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INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (of UNESCO)

WORLD METEOROLOGICAL ORGANIZATION

Twenty-second Meeting on Argos Joint Tariff Agreement
(Trois Ilets, La Martinique, France, 21-23 October 2002)

SUMMARY REPORT

1. ORGANIZATION OF THE MEETING

1.1 OPENING OF THE MEETING

1 The twenty-second meeting on Argos Joint Tariff Agreement was opened by its chairman, Mr. D. J. Painting, at 09.00 a.m. on Monday, 21 October 2002, in the conference room of Novotel Carayou, in Trois Ilets, Martinique, France. Mr Painting welcomed participants to the meeting, and expressed his thanks to the hosts, Météo-France and especially its Regional Office for Antilles-Guyane, for providing such excellent facilities and hospitality.

2 The list of participants is given in *Annex I*

1.2 ADOPTION OF THE AGENDA

3 The meeting adopted its agenda as given in *Annex II*

1.3 WORKING ARRANGEMENTS

4 Under this agenda item, the meeting decided on its working hours and other arrangements for the conduct of the meeting.

2. REPORT OF THE CHAIRMAN OF THE JTA

5 The chairman informed the meeting on actions taken by him since, and resulting from, the twenty-first meeting on Argos JTA. These actions included:

(i) In April and September progress reports were circulated to JTA participants detailing the actual activity for 2001, the final participation in the 2002 agreement estimated consumption for 2002 based on activity to 31 August 2002.

(ii) The chairman attended the Argos Operations Committee meeting in Maui in June and presented a written report on the main results of JTA-XXI. Of particular interest to JTA participants was the Committee's agreement, in principle, with the user request to enhance the Argos GTS processing sub-system to accept relevant data from non-Argos satellite DCS for insertion into the GTS. Such data might include, for example, Argos data relayed by commercial satellites or data from the Brazilian satellite DCS. In this latter connection the Operations Committee endorsed the ongoing activity being undertaken by CLS to allow Argos PTTs to operate on the Brazilian satellite

(iii) JTA participants would recall the discussions regarding the beneficial utilisation of the available bandwidth offered by Argos-2. The Operations Committee reviewed the five-year evolution of the use of the Argos-1 and Argos-2 bandwidth. It was noted that over 60% of users are clustered in the centre of the frequency band. CLS/SAI have begun promotional activities to educate users and ask manufacturers to voluntarily utilize all of the available bandwidth. The OpsCom recognized the need for more stringent framework to encourage ARGOS beacon manufacturers to utilize the entire Argos frequency band and has initiated action to address the issue of assigning frequencies in the System Use Agreement application process.

6 The meeting thanked its chairman for the work undertaken on its behalf during the intersessional period.

3. REPORT ON THE 2002 GLOBAL AGREEMENT

7 Mr Christian Ortega of CLS/Service Argos reported on the status of the 2002 Global Agreement. He noted that a final total of 1144.68 PTT (Platform Transmitter Terminal) years had eventually been signed under the agreement for preferential tariff arrangements, made up as follows:

COUNTRIES	PTT-year
AUSTRALIA	42.00
AUSTRIA	2.00
BRASIL	10.00
BURKINA FASO	6.00
CANADA	64.00
CHINA	15.50
DENMARK	10.07
FINLAND	1.51
FRANCE	80.50
GERMANY	56.00
ICELAND	1.50
INDIA	10.00
ITALY	13.00
KOREA	4.50
NETHERLANDS	6.50
NEW ZEALAND	9.30
NORWAY	19.00
PAKISTAN	0.00
SOUTH AFRICA	28.70
SPAIN	2.60
SWEDEN	2.00
TUNISIA	0.00
UND ARAB EMTS	6.00
UNITED KINGDOM	57.00
USA	695.00
OTHERS	2.00
TOTAL	**1,144.68**

Mr Ortega noted that this total was lower than the estimated number recorded at the JTA-XXI meeting, viz 1149.61 PTT-year.

8 Regarding the "bonus scheme" adopted at its seventeenth session (paragraph 5.5 of the final report), the meeting recalled that, at its twenty-first session, it had agreed that:

> "*a) Where the number of platform-years contracted by the country continues to equal or exceed the estimate confirmed and recorded at the **JTA-XVII** meeting, the contracted number will be increased by 82% for the purpose of calculating any excess use.*
>
> *b) For countries not meeting the requirement in (a) above, but having benefited from a 35% bonus during the year preceding immediately that of these present Terms and Conditions, and whose number of platform-years contracted equals or exceeds the number signed under the preceding Terms and Conditions, the contracted number will be increased by 82% for the purpose of calculating any excess use.*
>
> *c) For countries not meeting the requirements in (a) and (b) above, but whose number of platform-years contracted equals or exceeds the number signed under the preceding Terms and Conditions, the contracted number will be increased by 35% for the purpose of calculating any excess."* (paragraph 32 of the summary report).

On that basis, the "bonus situation" appeared to be as given in the table below:

Countries	Agreed at JTA XVII PTT-Yrs	Contracted for 2001 PTT-Yrs	Contracted for 2002 PTT-Yrs	Bonus for 2002 82%	Bonus for 2002 35%
AUSTRALIA	53.0	42.0	42.0	yes	
AUSTRIA			2.0		
BRAZIL	12.0	12.0	10.0		
BURKINA FASSO	14.0	10.0	6.0		
CANADA	64.0	64.0	64.0	yes	
CHINA	1.5	12.5	15.5	yes	
DENMARK	11.0	11.5	10.1		
FINLAND	1.5	2.0	1.5	yes	
FRANCE	80.5	82.0	80.5	yes	
GERMANY	43.2	42.8	56.0		yes
ICELAND	7.0	4.5	1.5		
INDIA	10.0	10.0	10.0	yes	
ITALY	12.0	11.0	13.0	yes	
KOREA	5.0	2.5	4.5		yes
NETHERLANDS	15.5	7.3	6.5		
NEW ZEALAND	9.3	9.3	9.3	yes	
NORWAY	21.5	21.5	19.0		
PAKISTAN	1.6	1.6	0.0		
SOUTH AFRICA	38.0	38.0	28.7		
SPAIN	1.3	1.7	2.6	yes	
SWEDEN	2.5	2.5	2.0		
TUNISIA	3.0	3.0	0.0		
UND ARAB EMTS	3.5	6.0	6.0	yes	
UK	50.0	50.0	57.0	yes	
US	655.0	685.0	695.0	yes	
OTHERS	3.0	3.0	2.0		
TOTAL	**1,118.8**	**1,135.7**	**1,144.7**		

9 Detailed information on the 2002 Global Agreement is given in *Annex III*.

4. REPORT ON THE DEVELOPMENT OF CLS/SERVICE ARGOS

10 The reports on 2001-2002 operations and on system improvements and development projects had been already presented to the preceding DBCP session, where most of the meeting attendees were present. Brief summary presentations were therefore made of those reports, which are attached as *Annexes IV* and *V*, respectively, and updated appropriately.

5. REVIEW OF USER'S REQUIREMENTS

11 The meeting noted with interest a report from the chairman of the DBCP on the main results of the eighteenth session of the panel (including the technical workshop), which had taken place in Trois Ilets from 14 to 18 October 2002. These included in particular the following specific recommendations to the JTA:

(i) Recalling its discussion on GTS distribution of buoy data collected through satellite systems without GTS data processing capability, the DBCP had concluded that the Argos

processing system should be enhanced to accept suitably formatted data from other satellite systems for insertion onto the GTS, and requested the DBCP chairman to bring this recommendation to the attention of the Argos JTA with a view to include this enhancement in the Argos development programme;

(ii) Having studied the impact of closure of the Lannion global ground station on the receipt of stored data sets, and concluded that this closure had a serious effect on the timeless of data reception for many applications, the DBCP requested its chairman to bring this matter to the attention of the Argos JTA, with a strong recommendation that the Lannion ground station be reactivated to download stored data sets, thus restoring the service enjoyed to the mid 1990s;

(iii) The DBCP requested its chairman to check if the decision reached last year regarding the funding for the independent JTA chairman was still valid and to be renewed in future.

12 The specific actions taken by the JTA in response to these recommendations are as follows:

(i) *GTS subsystem to relay data from other sources*. The study regarding the use of the GTS sub-system to relay data from satellite systems without GTS data processing capability demonstrated that the impact of meeting that requirement would be very small. The meeting agreed therefore that its chairman would carry the requirement to the OpsCom in view of that enhancement becoming part of the Argos development programme;

(ii) *Reactivating Lannion station*. The meeting recognized that the requirement had potentially large financial implications. On the other hand, reactivating the Lannion station would benefit much more than the DBCP and even the JTA communities. The meeting therefore instructed its chairman to convey the requirement first in a letter addressed to the co-chairs of the OpsCom and then at the next meeting of the OpsCom, in February 2003;

(iii) *Funding mechanism for the JTA chairman*. The meeting agreed on the continuation for the foreseeable future of the mechanism put in place at JTA-XXI, viz that the costs related to the independent JTA chairman (essentially contract and travel) should be fully funded through the JTA and relayed by the WMO Secretariat.

13 With regard to the specific user requirements raised at JTA-XXI, the meeting noted the following actions or considerations:

(i) *Status of implementation of the Argo QC module*. The meeting noted that the current GTS processing system at CLS/SAI could handle a number of floats, the message formats of which were properly documented. SAI could and did process all US Argo floats. CLS processed some floats from other countries through the GTS sub-system without Argo real-time QC. Pending the upgrading of the GTS processing system to accommodate the QC of all (or most) Argo data processed via Argos, an interim complementary solution had been implemented in May 2002 through the installation of a QC/GTS module developed by AOML;

(ii) *Feasibility study regarding the use of the GTS sub-system to relay data from other sources*. (see 5.2 (i) above);

(iii) *Concrete proposal for connecting Argos to the Brazilian satellites and the OpsCom reaction in that respect*. The meeting noted that tests had been conducted, that showed that the connection was feasible and brought several improvements, such as increasing timeliness of data receipt and eliminating some “time holes” in data reception. The next step was now to establish a formal cooperative agreement with Brazil, which OpsCom

would do, and to explore the possibilities of implementing a dedicated Brazilian ground station (action CLS);

(iv) *Consequences of the decision taken regarding the phasing-out of the additional charge for class A/B locations for animal trackers*. The meeting noted that the phasing out of the related charges went on as foreseen at JTA-XX and XXI, viz that there would be zero charges in 2003 and future years;

(v) *Results of CLS experience regarding possible free access to the ADEOS-II satellite, including cost impacts*. The meeting noted that CLS had no experience on this topic as yet, pending the actual launching of the satellite. CLS stated that there would be no additional charges for access to ADEOS-II data stream, however, the question would be reviewed at next JTA meeting, in connection with the proposed CLS policy regarding the downlink tariff;

(vi) *Possible new user category, to accommodate "single readout, post-collection archival tags", based on a specific proposal from CLS/Service Argos and the USA*. The meeting noted that no specific requirement had yet been detailed in that respect.

(vii) *Implementation of the streamlined System Use Agreement (SUA) approval process*. Rob Bassett from NOAA/NESDIS provided the status of the ongoing effort to streamline the SUA approval process. He reported that the effort was dependent upon the Argos 2001 improvements being implemented by CLS. The NOAA SUA electronic routing/approval system was estimated to be operational by December 2002. The system should expedite the processing of SUAs and allow for automatic distribution to CLS, OpsCom, and other interested parties, i.e. ROCs, as requested.

6. REVIEW OF THE STRUCTURE OF THE TARIFF AGREEMENT AND RELATED MATTERS

14 In line with its long-standing request, the meeting was presented by Mr M. Cazenave with details of the finalized Argos operating costs for 2001 as well as of the *amortization* and *promotion and marketing* items for the same year. These are given in *Annex VI.* The meeting acknowledged the information given, and noted the final 2001 figures of 5.48 M€ for personnel-related expenses and 4.37 M€ for other expenses, for a total of 9.85 M€. It further noted with appreciation the detailed breakdown of such costs for 2001, as well as the evolution of these figures over previous years, presented for comparison.

15 With regard to the specific action items identified by JTA-XXI, the meeting noted:

(i) *Operation of the five-year plan (FYP) to address the Argos operating deficit and accumulated debt*. The meeting recognized that the plan was giving a reasonable approximation of the reality – at least in so far as it was executed in a good spirit of cooperation - and decided that its basic principles should remain unchanged for a further year, to be reviewed again at the 2003 meeting. The tabulated plan, with the new operating cost estimates, actual contracted PTT years for 2002 and revised estimates for future years, is given in *Annex VII*.

(ii) *Phasing out of unused ID charges*. The meeting recognized that the incentive put in place to encourage users to recycle their unused IDs had had little results up to present time. It nevertheless agreed to retain the charge during 2003 and to review again the question at JTA-XXIII. It further requested CLS to send the lists of unused IDs to the ROCs by early January.

(iii) *Likely effects of factoring existing additional charges (except for the unused ID charge) into the standard PTT charge*. The meeting regretted that the study it had requested from

CLS at its twenty-first session about existing additional charges had not been undertaken. It renewed its request that CLS prepare, before JTA-XXIII, a categorized list of those charges, including charges for additional locations, active platform fee, administrative charges, 25% surcharges for excess use of the contracted PTT-years (as necessary, see item 6.7 below), and the various value-added services provided on request by CLS, together with a proposal to introduce some or all of those charges into the standard PTT charges at the end of the five-year plan.

(iv) *Possibility of changing PTT certification requirements to force better management and use of the available bandwidth*. The meeting noted with satisfaction that (as already reported by its chairman, see paragraph 2.1 (iii)) the OpsCom had recognized the need for more stringent framework to encourage Argos beacon manufacturers to utilize the entire Argos frequency band. An action item was opened to address the issue of assigning frequencies in the SUA application process.

16 The meeting noted that the charges applied to the "*inactive status*" were not aimed at increasing significantly CLS income, but rather at inciting users to manage as precisely as possible their programmes, in order that as little PTTs as possible continue to transmit data after the termination of the programmes. It recognized that the way that status was actually used did not met efficiently enough this objective. On the other hand, it noted that the only way of drawing programme managers' attention to the problem of "unuseful PTTs" was to slightly amend the SUA they had to sign, to explicitly introduce the concept of programme duration and associated precise criteria, including the full financial responsibility of the programme manager for the overall programme and its consequences. It therefore decided to take no action on this topic as far as the Terms and Conditions for 2003 were concerned and to request the OpsCom to consider amending the SUA accordingly.

17 The meeting noted a specific problem the ROC of USA was encountering in 2002 due to an unforeseeable increase in the Argos-related activities of some of its users and an increase in new users. That led to a major over use of the system by USA and the application of paragraph (7) of the section "*GENERAL CONDITIONS OF AGREEMENT*" of the Terms and Conditions for 2002, that read: "*Each participating country will be charged for excess use over and above the contracted number of PTT-years (inflated by the [*above*] bonus as appropriate) at the tariff defined under "USER CHARGES PER PLATFORM-YEAR" plus 25%.*"

18 The meeting first agreed that it was not in a position to accept any retroactive adjustment to the Terms and Conditions agreed upon last year. It therefore welcomed the proposal by CLS/Service Argos to make use of that additional, unexpected income, to adjust the five-year plan in freezing for the next two years the basic tariff of the PTT-year at its 2002 level of 4,055 €. Specific arrangements would be worked out between the US ROC and SAI for the recovery of the amount due by the former.

19 The meeting next considered it necessary, both,:

(i) to maintain in the Terms and Conditions an incentive to the best possible bidding for every participants, in order to allow the proper execution of the five-year plan, as well as to ensure that CLS would not be faced with too difficult a situation regarding the level of its fund; and

(ii) at the same time, to open a possibility for new programmes, or new extensions of existing programmes, to enter the JTA during the year, after the final number of PTT-years has been definitely fixed and signed by each ROC.

20 To that end, the meeting agreed to modify the rule concerning the "excess use" under the "GENERAL CONDITIONS OF AGREEMENT" of the Terms and Conditions, in order that any "over use" would benefit of the 35% bonus in the case of a ROC benefiting of a 82% bonus during the year, and of the normal rate (without any penalty) in all other cases. That decision would be taken into account when adopting the Terms and Conditions for 2003 and revisited at next year's meeting.

21 The meeting recognized the value to participants of the regular reporting procedures implemented in 1999. It therefore agreed that this reporting should continue in 2003, to include:

(i) **On 15 February each year**: the actual JTA activity for the previous year (in PTT-years); the final participation in the agreement for the current year (numbers committed on 15 January); a brief commentary by the chairman;

(ii) **On 15 July each year**: a projection of activity for the current year, based on actual activity during the period 1 January to 30 June; a brief commentary by the chairman.

22 The meeting thanked CLS/Service Argos for making available some details of the JTA and non-JTA activity in terms of active IDs and revenue, and requested that this information be included regularly in the future in its report to each JTA meeting.

7. TERMS AND CONDITIONS OF THE 2003 GLOBAL AGREEMENT

23 On the basis of the information available and of statements made by the representatives of participating countries, the numbers of PTT-years likely to be purchased by each country in 2003 were estimated as follows:

2003 Agreement

COUNTRIES	PTT-year
AUSTRALIA	42.00
AUSTRIA	1.00
BRASIL	6.00
BURKINA FASO	0.00
CANADA	64.00
CHINA ?	15.50
DENMARK	11.70
FINLAND	2.50
FRANCE	80.50
GERMANY	56.00
ICELAND	1.50
INDIA	15.00
ITALY	13.00
KOREA	4.70
NETHERLANDS	6.60
NEW ZEALAND	9.30
NORWAY	17.00
PAKISTAN	0.00
SOUTH AFRICA	28.70
SPAIN	2.60
SWEDEN	2.50
TUNISIA	0.00
UND ARAB EMTS	6.00
UNITED KINGDOM	57.00
USA	742.00
OTHERS	2.00
TOTAL	**1,187.10**

[When the name of a country is followed by a question mark, this means that the figure is hypothetical.]

24 The meeting recalled that it had been the practice for several years to consider the final total of PTT-years under the Agreement for any calendar year as being the sum of the numbers committed by countries by 15 January of that year. In this case, the above total of (roughly) 1187 was regarded as an approximation only.

25 The principles agreed upon at the twenty-first meeting, as well as those established under agenda items 5 and 6 above, were used to agree on the terms and conditions for the 2003 Global Agreement. Eventually, and also taking into account a few editorial amendments, the following modifications were agreed to be introduced into the 2003 Terms and Conditions, as compared to those for 2002:

(i) 2002 is replaced by 2003;

(ii) First page, the second part of the first paragraph will read: "*... jointly providing support [...] of remote platforms communicating with* Argos-capable *satellites.*

(iii) Under "**ACTIVE PLATFORM FEE**", the first item will read: "*A monthly fee of **6.10 Euros** is applied ...*";

(iv) Under "**LIMITATIONS ON PTT's**", item (2), the second sentence will read: "*If the service results in exceeding these limits, the cost will then be 1/25 of the tariff rate for each processing category multiplied by the number of processed platform-years for the program number(s) concerned in each category*."

(v) Under "**GENERAL CONDITIONS OF AGREEMENT**", item (5), the first sentence will read : " *The terms of this Agreement are based on a planed minimum purchase of **1,187 platform-years** by all participants in the Global Agreement for the year **2003.***";

(vi) Under "**GENERAL CONDITIONS OF AGREEMENT**", item (6), a last sentence will be added, as follows: "*ROCs are responsible for the allocation of the bonus within their country, but shall not transfer PTT-years between themselves to take advantage of this allowance.*"

(vii) Under "**GENERAL CONDITIONS OF AGREEMENT**", item (7) will be replaced by the following:

"*Each participating country will be charged for excess use over and above the contracted number of PTT-years (inflated by the above bonus as appropriate):*

a) at the tariff defined under "USER CHARGES PER PLATFORM-YEAR" divided by 1.35 (one point thirty five), if the participating country benefits of a 82% bonus during the year;

b) at the tariff defined under "USER CHARGES PER PLATFORM-YEAR", in all other cases.

These charges will be applied to the second invoice sent at the end of the year."

26 The Terms and Conditions for the Global Agreement for 2003 are given in *Annex VIII*.

8. FUTURE PLANS AND PROGRAMMES

27 Written reports on future plans and programmes for the use of the Argos System in 2003 were presented to the meeting by Brazil, Denmark, France, Korea (Republic of), Netherlands, New Zealand, South Africa and USA. Following normal practice, these reports, as well as those received before 15 November 2002, are given in *Annex IX* in standard format.

9. ELECTION OF THE CHAIRMAN

28 The meeting re-elected Mr Derek Painting as its chairman, to hold office until the end of the next meeting.

10. DATE AND PLACE OF THE NEXT MEETING

29 In line with the agreement of the preceding eighteenth session of the Data Buoy Cooperation Panel, the meeting accepted the kind offer of Brazil that the twenty-third meeting on the Argos Joint Tariff Agreement will take place either in Rio de Janeiro or in Salvador, from 27 to 29 October 2003. It will thus follow immediately after the nineteenth session of the DBCP. It was foreshadowed that the 2004 JTA meeting might take place in Chennai, India, as usual following the DBCP session.

11. CLOSURE OF THE MEETING

30 In closing the meeting, the chairman once more expressed his thanks, on behalf of all participants, to the hosts, Météo-France, and especially its Centre de météorologie marine and the Direction interrégionale Antilles Guyane, for the excellent facilities, hospitality and support they had provided. He particularly thanked Jean Rolland, Michel Trémant and Jean-Pierre Lemarchand for their hard work and cooperation, prior to as well as during the meeting. The chairman further thanked all participants for their input and cooperative approach and the Secretariats for their ongoing support for the JTA in general.

31 On behalf of the participants, Mr Frank Grooters expressed his thanks to the chairman for his wise and efficient conduct of business, CLS/service Argos for their input and cooperative spirit and the organisers for choosing such a nice and sympathetic venue.

32 The twenty-second meeting on Argos joint Tariff Agreement closed on Wednesday, 23 October 2002, at .10.00. hours.

ANNEX I

LIST OF PARTICIPANTS

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ANNEX II

AGENDA

1. ORGANIZATION OF THE MEETING

1.1 OPENING OF THE MEETING
1.2 ADOPTION OF THE AGENDA
1.3 WORKING ARRANGEMENTS

2. REPORT OF THE CHAIRMAN OF THE JTA

3. REPORT ON THE 2002 GLOBAL AGREEMENT

4. REPORT ON THE DEVELOPMENT OF CLS/SERVICE ARGOS

5. REVIEW OF USER'S REQUIREMENTS

6. REVIEW OF THE STRUCTURE OF THE TARIFF AGREEMENT AND RELATED MATTERS

7. TERMS AND CONDITIONS OF THE 2003 GLOBAL AGREEMENT

8. FUTURE PLANS AND PROGRAMMES

9. ELECTION OF THE CHAIRMAN

10. DATE AND PLACE OF THE NEXT MEETING

11. CLOSURE OF THE MEETING

ANNEX III

REPORT ON THE 2002 AGREEMENT

1. CONTRACTED PARTICIPATION FOR 2002

COUNTRIES	PTT-year
AUSTRALIA	42.00
AUSTRIA	2.00
BRASIL	10.00
BURKINA FASO	6.00
CANADA	64.00
CHINA	15.50
DENMARK	10.07
FINLAND	1.51
FRANCE	80.50
GERMANY	56.00
ICELAND	1.50
INDIA	10.00
ITALY	13.00
KOREA	4.50
NETHERLANDS	6.50
NEW ZEALAND	9.30
NORWAY	19.00
PAKISTAN	0.00
SOUTH AFRICA	28.70
SPAIN	2.60
SWEDEN	2.00
TAIWAN	2.00
TUNISIA	0.00
UND ARAB EMTS	6.00
UNITED KINGDOM	57.00
USA	695.00
TOTAL	1144.68

Table 1 - The numbers contracted by each country for year 2002

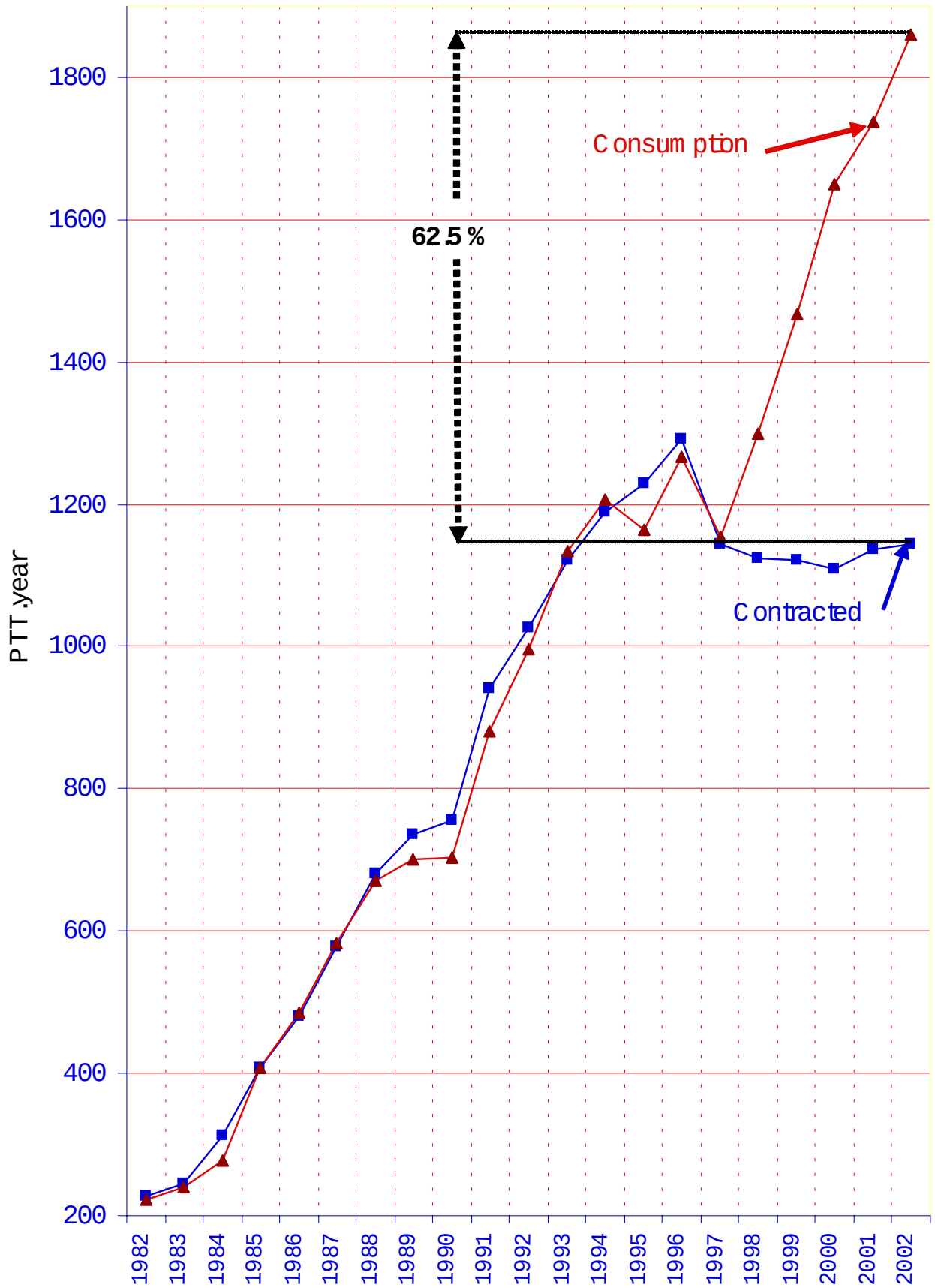
The total number contracted is lower than estimated number recorded at the JTA-XXI meeting, 1149.61 PTT-year.
Pakistan and Tunisia left the agreement while Austria joined it.

2. PROJECTED 2002 CONSUMPTION BASED ON ACTUAL USE AT END JULY

COUNTRIES	PTT-year
AUSTRALIA	52.07
AUSTRIA	1.3
BRASIL	7.06
BURKINA FASO	4.61
CANADA	84.35
CHINA	13.26
DENMARK	11.23
FINLAND	1.78
FRANCE	95.13
GERMANY	65.12
ICELAND	0.52
INDIA	8.95
ITALY	11.27
KOREA	6.18
NETHERLANDS	5.8
NEW ZEALAND	13.3
NORWAY	12.51
PAKISTAN*	0.66
SOUTH AFRICA	26.61
SPAIN	0.84
SWEDEN	3.12
TAIWAN	0.01
TUNISIA*	3.00
UND ARAB EMTS	8.44
UNITED KINGDOM	85.93
USA	1340.67
TOTAL	1860.06

Table 2 - The projected consumption for 2002 (* not counted in the total)

This is an extrapolation based on the actual consumptions till July 2002.


1800
1600
1400
1200
1000
800
600
400
200
PTT year
Consumption
62.5%
Contracted
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002

Curve 2.1: PTT-year contracted an consumption since 1982

The curves confirm the consumption growth observed from 1998 as the result of the bonus policy. The average level of bonus used is now over 60%.

3. EVOLUTION OF THE AGREEMENT FOR THE "BONUS YEARS" (1998-2002)

3.1 Principles of the bonus

- **JTA XVII (La Réunion, October 1997)**

Agreement reached at the seventeenth JTA meeting (La Réunion, October 1997, paragraph 5.5 of the final report):
« the basic principles for the 1998 and 1999 JTAs at least should be:

(i) that each ROC had essentially a fixed amount of money to pay to Argos for 1998, the total of which would most likely cover Argos operating costs for that year, based on an unchanged cost per PTT year,

(ii) that for this amount each ROC would be allowed a certain percentage increase (bonus) in PTT year usage in 1998, nominally 35%, without further charge or penalty,

(iii) that this increase could be compounded over two years, provided the sum guaranteed to be paid to Argos did not decrease in 1999 from that guaranteed at JTA-XVII,

(iv) that if the PTT years finally agreed on 15 January 1998 and/or 1999 by each ROC amounted to less than the PTT/years confirmed and recorded at the present meeting by the ROC, then the bonus would no longer apply to that country.

- **JTA XIX (Wellington, November 1999)**

The JTA - XIX meeting:

a) reconfirmed the decision that the total bonus should continue to apply for those countries with signed PTT-years in 2000 at least equal to the base figure in the JTA-XVII bid.

b) As an exception for 2000 only, for those ROCs that had not been able to take advantage of the bonus since its inception in 1998, it was decided to allow a bonus of 35% over the signed figure in 2000, should this figure exceed the figure in the 1999 agreement.

- **JTA XX (Victoria, October 2000)**

The bonus policy was reconfirmed and expanded as below:

The meeting agreed to :

a) continue the bonus system in 2001, with a continuing upper bonus limit of 82% to apply to those countries whose contracted number equal or exceeds the JTA-XVII bid,
b) make the bonus available also to those countries whose signed PTT-years in 2001 is at least as great as those confirmed at this meeting and also those signed in 2000, initially at the 35% level.

- **JTA XXI (Perth, October 2001)**

The bonus policy was reconfirmed and the related conditions formulated as below:

*a) Where the number of platform-years contracted by the country continues to equal or exceed the estimate confirmed and recorded at the **JTA-XVII** meeting**,** the contracted number will be increased by 82% for the purpose of calculating any excess use.*

b) For countries not meeting the requirement in (a) above, but having benefited from a 35% bonus during the year preceding immediately that of these present Terms and Conditions, and whose number of platform-years contracted equals or exceeds the number signed under the preceding Terms and Conditions, the contracted number will be increased by 82% for the purpose of calculating any excess use.

*c) For countries not meeting the requirements in (a) and (b) above, but whose number of platform-years contracted equals or exceeds the number signed under the preceding Terms and Conditions**,** the contracted number will be increased by 35% for the purpose of calculating any excess.*

3.2 Application of the bonus

3.2.1 Situation of Agreements per country

According to basic principles in § 3.1 the "bonus situation" is given in the table below:

Countries	Agreed at JTA XVII PTT-Yrs	Contracted for 2001 PTT-Yrs	Contracted for 2002 PTT-Yrs	Bonus for 2002 82%	Bonus for 2002 35%
AUSTRALIA	53.00	42.00	42.00	yes	
AUSTRIA			2.00		
BRAZIL	12.00	12.00	10.00		
BURKINA FASSO	14.00	10.00	6.00		
CANADA	64.00	64.00	64.00	yes	
CHINA	1.50	12.50	15.50	yes	
DENMARK	11.00	11.50	10.07		
FINLAND	1.45	2.00	1.51	yes	
FRANCE	80.50	82.00	80.50	yes	
GERMANY	43.20	42.80	56.00		yes
ICELAND	7.00	4.50	1.50		
INDIA	10.00	10.00	10.00	yes	
ITALY	12.00	11.00	13.00	yes	
KOREA	5.00	2.50	4.50		yes
NETHERLANDS	15.47	7.25	6.50		
NEW ZEALAND	9.30	9.30	9.30	yes	
NORWAY	21.50	21.50	19.00		
PAKISTAN	1.60	1.60	0.00		
SOUTH AFRICA	38.00	38.00	28.70		
SPAIN	1.25	1.70	2.60	yes	
SWEDEN	2.50	2.50	2.00		
TAIWAN	3.00	3.00	2.00		
TUNISIA	3.00	3.00	0.00		
UND ARAB EMTS	3.50	6.00	6.00	yes	
UK	50.00	50.00	57.00	yes	
US	655.00	685.00	695.00	yes	
TOTAL	**1119**	**1143**	**1145**		

Table 3.2.1: Bonus situation. From 2001 to 2002, 14 countries for which contracted number equals or exceeds their « Agreed JTA XVII » number were entitled to bonus.

b

3.2.2 Contracted versus consumed PTT-Yrs by country

- In 2001, the total PTT-year consumption was 53 % (601 PTT-years) higher than the total signed, 1136 PTT-years.
- The July projection for 2002 is 62 % (715 PTT-years) higher than the total signed, 1145 PTT-years.
- In July 2002, the projected consumptions of 12 countries (among 14 entitled to bonus) exceed their signed amount.

		Year 2001				Year 2002			
Countries	Agreed at JTA XVII (1997) PTT-Yrs	Contracted for 2001 PTT-Yrs	bonus	Consumed in 2001 PTT-Yrs	Diff %	Contracted for 2002 PTT-Yrs	bonus	Projected for 2002 jul-02 PTT-Yrs	Diff %
AUSTRALIA	53.00	42.00	yes	46.21	10%	42.00	yes	52.07	24%
AUSTRIA						2.00	no	1.3	-35%
BRAZIL	12.00	12.00	yes	8.93	-26%	10.00	no	7.06	-29%
BURKINA FAS.	14.00	10.00	no	8.01	-20%	6.00	no	4.61	-23%
CANADA	64.00	64.00	yes	76.41	19%	64.00	yes	84.35	32%
CHINA	1.50	12.50	yes	10.15	-19%	15.50	yes	13.26	-14%
DENMARK	11.00	11.50	yes	12.3	7%	10.07	no	11.23	12%
FINLAND	1.45	2.00	yes	2.52	26%	1.51	yes	1.78	18%
FRANCE	80.50	82.00	yes	101.44	24%	80.50	yes	95.13	18%
GERMANY	43.20	42.80	no	54.79	28%	56.00	yes	65.12	16%
ICELAND	7.00	4.50	yes	1.48	-67%	1.50	no	0.52	-65%
INDIA	10.00	10.00	yes	9.96	0%	10.00	yes	8.95	-11%
ITALY	12.00	11.00	yes	10.81	-2%	13.00	yes	11.27	-13%
KOREA	5.00	2.50	no	2.53	1%	4.50	yes	6.18	37%
NETHERLANDS	15.47	7.25	no	7.32	1%	6.50	no	5.8	-11%
NEW ZEALAND	9.30	9.30	yes	8.93	-4%	9.30	yes	13.3	43%
NORWAY	21.50	21.50	yes	15.58	-28%	19.00	no	12.51	-34%
PAKISTAN	1.60	1.60	yes	0.99	-38%	0.00			
SOUTH AFRICA	38.00	38.00	yes	32.12	-15%	28.70	no	26.61	-7%
SPAIN	1.25	1.70	yes	1.42	-16%	2.60	yes	0.84	-68%
SWEDEN	2.50	2.50	yes	3.34	34%	2.00	no	3.12	56%
TAIWAN	3.00	3.00	yes	0.51	-83%	2.00	no	0.01	-99%
TUNISIA	3.00	3.00	yes	3.06	2%	0.00			
U. ARAB EMTS	3.50	6.00	yes	7.87	31%	6.00	yes	8.44	41%
UK	50.00	50.00	yes	76.01	52%	57.00	yes	85.93	51%
US	655.00	685.00	yes	1234.42	80%	695.00	yes	1340.67	93%
TOTAL	**1119**	**1136**		**1737**	**53%**	**1145**		**1860**	**62%**

4. THE JOINT TARIFF AGREEMENT FROM 1982 TO 2002

Table 4.1 Overview

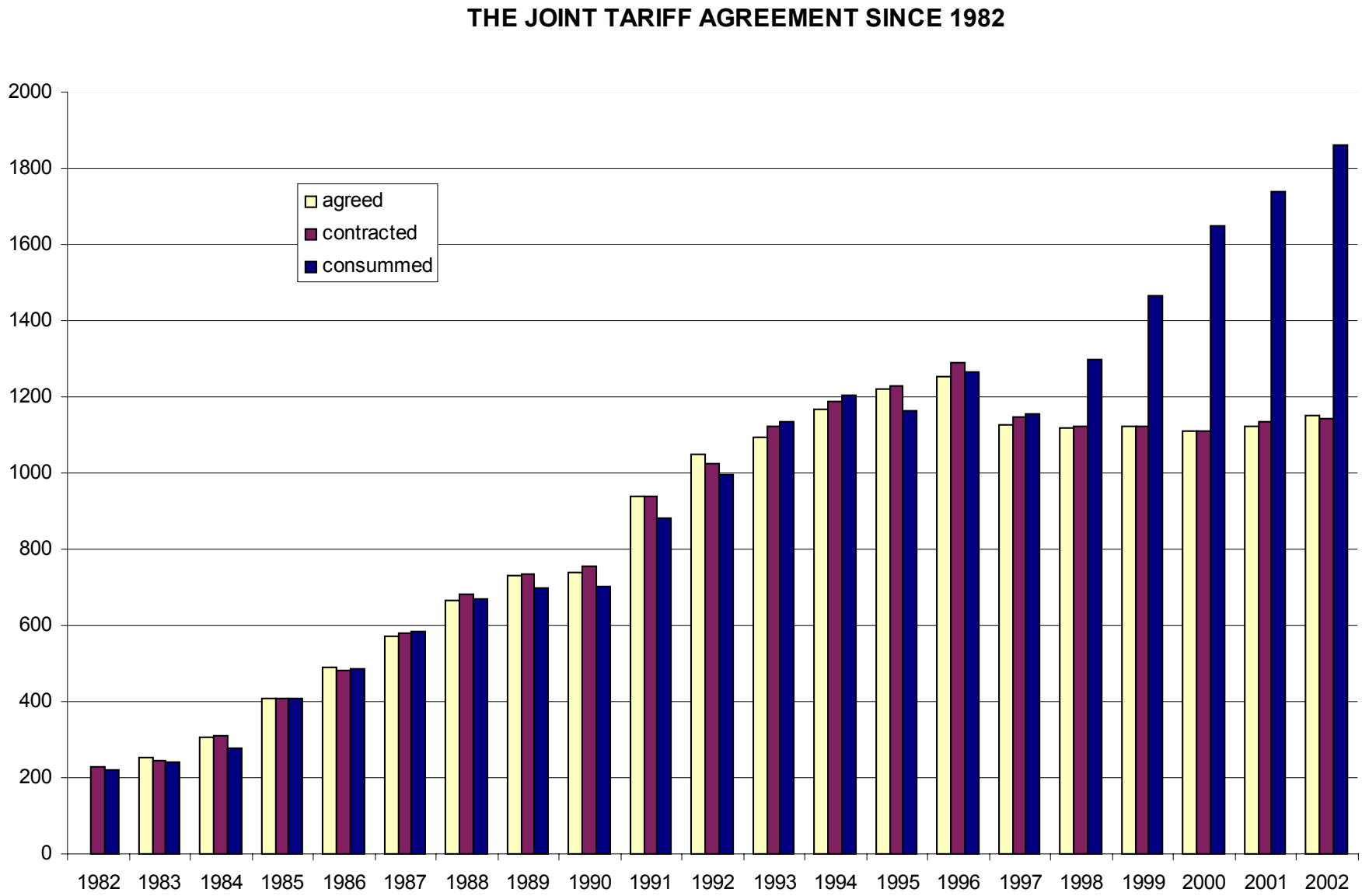


Table 4.2 Fig. per countries from 1982 to 2002: signed (SIG) and actual (ACT) PTT-years

	1982		1983		1984		1985		1986		1987		1988		1989	
	SIG.	ACT.	SIG.	ACT.	SIG.	ACT.	SIG.	ACT.	SIG.	ACT.	SIG.	ACT.	SIG.	ACT.	SIG.	ACT.
AUSTRALIA	11.0	11.0	9.0	7.8	17.0	8.7	15.0	15.0	22.0	22.6	30.0	27.0	25.0	19.1	19.0	13.9
AUSTRIA																
BRAZIL																
BURKINA FASO				9.8	1.5	0.9	1.5	1.2	1.5	1.4	2.0	2.3	2.0	3.5	3.5	5.5
CANADA	10.0	10.0	10.0		12.0	15.0	32.0	34.8	40.0	27.0	31.0	40.4	44.0	43.5	49.0	38.3
CHINA											6.0	3.5	7.0	4.4	5.0	3.2
DENMARK			1.0	3.0	3.0	4.8	6.0	5.9	6.0	6.4	6.0	6.8	7.0	7.3	10.0	11.6
FIJI																
FINLAND																
FRANCE	25.0	25.0	35.0	24.0	45.5	33.5	44.0	39.0	55.0	51.9	56.0	45.5	58.0	43.8	66.6	59.7
GERMANY	21.0	21.0	20.0	29.4	20.0	22.0	20.0	30.9	24.0	32.7	28.0	51.0	38.0	44.2	35.0	49.9
ICELAND											1.0	0.5	1.0	0.5	1.0	0.5
INDIA																
ITALY											1.0	0.7	2.0	0.4	2.0	1.2
KOREA																
MALAYSIA																
NETHERLANDS			1.0	0.9	1.0	0.9	2.0	1.5	2.0	0.8	3.0	1.8	4.0	3.3	3.0	2.6
NEW ZEALAND					2.0	0.1	2.0	1.4	3.0	5.5	3.0	3.6	4.0	5.1	5.5	5.0
NORWAY	10.0	10.0	20.0	18.3	17.5	19.5	19.5	15.3	28.0	20.2	21.0	26.0	18.0	15.8	25.0	24.7
PAKISTAN																
PORTUGAL	0.0	1.0	1.0	1.4							0.5	0.0	2.0	0.6	2.0	2.0
SAUDIARABIA							5.0	1.5			1.0	1.8	1.0	0.4		
SOUTH AFRICA	11.0	12.0	14.0	8.8	16.0	14.3	19.0	15.0	16.0	7.8	10.0	3.1	16.0	2.8	7.0	1.3
SPAIN																
SWEDEN																
OTHERS																
THAILAND																
TUNISIA																
UN.ARAB EMIRATS																
UNITED KINGDOM	7.0				11.0	8.2	9.0	4.6	8.5	10.8	14.5	14.2	13.0	15.5	22.0	21.0
USA	132.0	132.0	133.0	137.0	165.0	149.0	234.0	242.0	275.0	299.0	365.0	355.0	438.0	460.0	480.0	460.0
TOTAL	**227.0**	**222.0**	**244.0**	**240.0**	**312.0**	**277.0**	**409.0**	**408.0**	**481.0**	**486.0**	**579.0**	**583.0**	**680.0**	**670.0**	**736.0**	**700.0**

	1990		1991		1992		1993		1994		1995		1996		1997	
	SIG.	ACT.	SIG.	ACT.	SIG.	ACT.	SIG.	ACT.	SIG.	ACT.	SIG.	ACT.	SIG.	ACT.	SIG.	ACT.
AUSTRALIA	28.7	21.3	28.4	23.1	37.0	29.8	33.0	34.4	44.5	42.4	50.0	41.5	56.4	50.02	56.5	47.0
AUSTRIA																
BRAZIL	2.0	1.2	2.0	1.3	5.0	2.2	12.0	10.1	14.0	10.7	13.0	11.0	13.0	9.40	14.0	9.7
BURKINA FASO	5.0	5.2	6.5	5.3	6.5	5.8	7.5	10.9	7.5	12.8	13.0	11.6	14.0	11.86	14.0	12.3
CANADA	34.0	39.6	85.0	83.0	104.0	97.7	90.0	96.7	80.0	91.2	85.0	90.1	80.0	75.1	64.0	67.1
CHINA	5.0	5.9	6.5	5.0	5.0	3.2	3.5	3.8	3.0	4.0	3.0	2.9	3.0	3.0	1.5	1.5
DENMARK	10.0	9.8	3.0	2.8	2.8	2.3	3.5	4.9	6.5	5.2	6.2	5.6	10.0	8.1	11.8	8.6
FIJI					4.0	3.3	1.8	1.6	0.5	0.9	0.0	0.0	0.0	0.0	0.0	0.0
FINLAND					3.6	2.3	0.9	1.8	1.0	2.3	0.9	0.9	4.0	7.2	1.6	4.2
FRANCE	64.2	59.2	73.8	58.5	71.6	59.1	115.0	93.0	93.6	82.3	81.5	47.0	65.4	64.0	82.8	79.2
GERMANY	31.0	37.5	50.0	45.3	73.0	70.2	56.0	66.8	70.0	71.8	62.0	55.2	40.0	42.9	43.0	37.2
ICELAND	1.0	0.4	1.0	0.6	1.0	0.3	1.0	0.4	2.0	3.3	3.0	2.2	6.0	4.5	7.0	5.7
INDIA			8.0	1.6	8.0	5.0	8.0	2.6	8.0	6.1	8.0	6.8	8.0	8.0	10.0	6.2
ITALY	2.0	0.2	4.2	7.0	14.4	14.0	24.3	22.9	22.1	20.2	24.9	25.3	17.5	15.6	12.8	12.9
KOREA					2.3	2.1	2.3	3.2	2.7	4.9	5.5	3.4	7.5	4.2	6.5	9.2
MALAYSIA									1.4	0.3	0.8	0.0	0.8	0.0	0.0	0.0
NETHERLANDS	7.0	4.2	8.0	4.6	4.5	1.8	5.0	7.1	7.5	5.0	11.5	5.3	18.4	12.3	14.0	7.0
NEW ZEALAND	3.8	5.5	6.5	6.2	7.0	6.5	7.0	7.2	7.6	7.5	8.5	9.1	11.1	11.4	9.8	10.2
NORWAY	31.0	22.0	32.0	24.0	26.0	31.6	42.0	42.4	32.5	31.4	31.0	24.0	27.0	26.1	28.5	26.8
PAKISTAN					0.7	0.5	1.7	1.0	1.7	1.6	1.8	0.8	1.8	0.6	1.6	0.2
PORTUGAL	1.0	1.0	1.0		1.0	0.0	5.0	4.1	5.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
SAUDIARABIA	1.3	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOUTH AFRICA	13.0	8.2	14.0	7.5	13.0	7.8	13.0	11.7	15.0	12.3	22.0	23.1	25.0	26.5	34.0	30.0
SPAIN	0.0	0.0	0.0		0.0	0.0	1.7	0.0	1.7	0.4	1.5	1.2	2.8	3.6	1.5	1.6
SWEDEN			3.0	2.1	1.0	1.2	2.0	1.4	2.0	1.3	1.0	1.0	2.0	1.8	3.0	2.2
OTHERS									8.5	3.1	2.0	2.3	2.0	0.8	3.0	0.6
THAILAND											9.5	1.6	2.5	4.4	0.0	0.0
TUNISIA									2.0	2.1	2.0	2.6	2.0	2.9	3.0	3.2
UN.ARAB EMIRATS											2.5	1.8	2.5	2.24	3.0	3.0
UNITED KINGDOM	21.0	21.0	22.0	19.2	25.0	49.2	46.0	45.3	64.0	48.1	63.0	66.0	61.8	87.0	42.9	55.7
USA	495.0	460.0	585.0	585.0	600.0	600.0	643.0	661.0	685.0	732.0	715.0	721.0	805.0	784.0	675.0	714.0
TOTAL	**756.0**	**702.0**	**940.0**	**943.0**	**1,025.0**	**996.0**	**1,122.0**	**1,134.0**	**1,189.0**	**1,205.0**	**1,228.0**	**1,163.0**	**1,289.0**	**1,267.0**	**1,145.0**	**1,154.0**

	1998		1999		2000		2001		2002	
	SIG.	ACT.	SIG.	ACT.	SIG.	ACT.	SIG.	ACT.Jul	SIG.	ACT.
AUSTRALIA	53.0	45.5	53.0	47.94	40.50	40.30	42.00	45.13	42.0	52.1
AUSTRIA									2.0	1.3
BRAZIL	12.0	11.7	16.0	14.14	12.00	10.65	12.00	9.46	10.0	7.1
BURKINA FASO	13.0	11.8	10.8	9.17	10.80	8.87	10.00	8.11	6.0	4.6
CANADA	64.0	72.1	67.0	73.77	67.00	68.06	64.00	69.70	64.0	84.4
CHINA	1.5	1.1	3.0	2.36	2.37	4.39	12.50	5.80	15.5	13.3
DENMARK	12.4	12.3	11.0	13.82	8.05	11.78	11.50	11.29	10.1	11.2
FIJI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FINLAND	2.2	3.4	1.6	2.16	2.35	2.79	2.00	2.38	1.5	1.8
FRANCE	81.0	91.4	81.0	87.36	82.00	72.68	82.00	93.79	80.5	95.1
GERMANY	43.2	33.3	38.8	38.32	51.80	41.49	42.80	51.91	56.0	65.1
ICELAND	7.5	6.2	8.5	14.05	4.50	4.10	4.50	1.74	1.5	0.5
INDIA	10.0	8.2	10.0	10.85	10.00	11.61	10.00	11.01	10.0	9.0
ITALY	13.5	13.2	13.5	12.69	11.00	10.01	11.00	11.27	13.0	11.3
KOREA	4.0	6.1	5.0	6.56	3.00	3.47	2.50	2.38	4.5	6.2
MALAYSIA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NETHERLANDS	15.5	12.4	11.0	8.80	13.70	10.65	7.25	8.03	6.5	5.8
NEW ZEALAND	9.3	8.8	9.3	12.20	9.30	10.44	9.30	8.85	9.3	13.3
NORWAY	21.5	16.3	21.5	21.13	18.50	20.75	21.50	16.50	19.0	12.5
PAKISTAN	1.6	0.6	1.6	0.57	1.60	0.49	1.60	0.98	0.0	0.0
PORTUGAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAUDIARABIA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOUTH AFRICA	38.0	55.2	38.0	42.25	38.00	36.19	38.00	35.45	28.7	26.6
SPAIN	3.6	4.7	1.9	2.25	4.85	3.93	1.70	1.99	2.6	0.8
SWEDEN	3.0	4.9	3.0	5.34	3.00	3.13	2.50	3.47	2.0	3.1
OTHERS	3.0	1.8	3.0	7.35	1.00	0.76	3.00	0.75	2.0	0.0
THAILAND	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TUNISIA	3.0	3.5	3.0	3.10	3.00	3.29	3.00	3.05	0.0	0.0
UN.ARAB EMIRATS	3.5	4.8	4.5	4.24	5.00	5.33	6.00	8.17	6.0	8.4
UNITED KINGDOM	50.0	61.1	50.0	70.50	50.00	77.22	50.00	77.46	57.0	85.9
USA	655.0	808.0	655.0	961.0	655.0	1,188.0	685.0	1,191.0	695.0	1,340.7
TOTAL	1,124.0	1,299.0	1,121.0	1,467.0	1,108.0	1,650.0	1,136.0	1,680.0	1,144.7	1,860.1

ANNEX IV

REPORT ON 2001-2002 OPERATIONS

1. SPACE SEGMENT

1.1 Operational satellites

The two operational satellites are NOAA-16 (L), since March 2001, and NOAA-15 (K), since December 1st, 1998.
NOAA-17 (M) was successfully launched on June 24, 2002. Subject to NOAA confirmation, it should replace NOAA-15 (K) as an operational satellite by the end of September.

1.2 Other satellites

NOAA-17 (M), NOAA-14 (J) and NOAA-12 (D) are used as secondary satellites. Global and Regional datasets they collect are delivered according to the "multi-satellite" service characteristics.
NOAA-11 (H) is providing global datasets which are also delivered through the "multi-satellite" service. NOAA-11 is no longer delivering real-time data through the HRPT downlink since October 2001.

From **Satellite status**	Dec 98	Oct 99	Sep 2000	Mar 01	July 02
Commisioning			NOAA-16		NOAA-17
Operational	 NOAA-15 NOAA-14	 NOAA-15 NOAA-14	 NOAA-15 NOAA-14	 NOAA-16 NOAA-15	 NOAA-16 NOAA-15
Back-up Third satellite	 NOAA-11 NOAA-12 NOAA-10	 NOAA-11 NOAA-12	 NOAA-11 NOAA-12	 NOAA-14 NOAA-11 NOAA-12	 NOAA-14 NOAA-11 NOAA-17 NOAA-12
Decommisioned	NOAA-9	NOAA-9 NOAA-10	NOAA-9 NOAA-10	NOAA-9 NOAA-10	NOAA-9 NOAA-10

2. GROUND RECEIVING STATIONS

2.2 Global stations

The situation is essentially the same as last year:

- The two global stations able to acquire the STIP telemetry are still the Fairbanks and Wallops Island stations. The Lannion station is no longer used since the year 2000.
- These two stations deliver the STIP telemetry from the satellites NOAA-11, NOAA-12, NOAA-14, NOAA-15 et NOAA-16 and NOAA-17.
- As regards NOAA-12, only two orbits per day are delivered by NOAA/NESDIS.
- The STIP telemetry from NOAA-11 – the only type of telemetry available for this satellite – is delivered by group of three or four orbits.

Figure 1 shows STIP data set arrival times at the Toulouse and Largo processing centers. Ideally, one data set should be received every 100 minutes

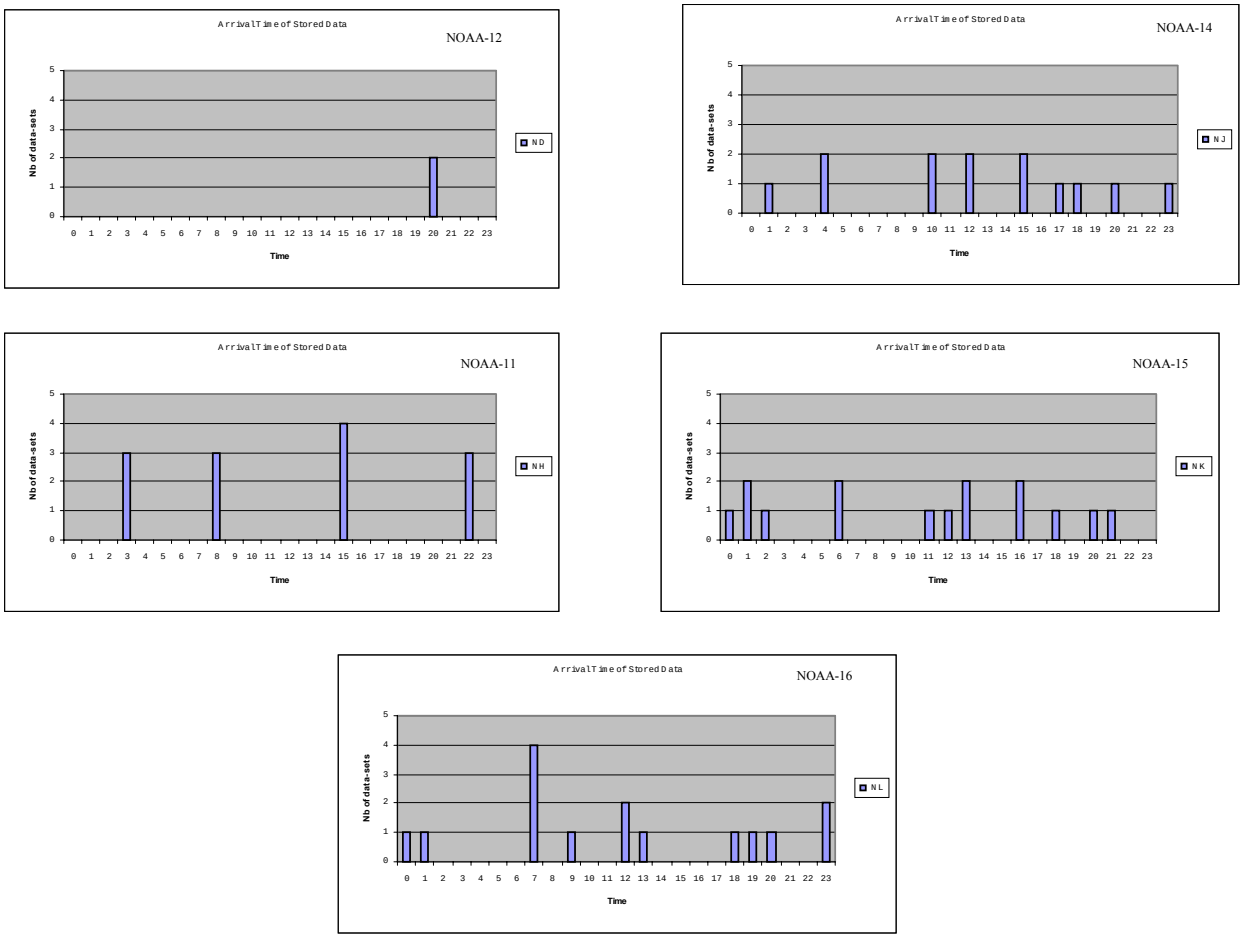


Figure 1

Figure 2 shows the satellite orbit plans in July 2002. In dashed line, the orbit plans of the two future satellites with an Argos instrument on-board, NOAA-17 and ADEOS-II. These satellites are planned to be launched in 2002, respectively in June (successfully launched on June 24th) and November.

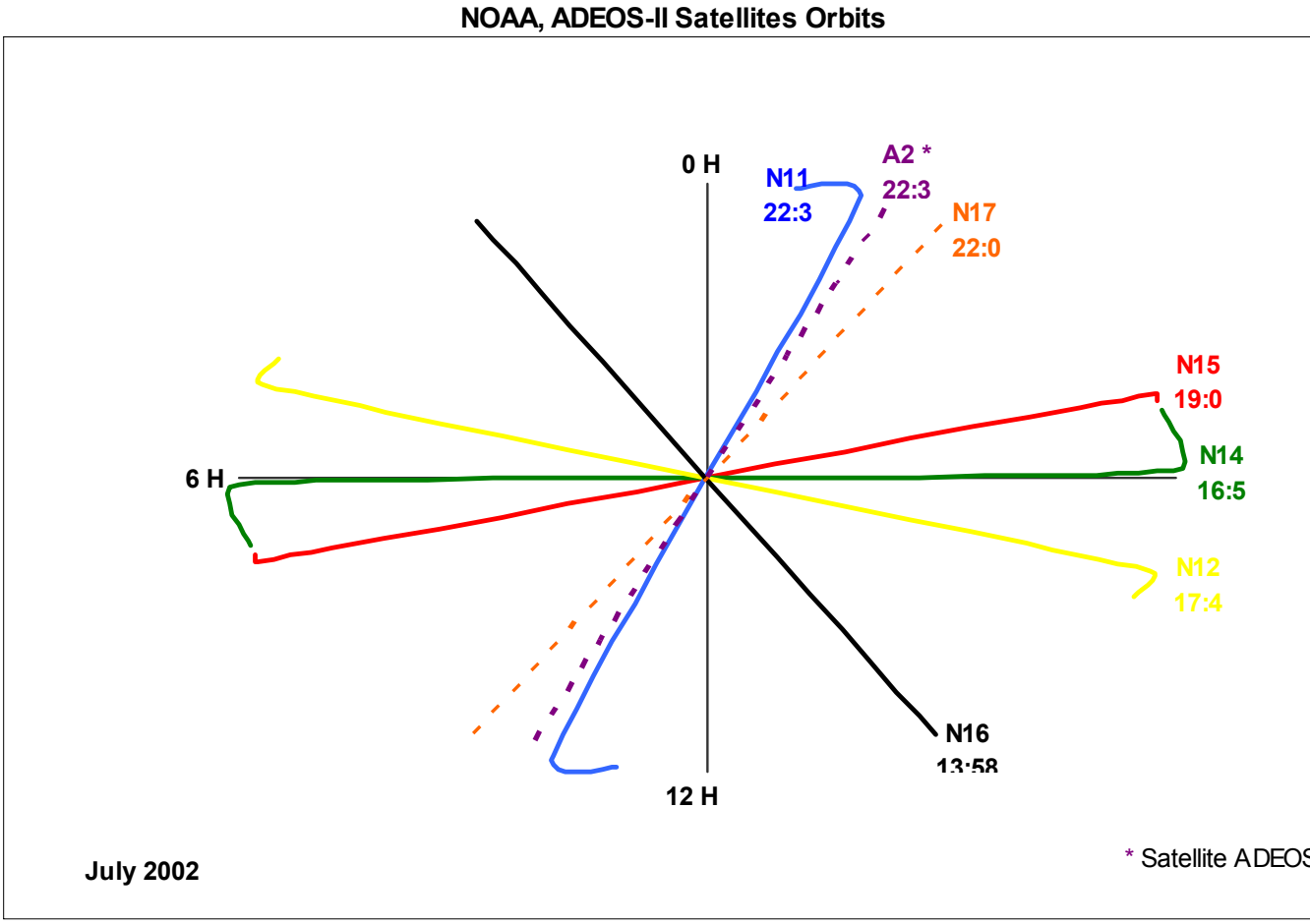


Figure 2

2.3 Regional stations

CLS and Service Argos Inc. pursued their efforts in 2001 to increase the number of receiving stations able to provide TIP data sets from the NOAA satellites. Six new stations joined the Argos network during the year. They are in Buenos Aires (Argentina, INTA), St Denis de la Réunion (Reunion Island, IRD), Noumea (French Caledonia, IRD), Las Palmas (Canaries Island, IRD) and Miami (USA, NOAA/AOML).

In summer 2002, we completed the connection to our network of three new stations of located in Singapore, Oslo and Hatoyama (Japan, NASDA).

There are currently 32 stations delivering TIP data sets to CLS and Service Argos Inc.

These regional stations no longer process data from NOAA-11 since the HRPT channel was shut down on October 17, 2000. However, most of them process data from NOAA-16, NOAA-15, NOAA-14 and NOAA-12, and some from NOAA-17, so we have been able to maintain good throughput times for delivery of results.

List of regional receiving stations

	Antennas	Country	Operator	Possible satellites
1	Buenos Aires	Argentina	INTA	**N12, N14, N15, N16,**
2	Casey	Australia (Antarctica)	BOM	**N12, N14, N15, N16,**
3	Cayenne	France (Guyana)	IRD	**N12, N14, N15, N16,**
4	Darwin	Australia	BOM	**N12, N14, N15, N16,**
5	Gilmore	USA	NOAA/NESDIS	**N12, N14, N15, N16, N17**
6	Halifax	Canada	Can. Coast Guard	**N12, N14, N15, N16, N17**
7	Hatoyama	Japan	NASDA/EOC	**N12, N14, N15, N16,**
8	Hawaï	USA	NOAA/NWS	**N12, N14, , ,**
9	Ile de la Réunion	France (Reunion Island)	Météo France	**, N14, , N16,**
10	Ile de la Réunion	France (Reunion Island)	IRD	**N12, N14, N15, N16,**
11	Lannion	France	Météo France	**, N14, N15, N16,**
12	Las Palmas	Canaries Island	Univ. Las Palmas	**N12, N14, N15, N16**
13	Melbourne	Australia	BOM	**N12, N14, N15, N16,**
14	Miami	USA	NOAA/AOML	**N12, N14, N15, N16, N17**
15	Noumea	France (New Caledonia)	IRD	**N12, N14, , N16,**
16	Oslo	Norway	NMI	**N12, N14, N15, N16,**
17	Perth	Australia	BOM	**N12, N14, N15, N16,**
18	Singapore	Singapore	SMM	**N12, N14, N15, N16,**
19	Wallops	USA	NOAA/NESDIS	**N12, N14, N15, N16, N17**
20	Wellington	New-Zeland	Met Office	**, , N15, N16,**
21	Aussaguel	France	CLS	**N12, N14, N15, N16, N17**
22	Cape Town	South Africa	CLS/SAWB	**N12, N14, N15, N16, N17**
23	Helsinki	Finland	CLS	**N12, N14, N15, N16, N17**
24	Largo	USA	SAI	**N12, N14, N15, N16, N17**
25	Las Palmas	Canaries Island	CLS	**N12, N14, N15, N16, N17**
26	Lima	Peru	CLS perù	**N12, N14, N15, N16, N17**
27	Toulouse	France	CLS	**N12, N14, N15, N16, N17**
28	Murmansk	Russia	Complex System	**N12, N14, N15, N16,**
29	Petropavlosk	Russia	Rybradiov	**N12, N14, N15, N16,**
30	Tokyo	Japan	Jamstec	**N12, N14, N15, N16,**
31	Edmonton	Canada	Envir. Canada	**N12, N14, , N16, N17**
32	Monterey	USA	NESDIS/NWS	**N12, , , N16,**

Table 2

ARGOS receiving station network

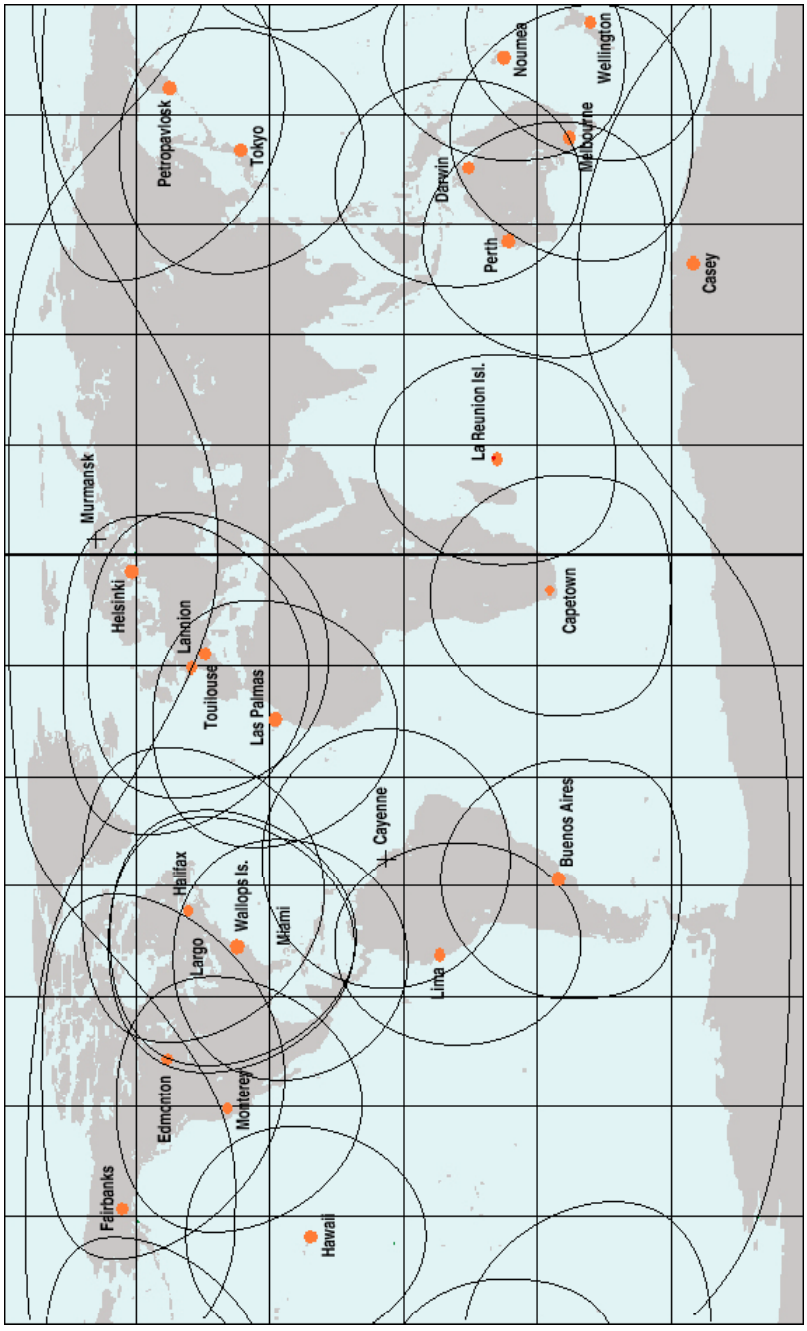


Figure 3.1

Receiving Station Performance

	NOAA12	NOAA14	NOAA15	NOAA16	NOAA17
Aussaguel	0.74	0.78	0.71	0.85	0.5
Buenos Aires	0.43	0.46	0.21	0.23	0.11
Cape Town	0.78	0.84	0.71	0.89	0.48
Casey	0.6	0.45	0.26	0.86	
Cayenne	0.77	0.76	0.63	0.73	0.31
Darwin	0.7	0.66	1	1	
Edmonton	0.99	1	0.5		
Gilmore	0	0.57	0.7	0.7	0.43
Halifax	0.61	0.34	0.62	0.33	0.28
Hatoyama	0.39	0.39	0.35	0.43	
Hawai	0.57	0.57	0.58	0.73	
Helsinki	0,76	0,82	0,64	0,85	0,51
Ile de la Réunion	1	1			
Ile de la Réunion (IRD)					
Lannion	0.96	0.68	0.98		
Largo	0.55	0.59	0.61	0.61	0.32
Las Palmas CLS	0.59	0.69	0.47	0.73	0.38
Las Palmas IRD	0.08	0.08	0.06	0.09	
Lima	0.93	0.97	0.87	0.95	0.53
Melbourne	0.32	0.66	0.7	0.76	
Miami	0.61	0.75	0.69	0.34	
Monterey	0.25	0.81			
Murmansk	0.34	0.3	0.28	0.44	
Noumea	0.61	0.64	0.74		
Oslo	0.34	0.44	0.39	0.54	0.01
Perth	0.84	0.57	0.71	0.93	
Petropavlsok					
Singapore	0.57	0.53	0.57	0.63	
Tokyo	0.59	0.52	0.39	0.6	
Toulouse	0.79	0.87	0.73	0.96	0.53
Wallops	0.15	0.66	0.65	0.75	0.39
Wellington	0.59	0.73	0.32	0.73	

Table 3 2 – Station performance in July 2002

3. PROCESSING CENTERS

Each of the five Argos processing centers—in Toulouse, Largo, Melbourne, Tokyo, and Lima—operated without a major hitch in 2001.
The two global processing centers in Toulouse and Largo continue to process data sets from all receiving stations, handling over 400 data sets per day (see Figure 4). The regional processing centers in Melbourne, Tokyo, and Lima only process data sets from stations covering their region. Supplementary data providing global coverage are supplied by the Toulouse center or by the Largos center if necessary.

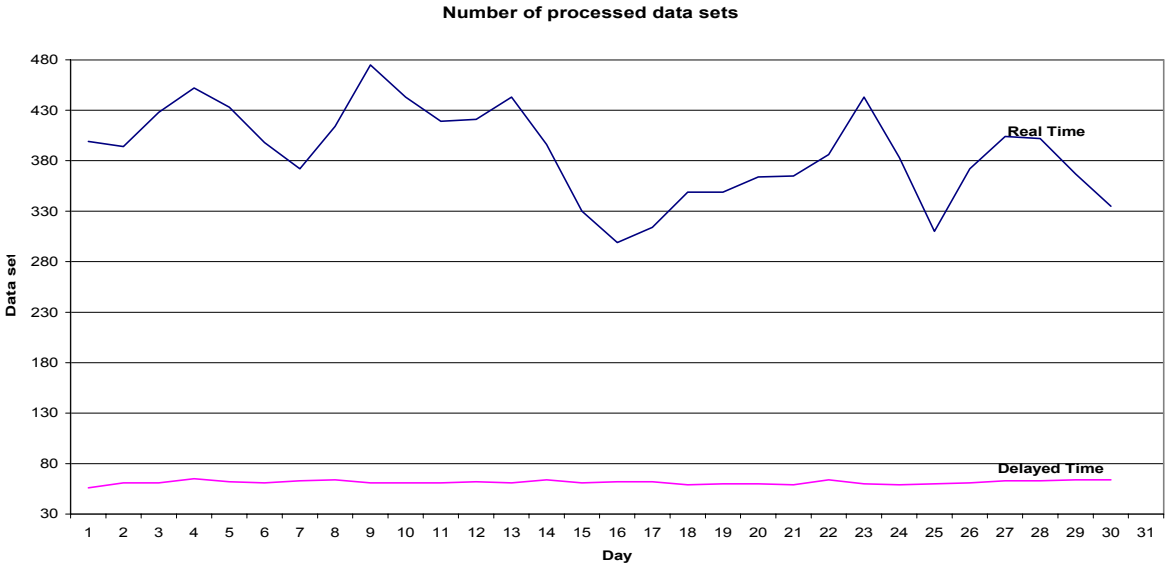


Figure 4: Number of data sets processed in December 2001

The number of Argos platforms operating continues to increase. In December 2001, about 4700 platforms were seen on average per day (figure 5). However, each of the two global centers processed data from 8000 individual platforms during this month.

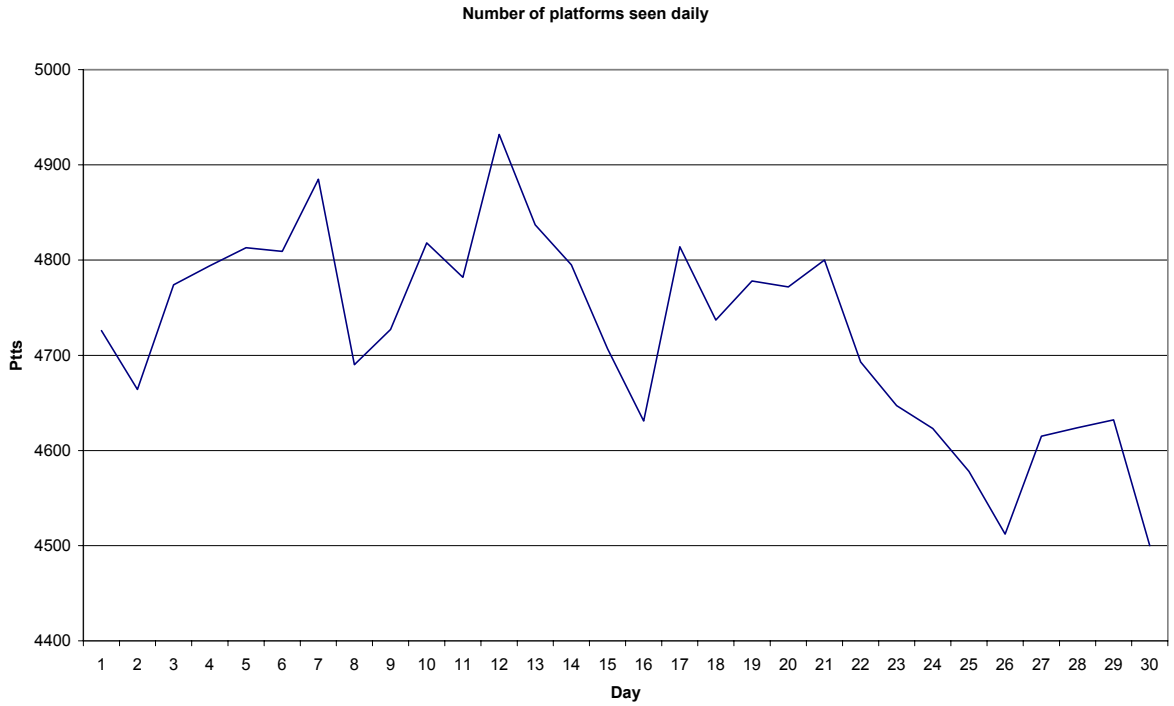


Figure 5: Number of platforms seen every day in December 2001

Figures 6 and 7 below show the number of locations and messages computed every day by the Largo and Toulouse centers.

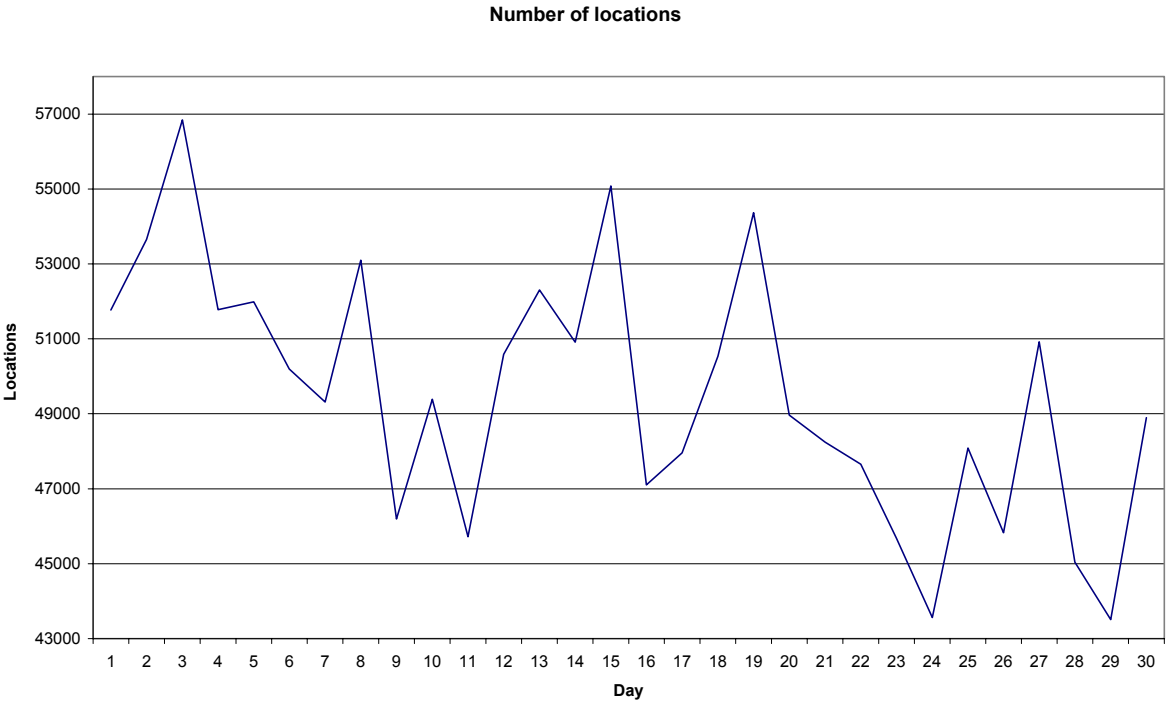


Figure 6: Number of locations processed in December 2001

Figure 7: Number of messages received in December 2001

4. COMMUNICATION LINKS

The Internet is the main communication link used to distribute processed data to users and to retrieve data sets from receiving stations. The Internet access of each global center has been upgraded from 512 kbps to 1 Mbits.

The X25 protocol has been stopped at Service Argos Inc but continues to be used by the Toulouse center to send weather bulletins to the Météo France weather service. We planned to migrate to FTP protocol during the year 2002. Anyway, some other users, for security reasons, still prefer to receive their data using this communications protocol via our Automatic Distribution Service (ADS).

As we announced last year, the transatlantic link between Toulouse and Largo has been definitively stopped on July 2001.

5. THROUGHPUT TIME FOR DELIVERY RESULTS

CLS throughput times for delivery of results should be calculated in terms of the time taken to reach end users.
For each message received by the satellite, we compute the data turnaround time/data availability which is the time elapsed between the recording of the message on board the satellite and processing of the same message by the global processing center.

Table 8 shows the throughput time for delivery of results for stored data from NOAA-16 and NOAA-15, the two operational satellites.
33% of the data are available within two hours while 64% of the data are available within three hours. This is quite the same situation as last year.

Satellite Delivery	NOAA-15 & NOAA-16
1 h	15 %
2 h	33 %
3 h	64 %
4 h	85 %
5 h	92 %
> 5 h	100 %

Table 8: Stored data availability for satellites NOAA-15 and NOAA-16

Table 9 shows the throughput time for delivery of results for stored data from NOAA-11 and NOAA-14, the two backup satellites (we do not receive any more stored data from NOAA-12).

Satellite Delivery	NOAA-11 & NOAA-14
1 h	01 %
2 h	11 %
3 h	30 %
4 h	53 %
5 h	70 %
> 5 h	100 %

Table 9: Stored data availability for satellites NOAA-11 and NOAA-14

Only 30% of the data are available within three hours as opposed to 64% for the two operational satellites. This delay is due to the NOAA data set delivery times.

Table 10 below shows the throughput time for delivery of results for real-time data from NOAA-16, NOAA-15, NOAA-14 and NOAA-12 and acquired by the 28 HRPT receiving stations.

The throughput time for delivery of results for real-time data includes three main delays:

- the satellite pass duration, because we have to wait for the end of the pass to transfer and process the data set;
- the time taken to transfer the data set to the global processing centers. Most transfers go over the Internet. The transfer rate is getting better and better.
- the time taken to process the data set by the global processing centers, which is not significant (less than 30 seconds).

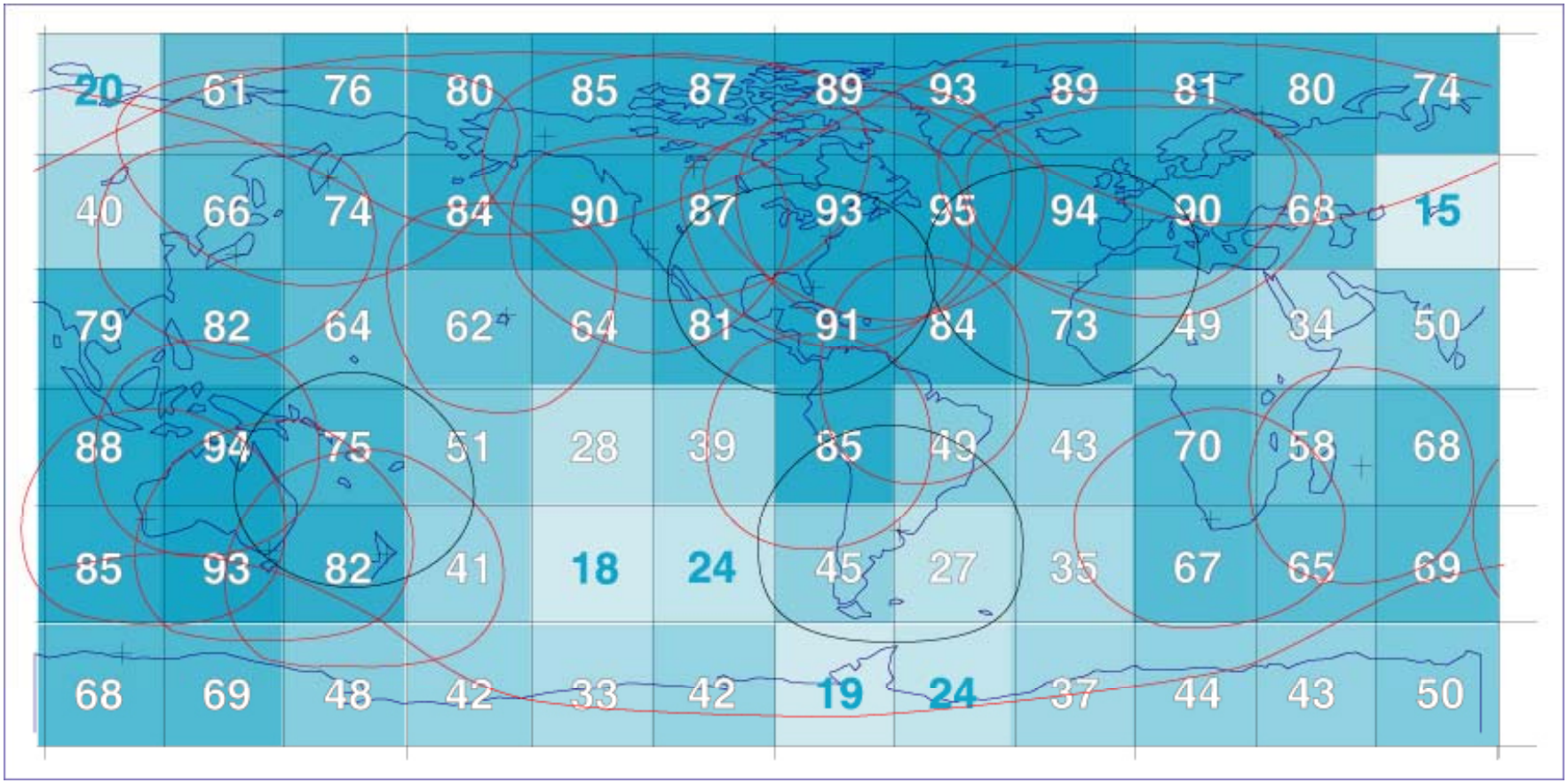
Satellite **Delivery**	**NOAA-12, NOAA-14 NOAA-15 & NOAA-16**
10’	5 %
15’	20 %
20’	47 %
30’	86 %
45’	97 %
60’	99 %
>60’	100 %

Table 10: Real-time data availability

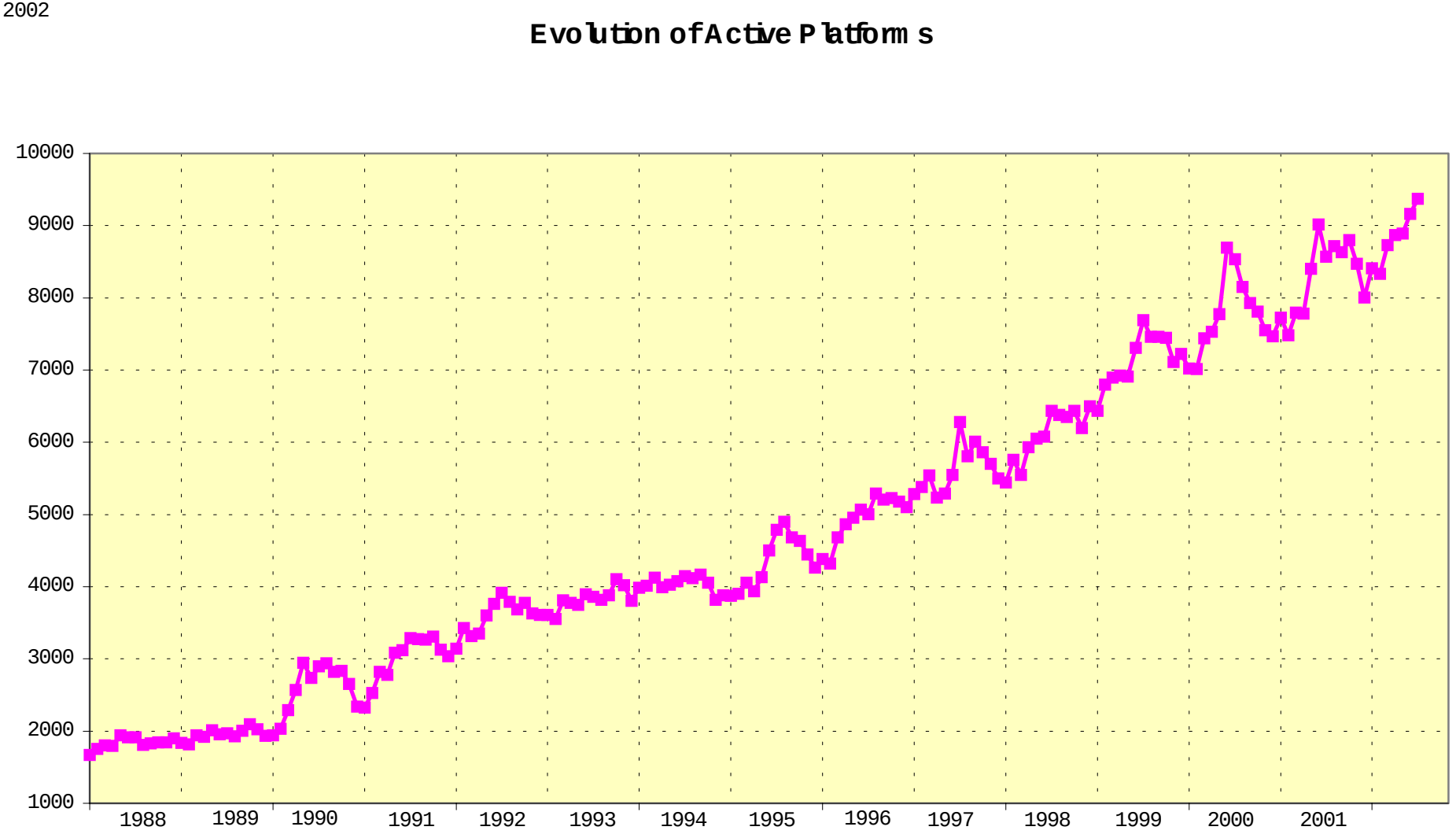
86 % of these real-time data are available within 30 minutes.

Note that about 2/3 of the Argos data are now available in near real time.

Percentage of real-time data received in each geographical square (July 2002)



2002



Active platform evolution since 1988

An active platform is a platform received at least once in the month

SYSTEM IMPROVEMENTS

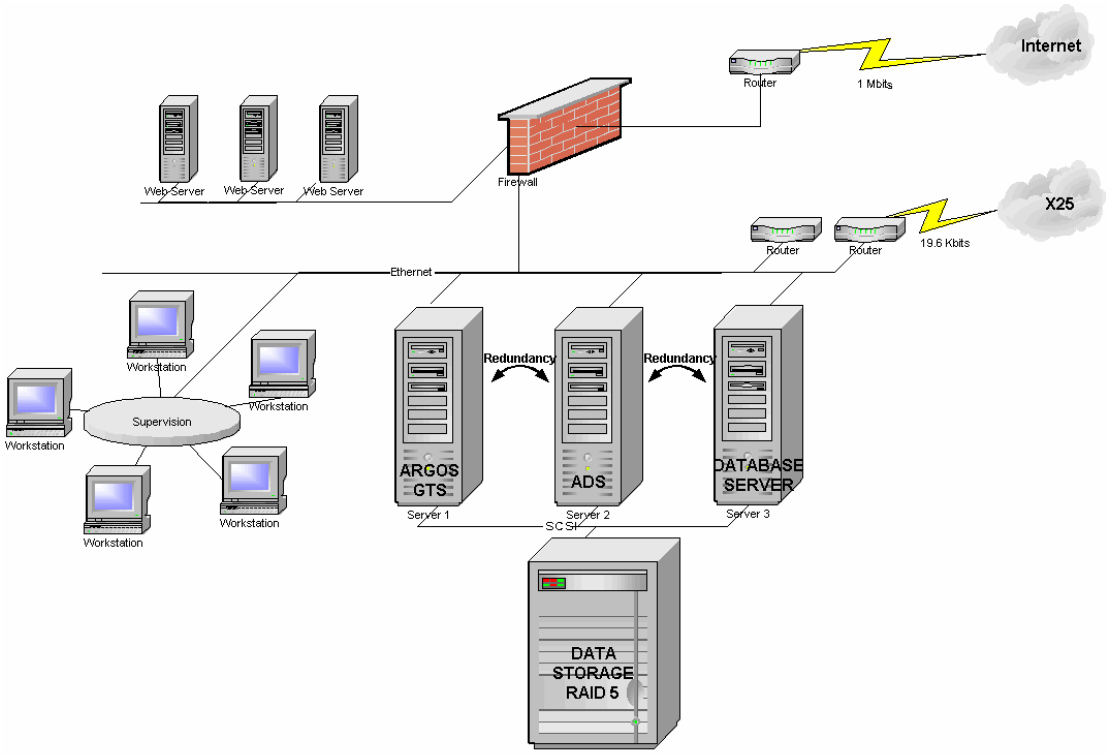
1. HARDWARE AND SOFTWARE CONFIGURATION

1.1 Hardware Configuration

In 2001, we continued to implement the Argos 2001 elements in our computer systems architecture. It mainly consisted in :

- upgrading two of the three Argos operational computers,
- implementing an Oracle database management system,
- implementing a data replication mechanism between the both global centers in order to maintain the coherency and allow the redundancy of the global centers,
- integrating a Web data distribution center
- implementing an Argos 2001 validation configuration

Our computer systems architecture is the following one :

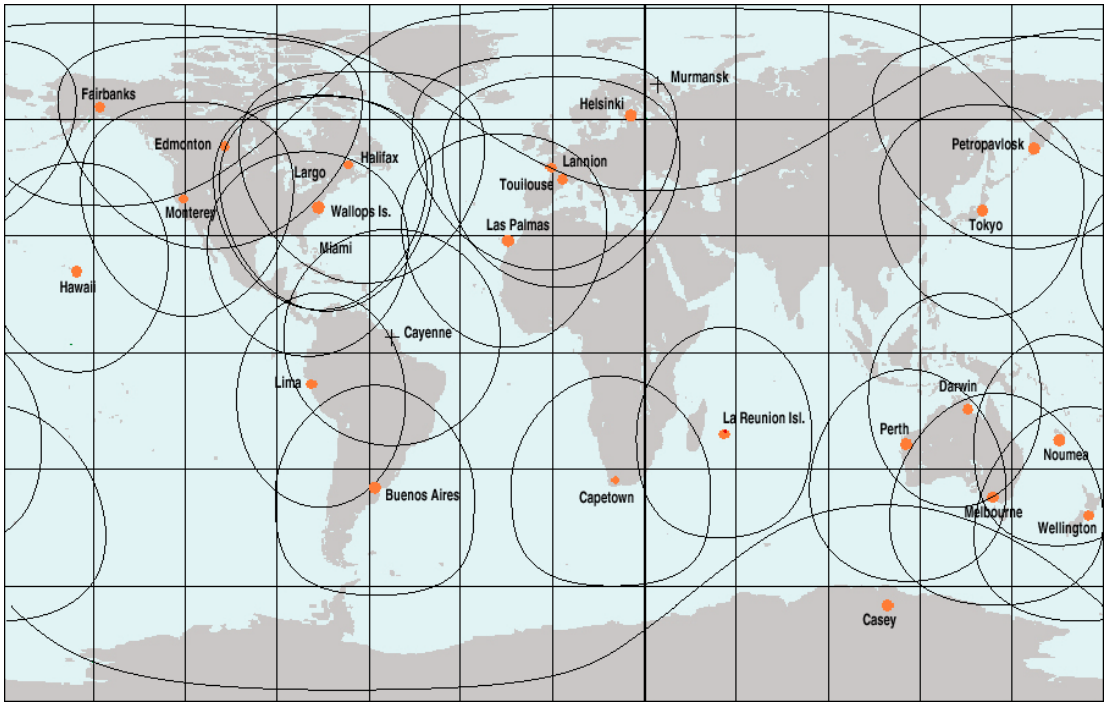


Another key investment in 2001 was the implementation of a Web server dedicated to the ARGO project.

1.2 Ground Segment Architecture

Six new HRPT stations joined our network in 2001, thus helping to improve data throughput times to users. They are in Buenos Aires (Argentina), Miami (USA), Las Palmas (Canaries Island), Noumea (French Caledonia), St Denis de la Reunion (Reunion Island) and Helsinki (Finland).
In summer 2002, we completed the connection to our network of three new stations of located in Singapore, Oslo and Hatoyama (Japan, NASDA).

The Argos stations network has now 32 antennas.



1.3 Software configuration

CLS is focusing most of its software development efforts on the Argos 2001 and Argos/Next projects – see §2. PROJECTS. A team keeps working on corrective software maintenance and upgrades that are vital to continue meeting user requirements.

1.4 Regional processing centers

The three regional processing centers—in Melbourne, Tokyo, and Lima—operated without a major hitch in 2001.
The main work at these centers involved upgrading versions of basic software.

2. PROJECTS

2.1 Argos 2001

The purpose of the Argos 2001 project is to upgrade the entire Argos processing system. This ambitious project is vital for the long-term continuity of the Argos system and to better serve users. This project is scheduled in three phases :

Phase I : Development and implementation of a new user interface allowing users to access data and view and update technical files via a web server. The System Use Agreement database will also be implemented during this phase. Data will be stored and managed by a database management system designed to be responsive to users' needs. Our objective is to give users more versatility if they require it. Consequently we will be expected to offer them quick and efficient support.

Phase II : Improvement and development of value-added services.
Phase III : Redesign of the Argos processing system.

Current Status :
Phase I began at the end of 1998 and is being finalized
The user management application is operational
The User Office application has been operational since the end of 2000

Performance problems have been detected in the new data distribution system, and the opening of the website to users has consequently been postponed until these have been resolved. A technical solution has already been found and is in the process of being implemented. The first internal tests have taken place in early June. The distribution system is due to be operational by the end of the year.

Phase II requirement specifications were reviewed and approved in January. Software specifications are being written, and Argos 2001 Phase II development will start at the beginning of Y2003 and will last about 14 months.

2.2 Argos Next

The downlink messaging capabilities provided by the ADEOS II/Argos DCS equipment has required the addition of two new components to the current Argos ground segment:

2.2.1 Downlink Message Management Center (DMMC)

This center is located at CLS premises in Toulouse, France.
The DMMC's role is to centralize, validate, and schedule downlink message requests from users before transmitting downlink messages to the satellite (via a Master Beacon).

DMMC development was completed by the end of the second quarter of 2000. DMMC Acceptance tests took place during the third quarter of 2000.
The DMMC will be installed onto the Argos operational configuration (Toulouse APC) during summer 2002.

Note : a symmetrical DMMC will be installed at SAI Largo - USA (after ARGOS 2001 phase I development is completed).

The Argos/Next Web server developed within the scope of the Argos 2001 project will allow users to:

- enter requests and compile downlink messages for platforms carrying an Argos Next/Argos 3 receiver;
- consult request status until completion.

The Argos Web server - Argos-Next part development is completed. It is a preliminary version (beta test version) used to fully validate the interface with the DMMC, finalize the screen design and texts. Operational version is planned for October 2002.

2.2.2 Master Beacon network

A network of four master beacons located at strategic points around the globe, acting as the link between satellites and the DMMC.

The four locations foreseen for these beacons are:
Toulouse, Hatoyama, Fairbanks, and Spitsberg (TBC).

Today, Toulouse, Hatoyama and Fairbanks master beacons are installed. The last one (Fairbanks) was installed, last year, beginning of October.

No more installation is foreseen before the ADEOS-II launch.

This project is also managing the current Argos software upgrade to support:

- file exchanges with the ADEOS II ground segment;
- ADEOS II spacecraft maneuvers;
- ADEOS II/Argos DCS Level-0 data and HK telemetry processing;
- processing of Argos messages related to the downlink messaging service;
- 28-bit ID numbers.

All these modifications have now been completed and validated (except ADEOS II spacecraft maneuvers software).

Fully detailed interface tests between NASDA/ADEOS II ground segment and CLS/APC were conducted since mid-2000. The goal of these tests is to confirm both mission data and mission operation interface compatibility between NASDA/ground segment and CLS/APC.

The launch of ADEOS-II, is now scheduled for November 2002 (tentative date).

2.2.3 DAN development (ARGOS-NEXT demonstrator)

September 2001, started a new development of which the objective is to fully simulate the ARGOS-NEXT system. The DAN will implement all the components of the ARGOS-NEXT system : user WEB interface, DMMC, APC, master beacon and PMTs to simulate the ground segment and the ARGOS-NEXT instrument mock-up located in the CNES laboratory to simulate the space segment.

Three missions were allocated to the DAN :

- preparation of the end-to-end tests with the ARGOS-NEXT equipment on board ADEOS-II to qualify the instrument during the in-flight acceptance test phase.
- Demonstration of the downlink capabilities and ARGOS-NEXT services to potential users
- Argos people and client training.

The DAN will be operational in summer 2002.

2.2.4 User PMT development

PMT or Platform Messaging Transceiver is an upgrade of the PTT (Platform Transmitter Terminal) designed to support downlink messaging. It comprises :

- A transmitter certified by CNES,
- A receiver designed and built by CNES and industry partners,
- A transmit/receive antenna,
- A logic unit that allows these elements to dialog with external systems and manages the downlink messaging.

To promote the downlink messaging among the user community, CLS has started, with industry partners, the development of a first set of PMTs. PMTs will be available for Argos applications in early 2003

3. FREQUENCY SPREADING

Report from the 36th Argos Operations Committee Meeting, June 2002.

M. Cazenave of CLS reviewed the five year evolution of the use of the Argos-1 and Argos-2 bandwidth. It was noted that over 60% of users are clustered in the center of the frequency band. CLS/SAI have begun promotional activities to educate users and ask manufacturers to voluntarily utilize all of the available bandwidth. Progress has been made but it may be necessary in the future to formally organize the use of the bandwidth with mandatory frequency assignments. The OPSCOM recognized the need for more stringent framework to encourage ARGOS beacon manufacturers to utilize the entire Argos frequency band. Action item 36-14-C [CLS will propose a procedure to assign frequencies for Argos applications] was opened to address the issue of assigning frequencies in the SUA application process.

4. REVIEW OF USERS REQUIREMENTS

4.1 Data Buoy Cooperation Panel requirements

Action 1. ARGO QC module.

The meeting agreed in principle with the proposal, recognizing that it could be implemented only when details of the procedures were made available to CLS/Argos. It considered that, ideally, the module should be implemented prior to JTA-XXII.

ARGO QC in US Argos Center

Service Argos, Inc. (SAI) and NOAA's Atlantic Oceanographic & Meteorological Laboratory (AOML) of Miami, Florida have teamed up to strengthen the real-time operational processing of the U.S. Argo float data. AOML scientists have successfully developed software modules capable of real-time QC and processing of float profiles relayed via Argos in eleven different data formats and coding of the data into GTS format.
This software has been implemented by AOML at Service Argos and augments the existing 24/7 Argos GTS data processing and dissemination chain. By taking advantage of the on-line operational systems at Argos, this AOML-SAI partnership maximizes the real-time processing and dissemination capabilities for the U.S. Argo Program.

As a consequence, all US ARGO profiles inserted on the GTS benefit from the AOML quality controls which meet the ARGO requirements.

ARGO QC in the French Argos Center

Based on the ARGO QC specifications, a specification document was written for the implementation of the new QC in the Argos GTS subsystem.

The intention is to build a dedicated module, external to the current GTS subsystem main software to gather all QC specific to profile data (XBTs, TAO, floats…).
Quotations are expected for early September.

Action 2. *GTS subsystem to relay data from other sources.*

The meeting agreed in principle with the proposal. It recommended that the feasibility study, to be undertaken by the DBCP Technical Coordinator and CLS, should be completed in time for presentation to the next OpsCom session.

During the intersessional period no requirement nor need was expressed by the community, as a consequence CLS/SAI, in agreement with the DBCP Technical Coordinator, decided to postpone this feasibility study. Instead, a study and proposal was made to allow the transmission onto GTS of observations already coded in WMO formats that would be ftp to CLS or SAI by the buoy operator.

Action 3. *Brazilian satellite and Argos.*

The meeting recognized that there are currently two Brazilian satellites in equatorial orbits (and one in a polar orbit), and that connecting Argos to these satellites could potentially greatly enhance equatorial coverage and data return, although implementing such a connection would be a complex process. The meeting recommended that a concrete proposal for such connection, including a cost-benefit analysis, should be prepared by CLS, to be put before the OpsCom session in May 2002 to seek an in-principle agreement, with a report on the matter to be made to JTA XXII.

Report from the 36th Argos Operations Committee Meeting, June 2002

W. Yamaguti of INPE reported that the Brazilian DCS is operational on three satellites including SCD-1, SCD-2 and CBERS-1 (see exhibit #15). Five more satellites are planned in the future : CBERS-2 (2002), SSR-1 (2005), CBERS-3 (2005), SCD-3 (2007) and CBERS-4 (2007). In summary, there are presently approximately 470 operational Data Collection Platforms (DCPs) and data are collected and transmitted to two satellite receiving stations located in Cuiaba and Alcantara. DCP message processing is done at Data Collection Mission center located in Cachoeira Paulista and users have access to their data via the Internet (FTP) approximately 30 minutes after each satellite pass.

C. Vassal of CLS reported on data exchange tests that have taken place between CLS and INPE since July 2001 (see exhibit #16). Based upon test results, it has been determined that the processing and distribution of Brazilian DCS data is feasible through the Argos processing centers. Results indicated that the use of the Brazilian DCS significantly improved the timeliness associated with the delivery of data from PTTs operating within the coverage of the Cuiaba station. It was also observed that the availability of data from this station eliminated mid-day data acquisition “holes” that often occur at low latitudes in the Southern hemisphere. It was noted that nearly 40% more data was delivered through the addition of the Brazilian DCS to the overall Argos system. CLS’s principal Latin American customers are reported to be more satisfied with system performance and “near real-time” data delivery.

It is proposed that the next step for improved technical cooperation between CNES/CLS and INPE would be the development and implementation of a dedicated stand-alone Brazilian DCS station with an enhanced S-Band receiving antenna and processor. A cost and performance evaluation for this station concept is expected to be complete by December 2002.

In view of the above results, the Operations Committee recommends that CNES/CLS and INPE establish a framework for this cooperation through an formal agreement. Two action items (36-5-C/I and 36-6-C/I) were opened to formalize the current data sharing experiment and expand the cooperative efforts.

***Action 4**. To complete the connections of LUT's to Argos Processing Centers in support of ISABP.*

South African LUT's on Gough and Marion Islands

At present the communications on Gough and Marion Island is via V-sat to a land station near Pretoria. A landline is used from the land station to the SA Department of Foreign Affairs switchboard and from there via X-25 to the South African Weather Service. E-mail facility from the Islands are limited to 12 hours per day from 06:00 to 18:00. As backup, there is an Inmarsat C link to Pretoria, which is very costly.
In addition, there is limited capacity on the landlines as it is shared by various organizations including Foreign Affairs missions abroad.

Because of these limitations, the SAWS is now investigating with their telecom provider the possibility to set a 96k bandwith from the Islands and a Diginet line from the land station to the Weather Service with 24 hour internet service. A quote from the provider, should be available soon.

Falklands LUT

For at least 5 or 6 years we have been attempting to establish an operational link with the UK Met Office (UKMO) LUT in the Falklands/Malvinas Islands off the coast of Argentina to enable the transfer of real-time Argos data collected by that antenna. This process has been quite difficult because the location is very remote and it has been nearly impossible to identify the correct knowledgeable person in the UKMO to assist us.

Despite encouraging signs about a year ago we reluctantly came to the conclusion early this year that it is not economically feasible to establish a sufficiently robust communication link to that site. The only feasible option for a reliable link is a dedicated communication line. The cost for such a line would be extremely expensive however, and based on information provided by the UKMO representative even if such a line were to be implemented he "remains concerned that the system would still be poorly supported particularly with regard to the software and this is undesirable in any operational system let alone one as remote as this." Attempts to share the cost of the line with UK agencies were unsuccessful. With respect to cost-sharing the UKMO representative specifically indicated that,

"I have discussed the possibility of some cost sharing on a permanent internet connection in the Falklands with our defence area. However, they are content with their present service and more importantly, there is no financial advantage to the change compared with their present agreement. In fact they would lose money on the change. Under the circumstances, I cannot offer financial assistance, although we would be willing to help with any arrangements, and will continue to look after the LUT of course."

And, specifically with regard to the interests of the UKMO, he said,

"Providing the data in this way has some benefit to us as we will also receive data in a more timely fashion. However, that benefit is somewhat limited."

Bottom line: The communications cost would be too high and our confidence would be very low that the LUT system would operate sufficiently reliably for our needs. Thanks to all of our colleague who have assisted in the effort to try to make this happen during the last several years, especially the U.S. Naval Oceanographic Office.

***Action5.** BUFR Encoder*

Developments for the BUFR code started in January 2002. Argos GTS sub-system will be upgraded to permit encoding and GTS distribution of the buoy data in BUFR. Distribution in BUOY format will continue in parallel. Developments should be achieved by January 2003. However, after operational implementation by Service Argos, in order to correct un-noticed encoding problems, series of tests will be conducted in

cooperation with a few operational centres. Operational distribution of BUFR reports is therefore expected to begin in mid 2003.

4.2 A/B class locations

Action: *To phase-in the inclusion of Class A/B locations as a part of the basic JTA over the next three years (provided that the PTT-year commitments continue to increase)*

Action is still underway. Animal trackers are being charged 1/3 in 2002 and will be charged nothing in 2003 and thereafter.

4.3 Access to third satellite

Action: *The meeting noted that with the launch of the ADEOS II satellite in early 2002, all Argos users would automatically have access to this as a third satellite. The meeting agreed that CLS should report to JTA-XXII on experience with free access to this satellite, including cost impacts.*

The ADEOS II launch has been delayed until November 2002. Consequently, no action has been taken yet on this item.

4.4 Providing further assistance and information to Biologists

Action: *The meeting recognized that the biologists did not benefit from an organizational structure such as that provided to buoy users through the DBCP and its technical coordinator. As a first step the meeting noted the potential benefits to biologists of having a website available devoted to biological programs using Argos and welcomed the offer of the USA to consider establishing such a website.*

During the intersessional period CLS has implemented an "Argos Users Biologists List" that allows subscribers to exchange technical and scientific information via e-mail.

4.5 Information for Users

Action*: Users shall provide input & feedback to CLS/SAI on the structure and content of available information, including national website addresses*

No feedback has been received by CLS/SAI

4.6 System Use Agreement

Action: *JTA members were invited to review the NOAA Argos website and provide links and comments as appropriate.*

No links or comments have been provided.

4.7 Issues arising from the Argos Operations Committee

No special issue to address.

ANNEX VI

REVIEW OF THE STRUCTURE OF THE TARIFF AGREEMENT AND RELATED MATTERS

1. FUNDING AGREEMENTS

1.1 Principles of the Bonus

See Section 1. Report on the 2002 Agreement, paragraph 3.1

1.2 Recommendations from the Operations Committee

36th Operations Committee (June 2002)

G-1-1. Report on the JTA Meeting

"D. Painting, chairman of the JTA, informed the meeting of the main results from the 21st meeting of the JTA (Perth, WA, October 2001).

Following the direction of the 35th OPSCOM, the JTA agreed to cap costs, for the purpose of calculating the JTA share of operating costs. This cap is based upon the actual 2000 figure to be then increased at the official inflation rate. A simplified version of the FYP (2000-2004) as adopted by JTA 21 was presented; showing only revised costs and the expected effect on annual and accumulated losses….."

G-1-5. Financial Status of Agent

"M. Cazenave of CLS reviewed the Argos financial status. The previous proposal confirmed during the OC 35 to separate the JTA operating cost obligations from the total operating cost was adopted at the JTA-21 meeting. The proposal stated that the annual Argos basic costs, for the purpose of calculating the JTA share, will be capped at the actual 2000 figure (M€ 9.49) to be then increased by the annual inflation rate."

2. FIVE YEAR OPERATING PLAN

2.1 JTA Guidance

JTA XIX

JTA XIX had decided on a five-year plan (2000-2004), firstly to eliminate the annual operating deficit, and secondly to effectively remove the accumulated losses. The essential features of this plan were:

(i) An annual inflation of 2% would be allowed in Argos operating costs;
(ii) The JTA share of these operating costs would decrease from the existing 60%, initially by 2% in 2000, and then in increments of 1.5%, to reach 52% in 2004;
(iii) The Monthly Active Platform Fee would be phased in over the period, beginning at FRF 10 per active platform in 2000 to reach FRF 50 in 2004;
(iv) The basic price per PTT-year would also be increased by FRF 200 per year, beginning in 2000, to reach FRF 27,000 in 2004;
(v) The unused ID charge would be phased out over the period, subject to annual review;
(vi) Free access to the third satellite would be provided immediately for animal trackers, within limitations on number of locations; the situation with regard to access to the third satellite would be reviewed at the next meeting, with a view to its eventual introduction for all users.

JTA XX

".....the meeting was pleased to note that the actual and projected figures for annual and accumulate losses were generally in line with those projected at JTA XIX and reproduced in Annex VII of the Final Report of that meeting. At the same time it recognized that many uncertainties remained regarding the ongoing implementation of the plan, covering issues such as the JTA share of Argos operating and development costs, future PTT-year commitments and other incomes for CLS. The meeting therefore agreed that it was not yet in a position to consider revising the plan, nor was there any immediate compelling reason to do so. It was therefore agreed that the basic JTA structure should continue as detailed in the plan given in Annex VII...."

JTA XXI

"*...the meeting reviewed carefully a report on the operation of the Five-Year Plan (FYP) for Argos financing adopted at JTA XIX. It recognized that Argos operating costs in 1999 and 2000 had increased by more than predicted in the plan, but noticed with appreciation that the OpsCom had agreed at its 2001 meeting to essentially de-couple the JTA share of these costs from the actual figure, as from 2001. On this basis, the annual Argos operating costs, for the purpose of calculating the JTA share, would be capped at the actual 2000 figure of FF 62.28M* (M€ 9.49*), to be then increased by the annual official inflation rate, estimated for the plan as averaging 2%. It was agreed that this operating cost would also from now on include all additional costs (present and future) not yet accounted for, such as the cost of financing an independent JTA chairman.*

On the basis of this new computation for the Argos operating costs, the meeting agreed that the basic FYP principles should remain unchanged for a further year, to be reviewed again at the 2002 meeting...."

2.2 Five Year Plan Projection

The five year plan projection is presented below

IN EURO	1998	1999	2000	2001	2002 (Aug. 31st)	2003	2004	2005
Total costs								
FYP	8.54	8.72	8.89	9.07	9.25	9.44	9.62	9.82
Inflation	2%	2%	2%	2.14%	2%	2%	2%	2%
Actual and agreed for the future	**8.54**	**8.96**	**9.49**	**9.68**	***9.88***	***10.08***	***10.28***	***10.48***
JTA Share								
FYP "no more than"	60%	60%	58%	56.50%	55.00%	53.50%	52.00%	52.00%
Actual and agreed for the future	**60.00%**	**59.50%**	**57.50%**	***56.50%***	***55.0%***	***53.5%***	***52.0%***	***52.0%***
JTA costs (M€)								
FYP	5.13	5.23	5.15	5.12	5.09	5.05	5.00	5.11
Actual and agreed for the future	**5.13**	**5.33**	**5.46**	***5.47***	***5.43***	***5.39***	***5.34***	***5.45***
Non inflated income (constant number)								
FYP	4.79	4.80	4.80	4.80	4.80	4.80	4.80	4.80
Actual and agreed for the future	**4.79**	**4.76**	**4.78**	**5.11**	***5.15***	***5.22***	***5.39***	***5.47***
Subscription		1121	1108	1136	1 145	1210	1250	1270
Number active PTT								
FYP			4000	4500	5000	5500	6000	6000
Actual and forecast			**4448**	***4571***	***4968***	***5240***	***5480***	***5720***
€/active PTT/month			1.52	3.05	4.57	6.10	7.62	7.62
Active PTT fixed fee (M€)			0.07	0.16	0.27	0.40	0.55	0.55
Actual and agreed for the future			**0.08**	**0.17**	***0.27***	***0.38***	***0.50***	***0.52***
Adjustment PTT years fee (€/year)								
FYP			30.49	60.98	91.47	121.96	152.45	152.45
Actual and agreed for the future			**30.49**	**60.98**	***91.47***	***121.96***	***152.45***	***152.45***
Adjustment (M€)								
FYP			0.03	0.07	0.10	0.15	0.19	0.19
Actual and agreed for the future			**0.03**	**0.07**	**0.10**	**0.15**	**0.19**	**0.19**
Annual loss								
FYP	0.26	0.43	0.25	0.09	-0.09	-0.30	-0.54	-0.44
Actual and agreed for the future	**0.26**	**0.57**	**0.57**	**0.13**	***-0.09***	***-0.36***	***-0.74***	***-0.74***
Accumulated loss (M€)								
FYP	0.26	0.69	0.93	1.02	0.93	0.63	0.09	-0.35
Actual and agreed for the future	**0.26**	**0.83**	**1.40**	**1.52**	***1.43***	***1.07***	***0.33***	***-0.41***

The figure 2.2 below shows the evolution of operation costs and active platforms since 1986. There is a 113% increase in platforms within the last 6 years. Also over the past 15 years, operating costs were practically constant, emphasizing CLS/SAI capability to restrain costs while processing many more platforms and making major investments to enhance the Argos system.

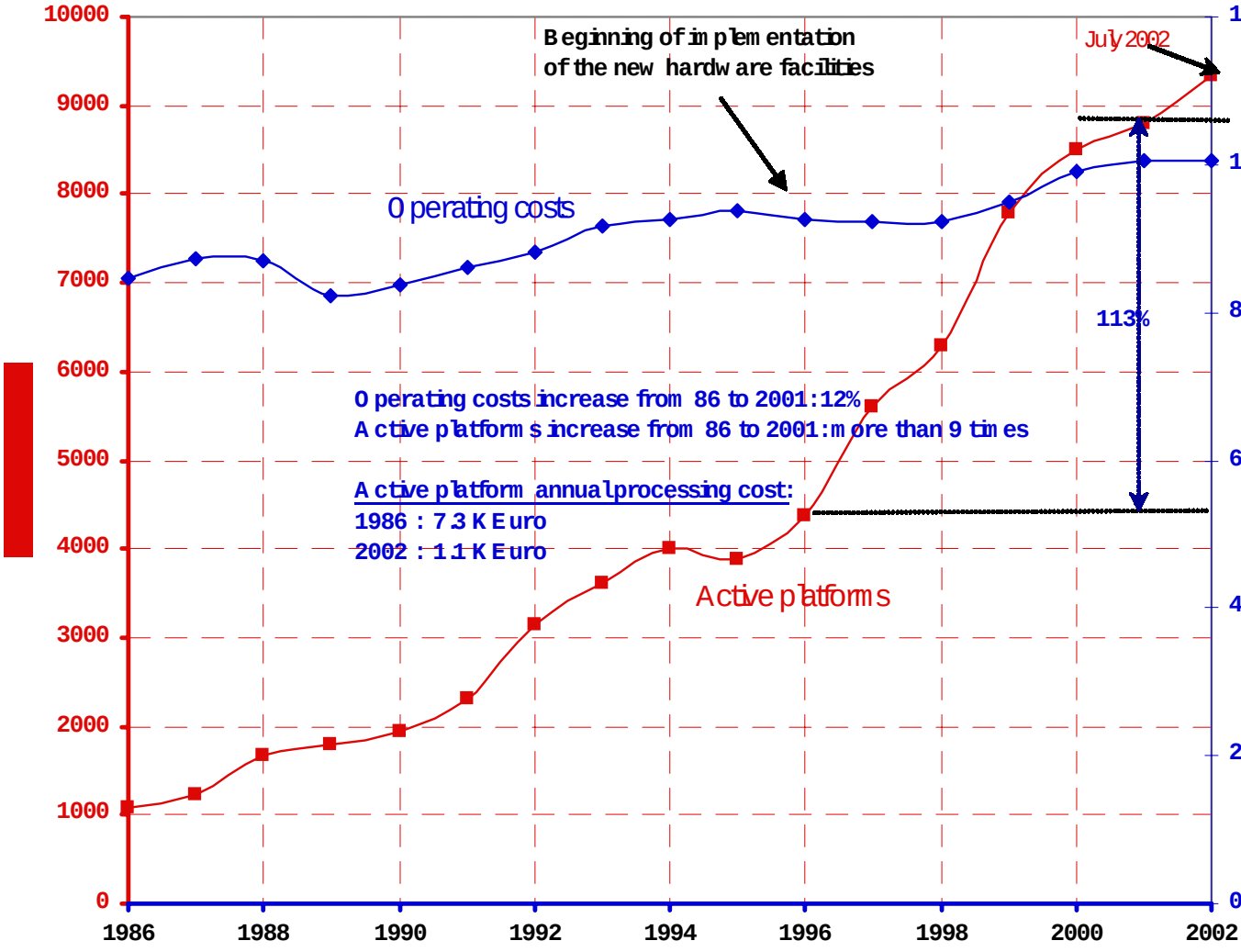


Fig. 2.2: Evolution of Operation costs and number of active platforms

3. FINANCIAL STATEMENT

3.1 Annual Expenses (in millions of Euros)

Expenses (MF)	2000	2001
Personnel related	5.39	5.48
Others	4.10	4.37
Total	**9.49**	**9.85**

Table 3.1: 2000 and 2001 Expenses

3.2 Detail on 2001 expenses (in millions of Euros)

A - Communications	0.20
B - Maintenance & consummable	0.38
C - General & Administrative (building, power, logistics.)	1.02
D - Foreign agents & Marketing	0.99
E - Financial costs & taxes	1.13
F - Amortization	0.96
G - Salaries	4.72
H - Management & human ressource administration	0.45
TOTAL	**9.85**

Table 3.2: Detail on 2001 Expenses

3.3 Details of Amortization Items

CLS + SAI amortization details	1997	1998	1999	2000	2001
SOFTWARE					
S/W to make computer centers operational	6	0	0	0	0
Regional Processing Center	18	16	6	7	44
New location - new ARGOS accounting system	27	16	0	3	14
GTS				11	18
TOTAL	51	31	6	21	76
ARGOS on ADEOS (Part of) & 2001 projects	145	320	320	320	320
HARDWARE					
US. GPC Hardware	114	99	75	92	97
French GPC Hardware	211	235	285	309	332
VAX Development	18	0	0	0	0
Transatlantic line (Equipment)	0	0	0	0	0
TOTAL	343	334	360	402	428
General and Miscellaneous					
µ computers	33	8	0	0	29
Promotional Hardware	31	1	0	0	2
Office furniture- Safety - General equipment	42	88	86	95	103
TOTAL	107	97	86	95	134
	0	0	0	0	
GRAND TOTAL	**646**	**783**	**773**	**838**	**959**

Table 3.3: Detail of Amortization Items

3.4 Annual Incomes (in millions of Euros)

Incomes (MF)	2000	2001
JTA	**4.89**	**5.35**
Non JTA	**5.40**	**5.54**
Total	**10.29**	**10.89**

Table 3.4: JTA and non JTA 2000, 2001 Incomes

3.5 Details of JTA and non JTA Incomes and Expenses (in million Euros)

	2000	2001	
INCOMES			
JTA CLS	2.18	2.33	
JTA SAI	2.71	3.02	
	4.89	**5.35**	+9.4%
Non JTA CLS	4.89	5.11	
Non JTA SAI	0.51	0.43	
	5.40	**5.54**	**+ 2.6%**
Total Basic Argos Incomes	**10.29**	**10.89**	**+ 5.8%**
EXPENSES			
Total Basic Argos Expenses	**9.49**	**9.85**	**+ 3.9%**

Table 3.5: Detail of JTA and non JTA Incomes and Expenses

3.6 JTA Annual Balance (in millions of Euros)

	2000	2001
JTA Operating Costs	5.46	5.48
JTA Income	4.89	5.35
Difference	-0.56	-0.13
Accumulated Difference	-1.40*	-1.52

Table 3.6: Annual Balance

* The remaining difference from 1999 was -0.83 M€.

Further to the JTA proposal and its approval by the Opscom - see §1.2 & 2.1 above, JTA share is capped at the actual 2000 figure of 9.49 M€ , and increased by the annual official inflation rate, 2.14% for Y2001.

4. OTHER ISSUES RELATING TO ARGOS FUNDING

4.1 Management of ID numbers

Unused ID Numbers and 28 bit IDs

The JTA-XV meeting (1995) decided to implement an unused ID charge designed to encourage the return to CLS of such IDs, and thus alleviate a developing problem of ID number shortage.

JTA XX meeting (2000) decided to continue to operate this charge, but to review it at the 2001 meeting, with a view to phasing it out completely within the next four years
Since January 2001, the rule is to distribute only 28 bit Ids. Because all manufacturers were not ready or because the data format could not be made compatible in time, we had to continue the delivery of some 20 bit Ids.

JTA XXI meeting (2001) agreed with the proposal of CLS to retain this (unused ID) charge during 2002, to be reviewed again at JTA XXII.

In August 2002 there were 18969 ID numbers allocated to JTA application out of which only 2909 were 28 bit IDs. It is to be recalled that the recovery of 20 bit ID numbers is crucial as they are the roots used to build the 28 bit ID's. As a consequence, we strongly encourage the unused ID charge to continue.

4.2 Free access to A/B Class Location

JTA XX (2000)

Parag. 21: "On this basis, the meeting finally agreed to phase-in the inclusion of class A/B locations as a part of the basic JTA over a 3-year period, beginning with a one-third reduction of the charges for this service in 2001. As noted above, the cost of this action in lost income to CLS could be offset by the additional revenues to be generated under the JTA by the additional 20 PTT-years to be committed by the USA in 2001. Provided that the PTT-year commitments to the JTA continued to increase by an appropriate amount in subsequent years, the one-third year-on-year reduction would be continued until the A/B class locations could be effectively included under the JTA as a basic, free service."

Parag. 22: "While unsure of the exact nature of the implications of this action for the agreements governing the JTA, the meeting finally agreed that it would be prudent to obtain the opinion and agreement of the Argos Operations Committee for its proposal. The meeting therefore requested its chairman and CLS to bring the full proposal to the attention of the Operations Committee at the earliest opportunity, with a view to seeking their formal approval. If this approval was not immediately forthcoming, the meeting recognized that implementation of the proposal in 2001 would have to be suspended. The meeting agreed to review the whole issue again at JTA-XXI, based on the decisions of the Operations Committee, the financial and other results of the implementation of the proposal in 2001, and the projected PTT-year commitments for 2002 and beyond."

As indicated in Section 3.4 of this report the 35th Operations Committee Meeting concurred with the proposal made at the JTA XX meeting to phase in Class A/B positions.

The revenue to CLS/SAI for this service in year 2000 is 2.05 million French Francs. This amount represents the result of this action in lost income to CLS. Since the actual cost incurred by CLS/SAI to provide this service is 80% of the above revenue, that amount (0.8 times the revenue) will therefore be included in the operating costs for the Argos system. Also, although the JTA XX proposed a three-year phase-in of this service, CLS recommends a complete transfer of the service to the JTA in year 2002 in order to simplify the accounting process.

JTA XXI (2001)

Parag. 5.3 (i) "The meeting noted with appreciation that the OpsCom had accepted the proposal made at JTA XX. After some discussion, it was agreed that the phase-out process for these charges would proceed as agreed in 2000, viz.: two-third charge in 2001, one-third in 2002 and zero in 2003."

Action is underway. Animal trackers are being charged 1/3 in 2002 and will be charged nothing in 2003 and thereafter.

4.3 Free Access to Third Satellite

JTA XX

Parag. 23 "The meeting further recalled that at JTA-XIX it had agreed that "free access to the third satellite would be provided immediately for animal trackers, within limitations on number of locations; the situation with regard to access to the third satellite would be reviewed at the next meeting, with a view to its eventual introduction for all users…".

The policy about the access to third satellite needs to be reviewed in light of the expected launch of ADEOS-II in early 2002, and it is proposed to discuss this with the participants during the meeting.

JTA XXI

Parag. 5.3 (ii) "The meeting noted that, with the launch of the ADEOS-II satellite in early 2002, all Argos users would automatically have access to this as a third satellite. The meeting agreed that CLS should report to JTA XXII on experience with free access to this third satellite, including cost impacts."

As indicated in Section 3. Review of Users Requirements, parag. 4.3, the ADEOS II launch has been delayed until November 2002. Consequently no action has been taken yet on this item.

4.4 Incentive for frequency spreading

JTA XX

"Parag. 39 In order to encourage manufacturers and users to move their transmissions to less crowded parts of the designated Argos spectrum, those Argos PTTs which register to transmit within the available band but outside the central band of 401.648 - 401.652 MHz will attract a discount of 10%...".

As indicated in section 3, parag. 3. Frequency Spreading, this incentive had no impact as we did not record any platform transmitting outside the central band. As this measure appears to be uneffective while significantly increasing the account complexity and work load both for CLS/SAI and the ROCs, we propose to cancel it and work instead to improve global cost policy for the benefit of all JTA participants.

JTA XXI

Parag. 6.6 "…this incentive had made no impact in 2001, with no platform transmitting outside the central band, and CLS had therefore withdrawn the incentive. The meeting nevertheless recognized the importance of distributing transmissions throughout the available band, and in particular the advantages that would accrue to animal trackers if low-power transmissions were segregated in a designated and protected sub-band. It therefore requested its chairman to raise with OpsCom the possibility of changing PTT certification requirements to effectively force better management and use of the available band."

As reported in Section 3, parag. 2. Frequency Spreading, an OpsCom 36 action item was opened to address the issue of assigning frequencies in the SUA application process.

4.5 Funding an independent chairman

JTA XXI

Paragraph 5.2 "JTA chairman. The meeting agreed on the need to retain, at least for the time being, an independent chairman, and further agreed that the costs related to the JTA chairman (primarily contract and travel) should be funded fully through the JTA. Specific actions required to implement this are recorded under agenda item 6."

The JTA chairman costs as specified above have been added to the operating costs.

4.6 Factoring additional charges

JTA XXI

1 Paragraph 6.5 "The meeting recalled that, in addition to the basic PTT year charges, there were other charges levied by CLS on ROCs, which provided what was essentially supplementary JTA income. It therefore requested CLS to undertake a study on the likely effects of factoring these additional charges (except for the unused ID charge) into the standard PTT charge, and to report on this to JTA-XXII.

These charges are the administration fee and the Monthly Active units. These latter units are very much dependent on the type of platform and its activity pattern, hence their factoring on a global basis in the standard PTT charge is very complex.

4.7 Downlink Tariff policy

The proposed Downlink Tariff policy will be presented and discussed at the meeting.

5. DEVELOPMENT PROJECTS OF THE ARGOS SYSTEM

These projects are presented in three categories:

5.1. Projects Completed:

Automatic Distribution System
New computers in Service Argos Inc.
Japanese Regional center (step 1)
New ID number strategy
Back up line of the French center
New GTS subsystem (step 1 and 2)
Connection of US center to Hawaii S Band station
Connection to the BOM telemetry from Perth
Improvement of location process
Argos GPS project
US center disks change
French processing center upgrade
US processing center data distribution over Internet
Australia real time distribution on GTS chain in Toulouse
Upgrade of the Australian center hardware
Third satellite real time data processing from Lannion and Australian antennas
US processing center upgrade
French processing center connected to Internet
Software migration on Alpha computers
Increased on-line data access (10 days)
Argos 2 (K,L, M) adaptation (Capacity, sensitivity, receiving stations, test....)
ID numbers administration
Requested by JTA (DBCP)
Reunion island real time distribution onto GTS chain in Toulouse
South Africa real time distribution onto GTS chain in Toulouse
Increase the size of Argos data base.
On-line access to GTS Technical file.
Access to Argos data using CD ROMS
Data flow control facilities
On-line and up to date Argos documentation
Japanese distribution center upgrade
Multi satellite real time data processing from Landover antenna
Extension of ID number processing capability
Direct distribution of buoy data to M□t□o France in La R□union
Data processing of JAMSTEC TRITON moored buoys
Specific algorithms for new Argos XBT devices

5.2. Projects Under Development (or to begin in 2002)

ADEOS II/Argos processing chain project
Argos 2001 project (Argos processing chain renewal) step1 & 2
On-line access to Argos technical files
On-line access to ADS technical files
GTS distribution of sub-surface floats
BUFR code development
GTS Subsystem Quality control

Improved delivery times (open action item)

5.3. Projects under study

Error detection/correction codes
Requested by JTA (DBCP)
Data sharing facilities
Access to both GPC.

ANNEX VII

Final Plan presented at JTA XXII in EURO

IN EURO	1998	1999	2000	2001	2002 (Aug. 31st)	2003	2004	2005
Total costs								
FYP	8.54	8.72	8.89	9.07	9.25	9.44	9.62	9.82
Inflation	2%	2%	2%	2.14%	2%	2%	2%	2%
Actual and *agreed for the future*	**8.54**	**8.96**	**9.49**	**9.68**	***9.88***	***10.08***	***10.28***	***10.48***
JTA Share								
FYP "no more than"	60%	60%	58%	56.50%	55.00%	53.50%	52.00%	52.00%
Actual and *agreed for the future*	**60.00%**	**59.50%**	**57.50%**	***56.50%***	***55.0%***	***53.5%***	***52.0%***	***52.0%***
JTA costs (M€)								
FYP	5.13	5.23	5.15	5.12	5.09	5.05	5.00	5.11
Actual and *agreed for the future*	**5.13**	**5.33**	***5.46***	***5.47***	***5.43***	***5.39***	***5.34***	***5.45***
Non inflated income (constant number)								
FYP	4.79	4.80	4.80	4.80	4.80	4.80	4.80	4.80
PTTs in Excess					***0.68***			
Actual and *agreed for the future*	**4.79**	**4.76**	**4.78**	**5.11**	***5.15***	***5.34***	***5.62***	***5.71***
Subscription		1121	1108	1136	1,145	1,188	1250	1270
Number active PTT								
FYP			4000	4500	5000	5500	6000	6000
Actual and *forecast*			**4448**	***4571***	***4968***	***5240***	***5480***	***5720***
€/active PTT/month			1.52	3.05	4.57	6.10	7.62	7.62
Active PTT fixed fee (M€)			0.07	0.16	0.27	0.40	0.55	0.55
Actual and *agreed for the future*			**0.08**	**0.17**	***0.27***	***0.38***	***0.50***	***0.52***
Adjustment PTT years fee (€/year)								
FYP			30.49	60.98	91.47	121.96	152.45	152.45
Actual and *agreed for the future*			**30.49**	**60.98**	***91.47***	***91.47***	***91.47***	***91.47***
Adjustment (M€)								
FYP			0.03	0.07	0.10	0.11	0.11	0.12
Actual and agreed for the future			**0.03**	**0.07**	**0.1047**	**0.1087**	**0.1143**	**0.12**
Annual loss								
FYP	0.26	0.43	0.25	0.09	-0.09	-0.26	-0.46	-0.36
Actual and *agreed for the future*	**0.26**	**0.57**	**0.57**	**0.13**	***-0.78***	***-0.45***	***-0.89***	***-0.90***
Accumulated loss (M€)								
FYP	0.26	0.69	0.93	1.02	0.93	0.66	0.20	-0.16
Actual and *agreed for the future*	**0.26**	**0.83**	**1.40**	**1.52**	***0.74***	***0.30***	***-0.60***	***-1.50***

ANNEX VIII

TERMS AND CONDITIONS OF THE GLOBAL AGREEMENT FOR 2003

These Terms and Conditions outline costs to and services to be provided by Collecte Localisation Satellites (1) hereafter referred to as "CLS" and the

(2) *

jointly providing support to their own authorized users for the location and data processing associated with test and implementation of remote platforms communicating with Argos-capable satellites.

Each authorized user under this Agreement adheres to the procedures and conditions of the Argos system. In this regard, System Use Agreements should be submitted as soon as a programme is planned. Data distribution will be accomplished under the policies established by the ARGOS Operations Committee.

TIME PERIOD OF COVERAGE

These Terms and Conditions are valid for the time period beginning on **January 1 and ending on December 31, 2003.**

DEFINITIONS

"Platform-year" is defined as 365 days of operation of an acceptable Platform Transmitter Terminal (PTT).

"Consultation of files" or "Access to the data" is defined as direct user access to the disk files either by telephone, telex or other public data networks.

The "Global Agreement" included all those participating countries which agree to the Terms and Conditions contained here in and which sign a similar Agreement with CLS prior to **March 1, 2003**.

(1) Collecte Localisation Satellites is the affiliate of CNES, in charge of operating the Argos system.

(2) Quote the country and its own organization in charge of the Agreement with regard to CLS. Hereafter defined by "ROC", i.e. a unique Representative Organization for a country or a group of countries.

SERVICES PROVIDED BY CLS

CLS will perform the following categories of services associated with PTT's of the authorized users:

(1) Location determination or both location determination and data collection for PTT's with a repetition period equal to or less than 120 seconds, application of calibration curves to the data when appropriate, access to the data and distribution of the data according to the paragraph below entitled "Distribution of processed data" and archiving for three months;

(1a) Same as (1) but subject to the limitation under LIMITED USE SERVICE;

(2) Data collection for PTT's with a repetition period equal to or greater than 200 seconds, application of calibration curves to the data when appropriate, access to the data and the distribution of the data according to the paragraph below entitled "Distribution of processed data" and archiving for three months;

(3) Same service as (1) except the location and the data are not made available to the users unless they require the data and follow the conditions for back-up services;

(4) Same service as (2) except the data are not made available to the users unless they require the data and follow the conditions for back-up service.

USER CHARGES PER PLATFORM YEAR

Charges for authorized users under this Agreement are given in the Table entitled:

Summary of services and tariffs to users under the Global Agreement

Processing by CLS	Category	Repetition Period	Location computed	Data collection and sensor processing	On line data access	Data archiving	Tariff
Standard	1	≤ 120 sec	YES	YES	YES	YES	X
	2	>= 200 sec	NO	YES	YES	YES	X/2
Limited Use Service	1a	≤ 120 sec	YES	YES	YES	YES	*
Back Up	3	≤ 120 sec	YES	YES	NO	YES	2X/5
	4	=> 200 sec	NO	YES	NO	YES	X/5
Inactive Status	5		NO	NO	NO	NO	X/6

** Users will be charged the standard data collection and location rate for actual PTT.days used up to a maximum of ten per month*

CLS agrees to charge those authorized users a rate of **X = 4055 Euro** per platform-year for services defined in category (1), a rate as defined below under conditions for limited use service (paragraph 3) for services defined in category (1a), and a rate of **X/2** for services in category (2).

It is agreed that CLS will record the number of platform-days and will send quarterly reports to the ROC which contain the number of platform-days accumulated up to the time of the reports.

These charges will remain the same for the time period of coverage stated above. It is possible that these costs may vary from year to year. Therefore, the ROC and CLS will discuss and conclude Agreements

concerning fees to be charged to users prior to establishing the Terms and Conditions for the Agreement valid for the following year.

CONDITIONS FOR LIMITED USE SERVICE

This service is intended for those users whose programmes operate effectively using a reduced number of data transmission. Platforms under this service category are supposed to use a randomly initiated duty cycle.

The following conditions must be met to qualify:

(1) Standard location or standard location and data processing (services) only apply;

(2) Platform can transmit no more than twenty-four (24) hours in any and all seventy-two (72) hours periods;

(3) Users will be charged the standard data collection and location rate for actual PTT.days used up to a maximum of ten per month;

(4) All platforms in a single programme must meet these conditions;

(5) Separate programme applications must be submitted.

CONDITIONS FOR BACK-UP SERVICE

(1) For PTTs covered by the "back-up service" the data are stored in a special data bank for 6 months, but will not be distributed to the user. All PTT's of this type will be counted at **2X/5** (category 3) or **X/5** (category 4) of the corresponding tariff under the Global Agreement;

(2) Each user can require CLS to grant access to the active computer files during a specified period. CLS will perform the required file modifications. During the specified period, the PTT's will be counted at the standard tariff (category 1 or 2) in the Global Agreement from the first of the month in progress. Each operation involving a file modification will be charged directly to the user as indicated under "Limitations on PTT's", paragraph 1;

(3) Upon request, CLS will provide printouts and/or floppy disks and/or CDs including the data from PTT's in the back-up mode for a specified period up to six months before the receipt of the order. For the specified period the PTTs will be counted at the standard tariff (category 1 or 2) in the Global Agreement;

(4) CLS will begin required services only after receipt of a detailed letter or e-mail specifying the service and the period required and the programme involved.

CONDITIONS FOR INACTIVE STATUS

This status is intended for those platforms that continue to transmit but for which the location or data collection are of no further use to the user or the community. The following conditions must be met to qualify:

(1) Only platforms in Standard Service (category (1) or (2)) or Limited Use Service (category 1a)) are admissible;

(2) The platforms must have operated in category (1), (1a) or(2) for a minimum of 2 months;

(3) Data or location information cannot be retrieved nor can the platform revert to any category of service;

(4) It is intended that Location and/or data collection may not be computed using a Local User Terminal or other direct readout facility.

ACTIVE PLATFORM FEE

(1) A monthly fee of **6.10 Euro** is applied to each active platform (those transmitting at least once per month).

(2) The yearly total is estimated in January, based on the active platform quantities from the previous year.

(3) An adjustment is made at the end of the year using actual figures.

DESIGNATED ROC

.....
.....
.....
.....
.....

ROC PARTICIPATION

For the period beginning 1 January 2003, the ROC will purchase for authorized users the guaranteed minimum **of * platform-years** in advance for 12 months service. On December 31, 2003**,** the final count of platform-years and fractions thereof which were actually used will be determined. The final cost adjustment over **the * platform-years** amount (if required) will be determined at the tariff defined above under "USER CHARGES PER PLATFORM-YEAR".

LIMITATIONS ON PTT'S

For those PTT's under these Terms and Conditions there are certain limitations which are itemized below:

(1) The modification of platform characteristics (number of sensors, calibration curves, etc.) will require a charge defined in the annual price list issued by CLS. This charge and any additional financial cost resulting from these limitations will be paid by the users directly to CLS. Platform modifications within the GTS processing subsystem are not charged. In order to enter, delete or modify a platform, a one-week period may be necessary. After entering a new platform, a minimum of one calendar month is required to change the processing category of that platform. However, two months are required to enter inactive status;

(2) As an average per individual Agreement and per category of service for the platforms covered under these Terms and Conditions, there will be no more than six (6) locations for two (2) satellites processing and nine (9) locations for three (3) satellite processing derived for repetition periods up to and including 120 seconds or no more than ten (10) data acquisitions for two (2) satellite processing and fifteen (15) data acquisitions for three (3) satellite processing for a platform-day, allowed without financial cost. If the service results in exceeding these limits, the cost will then be 1/25 of the tariff rate for each processing category multiplied by the number of processed platform-years for the programme number(s)

concerned in each category. Funds for unused PTT-years under this agreement will be applied to offset these supplemental charges.

DISTRIBUTION OF PROCESSED DATA

(1) These Terms and Conditions do not cover the costs of special off-line arrangements made to provide the processed data back to the users. These must be made by the user directly with CLS;

(2) However, it is understood that CLS will continue to provide data from PTTs via the World Weather Watch Global Telecommunication System (WWW/GTS) of the World Meteorological Organization (WMO) according to procedures established by WMO.

PERIOD OF SYSTEM USE

When a location and/or data collection platform is initially received into the system in a 24-hour period, starting at 00.00 UTC, CLS will begin to accumulate the number of platform-days.

BILLING AND PAYMENT

(1) CLS will send a preliminary bill **for * (at least 70% of the total amount) in Euro**, in advance to the ROC, with the agreement to be signed. The indicated amount must include the additional 2,287 Euros required per Agreement for general and administrative costs. This latter cost will be waived if the number of platform-years initially agreed to is three or less. The number of active platforms charged by programme will be attached to the bill.

Final adjustment will be made after December 31, 2003**,** CLS will send a second bill to the **ROC for * Euro** with additional charges if necessary.

These bills should be sent to:

.....
.....
.....
.....
.....

(2) Payment by the ROC will be sent to:

CLS
8/10, rue Hermès - Parc Technologique du Canal
31526 RAMONVILLE Cedex
FRANCE
Account number : 30004 00762 00020666305 63
Bank : **BNP PARIBAS**

(3) Payment by USA ROC will be sent to:

Service Argos, Inc.
1801 McCormick Drive, Suite 10
Largo, Maryland 20774
USA

(4) Services which are charged directly to users as in paragraph (1) under "LIMITATIONS ON PTT's" and paragraph (1) under "DISTRIBUTION OF PROCESSED DATA" above require a purchase order directly between the individual user and CLS, as noted in paragraph (2) under "GENERAL CONDITIONS OF AGREEMENT" below.

GENERAL CONDITIONS OF AGREEMENT

(1) The designated ROC agrees to provide the initial list of users included in the Agreement and will update this list as appropriate.

(2) For services not provided within this Agreement, individual users under this Agreement must negotiate directly with CLS. Payments associated with these negotiations must be settled on receipt of the invoice. If these conditions are not met, CLS may stop the distribution of the user's processed data. Nevertheless, active platforms received by the system will be counted in the platform-year total. Should this situation occur, CLS will immediately notify the ROC.

(3) Authorized users are defined as those implementing PTTs which are government funded. However, other users of agencies or organizations which are considered "non-profit" may be authorized. PTTs funded partly or entirely by private companies or organizations cannot be included in the conditions of this Agreement, even if data are supplied free of charge to national or international organizations.

If these rules are not followed, CLS may stop the distribution of this user's data. Should this situation occur, CLS will immediately notify the ROC. Nevertheless, active PTTs received by the system will be counted in the platform-year total and data stored.

(4) All authorized users must sign a purchase order for each programme, either for the current year or for the duration of the programme, in order to clearly specify the services they request, whether these services are provided under this Agreement or not.

(5) The terms of this Agreement are based on a planned minimum purchase of **1,187 platform-years** by all participants in the Global Agreement for the year 2003. Each ROC must finalize their commitment by **January 15, 2003**. Each ROC is responsible to assure that the signed Agreement for the amount committed on **January 15, 2003** is received by CLS before **March 1, 2003**. On and after this date, CLS will not take into account other Agreements and will invoice according to the above conditions.

(6) As an incentive to encourage expansion of individual programmes, a bonus scheme will operate as follows:

a) Where the number of platform-years contracted by the country continues to equal or exceed the estimate confirmed and recorded at the **JTA-XVII** meeting**,** the contracted number will be increased by 82% for the purpose of calculating any excess use.

b) For countries not meeting the requirement in (a) above, but having benefited of a 35% bonus during the year preceding immediately that of these present Terms and Conditions, and whose number of platform-years contracted equals or exceeds the number signed under the preceding Terms and Conditions, the contracted number will be increased by 82% for the purpose of calculating any excess use.

c) For countries not meeting the requirements in (a) and (b) above, but whose number of platform-years contracted equals or exceeds the number signed under the preceding Terms and Conditions, the contracted number will be increased by 35% for the purpose of calculating any excess.

ROCs are responsible for the allocation of the bonus within their country, but shall not transfer PTT-years between themselves to take advantage of this allowance.

(7) Each participating country will be charged for excess use over and above the contracted number of PTT-years (inflated by the above bonus as appropriate):

a) at the tariff defined under "USER CHARGES PER PLATFORM-YEAR" divided by 1.35 (one point thirty five), if the participating country benefits of 82% bonus during the year;

b) at the tariff defined under "USER CHARGES PER PLATFORM-YEAR" in all other cases.

These charges will be applied to the second invoice sent at the end of the year.

(8) VAT will be charged to EU Members in accordance with EU rules.

NORMAL TARIFFS CHARGED BY CLS

As an indication of additional costs for services not covered by this Agreement, the normal tariffs charged will be provided by CLS to the ROC.

_____	_____	_____	_____
Signed by the designated ROC	(Date)	Signed by CLS	(Date)

ANNEX IX

NATIONAL REPORTS ON CURRENT AND PLANNED PROGRAMMES

The following national reports were received by the Secretariat:

Country	page
Australia	2
Brazil	3
Canada	6
Denmark	13
Finland	15
France	16
Korea (Republic of)	23
Netherlands (the)	24
New Zealand	25
South Africa	27
United Kingdom	28
USA	29

Country: **AUSTRALIA**

During the year 2003 it is anticipated that Australian participants will operate a total of approximately 18 – 20 Argos programs, consuming an estimated 42 **PTT-yrs.** The main users expected are the Australian Bureau of Meteorology, CSIRO Marine Research, and Antarctic Division, plus several biological researchers.

A. Australian Bureau Of Meteorology

Program	Description	Est. PTT-yr
0085	Drifting Buoy (FGGE/TOGA type)	10.25
9085	SVP-B drifters	8.80
0086	Automatic Weather Station (AWS) (data only X/2)	0.60
0799	Ship DCP	0.15
30085	Expendable Bathythermograph (XBT)	0.80
2039	Argo floats	1.50
	Total PTT-yr requirement:	**22.1**

B. Australian Antarctic Division

Program		
0366	AWS (data only reporting only X/2)	10.5
0973	Foraging Adelie Penguins	0.55
1179	Mawson Coast Emperor Penguins	2.33
1155	Sea Ice Processes	2.0
	Total PTT-yr requirement:	**15.38**

C. CSIRO Marine Research

Program		
1715	Whale Shark Tracking	0.35
	Total PTT-yr requirement:	**0.35**

D. Australian Animal trackers (excluding CSIRO, Ant Div.)

Program		
1527	Seal tracking	0.1
1728	Seal tracking	1.0
2006	Seal tracking	1.0
2062	Flying Foxes	0.5
1747	Water Birds	1.1
1446	Turtles	0.5
	Total PTT-yr requirement:	**4.2**

BRAZIL

Currently, the Instituto Nacional de Pesquisas Espaciais – INPE (National Institute for Space Research) operates nearly 500 platforms distributed in national territory, on the sea coast and Brasilian Antartic base. Principal programs are attached to meteorologic, hydrographic, oceanographic and other scientific research areas. During 2003, the INPE plans to deploy over 100 PTT's for environmental control of the Amazon basin. Since 2001 the INPE will use, exclusively, the ARGOS system for positioning location. For the current data collect services it will use own satellites (SCD-1, SCD-2 and CBERS-1). At last 2003, new set of PTT's will be installated for environmental monitoring and operates at same conditions.

A. AGENCY: Instituto Nacional de Pesquisas Espaciais

1. PROGRAM 01195: INPE/PETROBRÁS/DHN/LCD

Purpose: To provide sea surface temperature and velocity data and represent the brazilian participation in WOCE and TOGA programs.

Number and type of PTT's:	(a) 2002: 16 - Drifters and moored buoys
	(b) 2003: 12 - Drifters and moored buoys
PTT's/Year:	(a) 2002: 5.0
	(b) 2003: 4.0

2. PROGRAM 01423: PROANTAR

Purpose: To provide meteorological data and safety status information on brazilian group based at Antartic base.

Number and type of PTT's:	(a) 2002: 02 - PTTs animal tracking
	08 - Portable alert terminals
	(b) 2003: 02 - PTTs animal tracking
	04 - Portable alert terminals
PTT's/Year	(a) 2002: 1.0
	(b) 2003: 0.5

3. PROGRAM 00447:

3.1 OCEANOGRAPHY:

Purpose: To provide meteorological data, sea surface velocity and wave and current measurements. Operates exclusively with SCD-1, SCD-2 and CBERS-1.

Number and type of PTT's	(a) 2002: Cancelled
	(b) 2003: Cancelled
PTT's/Year	(a) 2002: 0
	(b) 2003: 0

3.2. METEOROLOGY AND CLIMATOLOGY

Purpose: To provide meteorological data for prediction of the climate change. Operates exclusively with SCD-1, SCD-2 and CBERS-1.

Number and type of PTT's	(a) 2002: Cancelled
	(b) 2003: Cancelled
PTT's/Year	(a) 2002: 0
	(b) 2003: 0

3.3. OZONE AND CO_2 MONITORING

Purpose: To provide ozone and CO_2 concentration measurements for study effects on environment. Operates exclusively with SCD-1, SCD-2 and CBERS-1.

Number and type of PTT's	(a) 2002: Cancelled
	(b) 2003: Cancelled
PTT's/Year	(a) 2002: 0
	(b) 2003: 0

3.4. ANTARTIC SAFETY MONITORING

Purpose: To inform the situation status of scientist grup based at brazilian Antartic base.

Number and type of PTT's	(a) 2002: 07 – Alert and climatological stations
	(b) 2003: 03 – Alert and climatological stations
PTT's/Year	(a) 2002: 3.0
	(b) 2003: 1.3

4. PROGRAM 00510: ENGINEERING

Purpose: To provide technical information on functionment of new equipments or stations.

Number and type of PTT's	(a) 2002: 04 - Engineering tests
	04 - Site tests
	(b) 2003: 02 - Engineering tests
	02 - Site tests
PTT's/Year	(a) 2002: 0.5
	(b) 2003: 0.1

5. PROGRAM 09447: TIDE GAUGE

Purpose: To provide sea level data measurement collection for studies circulation in TOGA program. Operates exclusively with SCD-1, SCD-2 and CBERS-1.

Number and type of PTT's	(a) 2002: Cancelled
	(b) 2003: Cancelled
PTT's/Year	(a) 2002: 0
	(b) 2003: 0

6. PROGRAM 01950: ANIMAL TRACKING

Purpose: To provide biological and localisation data for studies the maned wolf and mountain.

Number and type of PTT's	(a) 2002: 04 - PTTs necklace
	(b) 2003: 02 - PTTs necklace
PTT's/Year	(a) 2002: 0.5
	(b) 2003: 0.1

B. AGENCY: AGÊNCIA NACIONAL DE ENERGIA ELÉTRICA

Program cancelled. Operates exclusively with SCD-1, SCD-2 and CBERS-1.

1. PROGRAM 00377: HYDROLOGICAL MONITORING AMAZON BASIN

Purpose: To provide data set to monitor the watter flux in rivers and lakes of the amazon basin.

Number and type of PTT's	(a) 2002: Cancelled
	(b) 2003: Cancelled
PTT's/Year	(a) 2002: 0
	(b) 2003: 0

2. PROGRAM 01549: PERFORMANCE MECB/ARGOS

Program cancelled. Operates exclusively with SCD-1, SCD-2 and CBERS-1.

Purpose: To evaluate the data consistence for both ARGOS and MECB systems.

Number and type of PTT's	(a) 2002: Cancelled
	(b) 2003: Cancelled
PTT's/Year	(a) 2002: 0
	(b) 2003: 0

C. NUMBER OF PTT's/YEAR UNDER JTA

PTT's/Year	(a) 2002: 10.0 - JTA/2002
	(b) 2003: 6,0 - JTA/2003

Natal, Brazil, September 2002

Country: CANADA

Year: 2002 and 2003

A. Agency or programme: Institute of Ocean Sciences of Fisheries and Oceans Canada

Purpose of programme: 2442 ARGO floats to track ocean currents(Freeland)

Numbers & types of platforms:	a)	Deployed current year: 48
	b)	Planned next year: 52
Estimated number of PTT-years:	a)	Current year: 4.4 Equi
	b)	Next year: 4.8 Equi

704 Mooring tracking (Juhasz)

Numbers & types of platforms:	a)	Deployed current year: 1
	b)	Planned next year: 0
Estimated number of PTT-years:	a)	Current year: .1 Equi
	b)	Next year: 0 Equi

496 Tracking moorings for chemical sampling(Wong)

Numbers & types of platforms:	a)	Deployed current year: 3
	b)	Planned next year: 1
Estimated number of PTT-years:	a)	Current year: 0.67 Equi
	b)	Next year: .1 Equi

411, 30411, 9411 Witness buoy for moorings(Thomson)

Numbers & types of platforms:	a)	Deployed current year: 1
	b)	Planned next year: 0
Estimated number of PTT-years:	a)	Current year: 0.3 Equi
	b)	Next year: 0.15 Equi

B. Agency or programme: Bedford institute of Oceanography of Fisheries and Oceans Canada

Purpose of programme: 00076 Environment Monitoring: Ice research and salmon aquaculture

Numbers & types of platforms:	a)	Deployed current year:
	b)	Planned next year:
Estimated number of PTT-years:	a)	Current year: 2.0
	b)	Next year: 0.4

C. Agency or programme: Institut Maurice-Lamontagne

Purpose of programme: 00788 DPO Marine Mammal Research
09788 Marine Mammal Research LUS

Numbers & types of platforms:	a)	Deployed current year: 11(standard use), 12(limited use)
	b)	Planned next year: 13(standard use)
Estimated number of PTT-years:	a)	Current year: 4
	b)	Next year: 2 ? No reply to date but some activity is expected.

D. Agency or programme: Freshwater Institute

Purpose of programme: 01142 Beluga Telemetry

Numbers & types of platforms: a) Deployed current year: 0
b) Planned next year: 4
Estimated number of PTT-years: a) Current year: 0.1 Equi
b) Next year: 0.0 but has requested funding

E. Agency or programme: Environment Canada

Purpose of programme: 00323 Pacific PAPA
00626 Pacific C-NOMAD
00627 International Arctic Buoy Program
00693 Atlantic Buoy Program
00633 Ice Floe Drift
09633 Ice Floe Drif (Sub-program)

Numbers & types of platforms:

Program 323	Pacific Region	18 b/u service
Program 627/693	Prairie Region	5 b/u 4 standard service
Program 633	Ice Branch	1.5 b/u and 2.25 standard service

a) Deployed current year: ?
b) Planned next year: 25
Estimated number of PTT-years: a) Current year: 14
b) Next year: 16.1

F. Agency or programme: University of Saskatchewan

Purpose of programme: 00762 Polar Bears in NWT
08762 Caribou in NWT
09762 Polar Bears in NWT (Sub-Program)

Numbers & types of platforms: a) Deployed current year: 8
b) Planned next year: no new collars. The program is wrapping up in 2003.
Estimated number of PTT-years: a) Current year: 1.5
b) Next year: 0.5

G. Agency or programme: NFLD/Department of Forest Resource & Agr

Purpose of programme: 00561 Labrador DND Wildlife Studies
09561 Newfoundland Black Bear studies

Numbers & types of platforms: a) Deployed current year: 7
b) Planned next year: 7
Estimated number of PTT-years: a) Current year: 3.0
b) Next year: 2.5

H. Agency or programme: Parks Canada

Purpose of programme: 01015 Grizzly Bear Study

Numbers & types of platforms: a) Deployed current year: 1
b) Planned next year: 2
Estimated number of PTT-years: a) Current year: 0.25 Equi
b) Next year: 0.20

I. Agency or programme: National Defence Headquarters

Purpose of programme: 0959 Radio-Tracking of Migratory Caribou Herds
2497 Woodland Caribou Tracking
2593 Osprey/Bald Eagle Tracking

Numbers & types of platforms: a) Deployed current year: 15
b) Planned next year: 39, Standard Service
Estimated number of PTT-years: a) Current year: 11.2
b) Next year: 10.6

J. Agency or programme: Government of Northwest Territories

Purpose of programme: 01572 Blue Nose Caribou Herd Ranger User - LUS
09572 Blue Nose Caribou Herd Ranger User - *NON* LUS
11572 NW Victoria Island - LUS
21572 Banks Island – LUS
2445 Grizzly Bear tracking

Numbers & types of platforms: a) Deployed current year: 12
b) Planned next year: 42, 30 collars on grizzly bears for 6 months, barren land caribou studies to continue
Estimated number of PTT-years: a) Current year: 5.8 Equi
b) Next year: 13

K. Agency or programme: Government of Northwest Territories

Purpose of programme: 00606 Satellite Telemetry of Bathurst caribou
09606 Satellite Telemetry of Nahanni caribou
30606 Satellite Telemetry of Victoria Island Caribou

Numbers & types of platforms next year:
Program 30606 Victoria Island Caribou
3 PTT's
Standard use
Transmitting 6 hrs on/114 off

.6 PTT year

Program 9606 Nahanni caribou
16 PTT's
Standard use
Transmitting 6 hrs on/114 off

4.2525 PTT year

a) Deployed current year: 15
b) Planned next year: 19

Estimated number of PTT-years: a) Current year: 5.0 Equi
b) Next year: 4.825

L. Agency or programme: Environment Canada

Purpose of programme: 01375 Seasonal Movements of Osprey Nesting

Numbers & types of platforms: a) Deployed current year: 4
b) Planned next year:

Estimated number of PTT~years: a) Current year: 1.1 Equi
b) Next year: . No reply to date.

M. Agency or programme: GNWT - Resource & Wildlife Div.

Purpose of programme: 01709 NWT Wolf Studies

Numbers & types of platforms: a) Deployed current year: 0
b) Planned next year: 0 There is no activity on this program.
Estimated number of PTT~years: a) Current year: 0.0
b) Next year: .0

N. Agency or programme: Laurentian University

Purpose of programme: 01839 Noodland Caribou East Project

Numbers & types of platforms: a) Deployed current year: 0
b) Planned next year: 0
Estimated number of PTT-years: a) Current year: 0 Equi
b) Next year: 0

O. Agency or programme: Environment Canada

Purpose of programme: 01706 King Eider Molting and Wintering Areas -
09706 King Eider Molting and Wintering Areas - *N*

Numbers & types of platforms: a) Deployed current year: ?
b) Planned next year:
Estimated number of PTT-years: a) Current year: 4.0
b) Next year: 6.0

P. Agency or programme: Defense Research Establishment Atlantic

Purpose of programme: (2176) Environmental Research

Numbers & types of platforms: a) Deployed current year: 0
b) Planned next year: 1
Estimated number of PTT-years: a) Current year: 0. Equi
b) Next year: 0.1 Equi

Q. Agency or programme: Long Point Bird Observatory

Purpose of programme: 01856 Long Point Tundra Swans

Numbers & types of platforms: a) Deployed current year: ?
b) Planned next year: ?
Estimated number of PTT-years: a) Current year: 0
b) Next year: 0

R. Agency or programme: GNWT / Resources & wildlife

Purpose of programme: 01816 Keewatin wildlife Monitoring Program

Numbers & types of platforms: a) Deployed current year: 20
b) Planned next year: 20 collars transmitting once every 5 days
Estimated number of PTT-years: a) Current year: 4.0 Equi
b) Next year: 4.0

S. Agency or programme: University of Alberta, Canada Wildlife Service

Purpose of programme: 00947 Habitat Use by Polar Bears in Western Hudson Bay
08947 Habitat Use by Polar Bears in Western Hudson Bay
09947 Habitat Use by Polar Bears in Western Hudson Bay

Numbers & types of platforms: a) Deployed current year: 10
b) Planned next year: 10
Estimated number of PTT-years: a) Current year: 2
b) Next year: 1.7

T. Agency or programme: Renewable Resources

Purpose of programme: 01207 Procupine Caribou Satellite - *SSS*
09207 Procupine Caribou Satellite non-SSS

Numbers & types of platforms: a) Deployed current year: 23
b) Planned next year:
Estimated number of PTT-years: a) Current year: 2.5
b) Next year: No reply to date but some activity is expected.

U. Agency or programme: Department of National Defence

Purpose of programme: 01194 Environmental Measurements in an Ocean Eddy

Numbers & types of platforms: a) Deployed current year: 0
b) Planned next year:
Estimated number of PTT-years: a) Current year: 0.0 Equi
b) Next year: 0.0

V. Agency or programme: Department of National Defence

Purpose of programme: 02019 Self Locating Datum Marker Buoy. Location of personnel in open water after a shipping disaster. The beacon allows rescue craft to focus their search patterns into specific areas by emulating the drift patterns of either a person floating in the water or a four-man life raft.

Numbers & types.of platforms: a) Deployed current year: 60 (if needed), standard service

	b)	Planned next year: 45 (if needed), standard service
Estimated number of PTT-years:	a)	Current year: 1.0 Equi
	b)	Next year: 0.75

W. Agency or programme: Government of Nunavut, Canada

Purpose of programme: 02080 Survival of Dolphin-Union Caribou

Numbers & types of platforms:	a)	Deployed current year: 25
	b)	Planned next year: collars to be removed in Fall 2002
Estimated number of PTT-years:	a)	Current year: 5.0 Equi
	b)	Next year: 0.0

X. Agency or programme: DFO Canadian Coast Guard

Purpose of programme: 01387 SAR DMB Development

Numbers & types of platforms:	a)	Deployed current year: 24
	b)	Planned next year: 30
Estimated number.of PTT-years:	a)	Current year: .5
	b)	Next year: .5

Y. Agency or programme: Environment Canada

Purpose of programme: 02027 Herring Gull

Numbers & types of platforms:	a)	Deployed current year: 8
	b)	Planned next year: 8
Estimated number of PTT-years:	a)	Current year: 0.7
	b)	Next year: 1.3

Z. Agency or programme: Canadian Wildlife Service of Environment Canada

Purpose of programme: (2334)Eider Duck tracking.

Numbers & types of platforms:	a)	Deployed current year: 0
	b)	Planned next year: 10
Estimated number of PTT-years:	a)	Current year: 0. Equi
	b)	Next year: 1.8 Equi

AA. Agency or programme: 02589 Fish an Wildlife Branch of the Yukon

Purpose of programme: (new program) Moose tracking

Numbers & types of platforms:	a)	Deployed current year: 0
	b)	Planned next year: 10
Estimated number of PTT-years:	a)	Current year: 0.0 Equi
	b)	Next year: 1.5 Equi

AB. Agency or programme: C-Core

Purpose of programme: (2572) Validation of Radar surface currents.

Numbers & types of platforms:	a)	Deployed current year: 4
	b)	Planned next year: 0
Estimated number of PTT-years:	a)	Current year: 1. Equi
	b)	Next year: 0.0 Equi

AC. Agency or programme: Alberta Fish and Wildlife Service

Purpose of programme: (2599) Grizzly bear management.

Numbers & types of platforms:	a)	Deployed current year: 4
	b)	Planned next year: 4
Estimated number of PTT-years:	a)	Current year: 0. Equi
	b)	Next year: 0.75 Equi

AD. Agency or programme: Ontario Ministry of Natural Resources

Purpose of programme: (2587) Kag Lake caribou tracking.

Numbers & types of platforms:	a)	Deployed current year: 0
	b)	Planned next year: 4
Estimated number of PTT-years:	a)	Current year: 0. Equi
	b)	Next year: 1.3 Equi

AD. Agency or programme: British Columbia Ministry of the Environment, Lands and Parks

Purpose of programme: (1743) Peregrine Falcon tracking.

Numbers & types of platforms:	a)	Deployed current year: 0
	b)	Planned next year: 4
Estimated number of PTT-years:	a)	Current year: 0. Equi
	b)	Next year: 0.6 Equi

AE. Agency or programme: Yukon Ministry of Renewable Resources

Purpose of programme: (2450) Caribou tracking in the south-east Yukon.

Numbers & types of platforms:	a)	Deployed current year: 8
	b)	Planned next year: 0 The program has been wrapped up.
Estimated number of PTT-years:	a)	Current year: 0.32 Equi
	b)	Next year: 0.0 Equi

Denmark

Year: 2003

A. Agency or programme: Danish Meteorological Institute, Prog. no. 272

Purpose of programme: Fixed platforms for weather observations in Greenland

Numbers and types of platforms: (a) deployed current year: 17
(b) planned next year: 17

Estimated number of PTT-years: (a) current year: 3,4
(b) next year: 3,4

B. Agency or programme: Danish Meteorological Institute, Prog. no. 453

Purpose of programme: Fixed platform used as reference buoy

Numbers and types of platforms: (a) deployed current year: 1
(b) planned next year: 1

Estimated number of PTT-years: (a) current year: 0,4
(b) next year: 0,2

C Agency or programme: Greenland Institute of Natural Resources, Prog. no. 684

Purpose of programme: Tracking of marine mammals

Numbers and types of platforms: (a) deployed current year: 20
(b) planned next year: 20

Estimated number of PTT-years: (a) current year: 1
(b) next year: 1

D. Agency or programme: Greenland Institute of Natural Resources, Prog. no. 1703

Purpose of programme: Tracking of Greenlandic Caribous

Numbers and types of platforms: (a) deployed current year: 0
(b) planned next year: 0

Estimated number of PTT-years: (a) current year: 0,1
(b) next year: 0

E Agency or programme: Greenland Institute of Natural Resources, Prog.no.718

Purpose of programme: Tracking of polar bears

Numbers and types of platforms: (a) deployed current year: 0
(b) planned next year: 10

Estimated number of PTT-years: (a) current year: 0,17

(b) next year: 1

F. Agency or programme: National Environmental Research Institute, Prog. no. 1695

Purpose of programme: Tracking of marine mammals (seals and porpoises)

Numbers and types of platforms: (a) deployed current year: 20
(b) planned next year: 15

Estimated number of PTT-years: (a) current year: 2,5
(b) next year: 2,5

G. Agency or programme: National Environmental Research Institute, Prog. No. 1698

Purpose of programme: Tracking of birds (geese and eiders)

Numbers and types of platforms: (a) deployed current year: 21
(b) planned next year: 36

Estimated number of PTT-years: (a) current year: 2
(b) next year: 3

H. Agency or programme: Niels Bohr Institute, Prog No. 2342

Purpose of programme: Tracking of (and data collection from) drifting subsurface floats

Numbers and types of platforms: (a) deployed current year: 5
(b) planned next year: 5

Estimated number of PTT-years: (a) current year: 0,6
(b) next year: 0,6

Special comments (if any):

Country: Finland

Year: 2002/2003

A. Agency : FINNISH INSTITUTE OF MARINE RESEARCH

Purpose of programme: Meteorological observations (Program 815)

Numbers and types of platforms:	(a)	deployed current year: 1, drifting-buoy
	(b)	planned next year: 3, drifting-boy
Estimated number of PTT-years:	(a)	current year: 0,01
	(b)	next year: 0,4

Purpose of programme: Wave studies (Program 1626)

Numbers and types of platforms:	(a)	deployed current year: 2, moored buoy
	(b)	planned next year: 3, moored buoy
Estimated number of PTT-years:	(a)	current year: 0,9
	(b)	next year: 1,0

Purpose of programme: Meteorological observations (Program 740)

Numbers and types of platforms:	(a)	deployed current year: 1, fixed station
	(b)	planned next year: - , fixed station
Estimated number of PTT-years:	(a)	current year: 0,5
	(b)	next year: -

B. Agency: MINISTRY OF ENVIRONMENT

Purpose of programme: Fjell goose migration (Program 1377)

Numbers and types of platforms:	(a)	deployed current year: 2, animal tracker
	(b)	planned next year: 6, animal tracker
Estimated number of PTT-years:	(a)	current year: 0,1
	(b)	next year: 0,1

C. Agency: FINNISH MUSEUM OF NATURAL HISTORY

Purpose of programme: Migration of Finnish ospreys (Program 2419)

Numbers and types of platforms:	(a)	deployed current year: 4, animal tracker
(b)	planned next year: 6, animal tracker	
Estimated number of PTT - years:	(a)	current year: 0,59
(b)	next year: 1,0	

Special comments (if any):

FRANCE

Year: 2003

A. Météo-France
Estimated PTT-years in 2003 : **27**

Purpose of programme :

Météo-France has been operating drifting and moored buoys for many years as for operational aims as in the frame of oceanographic campaigns. Observations are collected and sent in real time on the GTS (Global Telecommunication System of WMO).

Number and type of platforms :

(a) operating current year (2002) :

Prog.	PTT-years	Type of platform
0044	3.0	Drifting buoys (research)
0435	0.1	Drifting buoys in N-Atlantic and Indian Oceans (operational)
9435	25.4	SVP-Baro drifters (research and operational)
0115	4.5	Moored buoys (operational)
1450	3.0	Waverider buoys in French West Indies (operational)

(b) planned next year (2003) :

Prog.	PTT-years	Type of platform
0044	1.0	Drifting buoys (research)
0435	2.0	AWS onboard ships (operational)
9435	15.0	SVP-Baro drifters (research and operational)
0115	6.0	Moored buoys (operational)
1450	3.0	Waverider buoys in French West Indies (operational)

Estimated number of PTT-years :

(a) 2002: 36 for 27 contracted

(b) 2003: 27

B. CNES - Centre National d'Etudes Spatiales
Estimated PTT-years in 2003 : 10

- Program 351: measuring water depth in River Niger
data collection only transmitters, backup

- Program 1154: stratospheric balloons
location and data collection transmitters

- Program 159: Spectrophometers are installed onboard stratospheric balloons

- Program 1036 : Argos Topex Poseidon Calval
data collection only- fixed stations

- Program 1068 : Aeroclipper

- Program 891 : Pressurized Balloon

- Program 1945 : Data collection transmitters

C. IFREMER
Estimated PTT-years in 2003 : 10
See programs description attached

D. IPEV - Institut Polaire Français Paul Emile Victor
Estimated PTT-years in 2003 : 6

- Program 203: meteorological measurements in the sub-Antarctic
location transmitters on ships Marion Dufresne, Astrolabe and La Curieuse.
2.5 PTT-years

- Program 738: Albatross and Royal Penguins tracking
1 PTT-year

- Program 952: Albatross and Royal Penguins tracking
1 PTT-year

- Program 1331 : Penguins tracking Traking of royal penguins on Crozet Island
0.50 PTT-years

- Program 2265 : Pelagic birds orientation
0,80 PTT-year

E. INSU-CNRS
Estimated PTT-years in 2003 : 4.5 PTT-years

- Program 952 Otarie (C. Guinet)
We will use southern elephant seals (*Mirounga leonina*) seals equipped with ARGOS CTD tags developped by the Sea Mammal Research Unit as observational platforms to obtain temperature and conductivity (salinity) profiles with their associated location from the Southern Ocean, Antarctic sea ice zone and major frontal zones.1) Databases While simultaneously providing biologists with vital information about the oceanographic characteristics associated with successful foraging in these animals, this innovative method will provides an extremely cost-efficient enhancement to traditional ship-based oceanographic sampling and ARGOS CTD buoys. This new approach should provide oceanographers with high-accuracy vertical temperature/salinity profiles at high resolution from a region with otherwise sparse data sampling, especially during winter months. Data will be incorporated to the Coriolis in situ observation of the global Ocean.

- Program 1789
Name of the program : SOFI (Station d'Observation FIxe) du PNOC – PNEC (Gilles ROUGIER)

Short abstract:
The Northern Current, a coastal jet present along the coast in the NW Mediterranean Sea, plays a crucial role as the boundary condition to the continental shelf of the Gulf of Lions. The intrusions of the Northern Current hence have an important impact on the shelf circulation and on the biogeochemical budgets of the gulf. These intrusions can be detected by permanent moorings, recording time series. The GOLTS ADCP,

equipped with a beacon ARGOS, is moored at the eastern potential entrance side of the intrusions on the shelf, since November 2001.

- Program 2237 Boussole (David Antoine)

BOUSSOLE: (BOuées pour l'acquiSition de Série Optiques Long termE) buoys for long term optical serie acquisition.
Based on a subsurface mooring deployed in Mediterranean Sea. Argos is used to protect the mooring.

- Program 1565 Dyfamed-SMM (J. La Rosa, JC Miquel)

The Argos SMS service enables to detect the geographical position of the buoy if the mooring line breaks.

Program 2374 Mantle beneath the Pacific (G. Barruol)
In order to image the structure of the upper mantle beneath the french Polynesia, a temporary network of 10 seismological stations will be deployed during the period September 2001 ro december 2003 on french Polynesia islands.
Since most of stations will be installed at remote sites the Argos data Collection System will be used to control the tsate of the seismological recorders by collecting parameters like the number of siesmic event detected the battery voltage the disk capacity, disk errors ... All these Parameters will be helful to maintain the network and to plan the service on site.

- Program: 1074 Medoc 92 (J-C Gascard)

In early 2003, 40 subsurface VCM floats will be deployed in the Nordic seas in order to better understand the circulation in the upper warm layer of North Atlantic water, and the exchanges
with the Arctic. This is part of the European ASOF program. Part of the floats will surface towards the end of the year and start transmitting their subsurface acoustic data, as well as
temperature, immersion and relative vertical velocities measured during their subsurface drift.

- Program 1830 and 10830: CNRS - Centre National de Recherches Scientifiques
stratospheric monitoring
A network of 3 fixed SAOZ spectrometers is monitoring the stratospheric
ozone layer (Siberia and Greenland). Argos is used for
data collection only.
Balloon-borne version of SAOZ spectrometers are installed onboard
stratospheric ballons:
- 10 short term balloon flights (a few hours) launched from Norway, Sweden,
France, Brazil and Spain, Argos is used for location only.
- 2 long duration balloon flights (MIR) (more than 30 days float) launched
in the Tropics. Argos is used for location and data collection.
1.5 PTT-years

F. LMD: Laboratoire De Météorologie Dynamique
Estimated PTT-years in 2003 : 1

- Program 286: wave dynamics

G. IRD :
Estimated PTT-years in 2003 : 10

- Program 299
Rainfall measurements in French Guyana
10 rainfall gauges planned, back-up mode.
Estimated PTT-years: 1.5

- Program 936
Hydrometric measurements in French Guyana
Data collection only transmitters
12 limnigraphs, back-up mode will be upgraded to data collection.
Estimated PTT-years: 3

- Program 687 : XBT. SOOP program
12 XBT acquisition systems on board a ships of opportunity network (global)
Data collection and GTS transmission.
20 Platforms declared.
This program is dependant on NOAA's probes allocation
Estimated PTT-years: 2

- Program 448 : Matem sis Vanuatu
volcanoes activity monitoring
Data-collection-only, back-up , 4 platforms declared
Estimated PTT-year: 1

- Program 570 : US OBHI
Hydrology monitoring in Western Africa
Unknown number of platforms. Data collection only.
Estimated PTT-years: 2

- Program 2381 : Acousthon
Tuna biomass estimation through acoustic detection
Data collection. 1 platform
Estimated PTT-year: 0

- New Program :
1 meteorological station in Sao Tome
Data collection. 1 platform planned
Estimated PTT-year: 0.5

H. SHOM
Estimated PTT-years in 2003 : 13

- Program 720 : air deployable CMOD drifting buoys
Estimated PTT-years: 1.5 PTT-years

- Program 30170 : Location and data collection for Lagrangian multicycle type MARVOR floats.
6 floats for POMME experiment
Estimated PTT-years: 0.5 PTT-year

- Program 1171: MODYCOT and BAB experiments
19 Drifting buoys
Estimated PTT-years: 8.5 PTTs-year

- Program 31170: CORIOLIS experiment
Location and data collection of 25 profiling floats.
Estimated PTT-years: 2.5 PTTs-year

TOTAL ESTIMATED PTT-YEARS FOR FRANCE IN 2003 = 80.5 PTTs-year

IFREMER

System Argos –2003 Needs (PTT.year)

Gérard LOAEC

Estimation globale brute: **38.5 PTT.an**
Estimation globale pondérée par taux d'utilisation 2002 **:** **27 PTT.an**
estimation globale brute 2002 : 15.7 PTT.an
estimation de consommation 2002 au 01/07/02 : 11.01 PTT.an

Program 1309: SAMBA *(correspondant : M. Ollitrault)*
Requirement: 20 PTT-years (location, data collection, precision time-tagging)

The SAMBA experiment *(Sub Antarctic Motions in the Brazil Basin)* aims to use MARVOR floats to determine the general circulation of the Antarctic Intermediate Water in the Brazil basin. These floats will be tracked until 2003 by a network of sound sources in the South Atlantic. 30 floats remain in activity and will surface in 2003 and remain transmitting at the surface.

Program 1615: ARCANE *(correspondant : B. Le Cann)*
Requirement: 0.3 PTT-years (location and data collection, location plus, three satellites).

The ARCANE ("Actions de Recherche sur la Circulation dansl'Atlantique Nord-Est") programme is aimed at the study of the oceanic lagrangian circulation in the intergyre region of the North-East Atlantic (30-55N, 05-30W). Several components of the circulation, general and mesoscale (eddies and slope currents), are targeted, at the North Atlantic Central Water and Mediterranean Water levels. ARCANE is a joint project between SHOM and IFREMER, initiated in 1996. 24 Marvor floats were deployed in autumn 1996, and 5 are still operating. It is intended to deploy several (3-5) retrofitted Marvor floats in 2003.

Program 1616: EUROFLOAT *(correspondant : T. Reynaud)*
Requirement: 0.25 PTT-years (location and data collection, location plus, three satellites)

The EUROFLOAT program, started in 1996, aims to use drifting buoys to study deep-water circulation in the North-East Atlantic. EUROFLOAT is a joint program being pursued by SHOM (CPO), the French Navy's hydrography and oceanography department, and IFREMER (LPO), the French ocean research agency. LPO deployed 21 MARVOR acoustic floats in the fall of 1996 in the Labrador Sea water, at an average depth of 1,750 meters. These floats are positioned using an acoustic network maintained by SHOM and IFREMER. They pop up every three months, then transmit their data to Argos for three days before diving under again. The floats' nominal life cycle is over three years.

Program 2273: POMME *(correspondant : B. Le Cann)*
Requirement: 1.1 PTT-year (location plus, three satellites; precision time-tagging)

POMME ("Programme Ocean Multidisciplinaire Meso-Echelle") is a research project aimed at understanding the subduction mechanisms of 11-12C mode water in the northeast Atlantic, how this affects the biological production and the carbon budget of the northeast Atlantic, and at describing the fate of organic matter after subduction. The coupling of mesoscale dynamical and biological processes is one of the major objectives of the project.
The POMME project is supported by the national PATOM and PROOF programmes. The research area is located in the intergyre region of the North East Atlantic (38-45N; 010-025W). In late 2000 and early 2001, 5 4-beacon Marvor floats were deployed, for an expected 5-year duration. 2 Marvors are still operating, and we intend to deploy 3 additional ones.

Program 1009: NIVMER/ROSAME *(correspondant: Philippe Techine)*
Requirement: 1.5 PTT-year (data collection)

The ROSAME network *(Réseau d'Observation Sub-antarctique et Antarctique du niveau de la MEr)* provides data on sea level variability for a number of scientific programs, including CLIVAR, Topex/Poseidon, European ERS-1 and ERS-2, and the future Jason and Envisat satellite altimetry missions, and for long-term monitoring of sea level (GLOSS).

Each instrumented station in this network measures sea level, atmospheric pressure, sea water temperature, and the absolute location of a reference point on the station with respect to the Earth's center of mass.

There are four sites in the ROSAME network, in the Kerguelen Islands, on Nouvelle Amsterdam and St Paul islands, the Crozet Islands and Dumont d'Urville. Each site has a coastal station. Moored stations at the edge of the ice shelf complement the three sub-Antarctic coastal stations. These moored stations tie absolute measurements taken at the coastal station to the offshore oceanographic signal.

Each coastal station has an underwater pressure gauge inside a protective shaft, and a central unit for acquiring readings from the water pressure and temperature and atmospheric pressure sensors. This central unit transmits data via Argos. Absolute location coordinates are determined by GPS.

Data are transmitted in near-real mode (under two weeks) to the Sea Level Fast Delivery Center in Hawaii, and to the GLOSS data bank in Bidston, United Kingdom. Data are accessible over the Internet.

Program 1903: PROVOR *(correspondant: Gérard LOAEC)*
Requirement: 0.5 PTT-year (location and data collection, location plus, three satellites)

PROVOR is a drifting hydrographic profiling float based on a similar technology to the MARVOR float. PROVOR profilers record CTD profiles (Conductivity, Temperature, Depth) automatically. After preprocessing and validation, these profiles are fed into models used by scientific and operational programs to enhance our understanding of ocean circulation and climate change.
PROVOR is a multicycle profiler (10 to 150 cycles) with a cycle that typically lasts about 10 days, during which it records profiles at depths ranging from 0 to 2,000 meters. It pops up and stays on the surface to transmit its data to Argos for a maximum of about 12 hours, and can operate in a multi-transmitter environment if necessary.

Program 1967: EMMA *(correspondant: Eric Menut)*
Requirement: 0.1 PTT-year (location and data collection, location plus, three satellites)

EMMA profilers are designed to record hydrographic (C)TD profiles in a single cycle, operating down to a depth of 6,000 meters after being placed on the ocean floor and released at a pre-programmed date. The aim is similar to the PROVOR's indicated above. Transmissions may last up to 4-6 days.

Program 2412: CORIOLIS *(correspondant: André Billant)*
Requirement: 10 PTT-years (location and data collection, location plus, multi satellites)

The French contribution to ARGO. In 2003 there will be 150 PROVOR floats (100 deployed in 2003)deployed in North-Atlantic. Floats from GYROSCOPE program, financed by EU, are integrated to CORIOLIS.

Program n°1785 : Marine Turtles in Indian ocean *(correspondant: David ROOS)*
Requirement: 2,75 PTT-years (location and data collection, location plus, multi satellites)

5 beacons Turtle (Serpe IESM) during 6 months
1 beacon Turtle (Telonics) during 1 month.

This program aims to understand the migration patterns of the sea turtle population (*Chelonia Mydas*) in the southwest Indian Ocean, regarding different steps of the life history of the species. The final aim is to build a realistic population dynamic model for the species in the southwest Indian Ocean.

Program n° 2476 : DORADE *(correspondant: Marc Taquet)*
Requirement: 2 PTT-years (location and data collection, location plus, three satellites)

The DORADE program (Dynamique et Organisation de Ressources Agrégées Epipélagiques) aims to study the aggregative behavior of epipelagic fishes around floating objects. The biological model retain for this study is the common dolphinfish (Coryphaena hippurus.Fish aggregative devices (FADS) are built and set drifting with an Argos SC40 G buoy in order to follow the FAD.Small Argos devices are also fixed on aggegated dolphinfish to follow their migration pattern at a regional scale.

Republic of KOREA

Year: 2002

A. Agency or programme: 2397(METRI, KMA)

Purpose of programme: To implement Argo project of METRI, KMA

Numbers and types of platforms: (a) deployed current year:19
(b) planned next year: 15

Estimated number of PTT-years: (a) current year: 2.0
(b) next year: 2.7

B. Agency or programme: 1002(KORDI)

Purpose of programme: To measure coastal currents and circulation in the Yellow and East China Seas

Numbers and types of platforms: (a) deployed current year: 8
(b) planned next year: 6

Estimated number of PTT-years: (a) current year: 1.5
(b) next year: 1.0

C. Agency or programme: 2096(KORDI)

Purpose of programme: Argo-KORDI and East Sea Circulation

Numbers and types of platforms: (a) deployed current year: 10
(b) planned next year: 15

Estimated number of PTT-years: (a) current year: 1.0
(b) next year: 1.0

Special comments (if any):

The NETHERLANDS

Year: 2002

A **Agency or programme** Royal Netherlands Meteorological Institute (KNMI)

Purpose of programme EGOS Drifting Buoy Programme (0436)

Numbers and types of platforms (a) deployed current year 3 SVP-B drifters
(b) planned next year 3 (4) SVP-B drifters

Estimated number of PTT-years (a) current year 3
(b) next year 3

B **Agency or programme** Institute for Marine and Atmospheric Research (IMAU)

Purpose of programme Land ice change and sea level change monitoring (1238)

As a contribution to the European Project on Ice Coring in Antarctica (EPICA) the IMAU has placed at one time a maximum of eight Automatic Weather Stations (AWS) in Dronning Maud Land, Antarctica. These AWSs were installed on a transect ranging from the coast to the plateau Amundsenisen, along the Swedish research stations Wasa and Svea. The goal of this project is to extend the knowledge of the climatological conditions of this particular part of Antarctica and to obtain a better understanding of the surface energy and mass balance of the Antarctic ice sheet. Therefor surface and subsurface (bore holes up to 100 meters) temperatures, relative humidity, wind speed and direction, snow height, air pressure, short and long wave incoming and outgoing radiation is measured. Together with GPS positioning the data are transmitted as two hour averaged values through the ARGOS system.

Four stations will be closed at the end of 2002. One of these stations might be reinstalled at the Norwegian basis Trol in 2003.

Numbers and types of platforms (a) deployed current year 8 Telonics PTTs
(b) planned next year 4 Telonics PTTs

Estimated number of PTT-years (a) current year 3.5
(b) next year 3.6

NEW ZEALAND Year **2002**

A. Agency : **Meteorological Service of New Zealand Ltd (MSNZ)**

Purpose of programme: **Real-time Drifting Buoy data for weather forecasting**

Number and types of platforms: (a) deployed current year: 4 drifters
(b) planned next year: 5 drifters

Estimated number of PTT-years (a) current year: 7 PTT years
(b) next year: 7 PTT years

B. Agency : **Department of Conservation**

Purpose of programme: **New Zealand Sea Lion tracking**

Number and types of platforms: (a) deployed current year: 5 animal PTTs
(b) planned next year: 7 animal PTTs

Estimated number of PTT-years (a) current year: 0.5 PTT years
(b) next year: 0.75 PTT years

C. Agency: **Department of Conservation**

Purpose of programme: **Albatross Tracking**

Number and types of platforms: (a) deployed current year: 2 bird PTTs
(b) planned next year: 12 bird PTTs

Estimated number of PTT years- (a) current year: 0.6 PTT years
(b) next year: 2.5 PTT years

D. Agency: **NIWA Christchurch**

Purpose of programme: **Foraging habits of Buller's Mollymawks**

Number and types of platforms: (a) deployed current year: 8 bird PTTs
(b) planned next year: 8 bird PTTs

Estimated number of PTT-years (a) current year: 1.75 PTT years
(b) next year: 0.4 PTT years

E. Agency: **NIWA Christchurch**

Purpose of programme: **Eel Tracking with pop-up tags**

Number and types of platforms: (a) deployed current year: Nil
(b) planned next year: Nil

Estimated number of PTT-years (a) current year: 0.1 PTT years
(b) next year: Nil PTT years

F. Agency: **Massey University**

Purpose of programme: **NZ Falcon Tracking Programme**

Number and types of platforms: (a) deployed current year: 1 bird PTT
(b) planned next year: 1 bird PTT

Estimated number of PTT-years (a) current year: 0.3 PTT years
(b) next year: 0.3 PTT years

G. Agency: **NIWA Wellington**

Purpose of programme: **Ocean Fronts Drifter Buoys**

Number and types of platforms: (a) deployed current year: Nil
(b) planned next year: 3 buoys

Estimated number of PTT-years (a) current year: Nil PTT years
(b) next year: 0.1 PTT years

SOUTH AFRICA

Year: 2002

A. Agency or programme: South African Weather Service – Program 243

Purpose of programme: Deployment of drifters to provide real-time data for operational Weather Forecasting

Numbers and types of platforms: (a) deployed current year: A total of 57
27 SVPB and 31 SVP drifters
24 Indian Ocean, 33 South Atlantic
(b) planned next year: A total of 36.
23 SVPB and 13 SVP drifters

Estimated number of PTT-years: (a) current year: 25
(b) next year: 25

B. Agency or programme: Scripps Institute Oceanography/Benefit Program - 2065

Purpose of the programme: Deployment of drifters in coastal water off Agulhas and Luderitz. Research program, directed at the circulation of Surface water in the Benguela system and its relevance to fisheries

Numbers and types of platforms: (a) deployed current year: 4 SVP drifters
(b) planned next year: 6 SVP drifters

Estimated number of PTT years (a) current year: 0,5 years
(b) next year: 0,5 years

C. Agency or programme: Conservation Ecology Research Unit, Pretoria University. Program 1536

Purpose of the programme: Tracking of elephants to evaluate the feasibility of reconnecting elephant populations separated by an international boundary.

Number and types of platforms: (a) deployed current year: 9 transmitters.
(b) planned next year: 9 transmitters

Estimated number of PTT years: (a) current year: 2,7 years
(b) next year: 2,7 years

D. Agency or programme: Sea Fisheries Research Institute - Program 1237

Purpose of the programme: Tracking seals, dolphins and seabirds

Number and types of platforms: (a) deployed current year : 22 transmitters
(b) planned next year: 15 transmitters

Estimated number of PTT years (a) current year : 2 years
(b) next year: 2 years

UK National Report 2002

Organisation	**Purpose of programme**	**Platforms deployed in 2002**	**Platforms planned for 2003**	**Estimated PTT-yr usage for 2003**
British Antarctic Survey	Seabird tracking	33 tags (Microwave)	32 tags (Microwave)	1.6
	Krill transport	20 GPS/Argos drifters	22 Argos drifters	9
	Ice shelf studies	0	3 fixed stations	1.5
	Sea mammal tracking			4.5
Centre for Environment Fisheries and Aquaculture	Oceanographic research			6
Falklands Conservation / Antarctic Research Trust	Penguin tracking	15 tags	15 tags	1
Met Office	Moored buoy network	11	11	
	Drifting buoy network	28 SVP-B drifters	25 SVP-B drifters	
	Argo float programme	54 Argo floats	55 Argo floats	71
Plymouth Marine Laboratory	Tracer patch monitoring	1 GPS/Argos drifter	1 GPS/Argos drifter	0.1
Scott Polar Research Institute	Polar oceanographic research	1 float	1 float	0.1
Scottish Association for Marine Science	Mooring monitoring	1	1	0.1
Sea Mammal Research Unit	Sea mammal tracking	23 tags	45 tags	3.5
University of Southampton	Oceanographic research			1.5
University of Wales	Turtle tracking	10	10	0.5
University of York	Whale shark tracking	0	10	3

UNITED STATES OF AMERICA

Year: CY 2003

The U.S. projection for JTA use in CY 2002 (after 9 months of actual use) is 1390 Ptt/yr an increase of about 12% over CY 2001. The projection for JTA use in CY 2003 is an increase of about 5% to 1460 Ptt/yr.

During 2003, the United States plans to deploy over 4,000 platforms carrying Argos transmitters in nearly every ocean and other remote area of the world for over 400 meteorological, oceanographic, biological, and other scientific programs. The platforms include about 2,000 drifting buoys, 800 profiling floats, 250 moored buoys, 500 birds, 700 marine animals, 50 terrestrial animals, 20 land stations, and 5 balloons. The sponsors of these programs are the Department of Commerce - National Oceanic and Atmospheric Administration, the National Science Foundation, the Department of Defense, the Department of Transportation - U.S. Coast Guard, the Department of Interior, Department of Energy, the National Aeronautics and Space Administration, state institutions, and nonprofit organizations.

The following is a list of agencies/organizations using the Argos System with a description of the purpose and the estimated Ptt/years, number of platforms, and type of platforms for 2002:

A. National Oceanic and Atmospheric Administration

1. Oceanic and Atmospheric Research -- Meteorological and oceanographic observations for monitoring and prediction of climate change. Study biological and physical oceanographic processes.

2002: 700 Ptt/yr -- 105 moored buoys, 640 drifting buoys, 480 profiling floats, 10 marine biology

2. National Weather Service -- Operational meteorological and oceanographic data.

2002: 29 Ptt/yr – 62 moored buoys, 4 drifting buoys

3. National Marine Fisheries Service -- Determine the distribution, migration, and behavior of marine animals and study marine ecological systems.

2002: 45 Ptt/yr – 250 marine biology, 20 moored buoys, 5 drifting buoys, 6 profiling floats

4. National Environmental Satellite and Data Information Service -- Meteorological and oceanographic observations for Arctic analysis and forecasting.

2002: 14 Ptt/yr – 18 drifting buoys

5. National Ocean Service -- Study ecological systems for GLOBEC. Oil spill response and turtle tracking.

2002: 31 Ptt/yr – 72 drifting buoys, 18 moored buoys

B. National Aeronautics and Space Administration -- Study Pacific Ocean currents and Siberian Cranes.

2002: 10 Ptt/yr -- 20 drifting buoys, 5 birds

C. Department of Transportation - U.S. Coast Guard -- To collect current and sea surface temperature data for iceberg movement and deterioration and search & rescue operations.

2002: 23 Ptt/yr – 330 drifting buoys

D. National Science Foundation –
Biological Oceanography Program -- Study marine ecological systems for GLOBEC.

Physical Oceanography Program -- Provide meteorological and oceanographic observations for physical oceanographic and circulation studies.
Polar Programs -- Circulation, physical oceanography, meteorology, ecology, and ice studies.

2002: 90 Ptt/yr – 500 drifting buoys, 340 profiling floats, 10 land stations, 15 marine biology, 10 birds

E. Department of Agriculture -- Study the daily activity and movements of American White Pelicans and vultures and Double-crested Cormorants.

2002: 12 Ptt/yr – 55 birds, 5 terrestrial biology

F. Department of Energy - EML, Sandia/NMSU/SWTDI, LANL -- Air filter samples and monitoring airborne radon, cosmic rays, nuclear radiation, and meteorological conditions and elk tracking.

2002: 2 Ptt/yr – 5 terrestrial biology

G. Department of Interior

1. USGS - Biological Resources Division - Monitor the movement and activities of various species of birds, terrestrial animals, and marine animals and the associated environmental variables that influence these patterns.

2002: 60 Ptt/yr – 20 marine biology, 200 birds, 50 terrestrial biology

2. Fish and Wildlife Service -- Determine raptor and crane movements and habitat and marine and terrestrial animal tracking.

2002: 20 Ptt/yr – 20 birds, 20 marine biology, 20 terrestrial biology

3. National Park Service -- Study the migration of marine and terrestrial animals.

2002: 10 Ptt/yr – 6 marine biology, 20 terrestrial biology

H. Department of Defense

1. Naval Oceanographic Office -- Collection of real-time meteorological and oceanographic data for operational analysis and forecasting.

2002: 85 Ptt/yr – 215 drifting buoys

2. Office of Naval Research -- Measurements and studies of surface and subsurface oceanographic parameters and whale tracking.

2002: 15 Ptt/yr – 20 drifting buoys, 5 moored buoys, 50 marine biology

I. Non - U.S. Government (state and local governments, universities, laboratories, institutions, and non-profit organizations) -- Monitor the movement and activities of various species of birds, terrestrial animals, and marine animals and the associated environmental variables that influence these patterns, oceanographic studies, and weather and climate observations.

2002: 180 Ptt/yr – 50 moored buoys, 80 drifting buoys, 5 land stations, 400 marine biology, 200 birds, 100 terrestrial biology

ANNEX X

ACTION SHEET

Ref.	Subject	Action proposed	Resp.	Target date	Comments
para 12 (i)	**GTS subsystem to relay data from other sources**	Chair to carry the requirement to the OpsCom in view of that enhancement becoming part of the Argos development programme	Chair	Feb. 2003	
para 12 (ii)	**Reactivating Lannion Station**	Chair to convey the requirement to co-chairs OpsCom (letter) & to OpsCom itself	Chair	ASAP, Feb. 2003	
para 13 (iii)	**Brazilian satellite**	To explore the possibilities of implementing a dedicated Brazilian ground station	CLS	ASAP	
para 13 (v)	**Downlink tariff**	To propose a policy for downlink tariff	CLS	JTA-XXIII	
para 15 (i)	**5 year plan**	To review the plan	CLS, Meeting	JTA-XXIII	
para 15 (ii)	**Unused IDs**	1. To send the lists of unused IDs to the ROCs	CLS	early January	
		2. To review the incentive	Meeting	JTA-XXIII	
para 15 (iii)	**Existing additional charges in JTA**	To prepare a categorized list of those charges and a proposal to introduce some or all of those into the standard tariff at the end of the five-year plan.	CLS	before JTA-XXIII	
para 16	**Inactive status**	To request the OpsCom to consider amending the SUA to explicitly introduce the concept of programme duration and associated precise criteria, including the full financial responsibility of the programme manager for the overall programme and its consequences	Chair	ASAP, Feb. 2003	
para 20	**Excess use**	To review the decision taken at JTA-XXII	Meeting	JTA-XXIII	

Ref.	Subject	Action proposed	Resp.	Target date	Comments
para 21	**Regular reporting**	1. To report the actual JTA activity for the previous year and the final participation in the agreement for the current year, with a brief commentary	Chair	15 February	
		2. To report a projection of activity for the current year, with a brief commentary	Chair	15 July	
para 22	**CLS activity**	To make available some details of the JTA and non-JTA activity in terms of active IDs and revenue	CLS	JTA-XXIII	
para 29	**JTA-XXIII**	1. To make local arrangements	Brazil	ASAP	
		2. To prepare agenda & annotated agenda; to issue invitations	Secretariats, Chair	June 2003	
		3. To prepare the basic documentation and send it to the Secretariats	CLS	August 2003	