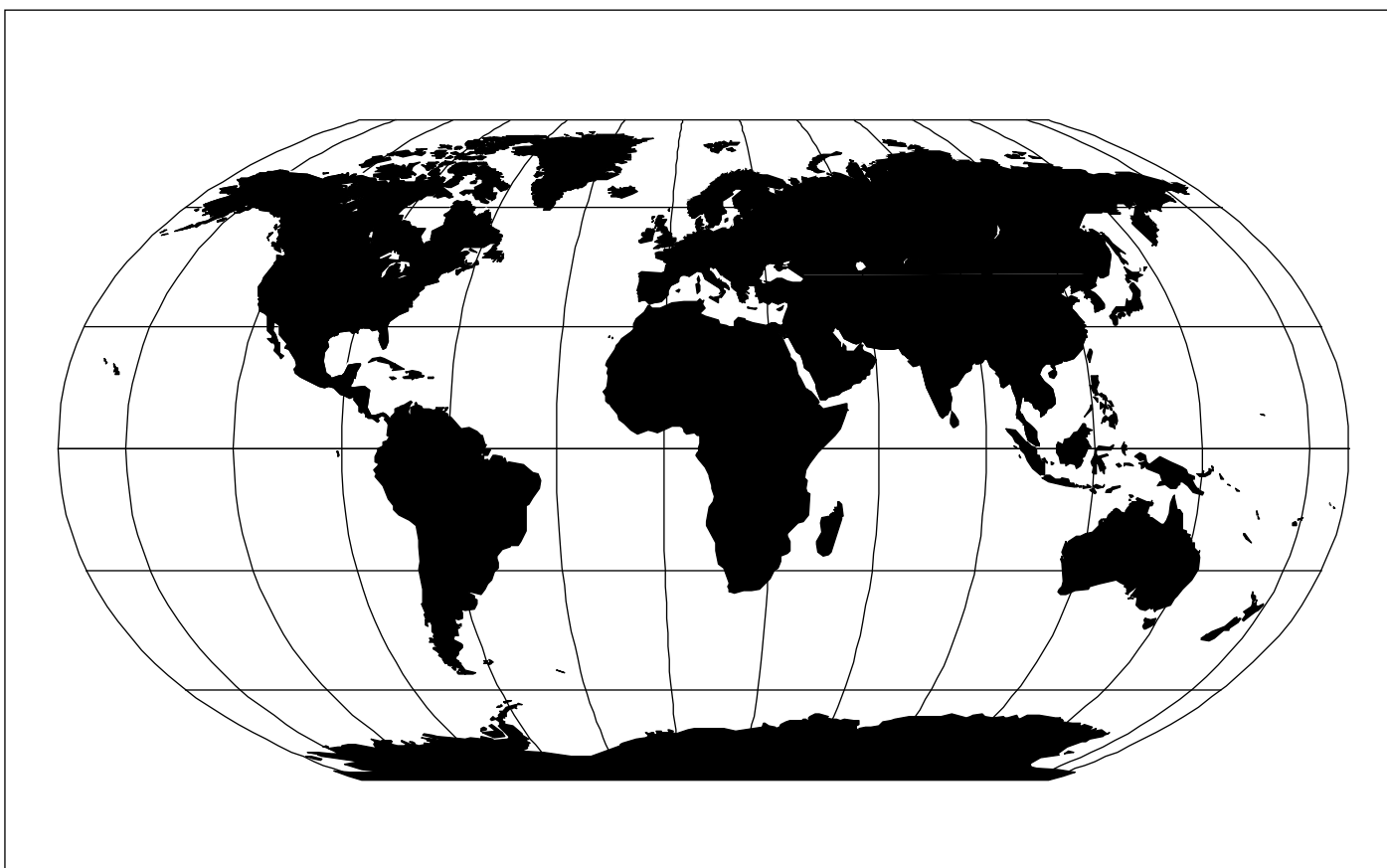


OPERATIONAL NEWSLETTER

VOLUME 1997

No. 7/8 - JULY/AUGUST 1997

WORLD WEATHER WATCH



WORLD METEOROLOGICAL ORGANIZATION
GENEVA
SWITZERLAND

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



EDITORIAL

The Operational Newsletter on the World Weather Watch (WWW) and Marine Meteorological Services (MMS) has been issued since 1982 at the request of the Commission for Basic Systems. It is distributed by the WMO Secretariat and is aimed at providing WWW 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 and 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.

In addition to the printed version which is distributed by mail, the Operational Newsletter is also available at the following locations:

For access via FTP:

<ftp://www.wmo.ch/wmo-ddbs/>

For access via http:

<http://www.wmo.ch/web/ddbs/opnews.html>

PLEASE check our World Weather Watch home page for the most recent edition.

The file is created in Adobe Acrobat PDF format so that users can easily download, view or print the document from different computer platforms, keeping the page layout and typography of the original document intact.

To view the Newsletter you will require "Adobe Acrobat Reader", which can be downloaded from:

<http://www.adobe.com/prodindex/Acrobat/readstep.html>

We apologize to those readers who may have experienced difficulties with our electronic version of the 11/12 1996 Newsletter produced in .html. You may be pleased to know that this was done on a trial basis. This year we hope to keep to our standard format of .pdf.

Comments are more than welcome. Should you have any difficulties downloading, viewing or printing the Newsletter ... Our e-mail address is as follows:

PWOI@WWW.WMO.CH

We look forward to hearing from you.

Rising costs demand that we scale down the distribution of the Newsletter by letter mail, so we strongly encourage our readers to help us become more cost-effective by using our new on-line service.

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**THE WORLD METEOROLOGICAL ORGANIZATION
IS PLEASED TO ANNOUNCE
THE WMO TECHNICAL CONFERENCE
ON
METEOROLOGICAL AND ENVIRONMENTAL INSTRUMENTS
AND
METHODS OF OBSERVATION (TECO-98)
WITH A
TECHNICAL EXHIBITION (METEOREX-98)
13 to 15 May 1998, Casablanca, Morocco**

The Conference will immediately follow the forthcoming twelfth session of the WMO Commission on Instruments and Methods of Observation (CIMO-XII, 4 to 12 May 1998, Casablanca, Morocco) and will be held at the same venue.

Under the conference theme:

“Measurements: a widening horizon of technology and applications”

EXPERTS FROM NATIONAL METEOROLOGICAL AND HYDROLOGICAL SERVICES, RESEARCH INSTITUTES AND THE PRIVATE SECTOR WILL ADDRESS THE FOLLOWING MAIN SUBJECTS:

- 1** New developments, operational experience and results of intercomparisons in meteorological and environmental measuring technology related to:
 - Surface measurements including sensors, automatic stations and systems for specific applications and requirements;
 - Upper-air in situ measurements, including alternatives for OMEGA-dependent wind finding systems;
 - Surface-based remote sensing techniques;
- 2** Quality management, sensors calibration technology and methodology, validation of surface-based remote sensing systems;
- 3** Management and cost aspects related to instruments and observing methods; technology transfer; capacity building including training needs and opportunities

SIMULTANEOUS INTERPRETATION OF ENGLISH, FRENCH, RUSSIAN AND SPANISH WILL BE AVAILABLE

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I. GLOBAL OBSERVING SYSTEM

INFORMATION ON THE OPERATIONAL STATUS OF THE SPACE SUB-SYSTEM

WMO DATABASE ON OBSERVATION SATELLITE MISSION

The WMO Satellite Activities home page has recently been updated to contain satellite mission and instrument information. Detailed information for almost 150 satellite missions and 300 instruments can be viewed. Each instrument is linked to a user requirement indicating which parameter(s) will be measured. In particular, it is possible to obtain information concerning the instrument name, type, sponsoring Agency, wavebands, mission(s) the instrument will fly on, launch dates, and which parameters it will measure cross referenced to user requirements. The data has been compiled through a cooperative effort between the international user community with WMO acting as a focal point and the various space agencies as represented in the Committee on Earth Observation Satellites (CEOS). To view the information, use URL <<http://www.wmo.ch>> then select "WMO Satellite Activities" then select "Instrument Information".

INFORMATION ON THE OPERATIONAL STATUS OF ELEMENTS OF THE SURFACE-BASED SUB-SYSTEM

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		
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

I.

CANADA

Moored Buoys

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

WMO Buoy Identifier	ARGOS Identifier	Position: 13 July 1997		Observed or Technical Parameters										
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11
46004	6267	50 58' N	135 48' W	X	X	X	X	X	X	X	N/A	-	-	-
46036	7180	48 21' N	133 55' W	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	N/A	-	-	-
46132	7197	49 44' N	127 55' W	X	X	X	X	X	X	X	N/A	-	-	-
46145	7183	54 23' N	132 26' W	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	N/A	-	-	-
46147	7186	51 49' N	131 12' W	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	N/A	-	-	-
46183	8678	53 37' N	131 06' W	X	X	X	X	X	X	X	N/A	-	-	-
46184	6268	53 54' N	138 52' W	X	X	X	X	X	X	X	N/A	-	-	-
46185	8677	52 24' N	129 47' W	X	X	X	X	X	X	X	N/A	-	-	-
46204	4484	51 22' N	128 45' W	X	X	X	X	X	X	X	N/A	-	-	-
46205	7184	54 10' N	134 20' W	X	X	X	X	X	X	X	N/A	-	-	-
46206	7196	48 50' N	126 00' W	X	X	X	X	X	X	X	N/A	-	-	-
46207	7193	50 52' N	129 55' W	X	X	X	X	X	X	X	N/A	-	-	-
46208	4485	52 30' N	132 42' W	X	X	X	X	X	X	X	N/A	-	-	-

North-west Atlantic Ocean

WMO Buoy Identifier	ARGOS Identifier	Position: 13 July 1997		Observed or Technical Parameters										
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11
44131	N/A	44 30' N	066 47' W	S	S	S	S	S	S	S	N/A	-	-	-
44137	5579	41 48' N	059 56' W	X	X	X	X	X	X	X	N/A	-	-	-
44138	5577	44 16' N	053 37' W	X	X	X	X	X	X	X	N/A	-	-	-
44139	3448	44 08' N	057 38' W	S	S	S	S	S	S	S	N/A	-	-	-
44140	5576	42 51' N	051 34' W	.	.	.	.	.	.	.	N/A	-	-	-
44141	3449	42 04' N	056 09' W	X	X	X	X	X	X	X	N/A	-	-	-
44142	5578	42 27' N	064 06' W	X	X	X	X	X	X	X	N/A	-	-	-

Gt. Slave Lake , Lake Winnipeg, Great Lakes, Gulf of St. Lawrence

WMO Buoy Identifier	ARGOS Identifier	Position: 13 July 1997		Observed or Technical Parameters										
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11
45132	N/A	42 28' N	081 13' W	X	X	X	X	X	X	X	N/A	-	-	-
45135	N/A	43 45' N	076 17' W	X	S	X	X	X	X	X	N/A	-	-	-
45136	N/A	48 32' N	086 57' W	X	X	X	X	X	X	X	N/A	-	-	-
45137	N/A	45 33' N	081 01' W	X	X	X	X	X	X	X	N/A	-	-	-
45138	3436	49 33' N	065 45' W	X	X	X	X	X	X	X	N/A	-	-	-
45139	N/A	43 26' N	079 23' W	X	X	X	X	X	X	X	N/A	-	-	-
45140	3439	50 47' N	096 44' W	X	X	X	X	X	S	S	N/A	-	-	-
45141	N/A	61 06' N	115 11' W	S	S	S	S	S	S	S	N/A	-	-	-
45143	N/A	44 55' N	80 38' W	X	X	X	X	X	X	X	N/A	-	-	-
45142	N/A	42 44' N	079 17' W	X	X	X	X	X	X	.	N/A	-	-	-
45144	8671	53 23' N	098 29' W	X	X	X	X	X	X	X	N/A	-	-	-

Drifting Buoys

Pacific Ocean

WMO Buoy Identifier	ARGOS Identifier	Position: 01 July 1997		Observed or Technical Parameters										
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11
46695	7140	52 12' N	143 48' W	.	X	X	X	X	.	.	.	-	-	-
46707	8673	46 30' N	139 54' W	X	X	X	X	X	.	.	.	-	-	-
46701	8674	48 36' N	165 18' W	X	X	X	X	X	.	.	.	-	-	-
46641	12511	47 30' N	161 30' W	.	X	X	X	X	.	.	.	-	-	-

REMARKS:

44131 stopped transmitting.

44139 buoy adrift.

44140 buoy ashore.

I.

UNITED STATES OF AMERICA

List of U.S.A. Ocean Data Acquisition Systems (ODAS) included in the Data Platform Status Report of the Data Buoy Centre of the National Oceanic and Atmospheric Administration (NOAA) on 29 August 1997. Data from moored buoys and platforms are collected by geostationary meteorological satellites and reports are distributed on the GTS in SHIP code. Data from drifting buoys are collected by the ARGOS system and distributed on the GTS in DRIFTER CODE.

Moored Buoys

WMO Buoy Identifier	ARGOS Identifier	Position: 21-28 August 1997		Observed or Technical Parameters										
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11
41001*		34.68N	72.64W	X	X	X	-	X	X	X	-	-	-	-
41002*		32.27N	75.19W	X	X	X	-	X	X	X	-	-	-	-
41004		32.51N	79.10W	X	X	X	-	S	X	X	-	-	-	-
41008		31.40N	80.87W	X	X	X	-	X	X	X	-	-	-	-
41009		28.50N	80.18W	X	X	X	-	X	X	X	-	-	-	-
41010		28.90N	78.53W	X	X	X	-	X	X	X	-	-	-	-
42001*		25.93N	89.65W	X	X	X	-	X	X	X	-	-	-	-
42002*		25.89N	93.57W	X	X	X	-	X	X	X	-	-	-	-
42003*		25.94N	85.91W	X	X	X	-	X	X	X	-	-	-	-
42007		30.09N	88.77W	X	X	X	-	X	X	X	-	-	-	-
42035		29.25N	94.41W	S	X	X	-	X	X	X	-	-	-	-
42036		28.51N	84.51W	X	X	X	-	X	X	X	-	-	-	-
42039		28.78N	86.04W	X	X	X	-	X	X	X	-	-	-	-
42040		29.20N	88.25W	X	X	X	-	X	X	X	-	-	-	-
44004*		38.46N	70.69W	X	X	X	-	X	S	S	-	-	-	-
44005*		42.90N	68.94W	X	X	X	-	X	X	X	-	-	-	-
44007		43.53N	70.14W	S	X	X	-	X	X	X	-	-	-	-
44008*		40.50N	69.43W	X	X	X	-	X	X	X	-	-	-	-
44009*		38.46N	74.70W	X	X	X	-	X	X	X	-	-	-	-
44011*		41.08N	66.58W	X	X	X	-	X	X	X	-	-	-	-
44013		42.35N	70.69W	S	S	S	-	S	S	S	-	-	-	-
44014		36.58N	74.83W	X	X	X	-	X	X	X	-	-	-	-
44025		40.25N	73.17W	X	X	X	-	X	X	X	-	-	-	-
45001*		48.06N	87.78W	X	X	X	-	X	X	X	-	-	-	-
45002*		45.30N	86.42W	X	X	X	-	X	X	X	-	-	-	-
45003*		45.32N	82.77W	X	X	X	-	X	X	X	-	-	-	-
45004*		47.56N	86.55W	X	X	X	-	X	X	X	-	-	-	-
45005*		41.68N	82.40W	X	X	X	-	X	X	X	-	-	-	-
45006*		47.32N	89.87W	X	X	X	-	X	X	X	-	-	-	-
45007*		42.68N	87.03W	X	X	X	-	X	X	X	-	-	-	-
45008*		44.28N	82.42W	X	X	X	-	X	X	X	-	-	-	-
45011		43.02N	86.27W	X	X	X	-	X	S	S	-	-	-	-
46001*		56.29N	148.18W	X	X	X	-	X	X	X	-	-	-	-
46002*		42.53N	130.26W	X	X	X	-	X	X	X	-	-	-	-
46003*		51.85N	155.92W	X	X	X	-	X	X	X	-	-	-	-
46005*		46.08N	131.00W	X	X	X	-	X	X	X	-	-	-	-
46006*		40.84N	137.49W	S	S	S	-	S	S	S	-	-	-	-
46011		34.88N	120.87W	X	X	X	-	X	X	X	-	-	-	-
46012		37.39N	122.73W	S	S	S	-	S	S	S	-	-	-	-
46014		39.22N	123.97W	X	X	X	-	X	X	X	-	-	-	-
46022		40.74N	124.51W	X	X	X	-	X	X	X	-	-	-	-
46023		34.71N	120.97W	X	X	X	-	X	X	X	-	-	-	-
46025		33.75N	119.07W	R	R	R	-	R	R	R	-	-	-	-
46026*		37.75N	122.82W	X	X	X	-	X	X	X	-	-	-	-
46028		35.74N	121.88W	R	R	R	-	R	R	R	-	-	-	-
46029*		46.18N	124.19W	X	S	X	-	X	X	X	-	-	-	-
46030		40.42N	124.53W	X	X	X	-	X	X	X	-	-	-	-
46035		56.91N	177.81W	X	X	X	-	X	X	X	-	-	-	-
46041		47.42N	124.52W	S	S	S	-	S	S	S	-	-	-	-
46042		36.75N	122.41W	S	S	X	-	X	X	X	-	-	-	-
46045		33.84N	118.45W	S	X	X	-	X	X	X	-	-	-	-
46054		34.27N	120.45W	X	X	X	-	X	X	X	-	-	-	-
46059		37.98N	130.00W	X	X	X	-	X	X	X	-	-	-	-
46060		60.58N	146.83W	X	X	X	-	X	X	X	-	-	-	-
46061		60.22N	146.83W	X	S	X	-	X	X	X	-	-	-	-
46062		35.10N	121.01W	X	X	X	-	X	X	X	-	-	-	-
51001*		23.40N	162.27W	X	X	X	-	X	X	X	-	-	-	-
51002*		17.19N	157.83W	X	X	X	-	X	X	X	-	-	-	-
51003*		19.14N	160.81W	X	X	X	-	X	X	X	-	-	-	-
51004*		17.44N	152.51W	X	X	X	-	S	X	X	-	-	-	-

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

REMARKS:

Total Base Funded Buoys : 29

Total Other Buoys : 31

Total Moored Buoys : 60

41004 - Water temp data failed 02.02.1997
 42035 - Wind data failed 23.10.1996
 44004 - Wave data failed 04.12.1996
 44007 - Winds failed 11.06.1997
 44013 - Water temp data failed 22.05.1997, station failed 07.07.1997
 45007 - Parity errors in data.
 45011 - Wave data failed at deployment 13.08.1997
 46006 - Station failed 07.07.1997
 46012 - Water temp failed 23.10.1996, station failed 12.07.1997
 46022 - Parity errors in data.
 46025 - Buoy adrift 07.07.1997, retrieved 10.07.1997
 46028 - Buoy adrift 17.07.1997, retrieved 22.07.1997
 46029 - Air temp data failed 26.06.1997
 46041 - Air temp data failed 02.06.1996, station failed 14.06.1997
 46042 - Air temp data failed 02.12.1996, winds failed 02.06.1997
 46045 - Wind data failed 30.12.1996
 46061 - Air temp data failed 07.03.1997, service scheduled week of 08.09.1997
 51004 - Water temp data failed 25.04.1996

Drifting Buoys

WMO Buoy Identifier	ARGOS Identifier	Position: 27-28 August 1997		Observed or Technical Parameters										
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11
41529	23637	35°N	032°W	X	X	X	-	S	N	N	N	-	-	-
41611	23635	22°N	090°W	S	X	X	-	X	N	N	N	-	-	-
54812	17178	30°S	114°W	N	X	X	-	X	N	N	N	-	-	-
54814	05127	26°S	145°W	N	X	X	-	X	N	N	N	-	-	-
56810	17185	27°S	043°E	N	S	X	-	X	N	N	N	-	-	-

REMARKS:

339 drifting buoys were deployed in support of TOGA; 3 are operational.

41529 - Ocean temperature failed 04.10.1996, wind speed failed 07.03.1997

41530 - Buoy failed 24.08.1997, removed from GTS.

41611 - Wind direction failed 11.05.1997

56810 - Air temperature failed 05.03.1997

AUSTRALIA
Shipboard DCP

WMO Buoy Identifier	ARGOS Identifier	Position: 31 July 1997		Observed or Technical Parameters										
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11
55513	11581	-37.823	144.905	-	X	X	-	-	-	-	-	-	-	-
55515	11580	-26.945	153.561	-	X	X	-	-	-	-	-	-	-	-
55516	11527	25.269	55.285	-	X	X	-	-	-	-	-	-	-	-
55521	7866	-42.886	147.332	-	X	X	-	-	-	-	-	-	-	-
55524	11662	33.669	127.305	-	X	X	-	-	-	-	-	-	-	-

Drifting Buoys Drogued

WMO Buoy Identifier	ARGOS Identifier	Position: 31 July 1997		Observed or Technical Parameters										
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11
52623	2946	-12.778	139.121	X	X	X	X	S	-	-	-	-	-	-
53548	17179	-21.095	72.15	-	X	X	-	X	-	-	-	-	-	-
56521	2934	-46.159	-142.634	-	-	S	-	X	-	-	-	-	-	-
56529	4873	-22.437	91.848	-	-	X	-	X	-	-	-	-	-	-
56530	4871	-27.936	91.576	-	-	X	-	X	-	-	-	-	-	-
56531	4872	-30.877	89.888	-	-	X	-	X	-	-	-	-	-	-
56532	2949	-38.598	119.151	-	X	X	X	X	-	-	-	-	-	-
56533	2948	-48.083	149.706	-	X	X	X	X	-	-	-	-	-	-
56534	2944	-20.441	105.745	X	S	X	X	X	-	-	-	-	-	-
56535	2939	-52.68	84.302	-	X	X	X	X	-	-	-	-	-	-
56536	4876	-48.149	109.82	-	-	S	-	X	-	-	-	-	-	-
74538	2938	-58.304	83.268	-	X	X	X	X	-	-	-	-	-	-

FRANCE

Moored Buoys

WMO Buoy Identifier	ARGOS Identifier	Position: 14 July 1997		Observed or Technical Parameters										
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11
41096	05833	16.5N	61.5W	-	-	-	-	X	X	.	-	-	-	-
41097	05832	14.9N	61.1W	-	-	-	-	X	X	.	-	-	-	-
41098	05834	14.6N	60.8W	-	-	-	-	X	X	.	-	-	-	-
62163*	-	47.5N	8.5W	X	X	X	X	X	X	-	-	-	X	-

*Cooperation UK Met. Office/Meteo-France

Drifting Buoys

Indian Ocean

WMO Buoy Identifier	ARGOS Identifier	Position: 06 August 1997		Observed or Technical Parameters										
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11
14536	10112	42.5S	81.1E	-	-	X	X	X	-	-	-	-	-	-
16537	5791	40.8S	78.3E	X	-	X	X	X	-	-	-	-	-	-
16538	27934	47.3S	74.7E	-	-	X	X	X	-	-	-	-	-	-

Tropical Atlantic ocean

WMO Buoy Identifier	ARGOS Identifier	Position: 06 August 1997		Observed or Technical Parameters										
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11
13531	22320	4.6N	24.7W	-	-	-	-	X	-	-	-	-	-	-
13532	22321	1.9N	35.5W	-	-	-	-	X	-	-	-	-	-	-
13533	22322	2.4S	29.1W	-	-	-	-	X	-	-	-	-	-	-
13534	22323	3.6N	32.9W	-	-	-	-	X	-	-	-	-	-	-
13535	22324	4.9N	24.1W	-	-	-	-	X	-	-	-	-	-	-
13536	1610	3.5N	30.1W	-	-	-	-	X	-	-	-	-	-	-
13537	1611	4.6N	15.5W	-	-	-	-	X	-	-	-	-	-	-
13538	1612	4.9N	24.0W	-	-	-	-	X	-	-	-	-	-	-
13539	1613	1.2N	31.6W	-	-	-	-	X	-	-	-	-	-	-
13540	1614	1.3N	29.2W	-	-	-	-	X	-	-	-	-	-	-

North Atlantic

WMO Buoy Identifier	ARGOS Identifier	Position: 06 August 1997		Observed or Technical Parameters										
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11
44605	27933	47.0N	26.7W	-	-	X	X	X	-	-	-	-	-	-
44607	27937	49.8N	31.6W	-	-	X	X	X	-	-	-	-	-	-
44608	27938	54.1N	28.1W	-	-	X	X	X	-	-	-	-	-	-
62503	14427	30.8N	14.7W	-	-	X	X	X	-	-	-	-	-	-
62515	14426	45.0N	17.1W	-	-	X	X	X	-	-	-	-	-	-
62518	15534	40.7N	14.8W	S	-	X	-	X	-	-	-	X	-	-
62552	03008	55.1N	15.3W	X	X	X	X	X	-	-	-	-	-	-
62553	03009	47.8N	21.7W	X	X	X	X	X	-	-	-	-	-	-
62554	14430	51.2N	18.5W	-	-	X	X	X	-	-	-	-	-	-
62555	27932	45.6N	18.2W	-	-	X	X	X	-	-	-	-	-	-
62556	27933	50.8N	16.5W	-	-	X	X	X	-	-	-	-	-	-

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

Moored Buoys, Light Vessels, Islands and Fixed Platforms

WMO Buoy Identifier	ARGOS Identifier	Position: 14 July 1997		Observed or Technical Parameters										
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11
03007*		60°35'N	01°16'W	X	X	-	-	-	-	-	X	-	X	-
03010*		59°05'N	04°24'W	X	X	X	X	-	-	-	X	-	X	-
03011*		59°08'N	05°50'W	X	X	X	X	-	-	-	X	-	X	-
03014*		60°07'W	02°04'W	X	X	X	X	-	-	-	X	-	X	-
03695*		51°40'N	01°06'E	X	X	X	X	-	-	-	X	-	X	-
62026	21271	55°20'N	02°20'E	X	X	X	X	X	X	-	X	-	X	-
62029	06261	48°42'N	12°25'W	X	X	X	X	X	X	-	X	-	X	-
62081	06266	51°00'N	13°20'W	X	X	X	X	X	X	-	X	-	X	-
62101		50°37'N	02°44'W	X	X	X	X	X	X	-	X	-	X	-
62103**		49°55'N	02°54'W	X	X	X	X	X	X	-	X	-	X	-
62105	21268	55°37'N	12°41'W	X	X	X	X	X	X	-	X	-	X	-
62106	15824	57°00'N	09°52'N	X	X	X	X	X	X	-	X	-	X	-
62107**		50°04'N	06°04'W	X	X	X	X	X	X	-	X	-	X	X
62108	03731	53°34'N	19°30'W	X	X	X	X	X	X	-	X	-	X	-
62109	15829	57°00'N	00°00'E	X	X	X	X	X	X	-	X	-	X	-
62112*		58°42'N	01°17'E	X	X	X	X	-	-	-	X	-	X	-
62118*		57°45'N	00°55'E	X	X	X	X	-	-	-	X	-	X	-
62126*		58°51'N	03°35'W	X	X	X	X	-	-	-	X	-	X	-
62129*		53°03'N	02°14'E	X	X	X	X	-	-	X	X	-	X	-
62163	22571	47°30'N	08°30'W	X	X	X	X	X	X	-	X	-	X	-
62301		52°10'N	05°05'W	X	X	X	X	X	X	-	X	-	-	-
62302		54°08'N	03°37'W	X	X	X	X	X		-	X	-	-	-
62303	15825	51°31'N	04°56'W	X	X	X	X	X	X	-	X	-	X	-
62304**		51°09'N	01°47'E	X	X	X	X	X	X	-		-	X	X
62305**		50°25'N	00°00'W	X	X	X	X	X	X	-	X	-	X	X
63103*		61°14'N	01°09'E	X	X	X	X	-	-	-	X	-	X	-
63111*		59°33'N	01°32'E	X	X	X	X	-	-	X	X	-	X	-
64045	15831	59°15'N	11°41'W	X	X	X	X	X	X	-	X	-	X	-

* Fixed platforms or islands

** Automatic Light Vessels

Drifting Buoys

WMO Buoy Identifier	ARGOS Identifier	Position: 14 July 1997		Observed or Technical Parameters										
		Latitude	Longitude	1	2	3	4	5	6	7	8	9	10	11
44613	3306	59.2N	31.6W	-	X	X	X	X	-	-	-	-	-	-
44621	26752	54.7N	42.1W	X	X	X	X	X	-	-	-	-	-	-
44624	2958	56.7N	20.6W	X	-	X	X	X	-	-	-	-	-	-
44726	2955	59.3N	10.4W	X	X	X	X	X	-	-	-	-	-	-
44727	3098	58.2W	39.0W	-	X	X	X	X	-	-	-	-	-	-
44728	1254	59.8N	22.2W	-	X	X	X	X	-	-	-	-	-	-
44742	26753	41.8N	21.5W	X	X	X	X	X	-	-	-	-	-	-
44743	1248	45.9N	14.2W	-	X	X	X	X	-	-	-	-	-	-
44760	2947	31.2N	60.1W	-	X	X	X	X	-	-	-	-	-	-
44762	26754	43.4N	23.3W	X	X	X	X	X	-	-	-	-	-	-
44764	1259	59.9N	18.7W	-	X	-	X	X	-	-	-	-	-	-
44767	3013	62.4N	11.5W	-	X	X	X	X	-	-	-	-	-	-
44768	26746	60.6N	37.9W	-	X	X	X	X	-	-	-	-	-	-
44769	26749	51.9N	42.0W	-	X	X	X	X	-	-	-	-	-	-
44773	26751	58.5N	37.2W	X	X	X	X	X	-	-	-	-	-	-
44775	26741	62.4N	32.1W	-	X	X	X	X	-	-	-	-	-	-
44779	3186	45.4N	33.3W	-	-	X	-	X	-	-	-	-	-	-
48102	1261*	80.0N	140.9W	-	X	X	-	-	-	-	-	-	-	-
62712	3188	54.0N	14.9W	-	-	X	-	X	-	-	-	-	-	-
62713	3185	43.5N	26.1W	-	-	X	-	X	-	-	-	-	-	-
62804	26743	54.7N	19.2W	-	X	X	X	X	-	-	-	-	-	-
64561	1247	55.4N	51.6W	-	X	X	X	X	-	-	-	-	-	-
65594	1252	59.7N	22.6W	-	X	X	X	X	-	-	-	-	-	-

* Ice drifter

ARGOS SERVICE

**ARGOS
Monthly Status Report**

**Date of statistics
computation:
2 July 1997**

**Date of statistics
computation:
4 August 1997**

• Reports handled by ARGOS Service

(list of monthly collected ARGOS platforms sorted by type of platform)

Drifting Buoys	964
Boats (<20 knots)	-
Marine Stations	161
Moored Buoys	241
Fixed Stations	435
Marine Animals	102
Terrestrial Animals	100
Birds	77
Balloons	8
Rafos Floats	-
TOTAL:	2088

Drifting Buoys	1147
Boats (<20 knots)	-
Marine Stations	169
Moored Buoys	256
Fixed Stations	455
Marine Animals	136
Terrestrial Animals	91
Birds	93
Balloons	3
Rafos Floats	67
TOTAL:	2417

• 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 Buoys	97
Fixed Stations	21
Moored Buoys	4
XBT Ships	14

Inserted by RTH Toulouse:

Drifting Buoys	107
Fixed Stations	21
Moored Buoys	5
XBT Ships	17

Inserted by RTH/WMC Washington:

Drifting Buoys	443
Fixed Stations	41
Moored Buoys	56
XBT Ships	-

Inserted by RTH/WMC Washington:

Drifting Buoys	525
Fixed Stations	38
Moored Buoys	56
XBT Ships	-

• Coding statistics of platforms

reporting through ARGOS and distributed over the GTS:

BATHY	467
BUOY	209379
SHIP:	386
SYNOP:	28289
TOTAL:	238521

BATHY	508
BUOY	230574
SHIP:	420
SYNOP:	27245
TOTAL:	258747

MOBILE SEA STATIONS**DAYLIGHT SAVING TIME****AUTOMATED SHIPBOARD AEROLOGICAL
PROGRAMME (ASAP)****NOTIFICATION FROM NEW ZEALAND****NOTIFICATION FROM THE ASAP COORDINATING
COMMITTEE**

The United States of America has a new ASAP ship in service. The ship is currently taking four soundings a day during this intense research mode. However the standard will be two soundings a day. The details are provided below:

New ASAP ship call-sign: WTEC

Sonde release elevation: 10 metres

Ship Name: NOAA RESEARCH VESSEL 'RONALD H. BROWN'

Coded TEMP message transmission method: INMARSAT-C

Equipment Used: Ex-Canadian ASAP Container and DigiCora MW11. Also has a PC running Vaisala Metgraph. Totex 200 g balloons. Vaisala Omega or GPS Sondes (mixed at present).

Area of Operations: Worldwide. This first cruise (began July 1997) from Charleston SC to transit Panama to cruise area 10°N 125° W. At the end of August 1997 it will transit cruise area to San Diego CA, thence Newport OR, thence San Francisco CA.

GTS headers for coded TEMP messages: They should show up on the GTS with the same Headers as the messages from NOAA's Ka'Imimoana, Call-sign WTEU, e.g.

USV*01 KWBC ddhh00 (UUAA)

UKV*01 KWBC ddhh00 (UUBB)

ULV*01 KWBC ddhh00 (UUCG)

UEV*01 KWBC ddhh00 (UUDD)

(Coding is standard ASAP international - siglevels of upper winds are coded in UUBB and UUDD after a 21212 indicator group.)

A period of daylight saving will be introduced from 1400 UTC on 5 October 1997 to 1400 UTC on 15 March 1998.

During this period all SYNOP reports and upper-air soundings will be carried out one earlier.

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 or 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 special table as and when appropriate, and to return it to the Secretariat before the 20th of each month to enable changes to be included in the next "OPERATIONAL NEWSLETTER".

I.

Publication No. 9
Volume A - Observing Stations

INDEX NUMBER	NAME	POSITION LAT. LONG.	ELEVATION HP H/HA	PRESSURE LEVEL	SURFACE # # # # #	OBSERVATIONS # # # # #	OBS.H OBS.S	UPPER-AIR # # # 18	OTHER OBSERVATIONS AND REMARKS	BULLETINS
REGION III - CHILE (Date effective: 19.06.1997)										
Deleted stations										
85417	IQUIQUE									
85831	QUELLON									
85834	ISLA HUAFO									
85862	PUERTO AYSEN									
85967	PUERTO WILLIAMS									
Amended stations										
85406	ARICA.....	<u>18 21S</u> 70 20W		<u>55</u>		X X X X X X X X	H00-23	. . . .	A;CLIMAT(C);METAR;SOLRA;SPECI;SUNDUR	
85432	CALAMA.....	22 30S <u>68 54W</u>	<u>2320</u>	<u>850</u>		X . . . X X X X	<u>H11-03</u>	. . . .	A;EVAP;METAR;SOLRA;SPECI O/R; SUNDUR	
85442	ANTOFAGASTA.....	23 26S <u>70 27W</u>		<u>140</u>		X X X X X X X X	H00-23	. . RW .	A;CLIMAT(CT);EVAP;METAR;RADSAMP;SOLRA;SPECI;SUNDUR	
85460	CHANARAL.....	26 19S 70 37W		<u>30</u>		. . . . X X X X	---	. . . .	A;METAR O/R;SOLRA;SUNDUR	
85469	ISLA DE PASCUA.....	<u>27 10S</u> <u>109 26W</u>		<u>69</u>		X X . . X X X X	---	RW . . .	A;BAPMON;CLIMAT(CT);METAR A/R;RADSAMP; SOILTEMP;SOLRA;SPECI O/R;SUNDUR	
85470	COPIAPO.....	27 18S 70 25W		<u>290</u>		X . . . X X X X	<u>H12-24</u>	. . . .	A;CLIMAT(C);EVAP;METAR;SOLRA;SPECI O/R;SUNDUR	
85486	VALLENAR.....	28 36S 70 46W		<u>526</u>		. . . . . X X X	<u>H13-22</u>	. . . .	A;EVAP;METAR;SOLRA;SPECI;SUNDUR	
85488	LA	<u>29 55S</u> 71 12W		<u>146</u>		X X X X X X X X	<u>H11-24</u>	. . . .	A;CLIMAT(C);METAR;SOLRA;SPECI	
85543	QUINTERO.....	32 47S 71 31W		<u>5</u>		X . . . X X X X	---	RW . RW .	A;CLIMAT(CT);EVAP;SUNDUR	
85574	SANTIAGO PUDAHUEL.....	33 23S 70 47W		<u>474</u>		X X X X X X X X	H00-23	. . . .	A;CLIMAT(C);EVAP;METAR;NEPH;SOILTEMP;SOLRA;SPECI;SUNDUR	
85577	SANTIAGO QUINTA	33 26S 70 41W		<u>520</u>		X . . . X X X X	---	. . . .	CLIMAT(C)	
85585	ISLA JUAN	<u>33 37S</u> <u>78 49W</u>		<u>30</u>		X X . . X X X X	---	. . . .	CLIMAT(C);SOLRA;SUNDUR	
85586	SANTO	33 39S 71 37W		<u>75</u>		X . . . X X X X	<u>H11-23</u>	. . . .	A;EVAP;METAR;SUNDUR	
85629	CURICO.....	34 58S <u>71 13W</u>		<u>220</u>		X X X X X X X X	<u>H11-24</u>	. . . .	A;CLIMAT(C);EVAP;METAR;SPECI	
85672	CHILLAN.....	<u>36 35S</u> 72 02W		<u>148</u>		X . . . X X X X	<u>H12-24</u>	. . . .	A;CLIMAT(C);METAR;SUNDUR	
85682	CONCEPCION.....	36 46S <u>73 04W</u>		<u>13</u>		X X X X X X X X	H00-23	. . . .	A;CLIMAT(C);EVAP;METAR;SOLRA;SPECI;SUNDUR	
85743	TEMUCO.....	<u>38 46S</u> 72 38W		<u>93</u>		X X X X X X X X	H00-23	. . . .	A;CLIMAT(C);EVAP;METAR;SOLRA;SPECI	
85766	VALDIVIA.....	<u>39 38S</u> 73 05W		<u>19</u>		X . . . X X X X	<u>H11-24</u>	. . . .	A;CLIMAT(C);METAR;SUNDUR	
85782	OSORNO.....	40 36S 73 03W		<u>58</u>		X . . . X X X X	<u>H11-24</u>	. . . .	A;CLIMAT(C);METAR;SPECI O/R	
85799	PUERTO MONTT.....	<u>41 26S</u> <u>73 06W</u>		<u>90</u>		X X X X X X X X	H00-23	<u>RW . RW .</u>	A;CLIMAT(CT);EVAP;METAR;RADSAMP;SPECI;SUNDUR	
85836	ALTO	43 38S 71 48W		<u>277</u>		X . . . X X X X	<u>H12-24</u>	. . . .	A;METAR;SNOW	

I.

INDEX NUMBER	NAME	POSITION		ELEVATION		PRESSURE		SURFACE				OBSERVATIONS				OBS.H	UPPER-AIR			OTHER OBSERVATIONS AND REMARKS	BULLETINS
		LAT.	LONG.	HP	H/HA	LEVEL	#	#	#	#	#	#	#	#	#	OBS.S	#	#	#		
REGION V - PAPUA NEW GUINEA (Date effective: 20.08.1997)																					
Amended stations																					
92001	KIUNGA	06 08S	141 18E	35	26	.	.	0	0	1	1	1	.	H20-06	.	.	.	.	A;CLIMAT(C);EVAP;METAR;SUNDUR	SYNOP=AAXX
92003	DARU	09 05S	143 13E	9	5	.	.	0	0	1	1	1	.	H19-08	.	.	.	.	A;C;CLIMAT(C);EVAP;METAR;SUNDUR	SYNOP=AAXX
92004	WEWAK	03 35S	143 40E	4	6	.	0	0	0	1	1	1	2	H17-12	.	.	.	.	A;CLIMAT(C)	SYNOP=AAXX
92014	MADANG	05 13S	145 47E	5	3	.	.	0	0	1	1	1	.	H17-12	.	.	.	.	A;C;CLIMAT(CT);EVAP;METAR;SUNDUR;WT;	SYNOP=AAXX
																			TEMP & WIND flights temporarily suspended due to unservicability of	TEMP=TTAA/TTBB	
92035	PORT MORESBY	09 23S	147 13E	58	38	2	0	0	0	1	1	1	2	H00-24	RW	P	P	.	A;AUT;CLIMAT(CT);EVAP;HU/FC;METAR;	SYNOP=AAXX	
																			SUNDUR;WR;	TEMP=TTAA/TTBB	
																			Night flights temporarily suspended due to shortage of lanterns	PILOT=PPAA/PPB B	
92044	MOMOTE	02 04S	147 26E	5	4	.	0	0	0	1	1	1	2	H17-12	RW	P	P	P	A;C;CLIMAT(CT);EVAP;METAR;SUNDUR;WT	SYNOP=AAXX	
																				TEMP=TTAA/TTBB	
																				PILOT=PPAA/PPB	
92047	NADZAB	06 34S	146 44E	70	70	.	0	0	0	1	1	1	2	H17-11	.	.	.	.	A;CLIMAT(CT);EVAP;METAR;SUNDUR;WIND	SYNOP=AAXX
	W.O.....						2	5	8	1	4	7	0						flights temporarily suspended due to nil chemicals	PILOT=PPAA/PPB	
92072	HOSKINS	05 28S	150 24E		8	.	.	0	0	1	1	1	.	H20-08	.	.	.	.	A;C;CLIMAT(C);METAR	SYNOP=AAXX
92076	KAVIENG	02 35S	150 48E	4	3	.	0	0	0	1	1	1	2	H19-12	.	.	.	.	A;C;CLIMAT(CT);EVAP;METAR;SUNDUR;	SYNOP=AAXX
																			WIND flights temporarily suspended due to nil chemicals	PILOT=PPAA/PPB B	
92077	GURNEY	10 19S	150 20E	23	20	.	.	0	0	1	1	1	.	H19-08	.	.	.	.	A;CLIMAT(C);EVAP;METAR;SUNDUR	SYNOP=AAXX
92087	MISIMA	10 41S	152 50E		6	.	.	0	0	1	1	1	.	H19-08	.	.	.	.	A;C;CLIMAT(CT);EVAP;METAR;SUNDUR;	SYNOP=AAXX
																			WIND flights temporarily suspended due to water supply problem	PILOT=PPAA/PPB B	
92100	TOKUA	04 21S	152 23E	13	97	.	.	0	0	1	1	1	.	H19-07	.	.	.	.	A;METAR	SYNOP=AAXX
NOTE:																					
Upper-air observations (PILOT) programmes for stations 92047, 92076 and 92087 have temporarily been suspended due to financial constraints.																					
Radiosonde observations (TEMP) programmes for station 92035 will cease at the end of August 1997 due to financial constraints.																					
New station																					
92036	LOMBRUN, MANUS ISLAND.....	02 25S	147 23E	1		.	.	.	.	.	.	.	.		.	.	.	.	Station fitted with Tide Facility Gauge and therefore only transmits related data to Japan Meteorological Agency who then relay to Melbourne, Australia for compiling into WMO bulletins	

I.

INDEX NUMBER	NAME	POSITION LAT. LONG.	ELEVATION HP H/HA	PRESSURE LEVEL	SURFACE # # # # #	OBSERVATIONS # # # # #	OBS.H OBS.S	UPPER-AIR # # # 18	OTHER OBSERVATIONS AND REMARKS	BULLETINS
REGION V - SAMOA (WESTERN) (Date effective: 03.07.1997)										
New station										
91756	APIA	13 49S 171 45W			X X X X X X X X					AUT
REGION V - TONGA (Date effective: 03.07.1997)										
New station										
91789	NUKA'ALOFA	21 08S 175 11W			X X X X X X X X					AUT
REGION V - TUVALU (Date effective: 03.07.1997)										
New station										
91642	FUNAFUTI	08 30S 179 13E			X X X X X X X X					AUT
REGION VI - DENMARK AND FAROE ISLANDS (Date effective: 11.08.1997)										
Deleted station										
06156	HOLBAEK									
Amended stations										
06005	MYKINES	62 06N 07 41W	100	96	X X X X X X X X		H00-24			AUT;LH
06009	AKRABERG	61 24N 06 40W	102	99	X X X X X X X X		H00-24			AUT;LH
06010	VAGAR	62 04N 07 17W	88	85	. . X X X X X .		S*			A;C;METAR/SPECI A/R*
06011	THORSHAVN	62 01N 06 46W	55	54	X X X X X X X X		H04-05, RW			C;CLIMAT(CT);SUNDUR;WN
06024	THISTED	57 04N 08 43E	7	7	X X X X X X X X		H00-24*			A;AUT*;AUT 6+;AUT 6,7#;METAR/SPECI A/R**
	.				* * #		S**			A/R**
06034	SINDAL	57 30N 10 13E	28	28	. . X X X X X .		S+			A;METAR/SPECI A/R+;ON/LES 1-5*;ON/LES 1-5,7#
	.				* #					
06062	SKIVE	56 33N 09 10E	21	23	. . X X X X X .		S+			A;METAR/SPECI A/R+;W/D*
06066	STAUNING	56 00N 08 21E	5	5	. . . . . . . .		S*			A;METAR/SPECI A/R*
06075	AARHUS	56 10N 10 13E	15	2	X X X X X X X X		H00-24*			AUT*;C
06081	BLAAVANDSHUK	55 33N 08 05E	18	22	X X X X X X X X		H00-24			AUT;LH
06096	ROEMOE/JUVRE	55 11N 08 34E	11	4	X X X X X X X X		H00-24			AUT
06104	BILLUND	55 44N 09 10E	79	75	X X X X X X X X		S00-24*			A;METAR/SPECI*
06118	SOENDERBORG	54 58N 09 47E	14	7	. . . . . . . .		S*			A;C;METAR/SPECI A/R*
06143	MARIBO	54 42N 11 27E	5	5	X X X X X X X X		H00-24*			A;AUT*;METAR/SPECI A/R#
06168	NAKKEHOVED	56 07N 12 21E	42	37	X X X X X X X X		H00-24			AUT;LH;SUNDUR
06169	GNIBEN	56 01N 11 17E	12	13	X X X X X X X X		H00-24*			AUT*;C
06170	ROSKILDE/TUNE	55 35N 12 08E	43	44	X X X X X X X X		S*			A;METAR/SPECI A/R*
06186	KOEBENHAVN/ LANDBOHOEJSKOLEN	55 41N 12 33E	1)	7	. . . . . . . .					CLIMAT(C);1)Station without barometer

I.

INDEX NUMBER	NAME	POSITION LAT. LONG.	ELEVATION HP H/HA	PRESSURE LEVEL	SURFACE # # # #	OBSERVATIONS # # # #	OBS.H OBS.S	UPPER-AIR # # # 18	OTHER OBSERVATIONS AND REMARKS	BULLETINS
REGION VI - GREENLAND (Date effective: 11.08.1997)										
Amended stations										
04202	<u>PITUFFIK (THULE)</u>	76 32N 68 45W	77 77		X X X X X X X X		H*	RW . RW .	A;C;METAR/SPECI A/R*;WN	
04203	<u>KITSISSUT (CAREY)</u>	76 38N 73 00W	11 11		X X X X X X X X			. . . .	AUT	
04208	<u>KITSISSORSUIT (EDDERFUGLE OEER)</u>	74 02N 57 49W	40 40		X X X X X X X X			. . . .	AUT	
04210	<u>UPERNAVIK</u>	72 47N 56 10W	122 120		X X X X X X X X		H00-24*	. . . .	AUT*;C;CLIMAT(C)	
04214	<u>NUUSSUAATAA</u>	70 41N 54 37W	27 27		X X X X X X X X			. . . .	AUT	
04220	<u>AASIAAT</u>	68 42N 52 51W	41 43		X X X X X X X X		H00-24*	RW . RW .	AUT*;C;CLIMAT(CT);WN	
04221	<u>ILULISSAT</u>	69 14N 51 04W	31 29		X X X X X X X X		H00-24**	. . . .	A;AUT*;AUT 7 #;METAR/SPECI A/R+	
04228	<u>KITSISSUT</u>	67 47N 53 58W	12 12		X X X X X X X X			. . . .	AUT	
04230	<u>SISIMIUT</u>	66 55N 53 40W	9 12		X X X X X X X X		H00-24*	. . . .	AUT*;C;SUNDUR	
04231	<u>KANGERLUSSUAQ (SDR. STROEMFJORD)</u>	67 01N 50 42W	53 50		X X X X X X X X		H00-24*	. . . .	A;METAR/SPECI*;SUNDUR	
04250	<u>NUUK</u>	64 10N 51 45W	70 80		X X X X X X X X		H00-24*	. . . .	AUT*;CLIMAT(C)	
04253	<u>UKIIVIK (FREDERIKSHAAB ISBLINK)</u>	62 34N 50 25W	22 22		X X X X X X X X			. . . .	AUT	
04254	<u>MITTARFIK NUUK (GODTHAAB LUFTHAVN)</u>	64 12N 51 41W	92 86		. . . . . . . .		H*	. . . .	A;METAR/SPECI A/R*	
04260	<u>PAAMIUT (FREDERIKSHAAB)</u> ...	62 00N 49 40W	15 13		X X X X X X X X		H00-24* S**	. . . .	A;AUT*;MET REPORT SPECIAL A/R**	
04261	<u>KINGILINNGUIT(GROENNEDAL)</u>	61 14N 48 06W	32 35		X . . . X X X X		S*	. . . .	A;MET REPORT SPECIAL A/R*	
04272	<u>QAQORTOO</u>	60 43N 46 03W	34 32		X X X X X X X X			. . . .	C	
04310	<u>STATION</u>	81 36N 16 39W	39 36		. . . . X . X .			. . . .	C	
04312	<u>STATION NORD</u>	81 36N 16 41W	36 34		X X X X X X X X			. . . .	AUT;CLIMAT(C)	
04339	<u>ILLOQQORTOORMIUT (SCORESBYSUND)</u>	70 29N 21 57W	69 65		X X X X X X X X			RW . RW .	C;CLIMAT(CT);SUNDUR;WN	
04341	<u>NERLERIT INAAT (CONSTABLE PYNT)</u>	70 45N 22 39W	10 14		. . . . . . . .		H*	. . . .	A;METAR/SPECI A/R*	
04360	<u>TASIILAQ</u>	65 36N 37 38W	52 50		X X X X X X X X			RW . RW .	CLIMAT(CT);SUNDUR;WN	
04361	<u>KULUSUK</u>	65 35N 37 09W	37 35		. . . . . . . .		H*	. . . .	A;METAR/SPECI A/R*	
04373	<u>IKERMIIT</u>	64 47N 40 18W	80 85		X X X X X X X X			. . . .	AUT	
04390	<u>PRINS CHRISTIAN</u>	60 03N 43 10W	75 88		X X X X X X X X		H00-24*	. . . .	AUT*;C;CLIMAT(C)	

I.

INDEX NUMBER	NAME	POSITION LAT. LONG.	ELEVATION HP H/HA	PRESSURE LEVEL	SURFACE # # # # #	OBSERVATIONS # # # # #	OBS.H OBS.S	UPPER-AIR # # # 18	OTHER OBSERVATIONS AND REMARKS	BULLETINS
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REGION VI - NORWAY (Date effective: 14.08.1997)

Deleted stations

01004	NY-ALESUND II									
Please note that the upper-air entry for this station is still valid, see below for details										
01004	NY-ALESUND	78 55N 11 56E	8 8						RW . WT	SM/SINO44
01016	SENJA-GRASMYRSKOGEN									
01490	TRYVASSHOGDA II									NATIONAL

Amended stations

01006	EDGEOYA	78 15N 22 50E	14							AUT	NATIONAL
01007	NY	78 55N 11 56E	8		X X X X X X X X					MAN/AUT	SM/SINO44
01028	BJORNOYA	74 31N 19 01E	16 16		X X X X X X X X					C;CLIMAT(C);SEA;SEATEMP	SMNO11/SINO21
Please note that the upper-air entry for this station is still valid, see below for details											
01028	BJORNOYA	74 31N 19 01E	18					RW . RW .		C;CLIMAT(T);WT	
01034	FUGLOYKALVEN	70 19N 20 09E	38 37		X X X . X . X .					SEA	SM/SINO44
01062	HOPEN	76 30N 25 04E	10 6		X X X X X X X .					C;SEA;SEATEMP	SMNO11/SINO21
01102	SKLINNA	65 12N 11 00E	16 23		X X X X X X X X					C;SEA;SEATEMP	SMNO12/SINO22
01106	ROST II	67 30N 12 05E	11 10		. X X X X X X X					C;SEATEMP	SMNO11/SINO21
01110	YTTERHOLMEN	66 00N 11 41E	33		X X X . X . X .					C;SEATEMP	SM/SINO45
01115	MYKEN	66 45N 12 29E	13 13		X X X X X X X X					C;MAN/AUT;SEA	SM/SINO43
01121	NORD-	66 22N 12 37E	10		. X X X X X X .					C	SM/SINO45
01138	TENNHOLMEN	67 18N 13 30E	14		. X X X X . X .					C;SEA	SM/SINO45
01154	LITLOY	68 35N 14 18E	30		. X X . X . X .					C;SEA	SM/SINO45
01224	SKALMEN	63 28N 07 45E	13 13		. X X X X . X .					C;SEA	SM/SINO43
01240	HALTEN	64 10N 09 24E	16 16		. X X X X . X .					C;SEA	SM/SINO44
01304	YTTEROYANE	61 34N 04 41E	25 26		. X X X X . X .					C;SEA;SEATEMP	SM/SINO43
01317	BERGEN-	60 23N 05 20E	36 12		X X X X X X X X					CLIMAT(C);MAN/AUT	SM/SINO43

New stations

01014	SENJA-	69 14N 17 54E	9		. . X . X . X .						NATIONAL
01470	GVARV	59 23N 09 12E	93		X X X X X X X X					AUT	NATIONAL

STATIONS IN THE ANTARCTIC - OPERATED BY CHILE

Amended stations

89056	CENTRO MET. ANTARTICO										A;CLIMAT(CT);ICE;SEA;SOLRA;SUNDUR;
	"PDTE. EDUARDO	62 11S 58 59W	48		X X X X X X X X						RADSAMP;SNOW;METAR A/R;SPECI O/R
89057	BASE ARTURO	62 30S 59 41W	5		X X X X X X X X						CLIMAT(C);ICE;SEA;SUNDUR;SNOW
89059	BASE BERNARDO	63 19S 53 41W	10		X X X X X X X X						CLIMAT(C);ICE;SEA;SUNDUR;SNOW

EXPLANATORY NOTES

Separate tables should be prepared for global exchange and regional exchange respectively. These tables should contain information concerning any changes of the present state of implementation of observing programmes of SYNOP, TEMP and PILOT reporting stations for Volume A, the Catalogue of Meteorological Bulletins, and for stations included in the Regional Basic Synoptic Networks (RBSN).

For entries in these tables, the following should be taken into account:

- COLUMN A:** The station index number (IIiii) and station name;
- COLUMN B:** Latitude and Longitude in degrees and minutes with the appropriate letters (N, S, E and W);
- COLUMN C:** The TTAAii CCCC of the abbreviated headings of the meteorological bulletins which contain reports from the station should be inserted;
- COLUMN D:** “X” for implementation and “-” for non-implementation should be inserted as appropriate. In order to easily identify changes in the programme, these should be marked in red;
- COLUMN E:** HP = Elevation of the station in metres (the datum level to which barometric pressure reports at the station refer);
- H = Elevation of the ground, in metres, (average level of terrain in immediate vicinity of station), for stations not located on aerodromes;
- 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;

- COLUMN F:** 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 (see table 1):

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

Table 1

- COLUMN G:** 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.

These tables should be sent to the Secretariat
BEFORE the 20th of the month
 for inclusion in the
 “OPERATIONAL NEWSLETTER”, as appropriate.

III. GLOBAL TELECOMMUNICATION SYSTEM

INFORMATION ON THE OPERATION OF THE GTS

PUBLICATION NO. 9

Volume C1 - Catalogue of Meteorological Bulletins

RTH/CRT: BUENOS AIRES

ZONE OF RESPONSIBILITY: ARGENTINA, BOLIVIA, CHILE, ISLANDS IN THE SOUTH ATLANTIC, PARAGUAY, PERU, URUGUAY

NAME OF COUNTRY: CHILE

COMPILING OR EDITING CENTRE: SANTIAGO

DATE: 01.06.1997

ABBREVIATED HEADING	CODE FORM USED	TIME GROUP (GG)	CONTENT OF BULLETIN AND REMARKS
TTAA(II) CCCC			
CSAA01	SCEF	FM 71-X	89056 89057 89059
CSCH01	SCSC	FM 71-X	85406 85418 85442 85469 85470 85488 85543 85574 85577 85585 85629 85672 85682 85743 85766 85782 85799 85864 85874 85934
CUCH01	SCSC	FM 75-X	85442 85469 85543 85799 85934
SMAA01	SCEF	FM 12-X EXT.	00,06,12,18 89056 89057 89059
SMCH01	SCSC	FM 12-X EXT.	00,12,18 85406 85418 85432 85442 85469 85470 85488 85543 85574 85585 85629 85672 85682
SMCH01	SCSC	FM 12-X EXT.	06 85406 85418 85442 85488 85574 85629 85682
SMCH02	SCSC	FM 12-X EXT.	00,12,18 85743 85766 85782 85799 85830 85832 85836 85864 85874 85892 85930 85934 85972
SMCH02	SCSC	FM 12-X EXT.	06 85743 85799 85874 85930 85934 85972
UEAA01	SCEF	FM 35-X EXT.	12 89056
UECH01	SCSC	FM 35-X EXT.	00 85469 NOTE: 4 ASCENTS BY WEEK (AS REQUIRED)
UECH02	SCSC	FM 35-X EXT.	00 85543 85799
UECH02	SCSC	FM 35-X EXT.	12 85442 85543
UECH03	SCSC	FM 35-X EXT.	12 85799 85934
UHCH01	SCSC	FM 32-IX	00 85469 NOTE: 4 ASCENTS BY WEEK (AS REQUIRED)
UHCH02	SCSC	FM 32-IX	00 85543
UHCH02	SCSC	FM 35-IX	12 85442 85543
UHCH03	SCSC	FM 32-IX	12 85799 85934
UKAA01	SCEF	FM 35-X EXT.	12 89056
UKCH01	SCSC	FM 35-X EXT.	00 85469 NOTE: 4 ASCENTS BY WEEK (AS REQUIRED)
UKCH02	SCSC	FM 35-X EXT.	00 85543 85799
UKCH02	SCSC	FM 35-X EXT.	12 85442 85543
UKCH03	SCSC	FM 35-X EXT.	12 85799 85934

III.

ABBREVIATED HEADING	CODE FORM USED	TIME GROUP (GG)	CONTENT OF BULLETIN AND REMARKS
TTAA(II) CCCC			
ULAA01	SCEF FM 35-X EXT.	12	89056
ULCH01	SCSC FM 35-X EXT.	00	85469 NOTE: 4 ASCENTS BY WEEK (AS REQUIRED)
ULCH02	SCSC FM 35-X EXT.	00	85543 85799
ULCH02	SCSC FM 35-X EXT.	12	85442 85543
ULCH03	SCSC FM 35-X EXT.	12	85799 85934
UPCH01	SCSC FM 32-IX	00	85469 NOTE: 4 ASCENTS BY WEEK (AS REQUIRED)
UPCH02	SCSC FM 32-IX	00	85543
UPCH02	SCSC FM 32-IX	12	85442 85543
UPCH03	SCSC FM 32-IX	12	85799 85934
USAA01	SCEF FM 35-X EXT.	12	89056
USCH01	SCSC FM 35-X EXT.	00	85469 NOTE: 4 ASCENTS BY WEEK (AS REQUIRED)
USCH02	SCSC FM 35-X EXT.	00	85543 85799
USCH02	SCSC FM 35-X EXT.	12	85442 85543
USCH03	SCSC FM 35-X EXT.	12	85799 85934
SICH20	SCSC FM 12-X EXT.	03,09	85406 85418 85442 85488 85574 85629 85682
SICH20	SCSC FM 12-X EXT.	15,21	85406 85418 85432 85442 85460 85469 85470 85486 85488 85543 85574 85585 85586 85629 85672 85682
SICH21	SCSC FM 12-X EXT.	03,09	85743 85799 85874 85930 85934 85972
SICH21	SCSC FM 12-X EXT.	15,21	85743 85766 85782 85799 85830 85832 85836 85864 85874 85886 85892 85930 85934 85972
UGCH20	SCSC FM 32-IX	00	85469 NOTE: 4 ASCENTS BY WEEK (AS REQUIRED)
UGCH21	SCSC FM 32-IX	00	85543
UGCH21	SCSC FM 32-IX	12	85442 85543
UGCH22	SCSC FM 32-IX	12	85799 85934
UQCH20	SCSC FM 32-IX	00	85469 NOTE: 4 ASCENTS BY WEEK (AS REQUIRED)
UQCH21	SCSC FM 32-IX	00	85543
UQCH21	SCSC FM 32-IX	12	85442 85543
UQCH22	SCSC FM 32-IX	12	85799 85934
SIAA21	SCEF FM 12-X EXT.	03,09,15,21	89056 89057 89059

III.

WMC/CMM: WASHINGTON
 ZONE OF RESPONSIBILITY: ALL REGION IV
 NAME OF COUNTRY: UNITED STATES OF AMERICA
 COMPILING OR EDITING CENTRE: WASHINGTON

DATE:15.07.1997

ABBREVIATED HEADING	CODE FORM USED	TIME GROUP (GG)	CONTENT OF BULLETIN AND REMARKS																							
TTAA(II) CCCC																										
CUXX01-07 KWBC will be replaced as follows:																										
CUAK01	KWBC FM 75-X Ext.	MONTHLY	70086	70133	70200	70219	70231	70261	70273	70308	70316	70326	70361	70398	70414											
CUBE01	KWBC FM 75-X Ext.	MONTHLY	78016																							
CUCA01	KWBC FM 75-X Ext.	MONTHLY	78526	78806																						
CUPA01	KWBC FM 75-X Ext.	MONTHLY	91217	91245	91285	91334	91348	91366	91376	91408	91413	91765														
CUST01	KWBC FM 75-X Ext.	MONTHLY	61902	61967																						
CUUS01	KWBC FM 75-X Ext.	MONTHLY	72202	72208	72233	72248	72250	72251	72293	72305	72318	72327	72357	72364												
CUUS02	KWBC FM 75-X Ext.	MONTHLY	72403	72426	72440	72476	72493	72528	72562	72582	72597	72649	72662	72681	72712	72747	72764	72776	72785	72797	74494					

The SMCA02 KWBC, SMUS20-21 and SMUS40 KWBC will be discontinued.

The SMAK01 KWBC, SMCA01 KWBC and SMUS01-05 KWBC will be revised as follows:

SMAK01	KWBC FM 12-X EXT.	00,06,12,18	70026	70133	70174	70200	70219	70231	70261	70267	70271	70273	70308	70316	70326	70340	70350	70361	70381	70398	70414					
SMCA01	KWBC FM 12-X EXT.	00,06,12,18	78526	78543																						
SMUS01	KWBC FM 12-X EXT.	00,06,12,18	72201	72202	72203	72205	72206	72207	72208	72211	72212	72214	72217	72218	72219	72220	72223	72226	72231	72234	72235					
			72240	72243	72248	72250	72251	72253	72254	72255	72256	72259	72261	72263	72265	72266	72267	72268	72270	72271	72274					
			72278	72280	72290	72295																				
SMUS02	KWBC FM 12-X EXT.	00,06,12,18	72302	72304	72308	72310	72311	72312	72314	72317	72323	72324	72326	72327	72334	72340	72344	72351	72353	72356	72360					
			72363	72365	72370	72371	72374	72376	72384	72386	72387	72389	72394													
SMUS03	KWBC FM 12-X EXT.	00,06,12,18	72401	72403	72407	72408	72411	72412	72414	72417	72421	72422	72428	72432	72434	72435	72438	72440	72445	72446	72450					
			72451	72456	72458	72462	72464	72465	72475	72476	72480	72486	72488	72492	72494											
SMUS04	KWBC FM 12-X EXT.	00,06,12,18	72503	72508	72509	72514	72515	72518	72519	72520	72524	72526	72528	72530	72532	72533	72537	72546	72547	72552	72556					
			72557	72562	72564	72565	72567	72569	72570	72572	72576	72578	72583	72591	72594	72597										
SMUS05	KWBC FM 12-X EXT.	00,06,12,18	72606	72608	72617	72635	72636	72637	72638	72639	72640	72641	72644	72645	72651	72654	72655	72658	72659	72662	72666					
			72677	72681	72683	72688	72693	72694	72698																	
SMUS06	KWBC FM 12-X EXT.	00,06,12,18	72712	72734	72745	72747	72753	72764	72767	72768	72772	72773	72776	72777	72779	72781	72785	72793	72797							

RADIO-FREQUENCIES FOR METEOROLOGICAL ACTIVITIES

The 1997 World Radiocommunication Conference (WRC-97, Geneva, 27.X-21.XI 1997) will consider several items of concern for meteorology, related to frequency allocations to meteorological aids (radiosondes), meteorological satellites, wind profiler radars and spaceborne passive remote sensing. The following Annex provides background information and guidance on these issues of importance to meteorology, both for operational requirements and research purposes.

GUIDANCE AND BACKGROUND INFORMATION ON 1997 WORLD RADIOCOMMUNICATION CONFERENCE ISSUES

1. Possible additional frequency allocations to the Mobile-Satellite Service in the 401-406 MHz, 1675-1710 MHz and 137-138 MHz bands.

1.1 The World Administrative Radio Conference in 1992 (WARC-92) decided the allocation to other radio-communication services as primary service in bands allocated to the Meteorological Aids and Meteorological-Satellite Services, as follows:

137-138 MHz:

Mobile-Satellite Service, primary status in 137-137.025 and 137.175-137.825 MHz, secondary in the rest of the band

400.15-401 MHz:

Mobile-Satellite (space to earth) (non-geostationary satellite systems)

1670-1675 MHz:

Mobile - Aeronautical Public Correspondence (from aeronautical stations to aircrafts)

1675-1710 MHz:

Mobile-Satellite (earth to space) in ITU Region 2 (i.e. North, Central and South America). Footnote S5.377 requires MSS not to cause harmful interference to, nor constrain the development of Met-Sat and Met-Aids.

1.2 Possible further allocations for the Mobile Satellite Service (MSS) in the bands 401 - 404 MHz and 1675-1710 MHz were considered by the World Radio-

communication Conference in 1995 (WRC-95). After considerable discussions, WRC-95 did not finally adopt changes to the present allocations, but adopted Resolutions calling for urgent studies of sharing conditions between MSS, Met-Sat and Met-Aids in both bands to be completed as a matter of urgency and in time for WRC-97.

1.3 The 1997 World Radiocommunication Conference (WRC-97, Geneva, 27.X-21.XI 1997) will, "taking into account the needs of other services to which the relevant frequency bands are already allocated, consider issues concerning existing and possible additional frequency allocations and regulatory aspects as related to the mobile-satellite". This includes consideration of the possible use of 401-406 MHz and of 1675-1710 MHz bands.

401-406 MHz band

1.4 As regards sharing between meteorological aids and non-Geostationary Satellite Orbiting MSS in the band 401 to 406 MHz, sharing studies by the ITU Radiocommunication Sector (ITU-R) have shown that co-channel sharing with currently proposed non-Geostationary Satellite Orbiting MSS systems (also called Low-Earth Orbiting satellites-LEOs) is not generally feasible due to excessive interference to both the Met-Aids system and to the MSS system. Therefore, any sharing of the band 401 to 406 MHz would require band segmentation.

1.5 Further band segmentation would require more spectrum efficient meteorological aids systems, which

would significantly increase the operational costs and would have a detrimental impact on meteorological radiosondes operations. As a follow-up to the ITU-R request, WMO considered improvements of radiocommunication characteristic of radiosonde systems, taking into due account that possible improvements should not drive the operational costs of radiosonde networks above the available financial resources of National Meteorological Services of WMO Members and should not have a detrimental impact on meteorological operations. On this basis and in consultation with manufacturers and representative National Meteorological Services of both developed and developing countries, WMO has developed an assessment of radio-frequency spectrum requirements for radiosonde systems in the Meteorological Aids Service. The goals for frequency spectrum requirements of radiosonde systems achievable by 2010 have been identified as 5 MHz in the 400.15 - 406 MHz band, including use of spectrum which must be coordinated with the Data Collection system (Earth-to-space) of the Meteorological Satellite Service (401-403 MHz).

1.6 In conclusion, any further allocation to the Mobile Satellite Service in the band 400.15 - 406 MHz would have a serious detrimental impact on meteorological operations, driving the operational costs of Met-Aids networks above the available financial resources. Alternative bands should be considered for the MSS below 1 GHz.

1 675 - 1 710 MHz band

Possible additional allocations to the Mobile Satellite Service (MSS) in the band 1675-1710 MHz should take into account both the requirements of the Meteorological Satellite Service (Met-Sat) and of the Meteorological Aids Service (Met-Aids).

Meteorological Satellite Service (Met-Sat)

1.7 The band 1 675 - 1 710 MHz is used by Meteorological Satellite systems as follows:

1 675 - 1 690 MHz:

primarily (but not exclusively) a limited number of main earth stations at fixed locations for reception of raw image data, data collection data and spacecraft telemetry from geostationary meteorological satellites;

1 690 - 1 698 MHz:

user stations for direct readout services from geostationary meteorological satellites. However, some geostationary meteorological satellites (GOES and GMS) currently use also frequencies below 1 690 MHz (i.e. 1683-1691 MHz) to provide some direct readout services (GVAR and S-VISSR respectively);

1 698 - 1 710 MHz:

user stations for direct readout services and prerecorded image data at main earth stations from non-geostationary meteorological satellites.

1.8 With respect to sharing of the 1 675 - 1 710 MHz with the MSS (Earth-to-space), the feasibility of sharing between the MSS and the Met-Sat is described in the revised ITU-R Recommendation SA.1158. In the 1 675 - 1 690 MHz band, sharing is considered feasible if a separation distance of up to 55 km (for LEO MSS) and up to 70 km (for GEO MSS) is kept at all times between the meteorological satellite earth stations and the MSS earth station locations. In the 1 690 - 1 698 MHz band, sharing is not feasible due to the very large number (thousands) of Met-Sat earth stations. In the 1 698 - 1 710 MHz band, sharing based on geographical separation is not feasible; a preliminary study considered possible time-sharing between MSS and polar-orbiting meteorological satellites, but, in WMO's view, the practicality of time-sharing appears highly questionable and it may be potentially detrimental to future Met-Sat operations.

1.9 Sharing between the MSS and the Met-Sat would only be feasible in the 1 675 - 1 690 MHz band, with adequate conditions (separation distance between MSS and Met-Sat stations). In areas where GOES/GVAR and GMS/S-VISSR stations are in operation (the Americas and Asia-Pacific respectively), sharing between the MSS and the Met-Sat would not be practicable in the 1 683 - 1 690 MHz band. **The allocation of 1675 - 1710 MHz to the Mobile Satellite Service in ITU Region 2 (i.e. North, Central and South America) decided by WARC 92 should be cancelled at least as regards the band 1 690 - 1 710 MHz.**

Meteorological Aids Service (Met-Aids)

1.10 The feasibility of sharing between the MSS and the Met-Aids is described in the new ITU-R Recommendation SA.[Doc 7/38]. Sharing studies completed to date indicate that co-channel sharing between currently proposed MSS systems and Meteorological Aids operated in the band 1 675 - 1 700 MHz is not feasible. Band segmentation would be the only possible method of providing MSS spectrum from this band, and segmentation of the band could potentially have a detrimental impact to meteorological aids operations if the reduction of spectrum for Met-Aids requires improvements which greatly increase the operational cost of radiosondes. Radiosondes operation requires separation distance and/or frequency separation from Met-Sat stations to minimize the risk of harmful interference to the Met-Sat. Radiosondes operation are therefore already confined in several countries to the band 1675 - 1690 MHz or less. The goals for frequency spectrum requirements of radiosonde systems achievable by 2010 have been identified

by WMO as 12 MHz in the band 1675 -1700 MHz, use of 1675-1687 MHz being preferred to minimize interference to the Met-Sat.

1.11 In conclusion, as regards the 1 675 - 1 710 MHz band, sharing between the MSS and the Met-Sat would only be feasible, with appropriate conditions, in the 1 675 - 1 690 MHz band, limited to 1675 - 1683 MHz in significant areas of the world. However, radiosonde systems are operated in that part of the band and sharing between the MSS and the Met-Aids is not feasible. Although Met-Aids spectrum requirements can be confined to 12 MHz by the year 2010, any allocation to the Mobile Satellite Service of part of the 1675 - 1690 MHz band would not be compatible with meteorological operations for the foreseeable future in many countries.

137-138 MHz band

1.12 The allocation to the Met-Sat of the band 137 - 138 MHz with primary status should be maintained, to safeguard APT & future LRPT operations. The secondary status of the allocation to the Mobile Satellite Service in part of the band should also be maintained to ensure adequate protection to Met-Sat stations.

2. Upgrade allocation of the Met-Sat in the band 401-403 MHz to the primary status

2.1 WRC-97 will consider and take appropriate action in respect of Resolution 710 adopted by WARC 92, which resolves that the secondary allocation to the Meteorological Satellite and Earth Exploration Satellite (EES) Services in the 401 - 403 MHz band be examined by a competent WRC with the intent of raising the allocation to primary status.

2.2 The Met-Sat and EES Services use the 401 - 403 MHz band to collect data from airborne, land based and maritime data collection platforms (DCPs of the Data Collection System). DCPs are playing an increasing role in meteorological operations in the framework of the World Weather Watch and other WMO programmes (HYCOS). WMO will co-ordinate the frequency use in the 401-403 MHz band between the Met-Aids, Met-Sat and EES Services.

2.3 The upgrade of the EES and Met-Sat frequency allocations to primary in the 401-403 MHz band will ensure continued viable operation of the critical mission objectives of these programs, which are of prime importance for meteorological operations.

3. Frequency requirements for wind profiler radars

3.1 WRC-97 will consider and take appropriate action in respect of Recommendation 621 adopted by WARC 92 on "Implementation of wind profiler radars at frequencies near 50 MHz, 400 MHz and 1 000 MHz". The need for frequency bands in the vicinity of each of the frequencies 50 MHz, 400 MHz, and 1000 MHz to permit full performance capability of wind profiler operations has been expressed by the World Meteorological Organisation. ITU-R studied technical and sharing considerations between wind profiler radars and other services allocated in bands near 50, 400 and 1000 MHz to determine suitable frequencies. ITU-R has adopted Recommendations ITU-R M.1226, ITU-R M.1085-1 and ITU-R M.1227 on technical and operational characteristics of wind profiler radars in bands in the vicinity of 50 MHz, 400 MHz and 1000 MHz, respectively. Sharing possibilities have been identified, however, no single bands near 50 MHz, 400 MHz and 1000 MHz, respectively, are available world-wide.

3.2 Near 50 MHz, the candidate frequency band 40 - 80 MHz is suitable for sharing with other services provided the following conditions are satisfied: wind profiler radar density is relatively low, broadcast station density is relatively low, and sharing arrangements are made with all services operating in these ranges.

3.3 Near 400 MHz, the frequency bands 420 - 435 MHz, 438 - 450 MHz and 470 - 500 MHz are considered as candidate bands. In the case of the 470 - 500 MHz band, sharing arrangements should be made with existing and planned broadcasting services, including digital broadcasting services. It is impossible to identify one of the candidate bands that can be used in all countries, thus, NMSs wishing to operate wind profiler radars need to check their particular national sharing conditions and ensure that suitable allocations are proposed.

3.4 Near 1000 MHz, a single frequency band is preferable for the wind profiler radar in terms of costs. The candidate frequency bands are:

904 - 928 MHz (in ITU Region 2);

1 270 - 1 295 MHz;

1 300 - 1 375 MHz

(As frequency increases over 1 300 MHz, performance of the wind profiler radar decreases significantly).

WMO consider wind profiler radars, in particular near 1000 MHz, to be of major significance to meteorol-

ogy, and the 1 270 - 1 295 MHz band appears to be the best worldwide band which is already allocated to Radiolocation Services. Some concern was expressed about the compatibility between wind profiler radars and active spaceborne sensors (Synthetic Aperture Radar - SAR). Studies and operational experience have demonstrated compatibility between terrestrial radars and SARs, and interference to SARs from wind profiler radars is very unlikely, and, should it occurs, of minor consequence.

3.5 The allocation of bands for the operation of wind profiler radars in the vicinity of 50 MHz, 400 MHz and 1000 MHz, preferably worldwide to the largest extent possible, is of importance for the urgently needed development of a cost-effective and viable upper-air composite observing system at global level. The 1 270 - 1 295 MHz band is the best worldwide band in the vicinity of 1000 MHz.

4. Frequency requirements for spaceborne passive remote sensing

18.6 - 18.8 GHz

4.1 Spaceborne passive remote sensor measurements in the 18.6 - 18.8 GHz band are essential because the band has unique characteristics that are important to obtaining measurements of environmental conditions on the Earth's land and ocean surfaces (such as rain, sea ice, snow cover). Sensing of many land and ocean surface phenomena requires simultaneous measurements at several frequencies, and use of this frequency band is needed. The band 18.6 - 18.8 GHz is allocated to the EES (passive) and Space Research (passive) services on a primary basis in ITU Region 2 only, and on a secondary basis in the rest of the world. The Fixed Service and the Fixed-Satellite Service are allocated worldwide on a primary basis, and implementation of planned fixed-satellite networks and future fixed service networks bears the risk of harmful interference to passive sensors. Adoption of appropriate constraints is vital for continued operation of spaceborne passive sensing.

4.2 A common worldwide primary allocation for the Earth Exploration-Satellite (passive) and Space Research (passive) services in the band 18.6 - 18.8 GHz, with appropriate power limit constraints for other services sharing the same band (fixed-satellite and fixed systems), would improve the possibility of obtaining critical environmental measurements on a worldwide basis and ensure satisfactory operation of spaceborne passive remote sensing in this band.

50-71 GHz (oxygen absorption band)

4.3 WRC-97 will consider the "allocation of frequency bands above 50 GHz to the Earth Exploration-Satellite (EES)-passive- Service" and "the existing frequency allocations near 60 GHz and, if necessary, their re-allocation, with a view to protecting the EES (passive) Service systems operating in the unique oxygen absorption frequency range from about 50 GHz to about 70 GHz".

4.4 The oxygen absorption band consisting of several lines near 60 GHz, represents a unique natural resource for remote temperature profile sensing in the atmosphere, not available in any other frequency band. The EES Service operating spaceborne passive remote sensing in this band is highly sensitive to interferences from active sources. ITU-R studies have shown that re-allocations of Fixed, Mobile and Inter-Satellite (non-Geostationary) Services to other bands will be necessary to ensure that the EES Service (passive) can continue to operate satisfactorily in the oxygen absorption band.

4.5 To ensure satisfactory operation of spaceborne passive remote sensing in the oxygen absorption band, it is necessary to have allocations to the Earth Exploration-Satellite EES (passive) and Space Research SR (passive) Services in the frequency bands 50.2 - 50.4 GHz and 52.6 - 59.3 GHz as follows:

- **It is necessary to make allocations to the EES (passive) and SR (passive) Services exclusive from Fixed and Mobile Services in the frequency bands 50.2 - 50.4 GHz and 52.6 - 55.78 GHz;**
- **The additional allocation of the band 59-59.3 GHz to EES (passive) and SR (passive) is required for high altitude temperature measurements in the atmosphere;**
- **The band 55.78 -59.3 GHz could be shared with Fixed and Mobile Services;**
- **The present allocation of Inter-Satellite Services in the bands 54.25 - 58.2 GHz and 59-59.3 GHz could be maintained, but only to inter-satellite links between geostationary satellites with an adequate power limit.**

Other bands

4.6 Additional frequency bands above 70 GHz are needed to satisfy requirements for data essential to studies of climate and changes to the Earth's environment. Applications that have been identified include measurement of the Earth's surface and cloud param-

eters to be used for water vapour profiling, tridimensional sounding of water vapour in the atmosphere, tridimensional sounding of oxygen from which atmospheric profiles of temperature can be derived and measurement of the amounts of various pollutant gases in the atmosphere. Further work is required to finalize which additional frequency bands are needed and to determine the bandwidths required to perform the passive sensing measurements with a view to appropriate allocations in the near future.

4.7 The allocation of frequency bands above 70 GHz to spaceborne passive remote sensing -EES (passive) and Space Research (passive) Services- should be included in the agenda of the World Radiocommunication Conference in 1999 (WRC-99).

5. Other matters

7 450 - 7 550 and 7 750 - 7 900 MHz band

5.1 The Met-Sat has an allocation in the band 7 450-7 550 MHz (space-to-Earth) which is also allocated to the Fixed-Satellite Service (FSS). This frequency allocation is used by polar-orbiting satellite systems, and frequency sharing with the FSS allocation using geostationary satellite systems has been shown to be difficult.

5.2 A reallocation of the non-geostationary Met-Sat in the band 7 750-7 850 MHz, where the Met-Sat would share frequencies with the Fixed and Mobile Services, would ensure continued viable operation of the polar-orbiting meteorological satellite systems. The allocation to Met-Sat in the band 7 450-7 550 MHz would be maintained for geostationary meteorological satellite systems only.

26 GHz allocation to the Earth Exploration-Satellite EES Service

5.3 There is an existing secondary allocation to the earth exploration-satellite service (space-to-Earth) in the band 25.5 - 27.0 GHz. The upgrade of this allocation to primary will provide a reliable wide-band data transfer capability for foreseeable future requirements in the earth exploration-satellite service of importance for meteorological applications.

Allocations to space-based active sensors

5.4 WRC-97 will consider upgrading to a primary status the allocations to space-based active sensors operating in the earth exploration-satellite and space research services in various bands between 1 and 25 GHz. **Space-based active sensors provide data of importance for several meteorological applications, and primary allocations would ensure their satisfactory operation.**

**LIST OF MEETINGS
OF THE WORLD METEOROLOGICAL ORGANIZATION**

PERIOD SEPTEMBER - DECEMBER 1997

Date	Place	Title of the Meeting
15-19.IX.1997	Toulouse, France	Working Group on Telecommunications/Study Group on Communication Techniques and Protocols
22-26.IX.1997	Copenhagen, Denmark	Global Digital Sea Ice Data Bank Steering Committee and informal session of the CMM Sub-Group on Sea Ice - Sixth session
23-26.IX.1997	Seattle, WA, USA	ASAP Coordinating Committee - Ninth session
29.IX-10.X.1997	Melbourne, Australia	Marine Meteorology Training Course (co-sponsored by WMO)
30.IX.-6.X.1997	Mbane, Swaziland	RA I Tropical Cyclone Committee for the South-West Indian Ocean - Thirteenth session
6-10.X.1997	Niamey, Niger	Training Workshop for Instrument Specialists (Class III and IV) of RA I (in French)
6-10.X.1997	Montreal, Canada	WMO Training Seminar on Environmental Emergency Response Activities for RAs III, IV and V
8-15.X.1997	Pretoria, South Africa	RA I Workshop on Tropical Cyclones
8-17.X.1997	Valparaiso, Chile	Port Meteorological Officer Workshop for Spanish-speaking countries in RA III and RA IV
13-17.X.1997	Montreal, Canada	CBS Advisory Working Group - Twenty-first session
13-17.X.1997	La Réunion	Data Buoy Cooperation Panel - Thirteenth session
20-22.X.1997	La Réunion	ARGOS Joint Tariff Agreement - Seventeenth session
20-25.X.1997	Pretoria, South Africa	Regional Training Seminar, for English speaking countries, on the Use of GDPS and WAFS Products and Presentation of Forecasts to
27-31.X.1997	Geneva, WMO Secretariat	CBS Working Group on Observations - Seventeenth session
10-14.XI.1997	Geneva, WMO Secretariat	CBS Working Group on Data-processing - Ninth session
25.XI.-1.XII.1997	Hong Kong, China	ESCAP/WMO Typhoon Committee - Thirtieth session
1-5.XII.1997	Niamey, Niger	RA I Training Seminar on GTS Techniques and Procedures (in French)
November or December 1997 (Date to be decided)	Place to be decided	Implementation Coordination Meeting on the MTN
1-5.XII.1997 (tentative)	Washington, D.C., USA	Expert Meeting on Environmental Emergency Response Activities
16-19.XII.1997	Bangkok, Thailand	International Expert Meeting on the Participation of Women in Meteorology and Hydrology
Second half of 1997 (Date to be decided)	Geneva, WMO Secretariat (tentative)	Expert Meeting on WWW Monitoring

MEETINGS SCHEDULED IN 1998

Date	Place	Title of the Meeting
24.II.-2.III.1998	Dhaka, Bangladesh	WMO/ESCAP Panel on Tropical Cyclones - Twenty-fifth session
February 1998 (Date to be decided)	(Place to be decided)	RA V Working Group on the World Weather Watch
March 1998 (Date to be decided)	Geneva, WMO Secretariat	CBS Working Group on Telecommunications
March 1998 (Date to be decided)	Geneva, WMO Secretariat	CBS Working Group on Data Management
4-12.V.1998	Casablanca, Morocco	Commission for Instruments and Methods of Observation - Twelfth session
13-15.V.1998	Casablanca, Morocco	Technical Conference on Instruments and Methods of Observation (TECO-98) and Technical Exhibition
November 1998 (Date to be decided)	(Place to be decided)	Commission for Basic Systems -Extraordinary session
1998 (Date to be decided)	South-East Asia (Place to be decided)	Training Seminar in Aeronautical Meteorology with Emphasis on the Processing, Manipulation and Display of WAFS Data and