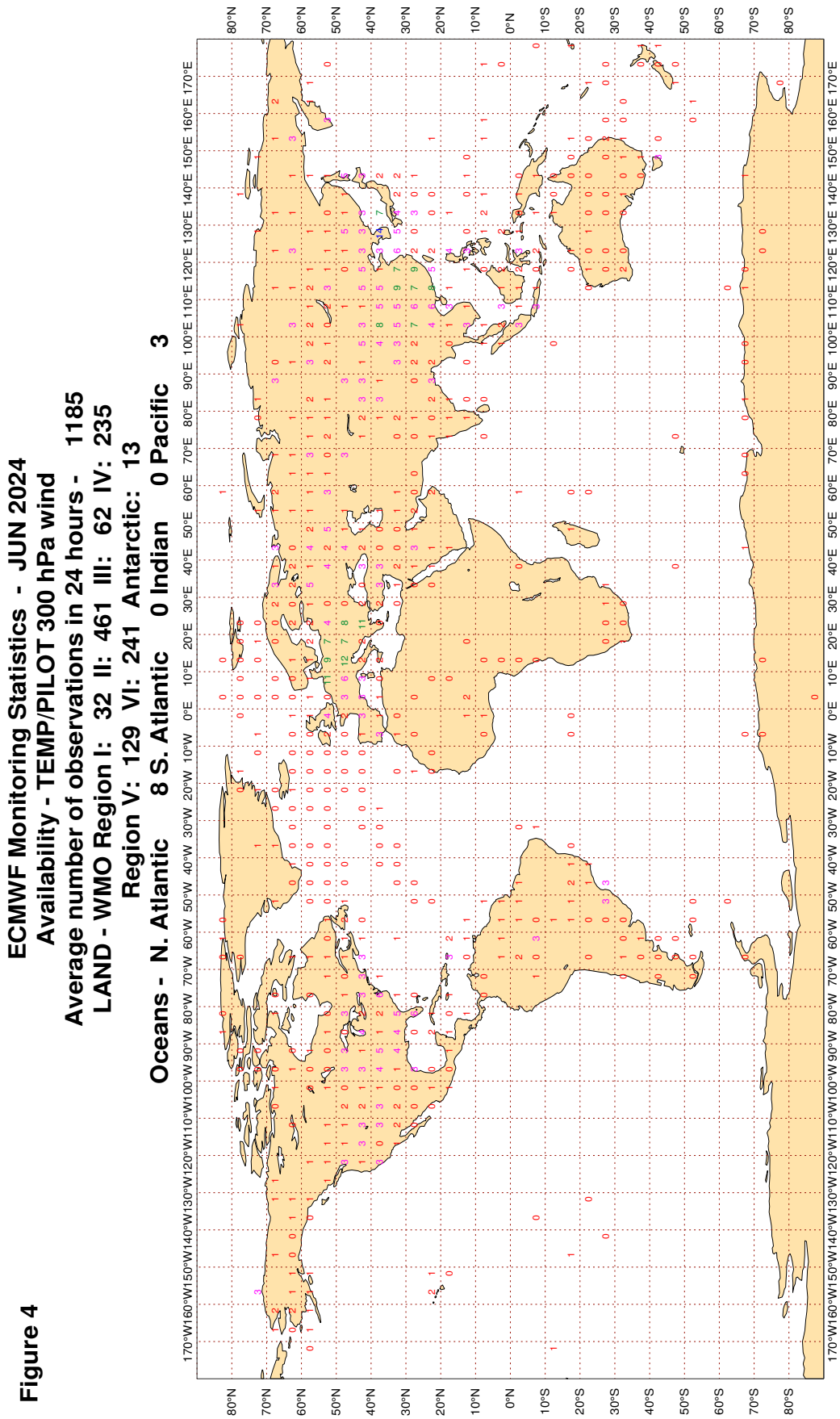
ECMWF Monitoring Statistics - JUN 2024
Availability - DRIFTER PRESSURE
Average number of observations in 24 hours - 19567
Oceans - N. Atlantic 4649 S. Atlantic 2481 Indian 3403 Pacific 9033



3.2.3 Figure 3 - Availability - TEMP 500 hPa geopotential



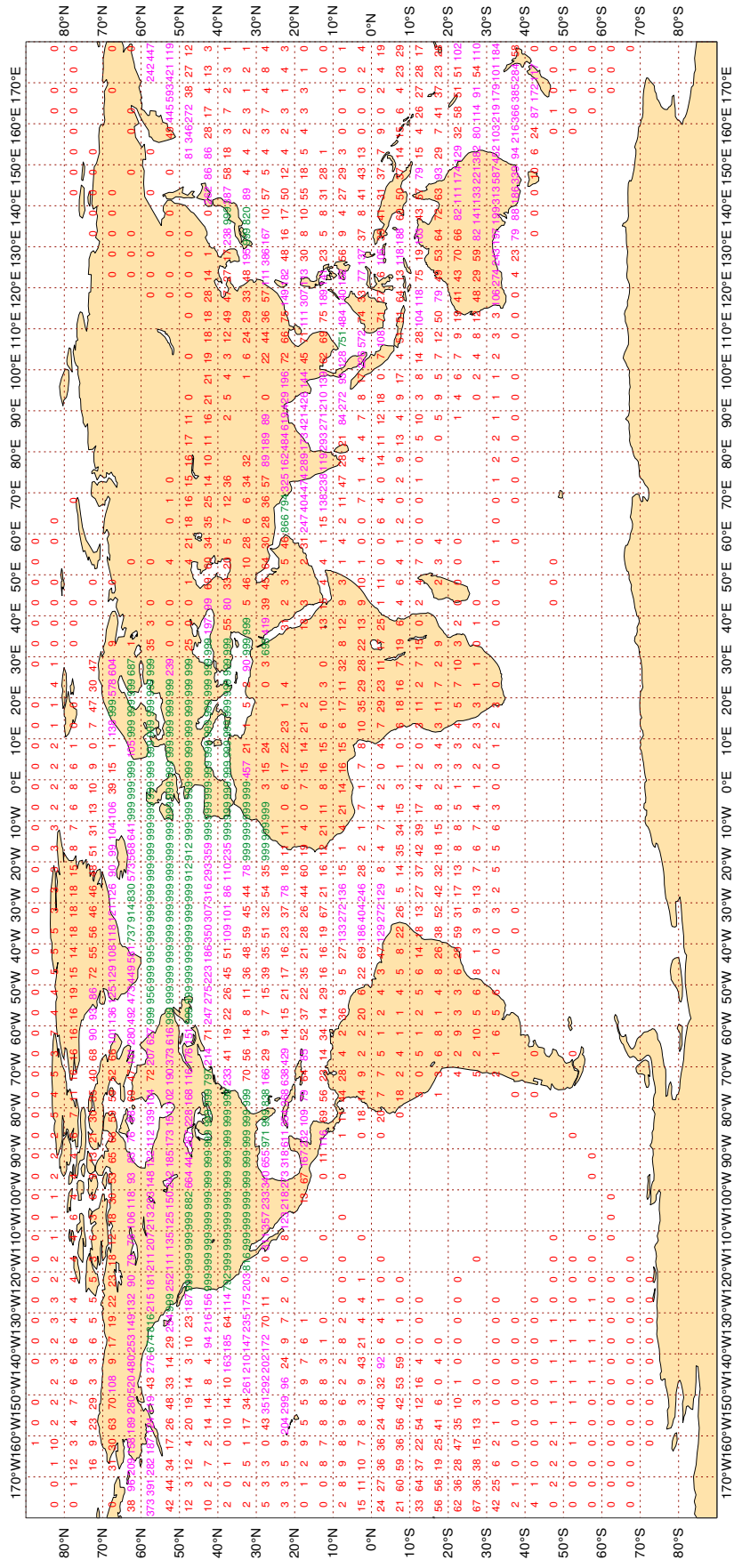
3.2.4 Figure 4 - Availability - TEMP/PILOT 300 hPa wind



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

Figure 5

ECMWF Monitoring Statistics - JUN 2024
Availability - Aircraft winds 300-150 hPa
Average number of observations in 24 hours - 3047631

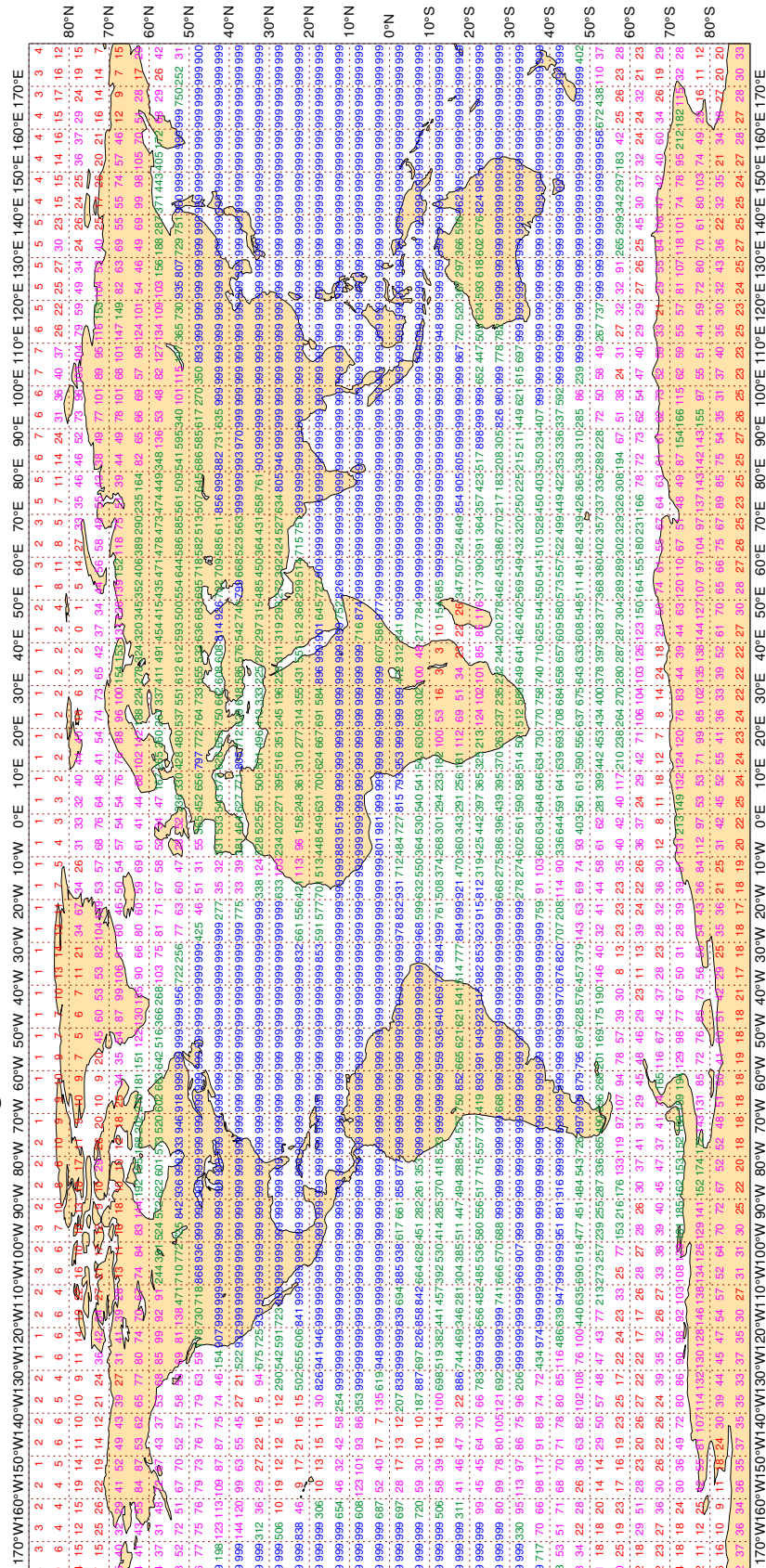


Magics 4.9.4

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

Figure 6

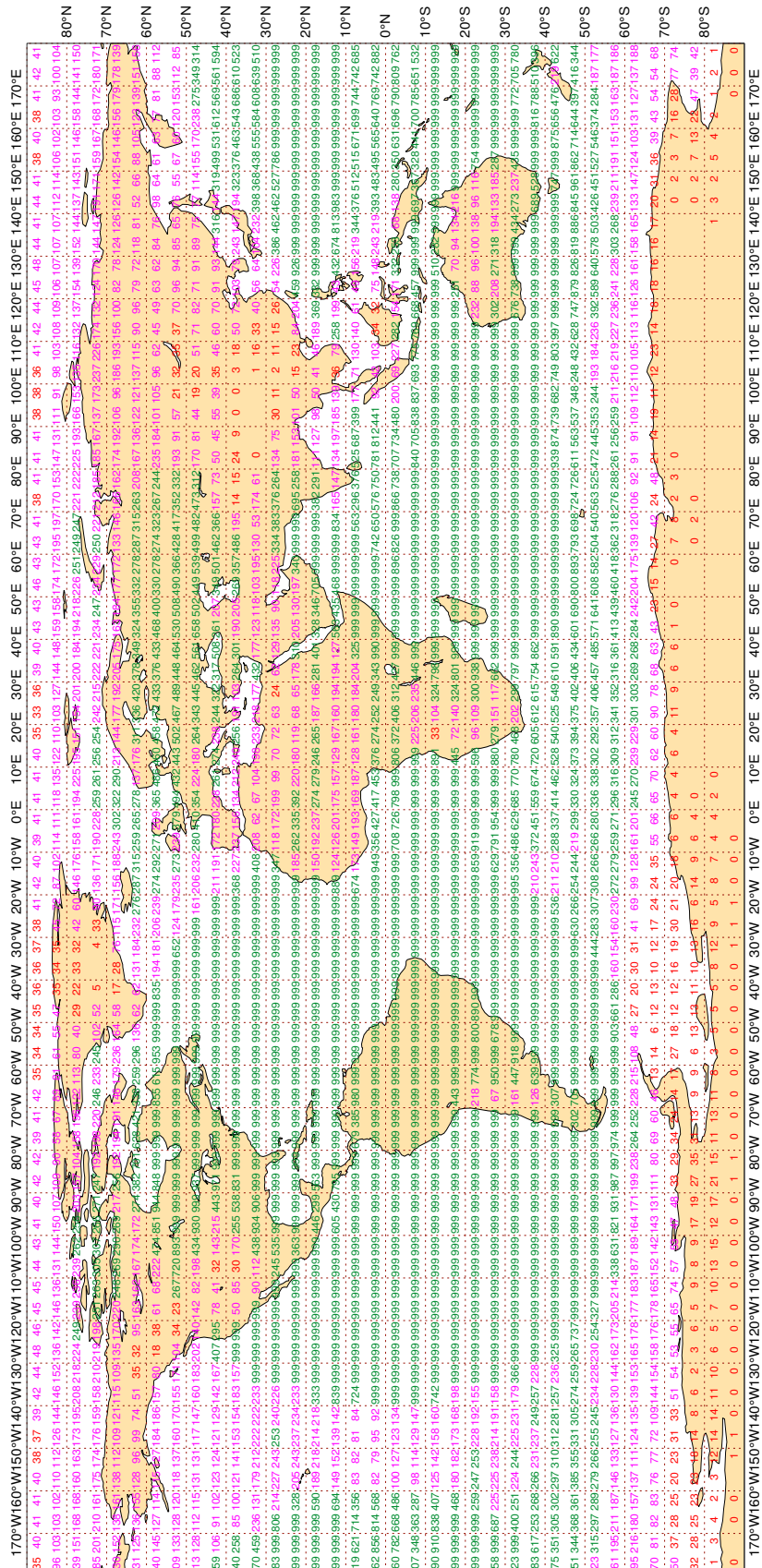
ECMWF Monitoring Statistics - JUN 2024
Availability - AMV winds 400-150 hPa
Average number of observations in 24 hours - 2309499



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

Figure 7

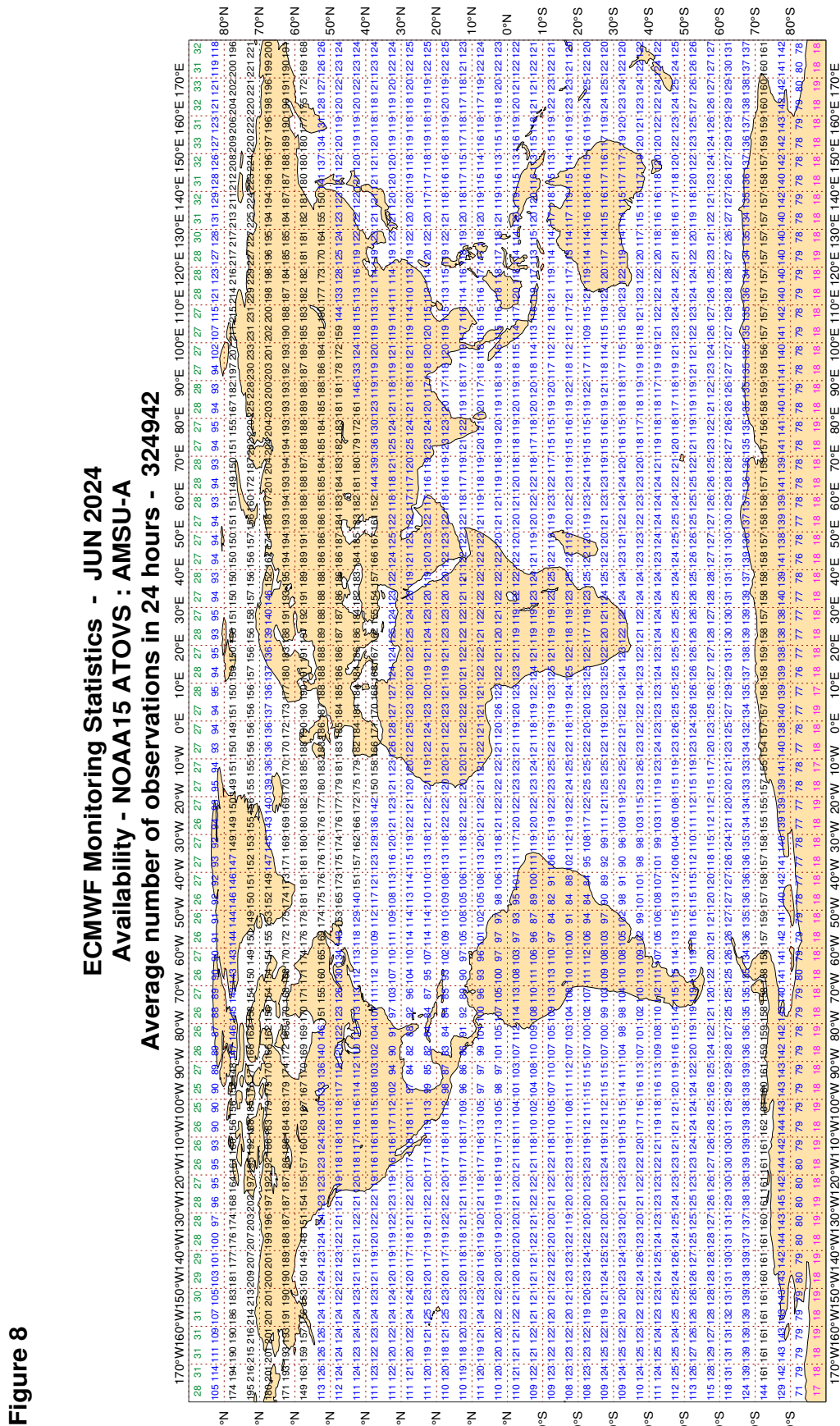
ECMWF Monitoring Statistics - JUN 2024
Availability - AMV winds 1000-700 hPa
Average number of observations in 24 hours - 3904258



Magics 4.9.4



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

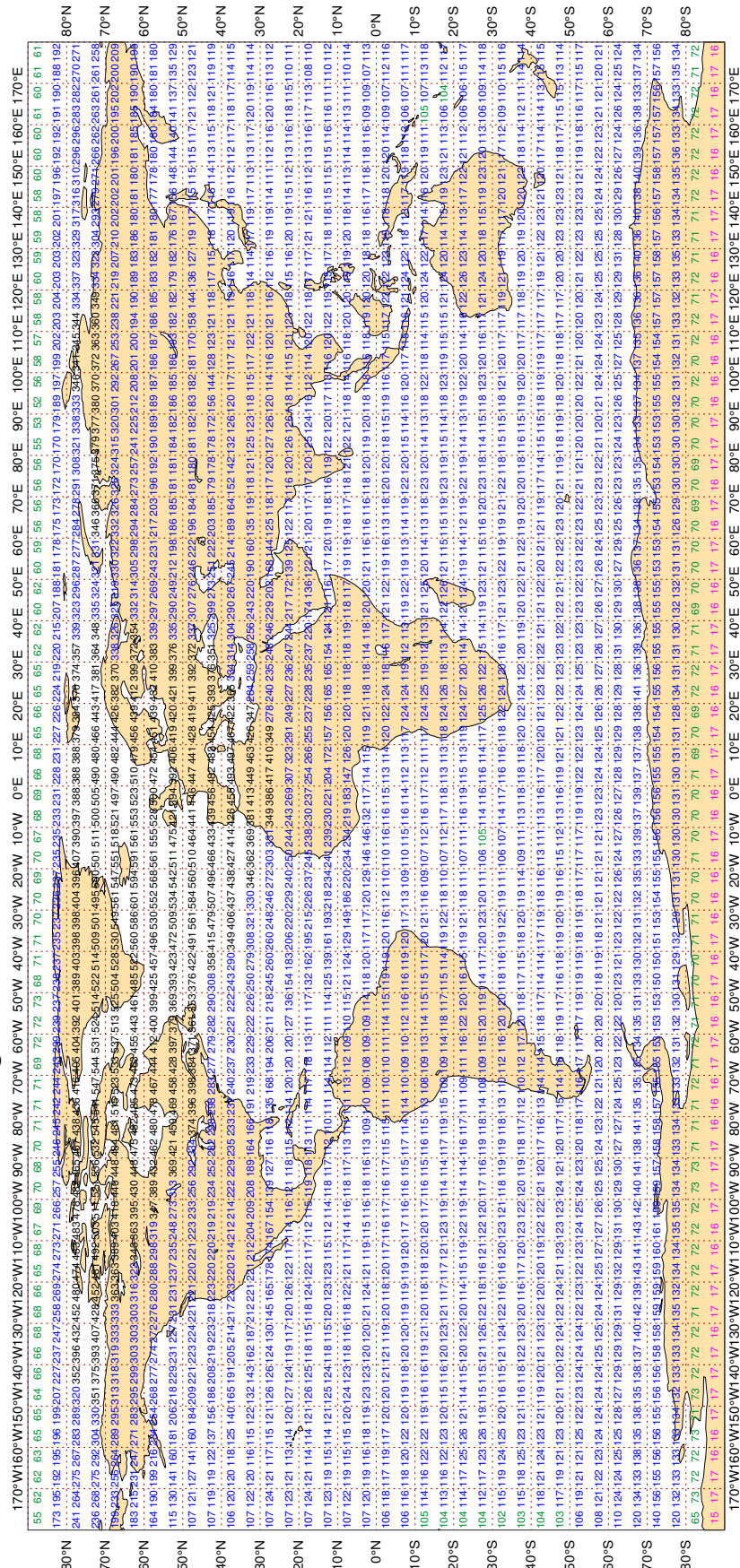


3.2.9 Figure 9.1 - Availability - NOAA18 ATOVS : AMSU-A

Figure 9.1

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

Average number of observations in 24 hours - 446778



Magics 4.9.4

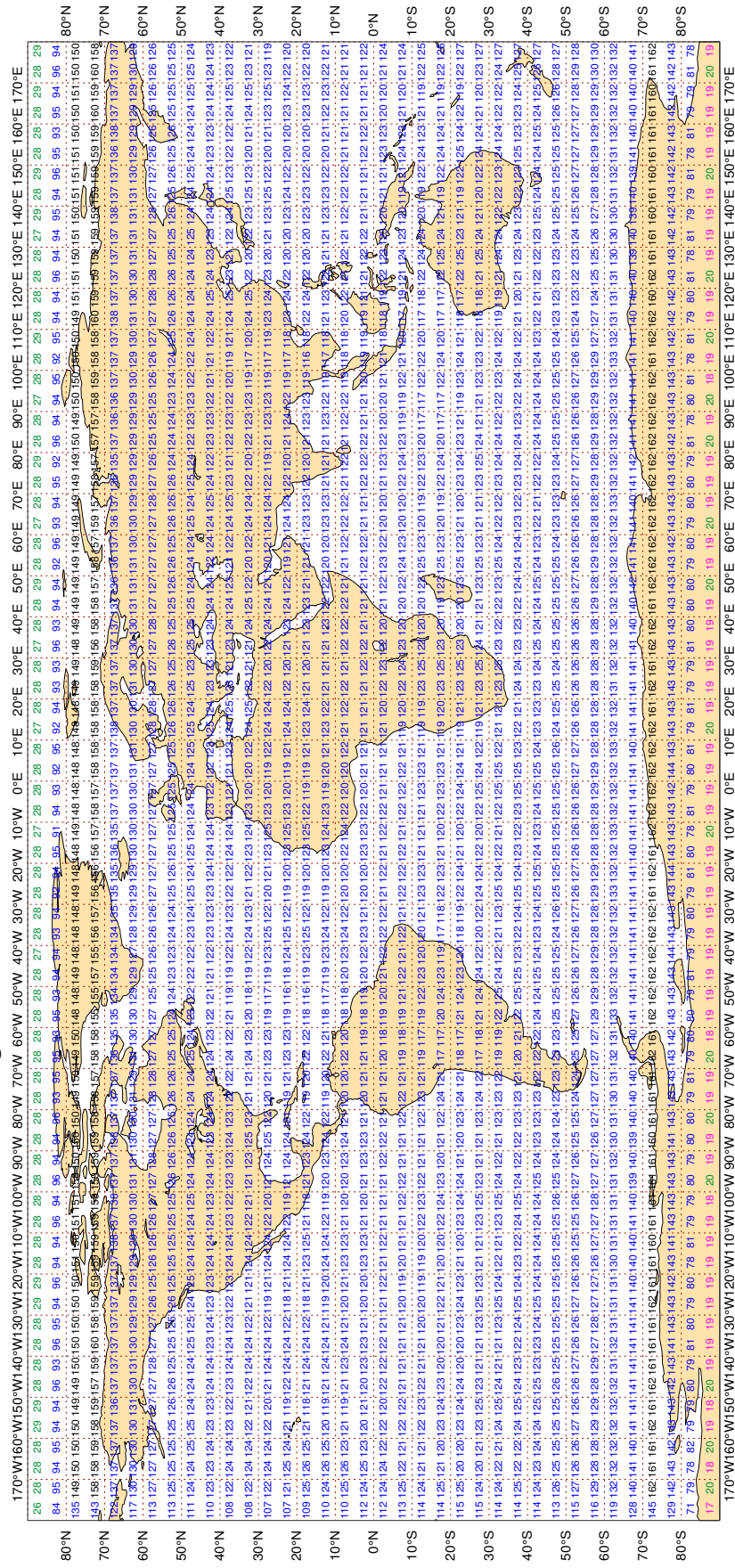


3.2.10 Figure 9.2 - Availability - AQUA ATOVS : AMSU-A

Figure 9.2

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

Average number of observations in 24 hours - 312493



Magics 4.9.4

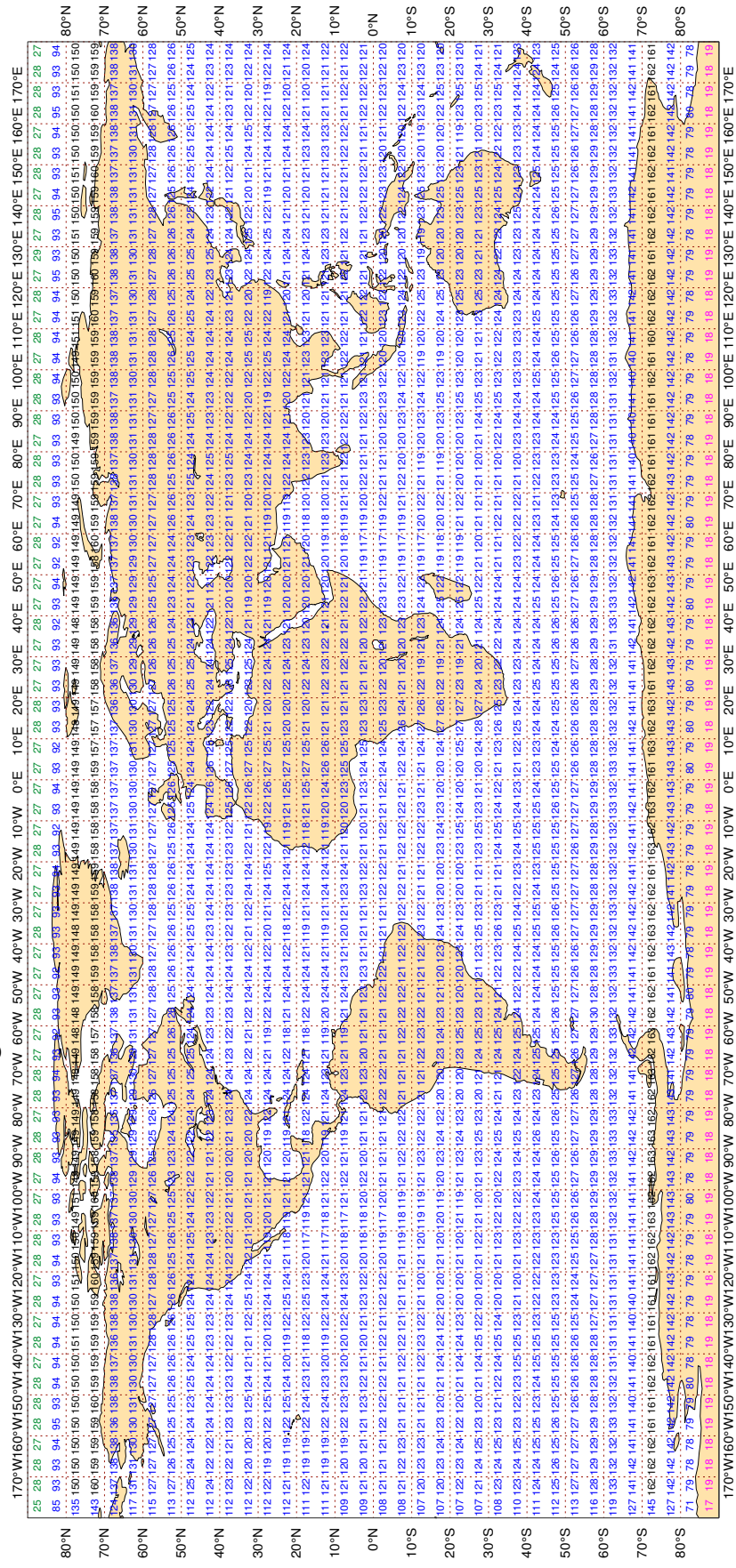


3.2.11 Figure 9.3 - Availability - METOP ATOVS : AMSU-A

Figure 9.3

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

Average number of observations in 24 hours - 312730



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 : JUN 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
2ALV2	99	P	SUR	25	0	0.6	5.3	5.4
32ST0	99	P	SUR	103	0	3.2	5.7	6.5
3EBY2	99	P	SUR	21	8	0.9	13.7	13.7
3ETR7	99	P	SUR	27	0	0.8	3.0	3.1
3ETV9	99	P	SUR	29	0	3.2	5.1	6.0
3FEN2	99	P	SUR	51	0	0.8	3.1	3.2
3FLT5	99	P	SUR	50	0	1.9	4.4	4.8
3FOS8	99	P	SUR	46	0	1.9	3.3	3.8
45201	99	P	SUR	100	40	6.2	7.3	9.6
5LCS5	99	P	SUR	29	0	0.7	-6.2	6.3
7JAA	99	P	SUR	21	0	1.3	3.1	3.3
9HA2583	99	P	SUR	40	12	3.1	-7.2	7.9
9HA3062	99	P	SUR	15	0	1.1	-5.2	5.3
9HA4330	99	P	SUR	17	0	1.2	-3.8	4.0
9HA4777	99	P	SUR	87	0	2.7	7.3	7.7
9HA4974	99	P	SUR	24	0	2.4	7.9	8.2
9HA5209	99	P	SUR	64	12	1.8	11.9	12.0
9HA5782	99	P	SUR	29	0	2.8	-3.8	4.8
9HA5844	99	P	SUR	18	0	2.7	6.2	6.7
9HJD9	99	P	SUR	51	0	0.8	4.5	4.6
9HSJ7	99	P	SUR	41	0	1.2	7.2	7.3
9V3913	99	P	SUR	117	0	1.5	7.9	8.0
9V7305	99	P	SUR	83	0	1.2	4.3	4.4
9V8839	99	P	SUR	23	0	2.0	3.1	3.7
9V9375	99	P	SUR	31	0	1.5	5.3	5.5
9V9400	99	P	SUR	17	0	1.3	-3.0	3.3
9V9402	99	P	SUR	24	4	0.9	13.4	13.4
9V9404	99	P	SUR	51	1	2.7	9.1	9.5
9V9450	99	P	SUR	101	2	4.3	5.2	6.7
9VHK7	99	P	SUR	15	0	0.4	-7.0	7.0
AUCE	99	P	SUR	63	16	5.7	1.5	5.9
AUYQ	99	P	SUR	52	0	1.8	4.3	4.7

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
AWXA	99	P	SUR	51	0	1.8	-3.2	3.7
C6FB3	99	P	SUR	17	0	2.6	-5.8	6.4
C6TX6	99	P	SUR	23	0	0.9	9.0	9.1
D5264	99	P	SUR	36	0	3.2	4.6	5.6
GXDFFHB	99	P	SUR	38	0	1.2	-5.2	5.3
LAHR7	99	P	SUR	50	0	1.8	4.4	4.8
LAVN4	99	P	SUR	29	0	0.8	3.8	3.9
LAZV5	99	P	SUR	20	1	0.9	-3.8	3.9
OUMX2	99	P	SUR	27	0	0.7	5.2	5.3
OZIB2	99	P	SUR	27	0	0.9	5.4	5.5
UAST	99	P	SUR	17	16	0.0	-14.8	14.8
UCSJ	99	P	SUR	31	5	6.0	-5.3	8.0
V7A2005	99	P	SUR	73	0	1.1	3.7	3.9
V7A4787	99	P	SUR	54	0	1.1	3.7	3.8
V7A4788	99	P	SUR	15	0	1.7	7.4	7.6
V7A6070	99	P	SUR	101	3	2.9	3.8	4.8
V7A6081	99	P	SUR	65	0	1.0	4.2	4.3
V7A6085	99	P	SUR	15	0	0.9	7.9	7.9
V7DJ7	99	P	SUR	24	1	1.8	9.2	9.3
V7QK9	99	P	SUR	49	0	0.8	3.8	3.9
V7QT7	99	P	SUR	60	0	1.7	7.1	7.3
VABC	99	P	SUR	38	1	3.8	6.1	7.2
VRDJ3	99	P	SUR	85	1	0.5	-3.1	3.1
VRDW2	99	P	SUR	88	0	0.6	-4.5	4.5
VREX4	99	P	SUR	16	0	0.9	9.0	9.1
VRFI7	99	P	SUR	68	0	0.9	-4.0	4.1
VRFS2	99	P	SUR	27	0	0.9	3.6	3.7
VRGO2	99	P	SUR	15	0	2.6	3.3	4.2
VRGO3	99	P	SUR	29	0	0.4	7.9	7.9
VRJZ9	99	P	SUR	27	0	0.8	3.4	3.5
VRME7	99	P	SUR	33	0	0.6	9.8	9.9
VRNL9	99	P	SUR	90	0	2.2	4.1	4.6
VRNR6	99	P	SUR	16	0	0.4	-5.0	5.0
VROO3	99	P	SUR	53	0	5.5	2.1	5.9
VROO4	99	P	SUR	20	0	1.3	11.1	11.2
VRRH6	99	P	SUR	33	0	1.0	5.0	5.1
VRRQ4	99	P	SUR	28	0	0.9	6.4	6.5
VRTF2	99	P	SUR	20	0	1.7	5.0	5.3
VRTU5	99	P	SUR	37	0	1.0	-5.0	5.1
VRVC2	99	P	SUR	16	0	1.2	4.4	4.6
VRWN4	99	P	SUR	27	1	0.5	-5.5	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
VRZK8	99	P	SUR	58	0	3.4	3.2	4.7
VTSJ	99	P	SUR	61	0	2.5	-3.0	3.9
VTZJ	99	P	SUR	29	11	4.0	-4.4	6.0
WCQ6174	99	P	SUR	23	0	1.0	-3.1	3.3
WCY2920	99	P	SUR	101	0	0.8	-3.9	4.0
WDK5676	99	P	SUR	120	0	0.7	-3.7	3.7
WGEB	99	P	SUR	52	0	0.7	5.3	5.3
WSFABLK	99	P	SUR	51	0	0.5	6.0	6.1
YUTPB4M	99	P	SUR	16	3	0.9	4.9	5.0
ZGFY4	99	P	SUR	57	0	0.8	-8.7	8.7

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 : JUN 2024
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

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

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

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

3.2.14 Table 3 - Suspect ships and fixed marine platforms: Wind direction (DEGREES)

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

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

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

WMO IDENT	OBS TIME	ELM	LEVEL	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
44043	99	DIRN	SUR	15	0	0	71.6	10.6	72.4
45165	99	DIRN	SUR	71	0	0	54.5	30.4	62.4
45174	99	DIRN	SUR	75	0	0	31.5	48.1	57.5
45186	99	DIRN	SUR	54	0	0	41.0	108.1	115.7
45209	99	DIRN	SUR	48	0	0	16.6	-35.3	39.1
46131	99	DIRN	SUR	48	1	0	68.8	37.2	78.2
46145	99	DIRN	SUR	85	0	0	25.9	-44.7	51.7
46185	99	DIRN	SUR	84	1	0	33.9	-96.3	102.2

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 : JUN 2024
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

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

TIME = 99 => AVERAGE OF ALL OBSERVATIONS

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
1501718	99	P	SUR	-34	-42	700	17	6.8	0.7	6.8
1701718	99	P	SUR	13	-57	693	693	0.0	0.0	0.0
2302615	99	P	SUR	6	80	56	54	4.0	-6.4	7.5
2302627	99	P	SUR	11	73	515	503	2.1	-12.8	13.0
314	99	P	SUR	-36	-54	28	0	0.9	6.7	6.8
3201836	99	P	SUR	8	-143	700	15	5.0	-6.3	8.1
3301523	99	P	SUR	-15	-39	665	0	0.5	-4.4	4.4
3301702	99	P	SUR	-40	-2	700	462	5.0	-7.4	8.9
3401636	99	P	SUR	-32	-117	700	0	0.3	-5.2	5.2
3801590	99	P	SUR	-47	65	157	17	2.7	5.1	5.8
3801723	99	P	SUR	53	-133	701	573	5.8	3.3	6.7
4500201	99	P	SUR	42	83	3443	1358	6.2	7.2	9.5
45201	99	P	SUR	42	83	601	235	6.3	7.4	9.7
4601753	99	P	SUR	27	-150	685	11	5.0	-7.1	8.7
4601763	99	P	SUR	23	-151	178	149	0.0	14.3	14.3
4602563	99	P	SUR	29	-165	700	188	1.1	13.9	14.0
4701543	99	P	SUR	74	-144	128	0	2.9	5.0	5.8
4701558	99	P	SUR	79	-18	40	0	0.3	-4.4	4.4
4802506	99	P	SUR	58	-8	720	420	7.3	-4.1	8.4
4802624	99	P	SUR	78	-136	137	7	5.8	-5.3	7.8
5103563	99	P	SUR	33	-147	585	346	7.7	8.2	11.2
5201828	99	P	SUR	-48	-158	700	2	2.3	4.8	5.3
5501735	99	P	SUR	-47	-141	720	678	0.5	13.3	13.3
6801773	99	P	SUR	-42	77	151	56	7.4	3.5	8.2
6801934	99	P	SUR	29	138	682	40	3.9	4.9	6.3
7801700	99	P	SUR	73	20	329	303	3.5	-4.0	5.3
7801782	99	P	SUR	-16	93	309	309	0.0	0.0	0.0
7801783	99	P	SUR	-14	77	233	233	0.0	0.0	0.0

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

LIST OF SUSPECT STATIONS : DRIFTER
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND SPEED (M/S)
 AREA : GLOBAL
 PERIOD : JUN 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
--------------	-------------	-----	-------	-------------	--------------	------------	--------------	------------	----	------	-----

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

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

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

TIME = 99 => AVERAGE OF ALL OBSERVATIONS

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
1300009	99	DIRN	SUR	8	-38	240	0	0	56.3	31.6	64.6
2200183	99	DIRN	SUR	35	126	226	0	0	27.5	48.0	55.3
2300095	99	DIRN	SUR	10	94	193	0	0	14.1	24.0	27.9
23095	99	DIRN	SUR	10	94	79	0	0	14.2	22.4	26.5
4400008	99	DIRN	SUR	40	-69	3116	0	0	13.2	26.7	29.7
4400043	99	DIRN	SUR	39	-76	836	0	0	68.2	-10.6	69.0
4400488	99	DIRN	SUR	45	-61	564	0	0	20.4	-23.7	31.3
4400489	99	DIRN	SUR	45	-61	477	0	0	17.6	-28.8	33.8
44008	99	DIRN	SUR	41	-69	480	0	0	14.0	26.4	29.9
44043	99	DIRN	SUR	39	-76	87	0	0	64.2	-12.8	65.5
44078	99	DIRN	SUR	60	-40	360	0	0	17.3	-23.9	29.5
44488	99	DIRN	SUR	45	-61	534	0	0	19.6	-24.5	31.3
44489	99	DIRN	SUR	46	-61	479	0	0	19.2	-28.9	34.7
4500164	99	DIRN	SUR	42	-82	372	0	0	25.7	-20.6	32.9
4500165	99	DIRN	SUR	45	-83	2572	0	0	62.3	27.6	68.2
4500174	99	DIRN	SUR	42	-88	2422	0	0	25.3	47.6	53.9
4500186	99	DIRN	SUR	42	-88	1652	0	0	55.4	106.3	119.8
4500199	99	DIRN	SUR	43	-88	955	0	0	28.5	30.9	42.0
4500207	99	DIRN	SUR	42	-81	1404	0	0	37.0	-30.0	47.6
4500208	99	DIRN	SUR	42	-81	1576	0	0	23.1	-27.0	35.5
4500209	99	DIRN	SUR	43	-82	1520	0	0	21.0	-34.5	40.3
45164	99	DIRN	SUR	42	-82	357	0	0	27.6	-21.3	34.8
45165	99	DIRN	SUR	45	-83	454	0	0	61.0	28.7	67.4
45174	99	DIRN	SUR	42	-88	443	0	0	25.1	49.4	55.4
45186	99	DIRN	SUR	42	-88	314	0	0	59.8	105.9	121.7
45199	99	DIRN	SUR	43	-88	499	0	0	31.4	30.4	43.7
45200	99	DIRN	SUR	42	-83	284	0	0	22.7	22.0	31.7
45207	99	DIRN	SUR	42	-81	269	0	0	36.9	-29.9	47.5
45208	99	DIRN	SUR	42	-81	269	0	0	19.4	-28.1	34.2
45209	99	DIRN	SUR	43	-82	278	0	0	20.2	-33.8	39.4
4600145	99	DIRN	SUR	54	-132	527	0	0	18.2	-42.2	46.0

LIST OF SUSPECT STATIONS : DRIFTER
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND DIRECTION (DEGREES)
 (CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
4600185	99	DIRN	SUR	53	-130	514	4	0	33.3	-97.0	102.6
46131	99	DIRN	SUR	50	-125	309	2	0	64.4	26.9	69.8
46145	99	DIRN	SUR	54	-132	503	0	0	18.7	-43.3	47.2
46185	99	DIRN	SUR	53	-130	502	6	0	32.7	-98.0	103.3
6301004	99	DIRN	SUR	72	20	560	0	0	11.6	-41.5	43.1
6600022	99	DIRN	SUR	54	14	99	0	0	40.9	33.7	53.0

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

LIST OF SUSPECT STATIONS : RADIOSONDES
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : GEOPOTENTIAL HEIGHT (METRES)
 AREA : GLOBAL
 PERIOD : JUN 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	29	0	5.6	79.6	79.8
01400	00	Z	1000	57	3	30	0	4.0	78.3	78.4
38341	12	Z	150	43	71	20	5	154.1	-7.9	154.3
38341	00	Z	400	43	71	27	5	79.2	-24.0	82.8
42516	00	Z	700	26	92	25	6	17.9	45.5	48.9
42623	00	Z	200	25	94	25	3	49.0	84.3	97.5
42724	12	Z	50	24	91	12	1	38.7	128.6	134.3
42867	12	Z	100	21	79	10	0	62.5	111.8	128.1
42874	12	Z	700	21	82	20	2	21.3	44.0	48.9
48698	12	Z	150	1	104	13	0	7.3	87.9	88.2
48698	00	Z	200	1	104	14	0	5.6	78.5	78.7
52533	00	Z	30	40	98	26	0	170.1	172.4	242.2
52533	12	Z	50	40	98	29	0	97.1	102.1	140.9
57083	00	Z	70	35	114	30	1	116.3	183.9	217.6
58027	00	Z	30	34	117	23	1	168.7	184.4	249.9
58424	00	Z	50	31	117	23	0	137.6	112.0	177.4
62403	12	Z	850	26	33	13	4	28.0	89.1	93.4
76644	12	Z	850	21	-90	20	0	7.3	29.3	30.2
76644	00	Z	850	21	-90	20	0	6.8	32.5	33.2
78486	12	Z	1000	18	-70	28	0	4.4	32.4	32.7
78486	00	Z	1000	18	-70	28	0	3.6	33.1	33.3
91680	00	Z	1000	-18	177	30	0	2.5	31.0	31.1
91680	12	Z	1000	-18	177	28	0	2.5	31.6	31.7
97690	00	Z	1000	-3	141	30	0	29.0	-1.9	29.1
KMPLHP	12	Z	1000	45	-59	11	0	8.0	64.5	65.0
KMPLHP	00	Z	1000	46	-55	10	0	13.1	65.4	66.7

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

LIST OF SUSPECT STATIONS : RADIOSONDES
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND (M/S)
 AREA : GLOBAL
 PERIOD : JUN 2024
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

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

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

WMO IDENT	OBS TIME	ELM	LEV	LAT	LONG	NUM OBS	NUM GROSS	UBIAS	VBIAS	RMS
17607	12	V	150	35	33	16	0	-18.1	-7.2	23.1
38341	00	V	300	43	71	27	0	3.8	-2.5	16.4
38341	12	V	150	43	71	20	0	-5.2	0.0	16.7
40179	12	V	100	32	35	22	0	-12.5	-5.6	15.2
40179	00	V	150	32	35	25	0	-22.6	-11.7	27.5
9ZT9MR	12	V	400	63	-51	11	1	-5.8	-0.2	15.5

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

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

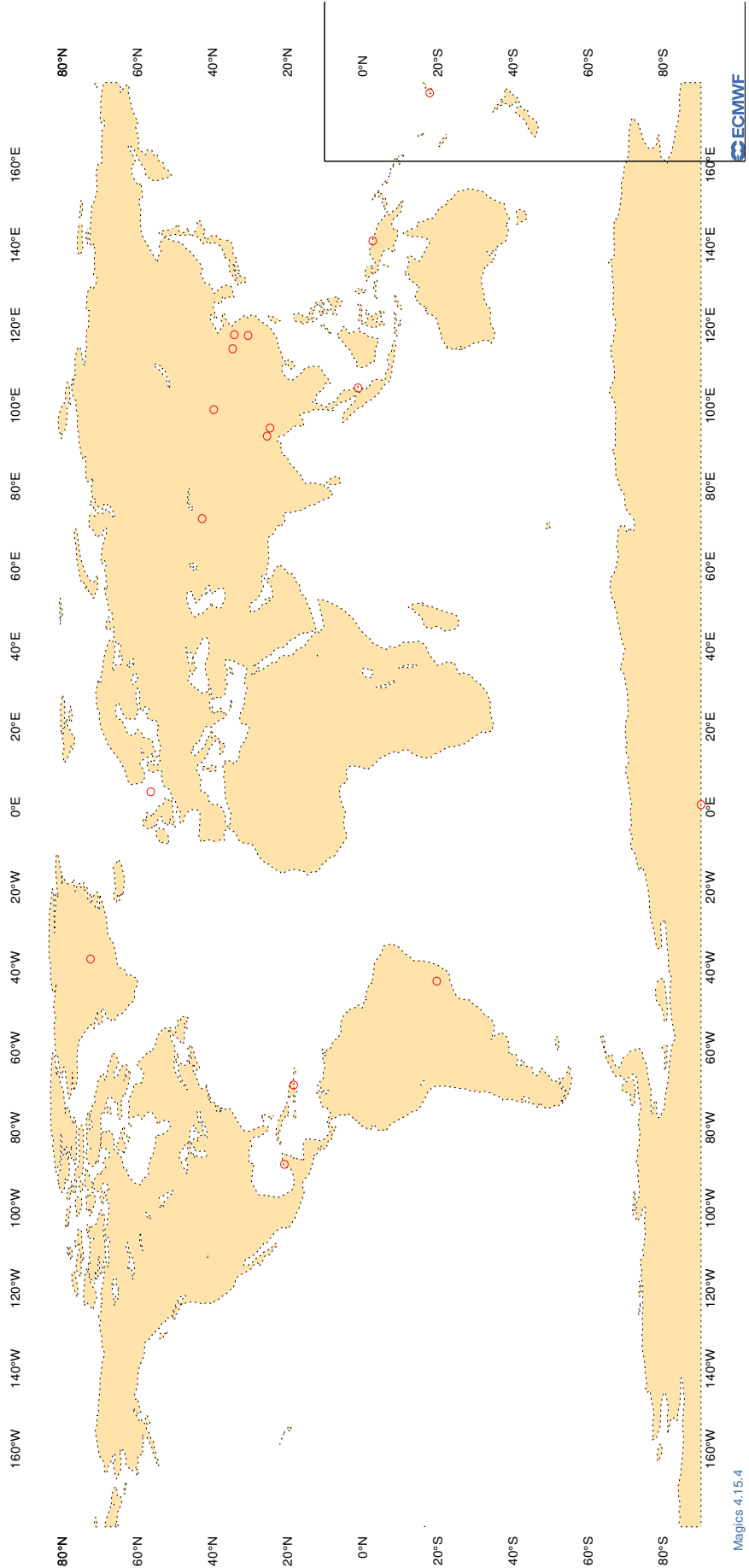
SELECTION CRITERIA: OBSERVED/FORECAST WIND SPEEDS \geq 5 M/S
 NO. OF OBSERVATIONS \geq 5, AND,
 ABSOLUTE BIAS \geq 10 DEGREES, WITH
 STANDARD DEVIATION $<$ 30 DEGREES, AND,
 VERTICAL SPREAD $<$ 10 DEGREES
 (AVERAGE BETWEEN 500 AND 150 HPA)

WMO IDENT	OBS TIME	ELM	LAT	LONG	NUM OBS	BIAS	MAX SPREAD	SD
54340	12	DD	42	124	28	-13.1	2.1	10.3
54340	00	DD	42	124	29	-12.6	3.8	9.4

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

Figure 10

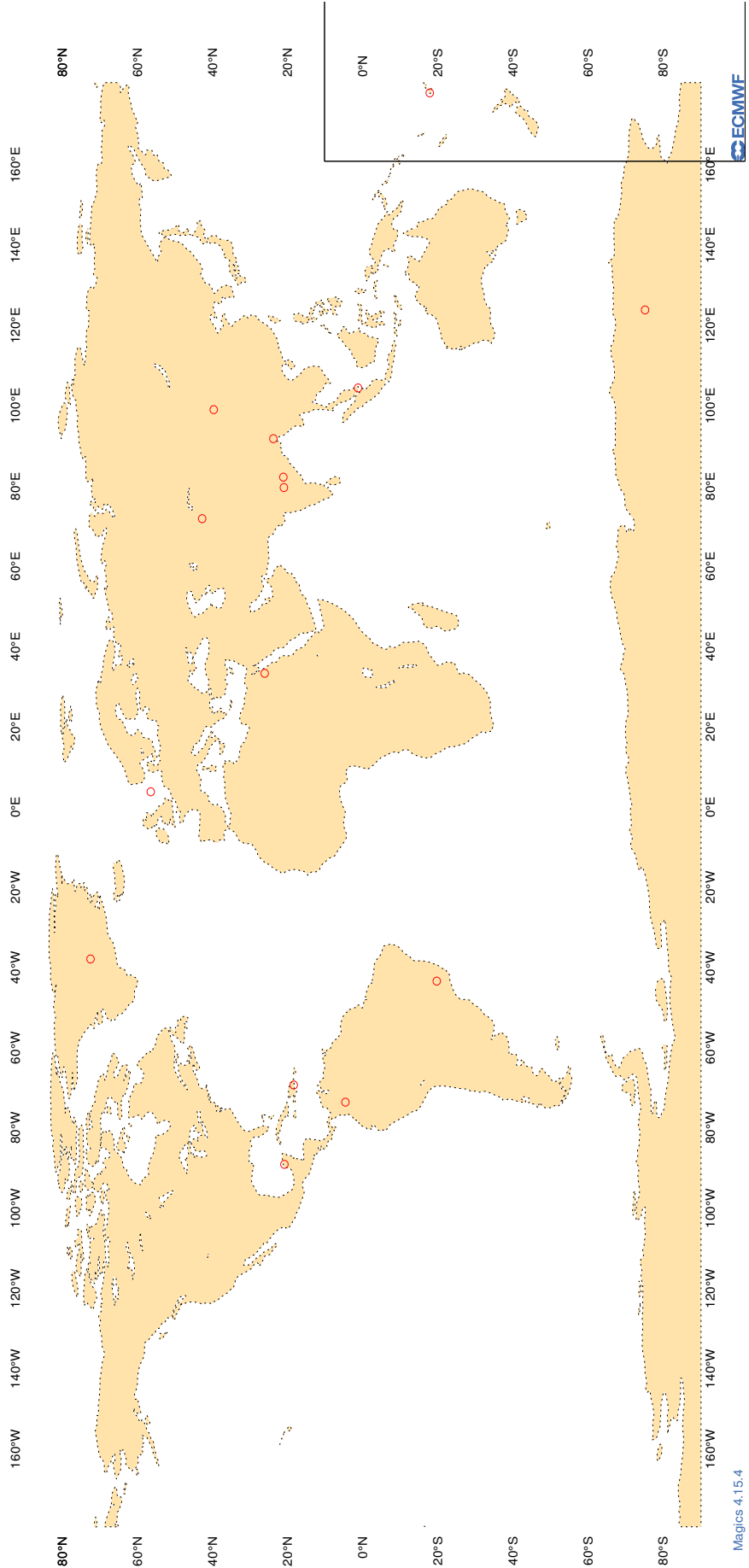
ECMWF Monitoring Statistics - JUN 2024 00 UTC
Suspect TEMP observations - GEOPOTENTIAL



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

Figure 11

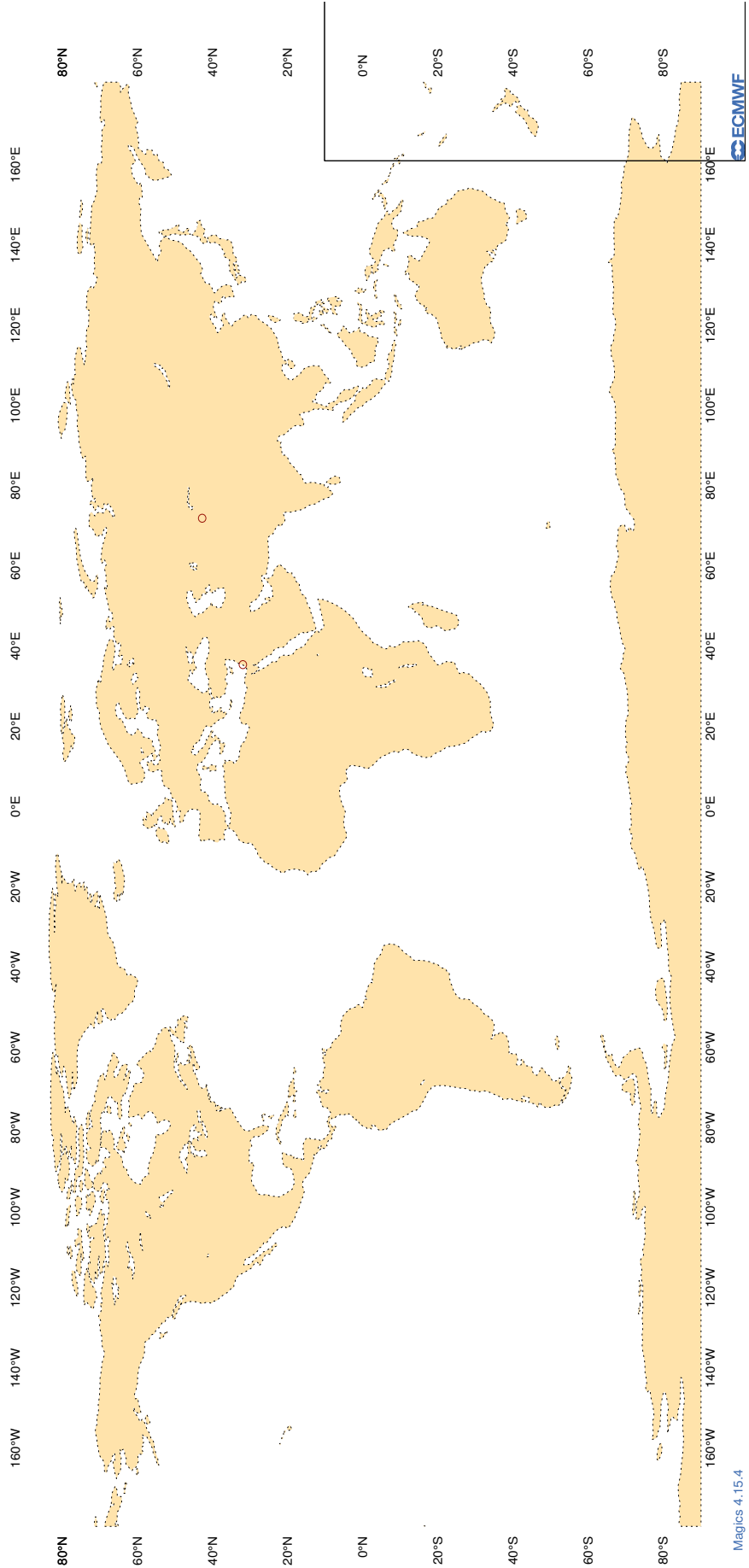
ECMWF Monitoring Statistics - JUN 2024 12 UTC
Suspect TEMP observations - GEOPOTENTIAL



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

Figure 12

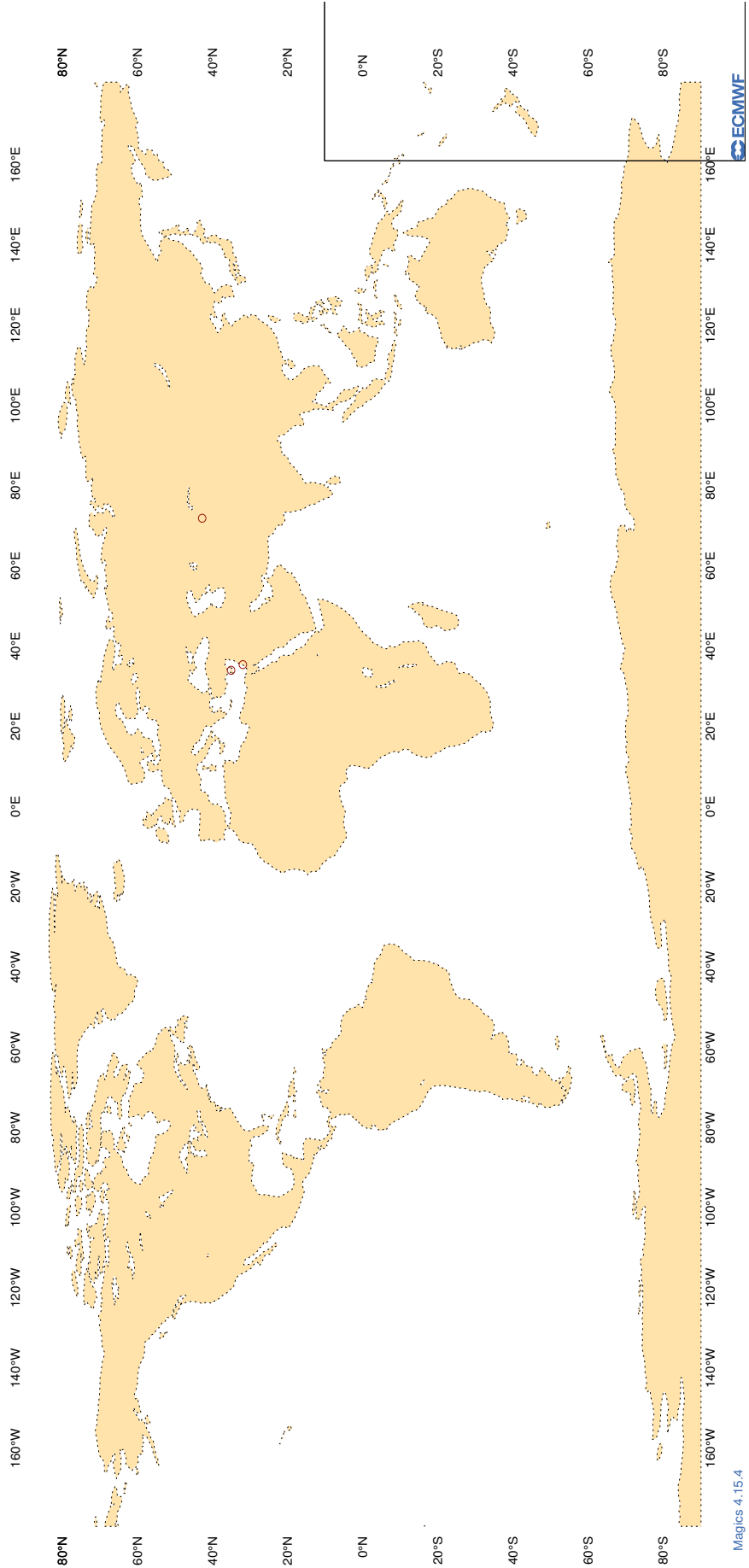
ECMWF Monitoring Statistics - JUN 2024 00 UTC
Suspect TEMP/PILOT observations - WIND



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

Figure 13

ECMWF Monitoring Statistics - JUN 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 : JUN 2024
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
2EERTV	12	Z	100	4	30.6	-21.6
2EERTV	00	Z	100	6	128.3	-78.7
7JUNA4	12	Z	100	9	56.7	47.0
7JUNA4	00	Z	100	7	38.1	31.1
7KPB	12	Z	100	20	5.8	-2.7
7KPB	00	Z	100	10	6.3	3.6
9ZT9MR	12	Z	100	12	25.9	-21.7
9ZT9MR	00	Z	100	9	34.4	-31.7
DBLK	12	Z	100	15	11.4	11.1
FPUW5G	12	Z	100	25	9.5	1.2
JNKN7J	12	Z	100	2	22.3	19.8
JNKN7J	00	Z	100	0	0.0	0.0
JNSR	00	Z	100	14	7.1	3.8
JNSR	12	Z	100	8	6.6	3.3
KJJF9X	00	Z	100	3	20.6	-19.0
KJJF9X	12	Z	100	5	15.6	-14.4
KMPLHP	12	Z	100	10	39.7	37.8
KMPLHP	00	Z	100	9	40.5	38.9
LAGY8	00	Z	100	2	122.0	-121.9
LAGZ8	00	Z	100	4	41.3	41.1
LRVQE3	12	Z	100	2	15.4	11.7
LRVQE3	00	Z	100	4	7.2	-0.5
UXK5JT	00	Z	100	2	40.4	-39.9
UXK5JT	12	Z	100	1	0.0	0.0
WDK38H	12	Z	100	1	14.0	-14.0
XKQLWQ	12	Z	100	16	29.3	28.0
YLV96W	12	Z	100	8	36.7	26.7
YLV96W	00	Z	100	8	16.3	-14.7
ZSNO	00	Z	100	0	0.0	0.0
ZSNO	12	Z	100	0	0.0	0.0
ZVQEQC	12	Z	100	17	7.0	-4.1

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

RADIOSONDE MONITORING STATISTICS (SHIPS)

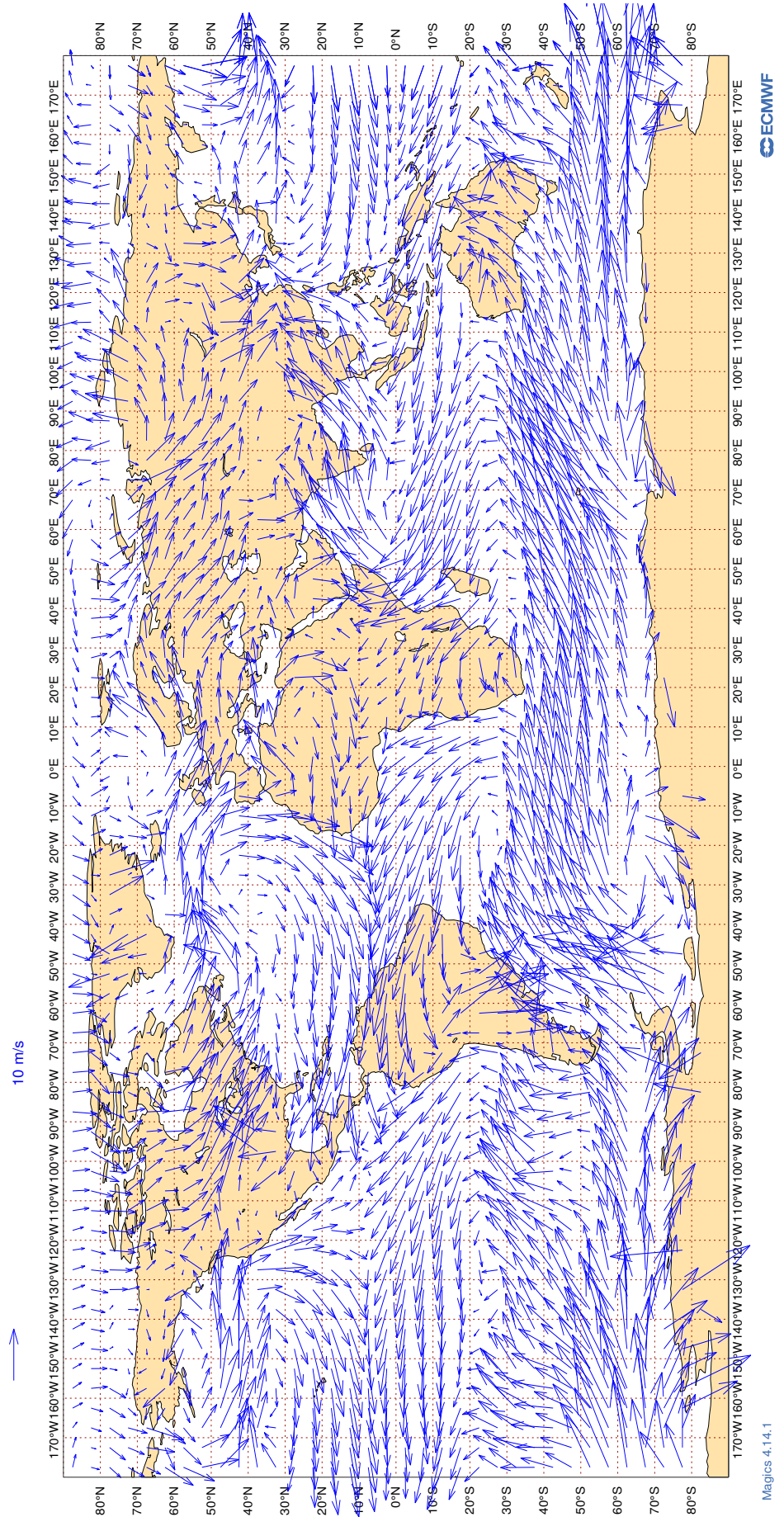
MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND (M/S)
 LEVEL : 100 HPA
 AREA : GLOBAL
 PERIOD : JUN 2024
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OB TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
2EERTV	12	V	100	4	4.0	-0.5	0.5
2EERTV	00	V	100	6	2.8	1.1	-1.0
7JUNA4	12	V	100	9	2.4	0.2	0.3
7JUNA4	00	V	100	7	2.5	0.9	-0.6
7KPB	12	V	100	20	4.8	-0.9	1.3
7KPB	00	V	100	10	2.5	-0.1	-1.1
9ZT9MR	12	V	100	12	2.6	0.0	-0.3
9ZT9MR	00	V	100	9	3.8	-0.3	1.2
DBLK	12	V	100	15	2.1	0.3	0.0
FPUW5G	12	V	100	21	3.0	0.4	0.7
JNKN7J	12	V	100	2	4.1	-1.4	-1.2
JNKN7J	00	V	100	0	0.0	0.0	0.0
JNSR	00	V	100	9	4.9	-2.8	-0.6
JNSR	12	V	100	8	3.6	-0.2	1.1
KJJF9X	00	V	100	3	2.2	-0.2	0.8
KJJF9X	12	V	100	5	2.8	0.0	-0.5
KMPLHP	12	V	100	10	3.2	0.2	0.3
KMPLHP	00	V	100	9	3.1	-0.1	1.1
LAGY8	00	V	100	2	2.6	0.5	1.8
LAGZ8	00	V	100	4	3.9	1.6	-0.9
LRYQE3	12	V	100	2	2.3	-1.9	-0.4
LRYQE3	00	V	100	4	3.6	2.3	-1.2
UXK5JT	00	V	100	2	1.4	0.2	0.2
UXK5JT	12	V	100	1	2.1	1.6	1.3
WDK38H	12	V	100	1	5.1	4.6	-2.2
XKQLWQ	12	V	100	16	2.1	0.9	-0.3
YLV96W	12	V	100	8	3.1	0.6	0.0
YLV96W	00	V	100	8	1.9	0.3	-0.8
ZSNO	00	V	100	0	0.0	0.0	0.0
ZSNO	12	V	100	0	0.0	0.0	0.0
ZVQEQC	12	V	100	17	1.8	0.2	0.6

3.2.27 Figure 14 - SATOB Winds: 700-1000hPa

Figure 14

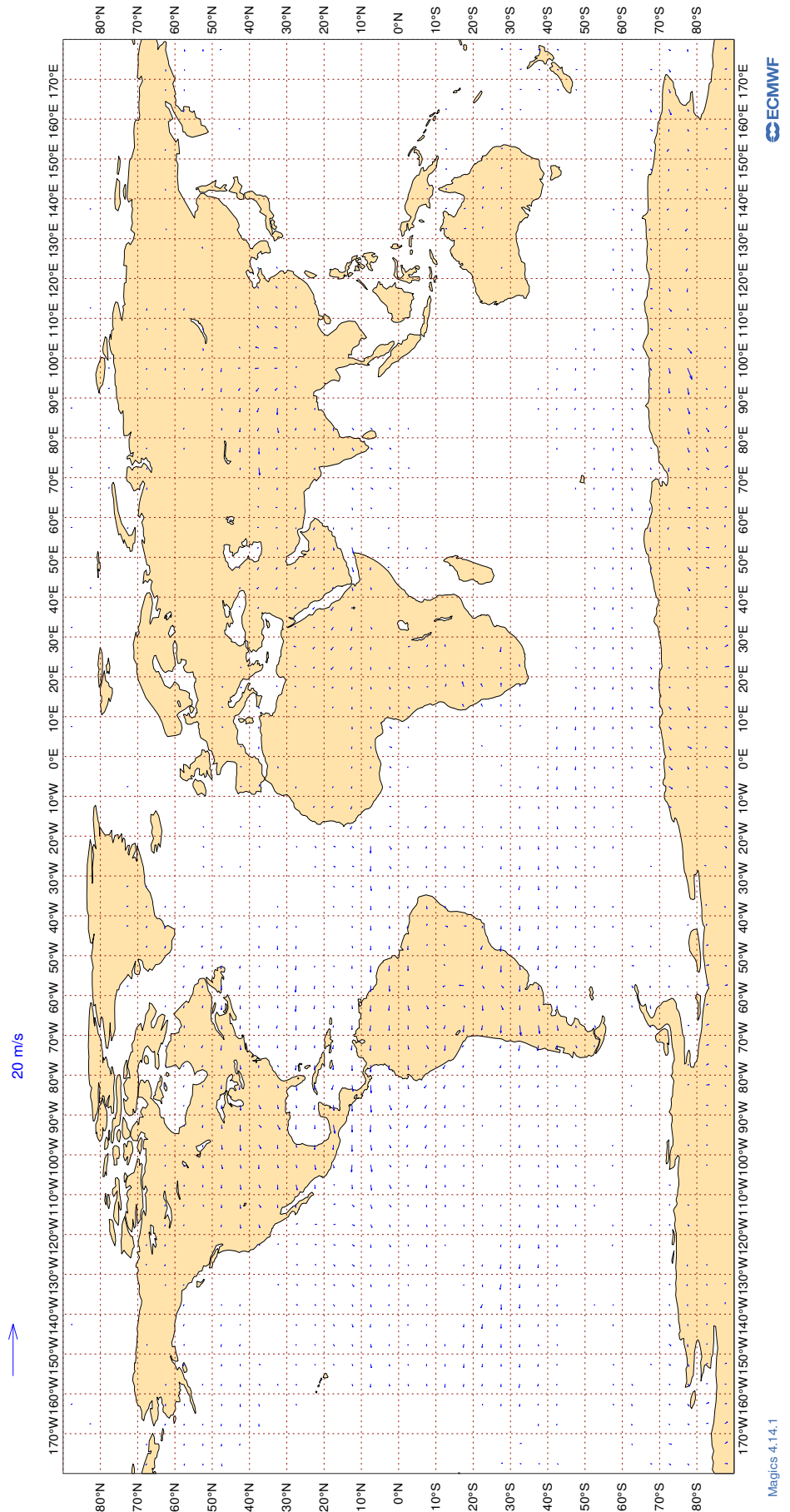
ECMWF Monitoring Statistics: Jun 2024
AMV Winds: 700-1000hPa
Mean Observed Wind



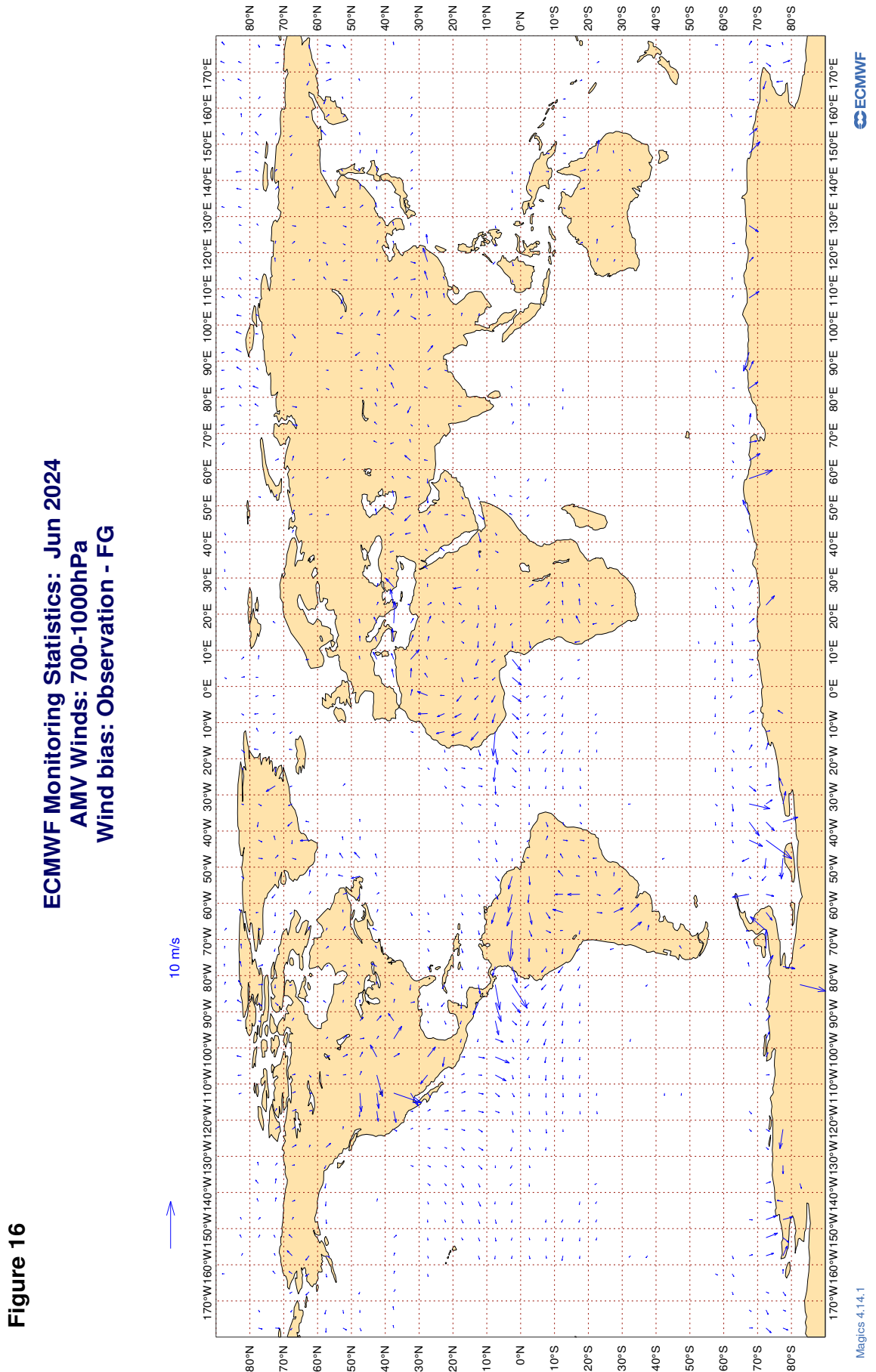
3.2.28 Figure 15 - SATOB Winds: 150- 400hPa

Figure 15

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



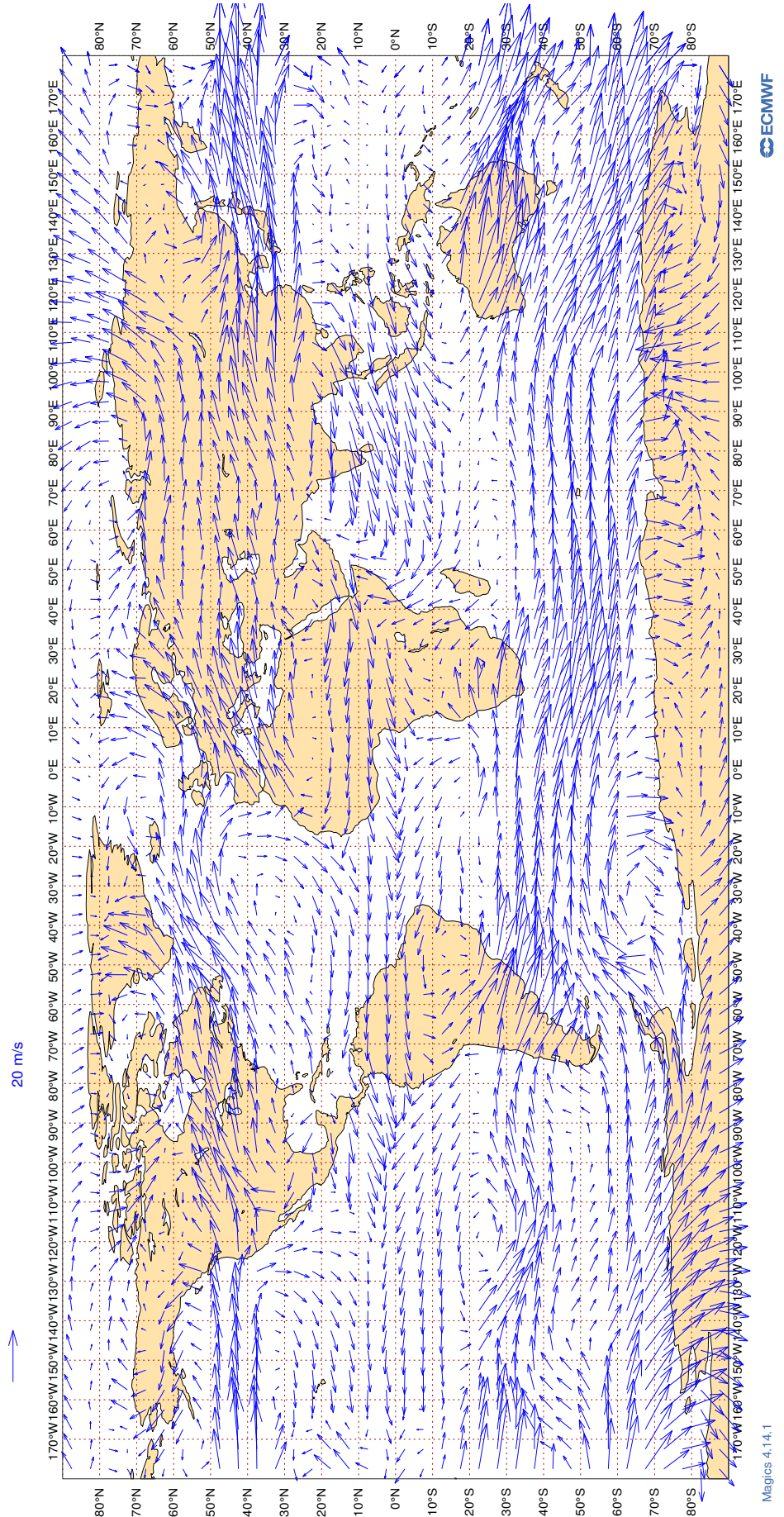
3.2.29 Figure 16 - SATOB Winds: 700-1000hPa



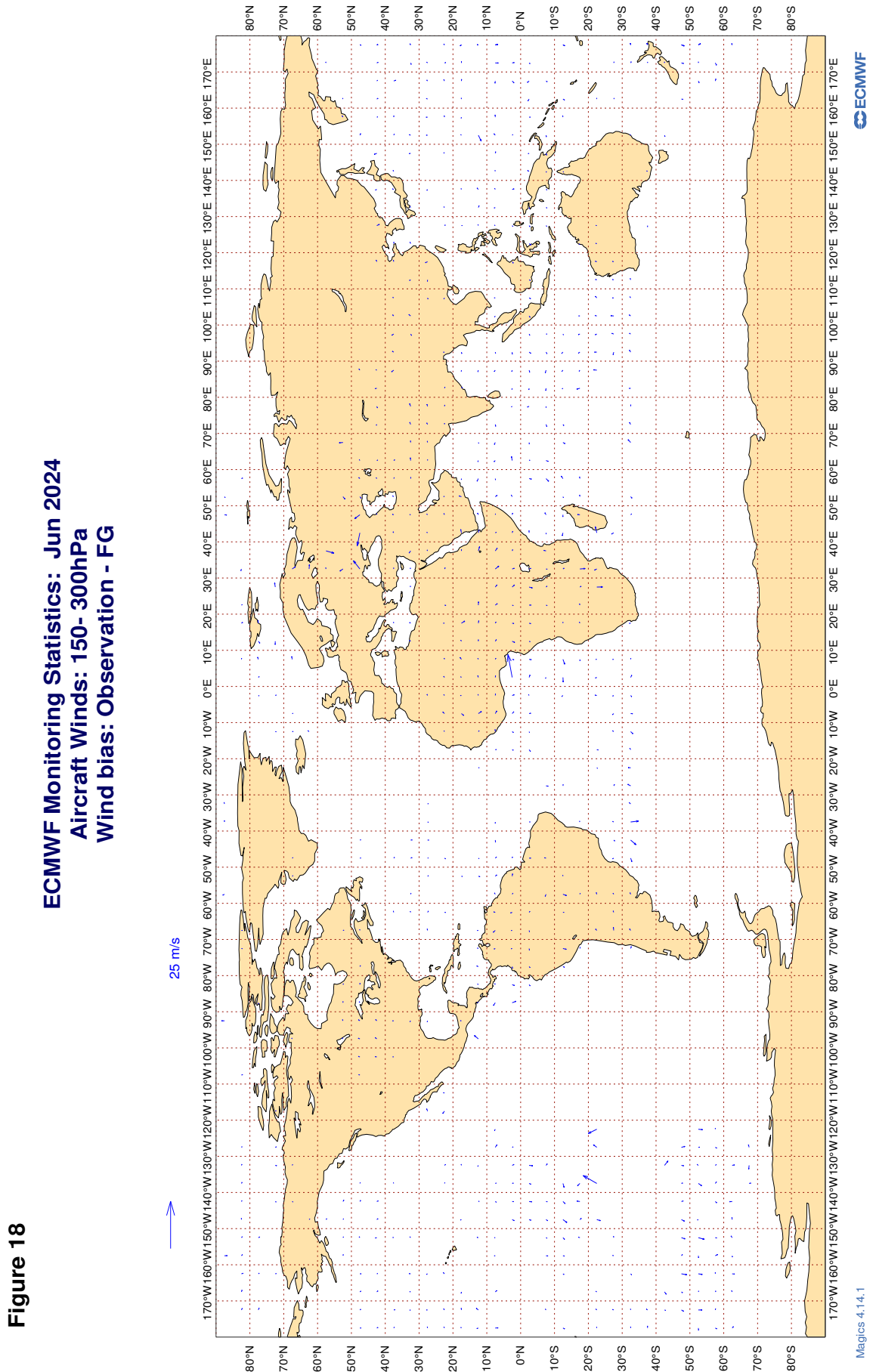
3.2.30 Figure 17 - SATOB Winds: 150- 400hPa

Figure 17

ECMWF Monitoring Statistics: Jun 2024
AMV Winds: 150- 400hPa
Mean Observed Wind



3.2.31 Figure 18 - AIRCRAFT Winds: 150- 300hPa



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 : JUN 2024
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

SELECTION CRITERIA: NO. OF OBS. >= 20

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

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
AAB	99	V	300-150	87	0	0	3.7	0.1
AAL	99	V	300-150	62103	2	0	4.7	0.2
AAR	99	V	300-150	197	0	0	3.5	-1.0
ABB	99	V	300-150	609	0	0	3.0	0.2
ABD	99	V	300-150	870	0	0	3.9	-0.1
ABX	99	V	300-150	260	0	0	4.2	0.3
ACA	99	V	300-150	40835	2	0	4.4	0.2
ACI	99	V	300-150	225	0	0	4.0	0.3
ADY	99	V	300-150	188	0	1	4.0	-0.1
ADZ	99	V	300-150	710	0	0	3.4	-0.1
AEA	99	V	300-150	630	3	0	5.7	0.1
AFR	99	V	300-150	41245	0	0	3.7	0.2
AIB	99	V	300-150	24	0	0	3.6	0.0
AIC	99	V	300-150	4557	1	1	5.1	0.3
AJO	99	V	300-150	61	0	0	3.2	-0.1
AJT	99	V	300-150	198	0	0	3.4	0.2
ALE	99	V	300-150	30	0	0	4.6	-0.7
ALK	99	V	300-150	2039	0	0	4.4	0.4
AMX	99	V	300-150	5414	5	0	6.2	0.0
ANA	99	V	300-150	149	2	3	5.6	-0.5
ANZ	99	V	300-150	15271	0	0	3.9	0.4
AOJ	99	V	300-150	241	0	0	3.0	0.6
AOJ	99	V	300-150	31	0	0	3.3	0.9
ASA	99	V	300-150	44	2	0	4.8	0.3

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
ASL	99	V	300-150	1177	0	0	3.1	0.4
ASP	99	V	300-150	37	0	0	3.5	0.8
ASY	99	V	300-150	32	0	0	3.9	-0.1
ATC	99	V	300-150	167	0	1	5.1	0.6
ATN	99	V	300-150	78	0	0	3.9	0.1
AUA	99	V	300-150	4921	1	0	4.1	0.0
AUH	99	V	300-150	44	0	2	3.3	0.8
AVA	99	V	300-150	427	2	0	4.8	0.0
AXB	99	V	300-150	23	0	0	3.8	0.7
AXM	99	V	300-150	33	0	12	7.8	0.7
AYJ	99	V	300-150	48	0	0	3.9	-0.6
AZG	99	V	300-150	781	0	1	4.2	0.0
BAF	99	V	300-150	38	0	0	3.8	0.6
BAW	99	V	300-150	50753	1	0	4.2	0.2
BBC	99	V	300-150	798	2	0	4.9	0.2
BCS	99	V	300-150	1086	0	0	3.3	0.2
BEL	99	V	300-150	1412	0	0	3.0	0.5
BLU	99	V	300-150	84	0	0	4.8	-1.6
BMW	99	V	300-150	30	0	0	4.5	2.0
BOE	99	V	300-150	24	0	0	3.2	1.2
BOX	99	V	300-150	4437	0	0	3.7	0.2
BOX	99	V	300-150	106	0	0	2.3	0.1
BQA	99	V	300-150	65	0	0	3.5	0.2
BQB	99	V	300-150	20	0	0	2.9	-0.3
BRJ	99	V	300-150	29	0	0	3.2	0.3
BTX	99	V	300-150	159	0	0	3.2	-0.5
BVR	99	V	300-150	22	0	0	4.5	-1.1
CAL	99	V	300-150	454	0	1	4.0	0.4
CCA	99	V	300-150	191	0	2	3.4	0.5
CEB	99	V	300-150	539	0	0	4.7	0.3
CEF	99	V	300-150	26	0	0	2.5	0.3
CES	99	V	300-150	1357	0	0	4.5	0.4
CFC	99	V	300-150	416	0	0	3.3	0.1
CFG	99	V	300-150	8521	0	0	3.2	0.4
CHH	99	V	300-150	368	0	2	5.0	0.3
CJT	99	V	300-150	211	0	0	3.4	-0.5
CKS	99	V	300-150	920	0	0	3.4	0.2
CLF	99	V	300-150	61	0	0	3.2	0.6
CLX	99	V	300-150	4897	0	0	3.7	-0.2
CLY	99	V	300-150	49	0	0	2.7	0.4
CMB	99	V	300-150	1195	0	0	3.6	-0.4
CND	99	V	300-150	280	0	0	3.3	0.3
CNK	99	V	300-150	109	0	0	3.3	0.0

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
CNV	99	V	300-150	225	0	0	3.4	0.2
COD	99	V	300-150	24	0	0	4.2	1.0
COL	99	V	300-150	49	0	0	4.3	0.9
COO	99	V	300-150	30	0	0	3.1	0.2
CPA	99	V	300-150	2338	0	2	4.5	0.5
CPI	99	V	300-150	29	0	0	3.2	1.5
CRL	99	V	300-150	1417	0	0	3.0	0.2
CRV	99	V	300-150	73	0	0	4.2	1.1
CSC	99	V	300-150	930	0	1	4.0	0.2
CSG	99	V	300-150	29	0	0	3.1	-0.8
CSN	99	V	300-150	501	0	2	4.7	0.1
CSS	99	V	300-150	116	0	3	4.8	0.7
CTM	99	V	300-150	201	0	0	3.5	0.4
CWG	99	V	300-150	50	0	0	3.1	-0.1
CXA	99	V	300-150	78	0	0	4.5	0.5
DAH	99	V	300-150	1150	0	0	3.0	0.3
DAL	99	V	300-150	82013	0	0	3.1	0.2
DCM	99	V	300-150	40	0	0	4.2	-0.5
DGX	99	V	300-150	26	0	4	2.8	-0.2
DHK	99	V	300-150	4064	0	0	3.4	0.0
DHX	99	V	300-150	564	0	0	4.9	0.4
DJT	99	V	300-150	1992	0	0	3.2	0.3
DLH	99	V	300-150	32006	1	0	3.7	0.1
DSO	99	V	300-150	45	0	0	3.5	-0.5
DUB	99	V	300-150	38	0	0	5.9	1.6
EAU	99	V	300-150	152	0	0	4.0	-0.4
EDG	99	V	300-150	197	0	0	3.9	1.0
EDW	99	V	300-150	2086	0	0	3.2	0.4
EIN	99	V	300-150	17434	0	0	3.1	0.3
EJM	99	V	300-150	1405	0	0	3.6	0.4
ELY	99	V	300-150	6135	5	0	6.7	0.2
EMO	99	V	300-150	69	0	0	4.5	0.8
ETD	99	V	300-150	18279	1	1	4.8	0.3
ETH	99	V	300-150	8308	1	0	4.6	0.2
EUK	99	V	300-150	1883	0	0	3.2	0.4
EUW	99	V	300-150	33	0	0	3.1	-0.3
EVA	99	V	300-150	487	0	1	7.7	2.3
EVE	99	V	300-150	122	0	0	3.9	-0.2
EXS	99	V	300-150	3874	0	0	2.8	0.0
EXV	99	V	300-150	93	0	0	4.4	0.5
EZY	99	V	300-150	29	0	0	2.0	0.0
FAD	99	V	300-150	195	0	0	5.0	0.8
FBU	99	V	300-150	3137	0	0	3.5	0.1

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
FDX	99	V	300-150	7536	0	0	3.3	0.2
FEX	99	V	300-150	29	0	0	2.9	0.4
FFM	99	V	300-150	24	0	0	5.8	-1.3
FGO	99	V	300-150	25	0	0	4.8	1.2
FIN	99	V	300-150	1885	0	0	4.6	0.5
FJI	99	V	300-150	2649	0	0	4.0	0.6
FJO	99	V	300-150	140	0	0	3.1	0.0
FPY	99	V	300-150	4684	0	0	3.2	0.3
FSY	99	V	300-150	33	0	0	3.2	0.2
FWI	99	V	300-150	967	0	0	2.7	0.1
FXT	99	V	300-150	36	0	0	4.1	0.9
FYG	99	V	300-150	92	0	0	3.2	0.2
FYL	99	V	300-150	35	0	0	4.6	0.7
GCK	99	V	300-150	123	0	0	3.3	0.3
GEC	99	V	300-150	1553	0	0	3.5	0.3
GES	99	V	300-150	136	0	0	3.5	0.6
GFA	99	V	300-150	1903	0	2	4.8	0.2
GIA	99	V	300-150	3478	0	0	4.9	0.5
GJE	99	V	300-150	297	0	0	4.0	-0.2
GJI	99	V	300-150	31	0	0	4.2	1.8
GJW	99	V	300-150	53	0	0	3.1	0.2
GKY	99	V	300-150	31	0	0	3.2	1.5
GLH	99	V	300-150	54	0	0	3.0	-0.1
GNJ	99	V	300-150	63	0	0	4.0	0.3
GRB	99	V	300-150	56	0	0	4.4	0.8
GRI	99	V	300-150	43	0	0	3.4	0.6
GSM	99	V	300-150	142	0	0	3.2	-0.1
GTI	99	V	300-150	2374	0	0	3.4	0.1
GTR	99	V	300-150	61	0	0	5.4	0.4
HAF	99	V	300-150	32	0	3	3.1	-0.6
HAL	99	V	300-150	763	0	1	4.5	0.5
HCR	99	V	300-150	23	0	0	2.8	0.5
HFM	99	V	300-150	63	0	0	2.9	0.0
HGO	99	V	300-150	24	0	0	3.4	1.3
HKC	99	V	300-150	75	0	3	5.5	0.3
HLF	99	V	300-150	49	0	6	3.7	0.5
HNW	99	V	300-150	34	0	0	4.5	-0.4
HPJ	99	V	300-150	33	0	0	3.3	0.2
HRT	99	V	300-150	174	0	0	4.2	0.2
HUE	99	V	300-150	90	0	0	6.3	-0.6
HVN	99	V	300-150	1084	0	3	5.2	0.2
HYS	99	V	300-150	475	0	0	3.2	-0.1
HZA	99	V	300-150	34	0	0	4.1	0.5

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
HZS	99	V	300-150	31	0	0	4.8	-1.5
HZS	99	V	300-150	29	0	0	3.1	-0.5
IAM	99	V	300-150	35	0	0	2.8	0.5
IBE	99	V	300-150	6301	0	0	3.1	0.3
ICE	99	V	300-150	10691	0	0	3.2	0.2
ICL	99	V	300-150	105	0	0	3.9	0.7
ICV	99	V	300-150	377	0	0	3.3	-0.3
IFA	99	V	300-150	331	0	0	3.4	-0.2
IFC	99	V	300-150	25	0	0	3.9	0.9
IGA	99	V	300-150	118	0	0	3.4	0.6
IGO	99	V	300-150	155	0	1	3.6	0.0
ITY	99	V	300-150	8092	0	0	3.2	0.4
IXR	99	V	300-150	36	0	0	3.5	0.0
JAF	99	V	300-150	486	5	0	6.1	0.2
JAL	99	V	300-150	577	0	4	5.0	-0.2
JAS	99	V	300-150	257	0	0	3.7	0.6
JBU	99	V	300-150	12706	0	0	3.0	0.2
JCB	99	V	300-150	46	0	0	3.1	0.7
JCO	99	V	300-150	76	0	0	3.3	0.4
JEF	99	V	300-150	34	0	0	4.3	1.0
JET	99	V	300-150	20	0	0	4.9	2.8
JME	99	V	300-150	33	0	0	4.6	0.8
JNY	99	V	300-150	52	0	0	4.2	-1.4
JST	99	V	300-150	1013	0	0	4.3	0.7
JTL	99	V	300-150	31	13	0	19.4	-0.6
KAC	99	V	300-150	2128	0	0	3.5	0.2
KAI	99	V	300-150	163	0	0	3.3	0.6
KAL	99	V	300-150	492	0	0	4.2	0.6
KAY	99	V	300-150	108	0	0	3.3	0.0
KFE	99	V	300-150	65	0	0	3.5	0.0
KIW	99	V	300-150	64	0	2	5.1	1.0
KLM	99	V	300-150	18634	2	0	4.6	0.2
KLO	99	V	300-150	39	0	0	3.4	0.1
KNE	99	V	300-150	163	0	0	3.0	0.3
KPO	99	V	300-150	155	0	1	3.7	-0.1
KQA	99	V	300-150	1015	2	0	6.5	0.4
LCO	99	V	300-150	514	0	0	3.4	-0.6
LDX	99	V	300-150	105	0	0	3.1	0.3
LEA	99	V	300-150	30	0	0	4.6	0.8
LEX	99	V	300-150	33	0	0	3.9	-0.8
LHA	99	V	300-150	53	0	0	4.2	-0.2
LHO	99	V	300-150	42	0	0	4.7	0.6
LNX	99	V	300-150	73	0	0	2.9	0.2

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
LOT	99	V	300-150	4408	4	0	6.8	0.0
LRQ	99	V	300-150	53	0	0	3.8	0.7
LVA	99	V	300-150	38	0	0	3.7	0.5
LXA	99	V	300-150	64	0	0	3.7	0.7
LXJ	99	V	300-150	1275	0	0	3.5	0.1
MAS	99	V	300-150	6935	0	0	5.3	0.6
MAU	99	V	300-150	610	0	0	5.2	0.8
MED	99	V	300-150	39	0	0	4.9	0.4
MHV	99	V	300-150	45	0	0	3.4	0.2
MLM	99	V	300-150	147	0	0	3.8	0.1
MMD	99	V	300-150	323	0	0	3.3	0.5
MMZ	99	V	300-150	88	0	0	3.7	0.1
MNB	99	V	300-150	267	0	0	2.9	0.5
MPH	99	V	300-150	519	0	0	3.6	-0.7
MSR	99	V	300-150	2595	2	0	4.9	0.1
MVJ	99	V	300-150	35	0	0	3.4	0.7
MXD	99	V	300-150	227	0	0	4.4	0.4
NAG	99	V	300-150	26	0	0	2.3	-0.4
NBT	99	V	300-150	4863	5	0	6.2	0.0
NBV	99	V	300-150	35	0	0	3.1	-0.4
NCR	99	V	300-150	395	0	1	4.0	-0.1
NEW	99	V	300-150	35	0	0	3.6	0.8
NJE	99	V	300-150	583	0	0	3.5	0.0
NOJ	99	V	300-150	47	0	0	4.3	-0.8
NOS	99	V	300-150	1339	4	0	6.0	0.2
NUM	99	V	300-150	94	0	0	3.8	0.9
OAE	99	V	300-150	552	0	0	4.0	0.5
OCN	99	V	300-150	5035	0	0	3.2	0.3
OMA	99	V	300-150	2032	0	2	6.0	0.5
OSY	99	V	300-150	34	0	0	2.0	0.3
PAC	99	V	300-150	65	0	0	3.6	0.0
PAL	99	V	300-150	1608	0	1	4.9	0.6
PAR	99	V	300-150	38	0	0	3.8	-0.1
PAT	99	V	300-150	71	0	0	3.2	0.5
PEX	99	V	300-150	111	0	0	3.3	0.2
PIA	99	V	300-150	315	0	0	4.8	0.9
PVA	99	V	300-150	337	0	0	3.8	0.5
QFA	99	V	300-150	6115	1	0	5.3	0.2
QFX	99	V	300-150	98	0	0	3.7	0.2
QID	99	V	300-150	29	0	0	3.7	-0.1
QQE	99	V	300-150	378	0	0	3.4	0.0
QTR	99	V	300-150	41526	0	0	4.2	0.3
RAM	99	V	300-150	719	6	0	7.3	0.2

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
RBA	99	V	300-150	290	0	1	5.8	0.7
RCH	99	V	300-150	4664	0	0	4.7	0.4
RCR	99	V	300-150	123	0	1	3.9	0.3
RDN	99	V	300-150	82	0	0	2.5	0.2
RHH	99	V	300-150	45	0	0	6.8	0.9
RJA	99	V	300-150	2747	5	0	6.5	0.0
RKS	99	V	300-150	32	0	0	2.6	1.0
ROJ	99	V	300-150	39	0	0	4.2	0.1
RRR	99	V	300-150	362	0	0	4.3	0.4
RSF	99	V	300-150	36	0	0	2.9	0.0
RYR	99	V	300-150	741	0	0	2.6	0.1
RZO	99	V	300-150	759	0	0	4.2	0.6
SAM	99	V	300-150	745	0	0	3.1	-0.2
SAM	99	V	300-150	31	0	0	3.4	1.3
SAS	99	V	300-150	6471	0	0	3.1	0.3
SAZ	99	V	300-150	83	0	0	4.7	0.4
SCX	99	V	300-150	66	0	0	3.3	0.1
SEJ	99	V	300-150	280	0	0	4.5	0.3
SEY	99	V	300-150	97	0	0	4.7	0.3
SIA	99	V	300-150	15867	0	1	5.2	0.6
SIS	99	V	300-150	121	0	0	3.1	0.2
SJE	99	V	300-150	25	0	0	3.5	0.3
SKV	99	V	300-150	55	0	0	3.0	0.4
SLM	99	V	300-150	142	0	0	2.4	-0.1
SON	99	V	300-150	144	0	0	3.3	0.3
SPA	99	V	300-150	187	0	0	3.2	0.1
SPM	99	V	300-150	108	0	0	3.8	0.0
SVA	99	V	300-150	12787	0	1	4.6	0.4
SVW	99	V	300-150	152	0	0	3.1	0.1
SWR	99	V	300-150	13667	0	0	3.4	0.4
SWW	99	V	300-150	30	0	0	3.3	0.9
SYB	99	V	300-150	131	0	0	3.2	0.2
TAG	99	V	300-150	96	0	0	3.7	0.0
TAM	99	V	300-150	96	0	0	2.8	-0.2
TAP	99	V	300-150	3240	0	0	3.3	0.5
TAR	99	V	300-150	474	0	0	3.0	0.2
TAY	99	V	300-150	98	0	0	4.4	0.2
TBJ	99	V	300-150	42	0	0	4.5	-1.1
TEU	99	V	300-150	51	0	0	3.7	0.4
TFF	99	V	300-150	246	0	0	4.1	0.2
TFL	99	V	300-150	1271	3	0	5.3	0.1
TGW	99	V	300-150	1123	0	2	5.8	0.5
THA	99	V	300-150	5590	0	1	5.0	0.4

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
THT	99	V	300-150	2863	1	0	5.9	0.1
THY	99	V	300-150	23520	2	0	4.9	0.3
TIT	99	V	300-150	36	0	0	4.1	1.3
TMN	99	V	300-150	403	0	0	4.4	0.6
TOM	99	V	300-150	6156	4	0	5.9	0.0
TSC	99	V	300-150	20051	0	0	3.3	0.3
TUA	99	V	300-150	24	0	0	3.0	0.8
TVR	99	V	300-150	96	0	0	5.2	1.3
TVS	99	V	300-150	60	0	0	2.8	0.2
TWY	99	V	300-150	1338	1	0	3.8	0.4
UAE	99	V	300-150	38233	0	0	4.1	0.3
UAF	99	V	300-150	130	0	0	3.5	0.3
UAL	99	V	300-150	89285	1	1	4.5	0.1
UBG	99	V	300-150	33	0	3	3.0	-0.2
UBT	99	V	300-150	4220	5	0	5.8	0.1
UGD	99	V	300-150	58	0	0	3.5	0.4
ULC	99	V	300-150	146	0	0	3.8	0.3
UNI	99	V	300-150	31	0	0	4.0	0.3
UPS	99	V	300-150	5880	0	0	3.6	0.1
URO	99	V	300-150	66	0	0	5.1	0.3
UZB	99	V	300-150	586	2	0	5.9	0.7
UZS	99	V	300-150	98	0	0	3.7	0.2
VAJ	99	V	300-150	59	0	0	4.2	1.3
VCG	99	V	300-150	65	0	0	2.8	0.2
VCJ	99	V	300-150	49	0	0	3.3	0.6
VIR	99	V	300-150	24555	1	0	4.0	0.2
VJC	99	V	300-150	403	0	0	4.8	0.5
VJH	99	V	300-150	369	0	0	3.4	0.3
VJT	99	V	300-150	2377	0	0	3.7	0.4
VKG	99	V	300-150	23	0	0	2.7	0.2
VLZ	99	V	300-150	90	0	0	2.8	0.0
VOZ	99	V	300-150	74	0	0	3.6	0.2
VSV	99	V	300-150	32	0	0	3.0	0.9
VTI	99	V	300-150	3478	0	1	5.1	0.8
WAZ	99	V	300-150	21	0	0	4.5	0.1
WFL	99	V	300-150	89	0	0	4.4	-1.1
WGN	99	V	300-150	146	0	0	3.5	0.0
WJA	99	V	300-150	5581	2	0	4.0	0.1
WMN	99	V	300-150	83	0	0	4.6	1.3
WWI	99	V	300-150	67	0	0	4.3	0.6
XAX	99	V	300-150	808	0	0	5.2	0.3
XFL	99	V	300-150	142	0	0	4.9	0.6
XRO	99	V	300-150	72	0	0	3.9	0.2

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
ZPR	99	V	300-150	40	0	0	3.0	0.6

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 : JUN 2024
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	50	27	29.4	-26.3
01001	12	Z	50	30	10.2	-2.8
01028	00	Z	50	30	7.4	-6.1
01028	12	Z	50	29	7.8	-6.1
01400	00	Z	50	26	82.1	81.7
01400	12	Z	50	27	76.5	76.2
01415	00	Z	50	27	7.8	3.0
01415	12	Z	50	30	7.4	-1.5
02591	12	Z	50	17	4.0	-0.6
02591	00	Z	50	18	8.7	7.8
02836	12	Z	50	34	9.2	-5.6
02836	00	Z	50	30	5.8	-2.7
02963	00	Z	50	30	4.2	0.6
02963	12	Z	50	30	8.3	-6.5
03005	00	Z	50	27	5.4	-1.4
03005	12	Z	50	29	7.4	-4.2
03238	12	Z	50	4	6.1	0.9
03238	00	Z	50	30	5.7	1.8
03808	00	Z	50	30	5.7	2.7
03808	12	Z	50	30	5.4	-1.6
03918	00	Z	50	30	8.9	5.6
03953	12	Z	50	30	10.3	-9.2
03953	00	Z	50	30	10.8	-8.7
04018	00	Z	50	28	9.0	-7.6
04018	12	Z	50	25	8.8	-6.7
04220	12	Z	50	30	14.7	-4.4
04220	00	Z	50	30	20.5	-14.0
04270	12	Z	50	29	26.5	-16.7
04270	00	Z	50	30	31.9	-29.7
04320	00	Z	50	28	30.8	-18.6
04320	12	Z	50	30	21.0	-6.5
04339	00	Z	50	28	31.8	-29.2
04339	12	Z	50	30	27.3	-15.2
04360	00	Z	50	27	24.5	-22.0
04360	12	Z	50	29	18.2	-4.1
06011	12	Z	50	30	19.6	-17.0
06260	00	Z	50	29	7.7	2.5
06260	12	Z	50	5	6.2	-2.0
06610	12	Z	50	42	6.7	-1.3

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06610	00	Z	50	36	7.3	1.0
07110	00	Z	50	29	12.3	-7.8
07110	12	Z	50	26	13.5	-6.3
07510	00	Z	50	28	10.9	-7.5
07510	12	Z	50	30	13.8	0.7
07645	00	Z	50	27	23.3	-15.7
07645	12	Z	50	29	24.2	-20.5
07761	00	Z	50	28	18.9	-15.8
07761	12	Z	50	29	27.2	-19.1
08001	00	Z	50	29	6.8	2.9
08001	12	Z	50	30	7.7	0.8
08221	12	Z	50	30	5.8	-1.4
08221	00	Z	50	30	9.5	5.8
08302	12	Z	50	30	13.5	-11.9
08302	00	Z	50	28	8.3	-4.2
08508	12	Z	50	29	5.9	-4.4
08522	12	Z	50	30	5.4	-1.9
10035	00	Z	50	29	13.3	12.4
10035	12	Z	50	30	10.7	9.0
10393	12	Z	50	30	6.9	-4.0
10393	00	Z	50	30	5.3	0.3
10410	12	Z	50	30	6.3	-3.2
10410	00	Z	50	30	6.2	2.7
10739	12	Z	50	30	6.9	1.4
10739	00	Z	50	29	11.9	5.9
11035	12	Z	50	31	25.1	15.3
11035	00	Z	50	30	15.0	1.5
12982	12	Z	50	30	8.5	-3.1
12982	00	Z	50	29	5.6	3.8
16245	00	Z	50	29	6.8	3.9
16245	12	Z	50	30	9.8	-4.6
16429	00	Z	50	30	9.4	7.4
16429	12	Z	50	30	5.2	-2.0
16622	00	Z	50	27	15.4	13.5
16754	00	Z	50	25	14.0	12.6
17607	12	Z	50	21	21.8	-16.0
26435	12	Z	50	3	103.5	-62.3
2EERV	12	Z	50	4	36.5	-26.6
2EERV	00	Z	50	5	133.8	-82.0
60018	12	Z	50	28	8.1	-6.0
60018	00	Z	50	27	6.3	4.6
7JUNA4	12	Z	50	9	88.5	64.8
7JUNA4	00	Z	50	6	37.5	30.5

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
9ZT9MR	12	Z	50	12	25.8	-19.9
9ZT9MR	00	Z	50	9	35.6	-32.6
DBLK	12	Z	50	15	9.8	9.1
FPUW5G	12	Z	50	24	11.8	0.6
JNKN7J	12	Z	50	2	22.3	14.1
JNKN7J	00	Z	50	0	0.0	0.0
KJJF9X	00	Z	50	3	29.2	-27.9
KJJF9X	12	Z	50	5	173.6	-93.6
KMPLHP	12	Z	50	10	42.9	35.1
KMPLHP	00	Z	50	9	42.5	40.5
LAGY8	00	Z	50	1	119.3	-119.3
LAGZ8	00	Z	50	4	42.2	42.0
LRYQE3	12	Z	50	2	54.2	43.3
LRYQE3	00	Z	50	4	5.5	0.6
UXK5JT	00	Z	50	1	47.3	-47.3
UXK5JT	12	Z	50	1	362.6	-362.6
WDK38H	12	Z	50	1	11.9	-11.9
XKQLWQ	12	Z	50	16	35.8	33.5
YLV96W	12	Z	50	8	156.0	122.3
YLV96W	00	Z	50	7	22.1	-17.1
ZVQEQC	12	Z	50	15	5.7	-1.3

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

RADIOSONDE MONITORING STATISTICS (EUCOS)

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	50	27	2.9	-0.5	-0.4
01001	12	V	50	30	3.0	-0.7	0.3
01028	00	V	50	25	2.9	0.1	0.4
01028	12	V	50	29	2.5	0.1	0.1
01400	00	V	50	23	3.0	0.0	-0.4
01400	12	V	50	27	2.6	0.6	-0.3
01415	00	V	50	26	3.1	0.0	0.4
01415	12	V	50	30	3.3	0.1	-0.2
02591	12	V	50	16	3.5	0.1	-1.6
02591	00	V	50	17	3.3	-0.6	-0.2
02836	12	V	50	29	2.6	0.0	-0.3
02836	00	V	50	30	2.8	-0.2	-0.1
02963	00	V	50	29	2.8	0.2	0.0
02963	12	V	50	30	2.8	-0.4	0.2
03005	00	V	50	27	3.1	-0.5	-0.2
03005	12	V	50	28	2.8	-0.3	-0.4
03238	12	V	50	4	2.4	-0.8	-0.3
03238	00	V	50	29	2.6	-0.4	0.4
03808	00	V	50	30	2.5	-0.3	0.1
03808	12	V	50	30	2.5	0.1	-0.2
03918	00	V	50	30	2.8	-0.5	0.1
03953	12	V	50	30	2.5	0.2	0.5
03953	00	V	50	30	3.0	0.1	0.4
04018	00	V	50	24	2.5	-0.4	-0.4
04018	12	V	50	24	2.7	0.0	0.1
04220	12	V	50	30	2.7	0.5	-0.6
04220	00	V	50	30	3.3	-0.5	-0.2
04270	12	V	50	29	2.9	0.0	-0.8
04270	00	V	50	30	3.3	0.1	-0.4
04320	00	V	50	28	2.7	0.1	0.2
04320	12	V	50	30	2.6	0.0	0.3
04339	00	V	50	28	3.1	0.1	0.1
04339	12	V	50	30	2.6	0.2	0.1
04360	00	V	50	25	2.6	0.7	-0.1
04360	12	V	50	29	2.7	0.7	0.4
06011	12	V	50	30	2.9	0.6	-0.1
06260	00	V	50	29	3.4	-0.2	0.2
06260	12	V	50	5	3.2	-1.4	-0.4
06610	12	V	50	30	3.3	0.5	0.1

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06610	00	V	50	30	3.5	-0.5	-0.4
07110	00	V	50	28	3.5	-0.4	-0.2
07110	12	V	50	26	3.1	0.3	0.0
07510	00	V	50	27	3.4	-0.3	0.0
07510	12	V	50	30	2.9	0.2	0.3
07645	00	V	50	27	3.1	-0.3	0.4
07645	12	V	50	29	3.0	0.2	0.0
07761	00	V	50	27	3.5	-0.1	-0.5
07761	12	V	50	29	3.0	0.1	0.3
08001	00	V	50	29	3.3	0.2	0.2
08001	12	V	50	30	3.0	0.4	-0.4
08221	12	V	50	30	3.1	-0.2	0.7
08221	00	V	50	30	3.0	0.0	0.6
08302	12	V	50	30	2.8	0.1	-0.7
08302	00	V	50	27	3.6	-0.4	0.3
08508	12	V	50	29	3.1	0.5	0.9
08522	12	V	50	30	3.3	-0.5	-0.3
10035	00	V	50	29	3.1	-0.1	0.1
10035	12	V	50	30	3.2	0.3	-0.4
10393	12	V	50	30	3.2	0.4	-0.3
10393	00	V	50	30	3.5	0.6	-0.1
10410	12	V	50	30	3.0	-0.1	-0.1
10410	00	V	50	29	3.3	0.1	-0.3
10739	12	V	50	29	2.8	-0.4	0.0
10739	00	V	50	28	3.2	0.4	0.6
11035	12	V	50	30	3.2	0.2	-0.3
11035	00	V	50	29	3.1	-0.3	-0.2
12982	12	V	50	29	3.7	0.7	-0.2
12982	00	V	50	28	3.3	-0.4	-0.1
16245	00	V	50	27	3.8	0.3	0.6
16245	12	V	50	30	3.7	-0.1	0.3
16429	00	V	50	27	4.0	0.9	0.4
16429	12	V	50	30	3.7	0.3	-1.0
16622	00	V	50	19	3.0	1.0	1.1
16754	00	V	50	23	2.9	0.0	0.3
17607	12	V	50	12	9.9	9.4	-1.9
26435	12	V	50	2	3.0	-0.1	-2.4
2EERV	12	V	50	4	2.4	-0.7	-0.9
2EERV	00	V	50	5	2.0	-1.3	-0.6
60018	12	V	50	28	3.4	0.1	0.3
60018	00	V	50	27	3.0	-0.5	0.9
7JUNA4	12	V	50	9	2.1	0.3	0.4
7JUNA4	00	V	50	6	2.8	-0.4	-0.3

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
9ZT9MR	12	V	50	12	2.8	-0.9	0.2
9ZT9MR	00	V	50	9	2.4	0.5	-0.1
DBLK	12	V	50	15	2.2	-0.3	0.0
FPUW5G	12	V	50	18	2.4	0.4	-0.2
JNKN7J	12	V	50	2	2.0	0.0	1.6
JNKN7J	00	V	50	0	0.0	0.0	0.0
KJJF9X	00	V	50	3	3.0	-1.6	-1.3
KJJF9X	12	V	50	5	2.5	0.4	0.1
KMPLHP	12	V	50	10	2.3	-0.8	0.8
KMPLHP	00	V	50	9	3.6	-0.1	1.0
LAGY8	00	V	50	1	2.1	-0.2	2.1
LAGZ8	00	V	50	4	2.5	2.1	0.1
LRVQE3	12	V	50	2	2.6	-1.5	-1.0
LRVQE3	00	V	50	4	2.5	-0.1	1.3
UXK5JT	00	V	50	1	1.1	0.6	-0.9
UXK5JT	12	V	50	1	4.0	-3.5	-1.9
WDK38H	12	V	50	1	2.6	0.0	2.6
XKQLWQ	12	V	50	16	2.7	0.6	0.3
YLV96W	12	V	50	8	1.7	0.2	-0.3
YLV96W	00	V	50	7	2.7	0.0	0.0
ZVQEQC	12	V	50	15	2.0	0.5	-0.5

4.3 Table 15 - Radiosonde Monitoring Statistics (EUCOS): 100 hPa Geopotential height (metres)

RADIOSONDE MONITORING STATISTICS (EUCOS)

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	100	28	25.8	-24.1
01001	12	Z	100	30	10.4	-2.7
01028	00	Z	100	30	6.8	-5.9
01028	12	Z	100	29	7.0	-5.6
01400	00	Z	100	30	79.4	79.0
01400	12	Z	100	28	76.3	76.1
01415	00	Z	100	28	7.6	0.1
01415	12	Z	100	30	6.0	-2.4
02591	12	Z	100	17	3.9	0.7
02591	00	Z	100	18	6.8	5.8
02836	12	Z	100	34	8.1	-6.2
02836	00	Z	100	30	6.5	-4.9
02963	00	Z	100	30	4.0	-1.9
02963	12	Z	100	30	7.2	-5.6
03005	00	Z	100	27	5.5	-4.3
03005	12	Z	100	29	6.9	-5.3
03238	12	Z	100	4	4.8	1.5
03238	00	Z	100	30	4.0	0.4
03808	00	Z	100	30	4.7	0.6
03808	12	Z	100	30	4.3	-1.0
03918	00	Z	100	30	6.5	2.6
03953	12	Z	100	30	10.8	-9.9
03953	00	Z	100	30	10.1	-9.1
04018	00	Z	100	28	8.7	-7.2
04018	12	Z	100	27	7.6	-6.0
04220	12	Z	100	30	11.1	-6.2
04220	00	Z	100	30	19.0	-13.2
04270	12	Z	100	30	21.8	-15.2
04270	00	Z	100	30	27.4	-25.7
04320	00	Z	100	29	19.3	-13.0
04320	12	Z	100	30	17.4	-6.2
04339	00	Z	100	28	27.9	-26.1
04339	12	Z	100	30	22.5	-16.5
04360	00	Z	100	28	21.7	-20.5
04360	12	Z	100	29	14.5	-7.2
06011	12	Z	100	30	17.2	-15.3
06260	00	Z	100	29	5.5	-1.1
06260	12	Z	100	6	5.3	-2.8
06610	12	Z	100	38	6.4	-2.6

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06610	00	Z	100	36	5.4	-1.8
07110	00	Z	100	29	11.2	-7.7
07110	12	Z	100	29	10.9	-4.9
07510	00	Z	100	28	7.8	-5.6
07510	12	Z	100	30	10.5	-0.8
07645	00	Z	100	27	19.4	-13.5
07645	12	Z	100	29	20.3	-17.1
07761	00	Z	100	29	16.3	-13.9
07761	12	Z	100	29	22.2	-17.0
08001	00	Z	100	30	4.7	1.4
08001	12	Z	100	30	5.6	-0.5
08221	12	Z	100	30	4.4	-0.3
08221	00	Z	100	30	7.2	1.8
08302	12	Z	100	30	12.5	-11.3
08302	00	Z	100	29	9.0	-7.3
08508	12	Z	100	30	12.2	2.3
08522	12	Z	100	30	5.3	2.4
10035	00	Z	100	30	11.9	10.6
10035	12	Z	100	30	9.0	7.7
10393	12	Z	100	30	8.1	-6.0
10393	00	Z	100	30	5.4	-1.1
10410	12	Z	100	30	6.4	-4.5
10410	00	Z	100	30	4.1	0.2
10739	12	Z	100	30	6.8	0.3
10739	00	Z	100	30	10.8	3.4
11035	12	Z	100	31	15.0	6.7
11035	00	Z	100	30	12.5	-1.7
12982	12	Z	100	30	8.3	-5.8
12982	00	Z	100	29	4.6	0.8
16245	00	Z	100	29	5.6	1.8
16245	12	Z	100	30	8.6	-5.0
16429	00	Z	100	30	4.8	1.7
16429	12	Z	100	30	5.5	-3.1
16622	00	Z	100	28	13.4	11.7
16754	00	Z	100	26	11.1	9.4
17607	12	Z	100	23	31.9	-22.0
26435	12	Z	100	9	69.9	-26.0
2EERV	12	Z	100	4	30.6	-21.6
2EERV	00	Z	100	6	128.3	-78.7
60018	12	Z	100	28	5.0	-1.3
60018	00	Z	100	27	6.1	4.5
7JUNA4	12	Z	100	9	56.7	47.0
7JUNA4	00	Z	100	7	38.1	31.1

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
9ZT9MR	12	Z	100	12	25.9	-21.7
9ZT9MR	00	Z	100	9	34.4	-31.7
DBLK	12	Z	100	15	11.4	11.1
FPUW5G	12	Z	100	25	9.5	1.2
JNKN7J	12	Z	100	2	22.3	19.8
JNKN7J	00	Z	100	0	0.0	0.0
KJJF9X	00	Z	100	3	20.6	-19.0
KJJF9X	12	Z	100	5	15.6	-14.4
KMPLHP	12	Z	100	10	39.7	37.8
KMPLHP	00	Z	100	9	40.5	38.9
LAGY8	00	Z	100	2	122.0	-121.9
LAGZ8	00	Z	100	4	41.3	41.1
LRYQE3	12	Z	100	2	15.4	11.7
LRYQE3	00	Z	100	4	7.2	-0.5
UXK5JT	00	Z	100	2	40.4	-39.9
UXK5JT	12	Z	100	1	0.0	0.0
WDK38H	12	Z	100	1	14.0	-14.0
XKQLWQ	12	Z	100	16	29.3	28.0
YLV96W	12	Z	100	8	36.7	26.7
YLV96W	00	Z	100	8	16.3	-14.7
ZVQEQC	12	Z	100	17	7.0	-4.1

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 : JUN 2024
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	100	28	2.6	0.6	0.7
01001	12	V	100	30	2.7	0.2	-0.7
01028	00	V	100	25	1.9	0.5	0.3
01028	12	V	100	29	2.1	0.6	-0.1
01400	00	V	100	26	2.5	0.6	-0.2
01400	12	V	100	28	2.2	0.2	-0.4
01415	00	V	100	26	2.9	0.4	-0.6
01415	12	V	100	30	2.9	0.2	0.2
02591	12	V	100	17	2.1	0.2	-0.2
02591	00	V	100	18	2.3	0.6	-0.6
02836	12	V	100	30	2.8	0.0	-0.5
02836	00	V	100	30	2.6	-0.3	-0.1
02963	00	V	100	29	2.9	0.1	0.0
02963	12	V	100	30	2.7	-0.4	-0.7
03005	00	V	100	27	2.3	-0.1	-0.5
03005	12	V	100	29	2.7	0.3	-0.4
03238	12	V	100	4	2.1	0.2	0.3
03238	00	V	100	29	2.4	0.4	0.1
03808	00	V	100	30	2.7	-0.1	0.7
03808	12	V	100	30	2.6	-0.1	-0.2
03918	00	V	100	30	2.7	-0.1	-0.2
03953	12	V	100	30	2.3	0.5	-0.1
03953	00	V	100	30	2.9	1.1	0.2
04018	00	V	100	28	3.0	-0.6	-0.1
04018	12	V	100	25	2.5	0.2	0.1
04220	12	V	100	30	2.1	0.3	0.2
04220	00	V	100	30	2.3	-0.3	0.1
04270	12	V	100	30	4.8	-0.9	0.6
04270	00	V	100	30	5.4	-1.7	0.5
04320	00	V	100	29	2.3	0.0	-0.2
04320	12	V	100	30	2.3	0.0	-0.1
04339	00	V	100	28	2.6	0.1	-0.3
04339	12	V	100	30	2.6	0.2	0.5
04360	00	V	100	28	4.4	0.6	-0.1
04360	12	V	100	29	3.4	-0.6	-0.2
06011	12	V	100	30	2.7	0.4	0.5
06260	00	V	100	29	3.0	-0.2	0.1
06260	12	V	100	5	3.4	2.4	-1.3
06610	12	V	100	30	3.6	0.2	-0.5

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06610	00	V	100	30	3.0	-0.2	-0.7
07110	00	V	100	28	2.1	0.6	-0.4
07110	12	V	100	29	3.2	0.2	0.4
07510	00	V	100	27	3.0	0.5	-0.2
07510	12	V	100	30	2.5	-0.1	-0.2
07645	00	V	100	27	3.7	0.1	-0.7
07645	12	V	100	29	3.3	0.2	0.0
07761	00	V	100	27	4.4	-0.3	-0.3
07761	12	V	100	29	4.5	-0.9	0.0
08001	00	V	100	30	2.4	0.6	-0.3
08001	12	V	100	30	2.5	0.1	0.4
08221	12	V	100	30	3.6	0.3	-0.6
08221	00	V	100	30	3.0	0.6	0.2
08302	12	V	100	30	3.2	-0.3	0.2
08302	00	V	100	29	3.3	0.8	0.5
08508	12	V	100	30	3.2	0.2	-0.2
08522	12	V	100	30	3.1	-0.1	0.4
10035	00	V	100	30	2.5	0.5	0.5
10035	12	V	100	30	2.6	-0.1	-0.4
10393	12	V	100	30	2.9	0.2	0.2
10393	00	V	100	30	2.9	0.3	-0.4
10410	12	V	100	30	2.8	0.6	-0.1
10410	00	V	100	30	3.3	0.0	-0.6
10739	12	V	100	30	3.0	-0.1	0.1
10739	00	V	100	29	3.8	-0.9	0.4
11035	12	V	100	30	3.8	0.1	-0.2
11035	00	V	100	29	3.4	0.4	-0.4
12982	12	V	100	30	3.4	-0.1	0.1
12982	00	V	100	28	3.9	1.3	0.3
16245	00	V	100	27	3.3	0.2	-0.2
16245	12	V	100	30	4.0	0.3	-0.6
16429	00	V	100	29	4.1	0.9	0.2
16429	12	V	100	30	4.2	-0.6	0.0
16622	00	V	100	23	4.2	0.1	-0.3
16754	00	V	100	25	4.7	1.0	0.3
17607	12	V	100	13	11.2	-8.8	-4.1
26435	12	V	100	2	3.3	2.0	-0.9
2EERV	12	V	100	4	4.0	-0.5	0.5
2EERV	00	V	100	6	2.8	1.1	-1.0
60018	12	V	100	28	3.8	-0.3	0.3
60018	00	V	100	27	3.6	0.1	-1.1
7JUNA4	12	V	100	9	2.4	0.2	0.3
7JUNA4	00	V	100	7	2.5	0.9	-0.6

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
9ZT9MR	12	V	100	12	2.6	0.0	-0.3
9ZT9MR	00	V	100	9	3.8	-0.3	1.2
DBLK	12	V	100	15	2.1	0.3	0.0
FPUW5G	12	V	100	21	3.0	0.4	0.7
JNKN7J	12	V	100	2	4.1	-1.4	-1.2
JNKN7J	00	V	100	0	0.0	0.0	0.0
KJJF9X	00	V	100	3	2.2	-0.2	0.8
KJJF9X	12	V	100	5	2.8	0.0	-0.5
KMPLHP	12	V	100	10	3.2	0.2	0.3
KMPLHP	00	V	100	9	3.1	-0.1	1.1
LAGY8	00	V	100	2	2.6	0.5	1.8
LAGZ8	00	V	100	4	3.9	1.6	-0.9
LRVQE3	12	V	100	2	2.3	-1.9	-0.4
LRVQE3	00	V	100	4	3.6	2.3	-1.2
UXK5JT	00	V	100	2	1.4	0.2	0.2
UXK5JT	12	V	100	1	2.1	1.6	1.3
WDK38H	12	V	100	1	5.1	4.6	-2.2
XKQLWQ	12	V	100	16	2.1	0.9	-0.3
YLV96W	12	V	100	8	3.1	0.6	0.0
YLV96W	00	V	100	8	1.9	0.3	-0.8
ZVQEQC	12	V	100	17	1.8	0.2	0.6

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 : JUN 2024
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	500	32	13.1	-11.4
01001	12	Z	500	30	11.0	2.0
01028	00	Z	500	30	2.6	-1.0
01028	12	Z	500	30	2.6	0.2
01400	00	Z	500	30	79.3	79.0
01400	12	Z	500	29	80.9	80.8
01415	00	Z	500	28	4.1	2.6
01415	12	Z	500	30	5.2	2.4
02591	12	Z	500	17	8.4	8.1
02591	00	Z	500	18	7.9	7.6
02836	12	Z	500	33	3.0	0.4
02836	00	Z	500	30	1.9	0.1
02963	00	Z	500	30	2.7	2.0
02963	12	Z	500	30	3.5	2.4
03005	00	Z	500	27	4.1	-2.5
03005	12	Z	500	29	4.4	-2.6
03238	12	Z	500	4	3.7	2.2
03238	00	Z	500	30	3.9	3.4
03808	00	Z	500	30	3.9	3.4
03808	12	Z	500	30	3.6	2.6
03918	00	Z	500	30	6.7	6.2
03953	12	Z	500	30	4.1	-2.4
03953	00	Z	500	30	2.9	-1.7
04018	00	Z	500	28	3.2	1.7
04018	12	Z	500	27	2.1	-0.9
04220	12	Z	500	30	5.6	-3.1
04220	00	Z	500	29	7.7	-5.4
04270	12	Z	500	31	10.5	-8.6
04270	00	Z	500	30	14.3	-12.7
04320	00	Z	500	30	4.5	1.5
04320	12	Z	500	30	10.0	3.6
04339	00	Z	500	28	11.2	-10.2
04339	12	Z	500	30	15.7	-10.3
04360	00	Z	500	29	8.7	-6.3
04360	12	Z	500	30	7.8	-6.0
06011	12	Z	500	30	7.9	-5.4
06260	00	Z	500	30	2.9	0.9
06260	12	Z	500	6	1.7	-1.0
06610	12	Z	500	38	3.2	1.5

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06610	00	Z	500	33	3.5	2.1
07110	00	Z	500	28	5.0	-0.1
07110	12	Z	500	30	4.8	1.2
07510	00	Z	500	28	5.3	4.4
07510	12	Z	500	30	6.0	4.9
07645	00	Z	500	28	8.7	-3.3
07645	12	Z	500	30	5.9	-1.1
07761	00	Z	500	30	5.1	-4.1
07761	12	Z	500	31	5.6	-3.5
08001	00	Z	500	30	4.0	3.6
08001	12	Z	500	31	2.9	2.1
08221	12	Z	500	30	3.6	2.9
08221	00	Z	500	30	4.5	3.7
08302	12	Z	500	30	8.3	-7.7
08302	00	Z	500	29	6.1	-5.5
08508	12	Z	500	30	13.2	7.8
08522	12	Z	500	30	5.8	4.6
10035	00	Z	500	30	13.1	13.0
10035	12	Z	500	32	12.5	12.2
10393	12	Z	500	30	3.2	-1.4
10393	00	Z	500	30	2.3	0.3
10410	12	Z	500	30	2.7	-0.6
10410	00	Z	500	30	2.5	1.2
10739	12	Z	500	31	4.8	3.4
10739	00	Z	500	30	5.1	4.4
11035	12	Z	500	31	7.0	2.6
11035	00	Z	500	30	8.7	-2.9
12982	12	Z	500	30	3.0	1.0
12982	00	Z	500	30	3.3	1.9
16245	00	Z	500	29	3.5	2.3
16245	12	Z	500	30	2.7	1.0
16429	00	Z	500	30	3.9	3.5
16429	12	Z	500	30	3.5	2.8
16622	00	Z	500	29	10.6	10.0
16754	00	Z	500	26	6.3	5.5
17607	12	Z	500	26	3.7	1.4
26435	12	Z	500	15	3.0	1.3
2EERV	12	Z	500	4	16.4	-11.3
2EERV	00	Z	500	6	16.5	-15.6
60018	12	Z	500	31	3.1	2.2
60018	00	Z	500	27	3.2	2.2
7JUNA4	12	Z	500	9	50.8	46.1
7JUNA4	00	Z	500	8	54.6	51.8

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
9ZT9MR	12	Z	500	12	22.1	-19.7
9ZT9MR	00	Z	500	11	18.3	-17.2
DBLK	12	Z	500	15	14.8	14.7
FPUW5G	12	Z	500	27	7.1	3.9
JNKN7J	12	Z	500	2	38.1	37.6
JNKN7J	00	Z	500	1	33.4	33.4
KJJF9X	00	Z	500	6	9.2	-5.3
KJJF9X	12	Z	500	5	24.2	-13.2
KMPLHP	12	Z	500	11	56.0	55.5
KMPLHP	00	Z	500	10	54.0	53.4
LAGY8	00	Z	500	2	140.5	-140.4
LAGZ8	00	Z	500	4	62.0	61.9
LRYQE3	12	Z	500	2	6.1	0.6
LRYQE3	00	Z	500	4	3.9	-3.2
UXK5JT	00	Z	500	2	22.6	-22.1
UXK5JT	12	Z	500	1	120.5	-120.5
WDK38H	12	Z	500	1	17.0	-17.0
XKQLWQ	12	Z	500	16	17.3	16.5
YLV96W	12	Z	500	9	6.3	0.9
YLV96W	00	Z	500	9	9.8	-8.7
ZVQEQC	12	Z	500	17	2.1	0.1

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

RADIOSONDE MONITORING STATISTICS (EUCOS)

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	500	28	2.4	-0.3	0.0
01001	12	V	500	30	2.5	-0.6	-0.3
01028	00	V	500	30	2.3	-0.2	-0.4
01028	12	V	500	30	2.3	0.0	0.0
01400	00	V	500	30	2.3	-0.2	0.2
01400	12	V	500	29	2.3	0.0	-0.2
01415	00	V	500	27	2.3	0.4	-0.1
01415	12	V	500	30	3.1	0.5	-0.4
02591	12	V	500	17	1.7	0.2	-0.4
02591	00	V	500	18	2.1	-0.1	0.1
02836	12	V	500	30	2.9	0.0	0.3
02836	00	V	500	30	2.1	0.2	-0.2
02963	00	V	500	30	2.1	0.3	0.4
02963	12	V	500	30	2.6	-0.3	0.3
03005	00	V	500	27	3.3	0.3	-0.3
03005	12	V	500	29	3.3	0.9	0.4
03238	12	V	500	4	2.3	-0.2	0.9
03238	00	V	500	30	1.8	-0.1	-0.2
03808	00	V	500	30	2.1	0.0	-0.2
03808	12	V	500	30	2.2	0.5	-0.3
03918	00	V	500	30	2.5	0.1	-0.1
03953	12	V	500	30	2.3	0.3	0.4
03953	00	V	500	30	2.2	0.1	0.5
04018	00	V	500	28	2.5	0.4	0.2
04018	12	V	500	27	2.4	-0.1	0.0
04220	12	V	500	30	2.2	0.1	0.3
04220	00	V	500	29	2.6	0.0	-0.1
04270	12	V	500	30	3.0	0.5	0.0
04270	00	V	500	30	2.5	0.7	-0.3
04320	00	V	500	30	2.5	0.2	-0.1
04320	12	V	500	30	2.3	0.2	0.2
04339	00	V	500	28	2.5	-0.3	0.0
04339	12	V	500	30	2.3	0.1	0.3
04360	00	V	500	29	3.2	-0.5	0.3
04360	12	V	500	30	2.7	0.3	0.0
06011	12	V	500	30	2.4	-0.2	0.3
06260	00	V	500	30	2.1	0.8	0.0
06260	12	V	500	6	2.7	-0.3	-0.2
06610	12	V	500	30	3.3	0.5	0.4

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06610	00	V	500	30	2.9	-0.2	-0.2
07110	00	V	500	28	2.8	0.3	0.8
07110	12	V	500	30	2.1	-0.2	-0.1
07510	00	V	500	28	3.3	-0.5	0.3
07510	12	V	500	30	1.8	0.4	0.0
07645	00	V	500	27	2.1	0.1	0.2
07645	12	V	500	30	2.5	0.1	0.0
07761	00	V	500	30	2.4	0.2	0.1
07761	12	V	500	30	2.7	0.8	0.2
08001	00	V	500	30	2.4	0.3	-0.2
08001	12	V	500	30	2.3	0.5	0.0
08221	12	V	500	30	2.7	0.1	-0.4
08221	00	V	500	30	2.7	0.4	0.3
08302	12	V	500	30	2.0	0.0	0.1
08302	00	V	500	29	2.6	-0.3	0.2
08508	12	V	500	30	2.1	0.4	0.1
08522	12	V	500	30	2.4	0.3	0.4
10035	00	V	500	30	2.1	0.1	0.5
10035	12	V	500	30	2.1	-0.3	-0.1
10393	12	V	500	30	2.5	-0.1	-0.1
10393	00	V	500	30	2.9	0.2	-0.2
10410	12	V	500	30	2.6	0.3	-0.2
10410	00	V	500	30	2.5	0.1	-0.6
10739	12	V	500	30	1.9	0.4	-0.3
10739	00	V	500	30	3.2	0.8	-0.2
11035	12	V	500	30	2.0	0.0	0.2
11035	00	V	500	29	3.6	-0.3	-0.7
12982	12	V	500	30	2.7	0.5	0.2
12982	00	V	500	30	2.7	0.3	0.1
16245	00	V	500	29	2.5	1.0	0.0
16245	12	V	500	30	2.5	0.4	0.2
16429	00	V	500	29	3.1	0.5	0.2
16429	12	V	500	30	2.4	0.5	0.1
16622	00	V	500	29	2.2	0.4	-0.4
16754	00	V	500	26	2.3	-0.1	-0.2
17607	12	V	500	19	5.0	-1.1	-0.4
26435	12	V	500	15	2.1	0.2	-0.1
2EERV	12	V	500	4	4.9	-0.5	1.7
2EERV	00	V	500	6	4.8	0.3	-1.3
60018	12	V	500	28	2.1	0.1	-0.3
60018	00	V	500	27	2.1	0.4	-0.2
7JUNA4	12	V	500	9	2.8	1.4	0.1
7JUNA4	00	V	500	8	1.9	-0.4	-0.7

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
9ZT9MR	12	V	500	11	3.0	-0.6	0.3
9ZT9MR	00	V	500	10	2.5	-0.2	0.0
DBLK	12	V	500	15	1.8	0.0	-0.3
FPUW5G	12	V	500	27	3.4	0.0	0.8
JNKN7J	12	V	500	2	6.4	-3.2	3.8
JNKN7J	00	V	500	1	3.8	-2.8	2.5
KJJF9X	00	V	500	6	1.9	-0.6	0.1
KJJF9X	12	V	500	5	2.5	1.1	1.3
KMPLHP	12	V	500	11	2.9	0.7	0.2
KMPLHP	00	V	500	10	4.7	-0.1	-0.5
LAGY8	00	V	500	2	1.8	-0.4	0.5
LAGZ8	00	V	500	4	2.6	0.5	-0.3
LRVQE3	12	V	500	2	2.1	-1.5	-1.1
LRVQE3	00	V	500	4	2.0	1.4	-0.7
UXK5JT	00	V	500	2	1.8	0.5	-0.7
UXK5JT	12	V	500	1	9.5	0.9	-9.5
WDK38H	12	V	500	1	3.3	2.7	1.9
XKQLWQ	12	V	500	16	2.7	0.1	0.0
YLV96W	12	V	500	9	2.2	1.0	0.5
YLV96W	00	V	500	9	2.8	-0.3	0.1
ZVQEQC	12	V	500	17	2.5	1.0	-0.1

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

RADIOSONDE MONITORING STATISTICS (EUCOS)

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

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	00	Z	850	33	9.8	-8.5
01001	12	Z	850	30	8.9	0.6
01028	00	Z	850	30	3.1	1.0
01028	12	Z	850	30	2.4	0.7
01400	00	Z	850	30	79.6	79.5
01400	12	Z	850	29	80.5	80.4
01415	00	Z	850	29	5.0	4.4
01415	12	Z	850	31	4.9	4.2
02591	12	Z	850	17	9.6	9.4
02591	00	Z	850	18	7.6	7.5
02836	12	Z	850	32	3.0	1.7
02836	00	Z	850	30	3.0	2.2
02963	00	Z	850	30	4.3	3.8
02963	12	Z	850	30	5.1	4.8
03005	00	Z	850	27	3.5	-2.1
03005	12	Z	850	29	2.3	-0.9
03238	12	Z	850	4	3.4	2.9
03238	00	Z	850	30	3.7	3.1
03808	00	Z	850	30	2.8	2.1
03808	12	Z	850	30	3.1	2.4
03918	00	Z	850	30	6.4	6.2
03953	12	Z	850	30	2.8	-0.4
03953	00	Z	850	30	2.6	-0.5
04018	00	Z	850	28	3.2	2.2
04018	12	Z	850	28	2.5	0.3
04220	12	Z	850	30	4.7	-3.5
04220	00	Z	850	30	5.8	-3.5
04270	12	Z	850	31	8.5	-8.0
04270	00	Z	850	30	8.9	-8.3
04320	00	Z	850	30	4.5	2.4
04320	12	Z	850	30	9.0	3.4
04339	00	Z	850	28	9.2	-7.9
04339	12	Z	850	30	16.2	-10.4
04360	00	Z	850	29	6.8	-5.9
04360	12	Z	850	30	8.2	-7.0
06011	12	Z	850	30	5.2	-3.5
06260	00	Z	850	30	2.4	1.5
06260	12	Z	850	6	4.0	0.2
06610	12	Z	850	38	4.1	2.3

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06610	00	Z	850	33	2.8	2.2
07110	00	Z	850	29	2.3	0.8
07110	12	Z	850	30	2.0	0.2
07510	00	Z	850	29	4.7	4.2
07510	12	Z	850	30	5.4	4.8
07645	00	Z	850	30	3.6	-1.7
07645	12	Z	850	30	2.8	-1.4
07761	00	Z	850	30	3.1	0.6
07761	12	Z	850	32	2.5	-0.9
08001	00	Z	850	30	2.9	0.9
08001	12	Z	850	31	3.0	1.1
08221	12	Z	850	30	2.0	1.3
08221	00	Z	850	30	2.8	1.2
08302	12	Z	850	30	8.1	-8.0
08302	00	Z	850	29	8.0	-7.8
08508	12	Z	850	30	12.4	6.9
08522	12	Z	850	30	2.7	2.0
10035	00	Z	850	30	14.1	13.9
10035	12	Z	850	32	13.6	13.4
10393	12	Z	850	30	2.1	0.8
10393	00	Z	850	30	2.3	0.6
10410	12	Z	850	30	1.9	0.6
10410	00	Z	850	30	2.7	0.7
10739	12	Z	850	31	5.4	4.8
10739	00	Z	850	30	5.8	5.1
11035	12	Z	850	31	5.3	1.9
11035	00	Z	850	30	8.4	-3.5
12982	12	Z	850	30	4.7	4.3
12982	00	Z	850	30	2.8	1.6
16245	00	Z	850	29	3.7	3.4
16245	12	Z	850	30	3.0	2.4
16429	00	Z	850	30	3.0	2.4
16429	12	Z	850	30	3.2	1.8
16622	00	Z	850	29	10.6	10.2
16754	00	Z	850	26	3.5	2.5
17607	12	Z	850	26	1.8	0.2
26435	12	Z	850	15	2.7	2.0
2EERV	12	Z	850	4	12.0	-8.5
2EERV	00	Z	850	6	12.7	-12.2
60018	12	Z	850	31	2.6	-1.2
60018	00	Z	850	27	2.5	-1.0
7JUNA4	12	Z	850	9	54.9	49.0
7JUNA4	00	Z	850	9	60.7	57.6

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
9ZT9MR	12	Z	850	12	15.4	-13.8
9ZT9MR	00	Z	850	12	12.2	-11.6
DBLK	12	Z	850	15	16.4	16.2
FPUW5G	12	Z	850	27	7.0	3.0
JNKN7J	12	Z	850	2	43.8	43.2
JNKN7J	00	Z	850	1	38.3	38.3
KJJF9X	00	Z	850	6	4.9	-2.0
KJJF9X	12	Z	850	5	6.4	-5.9
KMPLHP	12	Z	850	11	62.3	61.9
KMPLHP	00	Z	850	10	63.6	62.7
LAGY8	00	Z	850	2	0.0	0.0
LAGZ8	00	Z	850	4	71.6	71.5
LRVQE3	12	Z	850	2	7.7	-1.8
LRVQE3	00	Z	850	4	4.2	-1.3
UXK5JT	00	Z	850	2	7.9	-7.9
UXK5JT	12	Z	850	1	0.0	0.0
WDK38H	12	Z	850	1	13.1	-13.1
XKQLWQ	12	Z	850	16	10.0	8.6
YLV96W	12	Z	850	9	5.9	-2.4
YLV96W	00	Z	850	9	6.4	-4.8
ZVQEQC	12	Z	850	17	2.5	-0.5

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 : JUN 2024
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	00	V	850	29	2.7	-1.0	0.2
01001	12	V	850	30	2.9	-0.2	-0.1
01028	00	V	850	30	2.5	0.0	0.0
01028	12	V	850	30	2.4	-0.3	-0.3
01400	00	V	850	30	2.1	-0.2	0.7
01400	12	V	850	29	2.2	0.0	-0.2
01415	00	V	850	28	2.7	0.3	0.1
01415	12	V	850	30	2.8	0.1	0.1
02591	12	V	850	17	2.6	-0.1	0.2
02591	00	V	850	18	2.5	0.3	0.2
02836	12	V	850	30	2.6	0.2	-0.1
02836	00	V	850	30	2.5	-0.2	0.3
02963	00	V	850	30	2.2	-0.1	0.5
02963	12	V	850	30	2.2	-0.5	-0.2
03005	00	V	850	27	2.1	0.1	0.0
03005	12	V	850	29	2.7	-0.3	0.8
03238	12	V	850	4	2.7	0.0	0.7
03238	00	V	850	30	2.2	0.2	0.2
03808	00	V	850	30	1.9	0.0	0.3
03808	12	V	850	30	2.1	-0.2	-0.4
03918	00	V	850	30	2.0	0.0	-0.3
03953	12	V	850	30	2.8	0.7	0.3
03953	00	V	850	30	2.1	0.0	0.2
04018	00	V	850	28	2.8	-0.5	0.9
04018	12	V	850	28	2.6	-0.4	-0.5
04220	12	V	850	30	3.4	-0.1	0.1
04220	00	V	850	30	3.1	0.6	0.6
04270	12	V	850	29	3.5	0.8	0.1
04270	00	V	850	30	3.0	0.0	0.4
04320	00	V	850	30	2.8	0.1	0.2
04320	12	V	850	30	3.3	-0.1	-0.1
04339	00	V	850	28	6.4	0.4	0.9
04339	12	V	850	30	6.1	0.4	0.8
04360	00	V	850	29	3.6	0.1	-0.1
04360	12	V	850	30	3.0	0.8	0.3
06011	12	V	850	30	3.2	-0.9	0.0
06260	00	V	850	30	2.1	0.1	0.0
06260	12	V	850	6	2.5	-0.1	1.2
06610	12	V	850	30	2.9	0.2	0.7

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06610	00	V	850	30	3.0	0.9	0.2
07110	00	V	850	29	2.0	-0.1	0.4
07110	12	V	850	30	2.1	-0.2	0.0
07510	00	V	850	29	2.5	0.6	0.6
07510	12	V	850	30	2.7	-0.2	0.4
07645	00	V	850	29	3.3	0.8	0.6
07645	12	V	850	30	3.1	0.1	0.2
07761	00	V	850	30	3.3	-0.3	0.1
07761	12	V	850	30	2.4	-0.8	-0.1
08001	00	V	850	30	3.1	0.0	0.6
08001	12	V	850	30	2.3	0.5	-0.3
08221	12	V	850	30	2.4	0.0	0.4
08221	00	V	850	30	3.2	0.9	0.5
08302	12	V	850	30	3.0	0.1	-0.1
08302	00	V	850	29	2.2	-0.4	0.2
08508	12	V	850	30	2.7	-0.2	-0.3
08522	12	V	850	30	3.2	-0.9	-0.1
10035	00	V	850	30	2.3	0.7	-0.3
10035	12	V	850	30	2.1	-0.2	0.0
10393	12	V	850	30	2.7	0.1	0.3
10393	00	V	850	30	3.1	0.0	-0.5
10410	12	V	850	30	2.6	1.2	-0.2
10410	00	V	850	30	3.1	1.0	0.2
10739	12	V	850	30	2.9	0.1	0.5
10739	00	V	850	30	3.2	0.6	0.0
11035	12	V	850	30	2.6	0.0	0.0
11035	00	V	850	29	2.9	0.2	-0.1
12982	12	V	850	30	2.6	-0.9	-0.6
12982	00	V	850	30	2.6	0.0	0.3
16245	00	V	850	29	2.1	-0.4	-0.5
16245	12	V	850	30	2.2	0.0	-0.1
16429	00	V	850	29	2.7	-0.6	0.8
16429	12	V	850	30	3.1	-0.2	-0.6
16622	00	V	850	29	2.8	0.1	-0.2
16754	00	V	850	26	2.4	-0.2	-0.3
17607	12	V	850	24	3.1	0.4	0.4
26435	12	V	850	15	2.8	-0.3	-0.4
2EERV	12	V	850	4	8.7	2.9	1.3
2EERV	00	V	850	6	7.8	3.5	-0.7
60018	12	V	850	28	3.3	-1.5	-0.3
60018	00	V	850	27	2.7	-0.5	0.0
7JUNA4	12	V	850	9	1.8	0.3	-0.7
7JUNA4	00	V	850	9	1.9	0.3	0.7

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
9ZT9MR	12	V	850	12	2.8	0.2	-0.9
9ZT9MR	00	V	850	12	3.6	0.3	0.9
DBLK	12	V	850	15	1.8	-0.4	-0.2
FPUW5G	12	V	850	27	2.7	-0.2	-0.2
JNKN7J	12	V	850	2	2.6	-0.4	-0.8
JNKN7J	00	V	850	1	0.8	0.7	-0.3
KJJF9X	00	V	850	6	1.6	-0.1	0.3
KJJF9X	12	V	850	5	5.0	0.5	-0.3
KMPLHP	12	V	850	11	2.9	-0.5	-0.6
KMPLHP	00	V	850	10	3.1	0.8	0.0
LAGY8	00	V	850	2	1.1	-0.6	-0.8
LAGZ8	00	V	850	4	0.9	-0.4	-0.1
LRVQE3	12	V	850	2	1.2	1.1	0.3
LRVQE3	00	V	850	4	2.2	0.2	-0.3
UXK5JT	00	V	850	2	1.5	1.3	0.1
UXK5JT	12	V	850	1	14.9	-2.1	-14.8
WDK38H	12	V	850	1	2.0	0.5	1.9
XKQLWQ	12	V	850	16	2.1	-0.3	0.4
YLV96W	12	V	850	9	3.1	-1.6	0.1
YLV96W	00	V	850	9	2.5	0.6	0.6
ZVQEQC	12	V	850	17	2.6	-0.3	-0.2

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

DRIFTER MONITORING STATISTICS (EUCOS)

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

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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
03380	99	P	SUR	54	0	474	0	0.2	-0.2	0.3
1000044	99	P	SUR	55	10	54	0	0.4	-3.2	3.2
1300001	99	P	SUR	11	-23	658	0	0.4	0.2	0.5
1300008	99	P	SUR	15	-38	576	0	0.3	0.2	0.3
1300130	99	P	SUR	28	-16	720	0	0.2	0.2	0.3
1300131	99	P	SUR	28	-17	717	0	0.3	-0.2	0.4
1301629	99	P	SUR	20	-54	720	0	0.4	0.1	0.4
1301712	99	P	SUR	21	-64	700	0	0.4	0.1	0.5
1301714	99	P	SUR	27	-65	700	0	0.4	0.2	0.4
1301718	99	P	SUR	27	-45	700	0	0.3	0.2	0.4
1301725	99	P	SUR	25	-45	700	0	0.4	0.1	0.4
1301726	99	P	SUR	23	-43	700	0	0.3	0.1	0.3
1301731	99	P	SUR	21	-47	700	0	0.3	0.3	0.4
1301735	99	P	SUR	26	-41	701	0	0.3	-1.0	1.0
1301736	99	P	SUR	28	-42	700	0	0.3	0.2	0.4
1301737	99	P	SUR	28	-51	700	0	0.3	0.0	0.3
1301767	99	P	SUR	29	-19	698	0	0.3	-0.5	0.5
1301769	99	P	SUR	29	-26	699	0	0.2	0.8	0.8
1301770	99	P	SUR	26	-35	700	0	0.3	0.1	0.3
1301771	99	P	SUR	29	-19	692	0	0.2	0.1	0.3
1301773	99	P	SUR	35	-11	700	0	0.2	0.1	0.2
1301778	99	P	SUR	29	-22	699	0	0.3	0.0	0.3
1301779	99	P	SUR	20	-54	698	0	0.4	0.2	0.4
1301782	99	P	SUR	58	-49	700	0	0.4	0.0	0.4
1301784	99	P	SUR	39	-19	700	0	0.2	0.2	0.3
1301785	99	P	SUR	38	-14	696	0	0.3	0.2	0.3
1301786	99	P	SUR	39	-25	693	0	0.3	0.2	0.4
1301792	99	P	SUR	22	-50	690	0	0.4	-0.4	0.5
1301793	99	P	SUR	61	-14	642	0	0.4	0.2	0.4
1301794	99	P	SUR	36	-17	683	0	0.5	0.1	0.5
1301795	99	P	SUR	20	-47	700	0	0.3	0.0	0.3
1301796	99	P	SUR	20	-46	596	0	0.3	0.2	0.3
1301797	99	P	SUR	17	-49	640	0	0.3	0.2	0.4
1301798	99	P	SUR	32	-31	700	0	0.2	0.4	0.5
1301799	99	P	SUR	26	-31	689	0	0.2	0.2	0.3
1301800	99	P	SUR	71	13	528	0	0.3	0.2	0.3

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
1301801	99	P	SUR	61	-14	700	0	0.4	0.2	0.4
1301802	99	P	SUR	61	-11	699	0	0.3	-0.1	0.3
1301804	99	P	SUR	62	-22	700	0	0.4	0.1	0.4
1301807	99	P	SUR	73	13	519	0	0.3	0.1	0.3
1301810	99	P	SUR	40	-42	700	0	0.3	-0.2	0.3
1301811	99	P	SUR	42	-43	700	0	0.3	0.1	0.3
1301812	99	P	SUR	39	-51	701	0	0.5	0.2	0.5
1301813	99	P	SUR	39	-43	700	0	0.3	0.1	0.3
1301814	99	P	SUR	44	-28	700	0	0.2	0.2	0.3
1301816	99	P	SUR	39	-56	700	0	0.4	0.4	0.5
1301819	99	P	SUR	24	-26	700	0	0.3	-0.1	0.3
1301820	99	P	SUR	25	-26	698	0	0.3	-0.1	0.3
1301822	99	P	SUR	21	-26	700	0	0.3	0.4	0.5
1301823	99	P	SUR	24	-24	700	0	0.3	0.2	0.3
1501638	99	P	SUR	20	-34	720	0	0.3	0.1	0.3
1501770	99	P	SUR	14	-59	700	0	0.4	-0.4	0.6
1701715	99	P	SUR	19	-59	642	0	0.3	-0.1	0.4
1701716	99	P	SUR	16	-33	621	0	0.3	0.0	0.3
1701718	99	P	SUR	13	-57	693	693	0.0	0.0	0.0
1801671	99	P	SUR	49	-31	696	0	0.3	0.0	0.3
1801674	99	P	SUR	41	-29	695	0	0.3	0.1	0.3
1801678	99	P	SUR	47	-14	699	0	0.3	0.4	0.5
1801777	99	P	SUR	48	-42	720	0	0.4	0.2	0.4
1801778	99	P	SUR	44	-45	719	0	0.3	0.3	0.5
1801803	99	P	SUR	65	-8	696	49	5.0	0.6	5.0
2801966	99	P	SUR	32	15	680	0	0.4	0.1	0.4
2802062	99	P	SUR	86	32	720	0	0.3	0.1	0.3
2802075	99	P	SUR	52	-24	720	0	0.4	0.0	0.4
2802077	99	P	SUR	65	-28	719	0	0.4	0.2	0.4
2802078	99	P	SUR	72	21	557	0	0.3	0.3	0.4
2802100	99	P	SUR	68	-12	694	0	0.4	0.2	0.4
3801569	99	P	SUR	45	-32	669	0	0.3	0.2	0.3
3801572	99	P	SUR	32	28	368	0	0.3	-0.3	0.4
3801596	99	P	SUR	31	-35	699	0	0.2	-0.2	0.3
3801676	99	P	SUR	67	-9	720	0	0.3	0.2	0.4
4100040	99	P	SUR	15	-53	4241	0	0.3	-0.8	0.9
4100043	99	P	SUR	21	-65	4241	0	0.4	0.4	0.6
4100044	99	P	SUR	22	-59	4238	0	0.4	-0.3	0.5
4100046	99	P	SUR	24	-68	4241	0	0.4	0.1	0.5
4100049	99	P	SUR	28	-62	4241	0	0.4	-0.2	0.4
4100052	99	P	SUR	18	-65	2790	0	0.4	-0.9	1.0
4100053	99	P	SUR	18	-66	4224	0	0.4	-0.6	0.8
4100056	99	P	SUR	18	-65	4218	0	0.4	-0.9	1.0

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
4100139	99	P	SUR	20	-38	576	0	0.2	0.2	0.3
4101665	99	P	SUR	67	-8	700	0	0.3	-0.3	0.4
4101725	99	P	SUR	18	-63	720	0	0.4	-0.1	0.4
4101727	99	P	SUR	25	-58	720	0	0.4	0.2	0.4
4101728	99	P	SUR	27	-41	718	0	0.3	0.4	0.5
4101729	99	P	SUR	29	-46	720	0	0.3	0.0	0.3
4101730	99	P	SUR	11	-40	720	0	0.3	0.2	0.4
4101753	99	P	SUR	31	-35	720	0	0.2	0.3	0.4
4101755	99	P	SUR	30	-49	720	0	0.3	0.2	0.4
4101843	99	P	SUR	76	-8	699	0	0.4	0.1	0.4
4101845	99	P	SUR	69	5	700	0	0.3	0.2	0.3
4101851	99	P	SUR	31	-55	700	0	0.3	-0.7	0.8
4101859	99	P	SUR	13	-43	700	0	0.3	0.0	0.3
4101860	99	P	SUR	20	-34	618	0	0.3	-1.7	1.7
4101861	99	P	SUR	21	-39	699	0	0.3	0.4	0.5
4101862	99	P	SUR	16	-33	700	0	0.3	-0.4	0.5
4101863	99	P	SUR	21	-33	700	0	0.3	0.1	0.3
4102547	99	P	SUR	26	-70	700	0	0.4	0.3	0.5
41040	99	P	SUR	15	-53	708	0	0.3	-0.8	0.9
41043	99	P	SUR	21	-65	708	0	0.5	0.4	0.6
41044	99	P	SUR	22	-59	708	0	0.4	-0.3	0.5
41046	99	P	SUR	24	-68	708	0	0.4	0.1	0.5
41049	99	P	SUR	28	-62	708	0	0.4	-0.2	0.4
41052	99	P	SUR	18	-65	493	0	0.4	-0.9	1.0
41053	99	P	SUR	19	-66	709	0	0.4	-0.6	0.8
41056	99	P	SUR	18	-66	709	0	0.4	-0.9	1.0
4200059	99	P	SUR	15	-67	4241	0	0.4	-0.6	0.7
4200060	99	P	SUR	16	-63	4240	0	0.4	-0.2	0.4
4200085	99	P	SUR	18	-67	3331	0	0.4	-0.7	0.8
42059	99	P	SUR	15	-68	708	0	0.4	-0.6	0.7
42060	99	P	SUR	16	-63	708	0	0.4	-0.2	0.5
42085	99	P	SUR	18	-67	675	0	0.4	-0.7	0.8
4400008	99	P	SUR	40	-69	4238	0	0.4	-0.8	0.8
4400011	99	P	SUR	41	-67	4241	0	0.4	0.2	0.4
4400027	99	P	SUR	44	-67	4241	0	0.4	-0.8	0.9
4400032	99	P	SUR	44	-69	705	0	0.4	-0.1	0.4
4400033	99	P	SUR	44	-69	705	0	0.4	-0.9	1.0
4400034	99	P	SUR	44	-68	705	0	0.4	-0.1	0.4
4400037	99	P	SUR	43	-68	699	0	0.5	0.0	0.5
4400488	99	P	SUR	45	-61	712	0	0.4	0.0	0.4
4400489	99	P	SUR	45	-61	672	0	0.5	0.0	0.5
44008	99	P	SUR	41	-69	708	0	0.3	-0.8	0.8
44011	99	P	SUR	41	-67	708	0	0.4	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
4401582	99	P	SUR	25	-60	715	0	0.4	0.5	0.6
4401584	99	P	SUR	28	-59	719	0	0.3	0.1	0.4
4401587	99	P	SUR	80	26	718	0	0.6	0.9	1.1
4401588	99	P	SUR	69	15	234	0	0.3	0.7	0.8
4402613	99	P	SUR	28	-16	700	0	0.5	-0.6	0.8
4402618	99	P	SUR	37	-48	640	0	0.3	0.2	0.4
4402656	99	P	SUR	33	-21	700	0	0.3	0.2	0.4
4402663	99	P	SUR	24	-29	700	0	0.3	0.0	0.3
4402674	99	P	SUR	24	-62	700	0	0.4	0.3	0.5
4402675	99	P	SUR	24	-57	700	0	0.4	0.0	0.4
4402676	99	P	SUR	27	-34	700	0	0.3	0.2	0.3
44027	99	P	SUR	44	-67	708	0	0.4	-0.8	0.9
4402721	99	P	SUR	22	-33	699	0	0.3	0.3	0.4
4402729	99	P	SUR	50	-23	695	0	0.3	0.1	0.3
4402730	99	P	SUR	33	-30	642	0	0.3	0.0	0.3
4402731	99	P	SUR	45	-31	670	0	0.3	0.2	0.4
4402733	99	P	SUR	52	-42	700	0	0.4	0.0	0.4
4402735	99	P	SUR	45	-7	700	0	0.3	-0.3	0.4
4402736	99	P	SUR	42	-11	696	0	0.3	0.0	0.3
4402737	99	P	SUR	52	-38	698	0	0.6	-0.2	0.6
4402739	99	P	SUR	49	-36	697	0	0.3	0.0	0.3
4402743	99	P	SUR	39	-17	700	0	0.2	-0.8	0.8
4402744	99	P	SUR	37	-47	698	0	0.3	0.1	0.3
4402747	99	P	SUR	38	-21	700	0	0.2	0.1	0.2
4402749	99	P	SUR	55	-25	700	0	0.3	0.0	0.3
4402750	99	P	SUR	56	-36	700	0	0.4	-0.5	0.6
4402882	99	P	SUR	37	-60	659	0	0.5	0.5	0.7
4402884	99	P	SUR	26	-70	681	0	0.4	0.4	0.6
4402885	99	P	SUR	31	-43	650	0	0.3	0.4	0.5
44032	99	P	SUR	44	-69	708	0	0.4	-0.1	0.4
44033	99	P	SUR	44	-69	708	0	0.4	-0.8	1.0
44034	99	P	SUR	44	-68	708	0	0.4	-0.1	0.5
4403568	99	P	SUR	30	-36	718	0	0.2	0.2	0.3
4403569	99	P	SUR	36	-13	719	0	0.2	-0.1	0.2
44037	99	P	SUR	44	-68	702	0	0.5	0.0	0.5
44078	99	P	SUR	60	-40	432	0	0.5	-0.6	0.8
44137	99	P	SUR	42	-62	712	0	0.5	0.0	0.5
44139	99	P	SUR	44	-57	695	0	0.5	-0.1	0.5
44150	99	P	SUR	43	-64	675	0	0.4	0.0	0.5
44258	99	P	SUR	45	-63	716	0	0.4	0.0	0.4
44488	99	P	SUR	45	-61	719	0	0.4	0.0	0.4
44489	99	P	SUR	46	-61	679	0	0.4	0.0	0.5
4601782	99	P	SUR	27	-33	699	0	0.3	0.5	0.6

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
4701530	99	P	SUR	89	-37	702	0	0.4	-0.2	0.5
4701555	99	P	SUR	68	-21	703	0	0.5	0.0	0.5
4701558	99	P	SUR	79	-18	40	0	0.3	-4.4	4.4
4701561	99	P	SUR	67	-22	703	0	0.5	0.3	0.6
4801763	99	P	SUR	83	-27	720	0	0.5	-2.0	2.1
4801771	99	P	SUR	54	-55	720	126	0.4	0.3	0.5
4802506	99	P	SUR	58	-8	720	420	7.3	-4.1	8.4
4802582	99	P	SUR	75	-16	702	0	0.4	0.0	0.4
4802592	99	P	SUR	63	-40	232	0	0.5	0.1	0.5
4802594	99	P	SUR	85	-40	447	0	0.4	-0.4	0.5
4802598	99	P	SUR	84	-26	703	0	0.4	0.1	0.4
4802602	99	P	SUR	64	-21	696	0	0.5	-0.2	0.5
4802606	99	P	SUR	82	-11	78	0	0.3	0.3	0.5
4802608	99	P	SUR	86	-49	595	0	0.4	0.1	0.4
4802664	99	P	SUR	84	-51	716	0	0.5	-0.1	0.5
4802669	99	P	SUR	88	-42	673	0	0.4	-0.1	0.4
4803997	99	P	SUR	50	-48	2	0	0.2	0.0	0.2
4804003	99	P	SUR	56	-50	698	0	0.5	-0.1	0.5
5801972	99	P	SUR	45	-51	694	0	0.5	-0.1	0.5
5801975	99	P	SUR	38	-32	689	0	0.2	0.2	0.3
5801976	99	P	SUR	50	-29	691	0	0.3	0.0	0.3
5801977	99	P	SUR	16	-52	677	0	0.3	0.2	0.4
5801978	99	P	SUR	55	-42	655	0	2.6	0.7	2.7
5801983	99	P	SUR	33	-17	673	0	0.3	0.2	0.3
5802034	99	P	SUR	49	-4	691	0	0.3	0.0	0.3
5802060	99	P	SUR	86	35	720	0	0.3	-0.2	0.3
5802070	99	P	SUR	73	20	558	0	0.3	0.2	0.4
5802072	99	P	SUR	72	20	557	0	0.3	-0.1	0.3
5802094	99	P	SUR	66	-28	704	0	0.4	0.0	0.4
5802096	99	P	SUR	68	-20	699	12	2.0	0.2	2.0
6100001	99	P	SUR	43	8	702	0	0.5	0.2	0.6
6100002	99	P	SUR	42	5	719	0	0.4	0.1	0.4
6100196	99	P	SUR	42	4	719	0	0.4	0.8	0.9
6100197	99	P	SUR	40	4	719	0	0.4	0.3	0.5
6100198	99	P	SUR	37	-2	720	0	0.4	0.3	0.5
6100280	99	P	SUR	41	1	720	0	0.4	0.2	0.5
6100281	99	P	SUR	40	0	706	0	0.4	0.3	0.5
6100417	99	P	SUR	38	0	720	0	0.4	0.3	0.5
6100430	99	P	SUR	40	2	720	0	0.4	0.4	0.5
6101007	99	P	SUR	36	25	139	0	0.4	-0.3	0.6
6101009	99	P	SUR	35	25	234	0	0.5	-0.2	0.6
6101031	99	P	SUR	42	8	720	0	0.4	0.1	0.4
6101032	99	P	SUR	42	10	276	0	0.3	0.0	0.3

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6200001	99	P	SUR	45	-5	718	0	0.3	0.0	0.3
6200024	99	P	SUR	44	-3	720	0	0.4	0.4	0.6
6200025	99	P	SUR	44	-6	720	0	0.3	0.4	0.5
6200029	99	P	SUR	49	-12	20	0	0.3	-0.5	0.5
6200050	99	P	SUR	50	-4	720	0	0.3	0.0	0.3
6200081	99	P	SUR	51	-13	81	0	0.4	0.0	0.4
6200082	99	P	SUR	44	-8	720	0	0.4	0.2	0.5
6200083	99	P	SUR	43	-9	720	0	0.4	0.3	0.5
6200084	99	P	SUR	42	-9	407	0	0.8	0.3	0.9
6200085	99	P	SUR	36	-7	391	0	0.3	0.3	0.5
6200086	99	P	SUR	55	7	3	0	0.1	-0.2	0.2
6200087	99	P	SUR	55	7	134	0	0.3	-0.2	0.3
6200091	99	P	SUR	53	-5	720	0	0.3	0.0	0.3
6200092	99	P	SUR	51	-11	720	0	0.3	-0.2	0.4
6200093	99	P	SUR	55	-10	720	0	0.3	-0.1	0.3
6200094	99	P	SUR	52	-7	720	0	0.3	0.1	0.3
6200095	99	P	SUR	53	-16	720	0	0.4	-0.2	0.4
6200163	99	P	SUR	47	-8	695	0	0.3	-0.1	0.3
6200191	99	P	SUR	41	-10	690	0	0.4	-0.7	0.8
6200192	99	P	SUR	40	-10	690	0	0.4	-0.3	0.5
6200442	99	P	SUR	49	-16	562	0	0.3	-0.1	0.3
6201066	99	P	SUR	55	7	718	0	0.3	0.3	0.4
6201081	99	P	SUR	38	-9	689	0	0.3	-0.3	0.4
6202114	99	P	SUR	54	6	93	0	0.2	0.0	0.2
6202597	99	P	SUR	44	-6	720	0	0.3	0.0	0.3
6202598	99	P	SUR	36	-15	720	0	0.2	0.1	0.2
6202637	99	P	SUR	66	4	639	0	0.3	0.2	0.3
62029	99	P	SUR	49	-13	40	0	0.3	-0.4	0.5
6203607	99	P	SUR	26	-31	720	0	0.3	0.2	0.3
6203612	99	P	SUR	44	-45	720	0	0.3	0.2	0.4
6203615	99	P	SUR	38	-66	719	0	0.5	-0.2	0.6
6203621	99	P	SUR	25	-51	720	0	0.3	0.1	0.3
6203625	99	P	SUR	27	-41	720	0	0.3	-0.1	0.3
6203632	99	P	SUR	32	-55	719	0	0.3	0.3	0.4
6203634	99	P	SUR	28	-35	719	0	0.3	0.3	0.4
6203639	99	P	SUR	28	-30	718	0	1.0	0.0	1.0
6203651	99	P	SUR	36	-16	711	0	0.2	0.3	0.4
6203656	99	P	SUR	65	-33	720	0	0.4	0.0	0.4
6203661	99	P	SUR	70	-16	720	0	2.3	0.2	2.3
6203663	99	P	SUR	85	38	719	0	0.3	-0.1	0.3
6203664	99	P	SUR	82	9	718	0	0.3	0.2	0.3
6203667	99	P	SUR	72	-14	717	0	0.7	0.2	0.7
6203668	99	P	SUR	83	31	720	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
6203669	99	P	SUR	80	16	719	0	0.4	-0.8	1.0
6203753	99	P	SUR	54	-40	700	0	0.4	-0.4	0.6
6203768	99	P	SUR	28	-34	700	0	0.3	0.3	0.4
6203771	99	P	SUR	22	-48	700	0	0.3	0.0	0.3
6203773	99	P	SUR	36	-31	700	0	0.2	-0.4	0.5
6203823	99	P	SUR	61	-17	700	0	0.3	0.2	0.4
6203825	99	P	SUR	62	1	699	0	0.4	0.2	0.4
6203826	99	P	SUR	65	-1	699	0	0.6	0.1	0.6
6203839	99	P	SUR	30	-49	700	0	0.3	-0.1	0.3
6203840	99	P	SUR	20	-59	700	0	0.4	0.3	0.5
6203842	99	P	SUR	28	-36	700	0	0.3	0.1	0.3
6203844	99	P	SUR	45	-4	700	0	0.3	0.3	0.5
6203846	99	P	SUR	29	-30	700	0	0.2	-0.1	0.3
6203849	99	P	SUR	22	-68	700	0	0.5	0.2	0.5
6203853	99	P	SUR	72	32	700	0	0.3	0.1	0.3
6203854	99	P	SUR	56	-36	700	0	0.4	0.1	0.5
6203865	99	P	SUR	52	-18	700	0	0.3	0.0	0.3
6203890	99	P	SUR	10	-39	700	0	0.3	-0.2	0.4
6203894	99	P	SUR	22	-28	699	0	0.2	0.2	0.3
6204603	99	P	SUR	42	8	658	0	0.4	0.6	0.7
6204604	99	P	SUR	37	11	586	0	0.4	-2.0	2.1
6204612	99	P	SUR	39	7	698	0	0.4	0.3	0.5
6204613	99	P	SUR	41	2	696	0	0.4	-0.2	0.4
6204614	99	P	SUR	39	1	697	0	0.4	0.0	0.4
62050	99	P	SUR	50	-4	1440	0	0.3	0.0	0.3
62081	99	P	SUR	51	-13	596	0	0.3	-0.1	0.3
62091	99	P	SUR	53	-5	719	0	0.3	0.0	0.3
62092	99	P	SUR	51	-11	719	0	0.3	-0.2	0.4
62093	99	P	SUR	55	-10	719	0	0.3	-0.1	0.3
62094	99	P	SUR	52	-7	719	0	0.3	0.1	0.3
62095	99	P	SUR	53	-16	719	0	0.4	-0.2	0.4
62102	99	P	SUR	58	2	529	0	0.3	0.2	0.4
62104	99	P	SUR	57	1	534	0	0.3	0.0	0.3
62105	99	P	SUR	55	-13	1437	0	0.5	-0.2	0.5
62107	99	P	SUR	50	-6	502	0	0.3	-0.1	0.3
62112	99	P	SUR	58	0	528	0	1.7	0.1	1.7
62113	99	P	SUR	58	0	530	0	0.3	0.0	0.3
62114	99	P	SUR	58	0	287	0	0.4	0.3	0.5
62115	99	P	SUR	58	-3	528	0	0.3	0.1	0.3
62116	99	P	SUR	58	1	538	0	0.3	0.1	0.3
62118	99	P	SUR	58	1	532	0	0.3	0.4	0.5
62119	99	P	SUR	57	2	536	0	0.3	0.1	0.3
62120	99	P	SUR	56	2	527	0	0.3	0.0	0.3

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
62121	99	P	SUR	54	3	523	0	0.3	0.3	0.5
62122	99	P	SUR	57	2	533	0	0.3	0.2	0.4
62124	99	P	SUR	54	-4	520	0	0.3	0.1	0.3
62127	99	P	SUR	54	1	474	0	0.2	0.3	0.4
62129	99	P	SUR	58	0	527	0	0.3	0.1	0.3
62130	99	P	SUR	59	1	519	0	0.3	0.0	0.3
62131	99	P	SUR	54	1	498	0	0.2	0.6	0.6
62132	99	P	SUR	56	2	525	0	0.4	0.6	0.8
62133	99	P	SUR	57	1	532	0	0.3	0.2	0.4
62134	99	P	SUR	58	1	535	0	0.2	0.3	0.4
62140	99	P	SUR	57	1	535	0	0.3	0.2	0.3
62141	99	P	SUR	58	0	419	0	0.8	-1.4	1.6
62143	99	P	SUR	58	2	545	0	0.4	0.8	0.8
62144	99	P	SUR	53	2	520	0	0.3	0.3	0.4
62145	99	P	SUR	53	3	524	0	0.3	0.4	0.5
62146	99	P	SUR	57	2	538	0	0.3	0.4	0.5
62148	99	P	SUR	54	2	521	0	0.2	0.5	0.5
62149	99	P	SUR	54	1	538	0	0.2	0.4	0.5
62151	99	P	SUR	57	2	533	0	0.2	0.3	0.4
62152	99	P	SUR	57	2	533	0	0.3	0.5	0.6
62153	99	P	SUR	57	2	288	0	0.3	0.4	0.5
62154	99	P	SUR	56	2	528	0	0.3	0.1	0.3
62155	99	P	SUR	58	1	542	0	0.3	0.5	0.6
62157	99	P	SUR	58	0	539	0	0.3	0.0	0.3
62160	99	P	SUR	57	2	526	0	0.3	0.3	0.4
62161	99	P	SUR	58	1	527	0	0.3	-0.3	0.5
62162	99	P	SUR	57	1	537	0	0.3	0.1	0.3
62163	99	P	SUR	48	-9	1390	0	0.3	-0.1	0.3
62164	99	P	SUR	57	1	532	0	0.3	0.5	0.6
62165	99	P	SUR	54	1	530	0	0.3	0.4	0.5
62168	99	P	SUR	58	1	542	0	0.3	0.1	0.3
62170	99	P	SUR	51	2	1440	0	0.3	0.0	0.3
62297	99	P	SUR	59	2	526	0	0.3	0.1	0.3
62302	99	P	SUR	61	-2	525	0	0.4	0.0	0.4
62304	99	P	SUR	51	2	1436	0	0.3	0.0	0.3
62305	99	P	SUR	50	0	1440	0	0.3	-0.2	0.4
62442	99	P	SUR	49	-16	1440	0	0.3	-0.1	0.3
6301001	99	P	SUR	64	5	719	0	0.3	0.0	0.3
6301004	99	P	SUR	72	20	700	0	0.3	-0.2	0.4
6301577	99	P	SUR	71	26	308	0	2.6	-0.5	2.6
63055	99	P	SUR	61	2	505	0	0.4	0.1	0.4
63056	99	P	SUR	60	2	528	0	0.3	0.4	0.5
63057	99	P	SUR	59	2	524	0	0.2	0.0	0.2

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
63058	99	P	SUR	53	2	232	0	0.2	0.1	0.3
63059	99	P	SUR	58	-1	529	0	0.3	0.5	0.6
63101	99	P	SUR	61	1	530	0	0.4	0.1	0.4
63102	99	P	SUR	61	1	532	0	0.4	0.1	0.4
63103	99	P	SUR	61	1	521	0	0.4	0.2	0.5
63108	99	P	SUR	61	2	532	0	0.4	0.0	0.4
63109	99	P	SUR	60	2	530	0	0.3	-0.3	0.4
63110	99	P	SUR	60	2	530	0	0.3	-0.1	0.3
63111	99	P	SUR	61	2	525	0	0.3	-0.3	0.4
63112	99	P	SUR	61	1	530	0	0.3	-0.3	0.4
63115	99	P	SUR	62	1	511	0	0.4	0.1	0.5
63117	99	P	SUR	61	1	524	0	0.3	0.2	0.4
63118	99	P	SUR	58	2	541	0	0.3	-0.2	0.3
6400045	99	P	SUR	59	-12	720	0	0.3	-0.4	0.5
6401583	99	P	SUR	61	-25	716	0	0.4	0.2	0.4
6401584	99	P	SUR	55	-37	719	0	0.4	0.1	0.4
6401590	99	P	SUR	70	32	49	0	0.2	0.0	0.2
6401759	99	P	SUR	60	-25	719	0	0.3	-0.2	0.3
6401763	99	P	SUR	66	12	719	0	0.4	0.0	0.4
6402615	99	P	SUR	22	-58	700	0	0.4	0.3	0.5
6402616	99	P	SUR	29	-45	700	0	0.4	0.0	0.4
6402617	99	P	SUR	26	-53	700	0	0.4	0.4	0.5
6402618	99	P	SUR	23	-48	700	0	0.3	0.1	0.3
6402619	99	P	SUR	22	-32	700	0	0.3	0.1	0.3
6402621	99	P	SUR	30	-19	700	0	0.3	0.5	0.5
6402622	99	P	SUR	26	-23	700	0	0.3	0.2	0.3
64041	99	P	SUR	61	-3	524	0	0.4	0.0	0.4
64045	99	P	SUR	59	-12	1440	0	0.4	-0.4	0.6
64046	99	P	SUR	61	-3	324	0	0.3	-0.4	0.5
6600021	99	P	SUR	55	14	59	0	0.3	-1.0	1.0
6600022	99	P	SUR	54	14	132	0	0.4	-0.2	0.4
6600024	99	P	SUR	55	13	132	0	0.3	-1.2	1.2
6801771	99	P	SUR	47	-45	54	0	0.6	0.3	0.6
6801790	99	P	SUR	38	-18	676	0	0.3	0.1	0.3
6801791	99	P	SUR	31	-26	698	0	0.3	0.4	0.5
6801879	99	P	SUR	11	-34	720	0	0.3	0.1	0.3
6801906	99	P	SUR	69	-66	719	0	0.5	-1.5	1.6
7801552	99	P	SUR	60	-14	720	0	0.4	-0.3	0.5
7801572	99	P	SUR	22	-46	697	0	0.3	0.1	0.3
7801588	99	P	SUR	31	-14	570	0	0.8	-0.4	0.9
7801696	99	P	SUR	38	-57	150	0	0.4	-0.3	0.5
7801698	99	P	SUR	63	-7	719	0	0.3	0.6	0.7
7801699	99	P	SUR	38	-57	558	0	0.3	0.0	0.3

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
7801700	99	P	SUR	73	20	329	303	3.5	-4.0	5.3
7810292	99	P	SUR	37	-68	705	0	0.5	0.2	0.5
7810294	99	P	SUR	37	-69	708	0	0.4	-0.1	0.4
7810296	99	P	SUR	37	-67	708	0	0.4	-0.1	0.5
7810297	99	P	SUR	35	-66	707	0	0.4	0.0	0.4
7810298	99	P	SUR	38	-67	709	0	0.4	-0.2	0.5
7810299	99	P	SUR	37	-68	707	0	0.5	0.0	0.5
7810322	99	P	SUR	26	-65	28	0	0.2	0.5	0.6
7810323	99	P	SUR	28	-65	52	0	0.3	0.4	0.5
7810324	99	P	SUR	30	-64	75	0	0.3	0.1	0.3
7810325	99	P	SUR	26	-65	41	0	0.3	0.3	0.4
7810326	99	P	SUR	30	-64	74	0	0.4	0.0	0.4
7810327	99	P	SUR	27	-65	41	0	0.3	0.7	0.7
7810328	99	P	SUR	29	-65	62	0	0.3	0.7	0.8
7810329	99	P	SUR	28	-65	51	0	0.3	0.7	0.8
7810330	99	P	SUR	25	-65	15	0	0.2	0.5	0.5
7810331	99	P	SUR	27	-65	41	0	0.3	0.4	0.5
7810332	99	P	SUR	29	-64	52	0	0.3	0.4	0.5

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 : JUN 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	55	0	0	1.8	1.8	2.6
1300001	99	SPEED	SUR	11	-23	658	0	0	1.0	0.9	1.4
1300008	99	SPEED	SUR	15	-38	576	0	0	0.7	-0.2	0.8
1300130	99	SPEED	SUR	28	-16	719	0	0	0.8	-0.1	0.8
1300131	99	SPEED	SUR	28	-17	710	0	0	2.1	1.9	2.9
4100040	99	SPEED	SUR	15	-53	4238	0	0	0.8	-0.2	0.8
4100043	99	SPEED	SUR	21	-65	4240	0	0	1.3	-0.4	1.3
4100044	99	SPEED	SUR	22	-59	4241	0	0	1.1	0.0	1.1
4100046	99	SPEED	SUR	24	-68	4238	0	0	1.3	0.0	1.3
4100049	99	SPEED	SUR	28	-62	4240	0	0	1.1	0.0	1.1
4100052	99	SPEED	SUR	18	-65	2816	0	0	1.0	-0.4	1.1
4100053	99	SPEED	SUR	18	-66	4223	0	0	1.5	0.2	1.5
4100056	99	SPEED	SUR	18	-65	4218	0	0	1.3	-0.5	1.4
4100139	99	SPEED	SUR	20	-38	513	0	0	0.8	-0.2	0.9
41040	99	SPEED	SUR	15	-53	708	0	0	0.8	-0.2	0.8
41043	99	SPEED	SUR	21	-65	708	0	0	1.3	-0.3	1.4
41044	99	SPEED	SUR	22	-59	708	0	0	1.1	0.0	1.1
41046	99	SPEED	SUR	24	-68	708	0	0	1.3	0.0	1.3
41049	99	SPEED	SUR	28	-62	708	0	0	1.2	0.0	1.2
41052	99	SPEED	SUR	18	-65	499	0	0	1.1	-0.2	1.1
41053	99	SPEED	SUR	19	-66	709	0	0	1.6	-0.3	1.6
41056	99	SPEED	SUR	18	-66	709	0	0	1.3	-0.4	1.4
4200059	99	SPEED	SUR	15	-67	4238	0	0	0.7	0.2	0.8
4200060	99	SPEED	SUR	16	-63	4237	0	0	1.1	-0.1	1.1
4200085	99	SPEED	SUR	18	-67	3454	0	0	1.3	-0.2	1.3
42059	99	SPEED	SUR	15	-68	708	0	0	0.8	0.3	0.9
42060	99	SPEED	SUR	16	-63	708	0	0	1.2	0.0	1.2
42085	99	SPEED	SUR	18	-67	692	0	0	1.3	0.2	1.3
4400008	99	SPEED	SUR	40	-69	4235	0	0	1.3	-1.0	1.6
4400011	99	SPEED	SUR	41	-67	4241	0	0	1.3	-0.8	1.5
4400027	99	SPEED	SUR	44	-67	4240	0	0	1.5	-1.0	1.8
4400032	99	SPEED	SUR	44	-69	705	0	0	1.5	-0.7	1.7
4400033	99	SPEED	SUR	44	-69	705	0	0	1.5	-0.5	1.6
4400034	99	SPEED	SUR	44	-68	705	0	0	1.6	-1.3	2.0

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
440037	99	SPEED	SUR	43	-68	699	0	0	1.2	-0.3	1.3
4400488	99	SPEED	SUR	45	-61	712	0	0	1.5	-0.2	1.5
4400489	99	SPEED	SUR	45	-61	672	0	0	1.6	0.5	1.7
44008	99	SPEED	SUR	41	-69	707	0	0	1.3	-1.0	1.7
44011	99	SPEED	SUR	41	-67	708	0	0	1.3	-0.8	1.5
44027	99	SPEED	SUR	44	-67	708	0	0	1.5	-0.8	1.8
44032	99	SPEED	SUR	44	-69	708	0	0	1.6	-0.7	1.7
44033	99	SPEED	SUR	44	-69	708	0	0	1.5	-0.2	1.5
44034	99	SPEED	SUR	44	-68	708	0	0	1.6	-1.2	2.0
44037	99	SPEED	SUR	44	-68	702	0	0	1.3	-0.3	1.3
44078	99	SPEED	SUR	60	-40	424	0	0	1.3	-0.7	1.5
44137	99	SPEED	SUR	42	-62	712	0	0	1.7	-0.6	1.8
44139	99	SPEED	SUR	44	-57	695	0	0	1.3	-0.5	1.4
44150	99	SPEED	SUR	43	-64	674	2	0	1.5	-0.3	1.5
44258	99	SPEED	SUR	45	-63	716	0	0	1.5	-0.5	1.6
44488	99	SPEED	SUR	45	-61	719	0	0	1.5	0.1	1.5
44489	99	SPEED	SUR	46	-61	679	0	0	1.7	0.6	1.8
6100001	99	SPEED	SUR	43	8	702	0	0	1.6	0.2	1.7
6100002	99	SPEED	SUR	42	5	719	0	0	1.3	0.0	1.3
6100197	99	SPEED	SUR	40	4	694	0	0	1.1	-0.6	1.3
6100198	99	SPEED	SUR	37	-2	716	0	0	1.4	-0.7	1.5
6100280	99	SPEED	SUR	41	1	713	0	0	1.5	-0.5	1.6
6100281	99	SPEED	SUR	40	0	716	0	0	2.0	0.6	2.0
6100417	99	SPEED	SUR	38	0	711	0	0	1.3	-0.4	1.4
6100430	99	SPEED	SUR	40	2	696	0	0	1.6	-0.2	1.6
6101007	99	SPEED	SUR	36	25	139	0	0	1.4	-0.2	1.4
6101009	99	SPEED	SUR	35	25	235	0	0	1.9	1.2	2.2
6101031	99	SPEED	SUR	42	8	720	0	0	1.3	-0.1	1.3
6101032	99	SPEED	SUR	42	10	276	0	0	1.8	0.5	1.9
6200001	99	SPEED	SUR	45	-5	716	0	0	1.0	-0.2	1.0
6200024	99	SPEED	SUR	44	-3	712	0	0	1.4	-0.2	1.5
6200025	99	SPEED	SUR	44	-6	709	0	0	1.2	-0.9	1.5
6200029	99	SPEED	SUR	49	-12	20	0	0	3.0	0.4	3.0
6200050	99	SPEED	SUR	50	-4	720	0	0	1.1	-0.1	1.1
6200081	99	SPEED	SUR	51	-13	81	0	0	0.7	0.0	0.7
6200082	99	SPEED	SUR	44	-8	714	0	0	1.0	-1.1	1.5
6200083	99	SPEED	SUR	43	-9	698	0	0	1.0	-1.1	1.5
6200084	99	SPEED	SUR	42	-9	391	0	0	1.6	-0.7	1.8
6200085	99	SPEED	SUR	36	-7	390	0	0	1.4	-0.1	1.4
6200086	99	SPEED	SUR	55	7	3	0	0	0.9	0.8	1.2
6200087	99	SPEED	SUR	55	7	133	0	0	1.1	1.3	1.7

DRIFTER MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF

ELEMENT MONITORED : WIND SPEED (M/S)

(CONTINU

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
6200091	99	SPEED	SUR	53	-5	720	0	0	1.3	0.2	1.3
6200092	99	SPEED	SUR	51	-11	720	0	0	1.0	-0.1	1.0
6200093	99	SPEED	SUR	55	-10	720	0	0	1.0	-0.4	1.1
6200094	99	SPEED	SUR	52	-7	720	0	0	1.1	0.8	1.4
6200095	99	SPEED	SUR	53	-16	720	0	0	0.9	0.2	0.9
6200163	99	SPEED	SUR	47	-8	396	0	0	1.0	0.3	1.0
6200442	99	SPEED	SUR	49	-16	562	0	0	0.9	-0.2	0.9
6201066	99	SPEED	SUR	55	7	718	0	0	1.3	0.0	1.3
6202114	99	SPEED	SUR	54	6	93	0	0	1.1	-0.1	1.1
62029	99	SPEED	SUR	49	-13	40	0	0	3.1	0.4	3.2
62050	99	SPEED	SUR	50	-4	1440	0	0	1.1	0.3	1.1
62081	99	SPEED	SUR	51	-13	434	0	0	0.8	0.5	1.0
62091	99	SPEED	SUR	53	-5	719	0	0	1.3	0.5	1.4
62092	99	SPEED	SUR	51	-11	719	0	0	1.0	0.0	1.0
62093	99	SPEED	SUR	55	-10	719	0	0	1.0	-0.4	1.1
62094	99	SPEED	SUR	52	-7	719	0	0	1.1	0.9	1.4
62095	99	SPEED	SUR	53	-16	719	0	0	0.9	0.3	1.0
62102	99	SPEED	SUR	58	2	529	0	0	1.2	0.1	1.2
62104	99	SPEED	SUR	57	1	534	0	0	1.2	-0.2	1.2
62105	99	SPEED	SUR	55	-13	1433	0	0	1.0	0.5	1.1
62107	99	SPEED	SUR	50	-6	406	0	0	1.0	0.2	1.0
62112	99	SPEED	SUR	58	0	495	0	0	1.5	-0.4	1.5
62113	99	SPEED	SUR	58	0	530	0	0	1.6	-0.1	1.6
62114	99	SPEED	SUR	58	0	287	0	0	1.2	0.1	1.2
62118	99	SPEED	SUR	58	1	532	0	0	1.2	0.3	1.3
62119	99	SPEED	SUR	57	2	536	0	0	1.7	-1.2	2.1
62120	99	SPEED	SUR	56	2	527	0	0	1.1	-0.9	1.4
62121	99	SPEED	SUR	54	3	523	0	0	1.2	-0.4	1.3
62122	99	SPEED	SUR	57	2	533	0	0	1.1	-0.4	1.2
62129	99	SPEED	SUR	58	0	527	0	0	1.4	0.2	1.4
62131	99	SPEED	SUR	54	1	498	0	0	1.3	0.0	1.3
62133	99	SPEED	SUR	57	1	532	0	0	1.8	-0.3	1.8
62134	99	SPEED	SUR	58	1	535	0	0	1.6	-2.1	2.6
62140	99	SPEED	SUR	57	1	485	0	0	1.2	-0.3	1.2
62143	99	SPEED	SUR	58	2	545	0	0	1.8	-0.7	1.9
62144	99	SPEED	SUR	53	2	520	0	0	1.5	-0.7	1.7
62145	99	SPEED	SUR	53	3	529	0	0	1.5	0.5	1.5
62146	99	SPEED	SUR	57	2	538	0	0	1.2	0.1	1.2
62148	99	SPEED	SUR	54	2	521	0	0	1.6	-0.2	1.6
62149	99	SPEED	SUR	54	1	538	0	0	1.2	0.2	1.2
62152	99	SPEED	SUR	57	2	533	0	0	1.5	-0.9	1.8

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
62154	99	SPEED	SUR	56	2	528	0	0	1.2	-0.3	1.2
62155	99	SPEED	SUR	58	1	536	0	0	1.9	-0.5	2.0
62163	99	SPEED	SUR	48	-9	790	0	0	1.0	0.6	1.1
62164	99	SPEED	SUR	57	1	528	0	0	1.5	-1.1	1.8
62165	99	SPEED	SUR	54	1	530	0	0	1.4	-0.5	1.5
62170	99	SPEED	SUR	51	2	1438	0	0	1.2	0.6	1.3
62304	99	SPEED	SUR	51	2	1436	0	0	1.3	0.5	1.4
62442	99	SPEED	SUR	49	-16	1440	0	0	0.9	0.4	1.0
6301001	99	SPEED	SUR	64	5	719	0	0	1.3	-0.3	1.3
6301004	99	SPEED	SUR	72	20	700	0	0	1.0	-0.2	1.0
63055	99	SPEED	SUR	61	2	505	0	0	1.5	-1.5	2.1
63056	99	SPEED	SUR	60	2	528	0	0	1.2	0.2	1.2
63057	99	SPEED	SUR	59	2	524	0	0	2.1	-1.0	2.3
63058	99	SPEED	SUR	53	2	232	0	0	1.3	-0.1	1.3
63101	99	SPEED	SUR	61	1	530	0	0	1.4	-0.4	1.5
63103	99	SPEED	SUR	61	1	521	0	0	1.5	-0.2	1.5
63108	99	SPEED	SUR	61	2	532	0	0	1.3	0.2	1.3
63109	99	SPEED	SUR	60	2	530	0	0	1.2	0.3	1.3
63110	99	SPEED	SUR	60	2	530	0	0	1.3	-0.3	1.3
63112	99	SPEED	SUR	61	1	530	0	0	1.3	-0.2	1.3
63115	99	SPEED	SUR	62	1	511	0	0	1.4	-0.6	1.5
63117	99	SPEED	SUR	61	1	523	0	0	1.4	-0.5	1.5
6400045	99	SPEED	SUR	59	-12	622	0	0	1.0	-0.1	1.0
64041	99	SPEED	SUR	61	-3	524	0	0	1.4	0.1	1.4
64045	99	SPEED	SUR	59	-12	1244	0	0	1.0	0.5	1.2
6600021	99	SPEED	SUR	55	14	59	0	0	1.0	-0.2	1.0
6600022	99	SPEED	SUR	54	14	132	0	0	1.3	0.3	1.4
6600024	99	SPEED	SUR	55	13	132	0	0	1.4	0.7	1.5

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 : JUN 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	545	0	0	12.9	3.2	13.2
1300008	99	DIRN	SUR	15	-38	576	0	0	7.8	2.1	8.0
1300130	99	DIRN	SUR	28	-16	679	0	0	10.8	-5.9	12.4
1300131	99	DIRN	SUR	28	-17	371	0	0	16.8	2.8	17.0
4100001	99	DIRN	SUR	35	-72	3469	0	0	19.7	-1.2	19.8
4100002	99	DIRN	SUR	32	-75	3344	0	0	23.5	4.1	23.8
4100004	99	DIRN	SUR	33	-79	3528	0	0	22.2	7.5	23.4
4100008	99	DIRN	SUR	31	-81	3592	0	0	19.0	4.6	19.5
4100009	99	DIRN	SUR	29	-80	2820	0	0	20.7	4.4	21.2
4100010	99	DIRN	SUR	29	-78	3344	0	0	24.1	9.2	25.8
4100013	99	DIRN	SUR	33	-78	3570	0	0	19.5	6.1	20.4
4100024	99	DIRN	SUR	34	-78	607	0	0	15.7	1.1	15.7
4100025	99	DIRN	SUR	35	-75	3548	0	0	14.7	4.5	15.3
4100029	99	DIRN	SUR	33	-80	601	0	0	20.4	-7.8	21.8
4100033	99	DIRN	SUR	32	-80	612	0	0	18.3	3.6	18.7
4100037	99	DIRN	SUR	34	-77	602	0	0	22.7	4.5	23.1
4100038	99	DIRN	SUR	34	-78	586	0	0	17.3	1.9	17.4
4100040	99	DIRN	SUR	15	-53	4236	0	0	9.9	4.8	11.0
4100043	99	DIRN	SUR	21	-65	3707	0	0	19.7	10.4	22.3
4100044	99	DIRN	SUR	22	-59	3607	0	0	19.2	3.9	19.6
4100046	99	DIRN	SUR	24	-68	3558	0	0	24.8	9.1	26.4
4100047	99	DIRN	SUR	27	-71	3759	0	0	19.2	11.0	22.1
4100049	99	DIRN	SUR	28	-62	3543	0	0	29.5	10.4	31.3
4100052	99	DIRN	SUR	18	-65	2532	0	0	15.4	8.2	17.5
4100053	99	DIRN	SUR	18	-66	2943	0	0	20.1	11.8	23.3
4100056	99	DIRN	SUR	18	-65	3696	0	0	18.3	10.2	20.9
4100064	99	DIRN	SUR	34	-77	600	0	0	17.9	0.2	17.9
4100066	99	DIRN	SUR	33	-80	606	0	0	21.3	-7.6	22.6
4100069	99	DIRN	SUR	29	-81	371	0	0	19.4	-0.3	19.4
4100082	99	DIRN	SUR	36	-75	2862	0	0	18.7	-10.9	21.6
4100083	99	DIRN	SUR	36	-75	3020	0	0	15.6	-6.2	16.8
41001	99	DIRN	SUR	35	-72	568	0	0	20.0	-1.2	20.0

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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
4100139	99	DIRN	SUR	20	-38	504	0	0	10.5	-1.8	10.6
41002	99	DIRN	SUR	32	-75	546	0	0	23.6	3.4	23.8
41004	99	DIRN	SUR	33	-79	571	0	0	21.9	7.5	23.1
41008	99	DIRN	SUR	31	-81	592	0	0	19.4	5.3	20.1
41009	99	DIRN	SUR	29	-80	462	0	0	21.7	5.4	22.3
41010	99	DIRN	SUR	29	-79	547	0	0	23.4	9.0	25.1
41013	99	DIRN	SUR	33	-78	581	0	0	21.8	6.7	22.8
41024	99	DIRN	SUR	34	-79	616	0	0	17.3	1.0	17.3
41025	99	DIRN	SUR	35	-76	591	0	0	15.5	4.6	16.2
41029	99	DIRN	SUR	33	-80	616	0	0	20.9	-7.9	22.3
41033	99	DIRN	SUR	32	-80	603	0	0	18.9	4.1	19.3
41037	99	DIRN	SUR	34	-77	592	0	0	23.3	4.6	23.8
41038	99	DIRN	SUR	34	-78	575	0	0	18.6	1.8	18.7
41040	99	DIRN	SUR	15	-53	708	0	0	10.1	4.3	11.0
41043	99	DIRN	SUR	21	-65	603	0	0	19.8	9.7	22.1
41044	99	DIRN	SUR	22	-59	600	0	0	20.8	3.1	21.1
41046	99	DIRN	SUR	24	-68	582	0	0	24.5	9.0	26.1
41047	99	DIRN	SUR	28	-72	612	0	0	18.7	11.2	21.8
41049	99	DIRN	SUR	28	-62	574	0	0	29.2	10.4	31.0
41052	99	DIRN	SUR	18	-65	442	0	0	15.2	7.3	16.9
41053	99	DIRN	SUR	19	-66	496	0	0	21.4	10.2	23.7
41056	99	DIRN	SUR	18	-66	612	0	0	19.6	11.1	22.5
41064	99	DIRN	SUR	34	-77	587	0	0	18.9	0.3	18.9
41066	99	DIRN	SUR	33	-80	591	0	0	21.4	-8.2	22.9
41069	99	DIRN	SUR	29	-81	371	0	0	19.6	-0.2	19.6
41082	99	DIRN	SUR	36	-75	459	0	0	16.9	-10.1	19.7
41083	99	DIRN	SUR	36	-75	502	0	0	16.6	-6.5	17.8
4200013	99	DIRN	SUR	27	-83	733	0	0	26.6	-6.4	27.4
4200022	99	DIRN	SUR	28	-84	669	0	0	21.9	-5.7	22.7
4200023	99	DIRN	SUR	26	-83	319	0	0	28.5	-5.0	28.9
4200026	99	DIRN	SUR	25	-83	1000	0	0	23.5	-3.9	23.8
4200036	99	DIRN	SUR	29	-85	2291	0	0	17.6	0.7	17.6
4200056	99	DIRN	SUR	20	-85	4081	0	0	22.7	6.6	23.7
4200058	99	DIRN	SUR	15	-75	4056	0	0	11.8	8.6	14.6
4200059	99	DIRN	SUR	15	-67	4235	0	0	9.0	4.7	10.1
4200060	99	DIRN	SUR	16	-63	3980	0	0	10.6	7.2	12.8
4200085	99	DIRN	SUR	18	-67	2998	0	0	18.2	13.1	22.5
42013	99	DIRN	SUR	27	-83	350	0	0	27.7	-4.7	28.1
42022	99	DIRN	SUR	28	-84	314	0	0	21.8	-4.9	22.3
42023	99	DIRN	SUR	26	-83	158	0	0	28.6	-3.6	28.8
42026	99	DIRN	SUR	25	-84	480	0	0	24.8	-3.5	25.1

DRIFTER MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF

ELEMENT MONITORED : WIND DIRECTION (DEGREES)

(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
42036	99	DIRN	SUR	29	-85	349	0	0	18.3	0.1	18.3
42056	99	DIRN	SUR	20	-85	672	0	0	23.3	5.8	24.0
42058	99	DIRN	SUR	15	-75	676	0	0	11.5	8.0	14.0
42059	99	DIRN	SUR	15	-68	708	0	0	9.5	4.1	10.4
42060	99	DIRN	SUR	16	-63	659	0	0	10.9	6.8	12.8
42085	99	DIRN	SUR	18	-67	585	0	0	17.5	11.0	20.6
4400007	99	DIRN	SUR	44	-70	2441	0	0	21.1	7.4	22.4
4400008	99	DIRN	SUR	40	-69	3116	0	0	13.2	26.7	29.7
4400009	99	DIRN	SUR	38	-75	3097	0	0	16.2	6.3	17.3
4400011	99	DIRN	SUR	41	-67	3081	0	0	15.5	17.3	23.3
4400013	99	DIRN	SUR	42	-71	2941	0	0	18.6	13.5	23.0
4400014	99	DIRN	SUR	37	-75	2514	0	0	20.1	7.0	21.3
4400020	99	DIRN	SUR	41	-70	3555	0	0	17.4	2.8	17.6
4400022	99	DIRN	SUR	41	-74	108	0	0	35.9	9.5	37.1
4400025	99	DIRN	SUR	40	-73	3570	0	0	22.1	6.0	22.9
4400027	99	DIRN	SUR	44	-67	2849	0	0	18.1	15.7	24.0
4400029	99	DIRN	SUR	43	-71	539	0	0	22.4	5.6	23.1
4400030	99	DIRN	SUR	43	-70	477	0	0	20.5	6.7	21.5
4400032	99	DIRN	SUR	44	-69	444	0	0	18.6	7.1	19.9
4400033	99	DIRN	SUR	44	-69	384	0	0	21.6	11.2	24.3
4400034	99	DIRN	SUR	44	-68	426	0	0	22.2	13.7	26.1
4400037	99	DIRN	SUR	43	-68	561	0	0	17.0	11.3	20.4
4400041	99	DIRN	SUR	37	-77	1092	0	0	16.8	-0.5	16.8
4400042	99	DIRN	SUR	38	-76	4048	0	0	22.5	2.2	22.6
4400043	99	DIRN	SUR	39	-76	836	0	0	68.2	-10.6	69.0
4400058	99	DIRN	SUR	38	-76	4777	0	0	24.0	-2.8	24.2
4400062	99	DIRN	SUR	39	-76	4711	0	0	17.3	4.1	17.8
4400063	99	DIRN	SUR	39	-76	4368	0	0	18.0	0.5	18.0
4400064	99	DIRN	SUR	37	-76	4192	0	0	25.0	5.2	25.5
4400065	99	DIRN	SUR	40	-74	3310	0	0	23.2	7.1	24.3
4400072	99	DIRN	SUR	37	-76	4351	0	0	21.6	-0.9	21.6
4400073	99	DIRN	SUR	43	-71	1671	0	0	20.0	7.7	21.4
4400079	99	DIRN	SUR	36	-75	2644	0	0	17.0	-10.4	19.9
4400488	99	DIRN	SUR	45	-61	564	0	0	20.4	-23.7	31.3
4400489	99	DIRN	SUR	45	-61	477	0	0	17.6	-28.8	33.8
44007	99	DIRN	SUR	44	-70	405	0	0	19.2	7.7	20.7
44008	99	DIRN	SUR	41	-69	480	0	0	14.0	26.4	29.9
44009	99	DIRN	SUR	39	-75	490	0	0	15.5	7.0	17.0
44011	99	DIRN	SUR	41	-67	490	0	0	16.0	17.2	23.5
44013	99	DIRN	SUR	42	-71	448	0	0	20.4	13.4	24.4
44014	99	DIRN	SUR	37	-75	405	0	0	20.3	6.9	21.4

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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
44020	99	DIRN	SUR	42	-70	583	0	0	17.3	3.7	17.7
44022	99	DIRN	SUR	41	-74	30	0	0	37.4	14.6	40.1
44025	99	DIRN	SUR	40	-73	581	0	0	22.1	5.7	22.8
44027	99	DIRN	SUR	44	-67	454	0	0	18.8	15.8	24.5
44029	99	DIRN	SUR	43	-71	523	0	0	23.0	5.6	23.7
44030	99	DIRN	SUR	43	-70	460	0	0	21.7	6.0	22.5
44032	99	DIRN	SUR	44	-69	424	0	0	17.5	5.8	18.5
44033	99	DIRN	SUR	44	-69	352	0	0	19.0	7.8	20.6
44034	99	DIRN	SUR	44	-68	390	0	0	19.5	12.8	23.3
44037	99	DIRN	SUR	44	-68	550	0	0	17.8	11.3	21.1
44041	99	DIRN	SUR	37	-77	107	0	0	17.3	1.2	17.3
44042	99	DIRN	SUR	38	-76	509	0	0	23.8	3.2	24.0
44043	99	DIRN	SUR	39	-76	87	0	0	64.2	-12.8	65.5
44058	99	DIRN	SUR	38	-76	468	0	0	19.7	-1.8	19.8
44062	99	DIRN	SUR	39	-76	521	0	0	17.6	5.8	18.5
44063	99	DIRN	SUR	39	-76	452	0	0	15.0	2.4	15.2
44064	99	DIRN	SUR	37	-76	474	0	0	23.8	6.4	24.7
44065	99	DIRN	SUR	40	-74	537	0	0	25.4	7.4	26.4
44072	99	DIRN	SUR	37	-76	484	0	0	22.2	1.7	22.2
44073	99	DIRN	SUR	43	-71	412	0	0	21.3	7.4	22.5
44078	99	DIRN	SUR	60	-40	360	0	0	17.3	-23.9	29.5
44079	99	DIRN	SUR	36	-75	423	0	0	16.6	-10.8	19.8
44137	99	DIRN	SUR	42	-62	536	0	0	28.5	3.7	28.8
44139	99	DIRN	SUR	44	-57	618	0	0	18.0	-2.7	18.2
44150	99	DIRN	SUR	43	-64	528	2	0	15.6	5.0	16.4
44258	99	DIRN	SUR	45	-63	503	0	0	17.0	1.7	17.1
44488	99	DIRN	SUR	45	-61	534	0	0	19.6	-24.5	31.3
44489	99	DIRN	SUR	46	-61	479	0	0	19.2	-28.9	34.7
4500003	99	DIRN	SUR	45	-83	2911	0	0	19.9	6.6	21.0
4500005	99	DIRN	SUR	42	-82	2737	0	0	23.0	7.1	24.1
4500008	99	DIRN	SUR	44	-82	3097	0	0	21.8	14.1	26.0
4500012	99	DIRN	SUR	44	-77	2399	0	0	22.1	9.6	24.1
4500132	99	DIRN	SUR	42	-81	498	0	0	23.1	4.9	23.6
4500135	99	DIRN	SUR	44	-77	465	0	0	22.8	7.3	24.0
4500137	99	DIRN	SUR	46	-81	491	0	0	21.1	5.0	21.6
4500139	99	DIRN	SUR	43	-80	319	0	0	25.9	3.8	26.2
4500142	99	DIRN	SUR	43	-79	418	0	0	26.2	4.9	26.7
4500143	99	DIRN	SUR	45	-81	488	0	0	24.8	8.9	26.4
4500159	99	DIRN	SUR	44	-79	353	0	0	35.1	3.9	35.3
4500162	99	DIRN	SUR	45	-83	1509	0	0	24.2	3.4	24.4
4500163	99	DIRN	SUR	44	-84	1645	0	0	28.8	3.3	29.0

DRIFTER MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF

ELEMENT MONITORED : WIND DIRECTION (DEGREES)

(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
4500164	99	DIRN	SUR	42	-82	372	0	0	25.7	-20.6	32.9
4500165	99	DIRN	SUR	45	-83	2572	0	0	62.3	27.6	68.2
4500175	99	DIRN	SUR	46	-85	1061	0	0	30.1	7.8	31.1
4500176	99	DIRN	SUR	42	-82	1966	0	0	26.9	-15.4	31.0
4500196	99	DIRN	SUR	42	-82	1301	0	0	27.8	2.1	27.8
4500200	99	DIRN	SUR	42	-83	1387	0	0	22.1	19.5	29.4
4500203	99	DIRN	SUR	41	-83	2000	0	0	29.3	-13.1	32.1
4500204	99	DIRN	SUR	42	-82	2158	0	0	24.1	-19.8	31.1
4500206	99	DIRN	SUR	42	-82	1674	0	0	31.9	-10.6	33.7
4500207	99	DIRN	SUR	42	-81	1404	0	0	37.0	-30.0	47.6
4500208	99	DIRN	SUR	42	-81	1576	0	0	23.1	-27.0	35.5
4500209	99	DIRN	SUR	43	-82	1520	0	0	21.0	-34.5	40.3
45003	99	DIRN	SUR	45	-83	464	0	0	20.7	6.7	21.7
45005	99	DIRN	SUR	42	-82	449	0	0	22.8	7.8	24.1
45008	99	DIRN	SUR	44	-82	503	0	0	22.8	14.0	26.8
45012	99	DIRN	SUR	44	-77	385	0	0	20.8	9.1	22.7
45132	99	DIRN	SUR	43	-81	483	0	0	24.5	4.0	24.8
45135	99	DIRN	SUR	44	-77	455	0	0	22.4	7.4	23.6
45137	99	DIRN	SUR	46	-81	477	0	0	21.7	4.4	22.1
45139	99	DIRN	SUR	43	-80	322	0	0	25.3	1.7	25.4
45142	99	DIRN	SUR	43	-79	406	0	0	25.6	3.5	25.8
45143	99	DIRN	SUR	45	-81	464	0	0	24.5	8.5	25.9
45147	99	DIRN	SUR	42	-82	38	0	0	39.5	-16.5	42.8
45149	99	DIRN	SUR	44	-82	475	0	0	22.6	1.4	22.7
45151	99	DIRN	SUR	45	-79	375	0	0	24.5	1.7	24.6
45152	99	DIRN	SUR	46	-80	396	0	0	25.2	2.5	25.4
45154	99	DIRN	SUR	46	-83	445	0	0	27.2	7.4	28.2
45159	99	DIRN	SUR	44	-79	277	0	0	30.7	3.0	30.8
45162	99	DIRN	SUR	45	-83	493	0	0	24.8	3.8	25.1
45163	99	DIRN	SUR	44	-84	522	0	0	28.7	5.1	29.2
45164	99	DIRN	SUR	42	-82	357	0	0	27.6	-21.3	34.8
45165	99	DIRN	SUR	45	-83	454	0	0	61.0	28.7	67.4
45175	99	DIRN	SUR	46	-85	372	0	0	32.4	6.7	33.1
45176	99	DIRN	SUR	42	-82	404	0	0	24.8	-14.4	28.7
45196	99	DIRN	SUR	42	-82	247	0	0	26.0	4.2	26.3
45200	99	DIRN	SUR	42	-83	284	0	0	22.7	22.0	31.7
45203	99	DIRN	SUR	41	-83	338	0	0	27.2	-13.4	30.3
45204	99	DIRN	SUR	42	-82	343	0	0	25.3	-19.5	32.0
45206	99	DIRN	SUR	42	-82	292	0	0	31.1	-9.4	32.5
45207	99	DIRN	SUR	42	-81	269	0	0	36.9	-29.9	47.5
45208	99	DIRN	SUR	42	-81	269	0	0	19.4	-28.1	34.2

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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
45209	99	DIRN	SUR	43	-82	278	0	0	20.2	-33.8	39.4
6100198	99	DIRN	SUR	37	-2	511	0	0	17.9	8.1	19.7
6100281	99	DIRN	SUR	40	0	370	0	0	40.1	-2.1	40.1
6100417	99	DIRN	SUR	38	0	483	0	0	53.5	15.6	55.7
6200001	99	DIRN	SUR	45	-5	609	0	0	11.9	-0.8	11.9
6200024	99	DIRN	SUR	44	-3	452	0	0	15.4	0.3	15.4
6200025	99	DIRN	SUR	44	-6	495	0	0	17.0	4.5	17.6
6200029	99	DIRN	SUR	49	-12	12	0	0	12.8	-3.9	13.3
6200050	99	DIRN	SUR	50	-4	567	0	0	14.0	-0.2	14.0
6200081	99	DIRN	SUR	51	-13	81	0	0	10.9	-1.8	11.1
6200082	99	DIRN	SUR	44	-8	620	0	0	10.3	8.7	13.5
6200083	99	DIRN	SUR	43	-9	584	0	0	10.6	-8.3	13.5
6200084	99	DIRN	SUR	42	-9	270	0	0	30.6	6.1	31.2
6200085	99	DIRN	SUR	36	-7	309	0	0	16.4	5.6	17.3
6200091	99	DIRN	SUR	53	-5	587	0	0	17.4	-0.4	17.4
6200092	99	DIRN	SUR	51	-11	675	0	0	10.3	2.0	10.5
6200093	99	DIRN	SUR	55	-10	677	0	0	11.7	2.9	12.0
6200094	99	DIRN	SUR	52	-7	605	0	0	14.5	3.7	15.0
6200095	99	DIRN	SUR	53	-16	677	0	0	9.8	4.9	10.9
6200163	99	DIRN	SUR	47	-8	322	0	0	16.7	-1.2	16.7
6200442	99	DIRN	SUR	49	-16	530	0	0	25.9	-7.2	26.9
62029	99	DIRN	SUR	49	-13	24	0	0	13.7	-2.7	14.0
62050	99	DIRN	SUR	50	-4	1114	0	0	14.1	0.5	14.2
62081	99	DIRN	SUR	51	-13	415	0	0	12.3	-2.7	12.6
62091	99	DIRN	SUR	53	-5	577	0	0	18.6	-0.5	18.6
62092	99	DIRN	SUR	51	-11	671	0	0	10.5	1.6	10.6
62093	99	DIRN	SUR	55	-10	662	0	0	12.0	2.4	12.2
62094	99	DIRN	SUR	52	-7	595	0	0	16.1	2.9	16.3
62095	99	DIRN	SUR	53	-16	676	0	0	10.3	4.4	11.2
62105	99	DIRN	SUR	55	-13	1344	0	0	13.9	-15.9	21.1
62107	99	DIRN	SUR	50	-6	345	0	0	16.5	-1.0	16.6
62112	99	DIRN	SUR	58	0	473	0	0	11.0	-2.0	11.1
62114	99	DIRN	SUR	58	0	277	0	0	11.4	3.5	12.0
62163	99	DIRN	SUR	48	-9	628	0	0	14.8	-0.8	14.8
62442	99	DIRN	SUR	49	-16	1333	0	0	25.2	-6.4	26.0
6400045	99	DIRN	SUR	59	-12	610	0	0	8.8	-8.5	12.2
64041	99	DIRN	SUR	61	-3	509	0	0	12.3	7.7	14.5
64045	99	DIRN	SUR	59	-12	1216	0	0	9.8	-8.3	12.9

4.12 Table 24 - List of Assimilated BUFR Encoded Radiosonde Stations

DBLK	FPUW5GN	JNKN7JF	JNSR	KJJF9XN	KMPLHPW	LAGY8	LAGZ8	LRYQE3U
UXK5JTU	WDK38HS	XKQLWQB	YLV96WM	ZVQEQCM	2EERVTP	7JUNA4N	7KPB	9ZT9MRK
01001	01004	01010	01028	01241	01400	01415	01492	02185
02591	02836	02963	03005	03023	03238	03354	03743	03808
03882	03918	03953	04018	04220	04270	04320	04339	04360
04417	06011	06260	06458	06610	07110	07145	07510	07645
07761	08001	08023	08190	08221	08302	08383	08430	08508
08522	08536	10035	10113	10184	10238	10304	10393	10410
10548	10618	10739	10771	10868	10954	10962	11010	11035
11120	11240	11520	11747	11952	12120	12374	12425	12575
12843	12982	13275	13388	14015	14240	14430	15420	15614
16045	16064	16113	16144	16224	16245	16332	16429	16546
16622	16716	16754	17030	17064	17095	17196	17220	17240
17351	17516	17607	20674	22008	22522	22820	22845	23205
23472	23884	23921	23955	24641	24908	26038	26435	26477
26629	26708	27459	27707	27713	27962	28225	28445	28661
28695	29612	29698	30557	30673	30935	31004	31770	31873
31977	34122	34172	34731	35121	40179	40186	42027	42056
42079	42111	42123	42182	42220	42314	42339	42348	42361
42399	42410	42492	42622	42634	42647	42675	42724	42867
42971	43003	43014	43041	43063	43086	43128	43150	43185
43243	43279	43333	43346	43353	43369	43466	45004	47102
47104	47138	47155	47169	47183	47186	47191	47193	47194
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	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	76225
76256	76458	76526	76595	76612	76644	76654	76679	76692
76743	76805	76903	78384	78397	78486	78583	78866	78897
78954	78970	80001	81405	85442	85586	85799	85934	87155
87344	87418	87582	87623	87715	87860	88889	89002	89055
89564	89571	89592	89611	89625	89642	91165	91212	91285
91334	91348	91376	91408	91413	91592	91925	91938	91948
91958	93112	93417	93817	93844	94001	94005	94120	94155
94170	94203	94299	94302	94312	94326	94332	94403	94430
94461	94510	94578	94610	94637	94653	94659	94672	94711

94767	94776	94802	94821	94866	94910	94975	94995	94996
94998	95282	95527	96413	96441	96471	96481	96996	

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

DBLK	FPUW5GN	JNKN7JF	KJJF9XN	KMPLHPW	LAGY8	LAGZ8	LRYQE3U	UXK5JTU
WDK38HS	XKQLWQB	YLV96WM	ZVQEQCM	2EERVTP	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	47183	47191	47193
47194	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
60155	60253	67083	72413	76743	76903	89002	89642	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 PILOTSHIPs received during the month. Units and display format are identical to those in tables 7 and 8 respectively. Tables 13, 14 (50 hPa), 15 and 16 (100 hPa), 17 and 18 (500hPa), 19 and 20 (850hPa) provide similar radiosonde statistics for the EUCOS area.

Tables 21-23 are similar to tables 4-6 with data coverage restricted to the EUCOS area.

Figures 14-18 show global charts of SATOB and aircraft wind quality, where the statistics have been averaged over latitude/longitude boxes of 5 degrees square, and the mean observed minus first-guess (or 'bias') wind vectors have been plotted. All observations in the specified layers have been used. For comparison the mean observed wind (from the SATOB reports only) for each layer is shown in figures 14 and 15. A reference value of wind speed is plotted in the top right corner of each figure. An arrow is only plotted if 10 or more observations have been received in that 5 degree square.

Table 12 provides quality statistics of aircraft wind observations in the layer 300-150 hPa stratified by airline carrier. The format and specifications of the table have been defined by NMC Washington, the lead centre for the monitoring of aircraft and satellite data.

Table 24 shows list of Assimilated BUFR Encoded Radiosonde Stations monitored within the month.

Table 25 shows list of BUFR Encoded Radiosonde Stations with no TAC Counterpart monitored within the month.