



ECMWF Global Data Monitoring Report

September 2022

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

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Summary of Revisions (in reverse order)

- Revision 28 (June 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 coordinate 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	Aug	Sep	Ident	Time	Aug	Sep
12575	(00)	31	12	04417	(00)	18	30
12575	(12)	34	13	32150	(00)	20	37
17064	(00)	30	10	32150	(12)	24	35
17064	(12)	31	11	40754	(00)	24	37
17095	(00)	31	10	40766	(00)	26	37
17095	(12)	31	8	60760	(00)	4	33
17196	(00)	31	7	61291	(00)	10	31
17196	(12)	30	8	61291	(12)	11	31
17351	(12)	30	11	68906	(12)	0	12
17607	(12)	27	5	72201	(00)	12	35
23078	(00)	25	12	72201	(12)	12	36
23078	(12)	21	7	72451	(00)	1	37
24908	(00)	27	2	72451	(12)	0	37
24908	(12)	28	1	72501	(00)	0	24
30309	(12)	26	0	72520	(00)	10	37
42971	(00)	31	2	72520	(12)	9	37
43333	(00)	31	18	78988	(00)	9	37
47911	(00)	17	0	78988	(12)	9	36
47911	(12)	13	0	82332	(00)	24	35
48568	(00)	14	0	83928	(12)	6	36
62423	(00)	12	0	89009	(00)	19	34
64500	(12)	14	0	96509	(12)	0	11
71119	(00)	32	13	97560	(12)	24	39
72250	(00)	31	3	-	-	-	-
72250	(12)	31	1	-	-	-	-
76458	(00)	20	9	-	-	-	-
82824	(00)	25	11	-	-	-	-
82824	(12)	27	9	-	-	-	-
89009	(12)	25	2	-	-	-	-
89062	(12)	29	17	-	-	-	-
91212	(00)	31	12	-	-	-	-
91212	(12)	31	13	-	-	-	-

2.2 Drifting Buoys

Surface pressure observations from **1707** drifting buoys were received during the month.

3 Global monitoring statistics

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

3.1 Data Availability

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

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

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

3.2 Data Quality

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

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

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

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

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

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

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

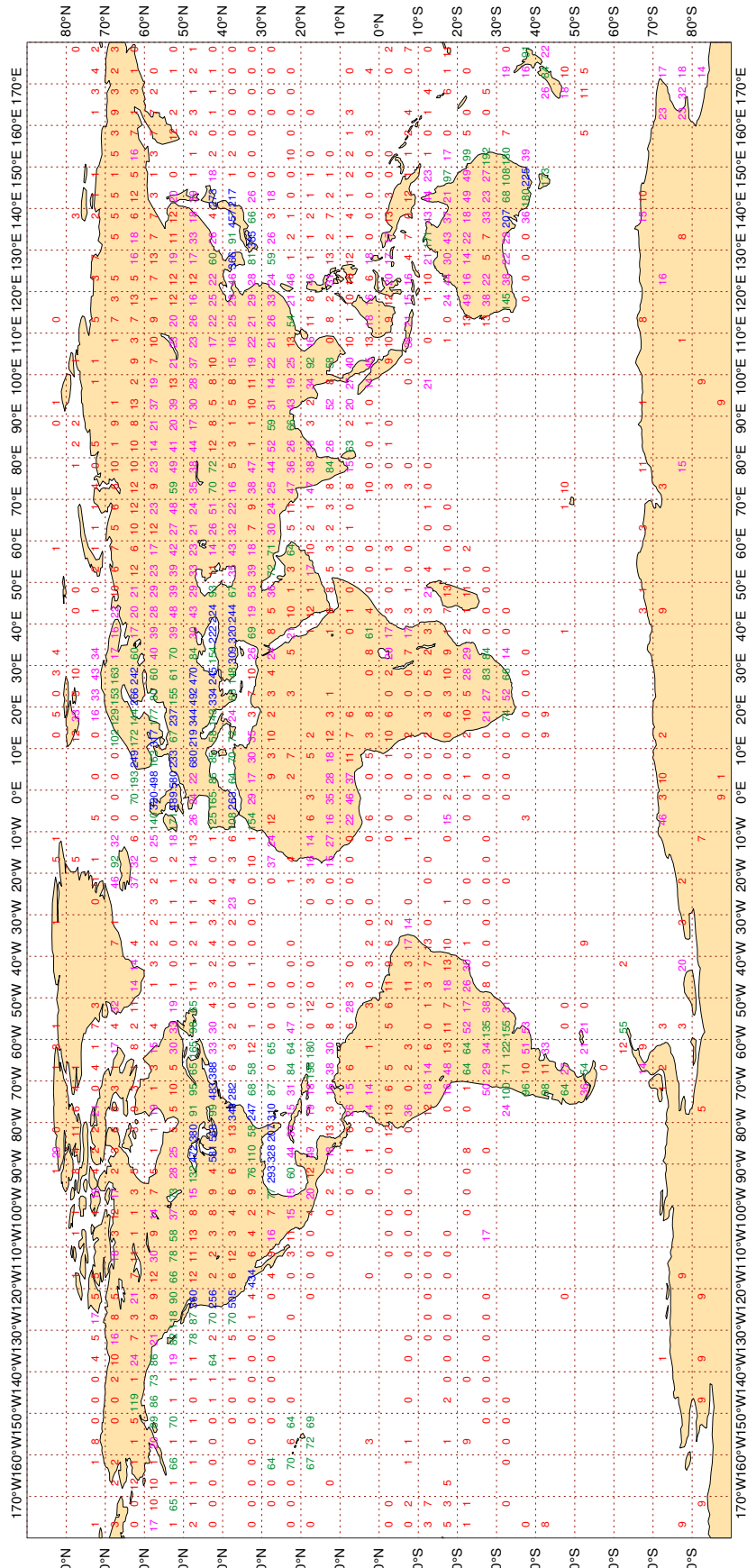
Figures 14-18 show global charts of SATOB and aircraft wind statistics in the form of wind vectors averaged over 5 degree boxes.

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

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

3.2.1 Figure 1 - Availability - SYNOP PRESSURE

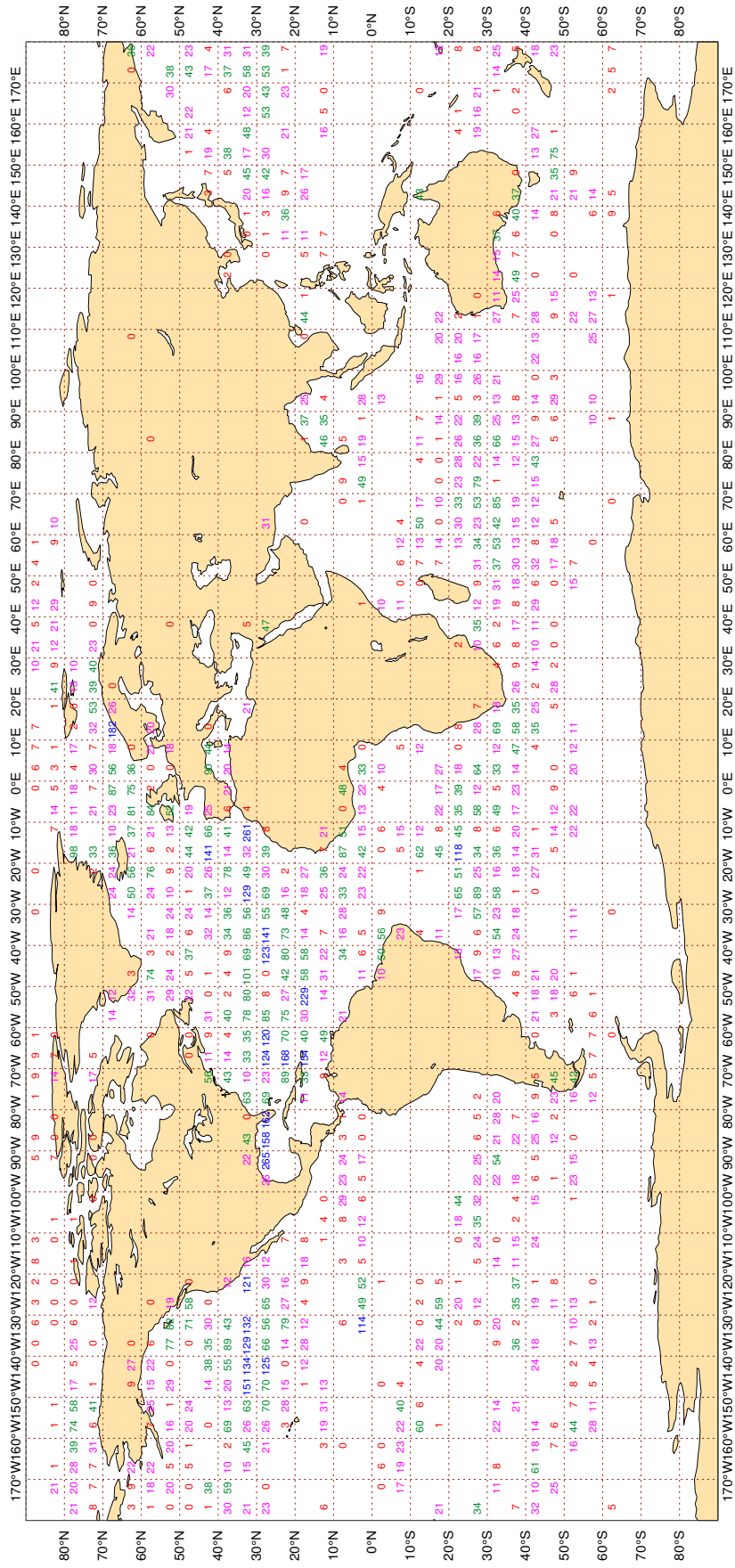
Figure 1
 ECMWF Monitoring Statistics - SEP 2022
 Availability - SYNOP/SHIP (manual, auto) pressure
 Average number of observations in 24 hours - 40834
 LAND - WMO Region I: 1822 II: 6529 III: 2147 IV: 1993
 Region V: 3636 VI: 10949 Antarctic: 529
 Oceans - N. Atlantic 5368 S. Atlantic 78 Indian 365 Pacific 7418



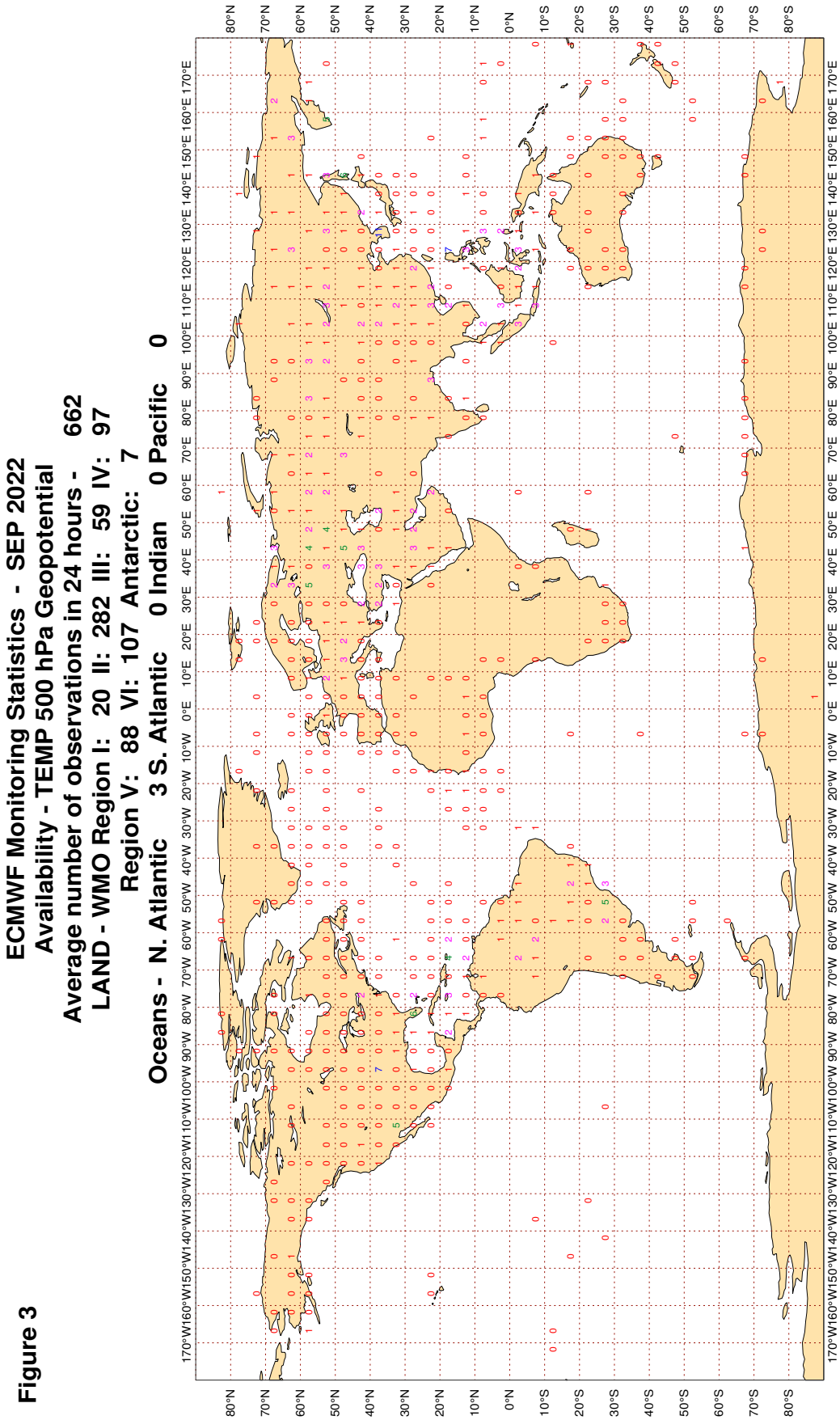
3.2.2 Figure 2 - Availability - DRIFTER PRESSURE

Figure 2

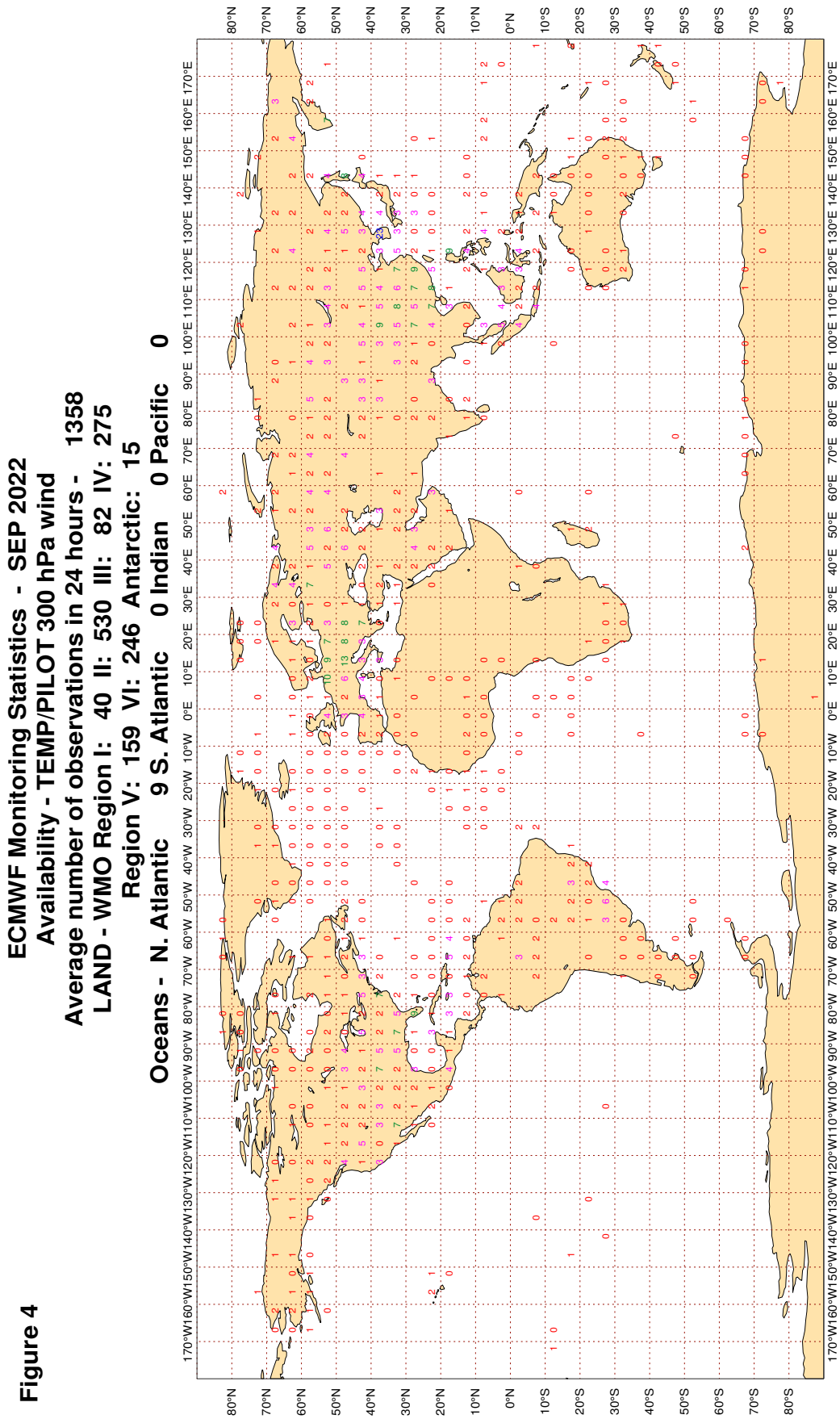
ECMWF Monitoring Statistics - SEP 2022
 Availability - DRIFTER PRESSURE
 Average number of observations in 24 hours - 21382
 Oceans - N. Atlantic 7654 S. Atlantic 2437 Indian 2990 Pacific 8301



3.2.3 Figure 3 - Availability - TEMP 500 hPa geopotential



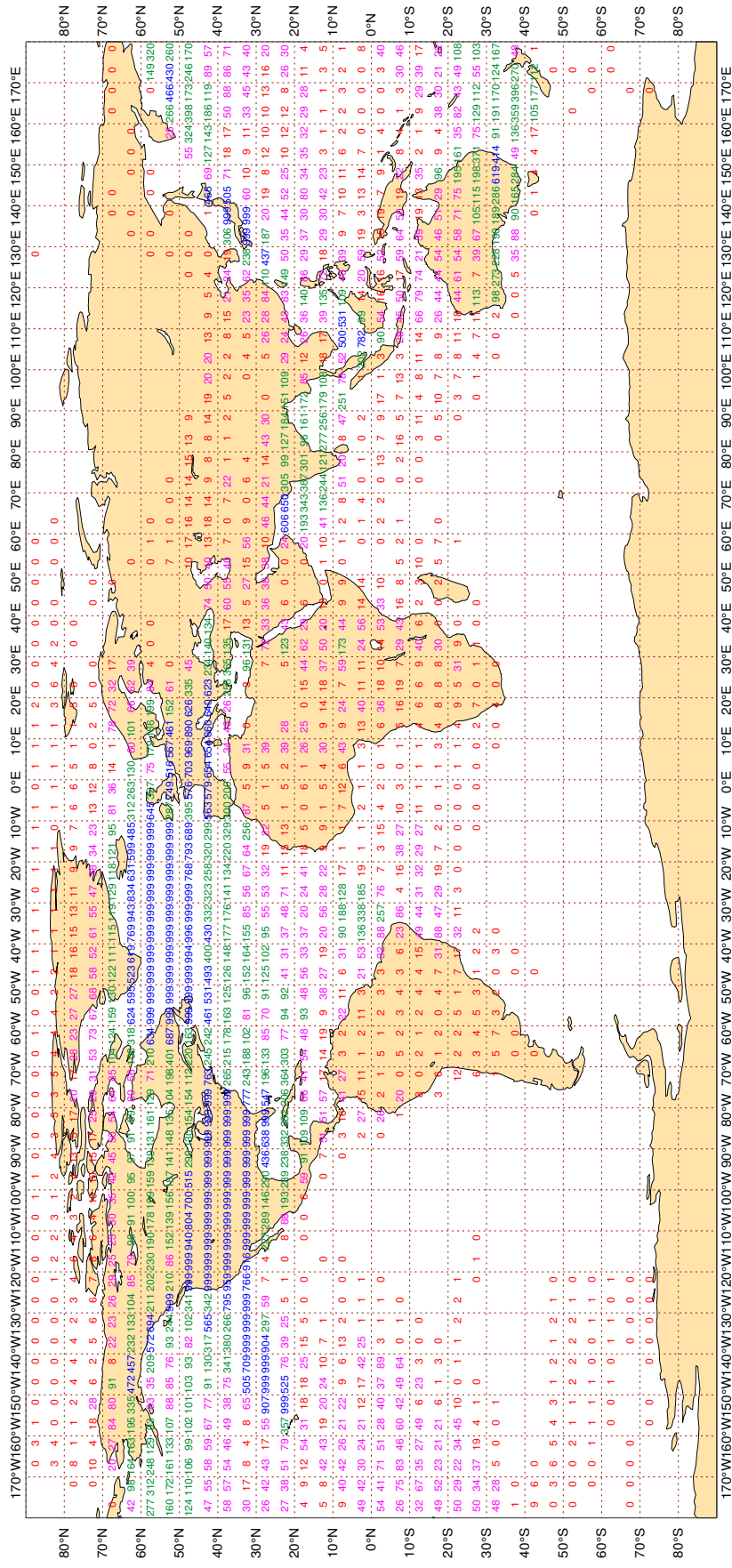
3.2.4 Figure 4 - Availability - TEMP/PILOT 300 hPa wind



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

Figure 5

ECMWF Monitoring Statistics - SEP 2022
Availability - Aircraft winds 300-150 hPa
Average number of observations in 24 hours - 244107

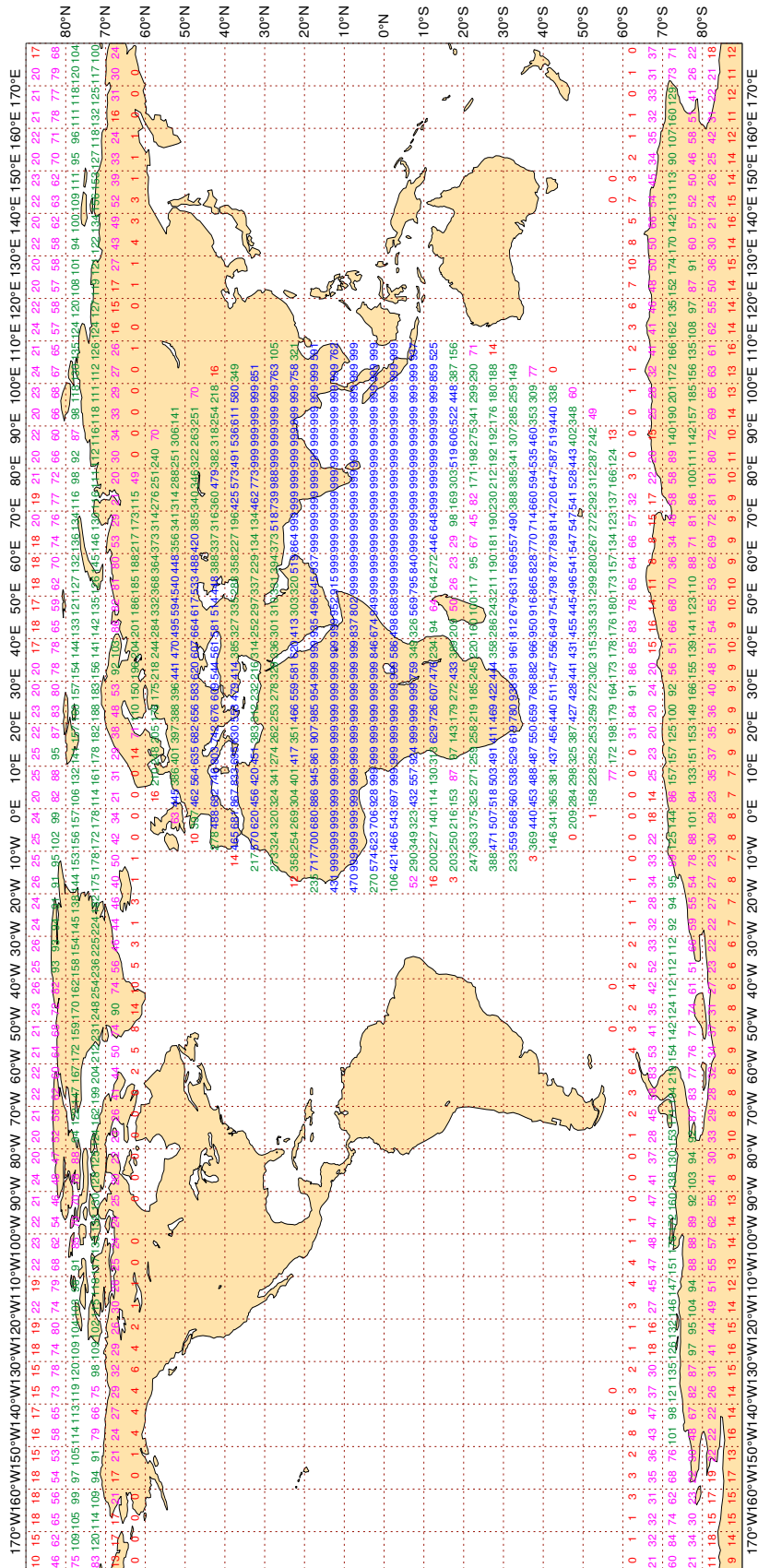


3.2.6 Figure 6 - Availability - SATOB winds 400-150 hPa

Figure 6

ECMWF Monitoring Statistics - SEP 2022
Availability - AMV winds 400-150 hPa

Average number of observations in 24 hours - 450870



Magics 4.9.4

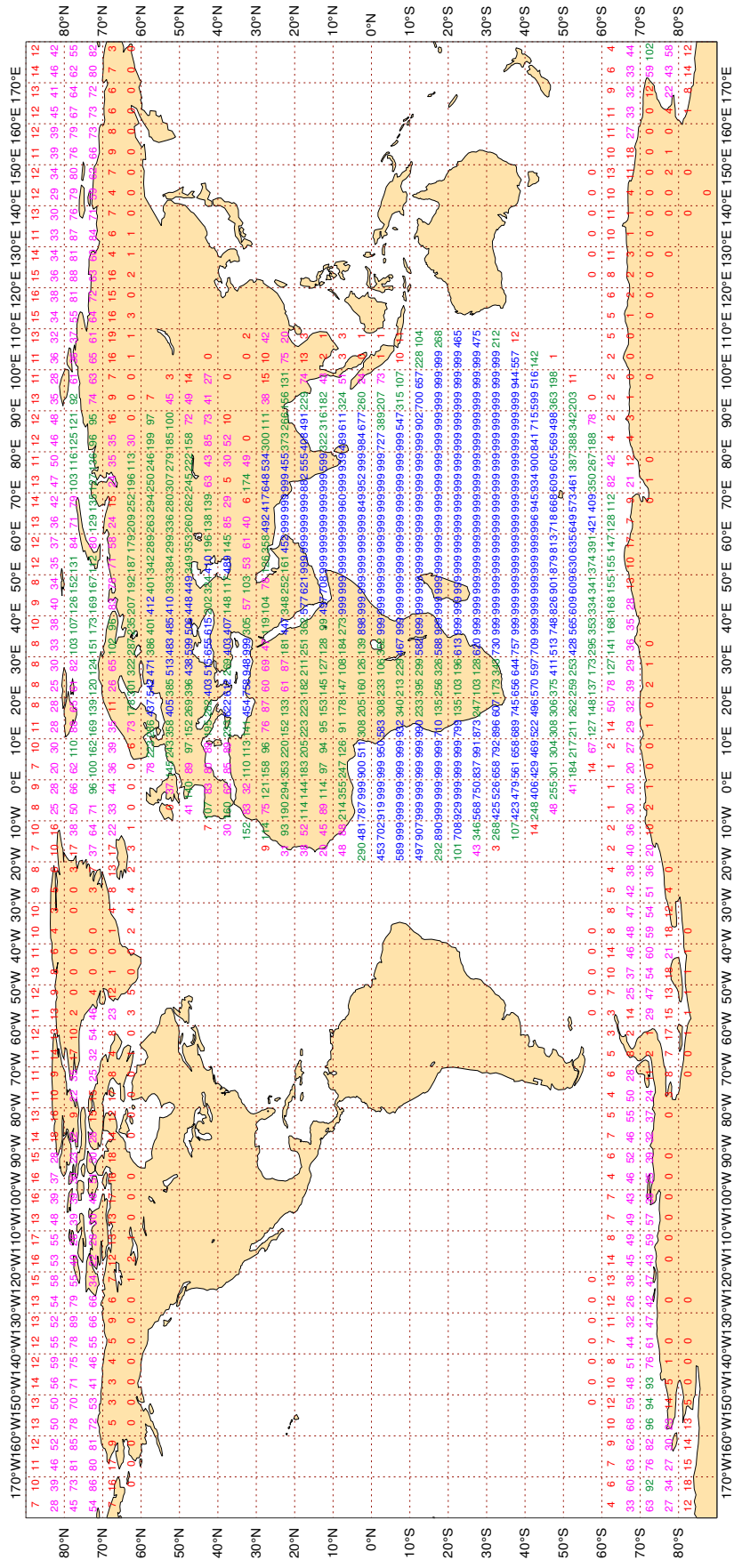


3.2.7 Figure 7 - Availability - SATOB winds 1000-700 hPa

Figure 7

ECMWF Monitoring Statistics - SEP 2022
Availability - AMV winds 1000-700 hPa

Average number of observations in 24 hours - 474978

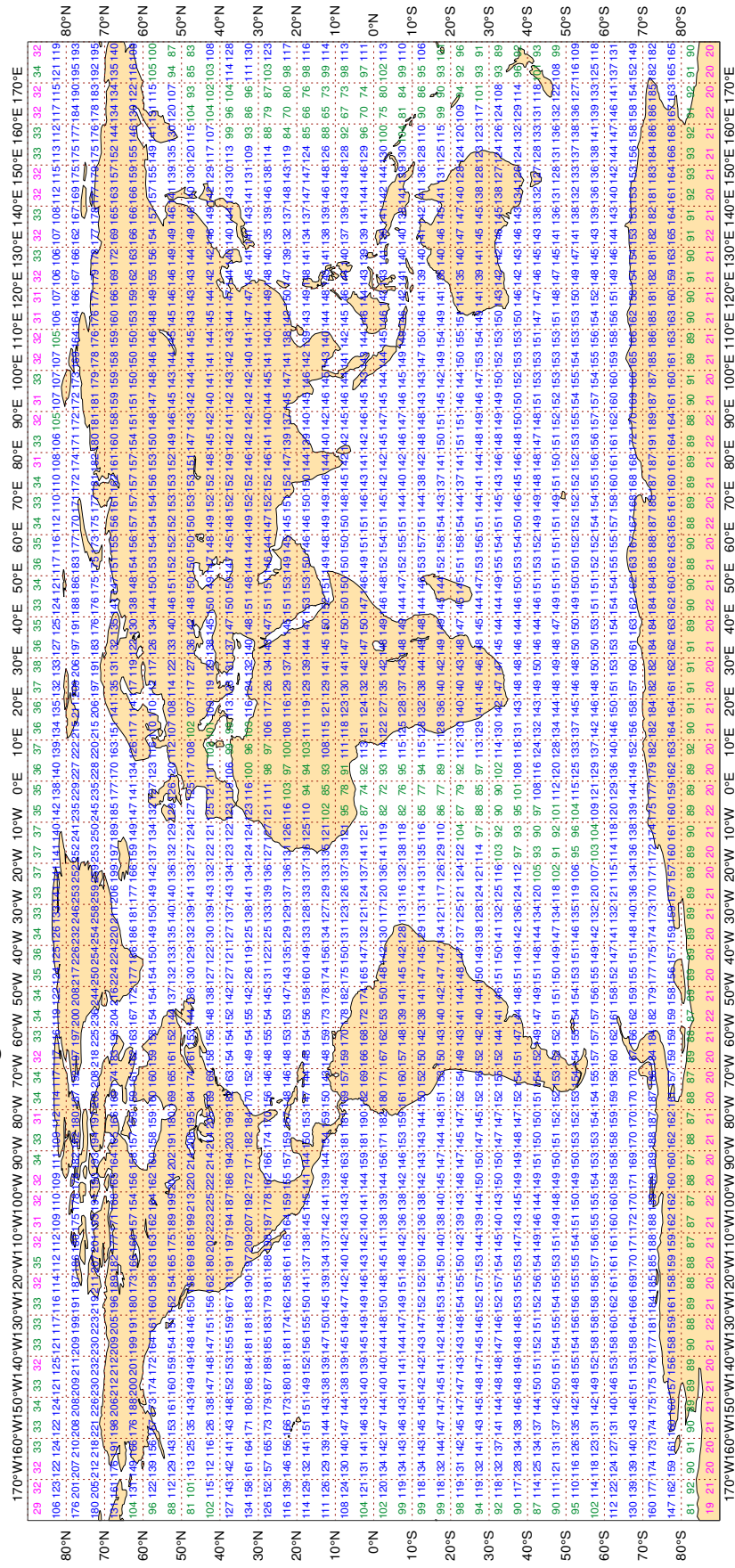


3.2.8 Figure 8 - Availability - NOAA15 ATOVS : AMSU-A

Figure 8

ECMWF Monitoring Statistics - SEP 2022
Availability - NOAA15 ATOVS : AMSU-A

Average number of observations in 24 hours - 360799



Magics 4.9.4

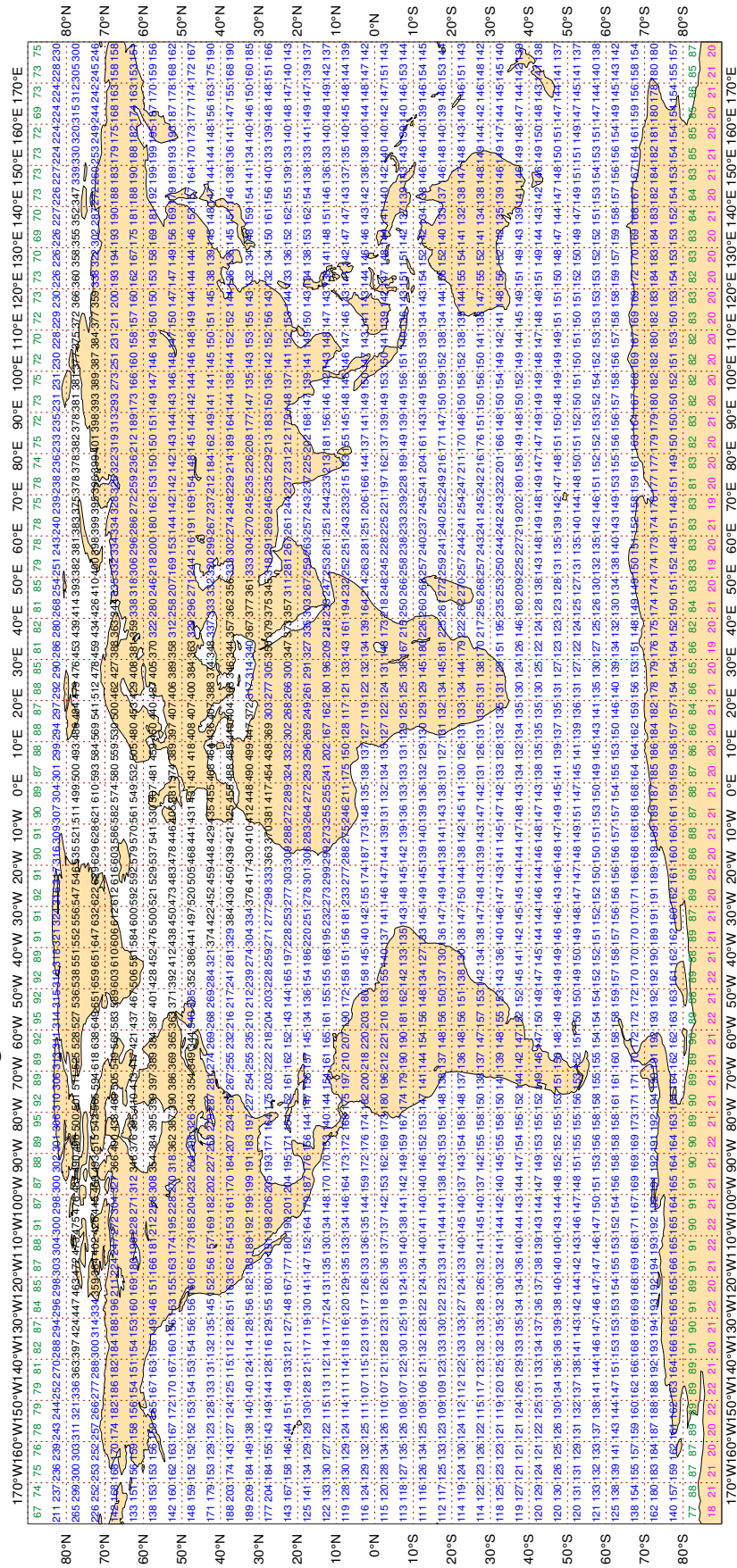


3.2.9 Figure 9.1 - Availability - NOAA18 ATOVS : AMSU-A

Figure 9.1

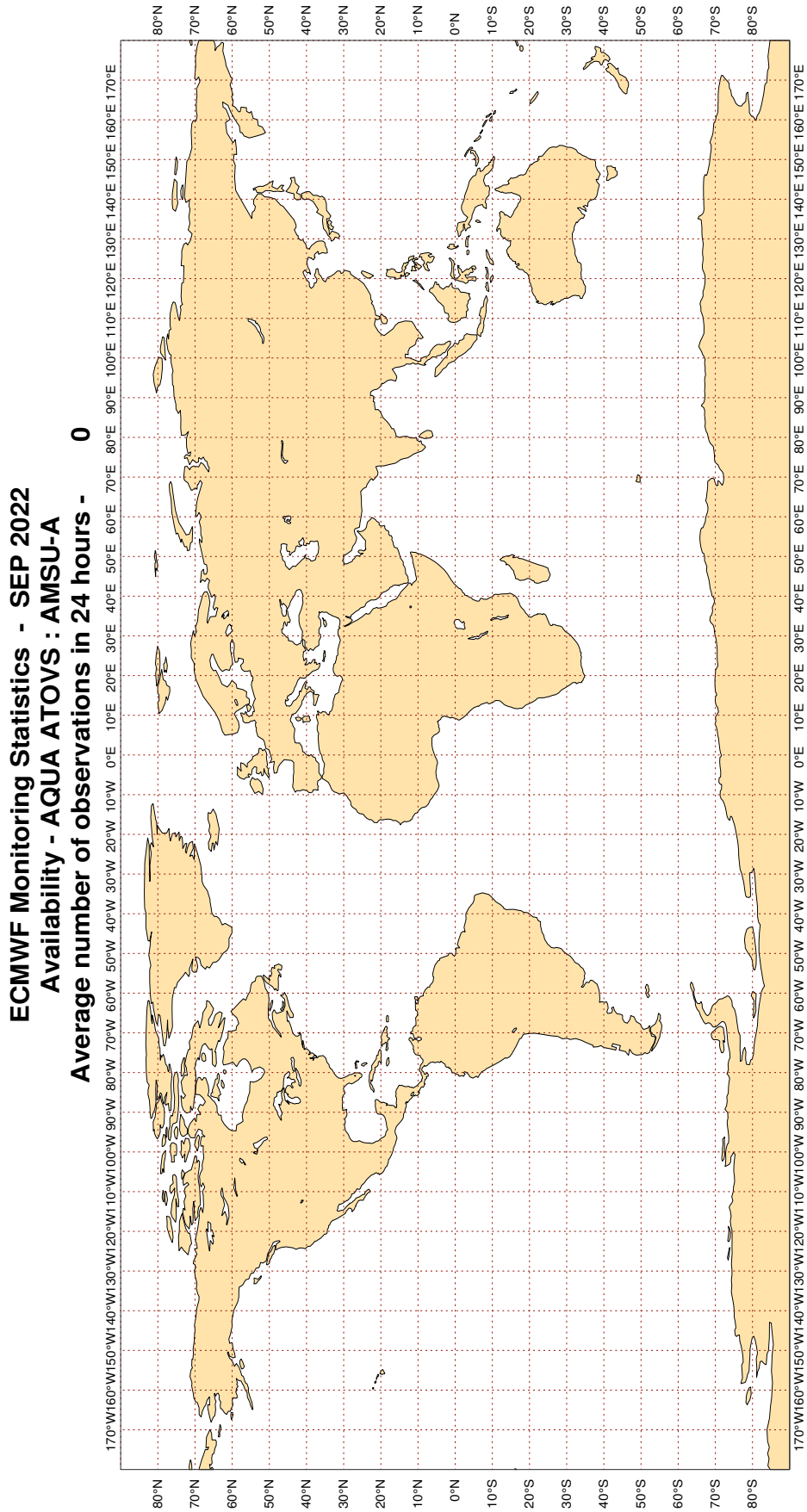
ECMWF Monitoring Statistics - SEP 2022
Availability - NOAA18 ATOVS : AMSU-A

Average number of observations in 24 hours - 505645



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

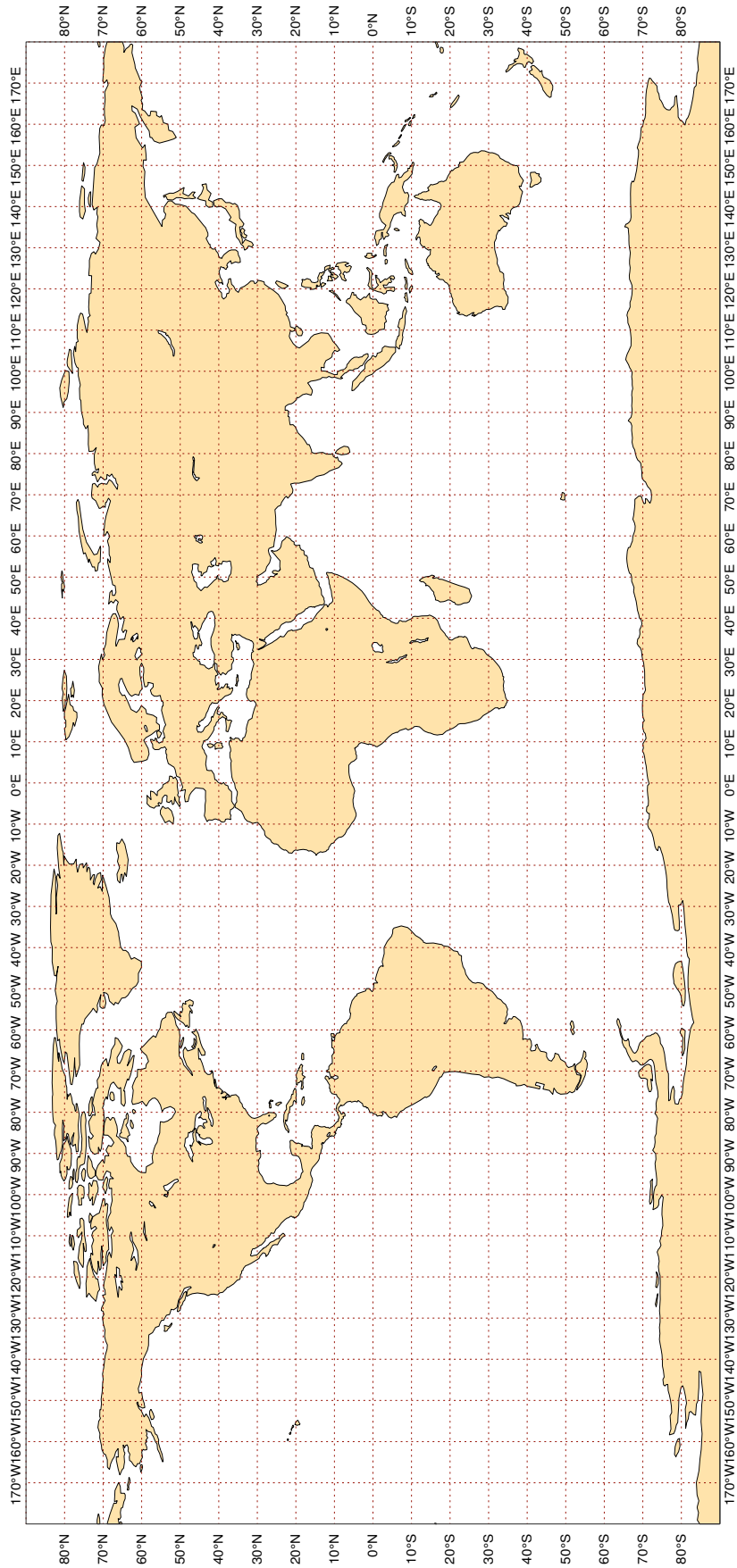
Figure 9.2



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

Figure 9.3

ECMWF Monitoring Statistics - SEP 2022
Availability - METOP ATOVS : AMSU-A
Average number of observations in 24 hours - 0



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 : SEP 2022
 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
00000	99	P	SUR	95	0	0.5	-13.0	13.1
2EIF7	99	P	SUR	29	0	1.0	5.7	5.8
2HFZ7	99	P	SUR	44	0	1.0	3.4	3.5
3ETV9	99	P	SUR	22	0	0.8	3.2	3.3
3FJB3	99	P	SUR	66	0	0.8	3.6	3.7
45208	99	P	SUR	176	176	0.0	0.0	0.0
7JQG	99	P	SUR	22	0	0.4	3.6	3.6
7JWH	99	P	SUR	56	0	0.8	4.7	4.7
9HA4048	99	P	SUR	15	0	1.1	8.9	9.0
9HA4612	99	P	SUR	28	0	1.3	3.3	3.6
9HA4638	99	P	SUR	69	0	2.0	5.1	5.5
9HJB9	99	P	SUR	53	0	2.2	4.2	4.8
9HRJ9	99	P	SUR	62	0	0.6	3.8	3.9
9HXC9	99	P	SUR	15	0	5.1	0.1	5.1
9V2908	99	P	SUR	26	0	0.9	7.2	7.3
9V5630	99	P	SUR	17	0	1.1	3.0	3.2
9V5669	99	P	SUR	53	0	0.9	6.0	6.0
9V6408	99	P	SUR	195	0	2.3	-6.1	6.5
9V6415	99	P	SUR	19	0	2.1	4.8	5.2
9V7979	99	P	SUR	77	0	1.8	-3.6	4.0
A8FG3	99	P	SUR	85	0	0.8	-6.5	6.6
A8SI6	99	P	SUR	25	0	3.5	-4.2	5.4
ATVK	99	P	SUR	156	156	0.0	0.0	0.0
BHJG	99	P	SUR	19	0	1.1	7.6	7.7
C6EJ5	99	P	SUR	39	0	3.9	4.9	6.3
C6FR3	99	P	SUR	19	2	5.4	6.7	8.6
C6NR7	99	P	SUR	26	0	7.4	-1.5	7.6
C6SE5	99	P	SUR	35	0	2.4	-4.6	5.1
C6XC7	99	P	SUR	23	0	1.3	3.1	3.4
C6XS8	99	P	SUR	145	137	2.9	-11.0	11.3
D5HE9	99	P	SUR	16	0	2.7	4.9	5.6
H3JW	99	P	SUR	42	0	3.1	3.7	4.8

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

WMO IDENT	OBS TIME	ELM	LEVEL	NUM OBS	NUM GROSS	SD	BIAS	RMS
JMJRCES	99	P	SUR	75	2	3.6	-5.0	6.2
KIAB	99	P	SUR	42	0	1.6	6.7	6.9
LAPE7	99	P	SUR	93	1	1.5	5.2	5.4
LAQM7	99	P	SUR	19	0	1.5	5.1	5.3
LAVD4	99	P	SUR	36	0	0.6	3.3	3.4
ONJG	99	P	SUR	15	0	1.1	6.6	6.7
OXFU2	99	P	SUR	30	0	0.3	5.0	5.0
S6CH4	99	P	SUR	23	0	1.5	6.1	6.3
S6LT3	99	P	SUR	61	0	0.8	5.0	5.1
SJA4RSK	99	P	SUR	149	0	0.5	-4.8	4.8
SKEC	99	P	SUR	37	0	0.3	-3.3	3.3
TBWUK49	99	P	SUR	17	0	1.5	3.5	3.8
TBWUK80	99	P	SUR	18	0	2.7	3.7	4.6
UABO	99	P	SUR	154	0	2.0	6.0	6.3
UBSH	99	P	SUR	81	2	1.3	-3.4	3.6
V7AU2	99	P	SUR	35	0	2.4	5.5	6.0
V7OJ4	99	P	SUR	28	0	0.7	-5.4	5.4
V7QS7	99	P	SUR	66	0	0.8	-6.3	6.4
V7QT7	99	P	SUR	93	0	2.7	3.1	4.1
V7UX2	99	P	SUR	32	0	3.9	4.6	6.0
VABC	99	P	SUR	43	1	2.4	7.5	7.9
VDBY	99	P	SUR	30	1	5.4	4.2	6.9
VRCG8	99	P	SUR	34	0	2.0	3.2	3.8
VRCI9	99	P	SUR	32	0	1.8	4.9	5.2
VRDB3	99	P	SUR	30	0	1.0	-6.0	6.0
VRG03	99	P	SUR	42	0	1.1	8.7	8.8
VRGO7	99	P	SUR	40	0	0.6	-3.0	3.1
VRGO8	99	P	SUR	31	0	1.2	3.8	4.0
VRIB2	99	P	SUR	58	0	1.3	5.0	5.1
VRJH7	99	P	SUR	32	0	3.0	3.8	4.8
VRLJ4	99	P	SUR	45	0	2.1	11.5	11.7
VRLX6	99	P	SUR	18	0	2.9	3.4	4.5
VRLZ3	99	P	SUR	27	0	0.0	8.4	8.4
VRMX7	99	P	SUR	17	0	0.8	8.7	8.7
VRNU9	99	P	SUR	30	0	5.0	3.1	5.9
VRPY7	99	P	SUR	28	0	0.7	3.8	3.9
VRQX5	99	P	SUR	22	8	0.5	14.6	14.6
VRRB6	99	P	SUR	162	1	5.1	-0.3	5.1
VRRD7	99	P	SUR	33	0	1.3	6.2	6.4
VRSJ8	99	P	SUR	15	0	0.5	-5.8	5.9
VRWN4	99	P	SUR	19	0	1.3	-5.5	5.6

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

WMO IDENT	OBS TIME	ELM	LEVEL	NUM OBS	NUM GROSS	SD	BIAS	RMS
VRWQ2	99	P	SUR	96	0	1.1	-5.2	5.3
VTVS	99	P	SUR	205	0	1.8	3.7	4.1
WLIU	99	P	SUR	105	0	0.5	-4.4	4.5
WRJP	99	P	SUR	27	0	0.3	4.5	4.5
WTEO	99	P	SUR	177	66	0.3	-2.4	2.5
ZCDE3	99	P	SUR	36	0	2.4	3.2	4.0
ZGFY4	99	P	SUR	24	3	1.4	-8.2	8.4

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 : SEP 2022
 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
62153	99	SPEED	SUR	304	0	0	3.6	-5.9	6.9

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 : SEP 2022
 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
44037	99	DIRN	SUR	94	0	0	14.6	34.5	37.5
45145	99	DIRN	SUR	90	0	0	16.0	71.1	72.9
45168	99	DIRN	SUR	548	0	0	26.0	31.3	40.7
45170	99	DIRN	SUR	493	0	0	43.2	-56.3	71.0
45197	99	DIRN	SUR	339	0	0	35.3	30.7	46.8
45199	99	DIRN	SUR	453	7	0	87.7	118.9	147.8
45201	99	DIRN	SUR	130	0	0	86.0	-12.6	86.9
45204	99	DIRN	SUR	476	0	0	44.5	36.6	57.6
46081	99	DIRN	SUR	71	0	0	35.3	30.7	46.8
46120	99	DIRN	SUR	61	0	0	19.8	-31.1	36.9
46146	99	DIRN	SUR	85	0	0	17.6	36.4	40.5
46205	99	DIRN	SUR	92	0	0	17.1	46.3	49.4
46208	99	DIRN	SUR	18	0	0	15.7	34.4	37.8

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

LIST OF SUSPECT STATIONS : DRIFTER
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : SURFACE PRESSURE (HPA)
 AREA : GLOBAL
 PERIOD : SEP 2022
 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
00000	99	P	SUR	44	-79	563	0	0.5	-13.0	13.0
3201777	99	P	SUR	-13	-134	119	0	1.5	4.7	5.0
4201647	99	P	SUR	30	-89	752	0	6.3	-5.9	8.7
4401848	99	P	SUR	54	-10	404	258	1.9	-12.9	13.0
4500208	99	P	SUR	42	-81	964	964	0.0	0.0	0.0
45208	99	P	SUR	42	-81	956	956	0.0	0.0	0.0
4601783	99	P	SUR	59	-138	487	487	0.0	0.0	0.0
4801670	99	P	SUR	87	-76	793	587	7.9	5.3	9.5
4802591	99	P	SUR	76	-167	642	7	1.4	12.7	12.8
5102809	99	P	SUR	2	-105	861	0	0.3	-5.9	5.9
5601693	99	P	SUR	-59	111	853	1	0.9	12.5	12.5
6102804	99	P	SUR	40	3	852	0	0.4	-7.0	7.0
6301004	99	P	SUR	72	20	39	5	6.9	0.9	6.9
6301846	99	P	SUR	82	35	599	398	4.4	-8.7	9.7
6402587	99	P	SUR	54	-51	777	19	2.9	9.2	9.7
6402654	99	P	SUR	61	3	469	197	7.9	2.2	8.2
6501671	99	P	SUR	81	16	762	15	2.1	7.0	7.3

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 : SEP 2022
 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
0031260	99	SPEED	SUR	-18	-39	70	0	0	1.1	6.3	6.4
4102646	99	SPEED	SUR	33	-117	39	0	0	5.4	5.4	7.7
62153	99	SPEED	SUR	57	2	1736	0	0	3.6	-6.0	6.9
6301004	99	SPEED	SUR	72	20	39	0	0	1.8	-5.7	6.0

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

LIST OF SUSPECT STATIONS : DRIFTER
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND DIRECTION (DEGREES)
 PERIOD : SEP 2022
 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
1300131	99	DIRN	SUR	28	-17	560	0	0	48.8	28.5	56.5
1500008	99	DIRN	SUR	-20	-10	212	0	0	20.5	-24.9	32.2
2200102	99	DIRN	SUR	35	126	560	31	0	77.8	-40.3	87.6
2200186	99	DIRN	SUR	36	126	405	0	0	75.4	11.1	76.2
2200192	99	DIRN	SUR	34	123	673	52	0	135.0	11.0	135.4
23099	99	DIRN	SUR	13	80	383	0	0	112.4	-55.8	125.5
23451	99	DIRN	SUR	15	69	230	0	0	131.5	-33.2	135.7
23453	99	DIRN	SUR	8	73	249	0	0	13.2	-48.5	50.3
23454	99	DIRN	SUR	10	73	237	0	0	73.5	-29.9	79.3
23491	99	DIRN	SUR	12	93	262	0	0	64.1	-105.6	123.6
23492	99	DIRN	SUR	11	72	253	0	0	37.7	-67.0	76.9
4400037	99	DIRN	SUR	43	-68	603	0	0	13.5	34.6	37.1
44037	99	DIRN	SUR	44	-68	601	0	0	14.6	34.3	37.3
4500168	99	DIRN	SUR	42	-86	3103	0	0	27.2	30.1	40.5
4500170	99	DIRN	SUR	42	-87	2273	0	0	30.7	-63.2	70.2
4500186	99	DIRN	SUR	42	-88	2617	0	0	66.3	-8.0	66.8
4500197	99	DIRN	SUR	42	-82	1527	0	0	27.2	30.8	41.1
4500199	99	DIRN	SUR	43	-88	371	2	0	70.2	128.7	146.6
4500201	99	DIRN	SUR	42	83	475	0	0	90.3	-13.0	91.2
4500203	99	DIRN	SUR	41	-83	2073	0	0	41.9	-24.3	48.5
4500204	99	DIRN	SUR	42	-82	2471	0	0	43.9	39.3	59.0
4500205	99	DIRN	SUR	42	-82	2234	0	0	48.0	26.1	54.7
4500206	99	DIRN	SUR	42	-82	2012	0	0	32.8	-28.3	43.3
45145	99	DIRN	SUR	52	-97	521	0	0	19.2	70.3	72.9
45168	99	DIRN	SUR	42	-86	3050	0	0	28.1	29.1	40.5
45170	99	DIRN	SUR	42	-87	2874	0	0	38.2	-59.6	70.8
45186	99	DIRN	SUR	42	-88	2644	0	0	67.9	-6.1	68.2
45197	99	DIRN	SUR	42	-82	1888	0	0	29.6	30.6	42.6
45199	99	DIRN	SUR	43	-88	2537	30	0	86.8	119.1	147.4
45201	99	DIRN	SUR	42	83	781	0	0	92.3	-1.7	92.3
45203	99	DIRN	SUR	41	-83	2172	0	0	42.6	-23.6	48.7

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
45204	99	DIRN	SUR	42	-82	2781	0	0	45.0	38.5	59.2
45205	99	DIRN	SUR	42	-82	2293	0	0	48.3	25.4	54.6
45206	99	DIRN	SUR	42	-82	2420	0	0	34.3	-27.0	43.7
4600060	99	DIRN	SUR	61	-147	573	0	0	24.3	21.6	32.4
4600081	99	DIRN	SUR	61	-148	364	0	0	40.2	28.1	49.1
4600087	99	DIRN	SUR	48	-125	158	0	0	27.1	21.5	34.6
4600120	99	DIRN	SUR	48	-122	545	0	0	21.4	-21.2	30.1
46081	99	DIRN	SUR	61	-148	362	0	0	39.3	28.6	48.6
46087	99	DIRN	SUR	49	-125	122	0	0	24.2	20.2	31.6
46120	99	DIRN	SUR	48	-122	392	0	0	26.3	-24.8	36.1
46145	99	DIRN	SUR	54	-132	679	0	0	18.0	22.8	29.1
46146	99	DIRN	SUR	49	-124	451	0	0	21.4	31.7	38.2
46204	99	DIRN	SUR	51	-129	553	0	0	21.4	20.8	29.9
46205	99	DIRN	SUR	54	-134	560	0	0	19.0	45.8	49.5
46208	99	DIRN	SUR	53	-133	83	0	0	15.1	33.9	37.1
5100008	99	DIRN	SUR	2	-140	456	0	0	9.4	20.1	22.2
51008	99	DIRN	SUR	2	-140	455	0	0	9.9	20.2	22.5
6100198	99	DIRN	SUR	37	-2	528	0	0	51.7	24.6	57.3
6200086	99	DIRN	SUR	55	6	530	0	0	17.0	25.5	30.6
6200199	99	DIRN	SUR	40	-9	505	0	0	22.0	29.4	36.7
6200200	99	DIRN	SUR	36	-8	431	0	0	147.2	-83.6	169.3
6600022	99	DIRN	SUR	54	14	330	0	0	35.4	27.1	44.6

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 : SEP 2022
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

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

ONLY THE WORST LEVEL IS SHOWN (WITH UNWEIGHTED RMS)

WMO IDENT	OBS TIME	ELM	LEV	LAT	LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
01400	12	Z	1000	57	3	28	0	5.6	78.6	78.8
01400	00	Z	1000	57	3	27	0	4.0	78.2	78.3
32150	00	Z	400	47	143	37	1	41.8	53.8	68.1
38341	12	Z	100	43	71	37	1	69.1	99.2	120.9
47122	00	Z	850	37	127	36	2	28.6	38.2	47.7
47122	12	Z	850	37	127	36	4	35.6	28.2	45.4
47158	12	Z	850	35	127	35	3	34.3	51.5	61.9
47158	00	Z	850	35	127	37	1	34.5	44.5	56.3
52323	00	Z	30	42	97	29	7	109.4	317.7	336.0
52323	12	Z	50	42	97	28	0	73.1	168.0	183.2
52533	00	Z	50	40	98	27	0	113.0	146.6	185.1
57083	00	Z	30	35	114	29	2	179.6	207.1	274.1
58424	00	Z	30	31	117	30	0	161.7	131.6	208.5
62378	12	Z	400	30	31	18	0	49.0	56.5	74.8
68906	12	Z	1000	-40	-10	12	0	28.1	15.8	32.2
98233	00	Z	1000	18	122	37	0	30.1	44.0	53.3
98558	00	Z	1000	11	126	35	0	27.1	20.8	34.2
98558	12	Z	1000	11	126	34	0	25.5	19.0	31.8
JNKN7J	12	Z	1000	46	-57	10	0	0.0	44.1	44.1
JNKN7J	00	Z	1000	46	-53	11	0	4.2	43.5	43.7

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 : SEP 2022
 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
04220	00	V	250	69	-53	23	2	-4.2	-3.5	18.6
42701	00	V	100	23	85	25	0	11.2	-14.7	20.2
44373	12	V	200	44	104	29	0	-4.2	-1.8	15.5
ATGU3F	12	V	300	61	-41	10	1	0.1	5.0	18.8

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

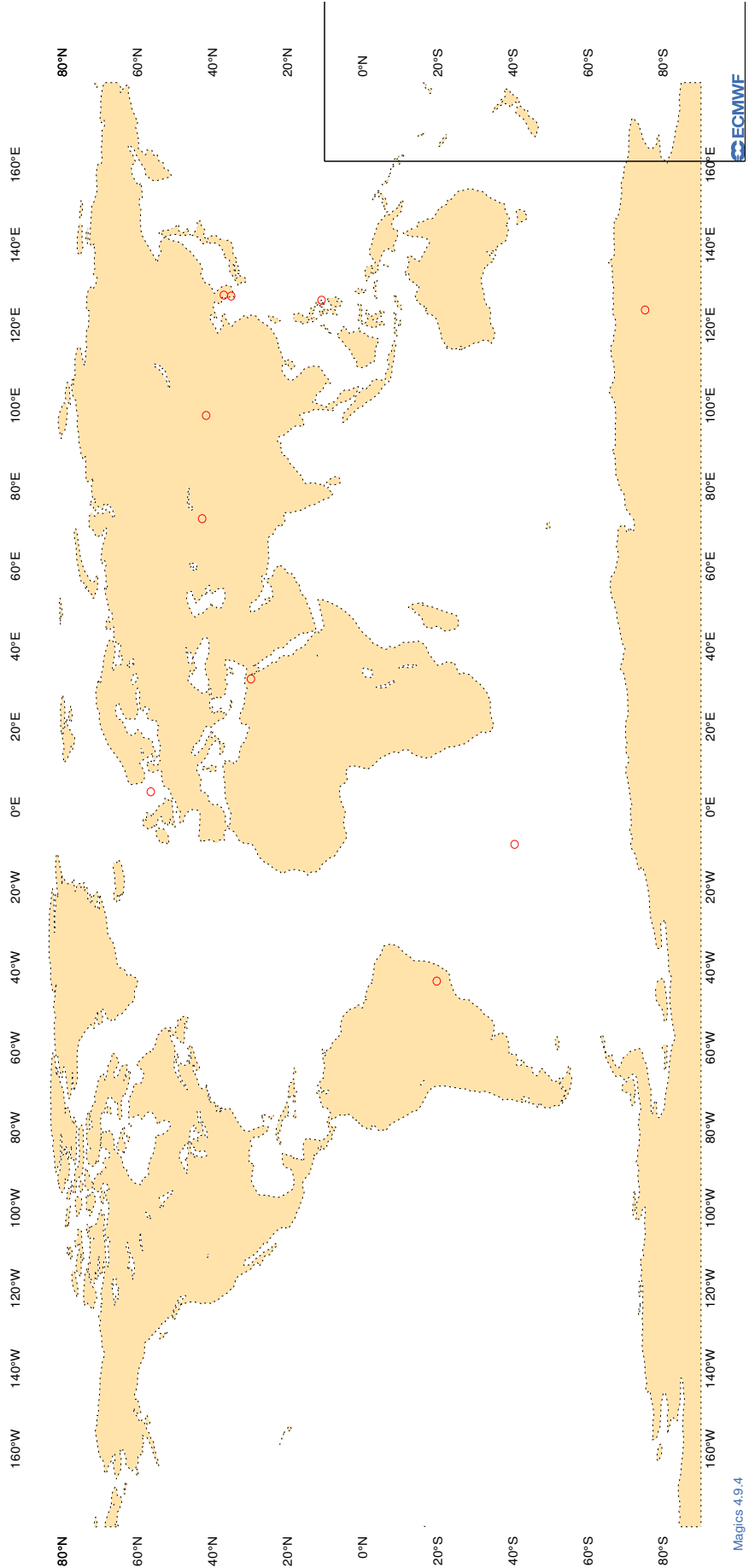
LIST OF SUSPECT STATIONS : RADIOSONDES
 MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND DIRECTION (DEGREES)
 AREA : GLOBAL
 PERIOD : SEP 2022
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

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
34247	00	DD	50	41	27	-15.1	4.5	17.1
34247	12	DD	50	41	29	-10.8	4.7	15.4

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

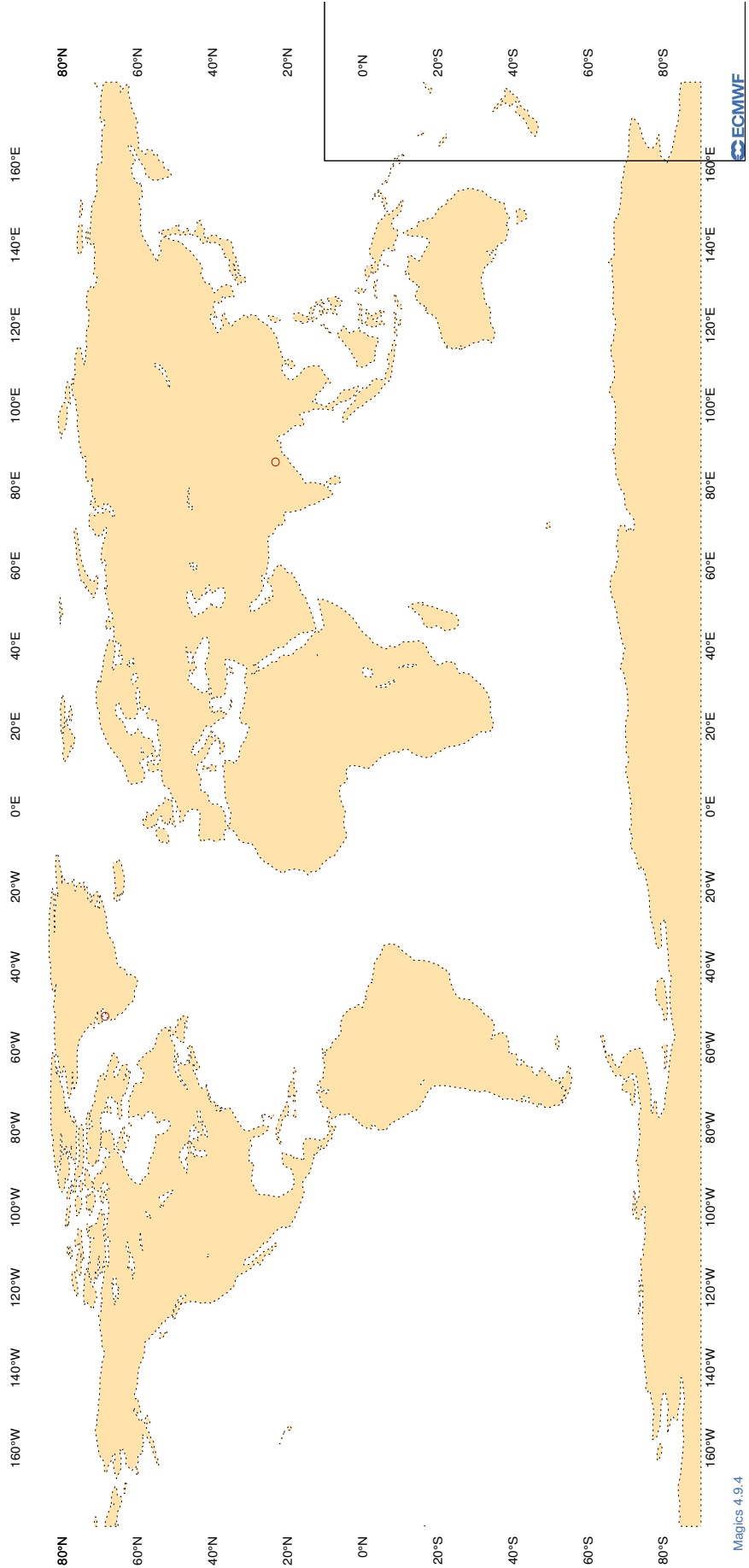
Figure 11
ECMWF Monitoring Statistics - SEP 2022 12 UTC
Suspect TEMP observations - GEOPOTENTIAL



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

Figure 12

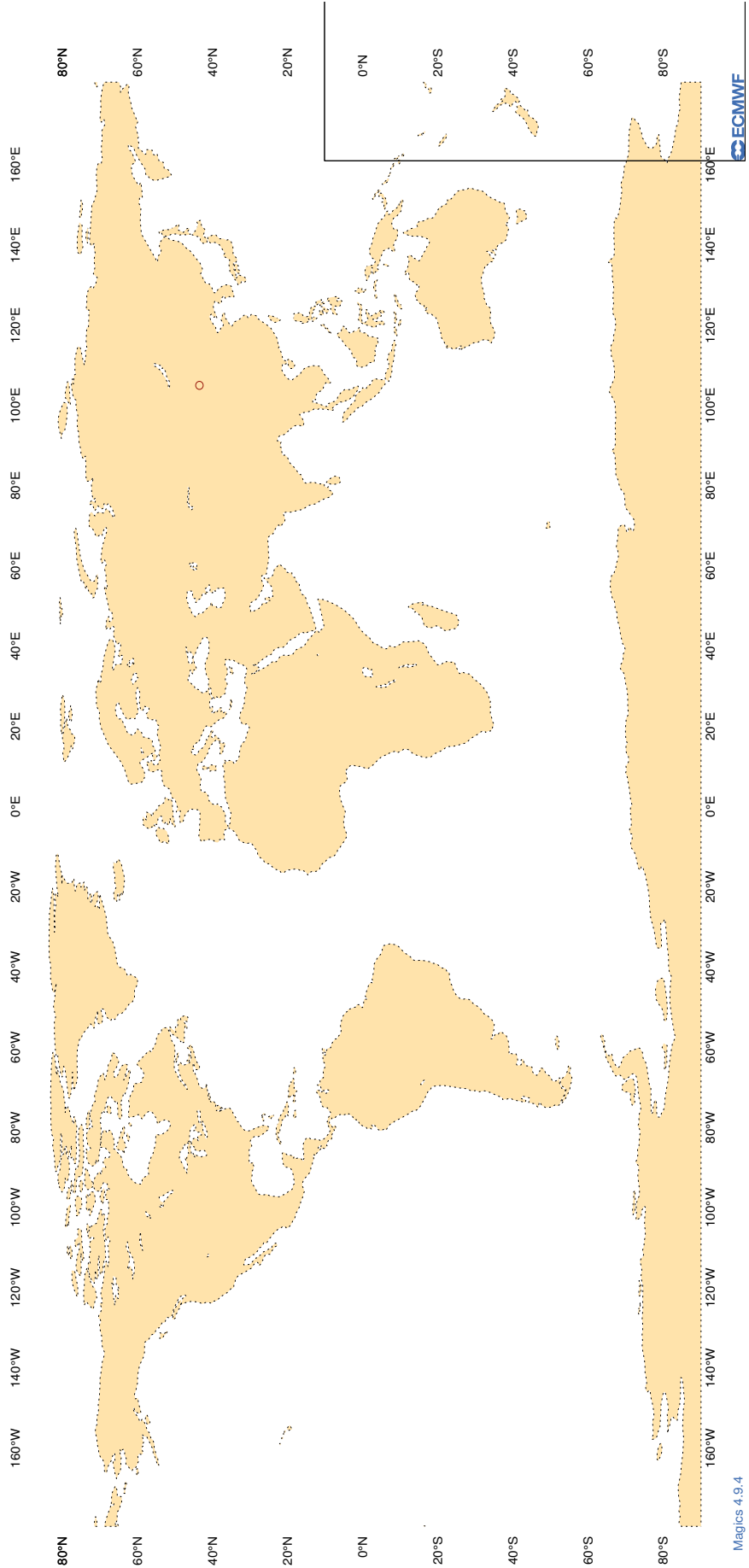
ECMWF Monitoring Statistics - SEP 2022 00 UTC
Suspect TEMP/PILOT observations - WIND



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

Figure 13

ECMWF Monitoring Statistics - SEP 2022 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 : SEP 2022
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
2EERV	00	Z	100	2	5.0	-4.8
2EERV	12	Z	100	1	19.1	-19.1
7JUNA4	00	Z	100	5	9.3	-4.4
7JUNA4	12	Z	100	5	23.0	5.0
9ZT9MR	12	Z	100	6	21.2	-18.1
9ZT9MR	00	Z	100	1	23.6	-23.6
ASDE09	12	Z	100	3	20.8	19.9
ATGU3F	12	Z	100	9	15.8	-7.8
ATGU3F	00	Z	100	6	22.1	-19.0
BPMWB2	12	Z	100	7	20.8	13.2
BPMWB2	00	Z	100	7	16.8	1.9
DBLK	12	Z	100	26	22.2	20.7
FPUW5G	12	Z	100	15	6.7	-5.2
JNKN7J	12	Z	100	8	31.0	29.9
JNKN7J	00	Z	100	11	30.7	29.8
KJFF9X	00	Z	100	7	11.2	9.8
KJFF9X	12	Z	100	4	5.7	3.4
KMPLHP	00	Z	100	7	33.8	32.6
KMPLHP	12	Z	100	7	66.9	41.8
LRYQE3	12	Z	100	9	12.7	-10.1
LRYQE3	00	Z	100	10	9.5	-5.3
USSIO	00	Z	100	1	23.3	-23.3
UXK5JT	00	Z	100	1	3.5	-3.5
UXK5JT	12	Z	100	2	9.8	-9.8
WDK38H	12	Z	100	3	6.3	-5.7
XKQLWQ	12	Z	100	23	33.3	30.9
XQFJRG	12	Z	100	6	10.2	-7.8
XQFJRG	00	Z	100	6	12.9	-8.9
YLV96W	00	Z	100	4	53.8	46.9
YLV96W	12	Z	100	4	93.9	74.7
ZVQEQC	12	Z	100	10	5.3	4.1

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

RADIOSONDE MONITORING STATISTICS (SHIPS)

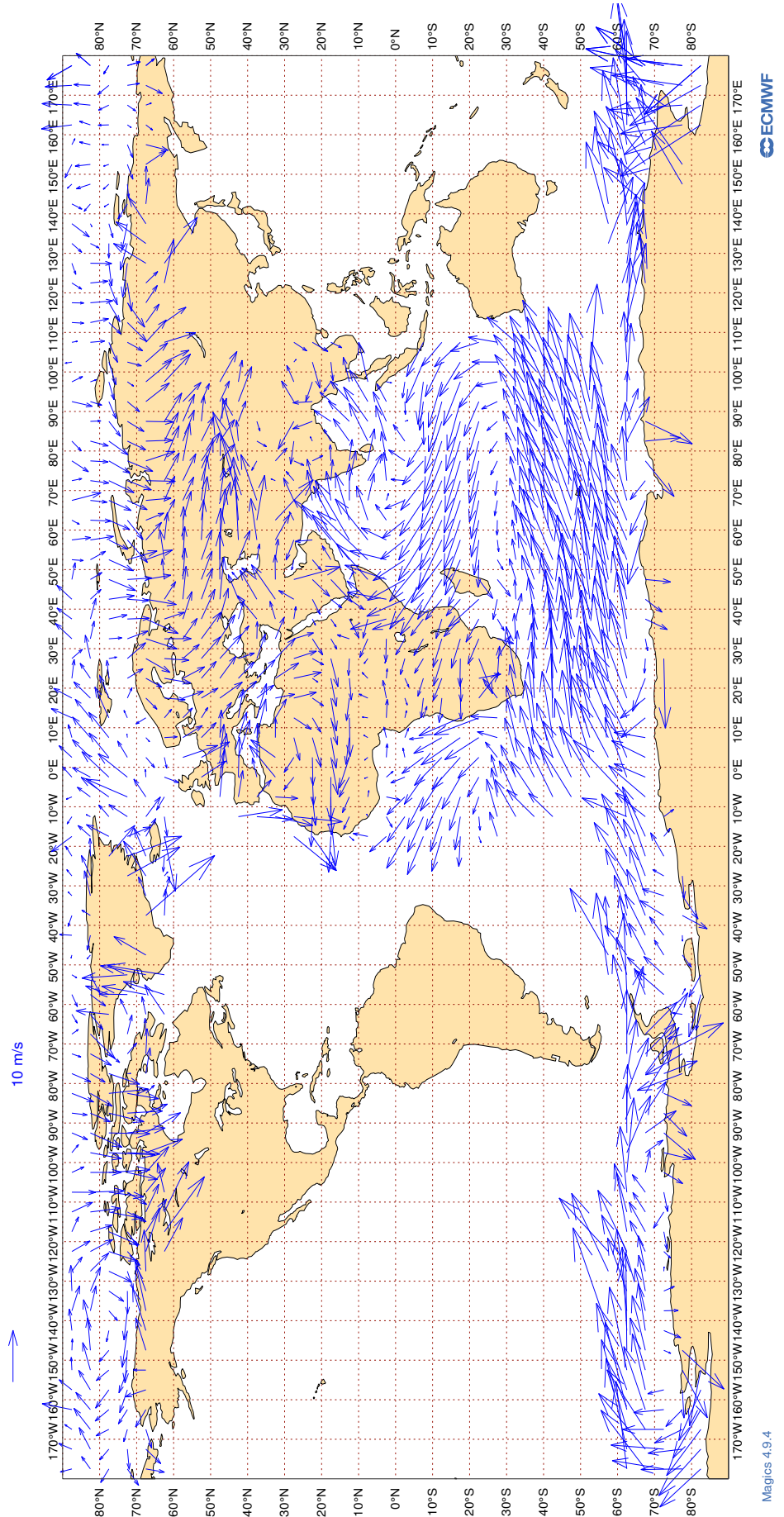
MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : WIND (M/S)
 LEVEL : 100 HPA
 AREA : GLOBAL
 PERIOD : SEP 2022
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
2EERVT	00	V	100	2	4.2	0.6	2.8
2EERVT	12	V	100	1	1.9	1.6	-1.0
7JUNA4	00	V	100	5	3.1	1.6	0.7
7JUNA4	12	V	100	5	2.8	0.3	1.2
9ZT9MR	12	V	100	6	2.7	-1.1	0.5
9ZT9MR	00	V	100	1	2.7	0.7	2.6
ASDE09	12	V	100	3	4.8	-0.8	1.3
ATGU3F	12	V	100	9	3.2	-1.8	-0.1
ATGU3F	00	V	100	6	2.0	-0.3	-0.3
BPMWB2	12	V	100	7	3.9	-1.6	0.6
BPMWB2	00	V	100	7	2.8	0.6	0.4
DBLK	12	V	100	26	3.8	-0.3	0.2
FPUW5G	12	V	100	15	2.7	-0.7	-0.3
JNKN7J	12	V	100	8	3.4	-0.8	-0.1
JNKN7J	00	V	100	11	3.7	-0.2	0.8
KJJF9X	00	V	100	7	3.0	-0.3	0.6
KJJF9X	12	V	100	4	3.6	1.9	-0.8
KMPLHP	00	V	100	7	2.3	-0.2	-0.1
KMPLHP	12	V	100	7	2.9	0.5	0.0
LRYQE3	12	V	100	9	3.2	-0.1	0.0
LRYQE3	00	V	100	10	2.9	1.3	0.1
USSIO	00	V	100	1	5.0	4.9	-0.9
UXK5JT	00	V	100	1	2.8	1.9	2.0
UXK5JT	12	V	100	2	3.2	-2.2	-1.6
WDK38H	12	V	100	3	2.7	-1.1	0.4
XKQLWQ	12	V	100	22	3.0	0.8	-0.7
XQFJRG	12	V	100	6	2.6	-0.8	-1.7
XQFJRG	00	V	100	6	2.0	-0.8	-0.2
YLV96W	00	V	100	4	3.5	2.1	1.6
YLV96W	12	V	100	4	2.9	1.2	-1.0
ZVQEQC	12	V	100	10	2.0	0.2	-0.8

3.2.27 Figure 14 - SATOB Winds: 700-1000hPa

Figure 14

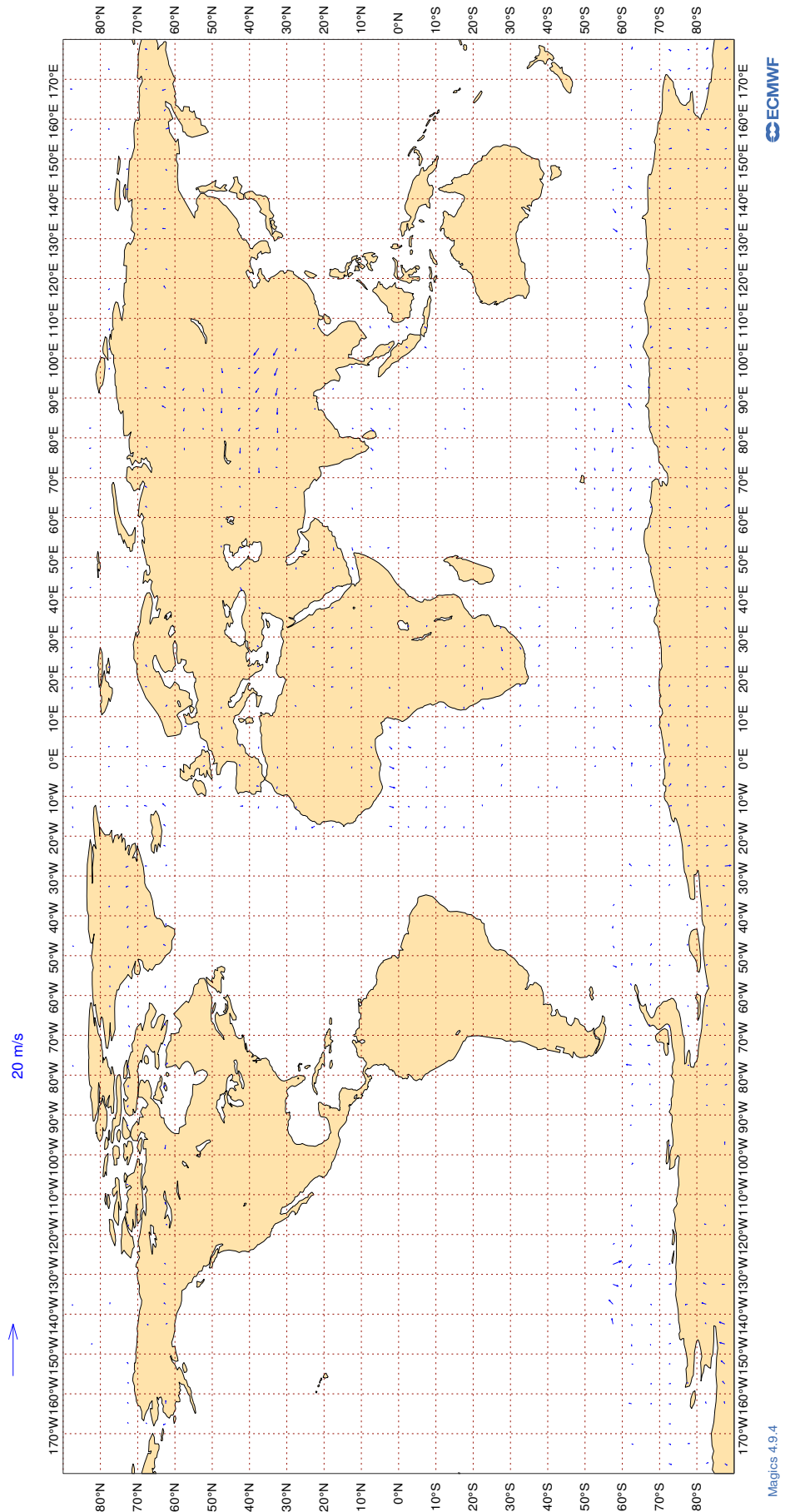
ECMWF Monitoring Statistics: Sep 2022
AMV Winds: 700-1000hPa
Mean Observed Wind



3.2.28 Figure 15 - SATOB Winds: 150- 400hPa

Figure 15

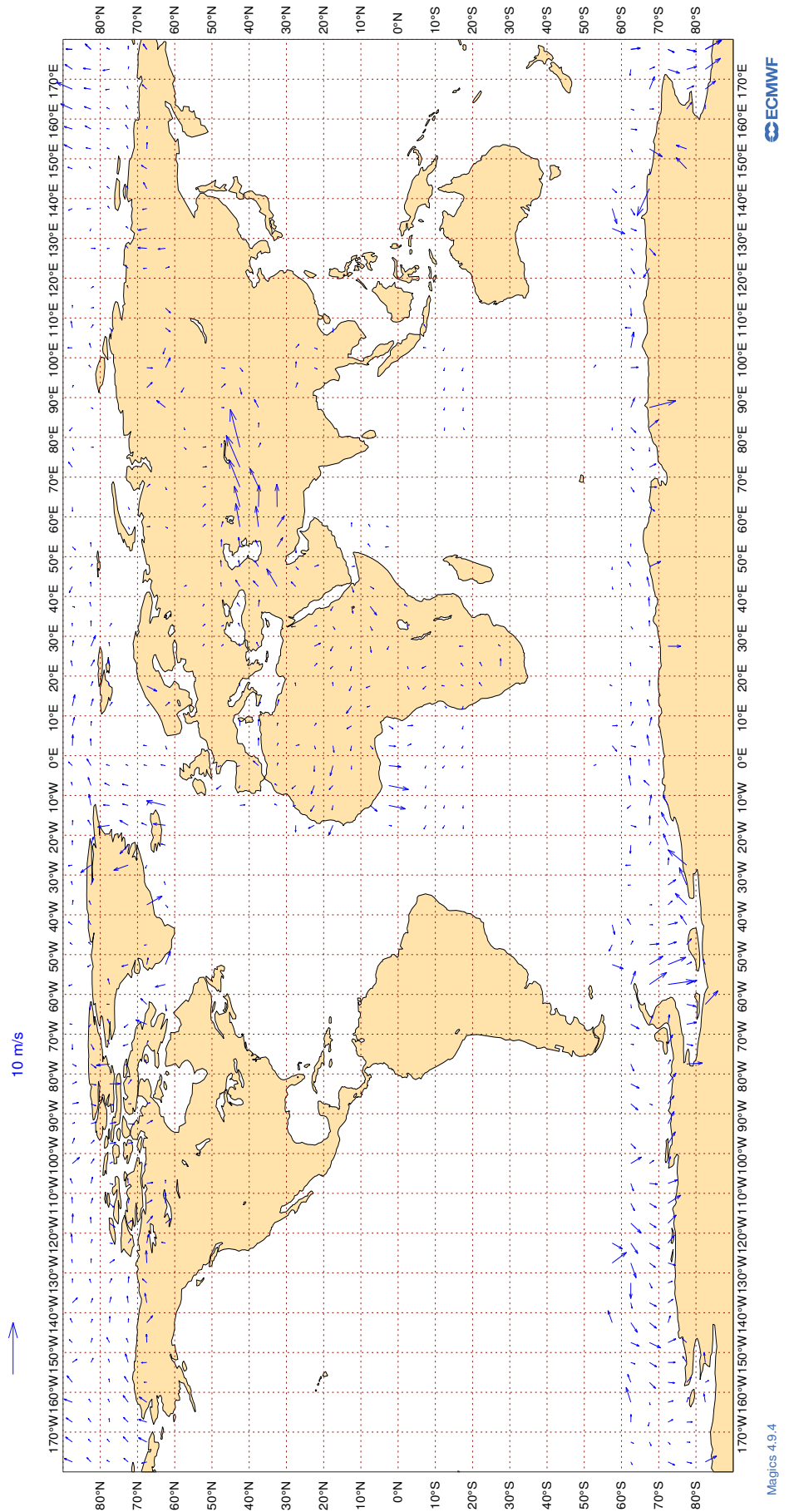
ECMWF Monitoring Statistics: Sep 2022
AMV Winds: 150- 400hPa
Wind bias: Observation - FG



3.2.29 Figure 16 - SATOB Winds: 700-1000hPa

Figure 16

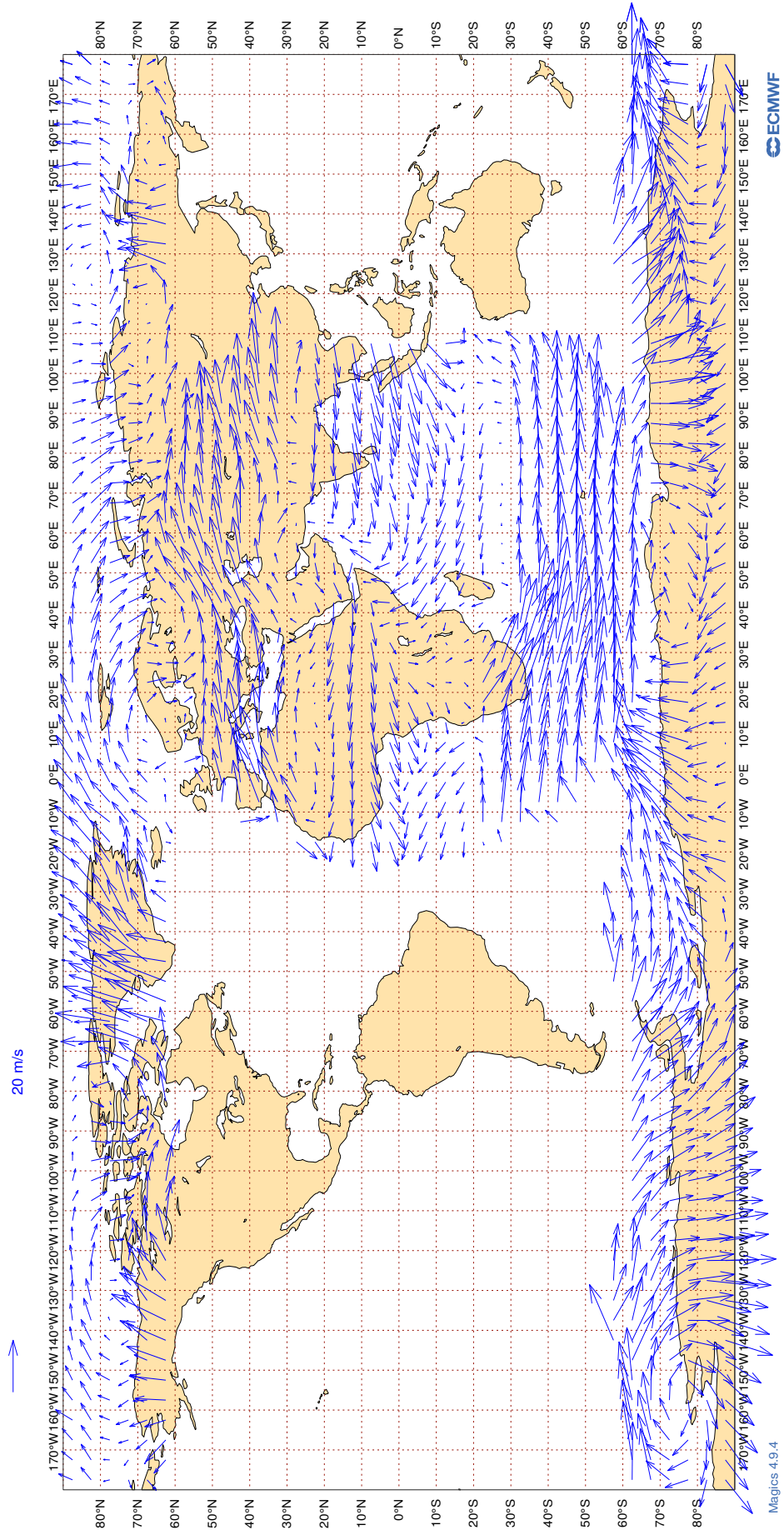
ECMWF Monitoring Statistics: Sep 2022
AMV Winds: 700-1000hPa
Wind bias: Observation - FG



3.2.30 Figure 17 - SATOB Winds: 150- 400hPa

Figure 17

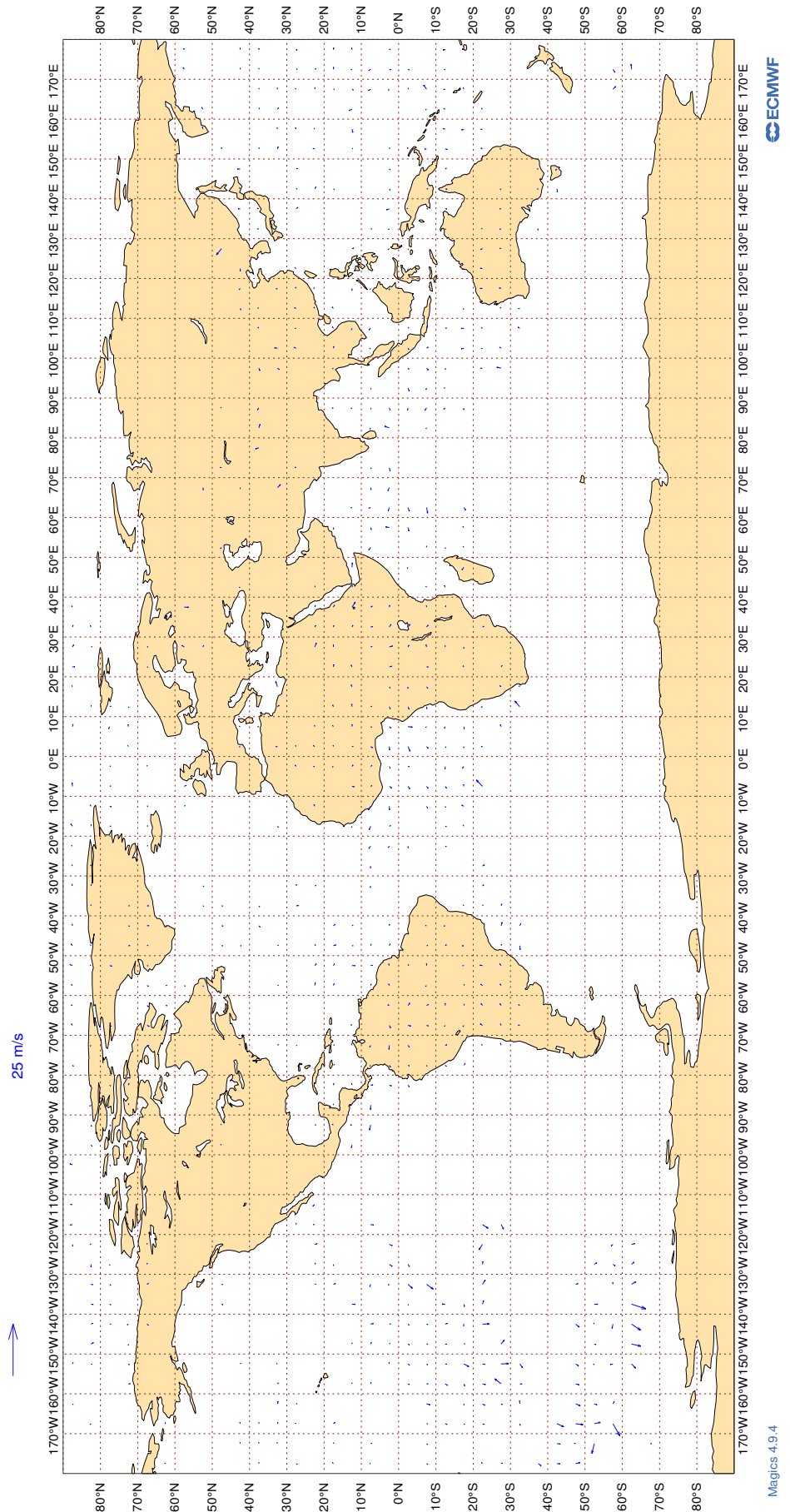
ECMWF Monitoring Statistics: Sep 2022
AMV Winds: 150- 400hPa
Mean Observed Wind



3.2.31 Figure 18 - AIRCRAFT Winds: 150- 300hPa

Figure 18

ECMWF Monitoring Statistics: Sep 2022
Aircraft Winds: 150- 300hPa
Wind bias: Observation - FG



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

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS

MONITORING CENTRE : ECMWF
 ELEMENT MONITORED : VECTOR WIND (M/S)
 AREA : GLOBAL
 PERIOD : SEP 2022
 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	31	0	0	3.4	0.1
AAL	99	V	300-150	64308	2	0	4.9	0.0
AAR	99	V	300-150	216	0	0	5.5	-1.1
ABB	99	V	300-150	1422	0	0	3.1	0.2
ABD	99	V	300-150	2044	0	0	4.2	-0.4
ABX	99	V	300-150	104	0	0	3.8	-0.7
ACA	99	V	300-150	46185	2	0	5.0	0.0
ACI	99	V	300-150	409	0	0	4.1	0.4
AEA	99	V	300-150	781	2	0	6.2	0.1
AFR	99	V	300-150	42336	0	0	3.8	0.0
AHO	99	V	300-150	468	0	0	3.7	0.2
AIC	99	V	300-150	2820	1	0	5.3	0.2
AJT	99	V	300-150	141	0	0	3.6	0.1
ALK	99	V	300-150	2919	0	0	4.0	0.5
AME	99	V	300-150	57	0	0	3.7	0.4
AMX	99	V	300-150	4551	5	0	6.2	-0.1
ANZ	99	V	300-150	20859	1	0	4.9	0.3
AOJ	99	V	300-150	120	0	0	3.4	0.2
ASA	99	V	300-150	37	0	3	2.6	0.8
ASL	99	V	300-150	867	0	0	3.4	0.3
ASP	99	V	300-150	214	0	0	4.0	0.5

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
ASY	99	V	300-150	164	0	0	3.9	0.1
ATC	99	V	300-150	194	0	0	4.6	0.9
ATL	99	V	300-150	24	0	0	3.4	-0.3
ATN	99	V	300-150	151	0	1	4.7	-0.6
AUA	99	V	300-150	5681	0	0	3.9	-0.3
AUH	99	V	300-150	54	6	0	6.9	-0.7
AVA	99	V	300-150	505	2	1	4.5	-0.1
AWC	99	V	300-150	311	0	0	4.7	1.0
AXB	99	V	300-150	29	0	0	4.4	-0.3
AXM	99	V	300-150	171	0	0	5.4	0.8
AXY	99	V	300-150	154	0	0	3.7	1.0
AYY	99	V	300-150	48	0	0	4.9	0.5
AZG	99	V	300-150	834	0	0	3.4	0.1
BAF	99	V	300-150	38	0	0	2.7	1.5
BAW	99	V	300-150	52767	1	0	4.6	0.0
BBA	99	V	300-150	30	0	0	3.7	1.0
BBC	99	V	300-150	943	2	0	6.2	0.1
BCS	99	V	300-150	4396	0	0	3.2	0.2
BEL	99	V	300-150	1845	0	0	3.1	0.2
BFF	99	V	300-150	47	0	0	8.7	-0.3
BFY	99	V	300-150	124	0	0	3.2	-0.9
BMW	99	V	300-150	22	0	0	3.2	-1.6
BOE	99	V	300-150	33	3	0	7.2	0.6
BOX	99	V	300-150	4991	0	0	3.5	0.0
BOX	99	V	300-150	72	0	0	3.9	-0.5
BRJ	99	V	300-150	47	0	0	4.0	0.7
BTX	99	V	300-150	94	0	0	3.0	-0.2
CAL	99	V	300-150	378	0	0	4.0	0.3
CAZ	99	V	300-150	150	0	0	3.6	-0.6
CEB	99	V	300-150	328	0	0	3.9	0.6
CEF	99	V	300-150	23	0	0	4.3	1.1
CES	99	V	300-150	159	0	0	4.1	0.1
CFC	99	V	300-150	418	0	0	3.9	0.1
CFG	99	V	300-150	6632	0	0	3.6	-0.2
CHG	99	V	300-150	548	0	0	4.0	-0.3
CJT	99	V	300-150	1112	0	0	3.8	-0.1
CKS	99	V	300-150	976	0	0	3.6	0.2
CLX	99	V	300-150	5880	0	0	3.9	-0.3
CMB	99	V	300-150	2002	0	0	3.8	-0.5
CNV	99	V	300-150	81	0	0	3.7	-0.3
CPA	99	V	300-150	365	0	0	5.1	0.4
CRL	99	V	300-150	2160	0	0	3.2	0.2
CRV	99	V	300-150	68	0	1	3.6	-0.4

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
CSC	99	V	300-150	158	0	0	3.8	0.4
CSN	99	V	300-150	369	1	0	4.8	0.2
CTM	99	V	300-150	130	0	0	4.7	1.4
CWG	99	V	300-150	93	0	0	3.8	0.2
CXA	99	V	300-150	34	0	0	6.4	1.5
DAH	99	V	300-150	1308	0	0	3.2	0.1
DAL	99	V	300-150	78790	0	0	3.3	0.0
DCM	99	V	300-150	66	0	0	3.7	0.4
DCS	99	V	300-150	53	0	0	3.3	-0.1
DCW	99	V	300-150	42	0	0	4.1	-0.6
DGX	99	V	300-150	41	0	0	2.8	-0.2
DHK	99	V	300-150	3053	0	0	3.5	-0.2
DHX	99	V	300-150	154	0	0	3.9	-0.2
DJT	99	V	300-150	2219	0	0	3.5	0.3
DLH	99	V	300-150	34219	0	0	3.3	-0.1
DSO	99	V	300-150	20	0	0	3.7	-0.4
DTA	99	V	300-150	88	0	0	4.0	0.2
DUB	99	V	300-150	98	0	0	3.2	0.2
EAL	99	V	300-150	79	0	0	3.8	0.2
EAU	99	V	300-150	81	0	0	3.5	0.0
EDC	99	V	300-150	76	0	0	3.5	0.4
EDG	99	V	300-150	377	0	0	3.6	0.3
EDW	99	V	300-150	1878	0	0	3.5	0.0
EIN	99	V	300-150	18464	0	0	3.2	0.2
EJM	99	V	300-150	1276	0	0	3.5	0.0
ELY	99	V	300-150	5944	4	0	6.8	-0.2
EMM	99	V	300-150	40	0	0	3.0	0.9
ETD	99	V	300-150	10946	1	0	4.8	0.2
ETH	99	V	300-150	7210	1	0	4.4	0.2
EUK	99	V	300-150	2264	0	0	3.2	0.3
EVE	99	V	300-150	225	0	0	4.0	0.5
EXS	99	V	300-150	275	0	0	3.1	-0.1
FBU	99	V	300-150	2793	0	0	3.5	-0.2
FDX	99	V	300-150	9214	0	0	3.3	0.1
FIN	99	V	300-150	2142	0	0	3.5	0.4
FJI	99	V	300-150	2746	0	0	3.9	0.3
FPY	99	V	300-150	2325	0	0	3.3	0.0
FWI	99	V	300-150	904	0	1	3.1	0.0
FWK	99	V	300-150	62	0	0	2.6	0.3
FXT	99	V	300-150	101	0	0	3.7	0.1
FYG	99	V	300-150	198	0	0	3.5	0.0
GAF	99	V	300-150	136	0	1	3.2	-0.1
GCK	99	V	300-150	90	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
GEC	99	V	300-150	1619	0	0	3.5	0.1
GES	99	V	300-150	227	4	0	6.2	0.0
GFA	99	V	300-150	810	0	0	4.6	0.2
GIA	99	V	300-150	1188	0	0	4.2	0.2
GJE	99	V	300-150	218	0	0	3.2	0.3
GLJ	99	V	300-150	35	0	0	3.3	0.3
GMA	99	V	300-150	64	0	0	3.5	-0.2
GNJ	99	V	300-150	31	0	0	6.8	2.7
GOL	99	V	300-150	74	0	0	4.1	-0.7
GSM	99	V	300-150	47	0	0	4.4	-0.3
GTI	99	V	300-150	1943	0	0	3.6	-0.3
GTR	99	V	300-150	491	0	0	3.3	0.4
HAF	99	V	300-150	40	0	0	4.4	-0.1
HAL	99	V	300-150	1059	0	0	3.9	0.2
HFM	99	V	300-150	161	0	0	3.4	-0.4
HKC	99	V	300-150	139	0	0	5.6	1.2
HNW	99	V	300-150	34	0	0	4.1	1.9
HRN	99	V	300-150	74	0	0	3.5	0.2
HRT	99	V	300-150	220	0	0	3.2	-0.1
HUA	99	V	300-150	65	0	0	5.2	0.8
IAM	99	V	300-150	43	0	0	4.4	1.1
IBE	99	V	300-150	8662	0	0	3.5	0.1
ICE	99	V	300-150	7584	0	0	3.5	0.1
ICL	99	V	300-150	31	0	0	4.0	-0.4
ICV	99	V	300-150	350	0	0	3.9	-1.0
IFA	99	V	300-150	400	0	0	3.1	0.2
IFC	99	V	300-150	24	0	0	5.5	0.0
IJM	99	V	300-150	131	0	0	3.6	-0.3
ITY	99	V	300-150	6902	0	0	3.4	0.1
JAF	99	V	300-150	798	3	0	5.5	0.2
JAL	99	V	300-150	33	0	0	4.4	0.4
JAS	99	V	300-150	378	0	0	3.8	0.3
JBU	99	V	300-150	4028	0	0	3.5	0.2
JCO	99	V	300-150	134	0	0	2.8	0.2
JCY	99	V	300-150	20	0	0	2.5	-1.2
JET	99	V	300-150	128	0	0	3.6	-0.2
JJA	99	V	300-150	28	4	4	4.7	-0.4
JME	99	V	300-150	101	0	0	4.4	0.2
JNY	99	V	300-150	91	0	0	3.0	0.5
JST	99	V	300-150	60	0	0	3.5	-0.3
JTL	99	V	300-150	26	19	0	9.7	-0.8
KAC	99	V	300-150	1369	0	0	3.3	0.2
KAF	99	V	300-150	89	0	0	3.7	0.5

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
KAI	99	V	300-150	132	2	0	5.3	0.6
KAL	99	V	300-150	112	0	2	6.5	-0.5
KAY	99	V	300-150	189	0	0	2.9	-0.2
KCE	99	V	300-150	86	0	0	3.2	-0.3
KFB	99	V	300-150	22	0	0	3.5	0.6
KFE	99	V	300-150	111	0	0	3.8	-0.3
KIW	99	V	300-150	108	0	1	4.4	-0.2
KLM	99	V	300-150	22715	2	0	4.8	0.0
KOC	99	V	300-150	32	0	0	4.2	-0.9
KQA	99	V	300-150	208	0	0	6.7	0.7
KRH	99	V	300-150	44	0	0	4.0	1.2
LAE	99	V	300-150	439	0	0	3.4	-0.3
LAN	99	V	300-150	1190	7	0	6.6	0.2
LCO	99	V	300-150	525	0	0	4.0	-1.1
LDX	99	V	300-150	108	0	0	2.9	0.1
LEA	99	V	300-150	34	0	0	2.7	-0.8
LNI	99	V	300-150	3459	0	0	3.9	0.4
LNK	99	V	300-150	82	0	0	2.9	-0.6
LOT	99	V	300-150	6786	6	0	7.7	-0.3
LRQ	99	V	300-150	107	0	0	3.5	-0.6
LUC	99	V	300-150	136	0	0	3.1	0.4
LXG	99	V	300-150	33	0	0	3.8	-0.8
LXJ	99	V	300-150	875	0	0	3.4	0.1
MAA	99	V	300-150	119	0	0	3.0	-0.2
MAS	99	V	300-150	5770	0	0	4.8	0.6
MAU	99	V	300-150	462	0	0	4.8	1.1
MED	99	V	300-150	27	0	0	4.3	0.2
MLM	99	V	300-150	53	0	0	3.0	0.4
MLN	99	V	300-150	40	0	0	3.3	-0.7
MLT	99	V	300-150	60	0	0	3.5	-0.8
MMD	99	V	300-150	388	0	0	3.8	0.0
MMZ	99	V	300-150	80	0	0	5.0	-0.2
MNB	99	V	300-150	184	0	0	2.9	0.1
MPH	99	V	300-150	882	0	0	3.9	-0.8
MSR	99	V	300-150	2733	0	0	4.3	0.1
MVJ	99	V	300-150	87	0	0	4.3	0.5
NBT	99	V	300-150	4098	5	0	7.1	-0.2
NCR	99	V	300-150	597	0	0	3.7	0.1
NEW	99	V	300-150	90	0	0	2.7	-0.1
NJE	99	V	300-150	905	0	0	3.5	0.1
NOJ	99	V	300-150	86	0	0	3.7	0.2
NOS	99	V	300-150	1176	4	0	7.3	-0.1
NSP	99	V	300-150	105	0	0	8.0	1.1

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
NUM	99	V	300-150	56	0	0	3.1	1.1
OAE	99	V	300-150	697	0	0	4.1	-0.1
OBS	99	V	300-150	40	0	0	2.9	0.7
OCN	99	V	300-150	4288	0	0	3.4	-0.1
OMA	99	V	300-150	1569	0	0	5.5	0.5
PAC	99	V	300-150	663	0	0	3.5	0.2
PAL	99	V	300-150	910	0	0	4.7	1.0
PAT	99	V	300-150	34	0	0	2.8	0.0
PEG	99	V	300-150	64	0	0	3.4	-0.2
PFF	99	V	300-150	38	0	0	4.0	-0.1
PIA	99	V	300-150	189	0	0	2.8	0.1
PJS	99	V	300-150	33	0	0	3.4	1.0
PJV	99	V	300-150	63	0	0	7.1	0.3
PLF	99	V	300-150	121	0	0	3.8	-0.2
PRD	99	V	300-150	44	0	0	2.8	1.1
PVA	99	V	300-150	317	0	0	3.5	0.2
PVG	99	V	300-150	34	0	0	2.3	-0.3
QAF	99	V	300-150	107	0	0	3.2	0.0
QFA	99	V	300-150	7126	0	0	5.3	0.2
QID	99	V	300-150	23	0	0	3.5	-0.1
QQE	99	V	300-150	263	0	0	3.3	0.0
QTR	99	V	300-150	31644	0	0	4.0	0.3
RAM	99	V	300-150	1140	6	0	7.0	-0.1
RBA	99	V	300-150	331	0	0	7.1	0.9
RCH	99	V	300-150	4262	0	0	4.7	0.3
RHH	99	V	300-150	92	0	0	6.0	0.9
RJA	99	V	300-150	2413	3	0	7.1	-0.1
RKS	99	V	300-150	54	0	0	3.3	0.1
ROJ	99	V	300-150	49	0	0	3.7	0.4
RRR	99	V	300-150	161	0	0	4.8	0.4
RSF	99	V	300-150	68	0	0	3.3	0.3
RYR	99	V	300-150	554	0	0	2.8	0.0
RZO	99	V	300-150	376	0	1	4.1	-0.2
SAM	99	V	300-150	281	0	0	4.1	-0.4
SAS	99	V	300-150	6640	0	0	3.0	0.2
SAZ	99	V	300-150	57	0	0	3.1	0.8
SCO	99	V	300-150	49	0	0	3.0	-0.1
SCX	99	V	300-150	45	2	0	2.9	0.4
SEN	99	V	300-150	20	0	0	2.8	0.8
SEY	99	V	300-150	61	0	0	4.4	0.7
SHE	99	V	300-150	67	0	0	3.0	-0.3
SIA	99	V	300-150	11915	0	0	4.7	0.2
SIO	99	V	300-150	139	0	0	3.3	-0.1

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
SJE	99	V	300-150	101	0	0	4.0	-0.8
SJJ	99	V	300-150	32	0	0	2.7	0.1
SLM	99	V	300-150	140	0	0	3.3	0.4
SON	99	V	300-150	81	0	0	2.8	-0.3
SPA	99	V	300-150	110	0	0	4.4	0.5
SSG	99	V	300-150	36	0	0	3.5	1.5
SVA	99	V	300-150	9571	0	0	4.0	0.3
SVW	99	V	300-150	519	0	0	3.7	0.1
SWR	99	V	300-150	10472	0	0	3.5	0.1
SWW	99	V	300-150	57	0	0	3.6	0.0
SYB	99	V	300-150	194	1	0	9.0	-1.1
TAG	99	V	300-150	90	0	0	2.8	-0.3
TAM	99	V	300-150	72	0	0	3.5	0.0
TAP	99	V	300-150	4280	0	0	3.9	0.2
TAR	99	V	300-150	435	0	0	3.2	0.3
TAY	99	V	300-150	382	0	1	3.8	-0.5
TEU	99	V	300-150	58	0	0	2.5	0.6
TFF	99	V	300-150	52	0	0	3.1	-1.1
TFL	99	V	300-150	1899	2	0	6.0	0.0
TGW	99	V	300-150	749	0	0	4.8	0.3
THA	99	V	300-150	703	0	0	5.2	1.0
THT	99	V	300-150	3834	1	0	6.4	0.2
THY	99	V	300-150	21116	2	0	4.8	0.0
TMN	99	V	300-150	338	0	0	3.7	0.6
TOM	99	V	300-150	9671	4	0	6.8	-0.1
TOW	99	V	300-150	97	0	0	3.4	0.2
TRK	99	V	300-150	101	0	0	4.5	0.6
TSC	99	V	300-150	21623	0	0	3.4	0.2
TVS	99	V	300-150	32	0	0	4.8	-1.7
TWY	99	V	300-150	906	0	0	3.4	0.2
UAE	99	V	300-150	31007	0	0	3.9	0.2
UAF	99	V	300-150	182	0	0	4.0	0.7
UAL	99	V	300-150	95143	1	1	4.8	0.0
ULC	99	V	300-150	144	0	1	3.9	0.0
UPS	99	V	300-150	7230	0	0	3.6	-0.2
UZB	99	V	300-150	166	12	0	6.6	-0.2
VCG	99	V	300-150	70	0	0	5.2	0.4
VET	99	V	300-150	33	0	0	7.2	-0.7
VIR	99	V	300-150	22948	2	0	4.8	0.0
VJT	99	V	300-150	2854	0	0	3.5	0.2
VMP	99	V	300-150	102	0	0	6.0	2.2
VTI	99	V	300-150	348	0	0	3.9	0.5
WDY	99	V	300-150	31	0	0	4.8	1.4

AIREP MONITORING STATISTICS FOR AIRLINE CARRIERS
(CONTINUED)

IDENT	OBS TIME	ELM	LEVEL	NUM OBS	% GROSS	% CALM	VECTOR RMS	SPEE D BIAS
WFL	99	V	300-150	35	0	0	4.2	-0.5
WJA	99	V	300-150	7784	2	0	5.2	-0.1
WWI	99	V	300-150	83	0	1	3.2	0.0
XAX	99	V	300-150	38	0	0	4.0	-0.7
XLS	99	V	300-150	20	0	0	4.2	0.5
XRO	99	V	300-150	124	0	0	3.7	0.9

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 : SEP 2022
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	12	Z	50	30	7.8	2.7
01001	00	Z	50	28	20.1	-11.2
01028	00	Z	50	30	3.7	-0.2
01028	12	Z	50	30	14.0	-8.2
01400	12	Z	50	16	75.0	74.7
01400	00	Z	50	10	79.2	77.9
01415	12	Z	50	27	5.3	1.1
01415	00	Z	50	29	7.4	6.0
02365	12	Z	50	20	6.9	-3.8
02365	00	Z	50	22	4.7	3.2
02836	00	Z	50	30	4.0	0.9
02836	12	Z	50	32	6.8	-3.6
02963	00	Z	50	28	7.9	6.2
02963	12	Z	50	30	6.8	-2.8
03005	12	Z	50	29	9.2	-7.0
03005	00	Z	50	26	13.9	-3.9
03238	12	Z	50	1	3.8	3.8
03238	00	Z	50	29	4.9	0.8
03808	12	Z	50	30	6.3	-1.2
03808	00	Z	50	26	4.8	1.6
03918	12	Z	50	5	5.6	-2.7
03918	00	Z	50	30	7.2	4.6
03953	00	Z	50	30	10.6	-8.1
03953	12	Z	50	30	10.7	-8.1
04018	00	Z	50	28	8.4	1.4
04018	12	Z	50	25	8.9	-3.0
04220	00	Z	50	22	16.8	-13.3
04220	12	Z	50	16	24.0	-15.7
04270	12	Z	50	12	17.3	-15.0
04270	00	Z	50	20	13.2	-7.3
04320	00	Z	50	27	8.7	1.7
04320	12	Z	50	20	9.2	-4.0
04339	12	Z	50	21	14.7	-9.7
04339	00	Z	50	27	24.0	-17.0
04360	00	Z	50	23	12.8	-7.0
04360	12	Z	50	23	11.8	-7.0
06011	00	Z	50	26	8.5	2.9
06011	12	Z	50	20	29.4	25.3
06260	12	Z	50	7	23.2	9.3

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	50	28	8.9	2.0
06610	00	Z	50	29	5.8	2.9
06610	12	Z	50	30	8.7	-0.3
07110	00	Z	50	30	9.8	-5.8
07110	12	Z	50	27	10.0	-3.1
07510	00	Z	50	29	6.8	0.8
07510	12	Z	50	28	11.1	-6.7
07645	00	Z	50	29	44.2	33.1
07645	12	Z	50	30	23.1	20.4
07761	12	Z	50	29	49.0	-43.8
07761	00	Z	50	29	41.1	-38.9
08001	00	Z	50	30	10.4	8.6
08001	12	Z	50	29	7.2	2.2
08221	00	Z	50	30	11.1	9.3
08221	12	Z	50	30	5.4	1.4
08302	00	Z	50	30	8.0	-1.2
08302	12	Z	50	30	12.6	-10.3
08508	12	Z	50	30	7.1	-2.4
08522	12	Z	50	20	7.6	-4.5
10035	12	Z	50	30	9.7	7.2
10035	00	Z	50	30	18.6	17.9
10393	00	Z	50	30	5.6	3.4
10393	12	Z	50	30	7.6	-2.7
10410	12	Z	50	30	8.1	-3.4
10410	00	Z	50	29	8.4	4.3
10739	00	Z	50	30	11.2	9.4
10739	12	Z	50	30	9.4	-0.8
11035	00	Z	50	28	8.0	5.1
11035	12	Z	50	30	9.8	0.0
12982	00	Z	50	30	8.7	7.4
12982	12	Z	50	30	7.8	-0.7
16245	12	Z	50	30	7.8	-0.7
16245	00	Z	50	30	8.5	5.7
16429	00	Z	50	30	12.6	10.6
16429	12	Z	50	29	6.4	0.6
16622	00	Z	50	27	17.5	15.2
16754	00	Z	50	16	16.9	13.8
17607	12	Z	50	5	3.5	2.8
26435	12	Z	50	15	6.4	-4.8
2EERV	00	Z	50	2	3.3	-3.3
2EERV	12	Z	50	1	19.0	-19.0
60018	00	Z	50	29	8.9	7.2
60018	12	Z	50	28	6.3	0.2

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	00	Z	50	5	13.1	-6.4
7JUNA4	12	Z	50	5	51.0	12.7
9ZT9MR	12	Z	50	6	22.4	-18.5
9ZT9MR	00	Z	50	0	0.0	0.0
ASDE09	12	Z	50	3	16.8	16.5
ATGU3F	12	Z	50	8	14.6	2.6
ATGU3F	00	Z	50	3	20.7	-16.0
BPMWB2	12	Z	50	7	25.0	18.1
BPMWB2	00	Z	50	6	24.7	7.1
DBLK	12	Z	50	26	21.3	19.0
FPUW5G	12	Z	50	13	7.4	-6.2
JNKN7J	12	Z	50	8	25.4	23.4
JNKN7J	00	Z	50	11	31.3	30.3
KJJF9X	00	Z	50	6	15.9	12.5
KJJF9X	12	Z	50	4	9.5	6.9
KMPLHP	00	Z	50	7	35.0	32.9
KMPLHP	12	Z	50	7	103.9	58.0
LRYQE3	12	Z	50	9	61.0	6.9
LRYQE3	00	Z	50	11	55.7	16.8
UXK5JT	00	Z	50	1	4.6	-4.6
UXK5JT	12	Z	50	2	16.7	-16.2
WDK38H	12	Z	50	3	6.4	-2.1
XKQLWQ	12	Z	50	23	43.2	41.3
XQFJRG	12	Z	50	5	6.4	-5.0
XQFJRG	00	Z	50	3	5.9	-4.0
YLV96W	00	Z	50	3	52.9	43.9
YLV96W	12	Z	50	2	155.2	136.1
ZVQEQC	12	Z	50	10	5.7	2.7

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 : SEP 2022
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	12	V	50	30	3.0	0.2	0.0
01001	00	V	50	20	2.3	0.1	-0.4
01028	00	V	50	25	2.1	-0.2	0.2
01028	12	V	50	29	2.6	0.3	-0.3
01400	12	V	50	13	2.5	0.4	0.4
01400	00	V	50	8	2.5	0.4	0.1
01415	12	V	50	27	2.6	0.8	0.5
01415	00	V	50	23	2.5	0.3	-0.3
02365	12	V	50	20	2.6	-0.2	-0.2
02365	00	V	50	13	2.9	1.8	-0.2
02836	00	V	50	23	3.0	0.0	-0.1
02836	12	V	50	30	2.5	0.4	0.3
02963	00	V	50	24	2.2	0.3	-0.3
02963	12	V	50	30	2.5	0.2	-0.5
03005	12	V	50	29	3.0	1.0	0.2
03005	00	V	50	23	2.3	-0.1	0.4
03238	12	V	50	1	1.2	0.6	-1.0
03238	00	V	50	23	3.1	-0.3	0.6
03808	12	V	50	30	2.9	0.3	0.0
03808	00	V	50	22	3.3	0.5	0.8
03918	12	V	50	5	3.7	0.7	-0.4
03918	00	V	50	21	2.9	0.2	0.4
03953	00	V	50	23	3.9	0.4	0.5
03953	12	V	50	30	3.2	-0.2	-0.9
04018	00	V	50	23	3.3	-0.6	-0.2
04018	12	V	50	25	3.2	0.2	-0.2
04220	00	V	50	19	3.1	-0.8	0.3
04220	12	V	50	16	3.3	-1.2	0.9
04270	12	V	50	12	2.8	0.8	0.6
04270	00	V	50	18	4.1	0.1	-1.0
04320	00	V	50	23	2.9	-0.2	0.2
04320	12	V	50	20	2.2	0.2	0.2
04339	12	V	50	21	2.8	0.6	0.0
04339	00	V	50	22	2.5	0.6	0.6
04360	00	V	50	21	3.4	0.5	-0.2
04360	12	V	50	23	3.0	0.9	0.4
06011	00	V	50	20	2.6	-0.2	0.3
06011	12	V	50	20	2.7	0.8	0.0
06260	12	V	50	7	2.5	0.0	-0.2

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	50	25	3.0	0.4	-0.8
06610	00	V	50	22	3.5	-0.4	0.5
06610	12	V	50	30	4.0	0.2	-0.1
07110	00	V	50	22	3.0	0.1	0.2
07110	12	V	50	27	3.0	1.0	0.4
07510	00	V	50	26	2.8	0.6	0.1
07510	12	V	50	28	3.3	0.1	0.1
07645	00	V	50	22	3.5	-0.1	0.2
07645	12	V	50	30	4.5	-0.1	0.3
07761	12	V	50	29	3.6	0.6	0.6
07761	00	V	50	25	4.0	-0.4	0.0
08001	00	V	50	22	3.3	0.1	0.6
08001	12	V	50	29	3.1	-0.2	-0.2
08221	00	V	50	25	3.6	0.0	-0.1
08221	12	V	50	30	3.3	0.3	0.1
08302	00	V	50	26	4.0	0.9	0.7
08302	12	V	50	30	3.5	0.2	-0.3
08508	12	V	50	30	2.8	0.5	-0.6
08522	12	V	50	20	3.0	0.3	0.2
10035	12	V	50	30	3.1	0.9	-0.1
10035	00	V	50	23	3.0	0.8	-0.1
10393	00	V	50	24	3.1	1.0	0.3
10393	12	V	50	30	3.4	0.1	-0.3
10410	12	V	50	29	3.4	0.6	1.2
10410	00	V	50	22	3.1	0.1	0.2
10739	00	V	50	23	3.8	0.4	0.0
10739	12	V	50	30	3.6	0.8	0.1
11035	00	V	50	21	3.5	0.3	-0.7
11035	12	V	50	30	3.4	0.0	-0.3
12982	00	V	50	25	3.6	0.6	-0.2
12982	12	V	50	30	3.3	0.0	-0.6
16245	12	V	50	30	4.3	1.5	0.2
16245	00	V	50	24	3.7	-0.3	-0.1
16429	00	V	50	26	3.3	-0.5	0.0
16429	12	V	50	29	3.5	0.3	-0.4
16622	00	V	50	20	3.4	-0.1	0.3
16754	00	V	50	12	3.5	1.1	-0.4
17607	12	V	50	2	3.1	-1.5	1.3
26435	12	V	50	14	2.8	0.7	0.6
2EERVT	00	V	50	2	3.0	-2.0	-2.1
2EERVT	12	V	50	1	1.0	-1.0	0.2
60018	00	V	50	23	3.3	-0.3	-0.1
60018	12	V	50	28	2.9	-0.3	0.0

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	00	V	50	5	2.1	0.2	0.0
7JUNA4	12	V	50	5	2.5	0.4	0.2
9ZT9MR	12	V	50	6	1.6	-0.2	0.1
9ZT9MR	00	V	50	0	0.0	0.0	0.0
ASDE09	12	V	50	3	1.8	-0.1	-1.3
ATGU3F	12	V	50	8	1.9	-0.7	0.1
ATGU3F	00	V	50	3	4.4	2.1	-1.3
BPMWB2	12	V	50	7	3.2	0.8	0.1
BPMWB2	00	V	50	6	2.6	-0.2	-0.2
DBLK	12	V	50	26	4.7	0.4	-0.7
FPUW5G	12	V	50	13	3.3	-0.2	0.6
JNKN7J	12	V	50	8	2.8	0.6	0.4
JNKN7J	00	V	50	11	3.0	1.3	-0.1
KJJF9X	00	V	50	6	2.5	1.3	-0.8
KJJF9X	12	V	50	4	3.3	0.4	-1.5
KMPLHP	00	V	50	7	3.5	0.4	-1.0
KMPLHP	12	V	50	7	2.7	-1.0	0.6
LRYQE3	12	V	50	9	2.8	-0.5	-0.9
LRYQE3	00	V	50	11	2.9	-0.7	-0.1
UXK5JT	00	V	50	1	1.6	-1.1	1.2
UXK5JT	12	V	50	2	2.7	1.4	-0.1
WDK38H	12	V	50	3	2.8	-1.1	0.6
XKQLWQ	12	V	50	23	2.0	-0.1	0.0
XQFJRG	12	V	50	5	3.7	0.5	-0.4
XQFJRG	00	V	50	3	3.6	-0.5	-1.2
YLV96W	00	V	50	3	3.0	-0.6	-2.1
YLV96W	12	V	50	2	3.9	1.5	-1.2
ZVQEQC	12	V	50	10	2.9	-1.0	-0.4

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 : SEP 2022
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	12	Z	100	30	7.4	0.9
01001	00	Z	100	27	17.1	-12.7
01028	00	Z	100	30	5.0	-3.6
01028	12	Z	100	30	13.6	-8.3
01400	12	Z	100	22	74.9	74.7
01400	00	Z	100	19	75.6	75.1
01415	12	Z	100	27	3.8	-1.5
01415	00	Z	100	29	5.2	3.0
02365	12	Z	100	21	5.1	-4.2
02365	00	Z	100	22	3.7	-0.5
02836	00	Z	100	30	3.6	-2.2
02836	12	Z	100	32	6.8	-4.8
02963	00	Z	100	29	4.5	0.9
02963	12	Z	100	30	5.5	-3.6
03005	12	Z	100	30	8.4	-7.0
03005	00	Z	100	29	14.8	-7.2
03238	12	Z	100	1	6.8	-6.8
03238	00	Z	100	29	4.8	0.0
03808	12	Z	100	30	5.4	-1.9
03808	00	Z	100	28	3.8	0.4
03918	12	Z	100	5	2.6	-0.6
03918	00	Z	100	30	5.4	1.4
03953	00	Z	100	30	10.7	-9.1
03953	12	Z	100	30	11.1	-9.8
04018	00	Z	100	28	6.5	-1.5
04018	12	Z	100	25	7.1	-4.5
04220	00	Z	100	24	15.8	-13.6
04220	12	Z	100	23	19.6	-13.8
04270	12	Z	100	21	25.5	-17.9
04270	00	Z	100	26	19.1	-15.3
04320	00	Z	100	29	7.3	-1.3
04320	12	Z	100	23	7.7	-5.3
04339	12	Z	100	25	16.1	-13.2
04339	00	Z	100	29	21.6	-17.6
04360	00	Z	100	24	12.5	-8.5
04360	12	Z	100	23	11.1	-8.3
06011	00	Z	100	30	11.7	-1.8
06011	12	Z	100	27	18.2	14.7
06260	12	Z	100	7	23.8	6.7

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	100	29	4.6	-1.6
06610	00	Z	100	29	4.4	0.1
06610	12	Z	100	30	6.0	-1.5
07110	00	Z	100	30	9.6	-8.1
07110	12	Z	100	29	9.1	-6.8
07510	00	Z	100	29	5.4	-0.4
07510	12	Z	100	28	9.0	-6.0
07645	00	Z	100	30	28.8	21.2
07645	12	Z	100	30	15.7	12.3
07761	12	Z	100	30	42.4	-37.6
07761	00	Z	100	30	38.5	-36.3
08001	00	Z	100	30	5.9	4.0
08001	12	Z	100	29	5.2	1.1
08221	00	Z	100	30	7.5	5.1
08221	12	Z	100	30	6.1	0.3
08302	00	Z	100	30	6.8	-4.1
08302	12	Z	100	30	13.5	-11.9
08508	12	Z	100	30	6.7	0.6
08522	12	Z	100	30	5.1	0.2
10035	12	Z	100	30	8.7	6.9
10035	00	Z	100	30	12.7	12.3
10393	00	Z	100	32	3.9	-0.9
10393	12	Z	100	30	6.8	-5.3
10410	12	Z	100	30	8.1	-6.2
10410	00	Z	100	29	4.7	-1.3
10739	00	Z	100	30	5.6	3.3
10739	12	Z	100	30	8.6	-2.7
11035	00	Z	100	30	5.5	2.0
11035	12	Z	100	30	8.8	-4.0
12982	00	Z	100	30	5.9	4.1
12982	12	Z	100	30	7.2	-1.8
16245	12	Z	100	30	5.4	0.3
16245	00	Z	100	30	6.3	3.7
16429	00	Z	100	30	6.1	4.0
16429	12	Z	100	30	4.9	-1.7
16622	00	Z	100	28	15.4	12.8
16754	00	Z	100	21	9.8	8.7
17607	12	Z	100	5	6.7	6.4
26435	12	Z	100	15	8.0	-6.8
2EERVT	00	Z	100	2	5.0	-4.8
2EERVT	12	Z	100	1	19.1	-19.1
60018	00	Z	100	29	7.0	5.1
60018	12	Z	100	28	6.4	0.8

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	00	Z	100	5	9.3	-4.4
7JUNA4	12	Z	100	5	23.0	5.0
9ZT9MR	12	Z	100	6	21.2	-18.1
9ZT9MR	00	Z	100	1	23.6	-23.6
ASDE09	12	Z	100	3	20.8	19.9
ATGU3F	12	Z	100	9	15.8	-7.8
ATGU3F	00	Z	100	6	22.1	-19.0
BPMWB2	12	Z	100	7	20.8	13.2
BPMWB2	00	Z	100	7	16.8	1.9
DBLK	12	Z	100	26	22.2	20.7
FPUW5G	12	Z	100	15	6.7	-5.2
JNKN7J	12	Z	100	8	31.0	29.9
JNKN7J	00	Z	100	11	30.7	29.8
KJJF9X	00	Z	100	7	11.2	9.8
KJJF9X	12	Z	100	4	5.7	3.4
KMPLHP	00	Z	100	7	33.8	32.6
KMPLHP	12	Z	100	7	66.9	41.8
LRYQE3	12	Z	100	9	12.7	-10.1
LRYQE3	00	Z	100	10	9.5	-5.3
UXK5JT	00	Z	100	1	3.5	-3.5
UXK5JT	12	Z	100	2	9.8	-9.8
WDK38H	12	Z	100	3	6.3	-5.7
XKQLWQ	12	Z	100	23	33.3	30.9
XQFJRG	12	Z	100	6	10.2	-7.8
XQFJRG	00	Z	100	6	12.9	-8.9
YLV96W	00	Z	100	4	53.8	46.9
YLV96W	12	Z	100	4	93.9	74.7
ZVQEQC	12	Z	100	10	5.3	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 : SEP 2022
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	12	V	100	30	2.6	0.1	-0.3
01001	00	V	100	20	2.7	0.4	-0.6
01028	00	V	100	25	1.8	-0.2	-0.4
01028	12	V	100	30	2.2	-0.2	-0.6
01400	12	V	100	19	2.9	-0.1	0.1
01400	00	V	100	10	2.4	0.8	0.3
01415	12	V	100	27	2.7	0.4	-0.3
01415	00	V	100	21	2.4	0.2	0.7
02365	12	V	100	21	2.2	-0.3	-0.5
02365	00	V	100	14	2.8	0.9	-0.4
02836	00	V	100	23	2.6	0.7	-0.2
02836	12	V	100	30	2.2	0.2	-0.4
02963	00	V	100	24	2.2	0.5	-0.1
02963	12	V	100	30	2.2	0.2	0.0
03005	12	V	100	29	2.8	0.0	-0.6
03005	00	V	100	23	2.7	0.1	0.1
03238	12	V	100	1	8.0	-8.0	-0.3
03238	00	V	100	23	2.3	1.0	-0.3
03808	12	V	100	30	3.2	-0.2	-0.6
03808	00	V	100	22	2.6	1.1	0.3
03918	12	V	100	5	3.3	0.3	-0.3
03918	00	V	100	22	3.0	1.2	-0.6
03953	00	V	100	23	2.8	0.1	-0.3
03953	12	V	100	30	2.8	0.1	0.1
04018	00	V	100	25	3.3	0.4	0.0
04018	12	V	100	25	2.8	0.4	-0.5
04220	00	V	100	24	2.8	-0.4	0.3
04220	12	V	100	23	3.0	0.1	0.4
04270	12	V	100	21	4.0	-1.2	-0.4
04270	00	V	100	22	3.6	0.7	0.0
04320	00	V	100	27	2.8	-0.9	-0.4
04320	12	V	100	23	3.5	-0.9	-0.6
04339	12	V	100	25	3.5	-0.3	0.1
04339	00	V	100	25	3.4	0.2	0.2
04360	00	V	100	22	5.1	-0.6	-0.7
04360	12	V	100	23	3.1	-0.2	-0.3
06011	00	V	100	23	2.9	0.3	0.3
06011	12	V	100	26	3.1	-0.4	-0.1
06260	12	V	100	7	3.0	0.1	-0.7

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	100	24	3.0	-0.2	0.4
06610	00	V	100	27	3.5	-0.1	-0.4
06610	12	V	100	30	3.0	-0.1	0.1
07110	00	V	100	22	3.0	0.9	0.7
07110	12	V	100	29	2.5	0.1	-0.4
07510	00	V	100	26	3.1	0.4	0.6
07510	12	V	100	28	3.2	0.0	0.2
07645	00	V	100	22	4.2	-0.3	-0.7
07645	12	V	100	30	4.0	-0.2	-0.1
07761	12	V	100	30	4.0	1.1	-0.2
07761	00	V	100	26	4.5	0.8	0.5
08001	00	V	100	23	3.2	-0.3	-0.9
08001	12	V	100	29	2.9	0.4	-0.4
08221	00	V	100	25	3.5	0.2	0.7
08221	12	V	100	30	3.6	-0.1	0.4
08302	00	V	100	26	3.9	0.7	0.8
08302	12	V	100	30	4.2	-0.6	0.2
08508	12	V	100	30	3.1	-0.3	0.6
08522	12	V	100	30	3.0	-0.1	0.2
10035	12	V	100	30	2.7	-0.3	0.0
10035	00	V	100	30	2.5	0.6	0.3
10393	00	V	100	29	2.5	0.3	-0.6
10393	12	V	100	30	2.3	0.4	-0.3
10410	12	V	100	29	3.4	-0.2	-0.8
10410	00	V	100	28	3.1	0.5	0.2
10739	00	V	100	29	3.3	0.2	-0.4
10739	12	V	100	30	3.2	0.0	-0.7
11035	00	V	100	23	2.9	-0.1	-0.9
11035	12	V	100	30	3.4	0.8	-0.7
12982	00	V	100	23	3.8	-0.2	0.5
12982	12	V	100	30	3.3	0.3	0.1
16245	12	V	100	30	4.6	-0.2	-0.5
16245	00	V	100	26	4.7	0.7	0.1
16429	00	V	100	28	4.4	0.5	1.3
16429	12	V	100	30	4.1	0.0	0.0
16622	00	V	100	21	4.2	0.8	1.0
16754	00	V	100	18	3.4	-0.3	1.0
17607	12	V	100	3	3.9	-1.4	-0.6
26435	12	V	100	15	2.4	0.6	0.5
2EERVT	00	V	100	2	4.2	0.6	2.8
2EERVT	12	V	100	1	1.9	1.6	-1.0
60018	00	V	100	23	3.9	0.0	0.1
60018	12	V	100	28	3.5	0.1	0.7

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	00	V	100	5	3.1	1.6	0.7
7JUNA4	12	V	100	5	2.8	0.3	1.2
9ZT9MR	12	V	100	6	2.7	-1.1	0.5
9ZT9MR	00	V	100	1	2.7	0.7	2.6
ASDE09	12	V	100	3	4.8	-0.8	1.3
ATGU3F	12	V	100	9	3.2	-1.8	-0.1
ATGU3F	00	V	100	6	2.0	-0.3	-0.3
BPMWB2	12	V	100	7	3.9	-1.6	0.6
BPMWB2	00	V	100	7	2.8	0.6	0.4
DBLK	12	V	100	26	3.8	-0.3	0.2
FPUW5G	12	V	100	15	2.7	-0.7	-0.3
JNKN7J	12	V	100	8	3.4	-0.8	-0.1
JNKN7J	00	V	100	11	3.7	-0.2	0.8
KJJF9X	00	V	100	7	3.0	-0.3	0.6
KJJF9X	12	V	100	4	3.6	1.9	-0.8
KMPLHP	00	V	100	7	2.3	-0.2	-0.1
KMPLHP	12	V	100	7	2.9	0.5	0.0
LRYQE3	12	V	100	9	3.2	-0.1	0.0
LRYQE3	00	V	100	10	2.9	1.3	0.1
UXK5JT	00	V	100	1	2.8	1.9	2.0
UXK5JT	12	V	100	2	3.2	-2.2	-1.6
WDK38H	12	V	100	3	2.7	-1.1	0.4
XKQLWQ	12	V	100	22	3.0	0.8	-0.7
XQFJRG	12	V	100	6	2.6	-0.8	-1.7
XQFJRG	00	V	100	6	2.0	-0.8	-0.2
YLV96W	00	V	100	4	3.5	2.1	1.6
YLV96W	12	V	100	4	2.9	1.2	-1.0
ZVQEQC	12	V	100	10	2.0	0.2	-0.8

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 : SEP 2022
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	12	Z	500	30	9.1	5.4
01001	00	Z	500	30	11.3	-9.9
01028	00	Z	500	30	2.4	-0.6
01028	12	Z	500	30	10.7	-3.8
01400	12	Z	500	28	79.4	79.2
01400	00	Z	500	25	80.2	80.1
01415	12	Z	500	27	4.1	3.3
01415	00	Z	500	29	5.0	4.1
02365	12	Z	500	21	2.6	1.9
02365	00	Z	500	22	4.3	3.1
02836	00	Z	500	30	3.2	1.6
02836	12	Z	500	32	3.5	0.9
02963	00	Z	500	30	3.7	3.3
02963	12	Z	500	30	3.3	2.3
03005	12	Z	500	31	3.1	-0.6
03005	00	Z	500	30	14.0	-3.0
03238	12	Z	500	1	3.3	-3.3
03238	00	Z	500	29	4.2	2.5
03808	12	Z	500	30	3.4	1.6
03808	00	Z	500	28	3.5	1.9
03918	12	Z	500	5	5.9	5.8
03918	00	Z	500	30	8.9	8.2
03953	00	Z	500	30	4.0	-2.1
03953	12	Z	500	30	4.7	-2.6
04018	00	Z	500	28	3.8	0.8
04018	12	Z	500	25	3.6	-0.3
04220	00	Z	500	25	9.0	-7.6
04220	12	Z	500	24	11.1	-8.3
04270	12	Z	500	22	13.7	-9.2
04270	00	Z	500	27	13.2	-11.0
04320	00	Z	500	29	5.4	-1.9
04320	12	Z	500	24	5.4	-2.4
04339	12	Z	500	25	9.1	-8.3
04339	00	Z	500	29	13.3	-11.8
04360	00	Z	500	27	9.3	-7.2
04360	12	Z	500	27	8.7	-7.7
06011	00	Z	500	30	7.2	2.5
06011	12	Z	500	27	8.5	6.9
06260	12	Z	500	7	28.2	13.1

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	500	29	2.4	0.8
06610	00	Z	500	29	2.8	1.3
06610	12	Z	500	30	2.4	1.1
07110	00	Z	500	30	6.0	-5.3
07110	12	Z	500	32	6.7	-4.4
07510	00	Z	500	29	4.3	3.3
07510	12	Z	500	29	4.8	2.6
07645	00	Z	500	31	5.9	3.3
07645	12	Z	500	33	7.0	3.5
07761	12	Z	500	30	18.7	-18.0
07761	00	Z	500	30	19.8	-19.0
08001	00	Z	500	30	4.4	3.4
08001	12	Z	500	29	3.5	2.6
08221	00	Z	500	30	5.5	5.1
08221	12	Z	500	30	5.3	4.1
08302	00	Z	500	31	4.8	-3.7
08302	12	Z	500	30	7.7	-6.8
08508	12	Z	500	30	6.7	4.6
08522	12	Z	500	30	5.5	5.0
10035	12	Z	500	30	12.4	12.2
10035	00	Z	500	30	13.7	13.6
10393	00	Z	500	35	3.4	0.7
10393	12	Z	500	30	2.6	-0.2
10410	12	Z	500	31	2.0	-0.6
10410	00	Z	500	29	2.1	0.6
10739	00	Z	500	30	5.3	4.6
10739	12	Z	500	30	4.1	3.5
11035	00	Z	500	30	3.8	2.5
11035	12	Z	500	29	4.6	-2.3
12982	00	Z	500	30	4.5	4.0
12982	12	Z	500	30	4.9	1.4
16245	12	Z	500	30	2.8	1.3
16245	00	Z	500	30	3.2	2.0
16429	00	Z	500	30	3.9	2.6
16429	12	Z	500	30	2.9	1.8
16622	00	Z	500	29	10.7	10.3
16754	00	Z	500	21	4.7	3.4
17607	12	Z	500	5	4.3	4.1
26435	12	Z	500	15	1.7	0.1
2EERVT	00	Z	500	2	8.6	-8.4
2EERVT	12	Z	500	1	16.7	-16.7
60018	00	Z	500	29	4.1	2.4
60018	12	Z	500	28	4.8	3.6

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	00	Z	500	6	6.4	4.8
7JUNA4	12	Z	500	7	8.6	-0.4
9ZT9MR	12	Z	500	6	9.5	-9.0
9ZT9MR	00	Z	500	1	10.7	-10.7
ASDE09	12	Z	500	3	28.8	28.8
ATGU3F	12	Z	500	11	18.3	-16.3
ATGU3F	00	Z	500	8	29.5	-22.8
BPMWB2	12	Z	500	7	13.9	10.6
BPMWB2	00	Z	500	10	12.5	8.2
DBLK	12	Z	500	26	19.9	19.5
FPUW5G	12	Z	500	19	8.2	-6.5
JNKN7J	12	Z	500	8	40.7	40.4
JNKN7J	00	Z	500	11	39.5	39.1
KJJF9X	00	Z	500	7	3.8	0.8
KJJF9X	12	Z	500	5	4.8	1.2
KMPLHP	00	Z	500	8	46.5	44.8
KMPLHP	12	Z	500	8	46.1	43.5
LRYQE3	12	Z	500	11	4.7	-2.9
LRYQE3	00	Z	500	12	5.8	-3.3
UXK5JT	00	Z	500	1	2.8	-2.8
UXK5JT	12	Z	500	2	2.4	0.6
WDK38H	12	Z	500	4	4.6	-4.5
XKQLWQ	12	Z	500	23	21.8	20.6
XQFJRG	12	Z	500	7	9.4	-6.7
XQFJRG	00	Z	500	6	7.2	-5.5
YLV96W	00	Z	500	4	70.0	59.9
YLV96W	12	Z	500	4	81.8	67.9
ZVQEQC	12	Z	500	10	3.1	2.5

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 : SEP 2022
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	12	V	500	30	2.5	-0.1	-0.1
01001	00	V	500	30	2.5	-0.1	-0.6
01028	00	V	500	30	2.0	-0.1	0.0
01028	12	V	500	30	1.6	0.2	0.1
01400	12	V	500	28	2.1	-0.2	0.3
01400	00	V	500	22	2.4	-0.3	-0.1
01415	12	V	500	27	2.6	0.6	0.2
01415	00	V	500	29	2.7	-0.5	0.4
02365	12	V	500	21	1.8	0.0	0.2
02365	00	V	500	22	2.3	-0.4	0.5
02836	00	V	500	30	2.1	0.5	-0.3
02836	12	V	500	30	2.2	0.3	0.4
02963	00	V	500	30	2.1	0.4	0.0
02963	12	V	500	30	1.7	0.4	0.2
03005	12	V	500	30	2.7	0.1	0.3
03005	00	V	500	27	2.1	0.1	0.4
03238	12	V	500	1	6.4	-2.2	-6.0
03238	00	V	500	29	2.3	0.3	0.6
03808	12	V	500	30	2.4	0.0	0.0
03808	00	V	500	28	3.0	0.6	-0.4
03918	12	V	500	5	2.3	-0.1	0.7
03918	00	V	500	30	2.8	-0.2	0.3
03953	00	V	500	30	3.6	-0.9	0.3
03953	12	V	500	30	2.7	-0.3	-0.3
04018	00	V	500	27	2.9	-0.5	0.1
04018	12	V	500	25	3.5	0.4	-0.1
04220	00	V	500	25	3.2	-0.9	-0.1
04220	12	V	500	24	2.7	0.3	0.5
04270	12	V	500	22	3.8	-0.5	-0.4
04270	00	V	500	27	3.0	0.3	0.2
04320	00	V	500	29	2.9	-0.3	-0.2
04320	12	V	500	24	2.3	0.1	0.6
04339	12	V	500	25	2.4	0.3	0.1
04339	00	V	500	29	3.4	-0.2	0.2
04360	00	V	500	27	3.1	0.2	-0.4
04360	12	V	500	27	3.5	-0.1	0.8
06011	00	V	500	28	2.7	0.0	0.4
06011	12	V	500	26	2.3	-0.2	-0.3
06260	12	V	500	7	2.1	0.4	-0.1

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	500	29	3.2	0.0	-0.7
06610	00	V	500	29	2.8	0.0	0.3
06610	12	V	500	30	2.7	0.4	0.5
07110	00	V	500	30	2.9	0.0	-0.3
07110	12	V	500	30	2.5	0.4	-0.2
07510	00	V	500	29	2.9	0.0	0.5
07510	12	V	500	29	2.5	0.0	-0.1
07645	00	V	500	30	2.7	0.2	0.5
07645	12	V	500	30	3.4	0.4	0.4
07761	12	V	500	30	3.1	0.3	-0.1
07761	00	V	500	30	3.1	0.6	0.3
08001	00	V	500	30	2.1	0.1	0.2
08001	12	V	500	29	2.1	0.2	0.0
08221	00	V	500	30	2.0	-0.2	-0.3
08221	12	V	500	30	1.8	0.5	0.4
08302	00	V	500	29	2.8	0.8	0.1
08302	12	V	500	30	2.3	0.0	-0.1
08508	12	V	500	30	3.1	0.6	-0.5
08522	12	V	500	30	2.1	-0.1	0.2
10035	12	V	500	30	2.2	0.4	0.2
10035	00	V	500	30	2.4	0.5	-0.4
10393	00	V	500	30	2.3	0.0	0.1
10393	12	V	500	30	2.3	0.3	-0.4
10410	12	V	500	29	1.9	0.1	0.0
10410	00	V	500	29	2.9	-0.5	-0.6
10739	00	V	500	30	2.1	0.1	0.3
10739	12	V	500	30	2.1	0.0	-0.5
11035	00	V	500	30	3.0	0.4	-0.8
11035	12	V	500	29	2.7	0.1	0.4
12982	00	V	500	30	2.5	0.0	0.4
12982	12	V	500	30	3.0	-0.4	0.0
16245	12	V	500	30	3.2	0.6	0.2
16245	00	V	500	30	2.8	0.4	-0.2
16429	00	V	500	30	3.5	0.5	-0.1
16429	12	V	500	30	3.2	0.8	0.1
16622	00	V	500	29	2.4	-0.1	0.4
16754	00	V	500	21	2.1	0.4	0.0
17607	12	V	500	5	2.2	-0.2	0.6
26435	12	V	500	15	1.7	0.2	-0.5
2EERV	00	V	500	2	2.6	-0.1	2.2
2EERV	12	V	500	1	0.7	-0.1	-0.7
60018	00	V	500	29	2.9	0.7	0.5
60018	12	V	500	28	1.8	-0.1	-0.1

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	00	V	500	6	2.7	0.4	0.3
7JUNA4	12	V	500	7	3.5	0.6	1.9
9ZT9MR	12	V	500	6	1.9	0.8	-0.3
9ZT9MR	00	V	500	1	1.0	0.0	1.0
ASDE09	12	V	500	3	1.1	0.1	0.5
ATGU3F	12	V	500	11	2.8	-0.1	0.0
ATGU3F	00	V	500	8	3.0	-0.8	0.4
BPMWB2	12	V	500	7	2.0	0.7	0.9
BPMWB2	00	V	500	10	3.1	0.0	0.2
DBLK	12	V	500	26	2.9	-0.1	-0.2
FPUW5G	12	V	500	19	2.8	-0.9	0.6
JNKN7J	12	V	500	8	2.1	0.3	-0.2
JNKN7J	00	V	500	11	2.1	0.3	0.9
KJJF9X	00	V	500	7	2.1	0.2	0.6
KJJF9X	12	V	500	5	2.0	0.0	0.0
KMPLHP	00	V	500	8	2.7	1.1	0.2
KMPLHP	12	V	500	8	2.8	-0.1	-1.6
LRYQE3	12	V	500	11	2.2	-0.1	-0.3
LRYQE3	00	V	500	12	2.6	0.1	-0.5
UXK5JT	00	V	500	1	1.9	-1.5	1.2
UXK5JT	12	V	500	2	1.6	-0.2	0.5
WDK38H	12	V	500	4	1.4	0.2	-0.9
XKQLWQ	12	V	500	23	2.6	-0.2	0.1
XQFJRG	12	V	500	7	2.3	0.5	0.1
XQFJRG	00	V	500	6	2.1	-0.6	-0.1
YLV96W	00	V	500	4	1.8	0.3	-0.1
YLV96W	12	V	500	4	1.1	-0.6	-0.1
ZVQEQC	12	V	500	10	2.4	0.1	0.7

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 : SEP 2022
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
01001	12	Z	850	30	7.8	4.0
01001	00	Z	850	31	9.5	-8.9
01028	00	Z	850	30	2.9	0.6
01028	12	Z	850	30	10.1	-2.8
01400	12	Z	850	28	79.8	79.6
01400	00	Z	850	27	79.3	79.2
01415	12	Z	850	27	3.9	3.3
01415	00	Z	850	29	4.2	3.7
02365	12	Z	850	21	2.3	1.5
02365	00	Z	850	22	3.5	2.8
02836	00	Z	850	30	3.3	2.8
02836	12	Z	850	30	2.7	2.1
02963	00	Z	850	30	4.1	3.8
02963	12	Z	850	30	3.4	3.0
03005	12	Z	850	31	3.8	-1.4
03005	00	Z	850	30	15.1	-4.3
03238	12	Z	850	1	2.2	2.2
03238	00	Z	850	29	3.4	2.1
03808	12	Z	850	30	2.5	1.3
03808	00	Z	850	28	3.4	2.2
03918	12	Z	850	5	6.3	6.2
03918	00	Z	850	30	6.5	6.1
03953	00	Z	850	30	2.5	-0.4
03953	12	Z	850	30	3.7	-1.3
04018	00	Z	850	28	3.2	-0.2
04018	12	Z	850	25	2.1	0.0
04220	00	Z	850	25	7.1	-6.5
04220	12	Z	850	24	7.1	-6.4
04270	12	Z	850	22	8.9	-7.1
04270	00	Z	850	27	8.4	-7.9
04320	00	Z	850	29	2.9	0.2
04320	12	Z	850	24	3.8	-0.3
04339	12	Z	850	25	9.3	-8.7
04339	00	Z	850	29	10.3	-8.9
04360	00	Z	850	27	9.5	-8.7
04360	12	Z	850	28	9.7	-8.9
06011	00	Z	850	30	5.7	2.5
06011	12	Z	850	28	4.9	3.8
06260	12	Z	850	7	29.9	13.2

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
06260	00	Z	850	29	2.1	0.4
06610	00	Z	850	31	4.5	3.3
06610	12	Z	850	30	3.4	2.1
07110	00	Z	850	31	2.4	-1.6
07110	12	Z	850	32	3.2	-2.3
07510	00	Z	850	29	3.4	2.2
07510	12	Z	850	30	2.9	1.8
07645	00	Z	850	31	3.1	-0.5
07645	12	Z	850	33	3.1	1.4
07761	12	Z	850	30	7.8	-7.2
07761	00	Z	850	31	7.7	-7.0
08001	00	Z	850	30	2.7	1.3
08001	12	Z	850	29	2.5	1.5
08221	00	Z	850	30	3.5	2.7
08221	12	Z	850	30	3.6	2.8
08302	00	Z	850	31	8.5	-8.1
08302	12	Z	850	30	8.4	-8.2
08508	12	Z	850	30	6.1	4.5
08522	12	Z	850	30	3.6	3.0
10035	12	Z	850	30	13.0	12.7
10035	00	Z	850	30	13.1	12.9
10393	00	Z	850	30	1.7	0.8
10393	12	Z	850	30	2.4	0.9
10410	12	Z	850	31	2.4	-0.1
10410	00	Z	850	29	2.8	-0.1
10739	00	Z	850	30	5.7	5.0
10739	12	Z	850	30	5.3	4.9
11035	00	Z	850	30	4.1	3.0
11035	12	Z	850	30	3.2	0.2
12982	00	Z	850	30	5.0	4.3
12982	12	Z	850	30	5.5	2.8
16245	12	Z	850	30	3.2	2.6
16245	00	Z	850	30	3.2	2.5
16429	00	Z	850	30	4.6	3.1
16429	12	Z	850	30	3.0	1.7
16622	00	Z	850	30	9.7	9.1
16754	00	Z	850	21	3.9	2.3
17607	12	Z	850	5	3.9	3.7
26435	12	Z	850	15	1.9	-0.6
2EERVT	00	Z	850	2	7.4	-7.4
2EERVT	12	Z	850	1	14.5	-14.5
60018	00	Z	850	29	2.5	0.1
60018	12	Z	850	28	3.5	1.2

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	BIAS
7JUNA4	00	Z	850	6	6.8	3.4
7JUNA4	12	Z	850	7	5.1	0.8
9ZT9MR	12	Z	850	6	8.9	-8.2
9ZT9MR	00	Z	850	1	5.5	-5.5
ASDE09	12	Z	850	3	37.6	37.5
ATGU3F	12	Z	850	11	23.5	-20.8
ATGU3F	00	Z	850	10	21.9	-17.5
BPMWB2	12	Z	850	7	15.9	14.3
BPMWB2	00	Z	850	10	12.0	8.8
DBLK	12	Z	850	26	16.5	16.1
FPUW5G	12	Z	850	19	8.2	-6.9
JNKN7J	12	Z	850	10	42.8	42.7
JNKN7J	00	Z	850	11	41.9	41.6
KJJF9X	00	Z	850	7	4.0	0.8
KJJF9X	12	Z	850	5	5.2	-1.1
KMPLHP	00	Z	850	8	49.0	47.5
KMPLHP	12	Z	850	8	49.3	46.5
LRYQE3	12	Z	850	11	4.2	-3.1
LRYQE3	00	Z	850	12	3.0	-0.6
UXK5JT	00	Z	850	1	3.8	3.8
UXK5JT	12	Z	850	2	3.9	0.7
WDK38H	12	Z	850	4	6.3	-5.6
XKQLWQ	12	Z	850	23	15.1	14.7
XQFJRG	12	Z	850	7	8.4	-7.1
XQFJRG	00	Z	850	6	8.2	-7.4
YLV96W	00	Z	850	4	75.8	64.7
YLV96W	12	Z	850	4	76.9	60.0
ZVQEQC	12	Z	850	11	3.4	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 : SEP 2022
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
01001	12	V	850	30	2.8	0.3	0.0
01001	00	V	850	30	3.1	0.3	0.2
01028	00	V	850	30	2.8	-0.3	-1.1
01028	12	V	850	30	3.0	0.2	-0.8
01400	12	V	850	28	2.5	0.2	0.5
01400	00	V	850	26	2.8	-0.3	0.2
01415	12	V	850	27	3.4	0.8	0.4
01415	00	V	850	29	2.8	0.1	0.7
02365	12	V	850	21	2.5	0.0	-0.1
02365	00	V	850	22	2.3	-0.1	0.7
02836	00	V	850	30	2.3	-0.2	0.4
02836	12	V	850	30	2.5	0.1	-0.4
02963	00	V	850	30	1.7	0.4	0.0
02963	12	V	850	30	2.2	-0.7	-0.2
03005	12	V	850	30	2.8	0.0	0.9
03005	00	V	850	27	2.6	-0.3	0.1
03238	12	V	850	1	5.1	-5.0	0.8
03238	00	V	850	29	3.1	0.5	0.0
03808	12	V	850	30	3.1	-0.1	-0.1
03808	00	V	850	28	2.9	0.3	0.0
03918	12	V	850	5	2.0	0.8	-0.9
03918	00	V	850	30	2.8	0.5	0.1
03953	00	V	850	30	2.4	0.4	0.0
03953	12	V	850	30	2.4	0.4	0.2
04018	00	V	850	27	2.7	0.5	0.5
04018	12	V	850	25	3.3	0.0	0.1
04220	00	V	850	25	3.9	1.0	-0.4
04220	12	V	850	24	4.0	0.9	0.5
04270	12	V	850	22	3.9	0.8	0.7
04270	00	V	850	27	3.9	0.4	0.4
04320	00	V	850	29	3.0	0.6	0.2
04320	12	V	850	24	2.9	0.1	-0.2
04339	12	V	850	25	4.4	1.0	0.7
04339	00	V	850	29	3.9	0.3	0.0
04360	00	V	850	27	3.7	0.3	-0.2
04360	12	V	850	27	3.1	0.3	-0.3
06011	00	V	850	28	2.5	-0.1	-0.1
06011	12	V	850	27	2.3	-0.4	-0.1
06260	12	V	850	7	2.4	-0.8	-0.7

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
06260	00	V	850	29	3.4	-0.6	-0.8
06610	00	V	850	30	3.0	0.3	-0.2
06610	12	V	850	30	2.8	0.5	-0.1
07110	00	V	850	30	2.3	-0.3	-0.2
07110	12	V	850	30	2.7	-0.5	-0.1
07510	00	V	850	29	2.5	0.4	0.2
07510	12	V	850	29	2.5	-0.3	0.7
07645	00	V	850	30	4.4	-1.0	0.4
07645	12	V	850	30	2.8	-0.5	0.3
07761	12	V	850	30	3.3	-0.7	-0.3
07761	00	V	850	30	2.7	0.0	-1.0
08001	00	V	850	30	2.7	0.5	0.1
08001	12	V	850	29	2.6	-0.4	-0.4
08221	00	V	850	30	3.3	0.6	0.1
08221	12	V	850	30	2.6	0.2	0.4
08302	00	V	850	30	2.7	0.3	0.4
08302	12	V	850	30	3.0	0.2	-0.2
08508	12	V	850	30	2.7	-0.1	-0.9
08522	12	V	850	30	3.1	-0.7	0.2
10035	12	V	850	30	2.6	0.1	-0.4
10035	00	V	850	30	2.1	-0.2	0.0
10393	00	V	850	30	2.6	0.3	0.1
10393	12	V	850	30	2.1	0.0	0.2
10410	12	V	850	29	2.5	0.9	0.1
10410	00	V	850	29	2.7	0.2	-0.5
10739	00	V	850	30	2.8	-0.3	-0.3
10739	12	V	850	30	3.5	-0.5	-0.3
11035	00	V	850	30	3.5	0.2	0.3
11035	12	V	850	30	2.5	0.7	-0.5
12982	00	V	850	30	2.9	0.3	-0.5
12982	12	V	850	30	2.7	-0.3	0.2
16245	12	V	850	30	4.0	0.1	-0.4
16245	00	V	850	30	2.8	-0.2	0.4
16429	00	V	850	30	3.1	0.1	0.4
16429	12	V	850	30	2.5	0.1	0.5
16622	00	V	850	30	3.4	1.2	-0.4
16754	00	V	850	21	2.3	-0.6	-0.1
17607	12	V	850	5	3.2	-0.5	0.0
26435	12	V	850	15	2.8	-0.6	0.3
2EERV	00	V	850	2	1.8	1.3	0.1
2EERV	12	V	850	1	2.3	0.0	-2.3
60018	00	V	850	29	3.9	0.5	0.5
60018	12	V	850	28	2.9	-0.1	-0.3

RADIOSONDE MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	OBS RECD	RMS	UBIAS	VBIAS
7JUNA4	00	V	850	6	2.5	-1.1	0.7
7JUNA4	12	V	850	7	2.5	1.0	0.3
9ZT9MR	12	V	850	6	2.0	0.7	0.2
9ZT9MR	00	V	850	1	5.7	5.0	-2.8
ASDE09	12	V	850	3	4.6	-0.1	-2.5
ATGU3F	12	V	850	10	2.4	1.0	0.0
ATGU3F	00	V	850	10	2.5	-0.5	0.4
BPMWB2	12	V	850	7	2.1	0.2	-0.1
BPMWB2	00	V	850	10	1.8	0.1	-0.1
DBLK	12	V	850	26	2.5	0.6	0.4
FPUW5G	12	V	850	19	2.8	0.6	-0.1
JNKN7J	12	V	850	10	1.9	0.8	0.0
JNKN7J	00	V	850	11	2.6	-0.6	0.8
KJJF9X	00	V	850	7	1.6	0.1	-0.4
KJJF9X	12	V	850	5	2.5	-0.3	1.0
KMPLHP	00	V	850	8	1.7	-0.5	-0.2
KMPLHP	12	V	850	8	1.9	-0.1	-0.1
LRYQE3	12	V	850	11	2.2	-0.1	0.1
LRYQE3	00	V	850	12	2.2	-0.4	-0.4
UXK5JT	00	V	850	1	1.4	-1.1	-0.8
UXK5JT	12	V	850	2	2.0	-1.3	0.7
WDK38H	12	V	850	4	2.8	-1.7	-1.4
XKQLWQ	12	V	850	23	2.4	-0.7	0.0
XQFJRG	12	V	850	7	3.4	-0.9	-0.1
XQFJRG	00	V	850	6	2.5	0.3	-0.3
YLV96W	00	V	850	4	2.1	-0.1	1.1
YLV96W	12	V	850	4	1.5	0.2	0.6
ZVQEQC	12	V	850	11	2.4	0.5	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 : SEP 2022
 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	1952	0	0.3	-0.2	0.4
1300001	99	P	SUR	11	-23	740	0	0.4	0.0	0.5
1300008	99	P	SUR	15	-38	734	0	0.3	0.0	0.3
1300130	99	P	SUR	28	-16	876	0	0.4	0.2	0.4
1300131	99	P	SUR	28	-17	876	0	0.5	0.1	0.5
1301603	99	P	SUR	33	-51	884	0	0.3	0.1	0.3
1301608	99	P	SUR	32	-52	886	0	0.3	0.0	0.3
1301610	99	P	SUR	53	-10	561	0	0.2	-0.4	0.5
1301612	99	P	SUR	24	-53	888	0	0.3	-0.1	0.3
1301619	99	P	SUR	36	-67	886	0	0.8	-0.2	0.8
1301622	99	P	SUR	11	-26	888	0	0.4	-0.2	0.5
1301629	99	P	SUR	17	-23	887	0	0.4	0.2	0.5
1301699	99	P	SUR	27	-32	817	0	0.3	-0.3	0.4
1301700	99	P	SUR	18	-54	798	0	0.3	-0.1	0.3
1301706	99	P	SUR	19	-48	809	0	0.3	-0.1	0.3
1301712	99	P	SUR	21	-43	851	0	0.3	0.0	0.3
1301713	99	P	SUR	16	-43	853	0	0.5	0.1	0.5
1301714	99	P	SUR	22	-39	854	0	0.3	0.2	0.4
1301718	99	P	SUR	22	-32	855	0	0.3	0.2	0.3
1301719	99	P	SUR	22	-40	853	0	0.3	0.5	0.6
1301720	99	P	SUR	25	-28	851	0	0.3	0.3	0.4
1301721	99	P	SUR	32	-14	8606	1	0.3	-0.2	0.4
1301722	99	P	SUR	21	-40	854	0	0.3	0.0	0.3
1301723	99	P	SUR	36	-15	852	0	0.3	0.7	0.8
1301724	99	P	SUR	35	-15	862	0	0.3	0.0	0.3
1301725	99	P	SUR	26	-23	846	0	0.3	0.2	0.3
1301726	99	P	SUR	24	-25	849	0	0.3	0.2	0.4
1301729	99	P	SUR	11	-29	851	0	0.4	-0.1	0.4
1301730	99	P	SUR	35	-8	509	0	0.3	0.2	0.4
1301731	99	P	SUR	24	-26	869	0	0.3	0.4	0.5
1301735	99	P	SUR	27	-40	855	0	0.3	-0.2	0.3
1301736	99	P	SUR	28	-45	851	0	0.3	0.3	0.4
1301737	99	P	SUR	25	-59	856	0	0.3	0.0	0.3
1301741	99	P	SUR	11	-17	861	0	0.5	-0.2	0.5
1301756	99	P	SUR	11	-64	858	2	1.4	-1.0	1.7
1801556	99	P	SUR	16	-68	4199	0	0.7	0.0	0.7

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
1801560	99	P	SUR	20	-67	5045	0	0.3	0.2	0.4
1801564	99	P	SUR	29	35	1684	0	0.3	-0.3	0.4
1801599	99	P	SUR	19	-53	5104	0	0.3	0.2	0.4
3801561	99	P	SUR	45	-66	12	0	0.4	0.2	0.5
4100043	99	P	SUR	21	-65	5300	0	0.6	-1.4	1.5
4100044	99	P	SUR	22	-59	5290	0	0.3	0.4	0.5
4100046	99	P	SUR	24	-68	5325	0	0.4	0.4	0.6
4100048	99	P	SUR	32	-70	5275	0	0.4	0.3	0.5
4100049	99	P	SUR	27	-63	5305	0	0.3	-1.2	1.2
4100052	99	P	SUR	18	-65	5087	0	0.4	-1.2	1.3
4100053	99	P	SUR	18	-66	5145	0	0.5	-0.9	1.0
4100056	99	P	SUR	18	-65	5111	0	0.5	-1.1	1.2
4100139	99	P	SUR	20	-38	888	0	0.3	0.1	0.3
4100300	99	P	SUR	16	-57	853	0	0.4	-0.1	0.4
4101557	99	P	SUR	32	-19	888	0	0.3	0.2	0.3
4101609	99	P	SUR	18	-43	404	0	0.3	-0.1	0.3
4101613	99	P	SUR	30	-53	888	0	0.3	0.4	0.5
4101616	99	P	SUR	30	-42	888	0	0.3	-0.1	0.3
4101618	99	P	SUR	27	-45	888	0	0.3	0.2	0.3
4101621	99	P	SUR	27	-41	888	0	0.3	0.3	0.4
4101654	99	P	SUR	73	16	706	0	3.2	0.2	3.2
4101663	99	P	SUR	31	-32	888	0	0.3	0.1	0.3
4101664	99	P	SUR	52	-22	888	0	0.3	-0.2	0.4
4101665	99	P	SUR	64	5	810	0	0.3	-0.2	0.3
4101696	99	P	SUR	32	-40	888	0	0.3	0.0	0.3
4101702	99	P	SUR	34	-27	888	0	0.5	1.0	1.1
4101714	99	P	SUR	30	-68	887	0	1.1	0.4	1.2
4101717	99	P	SUR	17	-27	887	0	0.3	-0.1	0.3
4101718	99	P	SUR	43	-37	887	0	0.5	0.3	0.6
4101719	99	P	SUR	38	-32	884	0	0.7	0.0	0.7
4101720	99	P	SUR	26	-38	887	0	0.3	-0.2	0.3
4101723	99	P	SUR	27	-65	887	0	0.7	0.0	0.7
4101724	99	P	SUR	22	-70	888	0	0.4	-0.2	0.5
4101725	99	P	SUR	18	-63	888	0	0.5	-0.3	0.6
4101727	99	P	SUR	35	-23	887	0	0.2	-0.2	0.3
4101728	99	P	SUR	31	-38	887	0	0.3	0.1	0.3
4101729	99	P	SUR	32	-46	888	0	0.3	0.1	0.3
4101743	99	P	SUR	31	-51	887	0	0.3	0.0	0.3
4101753	99	P	SUR	32	-54	887	0	0.3	0.2	0.4
4101755	99	P	SUR	29	-61	887	0	0.3	0.2	0.4
4101756	99	P	SUR	12	-62	836	0	0.4	-1.0	1.0
4101842	99	P	SUR	69	16	791	0	0.3	-0.3	0.5
4101843	99	P	SUR	69	2	823	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
4101844	99	P	SUR	14	-51	822	0	0.4	0.1	0.4
4101845	99	P	SUR	62	-8	838	0	0.3	0.1	0.3
4101848	99	P	SUR	26	-65	817	0	0.4	0.3	0.5
4101849	99	P	SUR	20	-70	774	70	3.2	0.1	3.2
4101850	99	P	SUR	43	-11	812	0	0.3	0.0	0.3
4101851	99	P	SUR	23	-55	792	0	0.3	0.0	0.3
4102547	99	P	SUR	20	-61	855	0	0.4	0.3	0.5
4102548	99	P	SUR	20	-67	841	0	0.4	0.1	0.4
4102549	99	P	SUR	23	-64	853	0	0.5	0.4	0.6
4102551	99	P	SUR	20	-53	846	0	0.3	0.0	0.3
4102553	99	P	SUR	14	-67	855	0	0.4	-0.1	0.5
4102554	99	P	SUR	15	-63	860	0	0.4	0.0	0.4
4102558	99	P	SUR	13	-62	145	0	0.5	-0.4	0.6
4102560	99	P	SUR	14	-61	232	0	0.5	-0.3	0.6
4102566	99	P	SUR	37	-50	136	0	0.8	-1.0	1.3
4102567	99	P	SUR	41	-51	136	0	0.7	-0.3	0.8
4102632	99	P	SUR	29	-69	848	1	0.9	-0.9	1.3
41043	99	P	SUR	21	-65	5229	0	0.6	-1.4	1.5
41044	99	P	SUR	22	-59	3768	0	0.4	0.4	0.5
41046	99	P	SUR	24	-68	5478	0	0.4	0.4	0.6
41048	99	P	SUR	32	-70	4449	0	0.4	0.3	0.5
41049	99	P	SUR	28	-63	5226	0	0.4	-1.2	1.3
41052	99	P	SUR	18	-65	3562	0	0.5	-1.2	1.3
41053	99	P	SUR	19	-66	3869	0	0.5	-0.9	1.0
41056	99	P	SUR	18	-66	3786	0	0.5	-1.1	1.2
4200059	99	P	SUR	15	-67	5298	0	0.4	-0.2	0.4
4200060	99	P	SUR	16	-63	5300	0	0.4	0.0	0.5
4200085	99	P	SUR	18	-67	4214	0	0.7	-0.9	1.1
4201703	99	P	SUR	44	-25	847	0	0.3	0.1	0.3
42059	99	P	SUR	15	-68	5345	0	0.4	-0.2	0.5
42060	99	P	SUR	16	-63	4173	0	0.5	0.0	0.5
42085	99	P	SUR	18	-67	3618	0	0.8	-0.9	1.2
4400005	99	P	SUR	43	-69	884	0	0.5	-0.2	0.5
4400008	99	P	SUR	40	-69	5292	0	0.3	-0.8	0.9
4400011	99	P	SUR	41	-67	5305	0	0.4	0.3	0.5
4400027	99	P	SUR	44	-67	3609	0	0.4	-0.5	0.6
4400032	99	P	SUR	44	-69	859	0	0.5	0.2	0.5
4400033	99	P	SUR	44	-69	859	0	0.5	-0.2	0.6
4400034	99	P	SUR	44	-68	859	0	0.5	-0.3	0.5
44005	99	P	SUR	43	-69	1493	0	0.5	-0.2	0.5
4400777	99	P	SUR	33	-29	887	0	0.5	0.1	0.5
44008	99	P	SUR	41	-69	4762	0	0.4	-0.8	0.9
4400857	99	P	SUR	34	-51	888	0	0.4	0.0	0.4

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
44011	99	P	SUR	41	-67	4128	0	0.4	0.3	0.5
4401563	99	P	SUR	17	-49	886	0	0.4	-0.5	0.7
4401572	99	P	SUR	33	-58	888	11	1.8	-1.2	2.2
4401576	99	P	SUR	28	-61	887	0	0.3	0.2	0.4
4401581	99	P	SUR	28	-58	887	0	0.3	0.0	0.3
4401582	99	P	SUR	33	-27	888	0	0.2	0.3	0.4
4401584	99	P	SUR	31	-38	887	0	0.3	0.5	0.6
4401585	99	P	SUR	26	-39	888	0	0.3	0.3	0.4
4401587	99	P	SUR	73	-1	206	0	0.4	0.3	0.5
4401588	99	P	SUR	69	-14	277	0	0.6	0.0	0.6
4401848	99	P	SUR	54	-10	404	258	1.9	-12.9	13.0
4401850	99	P	SUR	67	13	721	171	1.5	-0.9	1.8
4401859	99	P	SUR	17	-55	888	0	0.3	-0.1	0.4
4401863	99	P	SUR	11	-45	837	0	0.7	0.3	0.8
4401864	99	P	SUR	21	-60	799	0	0.4	0.0	0.4
4401867	99	P	SUR	33	-58	888	0	0.3	0.0	0.3
4401872	99	P	SUR	30	-58	888	0	0.3	0.0	0.3
4401874	99	P	SUR	24	-66	888	0	1.0	-0.2	1.0
4402603	99	P	SUR	59	-11	787	0	0.3	0.2	0.4
4402604	99	P	SUR	44	-19	832	0	0.3	0.0	0.3
4402605	99	P	SUR	57	6	817	0	0.4	0.2	0.4
4402606	99	P	SUR	57	-27	799	0	0.3	0.2	0.4
4402607	99	P	SUR	48	-17	805	0	0.4	0.0	0.4
4402608	99	P	SUR	61	-30	816	0	0.4	0.0	0.4
4402609	99	P	SUR	62	-21	833	0	0.3	0.0	0.3
4402611	99	P	SUR	49	-23	785	0	0.3	-0.1	0.3
4402613	99	P	SUR	42	-17	792	0	0.3	-0.4	0.5
4402614	99	P	SUR	56	-6	793	0	0.4	-2.0	2.0
4402615	99	P	SUR	46	-11	794	0	0.3	0.2	0.4
4402618	99	P	SUR	29	-61	821	0	0.3	0.2	0.4
4402656	99	P	SUR	38	-35	790	0	0.3	0.2	0.4
4402660	99	P	SUR	30	-15	863	0	0.3	0.2	0.4
4402663	99	P	SUR	40	-16	842	0	0.3	-0.1	0.3
4402665	99	P	SUR	24	-62	862	0	0.3	0.4	0.5
4402670	99	P	SUR	21	-34	838	0	0.3	0.0	0.3
4402671	99	P	SUR	16	-53	816	0	0.3	0.0	0.3
4402672	99	P	SUR	16	-38	803	0	0.3	-0.1	0.3
4402673	99	P	SUR	13	-40	809	0	0.3	0.1	0.3
4402674	99	P	SUR	17	-46	811	0	0.3	0.1	0.3
4402675	99	P	SUR	31	-34	809	0	0.3	0.2	0.4
4402676	99	P	SUR	25	-38	811	0	0.3	0.4	0.5
44027	99	P	SUR	44	-67	3961	0	0.5	-0.4	0.6
4402721	99	P	SUR	51	-34	858	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
4402723	99	P	SUR	45	-54	854	0	0.4	0.1	0.4
4402726	99	P	SUR	47	-45	859	0	0.3	0.2	0.4
4402727	99	P	SUR	56	-21	855	0	0.4	-0.1	0.4
4402749	99	P	SUR	56	-51	857	0	0.4	-0.1	0.4
4402750	99	P	SUR	57	-47	853	0	0.4	-0.5	0.6
4402876	99	P	SUR	40	-68	833	0	0.4	0.4	0.5
4402877	99	P	SUR	40	-69	854	0	0.4	0.4	0.5
4402878	99	P	SUR	38	-63	851	0	0.5	0.4	0.7
44032	99	P	SUR	44	-69	882	0	0.5	0.3	0.6
44033	99	P	SUR	44	-69	881	0	0.5	-0.2	0.6
44034	99	P	SUR	44	-68	880	0	0.5	-0.2	0.6
4403556	99	P	SUR	47	-14	11	0	0.2	0.1	0.2
4403557	99	P	SUR	56	-12	11	0	0.2	0.1	0.2
4403558	99	P	SUR	47	-27	11	0	0.2	-0.2	0.2
4403568	99	P	SUR	46	-51	11	0	0.2	0.5	0.6
4403569	99	P	SUR	45	-49	12	0	0.2	0.5	0.6
44078	99	P	SUR	60	-40	374	0	0.6	-0.6	0.9
44137	99	P	SUR	42	-62	868	0	0.6	-0.1	0.6
44139	99	P	SUR	44	-57	860	0	0.7	0.1	0.7
44150	99	P	SUR	43	-64	868	0	0.4	0.0	0.4
44258	99	P	SUR	45	-63	868	0	0.4	0.0	0.4
44488	99	P	SUR	45	-61	887	0	0.6	0.2	0.6
44489	99	P	SUR	46	-61	867	0	0.6	0.2	0.6
4601782	99	P	SUR	41	-30	776	0	0.3	0.3	0.5
4601813	99	P	SUR	84	34	862	0	0.4	0.0	0.4
4701518	99	P	SUR	77	-18	850	0	0.3	0.2	0.4
4701519	99	P	SUR	76	-19	850	0	0.6	-0.3	0.7
4701738	99	P	SUR	70	-67	11	11	0.0	0.0	0.0
4801668	99	P	SUR	84	-12	850	0	0.4	0.0	0.4
4801723	99	P	SUR	72	23	866	0	0.3	0.2	0.3
4801761	99	P	SUR	83	-5	11	0	0.1	0.4	0.4
4801763	99	P	SUR	86	-63	11	0	0.1	-0.4	0.4
4801765	99	P	SUR	86	-64	11	0	0.2	-0.4	0.5
4801767	99	P	SUR	84	-15	11	0	0.4	-9.8	9.8
4801770	99	P	SUR	87	-34	11	0	0.2	-0.2	0.3
4801771	99	P	SUR	84	-61	11	0	0.1	0.2	0.2
4802506	99	P	SUR	86	-24	11	0	0.3	0.5	0.6
4802663	99	P	SUR	85	-63	11	0	0.1	0.3	0.3
5801965	99	P	SUR	45	-66	12	0	0.5	0.4	0.6
6100002	99	P	SUR	42	5	887	0	0.4	-0.1	0.4
6100196	99	P	SUR	42	4	876	0	0.4	0.3	0.5
6100197	99	P	SUR	40	4	876	0	0.4	0.4	0.6
6100198	99	P	SUR	37	-2	874	0	0.5	0.5	0.7

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6100280	99	P	SUR	41	1	876	0	1.8	-0.1	1.8
6100281	99	P	SUR	40	0	876	0	0.5	0.4	0.6
6100417	99	P	SUR	38	0	876	0	0.4	0.2	0.5
6100430	99	P	SUR	40	2	876	0	0.5	0.2	0.5
6101003	99	P	SUR	40	25	168	0	0.5	0.0	0.5
6101007	99	P	SUR	36	25	160	0	0.4	-0.4	0.5
6101008	99	P	SUR	37	22	162	0	0.5	0.0	0.5
6101009	99	P	SUR	35	25	1	1	0.0	0.0	0.0
6102786	99	P	SUR	32	15	808	0	0.4	-0.8	0.9
6102792	99	P	SUR	39	8	478	0	0.5	-0.2	0.5
6102793	99	P	SUR	39	4	866	0	0.4	0.3	0.6
6102796	99	P	SUR	41	8	841	0	0.5	-0.2	0.5
6102797	99	P	SUR	37	-3	819	0	0.5	-3.4	3.4
6102799	99	P	SUR	42	8	842	0	0.4	0.2	0.5
6102804	99	P	SUR	40	3	852	0	0.4	-7.0	7.0
6102805	99	P	SUR	40	2	866	0	0.5	-0.2	0.5
6102806	99	P	SUR	41	1	868	0	0.4	-0.2	0.5
6102807	99	P	SUR	40	2	860	0	0.4	0.0	0.4
6200001	99	P	SUR	45	-5	883	0	0.3	0.3	0.4
6200024	99	P	SUR	44	-3	841	0	0.4	0.5	0.6
6200025	99	P	SUR	44	-6	876	0	0.4	0.3	0.5
6200082	99	P	SUR	44	-8	876	0	0.4	0.1	0.4
6200083	99	P	SUR	43	-9	876	0	0.4	0.1	0.5
6200084	99	P	SUR	42	-9	876	0	0.4	0.4	0.5
6200085	99	P	SUR	36	-7	876	0	0.3	0.3	0.5
6200086	99	P	SUR	55	6	588	0	0.3	-0.3	0.4
6200087	99	P	SUR	55	7	584	0	0.4	-0.4	0.6
6200091	99	P	SUR	53	-5	888	0	0.4	-0.1	0.4
6200092	99	P	SUR	51	-11	888	0	0.4	-0.2	0.4
6200093	99	P	SUR	55	-10	887	0	0.4	-0.2	0.4
6200094	99	P	SUR	52	-7	886	0	0.4	0.0	0.4
6200095	99	P	SUR	53	-16	888	0	0.4	-0.2	0.4
6200191	99	P	SUR	41	-10	680	0	0.4	-0.3	0.5
6200192	99	P	SUR	40	-10	831	0	0.4	-0.4	0.5
6200199	99	P	SUR	40	-9	823	0	0.3	0.0	0.3
6200200	99	P	SUR	36	-8	656	0	0.3	0.0	0.3
6201065	99	P	SUR	54	7	777	0	0.3	1.1	1.2
6201066	99	P	SUR	55	7	886	0	0.3	0.3	0.4
6201081	99	P	SUR	38	-9	824	0	0.3	-0.2	0.4
6202623	99	P	SUR	71	25	888	0	0.2	-0.2	0.3
6202624	99	P	SUR	64	2	888	0	0.3	-0.1	0.4
6202627	99	P	SUR	59	-10	814	0	0.3	0.2	0.4
6202630	99	P	SUR	44	-8	888	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
6202632	99	P	SUR	61	-49	887	0	0.4	-0.1	0.5
6202633	99	P	SUR	78	8	888	0	0.4	-0.1	0.4
6202637	99	P	SUR	67	-1	888	0	0.3	0.0	0.3
6202639	99	P	SUR	34	-44	888	0	0.3	0.0	0.3
6202640	99	P	SUR	34	-43	888	0	0.3	0.0	0.3
6202643	99	P	SUR	21	-58	888	0	0.3	0.0	0.3
6202644	99	P	SUR	31	-44	888	0	0.4	-0.3	0.5
62029	99	P	SUR	49	-13	1903	0	0.4	-0.2	0.4
62030	99	P	SUR	50	-4	2518	0	0.3	0.1	0.3
6203516	99	P	SUR	41	-63	760	0	0.5	0.1	0.5
6203574	99	P	SUR	52	-30	1	1	0.0	0.0	0.0
6203588	99	P	SUR	56	-46	762	0	0.4	0.6	0.7
6203601	99	P	SUR	38	-37	519	0	1.7	-1.6	2.4
6203607	99	P	SUR	35	-38	888	0	0.3	0.3	0.4
6203612	99	P	SUR	29	-51	888	0	0.3	0.3	0.4
6203614	99	P	SUR	32	-65	691	0	0.7	-0.3	0.8
6203615	99	P	SUR	25	-66	887	0	0.6	-0.1	0.6
6203616	99	P	SUR	23	-56	887	0	0.3	0.4	0.5
6203617	99	P	SUR	18	-55	888	0	0.3	0.1	0.4
6203621	99	P	SUR	35	-24	883	0	0.2	-0.1	0.3
6203622	99	P	SUR	42	-28	888	0	0.4	0.2	0.5
6203625	99	P	SUR	32	-28	888	0	0.2	-0.2	0.3
6203627	99	P	SUR	22	-69	888	0	0.8	0.3	0.9
6203632	99	P	SUR	24	-35	886	0	0.3	0.2	0.4
6203633	99	P	SUR	68	14	888	0	0.3	0.2	0.4
6203634	99	P	SUR	29	-29	887	0	0.2	0.3	0.4
6203639	99	P	SUR	33	-24	888	0	0.3	-0.2	0.3
6203640	99	P	SUR	22	-29	883	0	0.3	-0.3	0.4
6203642	99	P	SUR	15	-48	887	0	0.6	-0.4	0.7
6203643	99	P	SUR	24	-59	887	0	0.3	0.4	0.5
6203651	99	P	SUR	43	-38	888	0	0.4	0.3	0.5
6203730	99	P	SUR	24	-60	805	0	0.3	0.2	0.4
6203734	99	P	SUR	15	-24	193	0	0.4	0.2	0.5
6203737	99	P	SUR	27	-42	820	0	0.4	0.3	0.5
6203741	99	P	SUR	63	-17	336	0	0.3	0.0	0.3
6203742	99	P	SUR	62	-12	326	0	0.4	0.1	0.4
6203744	99	P	SUR	62	-8	806	0	0.4	0.1	0.4
6203745	99	P	SUR	68	-20	453	0	0.5	0.2	0.5
6203746	99	P	SUR	67	-1	532	0	0.4	0.0	0.4
6203747	99	P	SUR	67	13	812	0	0.3	0.1	0.3
6203750	99	P	SUR	69	14	812	0	0.3	0.1	0.3
6203753	99	P	SUR	61	-23	807	0	0.3	-0.1	0.4
6203755	99	P	SUR	42	-17	791	0	0.3	-0.8	0.8

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6203760	99	P	SUR	56	13	788	0	0.3	-0.6	0.6
6203765	99	P	SUR	23	-44	824	0	0.3	0.3	0.5
6203767	99	P	SUR	21	-47	814	0	0.3	-0.7	0.8
6203768	99	P	SUR	34	-16	813	0	0.3	0.2	0.3
6203771	99	P	SUR	24	-37	815	0	0.3	0.1	0.3
6203772	99	P	SUR	28	-58	820	0	0.3	0.2	0.4
6203773	99	P	SUR	32	-48	820	0	0.3	-0.3	0.4
6203776	99	P	SUR	34	-29	793	0	0.2	0.0	0.2
6203825	99	P	SUR	66	1	859	0	0.4	0.2	0.4
6203827	99	P	SUR	61	-7	870	0	0.5	0.2	0.5
6203838	99	P	SUR	13	-49	857	0	0.3	0.1	0.3
6203839	99	P	SUR	22	-44	861	0	0.3	0.0	0.3
6203840	99	P	SUR	26	-38	864	0	0.3	0.3	0.4
6203841	99	P	SUR	29	-16	815	0	0.4	-1.3	1.4
6203842	99	P	SUR	41	-37	860	0	0.5	0.1	0.5
6203843	99	P	SUR	28	-18	646	0	1.3	-1.1	1.7
6203844	99	P	SUR	45	-19	854	0	0.3	0.4	0.5
6203845	99	P	SUR	49	-32	850	0	0.3	0.0	0.3
6203846	99	P	SUR	31	-22	859	0	0.3	0.1	0.3
6203848	99	P	SUR	39	-57	863	0	0.4	0.1	0.4
6203849	99	P	SUR	36	-24	861	0	0.3	0.1	0.3
6203850	99	P	SUR	40	-24	862	0	0.2	0.1	0.3
6203853	99	P	SUR	57	-10	857	0	0.4	0.2	0.5
6203854	99	P	SUR	56	-21	856	0	0.4	0.2	0.5
6203855	99	P	SUR	62	-2	862	0	0.3	0.1	0.3
6203856	99	P	SUR	60	-3	865	0	0.3	0.3	0.5
6203857	99	P	SUR	58	-8	869	0	0.3	0.1	0.3
6203863	99	P	SUR	69	-18	839	0	0.5	-0.3	0.6
6203864	99	P	SUR	67	-11	857	0	0.4	0.0	0.4
6203865	99	P	SUR	69	-10	861	0	0.3	-0.1	0.3
6203866	99	P	SUR	60	-7	868	1	0.3	0.3	0.5
6203867	99	P	SUR	50	-11	867	0	0.4	0.2	0.5
62050	99	P	SUR	50	-4	1811	0	0.3	0.1	0.3
62081	99	P	SUR	51	-13	1843	0	0.4	0.0	0.4
62091	99	P	SUR	53	-5	888	0	0.4	-0.1	0.4
62092	99	P	SUR	51	-11	888	0	0.4	-0.2	0.4
62093	99	P	SUR	55	-10	887	0	0.4	-0.2	0.4
62094	99	P	SUR	52	-7	886	0	0.4	0.0	0.4
62095	99	P	SUR	53	-16	888	0	0.4	-0.2	0.4
62102	99	P	SUR	58	2	1976	0	0.6	0.4	0.7
62103	99	P	SUR	50	-3	1891	0	0.3	-0.2	0.4
62104	99	P	SUR	57	1	1972	0	0.4	0.2	0.5
62105	99	P	SUR	55	-13	1906	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
62107	99	P	SUR	50	-6	2588	0	0.4	-0.2	0.4
62112	99	P	SUR	58	0	1941	0	0.3	0.4	0.5
62113	99	P	SUR	58	0	1973	0	0.4	-0.1	0.4
62114	99	P	SUR	58	0	2688	0	0.4	0.4	0.6
62115	99	P	SUR	58	-3	1646	0	0.3	0.0	0.3
62116	99	P	SUR	58	1	1974	0	0.4	0.1	0.5
62118	99	P	SUR	58	1	1976	0	0.3	0.5	0.6
62119	99	P	SUR	57	2	1981	0	0.3	0.2	0.3
62120	99	P	SUR	56	2	1982	0	0.4	0.2	0.4
62121	99	P	SUR	54	3	1980	0	0.5	0.2	0.6
62122	99	P	SUR	57	2	2688	0	0.4	0.0	0.4
62124	99	P	SUR	54	-4	1694	0	0.4	0.2	0.4
62129	99	P	SUR	58	0	1971	0	0.4	0.0	0.4
62130	99	P	SUR	59	1	1971	0	0.3	0.1	0.3
62131	99	P	SUR	54	1	1982	0	0.3	0.6	0.7
62132	99	P	SUR	56	2	1981	0	0.6	0.6	0.8
62133	99	P	SUR	57	1	1982	0	0.6	0.4	0.7
62135	99	P	SUR	54	2	122	0	0.4	0.4	0.6
62138	99	P	SUR	54	0	2686	0	0.4	0.4	0.5
62140	99	P	SUR	57	1	2685	0	0.4	0.2	0.5
62141	99	P	SUR	57	1	1957	0	0.4	0.3	0.5
62143	99	P	SUR	58	2	1976	0	0.3	0.8	0.8
62144	99	P	SUR	53	2	1980	0	0.4	0.2	0.4
62145	99	P	SUR	53	3	2684	0	0.3	0.5	0.5
62146	99	P	SUR	57	2	1982	0	0.3	0.0	0.3
62148	99	P	SUR	54	2	1980	0	0.3	1.1	1.1
62149	99	P	SUR	54	1	1981	0	0.3	0.8	0.8
62150	99	P	SUR	54	1	1971	0	0.3	1.5	1.5
62151	99	P	SUR	57	2	2164	0	0.5	0.4	0.7
62152	99	P	SUR	57	2	1983	0	0.3	0.3	0.4
62153	99	P	SUR	57	2	2665	0	0.4	0.5	0.7
62154	99	P	SUR	56	2	1982	0	0.3	0.1	0.3
62155	99	P	SUR	58	1	1964	0	0.3	0.3	0.5
62157	99	P	SUR	58	0	1975	0	0.4	0.1	0.4
62160	99	P	SUR	57	2	2686	0	0.4	0.8	0.9
62161	99	P	SUR	58	1	1970	0	0.4	-0.1	0.4
62162	99	P	SUR	57	1	1947	0	0.4	0.2	0.4
62163	99	P	SUR	48	-9	1884	0	0.3	-0.1	0.3
62164	99	P	SUR	57	1	1897	0	0.3	0.7	0.7
62165	99	P	SUR	54	1	1962	0	0.4	0.8	0.9
62168	99	P	SUR	58	1	1950	0	0.3	0.1	0.3
62170	99	P	SUR	51	2	1964	0	0.3	-0.1	0.4
62296	99	P	SUR	53	2	1979	0	0.4	0.0	0.4

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
62297	99	P	SUR	59	2	2679	0	0.3	0.1	0.3
62302	99	P	SUR	61	-2	1929	0	0.4	0.0	0.5
62304	99	P	SUR	51	2	1963	0	0.4	-0.2	0.4
62305	99	P	SUR	50	0	1965	0	0.4	0.0	0.4
62442	99	P	SUR	49	-16	1892	0	0.4	-0.1	0.4
6301001	99	P	SUR	64	5	885	0	0.3	-0.1	0.3
6301004	99	P	SUR	72	20	39	5	6.9	0.9	6.9
6301572	99	P	SUR	63	-29	887	0	0.5	-0.2	0.5
6301573	99	P	SUR	73	-18	592	0	0.4	-0.2	0.4
6301575	99	P	SUR	78	-16	887	0	0.3	-0.1	0.4
6301576	99	P	SUR	60	-26	883	0	1.0	0.2	1.0
6301577	99	P	SUR	67	-1	885	0	0.3	0.3	0.4
6301846	99	P	SUR	82	35	599	398	4.4	-8.7	9.7
63055	99	P	SUR	61	2	1968	0	0.3	0.0	0.3
63056	99	P	SUR	60	2	1980	0	0.5	0.4	0.7
63057	99	P	SUR	59	2	1957	0	0.3	0.1	0.3
63058	99	P	SUR	53	2	3143	0	0.6	0.4	0.7
63059	99	P	SUR	58	-1	1937	58	2.5	1.0	2.7
63101	99	P	SUR	61	1	1984	0	0.4	0.2	0.5
63102	99	P	SUR	61	1	1970	0	0.3	0.1	0.3
63103	99	P	SUR	61	1	1982	0	0.6	0.4	0.7
63108	99	P	SUR	61	2	1981	0	0.4	-0.1	0.4
63109	99	P	SUR	60	2	1984	0	0.3	-0.3	0.4
63110	99	P	SUR	60	2	1979	0	0.7	-0.1	0.8
63111	99	P	SUR	61	2	2677	0	0.4	-0.1	0.4
63112	99	P	SUR	61	1	1983	0	0.4	-0.2	0.4
63115	99	P	SUR	62	1	1968	0	0.5	0.2	0.5
63117	99	P	SUR	61	1	2680	0	0.5	0.4	0.6
63118	99	P	SUR	60	2	1953	0	0.4	0.0	0.4
6401531	99	P	SUR	53	-9	742	0	0.3	-0.2	0.4
6401574	99	P	SUR	65	11	637	0	0.9	0.1	0.9
6401575	99	P	SUR	69	14	888	0	0.3	0.0	0.3
6401578	99	P	SUR	78	-19	888	0	0.4	0.1	0.4
6401583	99	P	SUR	77	-6	672	13	1.7	0.0	1.7
6401584	99	P	SUR	87	28	887	0	0.4	0.0	0.5
6401585	99	P	SUR	80	-3	625	0	0.4	0.0	0.4
6401586	99	P	SUR	86	38	437	23	2.4	-0.5	2.5
6401587	99	P	SUR	78	-16	888	0	0.3	0.0	0.3
6401588	99	P	SUR	81	27	534	0	0.8	0.6	1.0
6401589	99	P	SUR	77	-7	886	0	0.4	0.1	0.4
6401590	99	P	SUR	88	6	887	0	0.4	-0.1	0.4
6401591	99	P	SUR	74	-17	888	0	2.5	-0.4	2.5
6401592	99	P	SUR	69	11	888	0	0.4	0.2	0.5

DRIFTER MONITORING STATISTICS (EUCOS)
(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS
6401758	99	P	SUR	64	-9	532	0	0.3	0.1	0.4
6401759	99	P	SUR	54	-40	888	0	0.3	0.1	0.3
6401760	99	P	SUR	60	-51	888	0	0.4	0.0	0.4
6401761	99	P	SUR	65	-56	886	0	0.4	0.4	0.6
6401762	99	P	SUR	67	-1	888	0	0.3	0.2	0.4
6401763	99	P	SUR	66	12	887	0	0.3	0.7	0.8
6401839	99	P	SUR	70	14	751	0	0.4	0.2	0.5
6401843	99	P	SUR	70	9	671	0	0.3	0.2	0.4
6402539	99	P	SUR	66	11	765	0	0.3	0.1	0.3
6402544	99	P	SUR	71	13	751	0	0.3	0.2	0.3
6402547	99	P	SUR	58	-22	767	0	0.3	0.2	0.4
6402551	99	P	SUR	55	-52	772	0	0.4	0.3	0.5
6402552	99	P	SUR	74	3	784	0	0.3	0.2	0.4
6402557	99	P	SUR	72	10	344	0	0.6	0.6	0.8
6402560	99	P	SUR	72	-1	756	0	0.3	-0.2	0.4
6402562	99	P	SUR	58	-49	769	0	0.4	0.1	0.4
6402563	99	P	SUR	71	24	783	0	0.3	0.4	0.5
6402587	99	P	SUR	54	-51	777	19	2.9	9.2	9.7
6402592	99	P	SUR	53	-49	804	0	0.4	-0.6	0.8
6402594	99	P	SUR	56	-53	801	0	0.4	0.0	0.5
6402596	99	P	SUR	60	-31	800	0	0.5	0.0	0.5
6402597	99	P	SUR	48	-44	769	0	0.3	0.2	0.4
6402599	99	P	SUR	51	-40	760	0	0.4	0.2	0.4
6402611	99	P	SUR	50	-34	799	0	0.4	0.4	0.6
6402615	99	P	SUR	16	-43	809	0	0.3	0.1	0.3
6402616	99	P	SUR	28	-44	810	0	0.3	-0.1	0.3
6402617	99	P	SUR	25	-41	820	0	0.3	0.4	0.5
6402618	99	P	SUR	25	-31	829	0	0.2	0.3	0.4
6402619	99	P	SUR	40	-14	819	0	0.3	0.1	0.3
6402620	99	P	SUR	45	-9	826	0	0.3	0.4	0.5
6402621	99	P	SUR	44	-16	825	0	0.3	0.4	0.5
6402622	99	P	SUR	39	-18	811	0	0.3	0.2	0.4
6402654	99	P	SUR	61	3	469	197	7.9	2.2	8.2
6402655	99	P	SUR	69	2	785	0	0.4	0.2	0.5
6402659	99	P	SUR	70	19	754	0	3.8	0.5	3.8
6402661	99	P	SUR	63	-11	809	0	0.8	0.1	0.8
6402663	99	P	SUR	66	-21	757	0	0.4	-0.2	0.4
6402665	99	P	SUR	72	31	813	0	0.6	0.5	0.8
6402666	99	P	SUR	64	-21	757	0	0.4	-0.4	0.6
6402667	99	P	SUR	64	-20	349	0	0.4	-0.9	1.0
6402668	99	P	SUR	72	26	766	0	0.3	0.5	0.6
64041	99	P	SUR	61	-3	1933	0	0.4	0.2	0.4
64045	99	P	SUR	59	-12	1891	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
64046	99	P	SUR	61	-4	1880	0	0.3	-0.2	0.4
6501670	99	P	SUR	81	23	759	1	2.8	0.6	2.9
6501671	99	P	SUR	81	16	762	15	2.1	7.0	7.3
6501674	99	P	SUR	80	23	759	0	0.4	-0.1	0.4
6501679	99	P	SUR	69	-25	776	0	0.5	-0.1	0.5
6600021	99	P	SUR	55	14	302	0	0.3	0.4	0.5
6600022	99	P	SUR	54	14	367	0	0.3	-0.3	0.4
6600023	99	P	SUR	55	11	240	0	0.3	-0.1	0.3
7801563	99	P	SUR	45	-66	12	0	0.4	0.5	0.6
9182954	99	P	SUR	43	-28	2	0	0.0	-2.1	2.1

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 : SEP 2022
 STANDARD OF COMPARISON: FIRST-GUESS FIELD

TIME = 99 => AVERAGE OF ALL OBSERVATIONS

GROSS ERROR LIMIT FOR VECTOR WIND = 25 M/S

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
1300001	99	SPEED	SUR	11	-23	740	0	0	1.2	0.4	1.3
1300002	99	SPEED	SUR	20	-23	739	0	0	0.9	0.2	1.0
1300008	99	SPEED	SUR	15	-38	734	0	0	1.1	0.2	1.1
1300130	99	SPEED	SUR	28	-16	830	0	0	1.8	-0.2	1.8
1300131	99	SPEED	SUR	28	-17	871	0	0	2.0	1.6	2.6
1801556	99	SPEED	SUR	16	-68	4199	1	0	1.6	-0.1	1.6
1801560	99	SPEED	SUR	20	-67	5045	0	0	1.2	-0.2	1.2
1801564	99	SPEED	SUR	29	35	1594	0	0	1.5	1.2	1.9
1801599	99	SPEED	SUR	19	-53	5104	0	0	1.2	-0.2	1.2
4100026	99	SPEED	SUR	12	-38	296	0	0	1.0	0.2	1.0
4100043	99	SPEED	SUR	21	-65	5317	0	0	1.2	-0.2	1.2
4100046	99	SPEED	SUR	24	-68	5325	0	0	1.0	-0.3	1.0
4100049	99	SPEED	SUR	27	-63	5326	0	0	0.9	-0.1	0.9
4100052	99	SPEED	SUR	18	-65	5087	0	0	1.4	-0.4	1.5
4100053	99	SPEED	SUR	18	-66	5145	0	0	1.5	1.2	2.0
4100056	99	SPEED	SUR	18	-65	5112	0	0	1.5	-0.8	1.7
4100139	99	SPEED	SUR	20	-38	888	0	0	0.9	0.0	0.9
4100300	99	SPEED	SUR	16	-57	844	0	0	1.1	-0.5	1.3
41043	99	SPEED	SUR	21	-65	5253	0	0	1.2	-0.3	1.3
41046	99	SPEED	SUR	24	-68	5478	0	0	1.1	-0.5	1.2
41049	99	SPEED	SUR	28	-63	5254	0	0	0.9	-0.1	0.9
41052	99	SPEED	SUR	18	-65	3562	0	0	1.5	-0.2	1.5
41053	99	SPEED	SUR	19	-66	3869	0	0	1.5	0.7	1.7
41056	99	SPEED	SUR	18	-66	3786	0	0	1.6	-0.5	1.7
4200059	99	SPEED	SUR	15	-67	5325	0	0	1.2	0.2	1.2
4200085	99	SPEED	SUR	18	-67	4224	0	0	1.6	-0.1	1.6
42059	99	SPEED	SUR	15	-68	5379	0	0	1.2	0.2	1.2
42085	99	SPEED	SUR	18	-67	3629	1	0	1.6	0.1	1.6
4400005	99	SPEED	SUR	43	-69	884	0	0	1.4	-0.1	1.4
4400008	99	SPEED	SUR	40	-69	5324	0	0	1.1	-0.1	1.1
4400027	99	SPEED	SUR	44	-67	3605	0	0	1.3	-0.2	1.3
4400032	99	SPEED	SUR	44	-69	859	0	0	1.2	-0.1	1.2
4400033	99	SPEED	SUR	44	-69	859	0	0	1.3	-0.1	1.3
4400034	99	SPEED	SUR	44	-68	859	0	0	1.2	-0.7	1.4

DRIFTER MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF

ELEMENT MONITORED : WIND SPEED (M/S)

(CONTINU

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
4400037	99	SPEED	SUR	43	-68	760	0	0	1.3	-0.3	1.3
44005	99	SPEED	SUR	43	-69	1493	0	0	1.4	0.0	1.4
44008	99	SPEED	SUR	41	-69	4798	0	0	1.2	-0.2	1.2
44027	99	SPEED	SUR	44	-67	3956	0	0	1.4	-0.2	1.4
44032	99	SPEED	SUR	44	-69	882	0	0	1.3	0.0	1.3
44033	99	SPEED	SUR	44	-69	881	0	0	1.3	0.2	1.3
44034	99	SPEED	SUR	44	-68	880	0	0	1.2	-0.6	1.4
44037	99	SPEED	SUR	44	-68	777	0	0	1.3	-0.2	1.3
44078	99	SPEED	SUR	60	-40	374	0	0	1.2	-0.9	1.5
44150	99	SPEED	SUR	43	-64	867	1	0	2.2	0.3	2.2
44258	99	SPEED	SUR	45	-63	868	0	0	3.5	-1.3	3.7
44488	99	SPEED	SUR	45	-61	887	0	0	1.7	0.4	1.7
44489	99	SPEED	SUR	46	-61	867	1	0	1.5	0.8	1.7
6100002	99	SPEED	SUR	42	5	884	0	0	1.6	-0.3	1.6
6100196	99	SPEED	SUR	42	4	856	0	0	1.8	-0.3	1.8
6100197	99	SPEED	SUR	40	4	865	0	0	1.6	-0.4	1.6
6100198	99	SPEED	SUR	37	-2	774	0	0	1.7	-1.3	2.1
6100280	99	SPEED	SUR	41	1	867	0	0	1.7	-0.5	1.8
6100281	99	SPEED	SUR	40	0	847	0	0	2.3	0.5	2.4
6100417	99	SPEED	SUR	38	0	865	0	0	1.6	-0.2	1.6
6100430	99	SPEED	SUR	40	2	871	0	0	1.7	0.1	1.7
6101003	99	SPEED	SUR	40	25	168	0	0	1.7	0.0	1.7
6101007	99	SPEED	SUR	36	25	160	0	0	1.7	-0.7	1.8
6101008	99	SPEED	SUR	37	22	162	0	0	1.6	-0.4	1.7
6101009	99	SPEED	SUR	35	25	67	0	0	1.5	-3.2	3.5
6200001	99	SPEED	SUR	45	-5	878	0	0	1.1	-1.0	1.5
6200024	99	SPEED	SUR	44	-3	810	0	0	1.5	0.0	1.5
6200025	99	SPEED	SUR	44	-6	864	0	0	1.6	-0.4	1.7
6200082	99	SPEED	SUR	44	-8	872	0	0	1.2	-0.8	1.5
6200083	99	SPEED	SUR	43	-9	876	0	0	1.2	-0.7	1.4
6200084	99	SPEED	SUR	42	-9	853	0	0	1.2	-0.6	1.4
6200085	99	SPEED	SUR	36	-7	866	0	0	1.2	-0.5	1.3
6200086	99	SPEED	SUR	55	6	587	0	0	1.7	1.4	2.2
6200087	99	SPEED	SUR	55	7	584	0	0	1.5	1.3	2.0
6200091	99	SPEED	SUR	53	-5	888	0	0	1.2	-0.5	1.3
6200092	99	SPEED	SUR	51	-11	888	0	0	1.3	0.3	1.4
6200093	99	SPEED	SUR	55	-10	887	0	0	1.1	0.1	1.1
6200094	99	SPEED	SUR	52	-7	886	0	0	1.3	-0.7	1.4
6200095	99	SPEED	SUR	53	-16	888	0	0	1.1	0.0	1.1
6200192	99	SPEED	SUR	40	-10	831	0	0	1.0	-0.2	1.1
6200199	99	SPEED	SUR	40	-9	823	0	0	1.4	-0.4	1.5

DRIFTER MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF

ELEMENT MONITORED : WIND SPEED (M/S)

(CONTINU

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
6200200	99	SPEED	SUR	36	-8	570	0	0	1.2	0.2	1.2
6201065	99	SPEED	SUR	54	7	2	0	0	0.0	-2.0	2.0
6201066	99	SPEED	SUR	55	7	883	0	0	1.4	0.2	1.4
6201081	99	SPEED	SUR	38	-9	824	0	0	1.3	0.0	1.3
62029	99	SPEED	SUR	49	-13	1903	0	0	1.1	1.0	1.5
62030	99	SPEED	SUR	50	-4	2499	0	0	1.3	1.0	1.7
62050	99	SPEED	SUR	50	-4	1788	5	0	1.2	0.6	1.3
62081	99	SPEED	SUR	51	-13	1843	0	0	1.2	1.0	1.5
62091	99	SPEED	SUR	53	-5	888	0	0	1.2	-0.5	1.3
62092	99	SPEED	SUR	51	-11	888	0	0	1.4	0.6	1.5
62093	99	SPEED	SUR	55	-10	887	0	0	1.2	0.3	1.2
62094	99	SPEED	SUR	52	-7	886	0	0	1.3	-0.4	1.3
62095	99	SPEED	SUR	53	-16	888	0	0	1.1	0.2	1.2
62102	99	SPEED	SUR	58	2	1976	0	0	1.5	0.5	1.6
62103	99	SPEED	SUR	50	-3	1891	0	0	1.4	-0.5	1.5
62104	99	SPEED	SUR	57	1	1972	0	0	1.2	-0.7	1.4
62105	99	SPEED	SUR	55	-13	1906	0	0	1.1	0.7	1.3
62107	99	SPEED	SUR	50	-6	2580	4	0	1.5	0.4	1.6
62112	99	SPEED	SUR	58	0	1941	0	0	2.4	-1.8	3.0
62113	99	SPEED	SUR	58	0	1973	0	0	1.6	-0.3	1.6
62114	99	SPEED	SUR	58	0	2688	0	0	1.4	0.3	1.4
62118	99	SPEED	SUR	58	1	1976	0	0	1.4	0.4	1.4
62119	99	SPEED	SUR	57	2	1981	0	0	1.6	-0.9	1.8
62120	99	SPEED	SUR	56	2	1982	0	0	1.2	-0.4	1.2
62121	99	SPEED	SUR	54	3	1980	0	0	1.4	-1.0	1.8
62122	99	SPEED	SUR	57	2	2688	0	0	1.5	-0.3	1.5
62129	99	SPEED	SUR	58	0	1971	0	0	1.3	-0.1	1.3
62131	99	SPEED	SUR	54	1	1982	0	0	2.1	-1.3	2.5
62132	99	SPEED	SUR	56	2	1981	0	0	4.0	-2.6	4.8
62133	99	SPEED	SUR	57	1	1982	0	0	1.7	-0.1	1.7
62140	99	SPEED	SUR	57	1	2685	0	0	1.1	-0.4	1.2
62143	99	SPEED	SUR	58	2	1976	0	0	1.7	-1.0	2.0
62144	99	SPEED	SUR	53	2	1980	0	0	1.9	-1.4	2.3
62145	99	SPEED	SUR	53	3	2684	0	0	1.5	-0.2	1.5
62146	99	SPEED	SUR	57	2	1982	0	0	1.4	-0.1	1.4
62148	99	SPEED	SUR	54	2	1980	0	0	1.4	-0.6	1.6
62149	99	SPEED	SUR	54	1	1981	0	0	1.4	-0.2	1.4
62150	99	SPEED	SUR	54	1	1971	0	0	3.2	-2.1	3.9
62152	99	SPEED	SUR	57	2	1983	0	0	2.4	-1.2	2.6
62153	99	SPEED	SUR	57	2	1736	0	0	3.6	-6.0	6.9
62154	99	SPEED	SUR	56	2	1982	0	0	1.3	-0.3	1.3

DRIFTER MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF

ELEMENT MONITORED : WIND SPEED (M/S)

(CONTINU

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
62155	99	SPEED	SUR	58	1	1952	0	0	1.3	-0.1	1.3
62163	99	SPEED	SUR	48	-9	1868	0	0	1.2	0.6	1.3
62164	99	SPEED	SUR	57	1	1897	0	0	1.6	-1.2	2.0
62165	99	SPEED	SUR	54	1	1962	0	0	1.4	-0.8	1.7
62170	99	SPEED	SUR	51	2	1964	0	0	1.6	0.0	1.6
62304	99	SPEED	SUR	51	2	1939	0	0	1.7	0.4	1.8
62305	99	SPEED	SUR	50	0	1965	0	0	1.6	0.5	1.7
62442	99	SPEED	SUR	49	-16	1892	0	0	1.2	0.6	1.4
6301001	99	SPEED	SUR	64	5	885	0	0	1.1	0.2	1.1
6301004	99	SPEED	SUR	72	20	39	0	0	1.8	-5.7	6.0
63055	99	SPEED	SUR	61	2	1968	0	0	1.4	-1.5	2.0
63056	99	SPEED	SUR	60	2	1980	0	0	1.3	0.3	1.3
63057	99	SPEED	SUR	59	2	1957	0	0	1.7	-0.2	1.7
63058	99	SPEED	SUR	53	2	1930	0	0	1.3	-0.4	1.4
63101	99	SPEED	SUR	61	1	1984	0	0	1.5	0.0	1.5
63103	99	SPEED	SUR	61	1	1982	0	0	1.4	-0.2	1.4
63106	99	SPEED	SUR	61	2	1832	0	0	1.9	-1.0	2.2
63108	99	SPEED	SUR	61	2	1981	0	0	1.5	-0.1	1.5
63109	99	SPEED	SUR	60	2	1922	0	0	1.2	0.3	1.3
63110	99	SPEED	SUR	60	2	1979	0	0	1.4	-0.3	1.4
63112	99	SPEED	SUR	61	1	1983	0	0	1.3	-0.1	1.3
63115	99	SPEED	SUR	62	1	1982	0	0	1.3	-0.3	1.4
63117	99	SPEED	SUR	61	1	2680	0	0	1.5	-0.2	1.5
64041	99	SPEED	SUR	61	-3	1933	0	0	1.4	0.0	1.4
64045	99	SPEED	SUR	59	-12	1891	3	0	1.3	1.0	1.6
64046	99	SPEED	SUR	61	-4	1873	0	0	1.0	0.8	1.3
6600021	99	SPEED	SUR	55	14	302	0	0	1.2	0.6	1.3
6600022	99	SPEED	SUR	54	14	367	0	0	1.6	0.5	1.7
6600023	99	SPEED	SUR	55	11	240	0	0	1.5	2.7	3.0
9182954	99	SPEED	SUR	43	-28	2	0	0	0.0	0.4	0.4

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 : SEP 2022
 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
00000	99	DIRN	SUR	44	-79	2	0	0	29.4	-65.6	71.9
1300001	99	DIRN	SUR	11	-23	574	0	0	23.6	1.8	23.7
1300002	99	DIRN	SUR	20	-23	700	0	0	10.3	-1.5	10.5
1300008	99	DIRN	SUR	15	-38	591	0	0	13.9	6.4	15.3
1300130	99	DIRN	SUR	28	-16	708	0	0	13.0	3.6	13.5
1300131	99	DIRN	SUR	28	-17	560	0	0	48.8	28.5	56.5
1801556	99	DIRN	SUR	16	-68	3260	1	0	19.2	5.4	19.9
1801557	99	DIRN	SUR	28	-84	2242	0	0	23.2	5.0	23.7
1801560	99	DIRN	SUR	20	-67	4976	0	0	15.0	0.9	15.0
1801579	99	DIRN	SUR	31	-80	2070	0	0	29.3	0.5	29.3
1801594	99	DIRN	SUR	27	-71	1311	0	0	17.7	1.9	17.8
1801599	99	DIRN	SUR	19	-53	4669	0	0	12.4	6.1	13.8
1801606	99	DIRN	SUR	41	-71	1717	0	0	17.5	6.9	18.8
4100001	99	DIRN	SUR	35	-72	4148	0	0	19.0	4.5	19.5
4100002	99	DIRN	SUR	32	-75	3698	0	0	24.7	5.6	25.3
4100004	99	DIRN	SUR	33	-79	4205	5	0	21.8	3.8	22.1
4100008	99	DIRN	SUR	31	-81	663	1	0	27.3	0.6	27.3
4100009	99	DIRN	SUR	29	-80	2272	0	0	32.0	5.2	32.4
4100010	99	DIRN	SUR	29	-78	2770	0	0	29.2	9.5	30.7
4100013	99	DIRN	SUR	33	-78	4363	0	0	17.9	3.7	18.3
4100024	99	DIRN	SUR	34	-78	857	0	0	20.3	2.3	20.5
4100025	99	DIRN	SUR	35	-75	4190	0	0	17.9	2.7	18.1
4100026	99	DIRN	SUR	12	-38	203	0	0	22.0	-0.1	22.0
4100029	99	DIRN	SUR	33	-80	452	0	0	23.8	-1.2	23.8
4100033	99	DIRN	SUR	32	-80	836	0	0	20.4	2.4	20.6
4100037	99	DIRN	SUR	34	-77	694	0	0	16.0	1.6	16.0
4100038	99	DIRN	SUR	34	-78	834	0	0	22.0	-1.8	22.1
4100043	99	DIRN	SUR	21	-65	5025	0	0	14.0	2.1	14.1
4100046	99	DIRN	SUR	24	-68	4565	0	0	11.6	5.9	13.0
4100047	99	DIRN	SUR	27	-71	3466	0	0	15.2	5.5	16.2
4100049	99	DIRN	SUR	27	-63	3501	0	0	12.9	3.7	13.5
4100052	99	DIRN	SUR	18	-65	4847	0	0	18.3	4.5	18.9

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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
4100053	99	DIRN	SUR	18	-66	2809	0	0	20.1	10.4	22.6
4100056	99	DIRN	SUR	18	-65	4612	0	0	18.5	5.0	19.1
4100064	99	DIRN	SUR	34	-77	178	0	0	34.9	-9.0	36.1
4100066	99	DIRN	SUR	33	-80	688	0	0	20.5	1.6	20.6
41001	99	DIRN	SUR	35	-72	3843	0	0	19.2	3.9	19.6
4100139	99	DIRN	SUR	20	-38	840	0	0	9.7	3.7	10.4
41002	99	DIRN	SUR	32	-75	3539	0	0	24.6	4.7	25.1
4100300	99	DIRN	SUR	16	-57	729	0	0	18.5	-8.3	20.2
41004	99	DIRN	SUR	33	-79	4576	8	0	21.8	3.2	22.0
41008	99	DIRN	SUR	31	-81	1075	1	0	27.0	0.8	27.0
41009	99	DIRN	SUR	29	-80	2173	0	0	31.3	4.2	31.6
41010	99	DIRN	SUR	29	-79	2662	0	0	29.6	8.5	30.8
41013	99	DIRN	SUR	33	-78	4222	0	0	17.8	3.5	18.2
41024	99	DIRN	SUR	34	-79	845	0	0	21.8	3.6	22.1
41025	99	DIRN	SUR	35	-76	3626	0	0	18.8	1.7	18.9
4102649	99	DIRN	SUR	26	-83	260	9	0	20.1	-13.1	24.0
41029	99	DIRN	SUR	33	-80	750	0	0	24.1	-0.6	24.1
41033	99	DIRN	SUR	32	-80	798	0	0	18.9	2.7	19.1
41037	99	DIRN	SUR	34	-77	715	0	0	15.5	1.2	15.6
41038	99	DIRN	SUR	34	-78	798	0	0	21.3	0.0	21.3
41043	99	DIRN	SUR	21	-65	4946	0	0	14.8	1.8	14.9
41046	99	DIRN	SUR	24	-68	4669	0	0	12.0	5.4	13.1
41047	99	DIRN	SUR	28	-72	3293	0	0	15.8	5.0	16.5
41049	99	DIRN	SUR	28	-63	3313	0	0	13.0	3.2	13.4
41052	99	DIRN	SUR	18	-65	3339	0	0	18.7	4.0	19.1
41053	99	DIRN	SUR	19	-66	2408	0	0	22.2	10.0	24.4
41056	99	DIRN	SUR	18	-66	3316	0	0	18.9	5.1	19.5
41064	99	DIRN	SUR	34	-77	165	0	0	37.6	-5.2	37.9
41066	99	DIRN	SUR	33	-80	719	0	0	21.8	1.4	21.9
4200013	99	DIRN	SUR	27	-83	819	0	0	29.3	-6.4	30.0
4200022	99	DIRN	SUR	28	-84	871	0	0	25.7	-1.8	25.8
4200023	99	DIRN	SUR	26	-83	547	0	0	38.5	-4.8	38.8
4200026	99	DIRN	SUR	25	-83	897	0	0	25.6	-1.3	25.6
4200036	99	DIRN	SUR	29	-85	3003	0	0	24.8	2.2	24.9
4200056	99	DIRN	SUR	20	-85	2862	0	0	16.7	6.1	17.8
4200059	99	DIRN	SUR	15	-67	4623	0	0	17.6	4.3	18.1
4200085	99	DIRN	SUR	18	-67	2998	0	0	26.3	15.2	30.4
42013	99	DIRN	SUR	27	-83	708	0	0	31.7	-6.2	32.3
42022	99	DIRN	SUR	28	-84	813	0	0	23.0	-2.4	23.1
42023	99	DIRN	SUR	26	-83	652	0	0	40.1	-6.1	40.5
42026	99	DIRN	SUR	25	-84	854	0	0	25.3	-0.9	25.3

DRIFTER MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF

ELEMENT MONITORED : WIND DIRECTION (DEGREES)

(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
42036	99	DIRN	SUR	29	-85	2956	0	0	25.5	1.7	25.5
42056	99	DIRN	SUR	20	-85	2858	0	0	17.1	5.3	17.9
42059	99	DIRN	SUR	15	-68	4596	0	0	17.3	4.0	17.8
42085	99	DIRN	SUR	18	-67	2430	1	0	24.4	13.9	28.1
4400005	99	DIRN	SUR	43	-69	710	0	0	15.5	2.4	15.6
4400007	99	DIRN	SUR	44	-70	3796	0	0	20.0	7.8	21.5
4400008	99	DIRN	SUR	40	-69	4157	0	0	13.2	9.7	16.4
4400009	99	DIRN	SUR	38	-75	4255	0	0	15.3	5.3	16.2
4400013	99	DIRN	SUR	42	-71	4144	0	0	22.5	7.1	23.5
4400014	99	DIRN	SUR	37	-75	3822	0	0	13.2	9.3	16.1
4400017	99	DIRN	SUR	41	-72	4597	0	0	16.8	4.8	17.4
4400018	99	DIRN	SUR	42	-70	4153	0	0	17.1	7.0	18.5
4400020	99	DIRN	SUR	41	-70	4673	0	0	18.4	4.4	18.9
4400022	99	DIRN	SUR	41	-74	586	0	0	18.2	5.5	19.0
4400027	99	DIRN	SUR	44	-67	2465	0	0	16.1	8.8	18.4
4400029	99	DIRN	SUR	43	-71	501	0	0	16.7	3.9	17.1
4400030	99	DIRN	SUR	43	-70	485	0	0	15.8	10.3	18.9
4400032	99	DIRN	SUR	44	-69	642	0	0	17.0	2.7	17.2
4400033	99	DIRN	SUR	44	-69	573	0	0	21.6	5.5	22.3
4400034	99	DIRN	SUR	44	-68	586	0	0	14.0	9.7	17.1
4400037	99	DIRN	SUR	43	-68	603	0	0	13.5	34.6	37.1
4400039	99	DIRN	SUR	41	-73	542	0	0	42.0	-0.6	42.0
4400040	99	DIRN	SUR	41	-74	914	0	0	18.0	-1.1	18.0
4400041	99	DIRN	SUR	37	-77	1246	0	0	19.6	-1.2	19.7
4400042	99	DIRN	SUR	38	-76	5947	0	0	20.7	-1.0	20.7
4400058	99	DIRN	SUR	38	-76	4606	0	0	16.7	-1.2	16.7
4400062	99	DIRN	SUR	39	-76	6208	0	0	21.2	-1.1	21.2
4400063	99	DIRN	SUR	39	-76	5689	0	0	22.1	2.5	22.3
4400064	99	DIRN	SUR	37	-76	5895	0	0	18.0	2.4	18.2
4400065	99	DIRN	SUR	40	-74	4397	0	0	16.1	3.2	16.4
4400066	99	DIRN	SUR	40	-73	4380	0	0	12.2	5.1	13.2
4400072	99	DIRN	SUR	37	-76	6010	0	0	22.0	0.3	22.0
4400075	99	DIRN	SUR	40	-71	2492	0	0	21.0	-12.4	24.4
4400076	99	DIRN	SUR	40	-71	540	0	0	23.8	-11.8	26.6
4400077	99	DIRN	SUR	40	-71	2420	0	0	19.0	-8.4	20.8
44005	99	DIRN	SUR	43	-69	1182	0	0	15.8	1.6	15.9
44007	99	DIRN	SUR	44	-70	4082	0	0	21.6	7.3	22.8
44008	99	DIRN	SUR	41	-69	3528	0	0	13.9	9.3	16.7
44009	99	DIRN	SUR	39	-75	4255	0	0	16.2	4.9	17.0
44013	99	DIRN	SUR	42	-71	3895	0	0	23.2	5.7	23.9
44014	99	DIRN	SUR	37	-75	3354	0	0	14.1	8.5	16.5

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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
44017	99	DIRN	SUR	41	-72	4451	0	0	15.9	3.9	16.3
44018	99	DIRN	SUR	42	-70	3970	0	0	17.1	6.6	18.3
44020	99	DIRN	SUR	42	-70	4329	0	0	18.7	3.8	19.1
44022	99	DIRN	SUR	41	-74	635	0	0	19.3	6.3	20.2
44027	99	DIRN	SUR	44	-67	2614	0	0	16.2	7.8	18.0
44029	99	DIRN	SUR	43	-71	725	0	0	17.4	4.3	17.9
44030	99	DIRN	SUR	43	-70	492	0	0	16.5	10.6	19.6
44032	99	DIRN	SUR	44	-69	642	0	0	20.0	2.6	20.2
44033	99	DIRN	SUR	44	-69	550	0	0	21.9	5.2	22.5
44034	99	DIRN	SUR	44	-68	580	0	0	15.2	10.2	18.3
44037	99	DIRN	SUR	44	-68	601	0	0	14.6	34.3	37.3
44039	99	DIRN	SUR	41	-73	546	0	0	43.4	-0.4	43.4
44040	99	DIRN	SUR	41	-74	960	0	0	18.7	0.1	18.7
44041	99	DIRN	SUR	37	-77	1189	0	0	20.0	-2.2	20.1
44042	99	DIRN	SUR	38	-76	4844	0	0	21.1	-1.3	21.1
44058	99	DIRN	SUR	38	-76	3467	0	0	17.3	-1.6	17.4
44062	99	DIRN	SUR	39	-76	6200	0	0	22.5	-1.2	22.5
44063	99	DIRN	SUR	39	-76	5473	0	0	22.3	3.2	22.6
44064	99	DIRN	SUR	37	-76	5527	0	0	19.2	2.3	19.3
44065	99	DIRN	SUR	40	-74	3818	0	0	17.0	3.1	17.3
44066	99	DIRN	SUR	40	-73	4812	0	0	12.6	4.4	13.4
44069	99	DIRN	SUR	41	-73	1269	0	0	27.9	-6.3	28.6
44072	99	DIRN	SUR	37	-76	5048	0	0	25.0	-0.2	25.0
44075	99	DIRN	SUR	40	-71	1927	0	0	20.0	-12.7	23.7
44076	99	DIRN	SUR	40	-71	425	0	0	24.4	-11.7	27.1
44077	99	DIRN	SUR	40	-71	1796	0	0	20.6	-7.7	22.0
44078	99	DIRN	SUR	60	-40	329	0	0	14.0	-17.7	22.6
44150	99	DIRN	SUR	43	-64	707	1	0	20.5	8.3	22.1
44258	99	DIRN	SUR	45	-63	505	0	0	13.7	14.6	20.0
44488	99	DIRN	SUR	45	-61	712	0	0	21.6	7.7	23.0
44489	99	DIRN	SUR	46	-61	634	1	0	19.6	0.7	19.7
4500003	99	DIRN	SUR	45	-83	4304	0	0	18.1	2.9	18.4
4500005	99	DIRN	SUR	42	-82	4161	0	0	19.6	7.2	20.8
4500008	99	DIRN	SUR	44	-82	4558	0	0	17.0	4.3	17.5
4500012	99	DIRN	SUR	44	-77	4194	0	0	15.6	4.4	16.2
4500162	99	DIRN	SUR	45	-83	2128	0	0	18.0	4.0	18.5
4500163	99	DIRN	SUR	44	-84	2067	0	0	18.6	3.3	18.8
4500165	99	DIRN	SUR	42	-83	3387	0	0	37.4	12.7	39.5
4500167	99	DIRN	SUR	42	-80	1897	0	0	24.8	-0.5	24.8
4500175	99	DIRN	SUR	46	-85	6388	0	0	21.2	0.4	21.2
4500176	99	DIRN	SUR	42	-82	2962	0	0	30.4	-12.5	32.8

DRIFTER MONITORING STATISTICS (EUCOS)

MONITORING CENTRE : ECMWF

ELEMENT MONITORED : WIND DIRECTION (DEGREES)

(CONTINUED)

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
4500196	99	DIRN	SUR	42	-82	3073	0	0	22.1	17.2	28.1
4500197	99	DIRN	SUR	42	-82	1527	0	0	27.2	30.8	41.1
4500202	99	DIRN	SUR	42	-83	1777	0	0	49.7	6.8	50.2
4500203	99	DIRN	SUR	41	-83	2073	0	0	41.9	-24.3	48.5
4500204	99	DIRN	SUR	42	-82	2471	0	0	43.9	39.3	59.0
4500205	99	DIRN	SUR	42	-82	2234	0	0	48.0	26.1	54.7
4500206	99	DIRN	SUR	42	-82	2012	0	0	32.8	-28.3	43.3
45003	99	DIRN	SUR	45	-83	4174	0	0	18.8	2.5	18.9
45005	99	DIRN	SUR	42	-82	4136	0	0	20.7	7.1	21.9
45008	99	DIRN	SUR	44	-82	4945	0	0	16.6	3.7	17.0
45012	99	DIRN	SUR	44	-77	3510	0	0	16.1	3.7	16.5
45132	99	DIRN	SUR	43	-81	685	0	0	19.3	-6.3	20.3
45135	99	DIRN	SUR	44	-77	685	0	0	19.0	0.7	19.0
45137	99	DIRN	SUR	46	-81	705	0	0	19.5	-1.8	19.5
45139	99	DIRN	SUR	43	-80	532	0	0	22.3	1.1	22.4
45142	99	DIRN	SUR	43	-79	651	0	0	20.1	-10.3	22.6
45143	99	DIRN	SUR	45	-81	659	0	0	22.8	-6.3	23.7
45147	99	DIRN	SUR	42	-83	655	0	0	20.8	-2.1	20.9
45149	99	DIRN	SUR	44	-82	720	0	0	17.2	6.2	18.3
45151	99	DIRN	SUR	45	-79	542	0	0	15.1	-3.0	15.4
45152	99	DIRN	SUR	46	-80	570	0	0	19.9	-3.5	20.2
45154	99	DIRN	SUR	46	-83	655	0	0	17.8	-4.4	18.3
45159	99	DIRN	SUR	44	-79	508	0	0	23.1	3.9	23.5
45162	99	DIRN	SUR	45	-83	1929	0	0	20.9	3.7	21.2
45163	99	DIRN	SUR	44	-84	2267	0	0	18.4	3.1	18.7
45165	99	DIRN	SUR	42	-83	2776	0	0	37.3	13.1	39.6
45167	99	DIRN	SUR	42	-80	2198	0	0	26.0	-1.0	26.0
45175	99	DIRN	SUR	46	-85	6559	0	0	22.4	0.3	22.5
45176	99	DIRN	SUR	42	-82	2951	0	0	32.9	-11.1	34.7
45196	99	DIRN	SUR	42	-82	3012	0	0	24.5	16.4	29.4
45197	99	DIRN	SUR	42	-82	1888	0	0	29.6	30.6	42.6
45202	99	DIRN	SUR	42	-83	1992	0	0	51.6	3.2	51.7
45203	99	DIRN	SUR	41	-83	2172	0	0	42.6	-23.6	48.7
45204	99	DIRN	SUR	42	-82	2781	0	0	45.0	38.5	59.2
45205	99	DIRN	SUR	42	-82	2293	0	0	48.3	25.4	54.6
45206	99	DIRN	SUR	42	-82	2420	0	0	34.3	-27.0	43.7
6100198	99	DIRN	SUR	37	-2	528	0	0	51.7	24.6	57.3
6100281	99	DIRN	SUR	40	0	345	0	0	43.6	-10.3	44.8
6100417	99	DIRN	SUR	38	0	495	0	0	22.9	1.1	23.0
6200001	99	DIRN	SUR	45	-5	770	0	0	13.5	-0.5	13.5
6200024	99	DIRN	SUR	44	-3	505	0	0	29.5	3.0	29.7

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

WMO IDENT	OBS TIME	ELM	LEVEL	MEAN LAT	MEAN LONG	NUM OBS	NUM GROSS	% GROSS	SD	BIAS	RMS
6200025	99	DIRN	SUR	44	-6	589	0	0	20.0	5.9	20.9
6200082	99	DIRN	SUR	44	-8	748	0	0	13.1	-6.4	14.6
6200083	99	DIRN	SUR	43	-9	722	0	0	13.8	7.9	15.9
6200084	99	DIRN	SUR	42	-9	595	0	0	13.2	12.3	18.0
6200085	99	DIRN	SUR	36	-7	598	0	0	12.6	5.1	13.6
6200091	99	DIRN	SUR	53	-5	778	0	0	15.0	7.6	16.8
6200092	99	DIRN	SUR	51	-11	765	0	0	14.7	2.1	14.8
6200093	99	DIRN	SUR	55	-10	765	0	0	15.5	1.3	15.5
6200094	99	DIRN	SUR	52	-7	745	0	0	19.6	6.2	20.6
6200095	99	DIRN	SUR	53	-16	777	0	0	11.9	5.2	13.0
6200192	99	DIRN	SUR	40	-10	518	0	0	16.6	-1.3	16.7
6200199	99	DIRN	SUR	40	-9	505	0	0	22.0	29.4	36.7
6200200	99	DIRN	SUR	36	-8	431	0	0	147.2	-83.6	169.3
6201081	99	DIRN	SUR	38	-9	488	0	0	10.5	0.6	10.5
62029	99	DIRN	SUR	49	-13	1827	0	0	11.9	-4.7	12.8
62030	99	DIRN	SUR	50	-4	1893	0	0	13.7	7.5	15.6
62050	99	DIRN	SUR	50	-4	1531	5	0	13.7	4.8	14.5
62081	99	DIRN	SUR	51	-13	1677	0	0	13.5	-6.4	14.9
62091	99	DIRN	SUR	53	-5	768	0	0	15.1	6.7	16.5
62092	99	DIRN	SUR	51	-11	753	0	0	13.7	1.6	13.8
62093	99	DIRN	SUR	55	-10	753	0	0	15.4	1.2	15.5
62094	99	DIRN	SUR	52	-7	739	0	0	16.4	6.0	17.4
62095	99	DIRN	SUR	53	-16	773	0	0	12.3	4.8	13.2
62103	99	DIRN	SUR	50	-3	1599	0	0	17.4	5.5	18.2
62105	99	DIRN	SUR	55	-13	1648	0	0	13.8	-3.5	14.2
62107	99	DIRN	SUR	50	-6	2360	4	0	14.1	3.3	14.5
62112	99	DIRN	SUR	58	0	1761	0	0	10.4	-3.3	10.9
62114	99	DIRN	SUR	58	0	2448	0	0	9.4	0.3	9.4
62163	99	DIRN	SUR	48	-9	1735	0	0	14.3	5.4	15.3
62305	99	DIRN	SUR	50	0	1568	0	0	21.2	7.1	22.4
62442	99	DIRN	SUR	49	-16	1802	0	0	17.1	3.7	17.5
64041	99	DIRN	SUR	61	-3	1773	0	0	9.7	7.6	12.3
64045	99	DIRN	SUR	59	-12	1725	3	0	12.3	-11.6	17.0
64046	99	DIRN	SUR	61	-4	1736	0	0	10.4	0.7	10.5
9182954	99	DIRN	SUR	43	-28	2	0	0	0.0	126.6	126.6

4.12 Table 24 - List of Assimilated BUFR Encoded Radiosonde Stations

ASDE09	ATGU3FT	BPMWB2N	DBLK	FPUW5GN	JNKN7JF	KJJF9XN	KMPLHPW	LRYQE3U
USRCF	USSIO	UXK5JTU	WDK38HS	XKQLWQB	XQFJRGX	YLV96WM	ZVQEQCM	2EERVTP
7JUNA4N	9ZT9MRK	01001	01004	01010	01028	01241	01400	01415
01492	02365	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	16245	16332	16429	16546
16622	16716	16754	17030	17064	17095	17196	17220	17240
17351	17607	20674	22008	23205	23472	23884	23921	24908
26038	26435	26629	26708	26850	27459	27707	27713	27962
28225	28661	29612	29698	30557	30673	33008	35121	40179
42369	42667	42971	43150	43371	45004	46757	47102	47104
47138	47155	47169	47186	47195	47230	47401	47412	47418
47582	47600	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	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	60155	60390
60571	60630	60656	60680	60715	60760	61901	61980	61998
63894	63985	65344	66160	67083	68263	68424	68442	68512
68816	68842	70026	70133	70200	70219	70231	70261	70273
70308	70316	70326	70350	70361	70398	71043	71081	71082
71109	71119	71603	71722	71802	71811	71815	71816	71823
71836	71845	71867	71906	71908	71909	71913	71917	71924
71925	71926	71934	71945	71957	71964	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	72456	72476	72489	72493	72501	72518
72528	72558	72562	72572	72582	72597	72632	72634	72645
72649	72659	72662	72672	72681	72694	72712	72747	72764
72768	72776	72786	72797	73033	73110	74389	74455	74560
76225	76256	76394	76405	76458	76526	76595	76612	76644
76654	76679	76692	76743	76805	76903	78384	78397	78583
78897	78954	81405	82965	83768	85442	85586	85799	85934
87155	87344	87418	87582	87623	87715	87860	88889	89002
89062	89564	89571	89592	89611	89625	89642	89859	91165
91212	91285	91408	91592	91610	91765	91925	91938	91948
91958	93112	93417	93817	93844	94120	94150	94170	94203
94299	94302	94312	94326	94332	94374	94403	94430	94461
94510	94578	94610	94637	94638	94653	94659	94672	94711
94767	94776	94802	94821	94866	94910	94975	94995	94996
94998	95282	95527	96413	96441	96471	96481	96996	

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

ASDE09	ATGU3FT	BPMWB2N	DBLK	FPUW5GN	JNKN7JF	KJJF9XN	KMPLHPW	LRYQE3U
USRCF	UXK5JTU	WDK38HS	XKQLWQB	XQFJRGX	YLV96WM	ZVQEQCM	2EERVTP	7JUNA4N
9ZT9MRK	01010	01028	01415	01492	02365	02836	02963	06610
07110	07145	07510	07645	07761	08001	08023	08190	08221
08302	08383	08430	08536	11010	11035	11120	11240	12575
17607	46757	47195	47230	50557	50774	50953	51076	51243
51644	51656	51709	51777	51828	51839	52203	52267	52323
52652	52681	52818	52836	52866	52983	53068	53513	53543
53614	53845	53915	54102	54135	54161	54218	54292	54374
54727	54857	55299	55591	56029	56046	56080	56137	56146
56187	56492	56571	56651	56691	56739	56778	56964	56985
57127	57131	57178	57245	57461	57516	57541	57687	57749
57816	57957	57972	57993	58027	58150	58203	58362	58424
58457	58606	58633	58665	58725	58847	59023	59134	59211
59265	59280	59293	59316	59431	59758	59981	65344	72413
76743	76903	89642	89859	91925	91938	91948	93817	94653

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.