

**AUTOMATED SHIPBOARD  
AEROLOGICAL PROGRAMME (ASAP)  
ANNUAL REPORT FOR 2003**

WMO/TD-No. 1224

**JCOMM Technical Report No. 26**

**WORLD METEOROLOGICAL ORGANIZATION**

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**INTERGOVERNMENTAL OCEANOGRAPHIC  
COMMISSION (OF UNESCO)**

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## NOTE

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## FOREWORD

I am pleased to introduce the Annual Report on ASAP operations for 2003. It has been compiled by the ASAP Panel on the basis of national reports submitted by each ASAP operator and related shipborne upper-air sounding units, under the framework of the Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology, JCOMM. A total of 18 ASAP units were operated over different seas, mainly the North Atlantic and the Japan Sea.

As in previous years, every National Report is displayed in a standard format in the annexes. The Monitoring Reports provided by ECMWF (European Centre for Medium-Range Weather Forecasts), EUMETSAT and Météo-France are also included in this document. For the first time, the ASAP unit number has undergone an important decrease. This can be explained by the new role of satellite and AMDAR data, but also and mainly by changes in operation or technical difficulties encountered by some traditional ASAP operators.

For the next year most operators are planning to keep the same level of radiosoundings. Moreover, the E-ASAP programme, under the framework of EUMETNET (the European Meteorological Organization), has decided to increase the total number of units over the North Atlantic and the Mediterranean Sea.

The ASAP Panel's aim is to continue to encourage and assist the Member States to enhance upper-air soundings, especially over ocean areas, where only sparse meteorological data are available.

This document could not have been prepared without the contributions of each ASAP Panel Member. I therefore would like to thank them as well as Dr Peter Dexter and the WMO Secretariat for their major help.

Jean-Louis GAUMET  
ASAP Panel Chairman

## CONTENTS

page

FOREWORD.....	i
CONTENTS .....	iii
1. Annual Report 2003.....	1
2. Table 1.....	2
3. Table 2.....	3
4. Figure 1 .....	4
5. Figure 2 .....	5
6. Figure 3 .....	6
ANNEXES	
I National Reports 2003	
Denmark .....	7
France.....	9
Germany and EUMETNET countries.....	11
Iceland/Sweden .....	13
Japan .....	15
Spain.....	18
United Kingdom .....	20
II Monitoring Reports	
Report of ECMWF .....	22
Report of EUMETSAT .....	32
Report of France.....	36

## ANNUAL REPORT 2003

The number of radiosoundings taken within the framework of the Automated Shipboard Aerological Programme (ASAP) by the different operators are summarized in Tables 1 and 2. The total amount of radiosoundings is 4444, significantly lower than that for 2002 of 5128. This overall decrease (-13%) is mainly due to the reduction in the ASAP unit numbers and to operational changes or technical difficulties such as those reported by the United Kingdom, Iceland-Sweden and the WRAP Programme. As for previous years, two important countries (Russia and USA) have stopped their ASAP activities. The ASAP Panel encourages these countries to implement new ASAP ships, especially on routes where upper-air data are sparse.

The total number of ASAP units operated in 2003 was 17; the operators were: Denmark (3 units), EUMETNET (2 units), France (2 units), Germany (3 units), Japan (2 units), Spain (1 unit), Sweden-Iceland (2 units), United Kingdom (1 unit) and WRAP (1 unit). This document includes the individual National Reports and the Monitoring Reports provided by ECMWF, EUMETSAT and Météo-France.

The performance of ASAP radiosoundings is rather stable with respect to the terminal height. However, we note a decrease in this parameter for France, United Kingdom and Sweden-Iceland.

The ASAP Panel (ASAPP) consists of a group of national operators along with ECMWF, EUMETSAT and invited manufacturers. The last meeting, ASAP-XIV was held in London, United Kingdom, as a component of the second session of the JCOMM Ship Observations Team, 28 July to 1 August 2003. The session was attended by ASAP operators from Australia, France, Germany, Japan, United Kingdom and the United States. EUMETSAT participated in the meeting as well as the WRAP project leader. The meeting was also attended by representatives of manufacturers (Vaisala) and external projects (Seakeepers).

The geographical distribution of ASAP soundings in 2003 corresponds approximately to those of 2002. Figure 2, provided by Météo France, shows the location of all the TEMP-SHIP messages received in Toulouse (France) during 2003. As in previous years, soundings continued to be located over the North Atlantic Ocean.

EUMETNET continued the ASAP programme (E-ASAP), managed by the Deutscher Wetterdienst in Germany. Two routes were implemented, one within the Mediterranean and the second between the English Channel and the south-eastern seaboard of the US. Unfortunately the second ceased in July 2003. Starting 2003, all European ASAP activities are to be progressively integrated with E-ASAP.

France continued with only 2 ASAP units towards the West Indies. Recruitment difficulties of 2 ships have unfortunately delayed the commencement of a new route between the Mediterranean and the eastern seaboard of the US, as expected by E-ASAP.

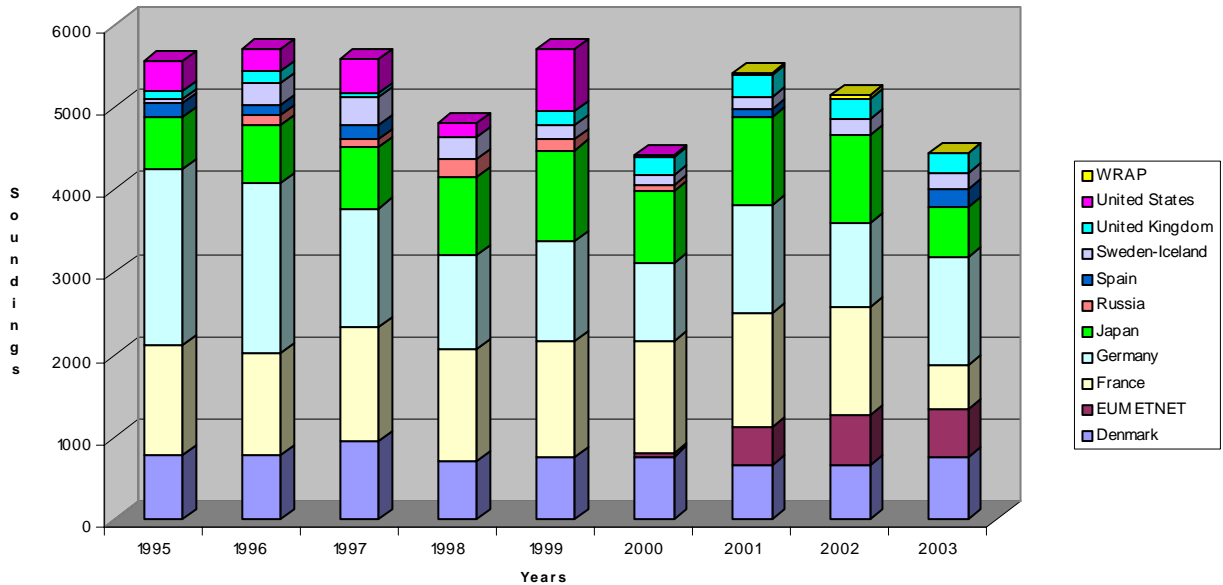
The main goal of the ASAP is to encourage and assist the implementation of new ASAP units over sparse ocean areas but also to keep continuously improving the radiosounding performances over seas.

Finally, the ongoing objective of the ASAP Panel in 2004 will be to continue to increase the amount of ASAP data over the oceans, especially the North Atlantic Ocean and the Southern Hemisphere (WRAP project to be supported).

Annual evolution of ASAP since 1995

TABLE 1

	1995	1996	1997	1998	1999	2000	2001	2002	2003	Average
Denmark	772	772	954	701	752	768	648	659	758	753
EUMETNET						27	464	598	576	416
France	1336	1249	1383	1364	1421	1360	1385	1309	534	1260
Germany	2147	2061	1439	1139	1210	956	1309	1037	1311	1401
Japan	630	707	747	956	1098	871	1073	1069	613	863
Russia		109	84	209	138	69	0	0	0	76
Spain	174	130	175	0	0	3	107	0	222	90
Sweden-Iceland	35	259	331	265	174	117	129	176	193	186
United Kingdom	110	145	53	0	151	220	276	246	233	159
United States	366	277	418	167	752	25	0	0	0	222
WRAP							33	64	4	33
TOTAL	5570	5709	5584	4801	5696	4416	5424	5158	4444	5459
Change to previous year	11%	2%	-2%	-14%	19%	-22%	23%	-5%	-13%	



<b>Table 2. Statistics on ASAP units operated during 2003</b>				
Operator	ASAP Units	Number of soundings	Average terminal sounding height (km)	Percentage of data on the GTS
Denmark	2	758	19,85	97,5
EUMETNET	2	576	26,3	92,7
France	2	534	21,0	84,9
Germany	3	1311	20,8	73
Japan	5	613	24,12	95,8
Russia	0	0	-	-
Spain	1	222	26,2	100
Sweden-Iceland	1	193	17,0	76
United Kingdom	1	233	20,0	95,8
United States	0	0	-	-
WRAP	1	4	-	0
<b>Total or average</b>	<b>18</b>	<b>4444</b>	<b>21,87</b>	<b>86,9</b>



Figure 1.

# METEO-FRANCE TEMP/SHIP 2003

5702 TEMP-SHIP

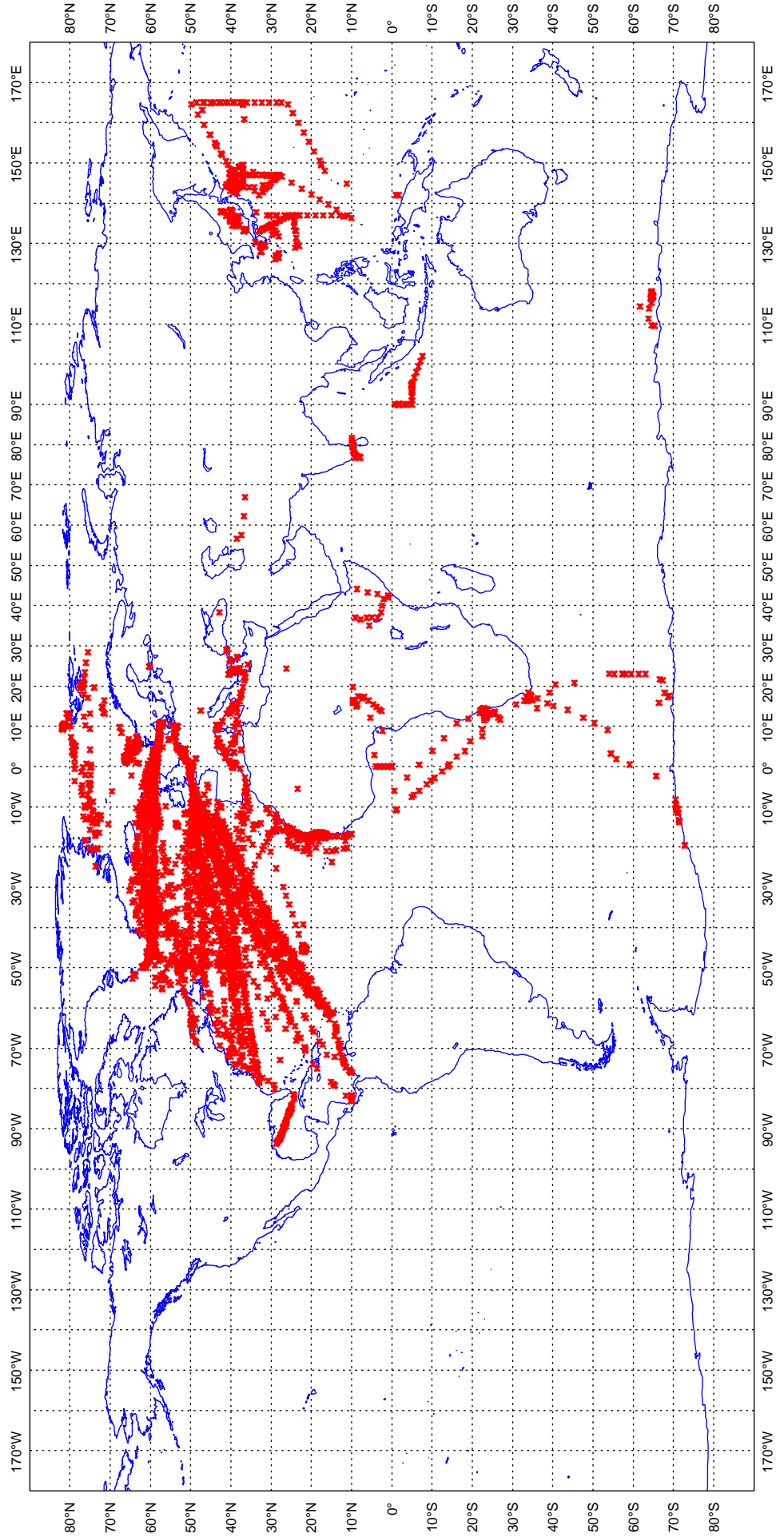


Figure 2

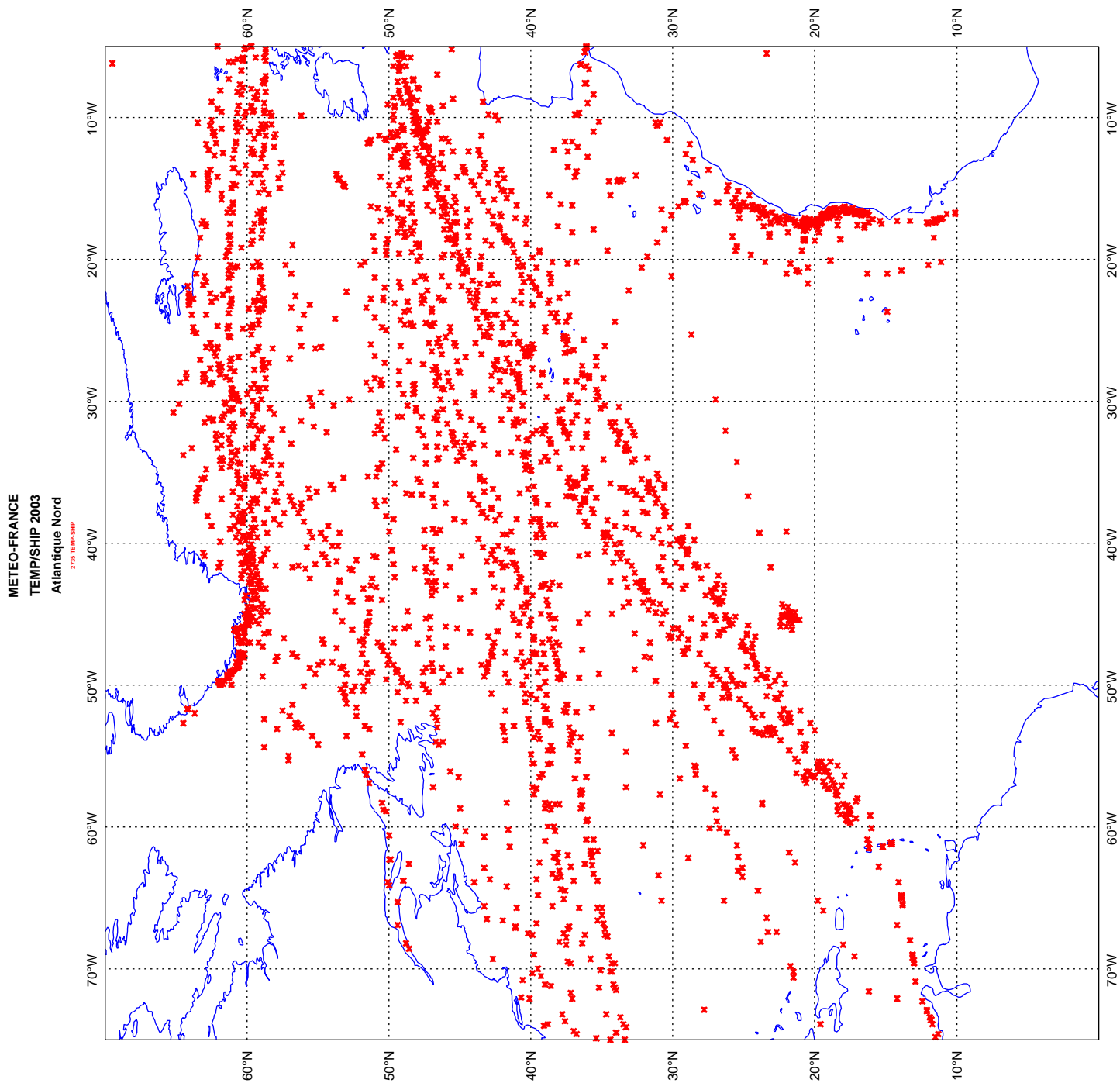
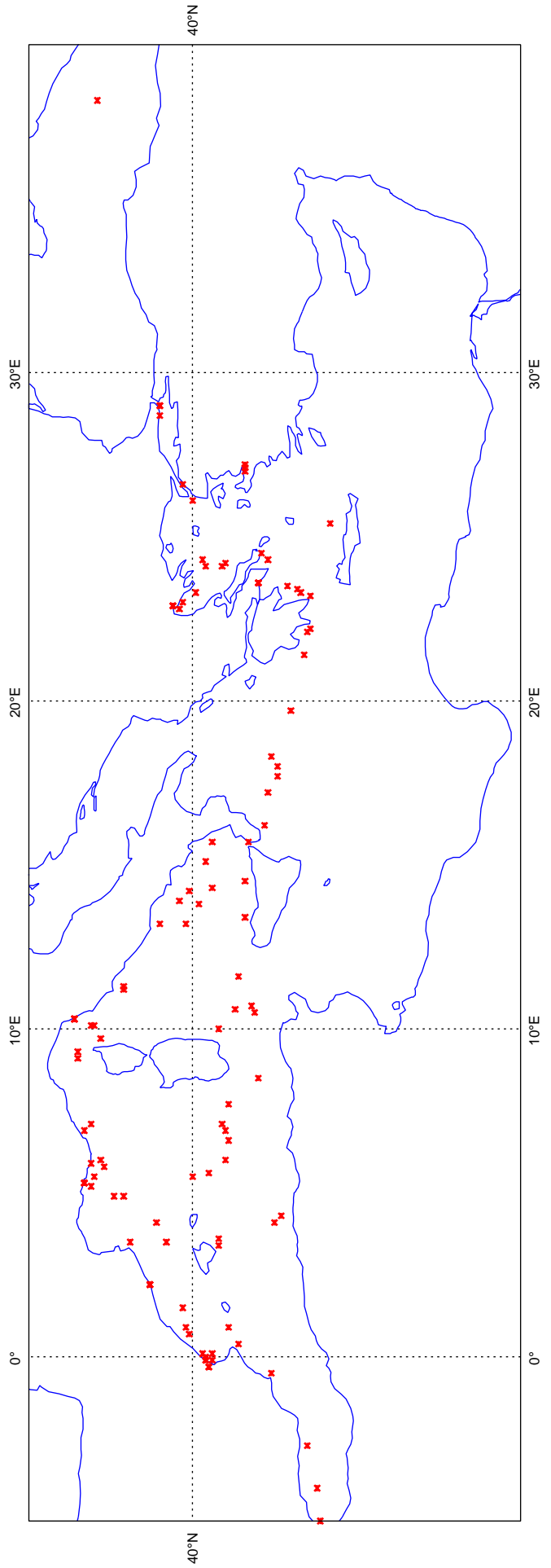


Figure 3

# METEO-FRANCE TEMP/SHIP 2003 Mediterranee

122 TEMP-SHIP



**Annual National ASAP Report**

COUNTRY: Denmark: DMI YEAR: 2003

2 ASAP units operated during the year on 4 ships								
Type of ship <sup>1)</sup>	Name	Call sign	Comm. method <sup>2)</sup>	Windfind method/ Sonde type <sup>3)</sup>	Launch Method <sup>4)</sup>	Launch height <sup>5)</sup>	Area of operations <sup>6)</sup>	ASAP Unit ID No.
Merchant ship	Nuka Arctica	OXYH 2	Inmarsat-C	RS90-AL RS90-AG	Container (manual)	18	North Atlantic	
Merchant ship	Naja Arctica	OXVH 2	Inmarsat-C	RS90-AL RS90-AG	Container (manual)	18	North Atlantic	
Merchant ship	Irena Arctica	OXTS2	Inmarsat-C	RS90-AL RS90-AG	Container (manual)	14	North Atlantic	
Merchant ship	Arina Arctica	OVYA 2	Inmarsat-C	RS90-AL RS90-AG	Container (manual)	12	North Atlantic	

1) Merchant ship, research ship, supply ship, etc.  
 2) Using IDCS, Inmarsat-C, or others  
 3) E.G. GPS/Vaisala RS80-G, Loran/Vaisala RS80-L, VIZ GPS Mark II Microsonde, etc.  
 4) Launch method e.g.: deck launcher (portable); deck launcher (fixed); container (manual); container (semi-automatic); other.  
 5) The height above sea level from where the sonde and balloon is released  
 6) Ocean area, e.g. North Pacific, North Atlantic, Indian Ocean, variable

Summary of performance of ASAP units during the year						
Call sign	Total No. of sondes launched	No. of messages transmitted	No. of relaunches	Average terminal sounding height (km)	Balloon Size (gm)	Percentage on GTS <sup>1)</sup>
OXYH2	347	309	38	20.088	200	97.4
OXVH2	275	254	21	19.834	200	96.5
OXTS2	99	99	0	19.369	200	100
OVYA2	37	32	5	19.288	200	100
Total or average						
1) Based upon reports received at a data centre or GTS insertion point, name: DMI Ratio of reports received against reports transmitted						

COMMENTS:

ESTIMATES FOR FOLLOWING YEAR:

about 700 in total

**Annual National ASAP Report**

COUNTRY: FRANCE NAME OF AGENCY: METEO-FRANCE YEAR: 2003

4 ASAP units operated during the year on 4 ships								
Type of ship <sup>1)</sup>	Name	Call sign	Comm. method <sup>2)</sup>	Windfind method/ Sonde type <sup>3)</sup>	Launch Method <sup>4)</sup>	Launch height <sup>5)</sup>	Area of operations <sup>6)</sup>	ASAP Unit ID No.
Mercant ship	Douce France	FNRS	Inmarsat C	GPLSonde GL98 GPS 3D (MODEM)	deck launcher (fixed)	27 m	North Atlantic	FASAP3
Mercant ship	Fort Desaix	FNPH	Inmarsat C	GPLSonde GL98 GPS 3D (MODEM)	deck launcher (fixed)	27 m	North Atlantic	FASAP4
Mercant ship	Fort Saint-Louis	FQFL	Inmarsat C	GPLSonde GL98 GPS 3D (MODEM)	deck launcher (fixed)	27m	North Atlantic	FASAP2
Mercant ship	Fort Saint-pierre	FQFM	Inmarsat C	GPLSonde GL98 GPS 3D (MODEM)	deck launcher (fixed)	27 m	North Atlantic	FASAP1

1)	Merchant ship, research ship, supply ship, etc.
2)	Using IDCS, Inmarsat-C, or others
3)	E.G. GPS/Vaisala RS80-G, Loran/Vaisala RS80-L, VIZ GPS Mark II Microsonde, etc.
4)	Launch method e.g.: deck launcher (portable); deck launcher (fixed); container (manual); container (semi-automatic); other.
5)	The height above sea level from where the sonde and balloon is released
7)	Ocean area, e.g. North Pacific, North Atlantic, Indian Ocean, variable

Summary of performance of ASAP units during the year					
Call sign	Total No. of sondes launched	No. of messages transmitted	No. of relaunches	Average terminal sounding height (km)	Percentage on GTS <sup>1)</sup>
FNRS	146	138	1	20.6	83.3
FNPB	173	164	0	18.7	84.7
FQFL	126	117	12	22.6	77.6
FQFM	89	83	5	22.0	94.0
Total or average	534	502	18	21.0	84.9
1) Based upon reports received at a data centre or GTS insertion point, name: ..... Ratio of reports received against reports transmitted					

#### COMMENTS ON PERFORMANCE :

Since mid 2003, sea soundings have been operated aboard two new ships. Indeed, the "Fort Desaix" and the "Douce France" have been replaced by the "Fort Saint-Louis " and the "Fort Saint-Pierre". The number of sounding has been reduced due to the increase of speed.

Météo-France keeps using MODEM GPS 3-D sounding system. The system itself worked well, and due to data transmission problems during the year (Inmarsat-C), the system was not fully operational. The performances at 100hPa and 50hPa didn't satisfy the objectives (respectively 90% and 75%) by inexperienced operators (no enough second launches).

2003 was the first year for subcontracting sea sounding operations. The soundings are done by ship's crew. This new organisation induced new problems such as those due to inexperienced operators and to the fact that sounding is not their main activity.

#### ESTIMATES FOR FOLLOWING YEAR

During 2004, the performances at 100hPa and 50hPa should improve. The troubles caused by data transmission problems are going to be solved. In order to simplify the protocole for the operators, the sounding system will be coupled with the surface observation system (BATOS).

A tender will be done in 2004 to increase the number of units (the route from Marseille to Montréal is a possibility).

**Annual National ASAP Report**

COUNTRY: Germany NAME OF AGENCY: Deutscher Wetterdienst  
and EUMETNET-ASAP  
YEAR: 2003

**4 German ASAP units (D-ASAP) operated during the year on 4 ships  
2 E-ASAP units operated during the year on 3 ships**

Type of ship <sup>1)</sup>	Name	Call sign	Comm. method <sup>2)</sup>	Windfind method/ Sonde type <sup>3)</sup>	Launch Method <sup>4)</sup>	Launch height <sup>5)</sup>	Area of operations <sup>6)</sup>	ASAP Unit ID No.
RV	Meteor	DBBH	Inm-C	GPS RS80-15G	Semi-au	8	Worldwide	D-ASAP2
MS	Horn-bay	ELML7	Inm-C	GPS RS80-15G	Semi-au	10	North Atlantic	D-ASAP5
MS	Sealand Devel- oper	KHRH	Inm-C	GPS RS80-15G	Seni-au	25	North Atlantic	D-ASAP1
MS	Sealand Motiva- tor	WAAH	Inm-C	GPS RS80-15G	Semi-au	30	North Atlantic	D-ASAP3
MS	Sealand Perfor- mance	KRPD	Inm-C	GPS Loran C RS90-L/AG	Semi-au	30	North Atlantic Med.	E-ASAP1  From 08.2003
MS	Sealand Achie- ver	WPKD	Inm-C	GPS Loran C RS90-L/AG	Semi-au	30	North Atlantic	E-ASAP2
MS	Peljas- per	SWJS	Inm-C	GPS Loran C RS90-L/AG	Semi- au	15	Med.	E-ASAP1  Until 07.2003

- 1) Merchant ship, research ship, supply ship, etc.
- 2) Using IDCS, Inmarsat-C, or others
- 3) E.G. GPS/Vaisala RS80-G, Loran/Vaisala RS80-L, VIZ GPS Mark II Microsonde, etc.
- 4) Launch method e.g.: deck launcher (portable); deck launcher (fixed); container (manual); container (semi-automatic); other.
- 5) The height above sea level from where the sonde and balloon is released
- 6) Ocean area, e.g. North Pacific, North Atlantic, Indian Ocean, variable



Summary of performance of ASAP units during the year 2003						
Call sign	Total No. of sondes launched	No. of messages transmitted	No. of relaunches	Average terminal sounding height (km)	Balloon Size (gm)	Percentage on GTS <sup>1)</sup>
DBBH	432	432	3	20,8	200gr	83
ELML7	668	668	50	20,4	200gr	65
KHRH	211	170	18	21,9	200gr	78
WPKD	385	385	36	25,3	350gr	93
KRPD	86	86	?	35,4	350gr	95
SWJS	105	105	4	22,8	350gr	90
Total or average	1887	1846	111	22,8		84
1) Based upon reports received at a data centre or GTS insertion point, name: ecmwf Ratio of reports received against reports transmitted						

COMMENTS:

- WAAH commenced operation in 2004.
- The high number of launchings from ELML7 is due to technical problems at the beginning of 2003.

ESTIMATES FOR FOLLOWING YEAR:

Call sign	No. of messages transmitted
DBBH	200
ELML7	440
KHRH	350
WPKD	430
KRPD	280
WAAH	430
Total or average	2130

**Annual National ASAP Report**

COUNTRY: Iceland-Sweden NAME OF AGENCY: IMO/SMHI YEAR: 2003

**ASAP units operated during the year on 1 ship**

Type of ship <sup>1)</sup>	Name	Call sign	Comm. method <sup>2)</sup>	Windfind method/ Sonde type <sup>3)</sup>	Launch Method <sup>4)</sup>	Launch height <sup>5)</sup>	Area of operations <sup>6)</sup>	ASAP Unit ID No.
Merchant	Skoga-foss	V2XM	Inmarsat-C	LORAN Vaisala RS-80L	Container semi Auto	13 m	North Atlantic	IS-1

- 1) Merchant ship, research ship, supply ship, etc.
- 2) Using IDCS, Inmarsat-C, or others
- 3) E.G. GPS/Vaisala RS80-G, Loran/Vaisala RS80-L, VIZ GPS Mark II Microsonde, etc.
- 4) Launch method e.g.: deck launcher (portable); deck launcher (fixed); container (manual); container (semi-automatic); other.
- 5) The height above sea level from where the sonde and balloon is released
- 6) Ocean area, e.g. North Pacific, North Atlantic, Indian Ocean, variable

**Summary of performance of ASAP units during the year**

Call sign	Total No. of sondes launched	No. of messages transmitted	No. of relaunches	Average terminal sounding height (km)	Balloon Size (gm)	Percentage on GTS <sup>1)</sup>
V2XM	193	145	2	17	300	76
Total or average	193	145	2	17	300	76

- 1) Based upon reports received at a data centre or GTS insertion point, name: BIRK  
Ratio of reports received against reports transmitted

COMMENTS:

During the year 2003 the ASAP unit was operated onboard m/v Skogafoss and we had several problems to deal with. First there was antenna problems and then we had problem with the MARWIN loosing contact with the sonde at low level, giving us almost useless soundings fro time to time. We participated in the NA TReC operation and therefore this "high" number of soundings.

ESTIMATES FOR FOLLOWING YEAR:

We hope we have solved the problem with the MARWIN and look forward to better result next year.

**Annual National ASAP Report**

COUNTRY: Japan NAME OF AGENCY: Japan Meteorological Agency YEAR: 2003

**5 ASAP units operated during the year on 5 ships**

Type of ship <sup>1)</sup>	Name	Call sign	Comm. method <sup>2)</sup>	Windfind method/ Sonde type <sup>3)</sup>	Launch method <sup>4)</sup>	Launch height <sup>5)</sup>	Area of operations <sup>6)</sup>	ASAP Unit ID No.
Research ship	Ryofu Maru	JGQH	Others (DCP via the GMS)	GPS/Vaisala RS80-G	Container (Semi-automatic)	8m	North Pacific	708514
Research ship	Kofu Maru	JDWX	Others (DCP via the GMS)	GPS/Vaisala RS80-G	Container (Semi-automatic)	6m	Seas adjacent to Japan	191678
Research ship	Seifu Maru	JIVB	Others (DCP via the GMS)	GPS/Vaisala RS80-G	Container (Semi-automatic)	6m	Seas adjacent to Japan	458533
Research ship	Chofu Maru	JCCX	Others (DCP via the GMS)	GPS/Vaisala RS80-G	Container (Semi-automatic)	6m	Seas adjacent to Japan	126138
Research ship	Mirai	JNSR	Inmarsat-C	GPS/Vaisala RS80-G	Container (Semi-automatic)	16m	Variable	-

- 1) Merchant ship, research ship, supply ship, etc.
- 2) Using IDCS, Inmarsat-C, or others
- 3) E.G. GPS/Vaisala RS80-G, Loran/Vaisala RS80-L, VIZ GPS Mark II Microsonde, etc.
- 4) Launch method e.g.: deck launcher (portable); deck launcher (fixed); container (manual); container (semi-automatic); other.
- 5) The height above sea level from where the sonde and balloon is released
- 6) Ocean area, e.g. North Pacific, North Atlantic, Indian Ocean, variable

Summary of performance of ASAP units during the year 2003						
Call sign	Total No. of sondes launched	No. of messages transmitted	No. of relaunches	Average terminal sounding height (km)	Balloon Size (gm)	Percentage on GTS <sup>1)</sup>
JGQH	117	117	5	26.4	350	97
JDWX	127	126	9	24.8	350	100
JIVB	125	125	11	23.3	350	100
JCCX	190	190	2	23.9	350	100
JNSR	54	51	0	22.2	350	82
Total or average	613	609	27	24.12	350	95.8
1) Based upon reports received at a data centre or GTS insertion point, name: JMA Ratio of reports received against reports transmitted						

COMMENTS:

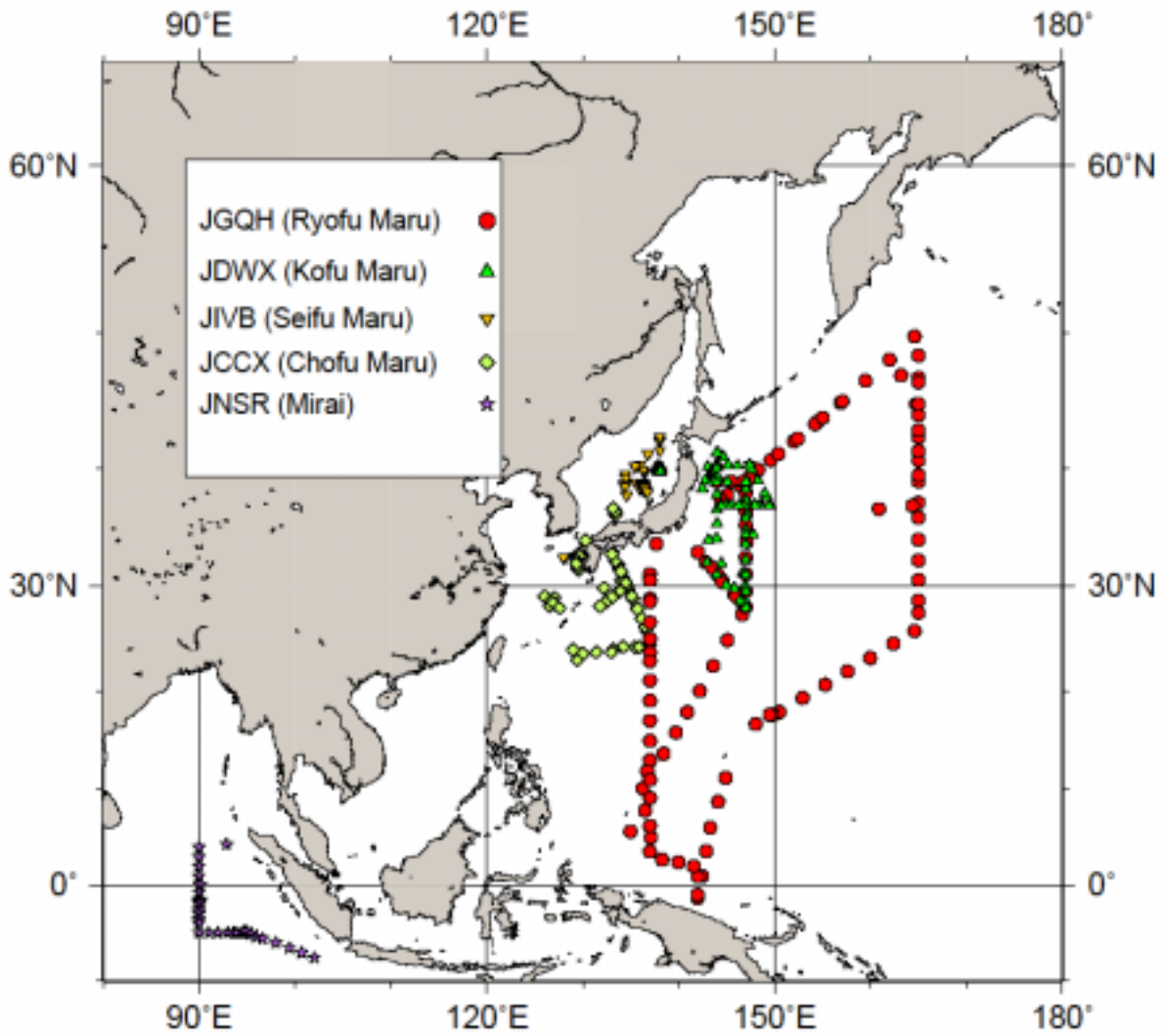
The Japan Meteorological Agency (JMA) makes upper-air observations in the western North Pacific and the waters adjacent to Japan on a semi-regular basis on four research vessels; Ryofu Maru (JGQH), Kofu Maru (JDWX), Seifu Maru (JIVB), and Chofu Maru (JCCX) operated by JMA.

From June 20 to July 3 in 2003, two vessels (Chofu Maru and Seifu Maru) of JMA performed enhanced upper-air observations (4 or 8 times per day) in order to monitor and investigate Baiu front in the East China Sea.

ESTIMATES FOR FOLLOWING YEAR:

From June to July in 2004, two vessels (Chofu Maru and Seifu Maru) of JMA is going to make enhanced upper-air observations in the East China Sea.

Mirai of Japan Agency for Marine-Earth Science and Technology (JAMSTEC) is going to make upper-air observations in the eastern part of the Indian Ocean in July (about 50 observations), in the Arctic Ocean in September (about 100 observations), and in the western part of the equatorial Pacific in December (about 150 observations).



**ASAP REPORT for 2003 (JAPAN)**

**Annual National ASAP Report**

COUNTRY: Spain NAME OF AGENCY: Instituto Nacional de Meteorología YEAR: 2003

**1 ASAP units operated during the year on 1 ships**

Type of ship <sup>1)</sup>	Name	Call sign	Comm. method <sup>2)</sup>	Windfind method/ Sonde type <sup>3)</sup>	Launch Method <sup>4)</sup>	Launch height <sup>5)</sup>	Area of operations <sup>6)</sup>	ASAP Unit ID No.
Supply	Esperanza del Mar	EBUQ	Inmarsat-C	GPS/Vaisala RS80-G	Container (semi-automatic)	11,7m	North Atlantic (western African coast, between Cannary islands and Mauritania)	1

- 1) Merchant ship, research ship, supply ship, etc.
- 2) Using IDCS, Inmarsat-C, or others
- 3) E.G. GPS/Vaisala RS80-G, Loran/Vaisala RS80-L, VIZ GPS Mark II Microsonde, etc.
- 4) Launch method e.g.: deck launcher (portable); deck launcher (fixed); container (manual); container (semi-automatic); other.
- 5) The height above sea level from where the sonde and balloon is released
- 6) Ocean area, e.g. North Pacific, North Atlantic, Indian Ocean, variable

Summary of performance of ASAP units during the year						
Call sign	Total No. of sondes launched	No. of messages transmitted	No. of relaunches	Average terminal sounding height (km)	Balloon Size (gm)	Percentage on GTS <sup>1)</sup>
EBUQ	222	222	?	29,26hPa (~8km)	500	100%
Total or average	222	222		29,26hPa		100

1) Based upon reports received at a data centre or GTS insertion point, name: EGRR  
Ratio of reports received against reports transmitted

COMMENTS:

Since 13th February the ASAP started to work carrying out meteorological soundings.

ESTIMATES FOR FOLLOWING YEAR:

300 radiosoundings at 12UTC. On average 25 each month.



**Annual National ASAP Report**

COUNTRY: United Kingdom NAME OF AGENCY: Met Office YEAR: 2003

1 ASAP units operated during the year on 1 ship								
Type of ship <sup>1)</sup>	Name	Call sign	Comm. method <sup>2)</sup>	Windfind method/ Sonde type <sup>3)</sup>	Launch Method <sup>4)</sup>	Launch height <sup>5)</sup>	Area of operations <sup>6)</sup>	ASAP Unit ID No.
Merchant	CanMar Pride	ZCBP6	Inmarsat -C	GPS/ RS80- 15GH	Container (semi- automatic)	22 metres	North Atlantic	GB/ASAP1

- 1) Merchant ship, research ship, supply ship, etc.
- 2) Using IDCS, Inmarsat-C, or others
- 3) E.G. GPS/Vaisala RS80-G, Loran/Vaisala RS80-L, VIZ GPS Mark II Microsonde, etc.
- 4) Launch method e.g.: deck launcher (portable); deck launcher (fixed); container (manual); container (semi-automatic); other.
- 5) The height above sea level from where the sonde and balloon is released
- 6) Ocean area, e.g. North Pacific, North Atlantic, Indian Ocean, variable

Summary of performance of ASAP units during the year						
Call sign	Total No. of sondes launched	No. of messages transmitted	No. of relaunches	Average terminal sounding height (km)	Balloon Size (gm)	Percentage on GTS <sup>1)</sup>
ZCBP6	233	215	13+	20.0	350	95.8
Total or average						
1) Based upon reports received at a data centre or GTS insertion point, name: EGRR Ratio of reports received against reports transmitted						

COMMENTS:

Figures are based upon 16 return crossings of the North Atlantic by the container ship CanMar Pride. Launches were not attempted on occasion due to bad weather and on 4 occasions due to failure of the Inmarsat Sat-C transmitter. A number of launches failed when, for example, the balloon and/or sonde collided with the ship or landed in the sea - relaunches were performed on at least 13 occasions. Other problems included a faulty batch of sondes.

ESTIMATES FOR FOLLOWING YEAR:

The Met Office will continue to operate GB/ASAP1 although this is expected to be integrated into E- ASAP during 2004. It is also planned to upgrade from an MW15 to MW21 Digicora flying RS92 sondes during the coming year.

Subject to available funds it is also intended to increase the number of sondes launched to 3 per day in order to comply with E-ASAP targets

## European Centre for Medium Range Weather Forecasts

### SUMMARY REPORT ON THE MONITORING OF ASAP SHIP DATA

#### 1. DATA AVAILABILITY

Figures 1 to 6 show long time series with monthly counts of ASAP reports as received at ECMWF since January 1994. The time series show a number of interesting features namely:

- The slight negative trend for the cycles 00 and 12 UTC and the positive trend at 06 and 18 UTC noticed in the previous report is confirmed in the updated time series (figure 1). Adding all the available reports the numbers show a stable trend since the year 2000 with minimum values in Northern Hemisphere winter and maximum values during the Northern Hemisphere summer (figure 2). This is more than likely due to the fact that most of the ASAP units operate in the North Atlantic area
- Figure 3 shows a similar time series but for the temperature at 100 hPa. The trend is similar to what can be seen in figure 2. Figure 4 shows the percentage of reports reaching 100 hPa. The values range from 85% during NH winter to 95% in summer with a rather flat trend.
- The positive trend at the Stratosphere already noticed in the previous report is confirmed also both in absolute terms (figure 5) as in relative terms (figure 6). The percentage of reports reaching 20 hPa got to its maximum value ever (45%) since 1994.

#### 2. TROUBLESHOOTING

- The number of corrupted call-signs is not very different from previous years. In Table 1 a list with all the reports collected at ECMWF during 2003 can be found. The not genuine Ids show up in the table with no reports.
- The number of mislocated reports is larger than in previous years. The source of errors is related either to a wrong longitude or to zero values both for latitude and longitude. In the case of the wrong longitude sometimes one of the figures is missed or the sign is reversed. Examples of that are FNPH (January 2003), DBBH (May and November 2003), KHRH (July and October 2003). In September and October 2003 several cases of empty positions took place all of them for the ASAP KRPD (twice in September and five times in October 2003). Figure 7 shows the tracks for a month with no problems (June 2003) and figure 8 the worst scenario, which was October. In figure 9 a more detailed tracking for ASAP KRPD highlights the previously mentioned position problems with this ASAP.
- In a couple of occasions KRPD got the whole wind profile rejected due to very large departures from the model background fields not related to a bad position. The problems with bad reported positions and bad wind profiles show up in the wind statistics (September and October 2003) shown in figure 10. The percentage of used wind data for this

platform was down to 68% compared to the usage normal values for ASAP which is around 95%

### **3. DATA QUALITY**

Figures 11 to 14 show composite statistics for ASAP data in North Atlantic compared to land base stations on the same area (January to March 2004).

As in previous years the statistics show that the quality of ASAP data is fully comparable to land based stations. The values of the biases and spread around the background fields as well as the usage percentages are similar for ASAP and land based stations. This is valid for temperature, wind and humidity

**Table 1**  
**Number of reports with data at 500 hPa received at ECMWF from January to December 2003**

ID	TEMPERATURE					WIND				
	00	06	12	18	TOTAL	00	06	12	18	TOTAL
D/LK	0	0	0	0	0	0	0	0	0	0
DASAP	0	7	44	0	51	0	5	37	0	42
DB/K	0	0	0	0	0	0	0	0	0	0
DBBH	141	0	199	7	347	131	0	196	6	333
DBDK	0	0	1	0	1	0	0	1	0	1
DBLI	0	0	0	0	0	0	0	0	0	0
DBLK	23	1	168	2	194	22	1	167	2	192
DBLO	0	0	0	0	0	0	0	0	0	0
DBMK	0	0	0	0	0	0	0	0	0	0
DFLK	0	0	0	0	0	0	0	0	0	0
DGLK	0	0	0	0	0	0	0	0	0	0
DJLK	0	0	0	0	0	0	0	0	0	0
DRLK	0	0	0	0	0	0	0	0	0	0
EASAP	0	3	2	0	5	0	3	1	0	4
EBUQ	0	0	221	0	221	0	0	212	0	212
ELML	1	0	0	0	1	1	0	0	0	1
FACSR	0	1	0	0	1	0	0	0	0	0
FBLK	0	0	0	0	0	0	0	0	0	0
FJRS	0	0	0	0	0	0	0	0	0	0
FNPB	62	1	45	0	108	62	1	45	0	108
FNRS	64	0	63	0	127	64	0	63	0	127
FQFL	52	0	52	0	104	52	0	50	0	102
FQFM	33	0	38	0	71	33	0	38	0	71
JCCX	59	26	53	25	163	59	26	52	23	160
JDWX	50	11	47	11	119	48	10	42	11	111
JGQH	59	1	53	0	113	54	1	53	0	108
JIVB	33	19	37	20	109	33	19	37	21	110
JNSR	8	9	7	7	31	8	9	7	5	29
KHRH	57	16	60	23	156	48	12	50	19	129
KRPD	24	22	29	14	89	18	19	23	12	72
LDWR	356	344	348	352	1400	356	344	348	352	1400
PACDG	0	2	0	0	2	0	1	0	0	1
SWJS	11	32	12	39	94	10	27	11	39	87
TANJA	0	0	1	0	1	0	0	1	0	1
VNAA	15	0	7	0	22	15	0	7	0	22
WAAH	1	1	2	1	5	1	1	2	1	5
WPKD	104	72	99	69	344	85	64	85	62	296
	1153	568	1588	570	3879	1100	543	1528	553	3724

# Monthly counts of ASAP received at ECMWF Temperature 500 hPa - GLOBAL

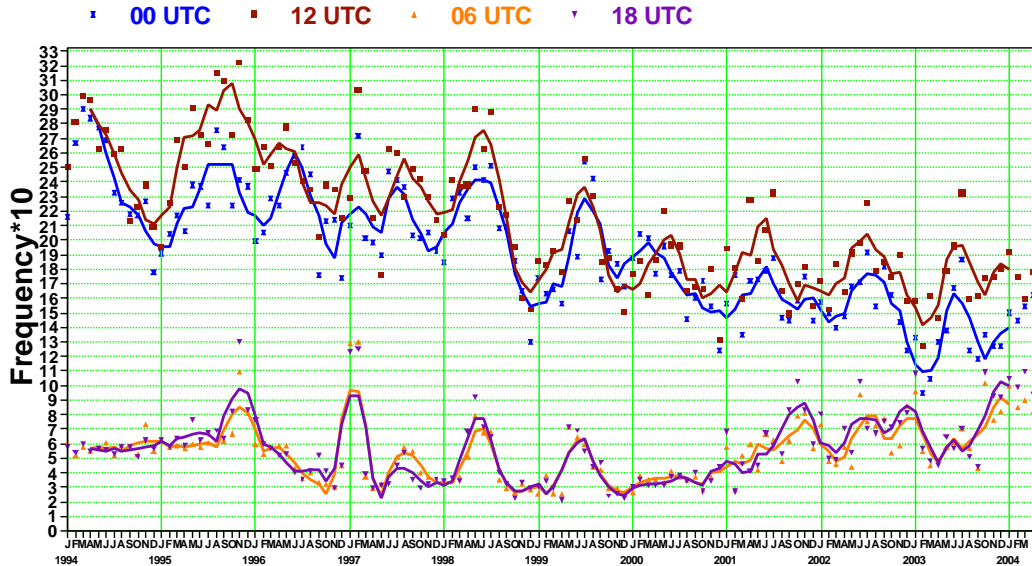


Figure 1

# Monthly counts of ASAP received at ECMWF Temperature 500 hPa - GLOBAL

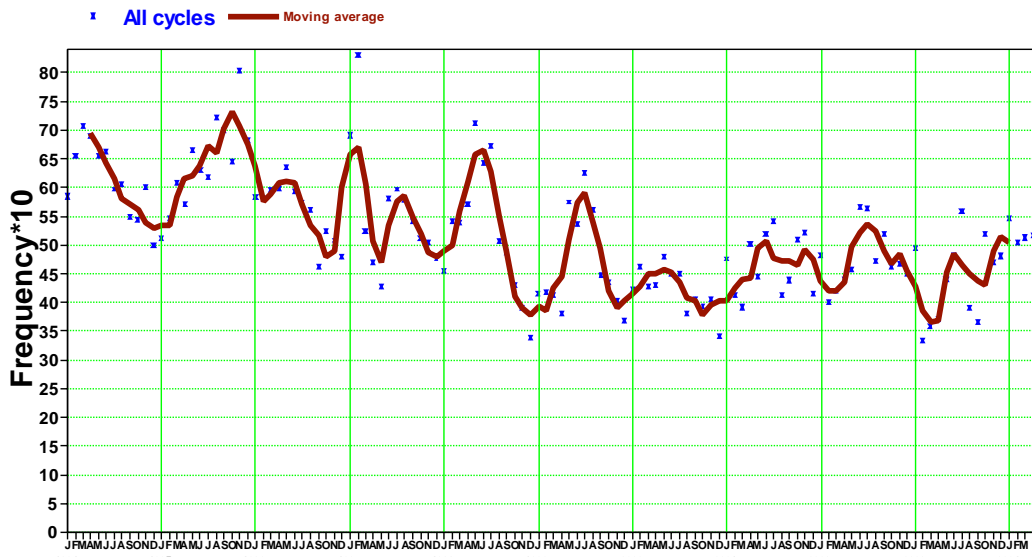


Figure 2

## Monthly counts of ASAP received at ECMWF Temperature 100 hPa - GLOBAL

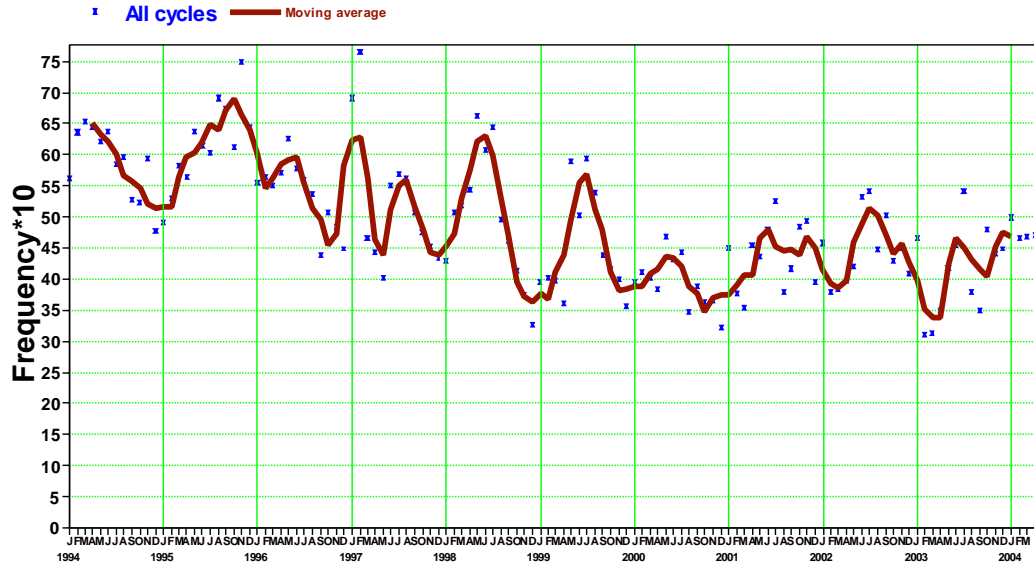


Figure 3

## Monthly counts of ASAP received at ECMWF Temperature reports reaching 100 hPa - GLOBAL

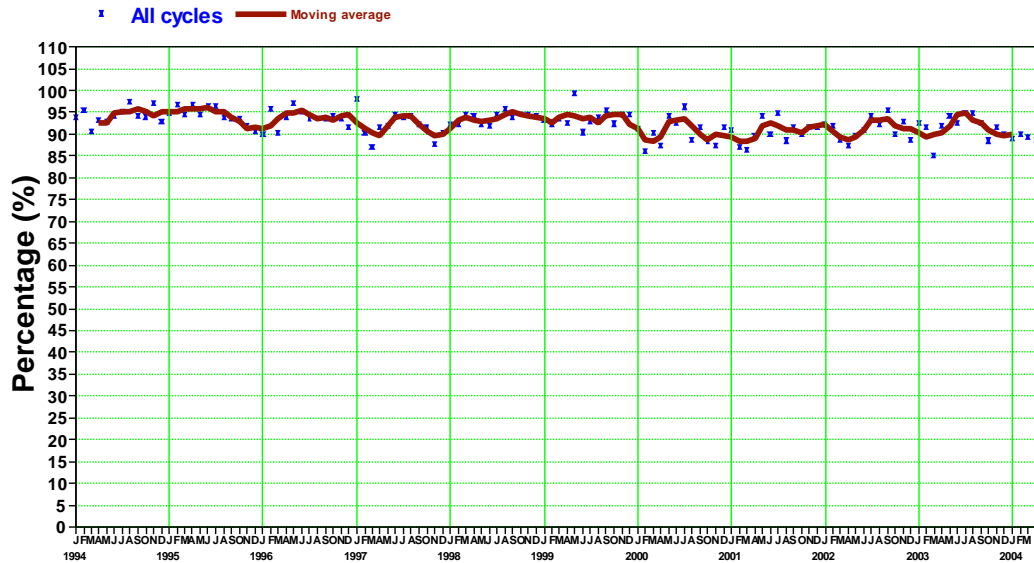


Figure 4

## Monthly counts of ASAP received at ECMWF Temperature 20 hPa - GLOBAL

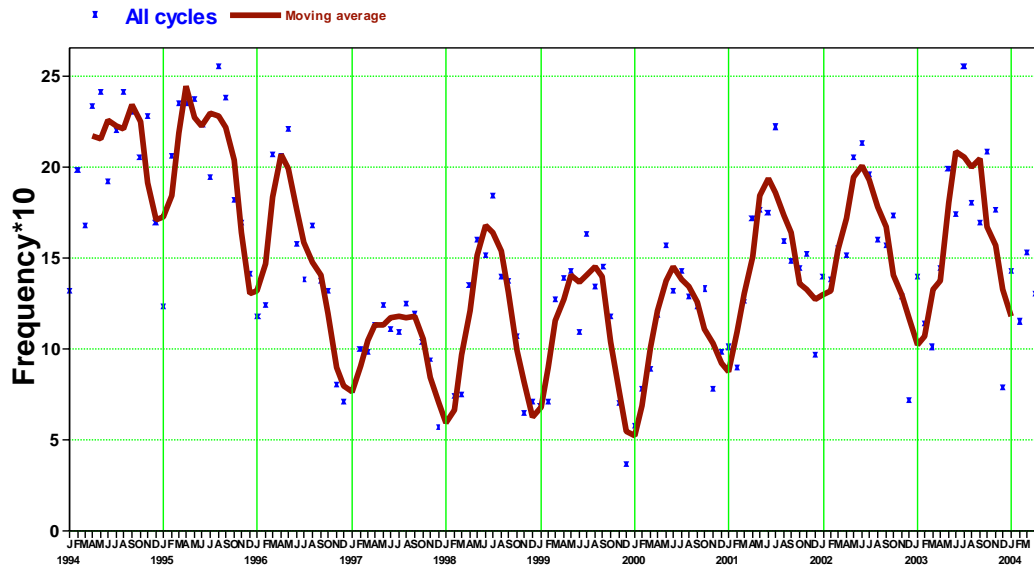


Figure 5

## Monthly counts of ASAP received at ECMWF Temperature reports reaching 20 hPa - GLOBAL

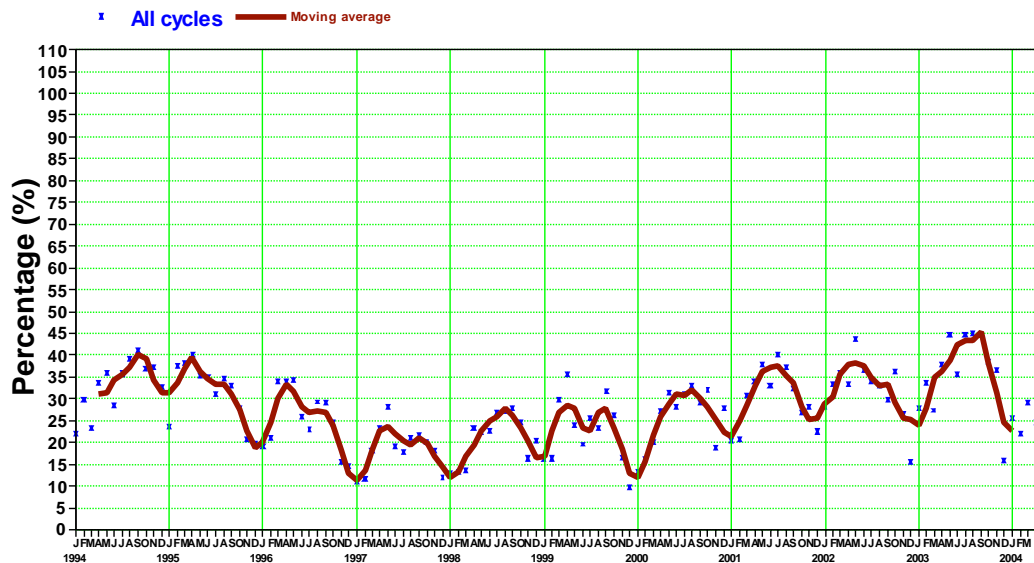


Figure 6



# ASAP 1-30 JUN 2003

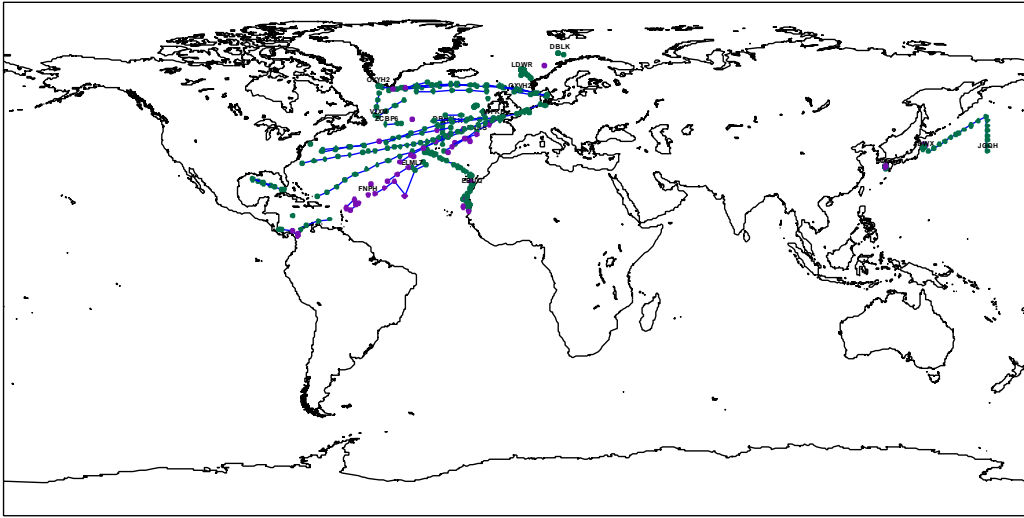


Figure 7

# ASAP 1-31 OCT 2003

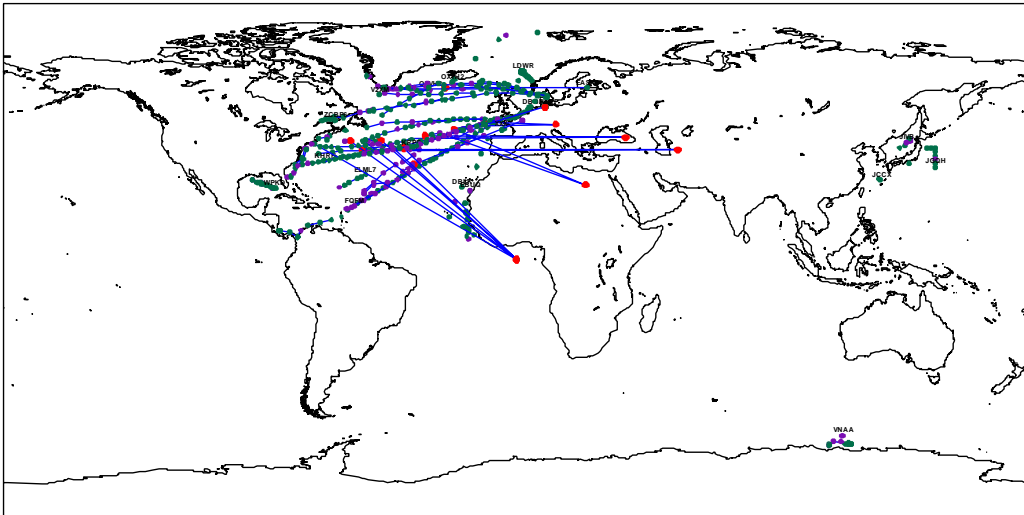


Figure 8

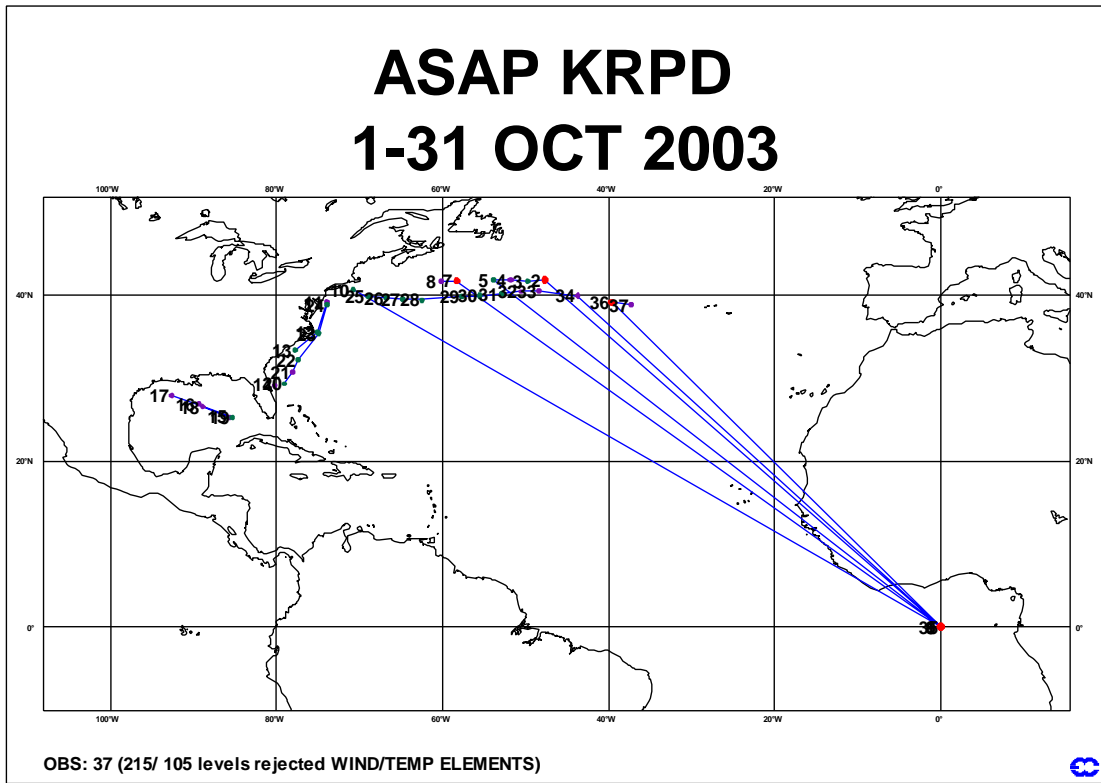
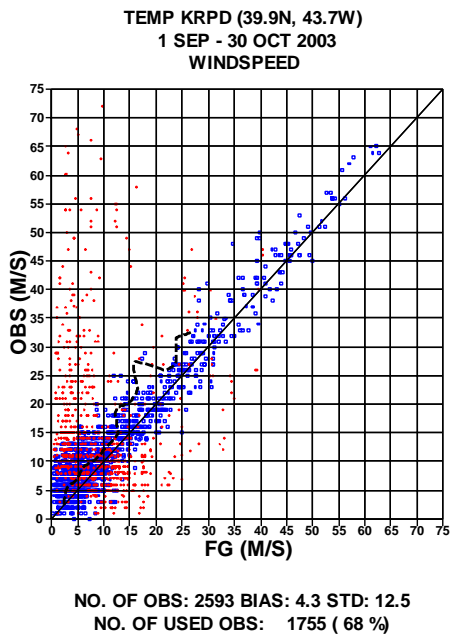
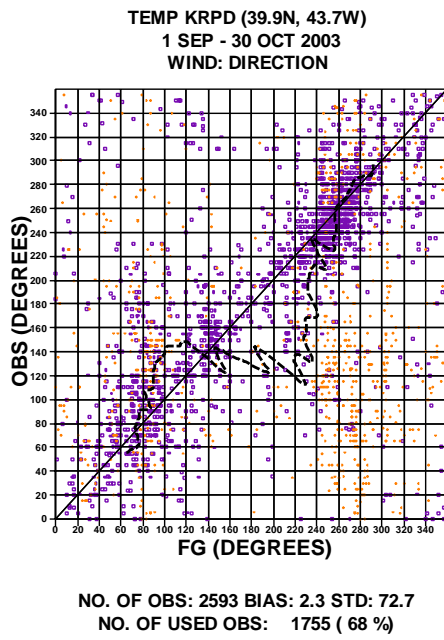


Figure 9



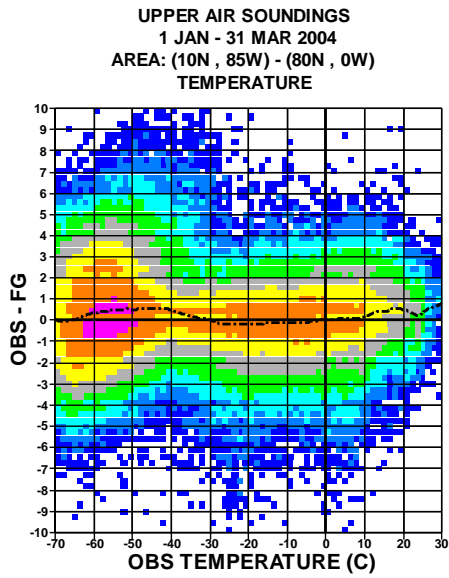
ASAP KRPD



ASAP KRPD

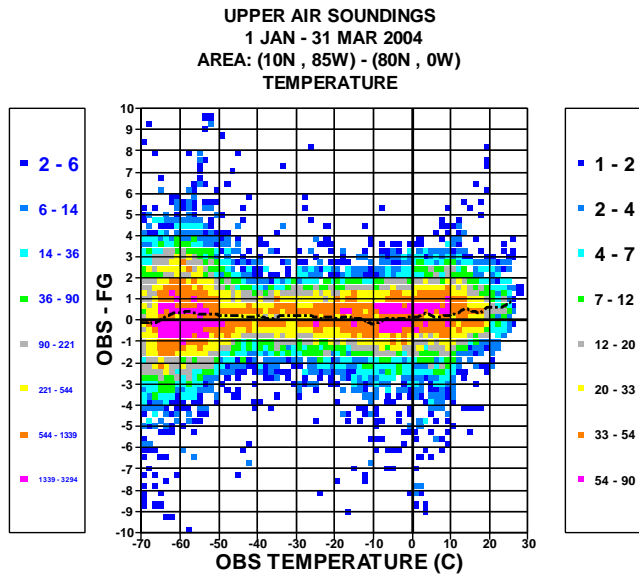
Figure 10





NO. OF OBS: 594390 BIAS: .2 STD: 2.2  
NO. OF USED OBS: 575262 ( 97 %)

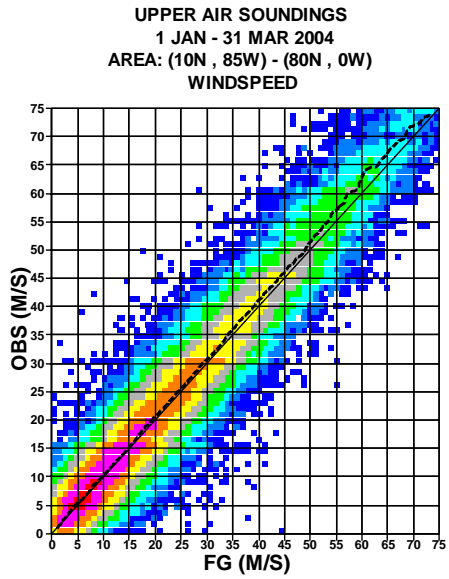
TEMP-LAND COSNA



NO. OF OBS: 29587 BIAS: -.1 STD: 3.7  
NO. OF USED OBS: 28664 ( 97 %)

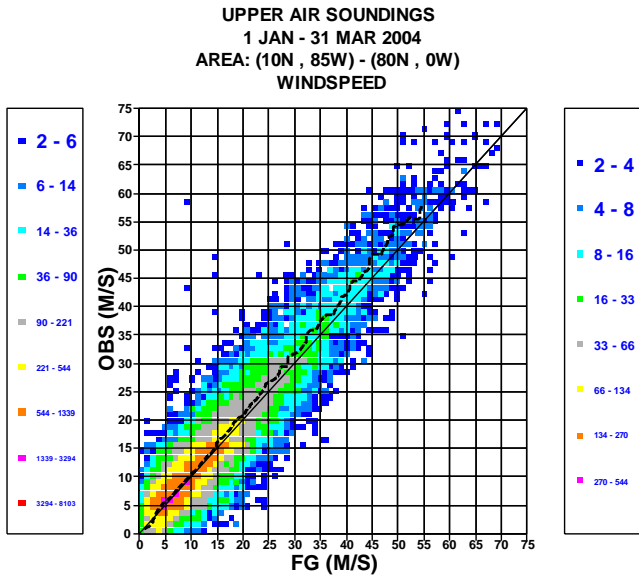
ASAP COSNA

Figure 11



NO. OF OBS: 434997 BIAS: .5 STD: 4.1  
NO. OF USED OBS: 406924 ( 94 %)

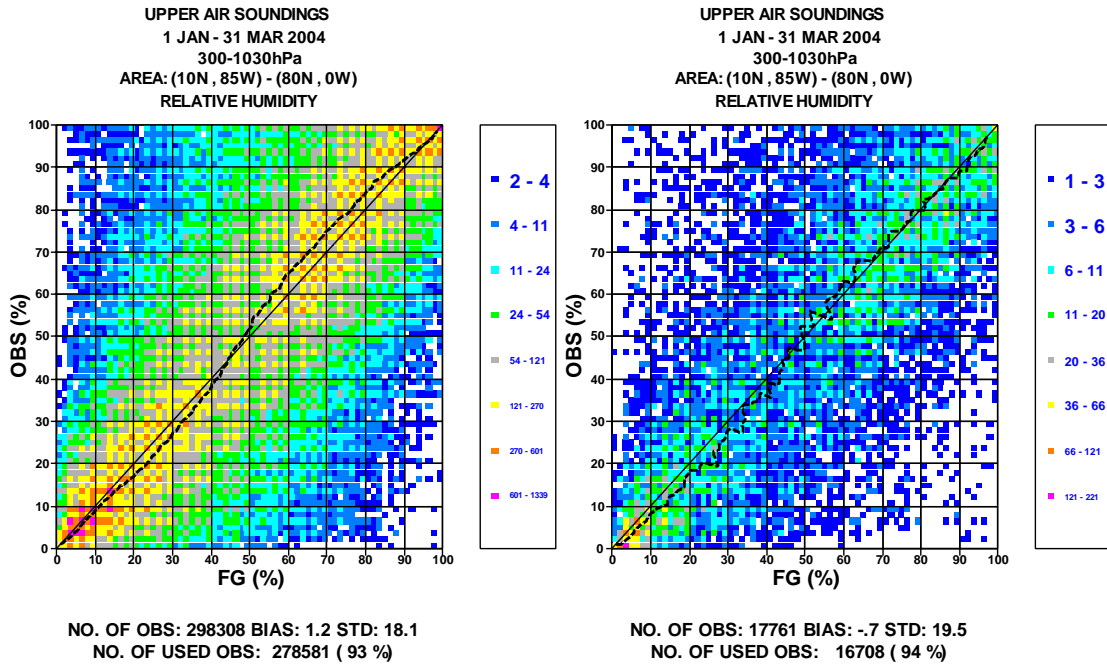
TEMP-LAND COSNA



NO. OF OBS: 32165 BIAS: 1.0 STD: 5.6  
NO. OF USED OBS: 29910 ( 93 %)

ASAP COSNA

Figure 12

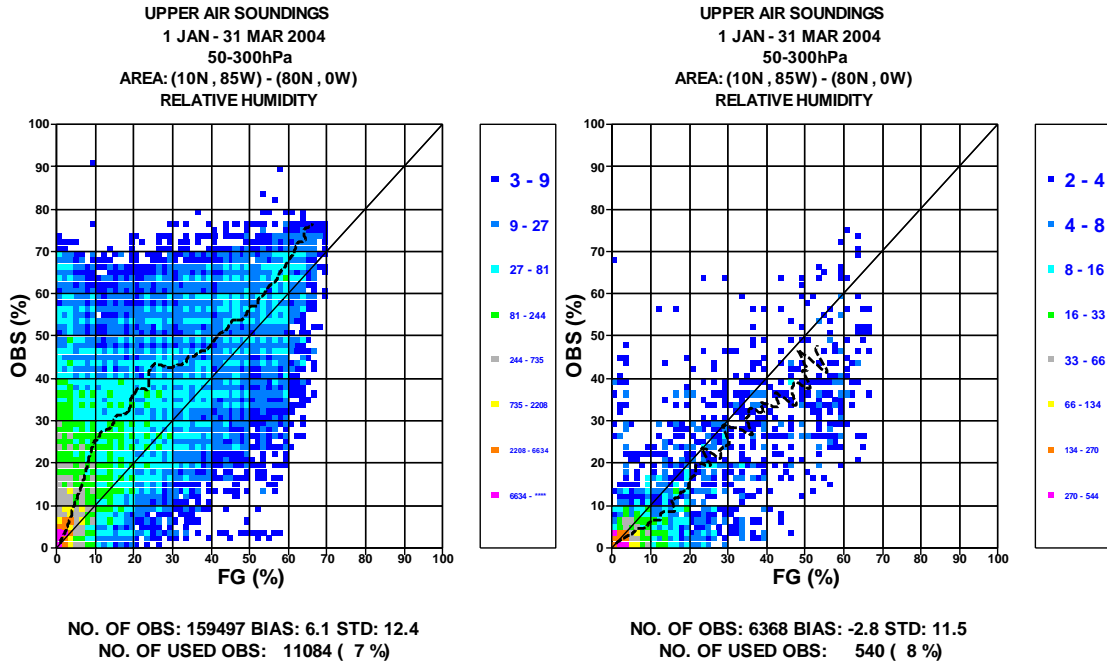


TEMP-LAND COSNA

ASAP COSNA



Figure 13



TEMP-LAND COSNA

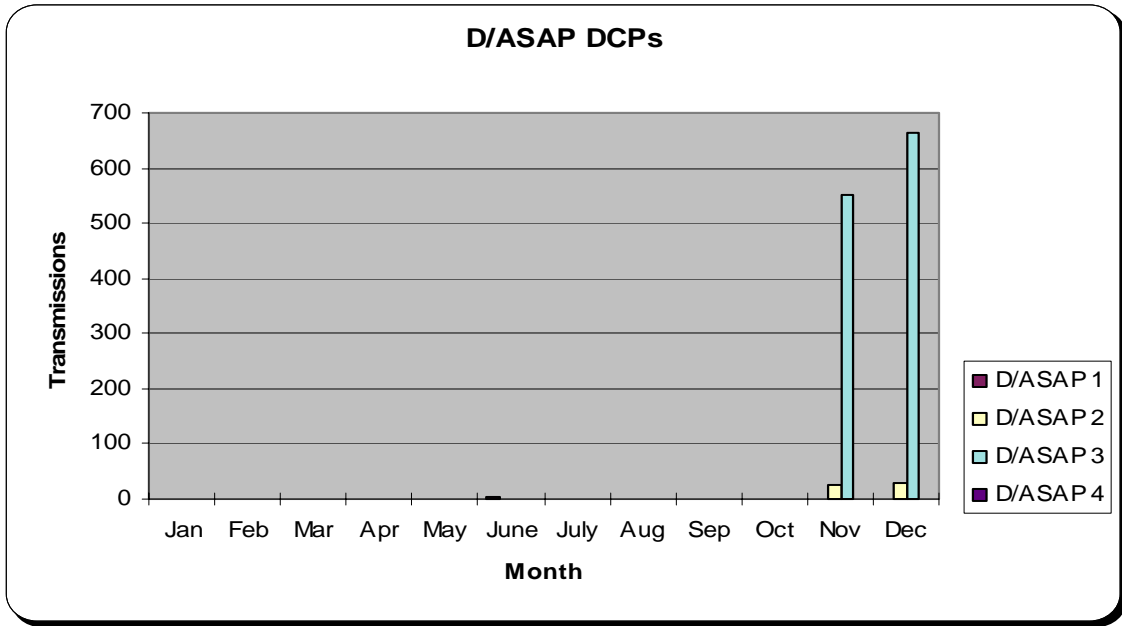
ASAP COSNA



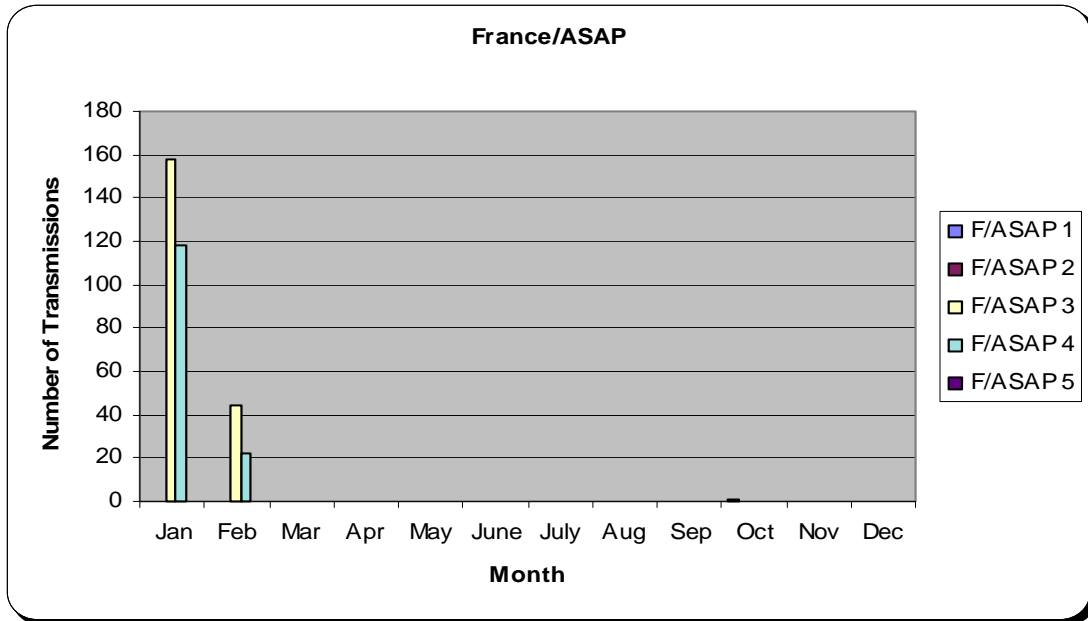
Figure 14



**Figure 1: D/ASAP transmissions**



**Figure 2: F/ASAP transmissions**



**ASAP IDCS Allocations**

The following tables give the present allocations for the ASAP DCPs on I10 and I12.

**ASAP COMMUNICATIONS SCHEDULE FOR OPERATION ON IDCS CHANNEL 10 and 12**

Transmission timeslots on International Channel 10 and 12 for ASAP use 90-second timeslots composed of a 30-second guard band and 59 seconds of data.

The following are the allocations for the primary first transmission timeslot at 0000 and 1200UTC. The second transmission is 30 minutes later. The backup timeslot is 1 hour after the primary timeslot:

Operator	DCP name	DCP address	Primary Transmission Time For 0000 UTC	
			First Transmission 00.30.00 - 01.00.00	Second Transmission 01.00.00 - 01.30.00
Spain	SPAIN/ASAP 1	11836376	01.00.00 - 01.01.30	01.00.00 - 01.01.30
NOAA	CANADA/ASAP 1	A040056E	01.01.30 - 01.03.00	01.01.30 - 01.03.00
Reserved for future ASAP use	N/A	N/A	00.33.00 - 00.34.30	01.03.00 - 01.04.30
NOAA	CANADA/ASAP 2	A0401618	01.04.30 - 01.06.00	01.04.30 - 01.06.00
Germany	D/ASAP 1	112007C8	00.36.00 - 00.37.30	01.06.00 - 01.07.30
Germany	D/ASAP 2	112044C2	00.37.30 - 00.39.00	01.07.30 - 01.09.00
Germany	D/ASAP 3	112057B4	00.39.00 - 00.40.30	01.09.00 - 01.10.30
Germany	D/ASAP 4	160037D2	00.40.30 - 00.42.00	01.10.30 - 01.12.00
NOAA	CANADA/ASAP 3	A0402382	01.13.30 - 01.15.00	01.13.30 - 01.15.00
Reserved for future ASAP use	N/A	N/A	00.45.00 - 00.46.30	01.15.00 - 01.16.30
NOAA	CANADA/ASAP 4	A04030F4	01.16.30 - 01.18.00	01.16.30 - 01.18.00
France	F/ASAP 1	1180F11A	00.51.00 - 00.52.30	01.21.00 - 01.22.30
NOAA	CANADA/ASAP 5	A0404664	01.19.30 - 01.21.00	01.19.30 - 01.21.00
France	F/ASAP 2	11810364	00.52.30 - 00.54.00	01.22.30 - 01.24.00
France	F/ASAP 3	11819606	00.54.00 - 00.55.30	01.24.00 - 01.25.30
France	F/ASAP 4	1181A39C	00.57.00 - 00.58.30	01.27.00 - 01.28.30
Reserved for future ASAP use	N/A	N/A	00.55.30 - 00.57.00	01.25.30 - 01.27.00
France	F/ASAP 5	1183207C	00.48.00 - 00.51.30	01.18.00 - 01.19.30
Reserved for future ASAP use	N/A	N/A	00.58.30 - 01.00.00	01.28.30 - 01.30.00

Operator	DCP name	DCP address	Backup Transmission Time For 0000 UTC	
			First Transmission 01.30.00 - 01.30.00	Second Transmission 02.00.00 - 02.30.00
Spain	SPAIN/ASAP 1	11836376	02.15.00 - 02.16.30	02.25.30 - 02.27.00
NOAA	CANADA/ASAP 1	A040056E	02.01.30 - 02.03.00	02.01.30 - 02.03.00
Reserved for future ASAP use	N/A	N/A	01.33.00 - 01.34.30	02.03.00 - 02.04.30
NOAA	CANADA/ASAP 2	A0401618	02.04.30 - 02.06.00	02.04.30 - 02.06.00
Germany	D/ASAP 1	112007C8	01.36.00 - 01.37.30	02.06.00 - 02.07.30
Germany	D/ASAP 2	112044C2	01.37.30 - 01.39.00	02.07.30 - 02.09.00
Germany	D/ASAP 3	112057B4	01.39.00 - 01.40.30	02.09.00 - 02.10.30
Germany	D/ASAP 4	160037D2	01.40.30 - 01.42.00	02.10.30 - 02.12.00
NOAA	CANADA/ASAP 3	A0402382	02.13.30 - 02.15.00	02.13.30 - 02.15.00
Reserved for future ASAP use	N/A	N/A	01.45.00 - 01.46.30	02.15.00 - 02.16.30
NOAA	CANADA/ASAP 4	A04030F4	02.16.30 - 02.18.00	02.16.30 - 02.18.00
France	F/ASAP 1	1180F11A	01.51.00 - 01.52.30	02.21.00 - 02.22.30
NOAA	CANADA/ASAP 5	A0404664	02.19.30 - 02.21.00	02.19.30 - 02.21.00
France	F/ASAP 2	11810364	01.52.30 - 01.54.00	02.22.30 - 02.24.00
France	F/ASAP 3	11819606	01.54.00 - 01.55.30	02.24.00 - 02.25.30
France	F/ASAP 4	1181A39C	01.57.00 - 01.58.30	02.27.00 - 02.28.30
Reserved for future ASAP use	N/A	N/A	01.55.30 - 01.57.00	02.25.30 - 02.27.00
France	F/ASAP 5	1183207C	01.48.00 - 01.49.30	02.18.00 - 02.19.30
Reserved for future ASAP use	N/A	N/A	01.58.30 - 02.00.00	02.28.30 - 02.30.00

### **Interference on ASAP channel I12**

After questions arising from ASAP DCP operators, EUMETSAT investigated for interference on channel I12 (402.0355 MHz). After studying the amount of DCP abort messages received on I12 and the fact that operators were noticing an increased amount of non-message reception. It has been decided to dual-allocate the existing ASAP DCPs to channel I10 (402.0295 MHz). This channel is currently noise free and all DCPs will keep their existing transmission windows.



<p style="text-align: center;"><b>ASAP MONITORING REPORT YEAR 2003 PRESENTED BY FRANCE</b></p>
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## **1. INTRODUCTION**

This report describes the end-to-end monitoring of the ASAP data dissemination performance by Meteo-France.

This end-to-end monitoring has been applied to every TEMP-SHIP message received at LFPW (Toulouse) from EGRR (Bracknell) and EDZW (Offenbach). As in previous years, part A of messages was analyzed from the syntactic point of view. When the original data were available, digit-to-digit comparison has been made. Only messages with obviously erroneous ship's call sign were excluded .

## **2. CONTROLLED MESSAGES**

From all processed messages, we have a total of call signs which have been accepted for analysis. This is summarised in Table 1 with the country of the ship, if possible.

Some spurious call signs have been taken in account with a correspondence table used in LFPW enables to link a spurious call sign to a well know one. The corresponding message is then studied, and gives a supplementary information on telecommunication system reliability. It is clear that the telecommunication system may corrupt indifferently the call sign and the message.

Country	Call sign	Accepted messages number	Country	Call sign	Accepted messages number
Germany	DASAP1	17	Great Britain	ZCBP6	211
	DASAP3	44			
	DBBH	354			
	DBLK	263			
	EBUQ	221			
	ELML7	416			
	EASAP	4			
	EBLK	3			
Denmark	OXTS2	98	Eumetnet	SWJS WPKD	96 416
	OXVH2	248			
	OVYA2	24			
	OXYH2	306			
France	FNPB	118	Iceland	V2XM	141
	FNRS	140	Norway (Ekofisk platform)	LDWR	1395
	FQFL	111			
	FQFM	73			
	PACDG	4			
Japan	JGQH	116	Unidentified	KHRH KRPD WAAH VNAA	165 104 8 25
	JIVB	136			
	JNSR	43			
	JCCX	195			
	JDWX	126			

**Table 1 :** Ship's call sign received in LFPW from January 2003 to December 2003

### 3. THE MONITORING

#### 3.1 Origin of messages

For the statistic presented here, we used the messages from the 31 ships with call signs registered as OK in Table 1 . From January 2003 till December 2003, this corresponds to 5789 messages into the GTS, **49.65 %** of them coming from EGRR , **40.32 %** from EDZW and **10.03%** from LFPW. Duplication of origins is mainly due to one ship operated by Germany.

Country	EGRR	EDZW	LFPW
D	X	X	
F			X
JP	X		
DK	X	X	
GB	X		
ICELAND	X		

**Table 2 : Origin of messages, according to ship's Country**

(D = Germany, F = France, JP = Japan, DK = Denmark, GB=Great Britain )

### 3.2 Global system performance

The Table 3 describes the global results of the syntactic check for the messages with agreed call signs, the headers of columns having the following meaning:

A	number of messages received from EGRR , EDZW and LFPW;
N	number of messages NIL;
B	number of messages compared with original ( $B=C+D$ );
C	number of messages different from original;
D	number of messages identical to original;
B2	number of messages syntactically checked if original non available ( $B2=C2+D2$ );
C2	number of messages syntactically rejected;
D2	number of messages syntactically good;
T	number of good messages including duplicates;
T%	percentage of good reception ( $T\%=100*T/A$ );
U	number of good and non-duplicated messages.

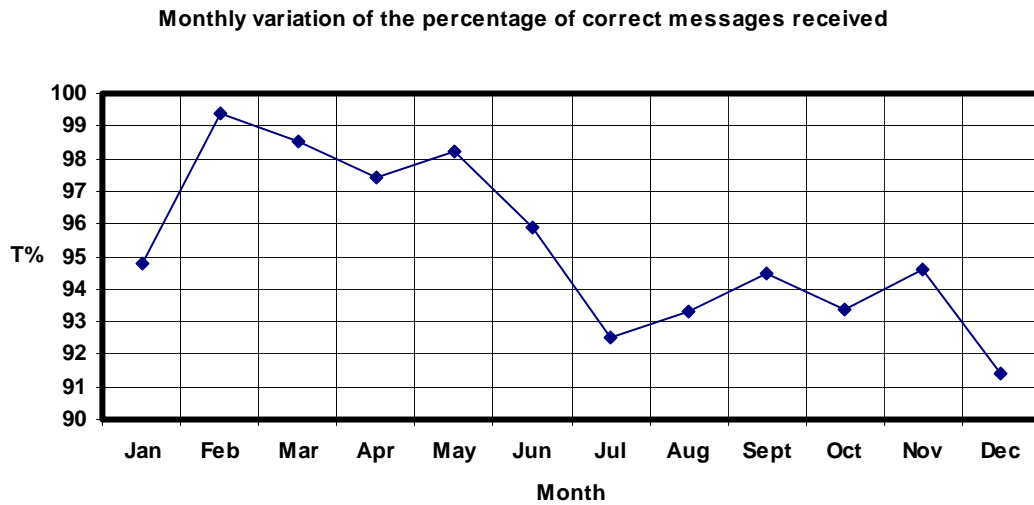
MONTH	ORIGIN	A	N	B	C	D	B2	C2	D2	T	T%	U
<b>Janu-03</b>	<b>egrr</b>	279	0	40	14	26	239	1	238	264	94.6	256
	<b>edzw</b>	257	0	0	0	0	257	13	244	244	94.9	235
	<b>lfpw</b>	49	0	30	12	18	19	0	19	37	75.5	35
	<b>Total</b>	585	0	70	26	44	515	14	501	545	93.2	505
<b>Febr-03</b>	<b>egrr</b>	127	0	7	0	7	120	0	120	127	100	126
	<b>edzw</b>	198	0	0	0	0	198	2	196	196	99	196
	<b>lfpw</b>	31	0	8	1	7	23	0	23	30	96.8	30
	<b>Total</b>	356	0	15	1	14	341	2	339	353	99.2	346
<b>Mar-03</b>	<b>egrr</b>	148	0	0	0	0	148	0	148	148	100	148
	<b>edzw</b>	180	0	0	0	0	180	5	175	175	97.3	175
	<b>lfpw</b>	48	0	0	0	0	48	0	48	48	100	47
	<b>Total</b>	376	0	0	0	0	376	5	371	371	98.7	370
<b>Apr-03</b>	<b>egrr</b>	139	0	0	0	0	139	0	139	139	100	139
	<b>edzw</b>	207	0	0	0	0	207	9	198	198	95.7	198
	<b>lfpw</b>	64	0	0	0	0	64	1	63	63	98.4	61
	<b>Total</b>	410	0	0	0	0	410	10	400	400	97.6	385
<b>May-03</b>	<b>egrr</b>	199	0	22	5	17	177	0	177	194	97.5	194
	<b>edzw</b>	200	0	0	0	0	200	2	198	198	99	198
	<b>lfpw</b>	55	0	0	0	0	55	0	55	55	100	55
	<b>Total</b>	454	0	22	5	17	432	2	430	447	98.5	441
<b>June-03</b>	<b>egrr</b>	316	0	33	13	20	283	0	283	303	95.9	299
	<b>edzw</b>	177	0	0	0	0	177	7	170	170	96	170
	<b>lfpw</b>	36	0	0	0	0	36	0	36	36	100	36
	<b>Total</b>	529	0	33	13	20	496	7	489	509	96.2	503
<b>July-03</b>	<b>egrr</b>	384	0	74	33	41	310	1	309	350	91.1	337
	<b>edzw</b>	192	0	0	0	0	192	9	183	183	95.3	183
	<b>lfpw</b>	41	0	4	0	4	37	0	37	41	100	40
	<b>Total</b>	617	0	78	33	45	539	10	529	574	93	557
<b>Aug-03</b>	<b>egrr</b>	198	0	49	24	25	149	0	149	174	87.9	167
	<b>Total</b>	190	0	0	0	0	190	2	188	188	98.9	188
	<b>lfpw</b>	37	0	17	7	10	20	0	20	30	81.1	29
	<b>Total</b>	425	0	66		35	359	2	357	392	92.2	377
<b>Sept-03</b>	<b>egrr</b>	191	0	29	13	16	162	0	162	178	93.2	176
	<b>edzw</b>	171	0	0	0	0	171	7	164	164	95.9	161
	<b>lfpw</b>	35	0	3	2	1	32	0	32	33	94.3	33
	<b>Total</b>	397	0	32	15	17	365	7	358	375	94.5	366
<b>Octo-03</b>	<b>egrr</b>	325	0	52	32	20	273	0	273	293	90.1	287
	<b>edzw</b>	190	0	0	0	0	190	2	188	188	98.9	186
	<b>lfpw</b>	73	0	10	7	3	63	0	63	66	90.4	64
	<b>Total</b>	588	0	62	39	23	526	2	524	547	93.0	517
<b>Nove-03</b>	<b>egrr</b>	248	0	43	16	27	205	0	205	232	93.5	231
	<b>edzw</b>	194	0	0	0	0	194	8	186	186	95.9	185
	<b>lfpw</b>	65	0	13	12	1	52	0	52	53	81.5	53
	<b>Total</b>	507	0	56	28	28	451	8	443	471	92.9	457
<b>Dec-03</b>	<b>egrr</b>	320	0	94	33	61	226	0	226	287	89.7	285
	<b>edzw</b>	178	0	0	0	0	178	10	168	168	94.4	168
	<b>lfpw</b>	47	0	2	1	1	45	0	45	46	97.9	46
	<b>Total</b>	545	0	96	34	62	449	10	439	501	91.9	490
<b>Total</b>	<b>egrr</b>	2874	0	443	183	260	2431	2	2439	2689	93.6	2645
	<b>edzw</b>	2334	0	0	0	0	2334	76	2258	2258	96.7	2243
	<b>lfpw</b>	581	0	87	42	45	494	1	493	538	92.6	529
	<b>Total</b>	5789	0	530	225	305	5259	79	5180	5485	94.7	5316
<b>Month</b>	<b>egrr</b>	239,50	0	36,92	15,25	21,67	202,42	0,17	203,25	224,08	93.6	220,42
<b>Average</b>	<b>edzw</b>	194,50	0	0	0	0	194,50	6,33	188,17	188,17	96.7	186,92
	<b>lfpw</b>	48,42	0	7,25	3,5	3,75	41,17	0,08	41,08	44,8	92.5	44,08
	<b>Total</b>	482,42	0	44,2	18,75	25,42	438,25	6,58	431,7	457,1	94,7	443

Table 3. Bracknell , Offenbach and LFPW statistics from January 2003 to December 2003

During those 12 months, LFPW received a total (T) of 5485 usable messages, i.e. **94.7%** of the income. Nevertheless, if we put aside the duplicates, we only get 5316 truly used messages (U), i.e. **91.8 %** of the income.

Call Sign	A	N	B	C	D	B2	C2	D2	T	T%	U	P
<b>DASAP1</b>	17	0	0	.	.	17	0	17	17	100	17	?
<b>DASAP3</b>	44	0	0	.	.	44	0	44	44	100	43	?
<b>DBBH</b>	377	0	98	28	70	279	0	279	349	92	327	116
<b>DBLK</b>	263	0	0	.	.	263	62	201	201	76	197	?
<b>EBUQ</b>	253	0	0	.	.	253	0	253	253	100	223	?
<b>ELML7</b>	515	0	389	171	218	126	1	125	343	66	288	505
<b>EASAP</b>	4	0	0	.	.	4	0	4	4	100	4	?
<b>EBLK</b>	3	0	0	.	.	3	3	0	0	.	0	?
<b>OXTS2</b>	98	0	0	.	.	98	1	97	97	98	97	?
<b>OXVH2</b>	248	0	0	.	.	248	2	246	246	99	244	?
<b>OVYA2</b>	32	0	0	.	.	32	0	32	32	100	32	?
<b>OXYH2</b>	306	0	0	.	.	306	1	305	305	99	305	?
<b>FNPH</b>	118	0	0	.	.	118	0	118	118	100	117	?
<b>FNRS</b>	140	0	0	.	.	140	5	135	135	96	126	?
<b>FQFL</b>	111	0	0	.	.	111	0	111	111	100	110	?
<b>FQFM</b>	73	0	6	6	0	67	0	67	67	91	67	50
<b>PACDG</b>	4	0	0	.	.	4	0	4	4	100	4	?
<b>JGQH</b>	116	0	0	.	.	116	0	116	116	100	114	?
<b>JIVB</b>	136	0	0	.	.	136	2	134	134	98	125	?
<b>JNSR</b>	43	0	0	.	.	43	0	43	43	100	42	?
<b>JCCX</b>	195	0	0	.	.	195	0	195	195	100	189	?
<b>JDWX</b>	126	0	0	.	.	126	0	126	126	100	124	?
<b>ZCBP6</b>	211	0	0	.	.	211	0	211	211	100	210	?
<b>WPKD</b>	419	0	0	.	.	419	0	419	419	100	410	?
<b>SWJS</b>	96	0	0	.	.	96	0	96	96	100	96	?
<b>V2XM</b>	141	0	0	.	.	141	0	141	141	100	137	?
<b>LDWR</b>	1395	0	0	.	.	1395	2	1393	1393	99	1393	?
<b>KHRH</b>	168	0	37	20	17	131	0	131	148	88	146	42
<b>KRPD</b>	104	0	0	.	.	104	0	104	104	100	98	?
<b>WAAH</b>	8	0	0	.	.	8	0	8	8	100	7	?
<b>VNAA</b>	25	0	0	.	.	25	0	25	25	100	24	?
	5789	0	530	225	305	5259	79	5180	5485	94.7	5316	713

**Table 4.** Global Statistics for each accepted call sign from January 2003 to December 2003 (Bracknell , Offenbach and LFPW)



**Figure 1** : monthly variation of the percentage of correct messages(T%) received at LFPW.

The evolution of the percentage of correct messages for the period is illustrated in the figure 1. On this graph ,we can see that the percentage of good reception T% is upper than **90%**.Last year, T% fluctuates between **70%** and **92%**.

The global population of messages can be divided into two populations :

- a) 530 messages having been compared to an original, **42%** of them being corrupted during the transmission.
- b) 5259 messages subject to syntactic check only **1.5%** of them found as incorrect.

We notice that the population of messages having been compared to an original is negligible compared with the population of messages subject to syntactic check.

Moreover there is a great difference between these two percentages, in that, the telecommunication system may change characters in the messages without changing the general syntax.

On a monthly average, LFPW has received a total of 443 non-corrupted and non-duplicated messages i.e. approximately 14 messages for each of the 31 call signs.

### Ships with available originals

We studied separately the sample of messages for which the ship's observation programme was available. This sample includes 1133 messages which global analysis is given in Tables 5 and 6 where column headers are completed as follows:

P Ship's programme.

U/P This is the final « system-efficiency index », giving the TEMP ratio of all TEMP messages arrived to LFPW uncorrupted and non-duplicated TEMP produced by ships. If this index is low, the system generates losses.

U/A This ratio can be regarded as a measure of the power of the telecommunication system to generate non corrupted duplicates of original messages. Values close to 100% indicate non duplication and a high quality transmission. Values less than 50% highlight an important duplication rate.

C/B Percentage of messages rejected during the analysis.

Call Sign	A	N	B	C	D	B2	C2	D2	T	T%	U
FQFM	73	0	6	6	0	67	0	67	67	91	67
DBBH	377	0	98	28	70	279	0	279	349	92	327
ELML7	515	0	389	171	218	126	1	125	343	66	288
KHRH	168	0	37	20	17	131	0	131	148	88	146
	1133	0	530	225	305	603	1	602	907	80	828

**Table 5** : Global statistics from January 2003 to December 2003 for ships with available programme.

Call Sign	U	P	U/P (%)	U/A (%)	%EGRR	%EDZW	%LFPW	C/B (%)	C2/B2 (%)
FQFM	67	50	.	91.8	0	0	100	100	0
DBBH	327	116	.	87	93.9	0	6,1	28.6	0
ELML7	288	505	57	55.9	80,8	0	19,2	44	0
KHRH	146	42	.	86.9	98.2	0	1,8	54	0
	828	713	.	73	82.5	0	17,5	42.4	0

**Table 6** : System efficiency for ships with available programme

Only ELML7 has a rather important duplication rate.

Out of these 1133 messages, 530 have been compared to originals (B/A=**46.8%**).From them 305 are identical to one original (D/B=**57.5%**).

The global system efficiency U/P is only computable for the ship ELML7.The score **57.5%** is much lower than those of year 2002.

We notice that the number of message syntactically rejected is null, so the score C2/B2 =**0** is much better than those of year 2002. ( C2/B2 =**5.6%**)

### 3.4 Ships without available originals

Out of all the messages received at LFPW, we also studied the 4656 (5789-1133) for which we had no originals (Table7). From this syntactic point of view the score U/A fluctuates between **80%** and **100%**, if we exclude the ship EBLK which sent only 3 messages.

This result is higher to the one of the comparison with the original (U/P=57% for the ship ELML7) which is far more stringent than the syntactic comparison.

If we exclude the ship EBLK, U/A fluctuates between 75% to 100%, so the duplicates are insignificant for this population of messages.

Call Sign	% U/A	% egrr	% edzw	%lfpw
DASAP1	100	100	0	0
DASAP3	97.7	100	0	0
DBLK	74.9	0	100	0
EBUQ	88.1	87.4	0	12,6
EASAP	100	100	0	0
EBLK	0	0	100	0
OXTS2	99	0	100	0
OXVH2	98.4	0	100	0
OVYA2	100	25	75	0
OXYH2	99.7	40.5	59.5	0
FNPH	99.2	0	0	100
FNRS	90	0	17.9	82.1
FQFL	99	0	0	100
PACDG	100	0	0	100
JGQH	98.3	100	0	0
JIVB	91.9	100	0	0
JNSR	97.7	100	0	0
JCCX	96.9	100	0	0
JDWX	98.4	100	0	0
ZCBP6	99.5	100	0	0
WPKD	97.9	99.3	0	0.7
SWJS	100	0	100	0
V2XM	97.2	100	0	0
LDWR	99.9	0	100	0
KRPD	94.2	100	0	0
WAAH	87.5	100	0	0
VNAA	96	100	0	0

**Table 7** Statistics from January 2003 to December 2003 for ships without available programme .



#### 4. CONCLUSION

- In comparison to last year, the total amount of messages (A) received from all ships has gone down significantly.
- Unfortunately, we notice that for the French ships, the available programmes cannot be used for comparisons between original and processed messages, due to a presence of an illicit character in the heading. The system-efficiency index U/P is only calculable for the ship ELML7.
- For the last 3 years the scores T/A (percentage of good reception) and C2/B2 (percentage of messages syntactically rejected) averaged over all ships are under improvements but the score C/B (percentage of messages rejected during the comparison with the original) averaged over the ships with available program are becoming worse.