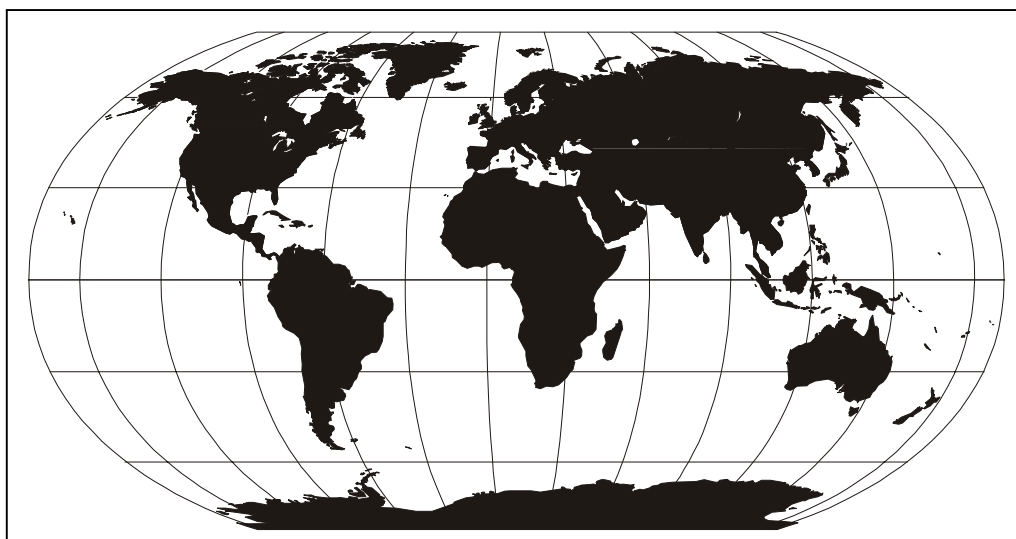




OPERATIONAL NEWSLETTER

World Weather Watch and Marine Meteorological Services



**WORLD METEOROLOGICAL ORGANIZATION
GENEVA
SWITZERLAND**

No. 03/04- 2001
(March/April 2001)

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EDITORIAL

The Operational Newsletter provides information on the World Weather Watch and Marine Meteorological Services and has been issued since 1982 at the request of the Commission for Basic Systems. It is distributed by the World Meteorological Organization Secretariat and is aimed at providing World Weather Watch Centres with a summary of the latest operational information on:

- *The Global Observing System*
- *The Global Telecommunication System*
- *The Global Data-Processing System*
- *Data Management*
- *Codes*
- *Marine Meteorological Services*

A feedback form is included in the Newsletter to assist WMO Members in reporting changes in the present status of implementation of observing programmes of SYNOP, TEMP and PILOT reporting stations.

Your co-operation in ensuring that the above information reaches the appropriate operational units of your service is greatly appreciated.

Should you have any difficulties downloading, viewing or printing the Newsletter, please do not hesitate to contact us.

We look forward to hearing from you!

Acknowledgements:

The WMO Secretariat would like to express its appreciation to all those who have contributed material to the "Operational Newsletter".

Operational Newsletter:

6 issues per year:

January/February

March/April

May/June

July/August

September/October

November/December

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MEETINGS SCHEDULED - 2001

*Related to: The World Weather Watch and
Marine Meteorological Services*

Date	Place	Title of the Meeting
21-25.V.2001	Geneva, WMO Secretariat	RA VI - Fourth Session Working Group on Planning and Implementation of the World Weather Watch WWW-B
28.V.-1.VI.2001	Offenbach, Germany (tentative)	Intercommission Task Team on Future WMO Information Systems WWW-B
19-29.VI.2001	Akureyri, Iceland	Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology - First session WWW-A
20-23 (a.m.).VI.2001	Geneva, WMO Secretariat (tentative)	CBS Expert Team on Improved MTN and GTS WWW-B
25.VI.2001	Akureyri, Iceland	Scientific Lectures with JCOMM-I WWW-A
25-28.VI.2001	Geneva, WMO Secretariat (tentative)	Implementation Coordination Meeting on the MTN WWW-B
26-30.VI.2001	Minneapolis, MN, USA	OPAG/PWS Expert Team on Media Issues (in conjunction with the AMS Conference on Broadcast Meteorology) WWW-A
9-13.VII.2001	Reading, United Kingdom	Joint UK/WMO Aeronautical Forecasting Training Seminar WWW-A
10-14.IX.2001	Washington, USA (tentative)	Emergency Response Activities Coordination Group WWW-B/DPS
18-21.IX.2001	Boulder, CO, USA	International Expert Workshop on Advances in the Use of Historical Marine Data (co-sponsored by WMO) WWW-A
September 2001 (Date to be decided)	(Place to be decided)	Regional Implementation Coordination Meeting on GDPS in RA I WWW-B
15-19.X.2001	Tokyo, Japan (tentative)	Expert Team on Ensemble Prediction Systems WWW-B/DPS
22-31.X.2001	Perth, Australia	DBCP - Seventeenth session and ARGOS Joint Tariff Agreement - Twenty-first session WWW-A
October 2001	(Date and place to be decided)	CIMO Advisory Working Group WWW-B
12-16.XI.2001	Geneva, WMO Secretariat (tentative)	Expert Team on Infrastructure for Long-range Forecasting WWW-B/DPS
27.XI.-3.XII.2001	Honolulu, HI, USA	ESCAP/WMO Typhoon Committee - Thirty-fourth session WWW-A

MEETINGS SCHEDULED - 2002

9-27.IX.2002	Montreal, Canada (tentative)	Commission for Aeronautical Meteorology - Twelfth session (conjoint session with ICAO MET Division) WWW-A
23.IX.-4.X.2002	Bratislava, Slovakia	Commission for Instruments and Methods of Observation - Thirteenth session and Technical Conference on Meteorological and Environmental Instruments and Methods of Observation (TECO-2002) WWW-B
2002	(Date and place to be decided)	Commission for Basic Systems - Extraordinary session WWW-B

TERMINOLOGY USED:

ARGOS	Data relay and platform location system (Sat.)	JCOMM	Joint WMO/IOC Commission for Oceanography and Marine Meteorology
ASAP	Automated Shipboard Aerological Programme	JTA	ARGOS Joint Tarif Agreement
CBS	Commission for Basic Systems	NOAA	National Oceanic and Atmospheric Administration
CIMO	Commission for Instruments and Methods of Observation	NWP	Numerical weather prediction
CMM	Commission for Marine Meteorology	OPAG	Open Programme Area Group
DBCP	Data Buoy Cooperation Panel	PWS	Public Weather Services
DPFS	Data-processing and Forecasting Systems	RA I	Regional Association I (Africa)
GDPS	Global Data-processing System	RA II	Regional Association II (Asia)
GOS	Global Observing System	RA III	Regional Association III (South America)
GOOS	Global Ocean Observing System	RA IV	Regional Association IV (North and Central America)
GTS	Global Telecommunication System	RA V	Regional Association V (South-West Pacific)
IDNDR	International Decade for Natural Disaster Reduction	RA VI	Regional Association VI (Europe)
IOC	Intergovernmental Oceanographic Commission	WWW	World Weather Watch Department
IOS	Integrated Observing Systems		
ISS	Information Systems and Services		

I. GLOBAL OBSERVING SYSTEM

1. AUTOMATIC MARINE STATIONS

KEY: Observed or Technical Parameters

Column	Parameters	Column	Parameters
1	Wind direction, speed and peak wind	12	Battery Voltage (BV)
2	Air temperature	13	Dew Point
3	Air pressure	-	Parameter not observed
4	Pressure tendency	X	Buoy observes this parameter
5	Sea-surface temperature	.	Data under evaluation, not reported
6	Wave period and height		
7	Wave spectra	B	Buoy beached, sensor reporting
8	Drogued	N	No sensor installed
9	Subsurface temperatures	Q	Data questionable, but reported
10	Relative humidity	R	Buoy Retrieved
11	Visibility	S	Sensor/system failure

**CANADA
ODAS REPORT**

Moored Buoys - North-east Pacific Ocean (SNVD17 & SXCN50 CWVR, SNVD04 CWEG)

WMO Buoy ID	ARGOS ID	Position:5 April2001 Latitude / Longitude	Observed or Technical Parameters												
			1	2	3	4	5	6	7	8	9	10	11	12	13
46004	5324	50 55' N 136 05' W	X	X	X	X	X	X	X	X	N/A	-	-	-	-
46036	7181	48 21' N 133 56' W	X	X	X	X	X	X	X	X	N/A	-	-	-	-
46131	N/A	49 54' N 124 59' W	X	X	X	X	X	X	X	X	N/A	-	-	-	-
46132	7187	49 44' N 127 56' W	X	X	X	X	X	X	X	X	N/A	-	-	-	-
46145	7194	54 23' N 132 27' W	X	X	X	X	X	X	X	X	N/A	-	-	-	-

46146	N/A	49 20' N 123 44' W	X	X	X	X	X	X	X	X	N/A	-	-	-	-	-
46147	7197	51 50' N 131 14' W	X	X	X	X	X	X	X	X	N/A	-	-	-	-	-
46181	N/A	53 50' N 128 50' W	X	X	X	X	X	X	X	X	N/A	-	-	-	-	-
46183	4484	53 37' N 131 07' W	X	X	X	X	X	X	X	X	N/A	-	-	-	-	-
46184	7195	53 56' N 138 53' W	X	X	X	X	X	X	X	X	N/A	-	-	-	-	-
46185	7193	52 25' N 129 47' W	X	X	X	X	X	X	X	X	N/A	-	-	-	-	-
46204	7184	51 22' N 128 45' W	X	X	X	X	X	X	X	X	N/A	-	-	-	-	-
46205	7185	54 10' N 134 17' W	X	X	X	X	X	X	X	X	N/A	-	-	-	-	-
46206	8678	48 50' N 126 00' W	X	X	X	X	X	X	X	X	N/A	-	-	-	-	-
46207	7186	50 53' N 129 55' W	X	S	X	X	X	X	X	X	N/A	-	-	-	-	-
46208	4485	52 31' N 132 42' W	X	X	X	X	X	X	X	X	N/A	-	-	-	-	-

+ Buoy removed from station due to seasonal shutdown, mooring failure or badly damaged

Moored Buoys - North-west Atlantic Ocean

WMO Buoy ID	ARGOS ID	Position:5 April2001		Observed or Technical Parameters												
		Latitude / Longitude		1	2	3	4	5	6	7	8	9	10	11	12	13
44137	5579	41 50' N	060 56' W	X	X	X	X	X	X	X	N/A	-	-	-	-	-
44138	5577	44 16' N	053 37' W	S	S	S	S	S	S	S	N/A	-	-	-	-	-
44139	3448	44 16' N	057 23' W	S	S	S	S	S	S	S	N/A	-	-	-	-	-
44140	5576	43 51' N	052 15' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
44141	3449	42 06' N	056 13' W	X	X	X	X	X	X	X	N/A	-	-	-	-	-
44142	5578	42 30' N	064 01' W	S	S	S	S	S	S	S	N/A	-	-	-	-	-
44251	9234	46 26' N	053 23' W	X	X	X	X	X	X	X	N/A	-	-	-	-	-
44255	9233	47 17' N	057 21' W	S	S	S	S	S	S	S	N/A	-	-	-	-	-
44258	9232	44 30' N	063 24' W	S	S	S	S	S	S	S	N/A	-	-	-	-	-

+ Buoy removed from station due to seasonal shutdown, mooring failure or badly damaged

Moored Buoys - Gt Slave Lk., Lk. Winnipeg, Great Lks., Gulf of St. Lawrence

WMO Buoy ID	ARGOS ID	Position:5 April2001		Observed or Technical Parameters												
		Latitude / Longitude		1	2	3	4	5	6	7	8	9	10	11	12	13
45132	N/A	42 28' N	081 13' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
45135	N/A	43 47' N	076 52' W	X	X	X	X	X	X	X	N/A	-	-	-	-	-
45136	N/A	48 32' N	086 57' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
45137	N/A	45 33' N	081 01' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
45138	3436	49 33' N	065 46' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
45139	N/A	43 26' N	079 23' W	S	S	S	S	S	S	S	N/A	-	-	-	-	-
45140	N/A	50 47' N	096 44' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
45141	N/A	61 11' N	115 19' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
45142	N/A	42 44' N	079 17' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
45143	N/A	44 55' N	080 38' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
45144	8671	53 12' N	098 50' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
45145	N/A	51 27' N	096 42' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
45147	N/A	42 26' N	082 41' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
45148	N/A	49 42' N	094 31' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
45149	N/A	43 32' N	081 58' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
45150	3439	61 55' N	113 51' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
45151	N/A	44 30' N	079 22' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
45152	N/A	46 14' N	079 43' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-
45154	N/A	46 03' N	082 38' W	+	+	+	+	+	+	+	N/A	-	-	-	-	-

+ Buoy removed from station due to seasonal shutdown, mooring failure or badly damaged

Drifting Buoys - Pacific Ocean (SSVX04 CWEG)

WMO Buoy ID	ARGOS ID	Position:5 April2001		Observed or Technical Parameters												
		Latitude / Longitude		1	2	3	4	5	6	7	8	9	10	11	12	13
46660	12514	51 36' N	135 18' W	X	X	X	X	X	+	+	X	-	-	-	-	
46661	12521	30 54' N	145 48' W	X	S	X	X	X	+	+	X	-	-	-	-	
46710	12516	39 36' N	132 24' W	X	X	X	X	X	+	+	X	-	-	-	-	

+ Buoy removed from station due to seasonal shutdown, mooring failure or badly damaged

Remarks:

- 44137 - Buoy serviced Oct 21/00.
- 44140 - Buoy adrift Jul 18/00. Recovered Aug 20/00.
- 44141 - Buoy serviced Oct 24/00.
- 44251 - Buoy transmitting weather messages using ARGOS
- 45132 - Buoy removed for the winter Nov 23/00.
- 45135 - Buoy redeployed Apr 26/00.
- 45136 - Buoy removed for the winter Nov 30/00.
- 45137 - Buoy removed for the winter Nov 27/00.
- 45138 - Buoy removed for the winter Nov 08/00.
- 45140 - Buoy removed for the winter Oct 01/00.
- 45141 - Buoy removed for the winter Oct 22/00.
- 45142 - Buoy removed for the winter Nov 19/00
- 45143 - Buoy removed for the winter Nov 24/00
- 45144 - Buoy removed for the winter Nov 10/00.
- 45145 - Buoy removed for the winter Oct 31/00.
- 45147 - Buoy removed for the winter Nov 24/00
- 45148 - Buoy removed for the winter Oct 29/00.
- 45149 - Buoy removed for the winter Nov 08/00.
- 45150 - Buoy removed for the winter Oct 15/00.
- 45151 - Buoy removed for the winter Oct 19/00.
- 45152 - Buoy removed Oct 17/00.
- 45154 - Buoy removed for the winter Nov 15/00.
- 46004 - Buoy adrift Sep 16/00. Recovered Sep 17. Re-deployed Oct 25/00.
- 46036 - Buoy serviced Apr 24/00.
- 46131 - Buoy serviced Feb 21/01.
- 46132 - Buoy u/s Jan 20/01-Feb 14/01
- 46145 - Buoy u/s from Dec 30/00 to Jan 13/01 due to transmitter problems.
- 46146 - Buoy serviced Feb 22/01

- 46147 - Buoy serviced Jun 14/00. Truncated and missing messages begin Feb 24/01
- 46183 - Buoy serviced Jul 9/00.
- 46184 - Buoy serviced Apr 28/00.
- 46185 - Badly damaged Oct 19/00. Removed Oct 28/00. Back in service Jan 12/01.
- 46204 - Buoy serviced Dec 9/00. Winds u/s Jan 02/01. Wind sensors replaced Jan 6/01.
- 46205 - Buoy serviced Jul 10/00.
- 46206 - Buoy serv. Apr 20. Transmitter u/s Apr 26/11Z. Buoy serv. May 1/15Z.
- 46207 - Air Temp u/s Jan 9/01.
- 46208 - Buoy serviced Jun 13/00. Wind sensors replaced Jan 26/01
- 46660 - Drifter deployed Mar 7/00.
- 46661 - Air temp. failed Sep/98.
- 46701 - Drifter buoy deployed Nov 18/99. Recovered Jan 6/01.
- 46710 - Drifter deployed Jan 7/00.

Failed:

- 44138 - Argos transmitter failed Dec/00.
- 44139 - Payload failed Dec 8/00.
- 44142 - Transmitting Data Buffer Empty messages since Oct 21/00.
- 44255 - Stopped transmitting Feb 12/01.
- 44258 - Stopped transmitting Jan 4/01.
- 45139 - Payload failed Nov 17/00. To be repaired April 2001

**UNITED STATES OF AMERICA
Moored Buoys**

WMO Buoy ID	ARGOS ID	Position: 12-19 April 2001		Observed or Technical Parameters												
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11	12	13
41001*		34.68N	72.23W	X	X	X	-	X	X	X	-	-	-	-	-	N
41002*		32.29N	75.22W	X	X	X	-	X	X	X	-	-	-	-	-	N
41004*		32.50N	79.10W	X	X	X	-	X	X	X	-	-	-	-	-	X
41008*		31.40N	80.87W	X	X	X	-	X	X	X	-	-	-	-	-	X
41009		28.50N	80.18W	X	X	X	-	X	X	X	-	-	-	-	-	N
41010		28.89N	78.52W	X	X	X	-	X	X	X	-	-	-	-	-	N
42001*		25.92N	89.68W	X	X	X	-	X	X	X	-	-	-	-	-	X
42002*		25.90N	93.59W	S	S	S	-	S	S	S	-	-	-	-	-	S
42003*		25.88N	85.95W	X	X	X	-	X	X	X	-	-	-	-	-	X
42007*		30.09N	88.77W	X	X	X	-	X	X	X	-	-	-	-	-	X
42019*		27.92N	95.36W	X	X	X	-	X	X	X	-	-	-	-	-	X
42020*		26.95N	96.70W	X	X	X	-	X	X	X	-	-	-	-	-	X
42035*		29.25N	94.41W	X	X	X	-	X	X	X	-	-	-	-	-	S
42036*		28.51N	84.51W	X	X	X	-	X	X	X	-	-	-	-	-	X
42039*		28.80N	86.06W	X	X	X	-	X	X	X	-	-	-	-	-	X
42040		29.21N	88.20W	X	X	X	-	X	X	X	-	-	-	-	-	X
42054		26.00N	87.73W	X	X	X	-	X	X	X	-	-	-	-	-	X

44004*		38.50N	70.47W	X	X	X	-	X	X	X	-	-	-	-	-	N
44005*		43.17N	69.22W	X	X	X	-	X	X	X	-	-	-	-	-	N
44007*		43.53N	70.14W	X	X	X	-	X	X	X	-	-	-	-	-	X
44008*		40.50N	69.43W	S	X	X	-	X	X	X	-	-	-	-	-	X
44009*		38.46N	74.70W	X	X	X	-	X	X	X	-	-	-	-	-	X
44011*		41.09N	66.59W	X	X	X	-	X	X	X	-	-	-	-	-	N
44013*		42.35N	70.69W	X	X	X	-	X	X	X	-	-	-	-	-	X
44014		36.58N	74.84W	X	X	X	-	X	X	X	-	-	-	-	-	X
44025*		40.25N	73.17W	X	X	X	-	X	X	X	-	-	-	-	-	S
45001*		48.06N	87.78W	R	R	R	-	R	R	R	-	-	-	-	-	N
45002*		45.33N	86.42W	X	X	X	-	X	X	X	-	-	-	-	-	N
45003*		45.35N	82.84W	X	X	X	-	X	X	X	-	-	-	-	-	N
45004*		47.56N	86.55W	R	R	R	-	R	R	R	-	-	-	-	-	N
45005*		41.68N	82.40W	R	R	R	-	R	R	R	-	-	-	-	-	N
45006*		47.32N	89.87W	X	X	X	-	X	X	X	-	-	-	-	-	N
45007*		42.67N	87.02W	X	X	X	-	X	X	X	-	-	-	-	-	N
45008*		44.28N	82.42W	X	X	X	-	X	X	X	-	-	-	-	-	N
46001*		56.30N	148.17W	X	X	X	-	X	X	X	-	-	-	-	-	N
46002*		42.57N	130.32W	X	X	X	-	X	X	X	-	-	-	-	-	N
46005*		46.05N	131.02W	S	X	X	-	X	X	X	-	-	-	-	-	N
46006*		40.84N	137.49W	X	X	X	-	X	X	X	-	-	-	-	-	N
46011*		34.88N	120.87W	X	X	X	-	X	X	X	-	-	-	-	-	X
46012*		37.39N	122.73W	X	X	X	-	X	X	X	-	-	-	-	-	N
46013*		38.23N	123.33W	X	X	X	-	X	X	X	-	-	-	-	-	X
46014*		39.22N	123.97W	X	X	X	-	X	X	X	-	-	-	-	-	N
46022*		40.72N	124.52W	X	X	X	-	X	X	X	-	-	-	-	-	N
46023		34.71N	120.97W	X	X	X	-	X	X	X	-	-	-	-	-	X
46025*		33.75N	119.08W	X	X	X	-	X	X	X	-	-	-	-	-	S
46026*		37.76N	122.83W	X	X	X	-	X	X	X	-	-	-	-	-	S
46027*		41.85N	124.38W	X	X	X	-	X	X	X	-	-	-	-	-	N
46028*		35.74N	121.89W	X	X	X	-	X	X	X	-	-	-	-	-	N
46029*		46.12N	124.51W	X	X	X	-	X	X	X	-	-	-	-	-	X
46030*		40.42N	124.53W	X	X	X	-	X	X	X	-	-	-	-	-	N
46035*		56.91N	177.81W	S	S	S	-	S	S	S	-	-	-	-	-	N
46041*		47.34N	124.75W	X	X	X	-	X	X	X	-	-	-	-	-	N
46042*		36.75N	122.42W	X	S	X	-	X	X	X	-	-	-	-	-	S
46047*		32.43N	119.53W	X	X	X	-	X	X	X	-	-	-	-	-	X
46050*		44.62N	124.53W	X	X	X	-	X	X	X	-	-	-	-	-	N
46053*		34.24N	119.85W	X	X	X	-	X	X	X	-	-	-	-	-	N
46054		34.27N	120.45W	X	X	X	-	X	X	X	-	-	-	-	-	X
46059*		37.98N	130.00W	X	X	X	-	X	X	X	-	-	-	-	-	N
46060*		60.58N	146.83W	X	X	X	-	X	X	X	-	-	-	-	-	N
46061*		60.21N	146.84W	S	S	S	-	S	S	S	-	-	-	-	-	N
46062		35.10N	121.01W	X	X	X	-	X	X	X	-	-	-	-	-	X
46063*		34.25N	120.66W	X	X	X	-	X	X	X	-	-	-	-	-	N
46066*		52.65N	155.00W	X	X	X	-	X	X	X	-	-	-	-	-	N
48011		67.52N	164.50W	R	R	R	-	R	R	R	-	-	-	-	-	N
51001*		23.40N	162.27W	X	X	X	-	X	X	X	-	-	-	-	-	N
51002*		17.15N	157.79W	X	X	X	-	X	X	X	-	-	-	-	-	N
51003*		19.16N	160.74W	X	S	X	-	X	X	X	-	-	-	-	-	N
51004*		17.44N	152.52W	X	X	X	-	X	X	X	-	-	-	-	-	N
51028		0.00N	153.88W	X	X	X	-	X	X	X	-	-	-	-	-	N

*Base funded station of National Weather Service (NWS); however, all stations report data to NWS.

Total Base Funded Buoys:	59
Total Other Buoys :	10
Total Moored Buoys :	69

Remarks: (mm/dd/yy)

42002 - Buoy data failed 1/11/01. 42035 - Dew point data failed 2/6/01. 42054 - Continuous wind data problem 3/13/01. 44008 - Wind data failed 2/24/01, service scheduled mid April. 44013 - Wind direction data failed 2/10/01, wind speed data released, service scheduled 4/23/01. 44025 - Dew point data failed 7/31/00. 45001 - Seasonal recovery 11/10/00, redeployed 4/19/01. 45004 - Seasonal recovery 11/10/00, redeployed 4/19/01. 45005 - Seasonal recovery 12/4/00, redeployment scheduled week of 4/23/01. 45006 - Seasonal recovery 11/10/00, redeployed 4/18/01. 45008 - Data failed 4/6/01, restored 4/13/01. 46005 - Wind data failed 1/11/01, service scheduled 5/8/01. 46012 - Parity errors in wave data.

46025 - Dew point data failed 11/27/00.
 46026 - Dew point data failed 4/4/00.
 46035 - Buoy data failed 2/9/01.
 46042 - Air temp data failed 2/12/01, dew point data failed 2/12/01.
 46061 - Buoy data failed 2/8/01, redeployment scheduled 4/19/01.
 48011 - Seasonal recovery 10/7/00.
 51003 - Air temp data failed 1/16/01.

AUSTRALIA

Drifting Buoys

WMO Buoy ID	ARGOS ID	Position: 4 April 2001		Observed or Technical Parameters												
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11	12	13
52625	1955	-14.489	138.489	X	X	X	X	X	-	-	X	-	-	-	-	-
53552	2931	-8.825	92.148	-	-	X	X	X	-	-	X	-	-	-	-	-
56506	2932	-38.534	137.248	-	-	X	X	X	-	-	X	-	-	-	-	-
56511	1869	-13.793	78.473	-	X	X	X	X	-	-	X	-	-	-	-	-
56512	2933	-48.016	93.559	-	X	X	X	X	-	-	X	-	-	-	-	-
56513	2950	-15.431	107.469	X	X	X	X	X	-	-	X	-	-	-	-	-
56514	2935	-44.897	97.84	-	X	X	X	X	-	-	X	-	-	-	-	-
56515	2936	-46.77	125.048	-	X	X	X	X	-	-	X	-	-	-	-	-
56516	2938	-53.782	127.354	-	X	X	X	X	-	-	X	-	-	-	-	-
56535	2939	-42.852	68.529	-	X	X	X	X	-	-	X	-	-	-	-	-
74534	4871	-61.017	77.336	-	S	X	X	X	-	-	X	-	-	-	-	-

FRANCE

Moored Buoys

WMO Buoy ID	ARGOS ID	Position: 24 April 2001		Observed or Technical Parameters												
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11	12	13
13010*	01741	0.0N	0.0	X	X	-	-	X	-	-	-	X	-	-	-	-
15001*	16857	10.0S	10.0W	S	S	-	-	S	-	-	-	S	-	-	-	-
15006*	06881	6.0S	10.0W	X	X	-	-	X	-	-	-	X	-	-	-	-
41096	05833	16.4N	60.9W	-	-	-	-	X	X	.	-	-	-	-	-	-
41097	05832	14.9N	61.1W	-	-	-	-	X	X	.	-	-	-	-	-	-
61001	-	43.4N	7.8E	X	X	X	X	X	X	X	-	-	X	-	-	-
62001**	-	45.2N	5.0W	X	X	X	X	X	X	-	-	-	X	-	-	-
62002	-	41.6N	20.0W	S	X	X	X	X	X	X	-	-	X	-	-	-
62051	-	49.5N	0.2W	X	X	-	-	X	-	-	-	-	-	-	-	-
62052	-	48.5N	5.6W	X	X	X	X	X	X	.	-	-	X	-	-	-
62163**	-	47.5N	8.5W	X	X	X	X	X	X	-	-	-	X	-	-	-

* Pirata programme

** Cooperation UK Met. Office/Meteo-France.

Drifting Buoys - Indian Ocean

WMO Buoy ID	ARGOS ID	Position: 24 April 2001		Observed or Technical Parameters												
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11	12	13
16536	06428	52.2S	90.6E	-	-	X	X	X	-	-	X	-	-	-	-	-
16539	06436	45.1S	73.9E	-	-	X	X	X	-	-	X	-	-	-	-	-
16540	17927	46.2S	71.9E	-	-	X	X	X	-	-	X	-	-	-	-	-

Drifting buoys - North Atlantic

WMO Buoy ID	ARGOS ID	Position: 24 April 2001		Observed or Technical Parameters												
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11	12	13
62511*	26751	42.2N	15.1W	-	-	-	-	X	-	-	X	-	-	-	-	-
62552	15502	47.0N	17.5W	X	-	-	-	X	-	-	-	X	-	-	-	-
62554	15505	43.4N	22.6W	X	-	-	-	X	-	-	-	X	-	-	-	-
62555	15506	41.8N	17.7W	X	-	-	-	X	-	-	-	X	-	-	-	-
62556	15507	38.9N	22.5W	X	-	-	-	X	-	-	-	X	-	-	-	-
62557	15508	42.5N	15.9W	X	-	-	-	X	-	-	-	X	-	-	-	-
62558	15509	46.2N	20.1W	X	-	-	-	X	-	-	-	X	-	-	-	-
62559	15510	44.2N	20.4W	X	-	-	-	S	-	-	-	X	-	-	-	-
62560	15511	41.8N	12.9W	X	-	-	-	X	-	-	-	X	-	-	-	-
62561	15513	38.8N	14.7W	S	-	-	-	X	-	-	-	X	-	-	-	-
62562	15514	35.2N	17.7W	S	-	-	-	X	-	-	-	X	-	-	-	-
62563	15515	38.5N	18.0W	X	-	X	-	X	-	-	-	X	-	-	-	-
62565	15517	41.4N	13.3W	X	-	-	-	X	-	-	-	X	-	-	-	-
62566	15519	42.3N	17.0W	X	-	-	-	X	-	-	-	X	-	-	-	-
62567	15521	41.2N	15.7W	X	-	-	-	X	-	-	-	X	-	-	-	-
62569	15525	40.1N	15.1W	X	-	-	-	X	-	-	-	X	-	-	-	-
62570	15529	44.8N	21.3W	X	-	-	-	X	-	-	-	X	-	-	-	-
62571	15531	40.8N	14.5W	X	-	-	-	X	-	-	-	X	-	-	-	-
62572	15532	42.3N	20.4W	X	-	-	-	X	-	-	-	X	-	-	-	-
62575	24507	37.4N	17.3W	-	-	-	-	X	-	-	X	-	-	-	-	-
62577	24509	41.3N	15.9W	-	-	-	-	X	-	-	X	-	-	-	-	-
62580	25053	41.4N	12.2W	-	-	-	-	X	-	-	X	-	-	-	-	-
62776	12724	39.7N	19.7W	-	-	-	-	X	-	-	X	-	-	-	-	-
62782*	03739	41.7N	19.8W	-	-	-	-	X	-	-	X	-	-	-	-	-
62783*	03740	43.4N	16.6W	-	-	-	-	X	-	-	X	-	-	-	-	-
62784*	13060	42.2N	15.1W	-	-	-	-	X	-	-	X	-	-	-	-	-
62785*	01110	42.2N	13.1W	-	-	-	-	X	-	-	X	-	-	-	-	-
62843	14722	44.3N	17.3W	-	-	-	-	X	-	-	X	-	-	-	-	-
62844	14754	43.4N	22.9W	-	-	-	-	X	-	-	X	-	-	-	-	-
62845	24331	42.4N	16.7W	-	-	-	-	X	-	-	X	-	-	-	-	-
62846	24508	42.8N	15.9W	-	-	-	-	X	-	-	X	-	-	-	-	-

*Reports salinity

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

Moored Buoys

WMO Buoy ID	ARGOS ID	Name of Station	Position: 30 April 2001		Observed or Technical Parameters													
			Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11	12	13	
62090***	30760	Eirann/M1	53 08 N	11 12 W	X	X	X	X	X	X	X	-	-	-	X	-	X	X
62101	None	Lyme Bay	50 37 N	02 44 W	X	X	X	X	X	X	X	-	-	-	X	-	X	X
62301	None	Aberporth	52 17 N	04 30 W	X	X	X	X	X	X	X	-	-	-	X	-	X	X
62303	6264	Turbot Bank	51 36 N	05 09 W	X	X	X	X	X	X	X	-	-	-	X	-	X	X

Drifting buoys

WMO Buoy ID	ARGOS ID	Name of Station	Position: 30 April 2001		Observed or Technical Parameters												
			Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11	12	13
33543	25815	South Atlantic	27 06S	00 22 W	-	-	X	X	X	-	-	X	-	-	-	X	-

Island System

WMO Buoy ID	ARGOS ID	Name of Station	Position: 30 April 2001		Observed or Technical Parameters												
			Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11	12	13
3007	-	Muckle Holm	60 35 N	01 16 W	X	X	X	X	-	-	-	-	-	X	-	X	X
3010	-	Sule Skerry	59 05 N	04 24 W	X	X	X	X	-	-	-	-	-	X	-	X	X
3011	-	North Rona	59 08 N	05 50 W	X	X	X	X	-	-	-	-	-	X	-	X	X
3014	-	Foula	60 07 N	02 04 W	X	X	X	X	-	-	-	-	-	X	-	X	X

Light Vessel

WMO Buoy ID	ARGOS ID	Name of Station	Position: 30 April 2001		Observed or Technical Parameters												
			Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11	12	13
62103	-	Channel	49 55 N	02 53 W	X	X	X	X	-	-	-	-	-	X	X	X	X
62107	-	Sevenstones	50 04 N	06 04 W	X	X	X	X	-	-	-	-	-	X	X	X	X
62304	-	Sandettie	51 10 N	01 47 E	X	X	X	X	-	-	-	-	-	X	X	X	X
62305	-	Greenwich	50 25 N	00 00 W	X	X	X	X	-	-	-	-	-	X	X	X	X

EUROPEAN GROUP ON OCEAN STATIONS

FRANCE

Drifting buoys - North Atlantic

WMO Buoy ID	ARGOS ID	Position: 17 April 2001		Observed or Technical Parameters													
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11	12	13	
44608	14540	23.800	-44.283	-	-	X	X	X	-	-	-	-	-	-	-	-	-
44610	12734	58.800	-23.900	-	-	X	X	X	-	-	X	-	-	-	-	-	-
62501	7139	39.700	-15.455	X	-	X	X	X	-	-	-	-	-	-	-	-	-
62503	17926	39.000	-19.073	-	-	X	X	X	-	-	-	-	-	-	-	-	-
62504	17928	39.500	-21.158	X	-	X	X	X	-	-	-	-	-	-	-	-	-
62505	17929	41.600	-12.657	-	-	X	X	X	-	-	-	-	-	-	-	-	-
62506	12733	30.900	-27.310	X	-	-	-	X	-	-	X	-	-	-	-	-	-
62514	7119	56.400	-14.702	-	-	X	X	X	-	-	X	-	-	-	-	-	-
64517	14178	56.200	-12.535	-	-	X	X	X	-	-	-	-	-	-	-	-	-
64698	29867	61.000	-29.697	-	-	X	X	X	-	-	-	-	-	-	-	-	-

GERMANY

Drifting buoys - North Atlantic

WMO Buoy ID	ARGOS ID	Position: 17 April 2001		Observed or Technical Parameters													
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11	12	13	
65601	3039	59.696	-35.670	-	X	-	-	X	-	-	-	-	-	-	-	-	-
65662	9307	56.713	-40.140	-	X	X	X	X	-	-	-	-	-	-	-	-	-
65663	9308	51.661	-39.410	-	X	X	X	X	-	-	-	-	-	-	-	-	-

IRELAND

Drifting buoys - North Atlantic

WMO Buoy ID	ARGOS ID	Position: 17 April 2001		Observed or Technical Parameters													
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11	12	13	
64548	1153	60.669	-0.390	-	X	X	X	X	-	-	-	-	-	-	-	-	-
65602	6667	57.617	-35.360	-	X	X	X	X	-	-	-	-	-	-	-	-	-

THE NETHERLANDS
Drifting buoys - North Atlantic

WMO Buoy ID	ARGOS ID	Position: 17 April 2001		Observed or Technical Parameters												
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11	12	13
62596	16391	61.900	-35.522	-	-	X	X	X	-	-	-	-	-	-	-	-
65593	4228	59.200	-37.817	-	X	X	X	X	-	-	-	-	-	-	-	-
65595	4229	55.300	-43.690	-	X	X	X	X	-	-	-	-	-	-	-	-

NORWAY
Drifting buoys - North Atlantic

WMO Buoy ID	ARGOS ID	Position: 17 April 2001		Observed or Technical Parameters												
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11	12	13
65600	3676	60.600	-9.868	-	X	X	X	X	-	-	-	-	-	-	-	-

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND
Moored buoys - North Atlantic

WMO Buoy ID	ARGOS ID	Name of Station	Position: 30 April 2001		Observed or Technical Parameters												
			Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11	12	13
62001 *	21273	Gascogne	45 14 N	05 00 W	X	X	X	X	X	X	-	-	-	X	-	X	X
62026	22573	K17	55 25 N	01 10 E	X	X	X	X	X	X	-	-	-	X	-	X	X
62029	4007	K1	48 42 N	12 25 W	X	X	X	X	X	X	-	-	-	X	-	X	X
62081	21270	K2	51 00 N	13 21 W	X	X	X	X	X	X	-	-	-	X	-	X	X
62105	15826	K4	55 00 N	12 38 W	X	X	X	X	X	X	-	-	-	X	-	X	X
62106	3731	RARH	57 00 N	09 54 W	X	X	X	X	X	X	-	-	-	X	-	X	X
62108#	21272	K3	53 31N	19 30 W	X	X	X	X	X	X	-	-	-	X	-	X	X
62109	6261	K16	57 00 N	00 00 E	X	X	X	X	X	X	-	-	-	X	-	X	X
62163 *	15829	Brittany	47 33 N	08 28 W	X	X	X	X	X	X	-	-	-	X	-	X	X
64045	22571	K5	59 05 N	11 25 W	X	X	X	X	X	X	-	-	-	X	-	X	X
64046**	3718	K7	60 40 N	04 30 W	X	X	X	X	X	X	-	-	-	X	-	X	X

- * Gascogne and Brittany buoys are operated by The Met. Office and Meteo-France.
- ** The K7 buoy stopped transmitting all data on the 27th October 2000
- *** The Eirann/M1 Buoy was built by the Met Office but is owned and run by Met Eirann. Apart from ownership it is, however, identical to all the other moored buoys listed here.
- # The K3 buoy is no longer on station after having its mooring cut earlier this year.

Drifting buoys - North Atlantic

WMO Buoy ID	ARGOS ID	Position: 17 April 2001		Observed or Technical Parameters												
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11	12	13
44546	25374	60.100	-30.418	-	-	X	X	X	-	-	X	-	-	-	-	-
44548	27617	44.800	-46.849	-	-	X	X	X	-	-	X	-	-	-	-	-
44549	22648	51.100	-44.964	-	-	X	X	X	-	-	-	-	-	-	-	-
44550	23703	46.800	-43.584	-	-	X	X	X	-	-	-	-	-	-	-	-
44611	27616	45.000	-2.400	-	-	X	X	X	-	-	-	-	-	-	-	-
44612	27619	37.700	-28.824	-	-	X	X	X	-	-	-	-	-	-	-	-
44613	28467	34.400	-35.381	-	X	X	X	-	-	-	-	-	-	-	-	-
44614	17147	44.200	-40.206	-	-	-	-	X	-	-	-	-	-	-	-	-
44616	17149	51.300	-50.465	-	-	X	X	X	-	-	-	-	-	-	-	-
44620	27622	28.400	-43.592	-	-	X	X	X	-	-	X	-	-	-	-	-
44623	27624	35.000	-25.649	-	-	X	X	X	-	-	X	-	-	-	-	-
44624	17150	55.200	-45.774	-	-	X	X	X	-	-	-	-	-	-	-	-
44624	17151	44.600	-44.347	-	-	X	X	X	-	-	-	-	-	-	-	-
44625	17153	46.500	-50.962	-	-	X	X	X	-	-	-	-	-	-	-	-
44628	12287	28.600	-17.010	-	X	X	X	X	-	-	-	-	-	-	-	-
44629	18388	40.500	-48.877	-	-	X	X	X	-	-	-	-	-	-	-	-
44721	18702	36.700	-45.889	-	-	X	X	X	-	-	-	-	-	-	-	-
44722	18706	41.400	-40.666	-	-	X	X	X	-	-	-	-	-	-	-	-
44724	27922	34.700	-15.944	-	-	X	X	X	-	-	X	-	-	-	-	-
44725	27923	48.600	-37.082	-	-	X	X	X	-	-	X	-	-	-	-	-

44729	25375	48.200	-9.598	-	-	X	X	X	-	-	X	-	-	-	-	-
44741	25373	58.800	-44.260	-	-	X	X	X	-	-	-	-	-	-	-	-
44761	27615	53.400	-21.023	-	-	X	X	X	-	-	-	-	-	-	-	-
44762	19073	46.200	-8.017	-	-	X	X	X	-	-	-	-	-	-	-	-
44765	28466	33.000	-37.051	-	X	X	X	-	-	-	-	-	-	-	-	-
44770	21627	56.500	-16.568	-	-	X	X	X	-	-	-	-	-	-	-	-
44771	25377	53.700	-35.918	-	-	X	X	X	-	-	-	-	-	-	-	-
44772	12412	43.700	-3.950	X	X	X	X	X	-	-	-	-	-	-	-	-
44774	12286	47.200	-21.982	-	X	X	X	X	-	-	-	-	-	-	-	-
44775	25372	42.900	-53.336	-	-	X	X	X	-	-	X	-	-	-	-	-
44776	25371	48.300	-37.725	-	-	X	X	X	-	-	X	-	-	-	-	-
44778	25370	46.100	-38.378	-	-	X	X	X	-	-	X	-	-	-	-	-
65603	27618	60.700	-31.851	-	-	-	-	X	-	-	-	-	-	-	-	-

ARGOS SERVICE

ARGOS monthly status report

Date of Statistics computation: 1 March 2001

Reports handled by ARGOS Service
List of monthly collected ARGOSs platforms sorted by type of platform

DRIFTING BUOY	1138
MARINE STATION	125
MOORED BUOY	277
TERRESTRIAL ANIMALS	104
MARINE ANIMALS	205
BIRDS	248
BALLOONS	11
RAFOS FLOATS	31
FIXED STATION	607
TOTAL	2746

Reports inserted into the GTS
(List of monthly collected ARGOS platforms on indicated GTS sites sorted by type of platform)

INSERTED BY RTH TOULOUSE

DRIFTING BUOY	155
FIXED STATION	22
MOORED BUOYS	13

INSERTED BY RTH/WMC WASHINGTON

DRIFTING BUOY	577
FIXED STATIONS	31
GPS MOBILE	-
MOORED BUOY	66

CODING STATISTICS OF PLATFORMS
Reporting through ARGOS and distributed over the GTS

BATHY	218
BUOY	329038
SHIP	2873
SIMPLE	3
STD	1015
SYNOP	31140
TESAC	120
TOTAL	364407

Date of Statistics computation: 1 April 2001

Reports handled by ARGOS Service
List of monthly collected ARGOSs platforms sorted by type of platform

DRIFTING BUOY	1157
MARINE STATION	131
MOORED BUOY	284
TERRESTRIAL ANIMALS	122
MARINE ANIMALS	238
BIRDS	239
BALLOONS	10
RAFOS FLOATS	32
FIXED STATION	594
TOTAL	2759

Reports inserted into the GTS
(List of monthly collected ARGOS platforms on indicated GTS sites sorted by type of platform)

INSERTED BY RTH TOULOUSE

DRIFTING BUOY	157
FIXED STATION	26
MOORED BUOYS	16

INSERTED BY RTH/WMC WASHINGTON

DRIFTING BUOY	586
FIXED STATIONS	31
GPS MOBILE	-
MOORED BUOY	66

CODING STATISTICS OF PLATFORMS
Reporting through ARGOS and distributed over the GTS

BATHY	408
BUOY	339882
SHIP	2788
SIMPLE	4
STD	1266
SYNOP	36375
TESAC	33
TOTAL	380756

2. AUSTRALIAN SUMMER TIME

Australian summer time ceased in New South Wales, the Australian Capital Territory, Victoria, South Australia and Tasmania at 1500 UTC 24 March 2001.

Australian summer time was not implemented in Queensland, Western Australia or the Northern Territory.

No changes will be made to the time of surface observations in Queensland, Western Australian or Northern Territory.

Regional Basic Synoptic Network Stations will continue to transmit SYNOP at the standard WMO hours.

Other stations in New South Wales, the Australian Capital Territory, Victoria, South Australia and Tasmania reverted to their normal surface observations program from 1500 UTC 24 March 2001.

Upper-air observations in all states and territories will continue their current program i.e. releases at 0515, 1115, 1715 and 2315 UTC

3. Feed-back from Members to the Secretariat on any Changes in the Observing Network

In view of the difficulties experienced in identifying non-implemented observing stations, implemented stations which are closed or suspended for a certain period, or stations making observations that do not reach their NMCs, a special table accompanied by explanatory notes is included in this Newsletter. The table will serve as feed-back from Members to the Secretariat on any changes of the present state of implementation of observing programmes of SYNOP, TEMP and PILOT reporting stations.

Members are urged to fill in the table attached as and when appropriate, and to return it to the Secretariat before the 20th of every other month, i.e. February, April, June, August, October, December, to enable changes to be included in the next “*Newsletter*”.

GUIDELINES FOR COMPLETING THE FEEDBACK FORMS

1. Index Number:

The station index number is composed of the block number (II) and the station number (iii). The block number defines the area in which the reporting station is situated.

For example: 60360, 60 is the block number for Algeria and 360 is the station number for Annaba.

2. Station Name:

Name of the station.

3. Position:

Latitude/Longitude: Latitude/Longitude of the station in degrees and minutes. The positions of stations north (N) or south (S) of the Equator and east (E) or west (W) of the Greenwich meridian are indicated by the appropriate letters after the minutes figures.

4. Bulletin Identification:

The TTAAii CCCC of the abbreviated headings of the meteorological bulletins which contain reports from the station should be inserted.

5. Surface Observations:

Use the symbol "X" to indicate that the surface observations are made regularly in accordance with a fixed schedule. In cases where the observations fall outside the fixed schedule, the official observation time should be stated. The symbol "-" should be inserted, as appropriate, for non-implementation.

6. Elevation:

HP

HP = Elevation of the station in metres. It is the datum level to which barometric pressure reports at the station refer; such current barometric values being termed "station pressure" and understood to refer to the given level for the purpose of maintaining continuity in the pressure records.

H/HA

H = elevation of the ground in metres (average level of terrain in immediate vicinity of station), is given for stations **not** located on aerodromes. It is normally also the height of the radiosonde release point.

HA = Official altitude of the aerodrome given for stations located on aerodromes is indicated by the letter "A" in the column "Other observations and Remarks" of Volume A;

Note: The symbol "#" indicates that the elevation figures are approximate.

7. Upper-air Observations:

This column indicates the official observation time fixed by the service for the release of a balloon, parachute or rocket.

Upper-air observations are indicated by means of the use of one or more appropriate letters (*see Table 1*) below the corresponding standard observation time of 0000 UTC, 0600 UTC, 1200 UTC and 1800 UTC. If the official observation time falls within the period of 45 minutes immediately before the corresponding standard time, the

appropriate letters are placed below the standard time. In cases where it does not fall within the standard time, the official observation time should be stated.

Symbol	Meaning
P	Pilot balloon; observation of upper-wind obtained by optical tracking of a free balloon
R	Radiosonde; observation of atmospheric pressure, temperature and humidity in the upper-air obtained by electronic means.
W	Radiowind; upper-wind observation obtained by tracking a free balloon by electronic means
X	The symbol may be used to indicate an upper-air observation of unspecified type. The symbol "X" is replaced by a time (eg. 23, 02 etc...) when the observation is carried out at a non-standard time.

Note: The letters P, R and W are combined as necessary to indicate simultaneous observations (PR or RW)

Table 1

8. Pressure Level

For those stations not indicating pressure reduced to mean sea level (group 4PPPP) in their synoptic reports, the entry in this column shows which information is reported in lieu of group 4PPPP:

Station	Pressure at station level reported using group 3P ₀ P ₀ P ₀ P ₀
1000 hPa)	Geopotential of the given standard isobaric surface reported using group 4a ₃ hhh
850 hPa)	
700 hPa)	
500 hPa)	

9. Remarks

Reasons for temporary suspension of observing programmes and an expected date of resumption of the programmes should be given as far as possible. Non-standard collection and/or distribution times should also be included, and also possible alternate observing stations, as appropriate.

10. CLIMAT:

Indicate whether the station is used to generate CLIMAT messages.

CT = Station for which monthly climatological means of both surface and upper-air elements are transmitted.

T = Station for which monthly climatological means of upper-air elements are transmitted.

11. GUAN (GCOS):

Indicate whether the station is a station of the Global Climate Observing Upper-air Network (GUAN).

Y = Yes; N = No

12. Geo. ht. calc. AUTO/MAN:

Indicate how the geopotential height calculation will be done:

AUTO = automated; MAN = Manual

13. Radiation Correction

Y/N: Indicate if radiation correction is applied or not:

Y=Yes; N = No

Type: If radiation correction is applied indicate the type of identification if known (*see Table 2*)

Radiation Correction Type	Description
V82	Vaisala RS80 radiation correction 1982
V86	Vaisala RS80 radiation correction 1986
V93	Vaisala RS80 radiation correction 1993
NIR	Vaisala RS80 solar correction (86) but no Infra-Red correction
?with above	Some doubt concerning accuracy

Table 2

14. Ground Equipment Type

Type of ground equipment in use at the station

15. Radio Frequency:

The approximate radiosonde transmitter frequency (MHz) or frequency range regularly used at the station.

16. Radiosonde (see table 3)

Regular: Type of radiosonde regularly used.

Alternative: Alternative type of radiosonde used.

RADIOSONDE TYPES

SONDE ABBREVIATION	SONDE DESCRIPTION
Blank	Unknown
AIR	Air Intellisonde (USA)
ELIN	ELIN (Austria)
IM-MK3	Indian Met. Services Mark 3
J/YANG	JINYANG radiosonde (VIZ type)
MARS/MET	Meteorit 1 or 2 system (former USSR)
MEIR91/MEIR80	Meisei (Japan)
MES	Mesural (French)
MRZ	AVK system (Former USSR)
MRZ-T	AVK prototype system

MSS	Space Data Corp. (USA)
ML-SRS	Meteolabor (Switzerland)
SDC	Space Data Corp. (USA)
SHANG	Shanghai Radio (China)
VIZ	V.I.Z. (USA)
VIZA/B VIZII	V.I.Z. (USA)
VRS80*	Vaisala RS80 (PTU)
VRS80N*	Vaisala RS80 (VLF)
VRS80L*	Vaisala RS80 (LORAN)
VRS80G*	Vaisala RS80 (GPS)
?	Some doubt on accuracy

* Add in addition to "VRS80" the letters "H" or "A" depending on the application of the H- or A-Humicap sensors for humidity measurement.

Table 3

17. Windfinding

System/Method: Windfinding system or method in use at station

Equipment: Windfinding equipment in use at station.

18. Remarks:

Any other information pertaining to the station..

These tables should be sent to:

World Meteorological Organization
 World Weather Watch - Basic Systems
 Operational Information Services
 7 bis, Avenue de la Paix
 Case postale No. 2300
 CH-1211 GENEVA 2
 Switzerland

II. GLOBAL TELECOMMUNICATION SYSTEM

1. Planned Change to the Coding and Compilation of European AMDAR Bulletins

The European AMDAR network generates approximately 25,000 wind and temperature observations each day over Europe and many other parts of the world. Currently these data are exchanged on the GTS as either FM42 or BUFR bulletins generated by one of five European Met Services. In an effort to reduce duplication of effort and minimise future development costs the plan is to make a new EUMETNET AMDAR Data Acquisition System operational later this year, which will take over the data processing role as each AMDAR airline is migrated to it. As part of the EUMETNET AMDAR Data Acquisition System (E-ADAS) the proposal is to introduce a new range of AMDAR bulletin headers which are based on geographic areas. FM42 bulletins will have bulletin header UD**02 EGRR (where ** is a geographic area identifier as described below). When BUFR bulletins are introduced they will have bulletin header IUA*01 EGRR (where * is a geographic area identifier also described below).

The new geographic area bulletins will be introduced on 21 May 2001 for AMDARs from British Airways and SAS aircraft. AMDARs from other airlines will be included in the geographic area AMDAR bulletins when they begin to be processed by the E-ADAS. The proposal is to route all the new EGRR geographic area AMDAR bulletins to ECMF, LFPW and KWBC.

We are also seeking information from all other Centres concerning which AMDAR bulletins they would like to receive. Please contact the WMO Secretariat wwwmail@wmo.ch.

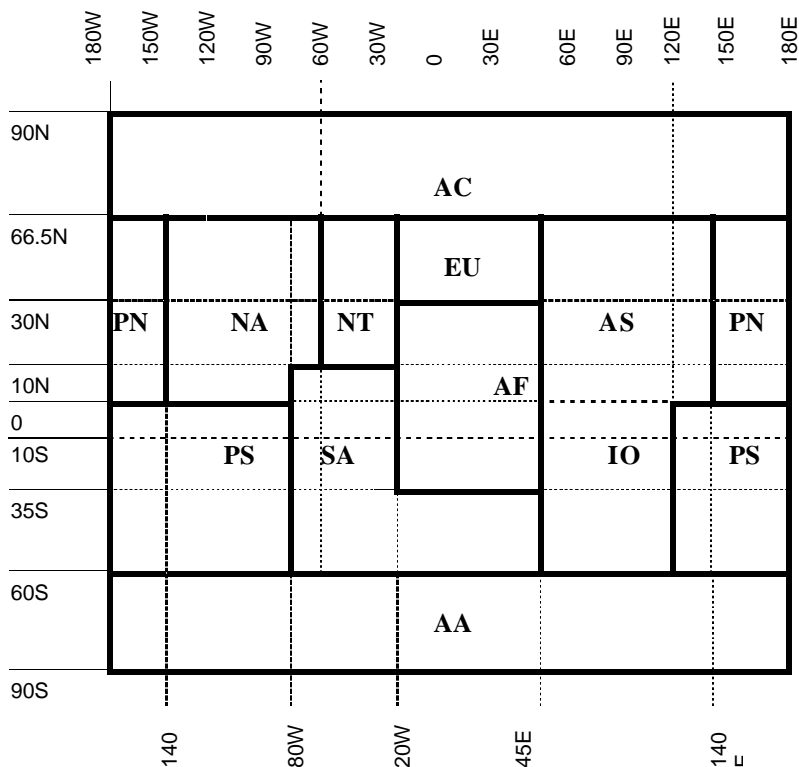
1 OUTPUT FM42 MESSAGES AND THE PREFERRED BUFR MESSAGE STRUCTURE

1.1 FM 42 Code

- 1.1.1 When encoding incoming data into FM42 code it is recommended that a separate FM42 bulletin is generated for each aircraft transmission received. Should these incoming messages contain data from multiple aircraft the benefit of creating separate FM42 bulletins for each individual aircraft should be considered.
- 1.1.2 Care should be taken to ensure that the number of observations within each bulletin is not too great.
- 1.1.3 Annex J provides an example of a fully coded FM42 report.
- 1.1.4 The requirement to include the *day* in the FM42 message from May 2000 onwards should be noted.
- 1.1.5 The bulletin header will take the form: **TTAAII** <<originating centre>>

Where

TT	= 'UD' which signifies FM42 AMDAR data
AA	= geographical region appropriate for the <u>first</u> observation in the bulletin, coded in accordance with the following table.
II	02



2.4.1 BUFR Code

2.4.2.1 BUFR defines a powerful and flexible data formatting system, which is generally capable of implementing a given requirement for data encoding in a variety of ways. Therefore, a preferred, non-mandatory method for the encoding of AMDAR data has been identified.

2.4.2.2 BUFR is a Binary Universal Form for representing data. It contains a description of the data as well as the values. Whilst it was developed for meteorological data, it can transmit whatever elements are included in table B, the Table of Elements.

- 2.4.2.3 A BUFR message takes the following form:
- Section 0: Mandatory Indicator section.
 - Section 1: Mandatory Identification section
 - Section 2: Optional section
 - Section 3: Mandatory data description section
 - Section 4: Mandatory data section
 - Section 5: 7777

The simplest BUFR message consists of sections 0 and 1, together with section 3 (data descriptors from the table of elements), followed by section 4, the data. The last section, Section 5, is the end section and must always be included. The most essential component of a BUFR system is the table of elements, known as Table B in WMO-No 306. For each element Table B gives the SI units, the number of bits in which to code a value, a scale factor representing the precision (1 for tenths, -1 for heights in decametres etc), and a reference value to be subtracted from the original value multiplied by SCALE**10 (to leave a positive number to be encoded). Less essential, because the messages can be made without them, are the table of sequences (Table D) and the set of possible operations. Table D sequences have been developed to group commonly reported subsets of elements to simplify coding and reduce message length.

In the case of meteorological data from aircraft the BUFR messages should take the simple form described above where section 2 is excluded and a BUFR sequence is used to describe the coded data.

2.4.2.4 Section 3:Data Description Section

i) When available the following elements must be reported:

- Aircraft identifier
- Flight number

- Observation time
- Position
- Phase of flight
- Altitude (ICAO standard atmosphere based)
- Air Temperature
- Wind speed and direction
- Relative Humidity
- Maximum derived equivalent vertical gust (MDEVG) or Peak turbulence intensity (EDR)
- Altitude (QNH pressure based)
- Precision of the air temperature observation
- Roll angle
- Type of data relay system

ii) The ‘Aircraft Report’ BUFR Sequence

Meteorological data from aircraft can be described using a standard ‘Aircraft Report’ BUFR sequence which includes most of the required variables. This sequence can be found in WMO No. 306 as table reference 3 11 001:

Table Reference			Table	Element Name
F	X	Y	References	
3	11	001	3 01 051	Aircraft identifier, navigational system, date/time, position, phase of flight
			0 07 002	Altitude
			0 12 001	Temperature
			0 11 001	Wind direction
			0 11 002	Wind speed
			0 11 031	Degree of turbulence
			0 11 032	Height of base of turbulence
			0 11 033	Height of top of turbulence
			0 20 041	Airframe icing

iii) Additional Elements Required:

Maximum derived equivalent vertical gust (MDEVG):MDEVG reports are available for some fleets and should be coded where possible as BUFR element **0 11 036**.

OR

Peak turbulence intensity (EDR):Peak turbulence intensity coded as BUFR element **0 11 076**.

Pressure altitude (Referenced above local QNH value):This value is reported by some aircraft as it can be coded in FM42 code. Currently there is no BUFR descriptor available for this element and therefore the information can not be coded.

Flight Number:The standard ‘Aircraft Report’ sequence does not allow the flight number to be coded, although some aircraft provide this information. Where possible this should be coded as BUFR element **0 01 006**.

Precision of air temperature observation:When available this information should be coded as BUFR element **0 02 005**.

Type of data relay system:This should be coded for every observation as BUFR element **0 02 062**, set to specify ACARS (binary code 0011).

Aircraft roll angle quality:Coded as BUFR element **0 02 064**.

2.4.2.5 Section 4:The Data Section

Section 4 contains the data in the format described by section 3. Elements not available for coding would be coded as missing by setting all of the data bits to 1’s. The contents of this section would be as follows:

Table Reference	Element	Unit	Scale	Ref. Value	Data Width (BITS)
0 01 006	Aircraft identifier	ITU-T IA5	0	0	64
0 02 061	Navigational system	Code table	0	0	3
3 01 011 (sequence)	Date				
0 04 001	Year	Year	0	0	12
0 04 002	Month	Month	0	0	4
0 04 003	Day	Day	0	0	6
3 01 012 (sequence)	Time				
0 04 004	Hour	Hour	0	0	5
0 04 005	Minute	Minute	0	0	6
3 01 021 (sequence)					
0 05 001	Latitude (high accuracy)	Degree	5	-9000000	25
0 06 001	Longitude (high accur.)	Degree	5	18000000	26
0 08 004	Phase of flight	Code table	0	0	3
0 07 002	Altitude	meters	0	-400	15
0 12 001	Temperature	Kelvin	1	0	12
0 11 001	Wind direction	Deg. true	0	0	9
0 11 002	Wind speed	meters/sec	1	0	12
0 11 031	Degree of turbulence	Code table	0	0	4
0 11 032	Height of base of turbulence	meters	-1	-40	16
0 11 033	Height of top of turbulence	meters	-1	-40	16
0 20 041	Airframe icing	Code table	0	-	4
0 11 036	MDEVG	meters/sec	1	0	10
<i>or</i>	<i>or</i>	<i>or</i>			
0 11 076	EDR	meters^{2/3}/sec	2	0	8
0 01 006	Flight number	ITU-T IA5	0	0	64
0 02 005	Precision of air temperature obs.	K	2	0	7
0 02 062	Type of data relay system	Code table	0	-	4
0 02 064	Aircraft roll angle quality	Code table	0	0	2

- Where units are given as ITU-T IA5 data shall be coded as character data left justified within the field and blanks filled to the full field width indicated.
- Code tables can be found in WMO-No.306 labelled with the table reference.
- Missing or unavailable values shall be set to fields of all ones, (e.g. each octet shall be set to 11111111 binary)

2.4.2.6 The GTS bulletin header should take the form: **IUAX01 <<originating centre>>**

Where: I signifies BUFR code
 U signifies upper air data
 A signifies single level AMDAR data
 X signifies the geographical region (coded as specified below)

	180W	90	0	90E	180E
90N	B	A	D	C	
23.5 N					
	F	E	H	G	
23.5 S					
90 S	J	I	L	K	

2.4.2.7 If the BUFR bulletin contains data from several aircraft flying in different sectors of the globe X should be set to "X" to signify that the area is not definable.

2. Publication No. 9 - Volume C1 Catalogue of Meteorological Bulletins

LOCATION INDICATORS

Palau, Republic of

A1A2 PP

CCCC PTKR

KA will continue to be assigned to Federated States of Micronesia (FSM). The following ICAO addresses would use KA:

PTSA Kosrae Airport weather station

PTPN Pohnpei Airport weather station

PTTP Pohnpei National Weather Service Office

PTTK Chuuk National Weather Service Office

PTYA Yap National Weather service Office

The three National Weather service Offices transmit surface and upper-air observations plus additional forecast and climate products. The airport stations only transmit METAR/SPECI reports.

NOTIFICATION FROM AUSTRALIA

NEW AMDAR BULLETINS

As from 5 June 2001, WMC Melbourne will be compiling AMDAR reports into appropriate bulletins based on the geographical area in which the aircraft are operating. The abbreviated headings of these bulletins will be as follows:

UDAC01	AMMC	(AREA BETWEEN 70N-90N,180W-180E)
UDPN01	AMMC	(AREA BETWEEN EQUATOR-70N,150E-140W)
UDNA01	AMMC	(AREA BETWEEN EQUATOR-70N,140W-60W)
UDNT01	AMMC	(AREA BETWEEN EQUATOR-70N,60W-20W)
UDEU01	AMMC	(AREA BETWEEN 30N-70N,20W-50E)
UDAS01	AMMC	(AREA BETWEEN EQUATOR-70N,50E-150E)
UDPS01	AMMC	(AREA BETWEEN EQUATOR-60S,180W-100W)
UDSA01	AMMC	(AREA BETWEEN EQUATOR-60S,100W-20W)
UDAF01	AMMC	(AREA BETWEEN 30N-60S,20W-50E)
UDIO01	AMMC	(AREA BETWEEN EQUATOR-60S,50E-110E)
UDOC01	AMMC	(AREA BETWEEN EQUATOR-60S,110E-180E)
UDAA01	AMMC	(AREA BETWEEN 60S-90S,180W-180E)

Bulletin UDAU01 AMMC will be withdrawn as from the commissioning date of the new AMDAR bulletins.

NEW CLIMAT/CLIMAT TEMP BULLETINS

As from 5 June 2001, WMC Melbourne will be compiling CLIMAT and CLIMAT TEMP reports into appropriate bulletins based on the country where the reporting sites are located. The abbreviated headings of these bulletins, and their contents, will be as follows:

CSAU01	AMMC	(CLIMAT - AUSTRALIA)	94101 94120 94131 94150 94170 94203 94212 94238 94259 94275 94287 94294 94299
CSAU02	AMMC	(CLIMAT - AUSTRALIA)	94300 94302 94312 94317 94326 94332 94340 94346 94367 94374 94380 94403 94430
CSAU03	AMMC	(CLIMAT - AUSTRALIA)	94461 94476 94480 94482 94485 94492 94510 94517 94541 94570 94578 94589 94601
CSAU04	AMMC	(CLIMAT - AUSTRALIA)	94610 94626 94637 94638 94647 94653 94659 94670 94672 94689 94693 94711 94767
CSAU05	AMMC	(CLIMAT - AUSTRALIA)	94776 94784 94791 94802 94805 94821 94842 94866 94869 94907 94910 94926 94937 94967
CSAU06	AMMC	(CLIMAT - AUSTRALIA)	94968 94975 94995 94996 94998 95322 95527 95646 95719 95753 95916 95964 96995 96996

CUAU01	AMMC	(CLIMAT TEMP - AUSTRALIA)	94120 94150 94170 94203 94294 94299 94302 94312 94326 94332 94374 94403
CUAU02	AMMC	(CLIMAT TEMP - AUSTRALIA)	94430 94461 94510 94578 94610 94637 94638 94647 94659 94672 94711 94776
CUAU03	AMMC	(CLIMAT TEMP - AUSTRALIA)	94802 94821 94866 94910 94975 94995 94996 94998 95527 96996
CSAA01	AMMC	(CLIMAT - AUSTRALIAN STATIONS IN ANTARCTICA)	89564 89571 89611
CUAA01	AMMC	(CLIMAT TEMP - AUSTRALIAN STATIONS IN ANTARCTICA)	89564 89571 89611
CSNG01	AMMC	(CLIMAT - PREPARED ON BEHALF OF PAPUA NEW GUINEA)	92001 92003 92004 92014 92035 92044 92047 92076 92085 92087
CUNG01	AMMC	(CLIMAT TEMP PREPARED ON BEHALF OF PAPUA NEW GUINEA)	92035 92044
CSSO01	AMMC	(CLIMAT PREPARED ON BEHALF ON THE SOLOMON ISLANDS)	91503 91507 91517 91520 91541
CUSO01	AMMC	(CLIMAT TEMP PREPARED ON BEHALF ON THE SOLOMON ISLANDS)	91517

Note: production of the following bulletins will cease as from the commissioning date of the new bulletins:
CSOC01 AMMC (CLIMAT)
CUOC01 AMMC (CLIMAT TEMP)

NOTIFICATION FROM BOSNIA AND HERZEGOVINA

REGION:6
RTH:N/A
COUNTRY:BOSNIA AND HERZEGOVINA
CENTRE:SARAJEVO
DATE:01/05/2001

Category	TTAAii	CCCC	CodeForm	TimeGroup	Content	Remarks
E	SMQB10	LQSM	FM 12-XI EXT.	00,06,12,18	14654	
E	SIQB50	LQSM	FM 12-XI EXT.	16	14528 14544 14640 14650	
E	SMQB50	LQSM	FM 12-XI EXT.	06,12	14528 14543 14544 14549 14554 14640 14537 14650 14656	14656 due to the complex political situation in Bosnia no data is available for international exchange
E	SMQB21	LQSM	FM 12-XI EXT.	00,06,12,18	14542 14648 14652	14542 due to the complex political situation in Bosnia no data is available for international exchange
E	SIQB50	LQSM	FM 12-XI EXT.	09	14528 14537 14543 14544 14549 14554 14640 14650 14656	14656 due to the complex political situation in Bosnia no data is available for international exchange
E	SIQB21	LQSM	FM 12-XI EXT.	09,16	14557	
E	SIQB21	LQSM	FM 12-XI EXT.	03,09,15,21	14542 14648 14652	14542 due to the complex political situation in Bosnia no data is available for international exchange
E	SIQB20	LQSM	FM 12-XI EXT.	03,09,15,21	14654	
E	CSQB01	LQSM	FM 71-XI	MONTHLY	14648 14652 14654	
E	SMQB21	LQSM	FM 12-XI EXT.	06,12	14557	

NOTIFICATION FROM FRANCE

REGION: 3
 COUNTRY: FRENCH GUIANA
 CENTRE: CAYENNE/ROCHAMBEAU

DATE: 23/04/2001

Delete: SDFG20 SOCA 09,12,15,18,21 81405 METRIC RAREP

REGION: 4
 COUNTRY: GUADELOUPE, ST MARTIN, ST BARTHELEMY
 CENTRE: LE RAIZET

DATE: 23/04/2001

Delete: SMFR01 TFFR FM12-XI 00,12,18 78894 78897
 SMFR01 TFFR FM12 XI 06 78897
Add: SMMF01 TFFR FM12-XI 00,06,12,18 78897 78890 78894
Replace: SIMF20 TFFR FM12-XI 09,15,21 78894 78897
By: SIMF20 TFFR FM12-XI 03,09,15,21 78890 78894 78897

Delete: SNMF01 TFFR FM 12-XI 00,03,06,09,12,15,18,21 78890
 SIMF20 TFFR FM12-XI 03 78897
 UPMF01 TFFR FM32 IX 00 78897
 UGMF20 TFFR FM32 IX 00 78897
 UGMF20 TFFR FM32 IX 12 78894
 SDMF20 TFFR FM32 IX 00,03,06,09,12,15,18,21 788897 METRIC RAREP

Add: CSMF01 TFFR FM 71 XI 78890 78894 78897
 CUMF01 TFFR FM 75 XI 78897

COUNTRY: MARTINIQUE
 CENTRE: FORT-DE-FRANCE/LE LAMENTIN

DATE: 23/04/2001

Replace: CSMR01 TFFF FM 71 XI 78897 78925 81405
By: CSMR01 TFFF FM 71 XI 78925 78922

Replace: SMMR01 TFFF FM 12 -XI 00,06,12,18 78925
By: SMMR01 TFFF FM 12 -XI 00,06,12,18 78925 78922
Replace: SIMR20 TFFF FM 12 -XI 03,09,15,21 78925
By: SIMR20 TFFF FM 12 -XI 03,09,15,21 78922 78925

Delete: 78897 81405

Delete: SDMR20 TFFF METRIC RAREP
 SIMR21 TFFF FM12 XI 09,15,21 78922
 SMMR20 TFFF FM12 XI 00,06,12,18 78922
 CUMR01 TFFF FM 75 X 78897 81405

III. GLOBAL DATA PROCESSING SYSTEM

1. NOTIFICATION FROM THE EUROPEAN CENTRE FOR MEDIUM-RANGE WEATHER FORECASTS (ECMWF)

The 53rd session of the ECMWF Council had approved most of the submitted requirements of WMO for the dissemination of several additional ECMWF products including Ensemble Prediction System (EPS) Products to WMO Members. Information on dissemination of the new products as from 2 May 2001 has been notified to all GTS users and is included in the "Additional" data and products list, as related to Resolution 40 (Congress XII) - *WMO Policy and practice for the exchange of meteorological and related data and products, including guidelines on relationships* and in Publication No. 9 - *Volume C1 Catalogue of Meteorological Bulletins*.

NOTES:

A/E = Type of Product

E = Essential

A = Additional

PRODUCTS CURRENTLY AVAILABLE

HHAA50	ECMF	12	500 hPa geopotential height analysis	(NH)	A
HHBA50	ECMF	12	500 hPa geopotential height analysis	(NH)	A
HHCA50	ECMF	12	500 hPa geopotential height analysis	(NH)	A
HHDA50	ECMF	12	500 hPa geopotential height analysis	(NH)	A
HHIA50	ECMF	12	500 hPa geopotential height analysis	(SH)	A
HHJA50	ECMF	12	500 hPa geopotential height analysis	(SH)	A
HHKA50	ECMF	12	500 hPa geopotential height analysis	(SH)	A
HHLA50	ECMF	12	500 hPa geopotential height analysis	(SH)	A
HHAE50	ECMF	12	500 hPa geopotential height 24 hour forecast	(NH)	A
HHBE50	ECMF	12	500 hPa geopotential height 24 hour forecast	(NH)	A
HHCE50	ECMF	12	500 hPa geopotential height 24 hour forecast	(NH)	A
HHDE50	ECMF	12	500 hPa geopotential height 24 hour forecast	(NH)	A
HHIE50	ECMF	12	500 hPa geopotential height 24 hour forecast	(SH)	A
HHJE50	ECMF	12	500 hPa geopotential height 24 hour forecast	(SH)	A
HHKE50	ECMF	12	500 hPa geopotential height 24 hour forecast	(SH)	A

HHLE50	ECMF	12	500 hPa geopotential height 24 hour forecast	(SH)	A
HHAI50	ECMF	12	500 hPa geopotential height 48 hour forecast	(NH)	A
HHBI50	ECMF	12	500 hPa geopotential height 48 hour forecast	(NH)	A
HHCI50	ECMF	12	500 hPa geopotential height 48 hour forecast	(NH)	A
HHDI50	ECMF	12	500 hPa geopotential height 48 hour forecast	(NH)	A
HHII50	ECMF	12	500 hPa geopotential height 48 hour forecast	(SH)	A
HHJI50	ECMF	12	500 hPa geopotential height 48 hour forecast	(SH)	A
HHKI50	ECMF	12	500 hPa geopotential height 48 hour forecast	(SH)	A
HHLI50	ECMF	12	500 hPa geopotential height 48 hour forecast	(SH)	A
HTAA85	ECMF	12	850 hPa temperature analysis	(NH)	A
HTBA85	ECMF	12	850 hPa temperature analysis	(NH)	A
HTCA85	ECMF	12	850 hPa temperature analysis	(NH)	A
HTDA85	ECMF	12	850 hPa temperature analysis	(NH)	A
HTIA85	ECMF	12	850 hPa temperature analysis	(SH)	A
HTJA85	ECMF	12	850 hPa temperature analysis	(SH)	A
HTKA85	ECMF	12	850 hPa temperature analysis	(SH)	A
HTLA85	ECMF	12	850 hPa temperature analysis	(SH)	A

TTAAii	CCCC	YYGGgg	Content	Area	A/E
HPJS98	ECMF	12	MSL pressure 168 hour forecast	(SH)	E
HPKS98	ECMF	12	MSL pressure 168 hour forecast	(SH)	E
HPLS98	ECMF	12	MSL pressure 168 hour forecast	(SH)	E

PRODUCTS CURRENTLY AVAILABLE, BUT TO BE REMOVED AT A FUTURE DATE

HUEA85	ECMF	12	850 hPa u-wind analysis	(TROP)	A
HUFA85	ECMF	12	850 hPa u-wind analysis	(TROP)	A
HUGA85	ECMF	12	850 hPa u-wind analysis	(TROP)	A
HUHA85	ECMF	12	850 hPa u-wind analysis	(TROP)	A
HUEE85	ECMF	12	850 hPa u-wind 24 hour forecast	(TROP)	A
HUFE85	ECMF	12	850 hPa u-wind 24 hour forecast	(TROP)	A
HUGE85	ECMF	12	850 hPa u-wind 24 hour forecast	(TROP)	A
HUHE85	ECMF	12	850 hPa u-wind 24 hour forecast	(TROP)	A
HUEI85	ECMF	12	850 hPa u-wind 48 hour forecast	(TROP)	A
HUFI85	ECMF	12	850 hPa u-wind 48 hour forecast	(TROP)	A
HUGI85	ECMF	12	850 hPa u-wind 48 hour forecast	(TROP)	A
HUHI85	ECMF	12	850 hPa u-wind 48 hour forecast	(TROP)	A
HVEA85	ECMF	12	850 hPa v-wind analysis	(TROP)	A
HVFA85	ECMF	12	850 hPa v-wind analysis	(TROP)	A
HVGA85	ECMF	12	850 hPa v-wind analysis	(TROP)	A
HVHA85	ECMF	12	850 hPa v-wind analysis	(TROP)	A
HVEE85	ECMF	12	850 hPa v-wind 24 hour forecast	(TROP)	A
HVFE85	ECMF	12	850 hPa v-wind 24 hour forecast	(TROP)	A
HVGE85	ECMF	12	850 hPa v-wind 24 hour forecast	(TROP)	A
HVHE85	ECMF	12	850 hPa v-wind 24 hour forecast	(TROP)	A
HVEI85	ECMF	12	850 hPa v-wind 48 hour forecast	(TROP)	A
HVFI85	ECMF	12	850 hPa v-wind 48 hour forecast	(TROP)	A
HVGI85	ECMF	12	850 hPa v-wind 48 hour forecast	(TROP)	A
HVHI85	ECMF	12	850 hPa v-wind 48 hour forecast	(TROP)	A
HUEA20	ECMF	12	200 hPa u-wind analysis	(TROP)	A
HUFA20	ECMF	12	200 hPa u-wind analysis	(TROP)	A
HUGA20	ECMF	12	200 hPa u-wind analysis	(TROP)	A
HUHA20	ECMF	12	200 hPa u-wind analysis	(TROP)	A
HUEE20	ECMF	12	200 hPa u-wind 24 hour forecast	(TROP)	A
HUFE20	ECMF	12	200 hPa u-wind 24 hour forecast	(TROP)	A
HUGE20	ECMF	12	200 hPa u-wind 24 hour forecast	(TROP)	A
HUHE20	ECMF	12	200 hPa u-wind 24 hour forecast	(TROP)	A

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HUEI20	ECMF	12	200 hPa u-wind 48 hour forecast	(TROP)	A
HUFI20	ECMF	12	200 hPa u-wind 48 hour forecast	(TROP)	A
HUGI20	ECMF	12	200 hPa u-wind 48 hour forecast	(TROP)	A
HUHI20	ECMF	12	200 hPa u-wind 48 hour forecast	(TROP)	A
HUEK20	ECMF	12	200 hPa u-wind 72 hour forecast	(TROP)	A
HUFK20	ECMF	12	200 hPa u-wind 72 hour forecast	(TROP)	A
HUGK20	ECMF	12	200 hPa u-wind 72 hour forecast	(TROP)	A
HUHK20	ECMF	12	200 hPa u-wind 72 hour forecast	(TROP)	A
HUEM20	ECMF	12	200 hPa u-wind 96 hour forecast	(TROP)	A
HUFM20	ECMF	12	200 hPa u-wind 96 hour forecast	(TROP)	A
HUGM20	ECMF	12	200 hPa u-wind 96 hour forecast	(TROP)	A
HUHM20	ECMF	12	200 hPa u-wind 96 hour forecast	(TROP)	A
HUEO20	ECMF	12	200 hPa u-wind 120 hour forecast	(TROP)	A
HUFO20	ECMF	12	200 hPa u-wind 120 hour forecast	(TROP)	A
HUGO20	ECMF	12	200 hPa u-wind 120 hour forecast	(TROP)	A
HUHO20	ECMF	12	200 hPa u-wind 120 hour forecast	(TROP)	A
HVEA20	ECMF	12	200 hPa v-wind analysis	(TROP)	A
HVFA20	ECMF	12	200 hPa v-wind analysis	(TROP)	A
HVGA20	ECMF	12	200 hPa v-wind analysis	(TROP)	A
HVHA20	ECMF	12	200 hPa v-wind analysis	(TROP)	A
HVEE20	ECMF	12	200 hPa v-wind 24 hour forecast	(TROP)	A
HVFE20	ECMF	12	200 hPa v-wind 24 hour forecast	(TROP)	A
HVGE20	ECMF	12	200 hPa v-wind 24 hour forecast	(TROP)	A
HVHE20	ECMF	12	200 hPa v-wind 24 hour forecast	(TROP)	A
HVEI20	ECMF	12	200 hPa v-wind 48 hour forecast	(TROP)	A
HVFI20	ECMF	12	200 hPa v-wind 48 hour forecast	(TROP)	A
HVGI20	ECMF	12	200 hPa v-wind 48 hour forecast	(TROP)	A
HVHI20	ECMF	12	200 hPa v-wind 48 hour forecast	(TROP)	A
HVEK20	ECMF	12	200 hPa v-wind 72 hour forecast	(TROP)	A
HVFK20	ECMF	12	200 hPa v-wind 72 hour forecast	(TROP)	A
HVGK20	ECMF	12	200 hPa v-wind 72 hour forecast	(TROP)	A
HVHK20	ECMF	12	200 hPa v-wind 72 hour forecast	(TROP)	A
HVEM20	ECMF	12	200 hPa v-wind 96 hour forecast	(TROP)	A
HVFM20	ECMF	12	200 hPa v-wind 96 hour forecast	(TROP)	A
HVGM20	ECMF	12	200 hPa v-wind 96 hour forecast	(TROP)	A
HVHM20	ECMF	12	200 hPa v-wind 96 hour forecast	(TROP)	A
HVEO20	ECMF	12	200 hPa v-wind 120 hour forecast	(TROP)	A
HVFO20	ECMF	12	200 hPa v-wind 120 hour forecast	(TROP)	A
HVGO20	ECMF	12	200 hPa v-wind 120 hour forecast	(TROP)	A
HVHO20	ECMF	12	200 hPa v-wind 120 hour forecast	(TROP)	A

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HUEK85	ECMF	12	850 hPa u-wind 72 hour forecast	(TROP)	E
HUFK85	ECMF	12	850 hPa u-wind 72 hour forecast	(TROP)	E
HUGK85	ECMF	12	850 hPa u-wind 72 hour forecast	(TROP)	E
HUHK85	ECMF	12	850 hPa u-wind 72 hour forecast	(TROP)	E
HUEM85	ECMF	12	850 hPa u-wind 96 hour forecast	(TROP)	E
HUFM85	ECMF	12	850 hPa u-wind 96 hour forecast	(TROP)	E
HUGM85	ECMF	12	850 hPa u-wind 96 hour forecast	(TROP)	E
HUHM85	ECMF	12	850 hPa u-wind 96 hour forecast	(TROP)	E
HUEO85	ECMF	12	850 hPa u-wind 120 hour forecast	(TROP)	E
HUFO85	ECMF	12	850 hPa u-wind 120 hour forecast	(TROP)	E
HUGO85	ECMF	12	850 hPa u-wind 120 hour forecast	(TROP)	E
HUHO85	ECMF	12	850 hPa u-wind 120 hour forecast	(TROP)	E
HVEK85	ECMF	12	850 hPa v-wind 72 hour forecast	(TROP)	E
HVFK85	ECMF	12	850 hPa v-wind 72 hour forecast	(TROP)	E
HV GK85	ECMF	12	850 hPa v-wind 72 hour forecast	(TROP)	E
HVHK85	ECMF	12	850 hPa v-wind 72 hour forecast	(TROP)	E
HVEM85	ECMF	12	850 hPa v-wind 96 hour forecast	(TROP)	E
HVFM85	ECMF	12	850 hPa v-wind 96 hour forecast	(TROP)	E
HVGM85	ECMF	12	850 hPa v-wind 96 hour forecast	(TROP)	E
HVHM85	ECMF	12	850 hPa v-wind 96 hour forecast	(TROP)	E
HVEO85	ECMF	12	850 hPa v-wind 120 hour forecast	(TROP)	E
HVFO85	ECMF	12	850 hPa v-wind 120 hour forecast	(TROP)	E
HVGO85	ECMF	12	850 hPa v-wind 120 hour forecast	(TROP)	E
HVHO85	ECMF	12	850 hPa v-wind 120 hour forecast	(TROP)	E

NEW PRODUCTS

HUAA85	ECMF	12	850 hPa u-wind analysis	(NH)	A
HUBA85	ECMF	12	850 hPa u-wind analysis	(NH)	A
HUCA85	ECMF	12	850 hPa u-wind analysis	(NH)	A
HUDA85	ECMF	12	850 hPa u-wind analysis	(NH)	A
HUIA85	ECMF	12	850 hPa u-wind analysis	(SH)	A
HUJA85	ECMF	12	850 hPa u-wind analysis	(SH)	A
HUKA85	ECMF	12	850 hPa u-wind analysis	(SH)	A
HULA85	ECMF	12	850 hPa u-wind analysis	(SH)	A
HUAE85	ECMF	12	850 hPa u-wind 24 hour forecast	(NH)	A
HUBE85	ECMF	12	850 hPa u-wind 24 hour forecast	(NH)	A

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HUCE85	ECMF	12	850 hPa u-wind 24 hour forecast	(NH)	A
HUDE85	ECMF	12	850 hPa u-wind 24 hour forecast	(NH)	A
HUIE85	ECMF	12	850 hPa u-wind 24 hour forecast	(SH)	A
HUJE85	ECMF	12	850 hPa u-wind 24 hour forecast	(SH)	A
HUKE85	ECMF	12	850 hPa u-wind 24 hour forecast	(SH)	A
HULE85	ECMF	12	850 hPa u-wind 24 hour forecast	(SH)	A
HUA185	ECMF	12	850 hPa u-wind 48 hour forecast	(NH)	A
HUB185	ECMF	12	850 hPa u-wind 48 hour forecast	(NH)	A
HUC185	ECMF	12	850 hPa u-wind 48 hour forecast	(NH)	A
HUD185	ECMF	12	850 hPa u-wind 48 hour forecast	(NH)	A
HUI185	ECMF	12	850 hPa u-wind 48 hour forecast	(SH)	A
HUJ185	ECMF	12	850 hPa u-wind 48 hour forecast	(SH)	A
HUK185	ECMF	12	850 hPa u-wind 48 hour forecast	(SH)	A
HUL185	ECMF	12	850 hPa u-wind 48 hour forecast	(SH)	A
HVAA85	ECMF	12	850 hPa v-wind analysis	(NH)	A
HVBA85	ECMF	12	850 hPa v-wind analysis	(NH)	A
HVCA85	ECMF	12	850 hPa v-wind analysis	(NH)	A
HVDA85	ECMF	12	850 hPa v-wind analysis	(NH)	A
HVIA85	ECMF	12	850 hPa v-wind analysis	(SH)	A
HVJA85	ECMF	12	850 hPa v-wind analysis	(SH)	A
HVKA85	ECMF	12	850 hPa v-wind analysis	(SH)	A
HVLA85	ECMF	12	850 hPa v-wind analysis	(SH)	A
HVAE85	ECMF	12	850 hPa v-wind 24 hour forecast	(NH)	A
HVBE85	ECMF	12	850 hPa v-wind 24 hour forecast	(NH)	A
HVCE85	ECMF	12	850 hPa v-wind 24 hour forecast	(NH)	A
HVDE85	ECMF	12	850 hPa v-wind 24 hour forecast	(NH)	A
HVIE85	ECMF	12	850 hPa v-wind 24 hour forecast	(SH)	A
HVJE85	ECMF	12	850 hPa v-wind 24 hour forecast	(SH)	A
HVKE85	ECMF	12	850 hPa v-wind 24 hour forecast	(SH)	A
HVLE85	ECMF	12	850 hPa v-wind 24 hour forecast	(SH)	A
HVAI85	ECMF	12	850 hPa v-wind 48 hour forecast	(NH)	A
HVBI85	ECMF	12	850 hPa v-wind 48 hour forecast	(NH)	A
HVCI85	ECMF	12	850 hPa v-wind 48 hour forecast	(NH)	A
HVDI85	ECMF	12	850 hPa v-wind 48 hour forecast	(NH)	A
HVII85	ECMF	12	850 hPa v-wind 48 hour forecast	(SH)	A
HVJI85	ECMF	12	850 hPa v-wind 48 hour forecast	(SH)	A
HVKI85	ECMF	12	850 hPa v-wind 48 hour forecast	(SH)	A
HVLI85	ECMF	12	850 hPa v-wind 48 hour forecast	(SH)	A
HUAA70	ECMF	12	700 hPa u-wind analysis	(NH)	A
HUBA70	ECMF	12	700 hPa u-wind analysis	(NH)	A

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HVAS85	ECMF	12	850 hPa v-wind 168 hour forecast	(NH)	E
HVBS85	ECMF	12	850 hPa v-wind 168 hour forecast	(NH)	E
HVCS85	ECMF	12	850 hPa v-wind 168 hour forecast	(NH)	E
HVDS85	ECMF	12	850 hPa v-wind 168 hour forecast	(NH)	E
HVIS85	ECMF	12	850 hPa v-wind 168 hour forecast	(SH)	E
HVJS85	ECMF	12	850 hPa v-wind 168 hour forecast	(SH)	E
HVKS85	ECMF	12	850 hPa v-wind 168 hour forecast	(SH)	E
HVLS85	ECMF	12	850 hPa v-wind 168 hour forecast	(SH)	E

TTAAii	CCCC	YYGGgg	Content	Area	A/E
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NOTES:A/E = Type of Product:

E = Essential

A = Additional

Area:

NH = Northern hemisphere products: From 0 to 90 degrees North. Area A is from 0 to 90 degrees West, area B from 90 West to 180 degrees West, Area C from 90 East to 180 East and area D from 0 to 90 degrees East.

SH = Southern hemisphere products: From 0 to 90 degrees South. Area I is from 0 to 90 degrees West, area J from 90 West to 180 degrees West, Area K from 90 East to 180 East and area L from 0 to 90 degrees East

TROP = Tropical Belt products: From 35 degrees North to 35 degrees South. Area E is from 0 to 90 degrees West, area F from 90 West to 180 degrees West, Area G from 90 East to 180 East and area H from 0 to 90 degrees East.

For the new Tropical Belt products a second CCCC location indicator for ECMWF (ECMW) is used in the Abbreviated Heading line, with a special allocation of T2 as 'V' for vorticity and 'D' for divergence.

For the deterministic forecast, basetime 12 UTC, the extra products are U and V wind components on four levels (850, 700, 500 and 200 hPa), and Relative Humidity on two levels (850 and 700 hPa), for eight forecast time steps (HH+00, 24, 48, 72, 96, 120, 144 and 168) for the eight octants of the globe. For the four Tropical Belt areas, extra products are Vorticity and Divergence at 700 hPa, for seven forecast time steps (HH+00, 24, 48, 72, 96, 120 and 144 hPa).

The new products are only available in GRIB format at 2.5x2.5 degree resolution.