WMO Space Programme
SP-10

SATELLITE DATA REQUIREMENTS FOR RA III AND RA IV

SURVEY REPORT

WMO

2014

World Meteorological Organization
Weather • Climate • Water

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APPENDICES

Formulating Region-based requirements for satellite data access and exchange is one of the important steps of the Integrated Global Data Dissemination Strategy (IGDDS) Implementation Plan and recognized by WMO as a priority (see WMO Commission for Basic Systems: Procedure for Documenting Regional Requirements for Satellite Data Access and Exchange (Recommendation 5, Report CBS-15, 2012) and Resolution 4.4(4) of WMO Executive Council at its 65th session, 2013).

This issue has been addressed for WMO Regions III (South America) and IV (North America, Central America and the Caribbean), through a Satellite Data Requirements Task Team established in June 2009 by the Secretary General of WMO. The Task Team prepared an inventory of dissemination systems available in Regions III and IV with details on their coverage, data rate, and provisions for sustainability of these systems. The Team also produced an initial set of satellite data requirements.

In 2012, the Secretary-General of WMO invited Members in Region III and IV to nominate candidates for a standing regional mechanism, the Coordination Group on Satellite Data Requirements for Region III and IV. The Group has been endorsed by Regional Association IV at its 16th session (2013) and is subject to endorsement by Regional Association III at its 16th session in September 2014. Currently the Group has members from seven countries of the Region (Argentina, Brazil, Canada, Chile, Colombia, Trinidad and Tobago, and Venezuela) as well as representatives from the satellite data providers NOAA, EUMETSAT, and INPE. The United States satellite user community is not represented in the Coordination G   roup and in the survey.

Until March 2014, the Group has met by teleconference five times, and the regional survey on satellite data requirements was one of the topics addressed in each meeting, as follows:

- In the first meeting, the **possibility** to perform the survey was discussed.
- In the second meeting, the **strategy** to apply and disseminate the survey was discussed.
- In the third meeting, the Group defined the survey **deadline** and the **areas** of responsibility for each group member.
- In the fourth meeting, WMO provided a **letter** supporting the survey and after it, the application of the questionnaire has started.
- In the fifth meeting, INPE provided **feedback** about the survey preliminary results.

We received 46 questionnaires answered by institutions from 12 countries (Argentina , Aruba , Barbados , Brazil , Canada , Chile , Colombia , Costa Rica , Ecuador , Peru , Trinidad and Tobago and Uruguay), 7 from Region III and 5 from Region IV, with substantial participation from institutions in Brazil and Argentina (69% of total).

The key **results** of the survey are:

- Satellite data use is greatly distributed in a variety of areas, contexts and satellites, and is most used for research and development means, education and trainning, weather forecasts and warnings and climate predictions and assessments.
- Both near-real time and historical data are important for the community
- Approximately half of the community is interested in buying direct readout stations for the next satellite generation, but the great majority of them have great difficulties related to the high investment required
- The interest in using the DVB-S receiving method is considerably increasing
- Part of the community doesn't know the GEONETCast broadcast system
- The majority of the community would like to distribute their products using a dedicated broadcast system
- A considerable part of the community would be ready or consider contributing to a wide data distribution system by allocating financial and technical resources

The **recommendations** to be applied in order to optimize the regional data distribution and

dissemination are:

- Broadcast the Data Requirements product list to all data providers;
- Instruct the community about the Data Requirements table and its use;
- Raise awareness and participation in the Coordination Group;
- Develop a user friendly-application that will act as a bridge between data and applications (e.g. ILWIS, McIDAS-V, SIGMACast);
- Stimulate the provision of data (upload) by users;
- Instruct the user community about the GEONETCast-Americas system, since approximately 25% of users do not know the system. Great part of the answers was from DVB-S users, so this number may be much higher;
- Raise awareness in the Region of GNC-A receiving stations and their cost. Promote the expansion of the user community / network of receiving stations, using new divulgation strategies, new tools for use / handling of data, and new sources of investment;
- Provide training for use, installation and reception of data, giving technical support in the specification, acquisition, testing and installation of the GEONETCast-Americas equipment on site;
- Launch user readiness projects in all institutions that indicated the intention to use GOES-R data, following WMO guidance (SATURN – Satellite User Readiness Navigator and the Reference User Readiness Project https://www.wmo-sat.info/satellite-user-readiness/topic/planning-for-readiness/;
- Concentrate on user preparadness for GOES-R and upcoming European satellites in the Americas and Caribbean;
- Coordinate such projects through the Coordination Group, and advertize and provide training to explain the needs to receive the new satellite generation;
- Provide infromations about each product, quality, how to read and employ;

For each new product, the following information should be provided:

Point of contact (for information on the product collection);
Providing organization;
Data source;
Product detailed description (naming convention, format, average size, frequency, basic user, type, societal benefit areas, geographical region, resolution, etc);
Applicability domain (targeted use, for which it has been validated);
The algorithm to read and visualize the data;
Free training courses on the use of the products – using the WMO/CGMS Virtual Laboratory;
When available, offer tools that allow data analysis and/or integration with geographical data;
Data quality monthly evaluation;
Short Technical report discussing the data quality (e.g., in accordance with QA4EO principles);
Short report describing the techniques employed to generate each data;
A letter from stakeholders and users describing the importance of the data.

1. INTRODUCTION

1.1 Motivation

In order to achieve a more structured and organized communication between users and satellite data providers for weather, water, and climate applications from the community, a regional survey was developed by the Coordination Group on Satellite Data Requirements for Region III and Region IV (Americas and the Caribbean).

Pursuing a Region-based satellite data dissemination approach and related capacity building can only be effective if the needs and challenges of users are known and well documented. The Group regularly reviews sources of regional needs and undertakes, as needed, further information gathering, such as this survey, to ensure that views of WMO Members in the Region are adequately represented.

2. PARTICIPATION IN THE SURVEY (Q1 and Q2)

We received 46 questionnaires answered by institutions from 12 countries (Argentina , Aruba , Barbados , Brazil , Canada , Chile , Colombia , Costa Rica , Ecuador , Peru , Trinidad and Tobago and Uruguay), 7 from RAIII and 5 from RAIV, with substantial participation from institutions in Brazil and Argentina (69% of total).

Table 1: Answers by country

Answers by Country		
Country	**Region**	**Number of answers**
Argentina	III (S America)	15
Aruba	IV (N&C America &C)	1
Barbados	IV (N&C America &C)	1
Brazil	III (S America)	16
Canada	IV (N&C America &C)	2
Chile	III (S America)	1
Colombia	III (S America)	4
Costa Rica	IV (N&C America &C)	1
Ecuador	III (S America)	1
Peru	III (S America)	1
Trinidad and Tobago	IV (N&C America &C)	1
Uruguay	III (S America)	1
Total		46
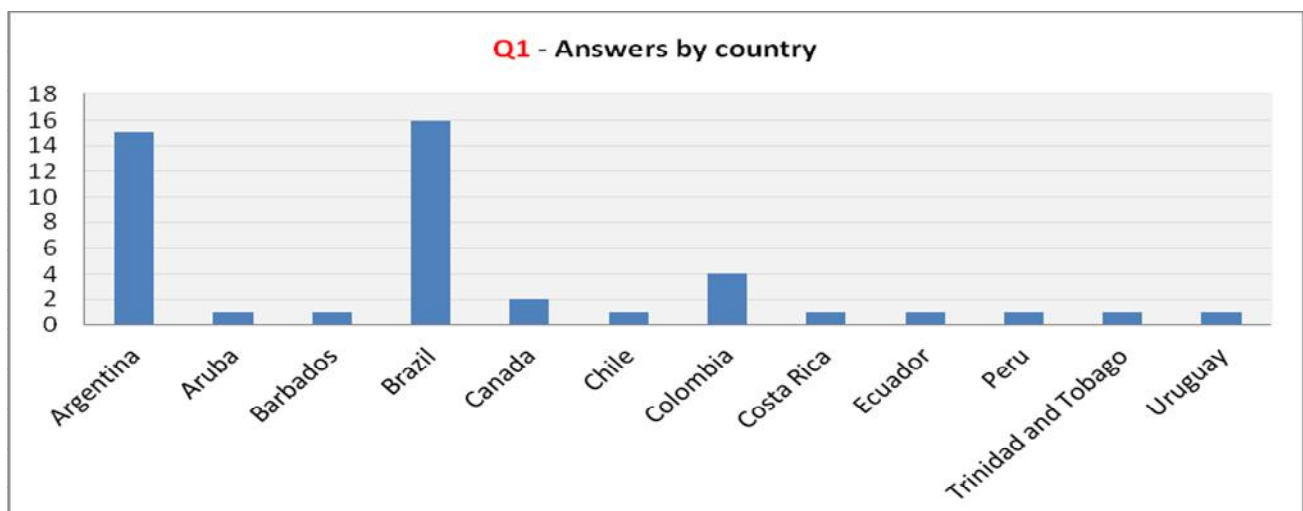
Figure 1: Answers by country

Table 2: Regional distribution of responses

Answers by Region	
Region	**Number of answers**
III (S America)	40
IV (N&C America &C)	6

Q1 - Answers by Region

■ III (S America)   ■ IV (N&C America &C)

13%

87%
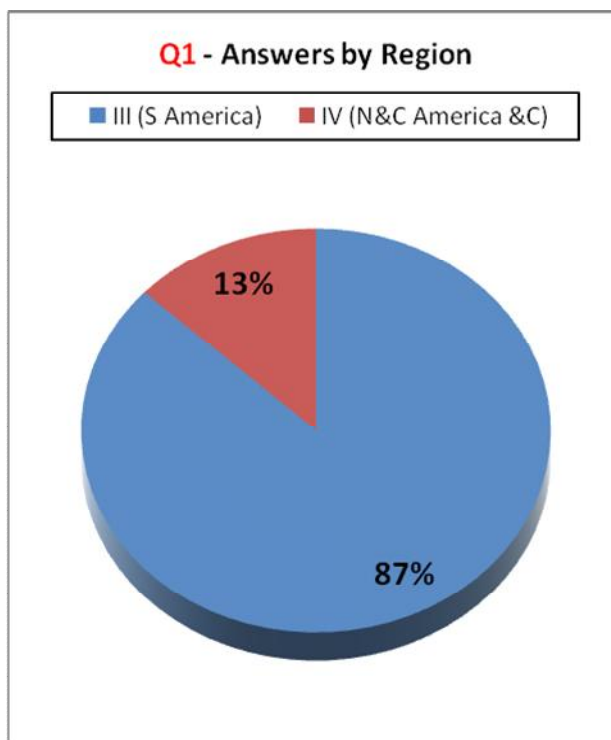
Figure 2: Answers by region

This turn-out is better than in the WMO 2012 Survey for RAIII (where 14 responses were collected) but poorer for RAIV (44 – including 20 from the US).

The areas of responsibility for carrying out the Survey (distribution and collection of responses) were as follows:
- Estela Collini (SNM, Argentina): Argentina, Uruguay, Bolivia, Paraguay and Chile.
- Luiz Machado and Diego Souza (INPE, Brazil): Brazil, Peru, Venezuela and Ecuador.
- David Bradley and Shannon Kaya (Environment Canada): Canada.
- O. Gonzales and Paola Barbosa (IDEAM, Colombia): Colombia, Guyana, Surinam.
- Bryan Thomas (Met Service, Trinidad and Tobago): Antigua and Barbuda, Bahamas, Barbados, Belize, BCT, Costa Rica, Cuba, Curaçao and Sint Maarten, Dominica, Dominican Republic, El Salvador, France (Martinique, Guadeloupe), Guatemala, Haiti, Jamaica, Mexico, Netherlands (Aruba), Nicaragua, Panama, Saint Lucia, Trinidad and Tobago.

The compilation of the results was conducted by Luiz Machado and Diego Souza, from INPE, Brazil.

Table 3: Type of organization

Q2	Answers	%
National meteorological/hydrological service	19	41.30
Other operational governmental agency	8	17.39
Regional organization	4	8.70
Research/academic institution	15	32.61
Other	0	0.00
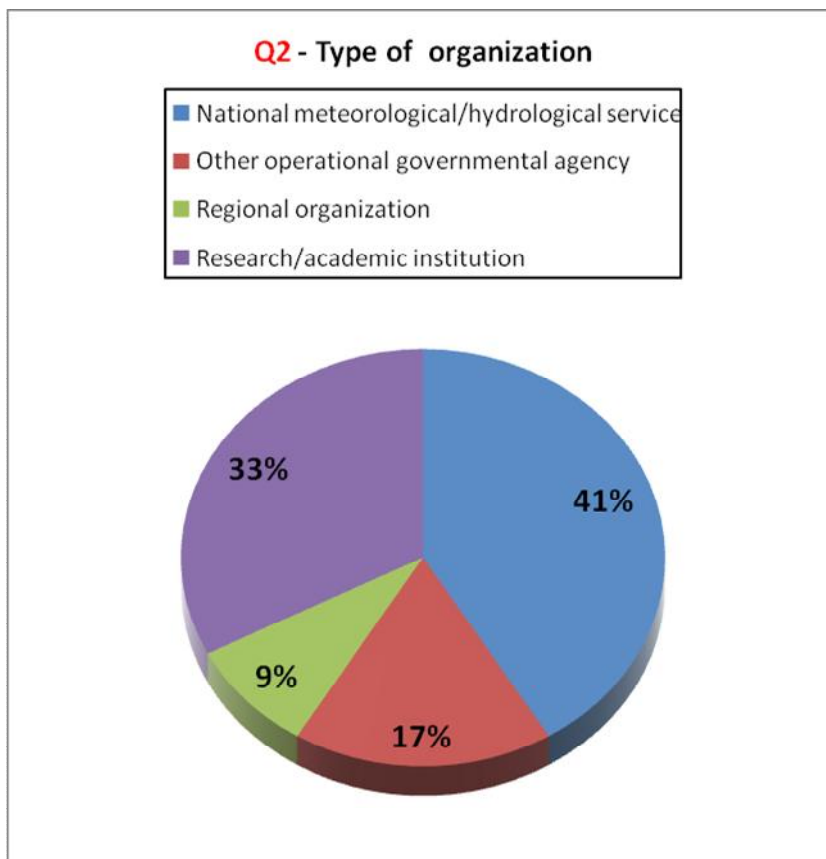
Figure 3: Type of organization responding to the survey

19 (41%) answers were provided from national meteorological / hydrological services, 4(9%) from regional / international organizations, 15 (33%) from research and academic institutions and 8 (17%) from other operational governmental agencies.

3. USE OF SATELLITE SYSTEMS (Q3 – Q5 and Q10)

In the current satellite generation, the Region is mostly using data from the following satellites: Aqua / Terra (54%), GOES- E (43%), TRMM (39%), Meteosat - 10 (35%) and Landsat (33%). Other satellites were mentioned, like GOES-W (26%), METOP (20%), SPOT (20%), SAR Missions (20%), POES (17%), Aquarius / SAC-D (15%), CBERS (15%), DMSP (13%), NPP (9%), Jason (7%), Cloudsat/Calipso (4%), COSMIC (2%), Oceansat (2%), SMOS (2%), and other (26%). Resoursesat-1, Meteosat-08, IKONOS and Quickbird were also specified.

For the near future (2016) / new generations satellites, the community expressed interest in data from GOES -R (52 %), Landsat (28 %), METOP (17%), Sentinel-2 (17%), Sentinel-3 (17%), Sentinel-1 (15%), SMAP (13%), GPM (9%), JPSS (7%), FY-3 (7%), GCOM-W (7%), Jason-CS (7%), ADM-Aeolus (2%) and other (30%). Besides Resoursesat-1, no other has been specified.

3.1 USE OF CURRENT AND FUTURE GENERATION OF SATELLITES (Q3A and Q3B)

Table 4: Current generation

Q3A	Answers	%
GOES-E	20	43.48%
GOES-W	12	26.09%
Meteosat-10	16	34.78%
METOP	9	19.57%
CBERS	7	15.22%
POES	8	17.39%
Aqua/Terra	25	54.35%
DMSP	6	13.04%
Cloudsat/Calipso	2	4.35%
FY-3	0	0.00%
METEOR-M	0	0.00%
NPP	4	8.70%
SPOT	9	19.57%
Oceansat	1	2.17%
GOSAT	0	0.00%
Landsat	15	32.61%
Aquarius/SAC-D	7	15.22%
SMOS	1	2.17%
SAR Missions	9	19.57%
Jason	3	6.52%
TRMM	18	39.13%
Megha-Tropiques	0	0.00%
HY	0	0.00%
COSMIC	1	2.17%
Other	12	26.09%

Table 5: Future generation

Q3B	Answers	%
GOES-R	24	52.17%
JPSS	3	6.52%
METOP	8	17.39%
Sentinel-3	8	17.39%
Sentinel-1	7	15.22%
Sentinel-2	8	17.39%
FY-3	3	6.52%
Landsat	13	28.26%
GCOM-W	3	6.52%
SMAP	6	13.04%
ADM-Aeolus	1	2.17%
GPM	4	8.70%
Jason-CS	3	6.52%
Other	14	30.43%

Q3B - Others specified	
Resourcesat-1	1

Q3A - Others specified	
Resourcesat-1	1
Meteosat-08	1
IKONOS	1
Quikbird	1
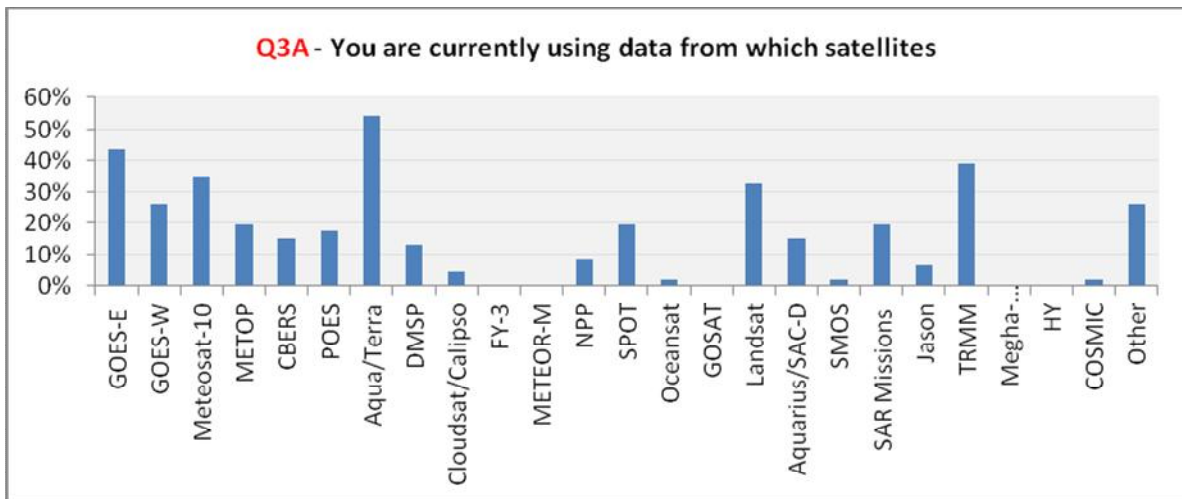
Figure 4: Current generation of satellites data usage
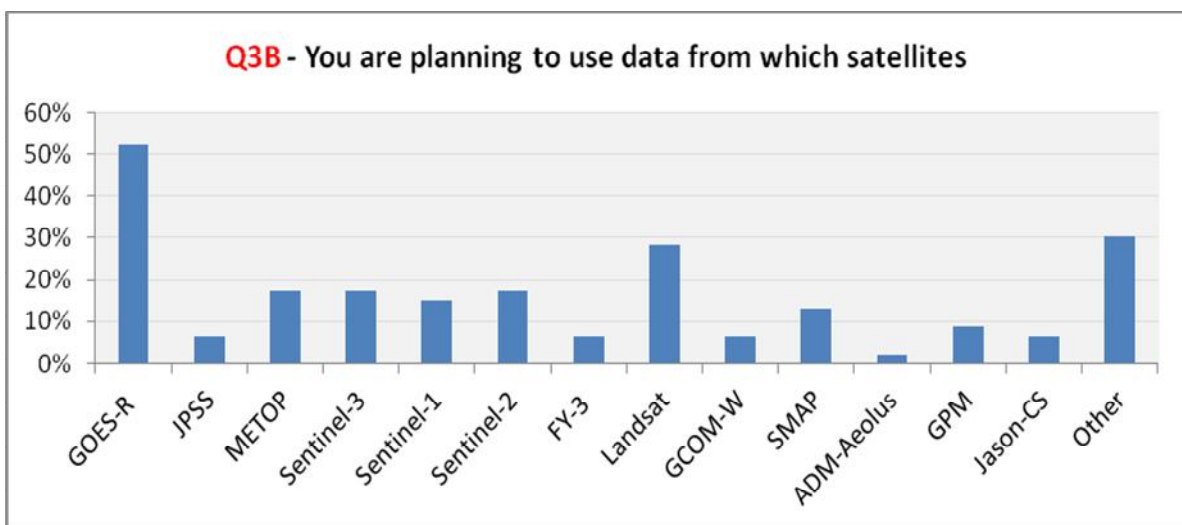
Figure 5: New / Near future generation of satellites data usage

This wide variety of satellites reinforce the need for a mechanism of organization, an inventory of dissemination systems available in Regions III and IV with details on their coverage, data rate, and provisions for sustainability of these systems. This is accomplished with the Data Requirements Table which is a living document and subject of ongoing development within the regional Coordination Group (Appendix G).

3.2   MAIN USE OF SATELLITE DATA (Q4)

Table 6: Main use of satellite data

Q4	Answers	%
Weather forecasts and warnings	23	50.00%
Climate predictions and assessments	23	50.00%
Hydrological forecasts, warnings and assessments	14	30.43%
Oceanography and marine meteorology	15	32.61%
Space weather applications	3	6.52%
Disaster mitigation and preparedness	22	47.83%
Land monitoring (e.g., for agriculture)	17	36.96%
Environmental assessments	17	36.96%
Socio-economic mapping	5	10.87%
Research and development	32	69.57%
Education and training	26	56.52%
Other (please specify)	5	10.87%

Q4 - Others specified	
Sea Ice	1
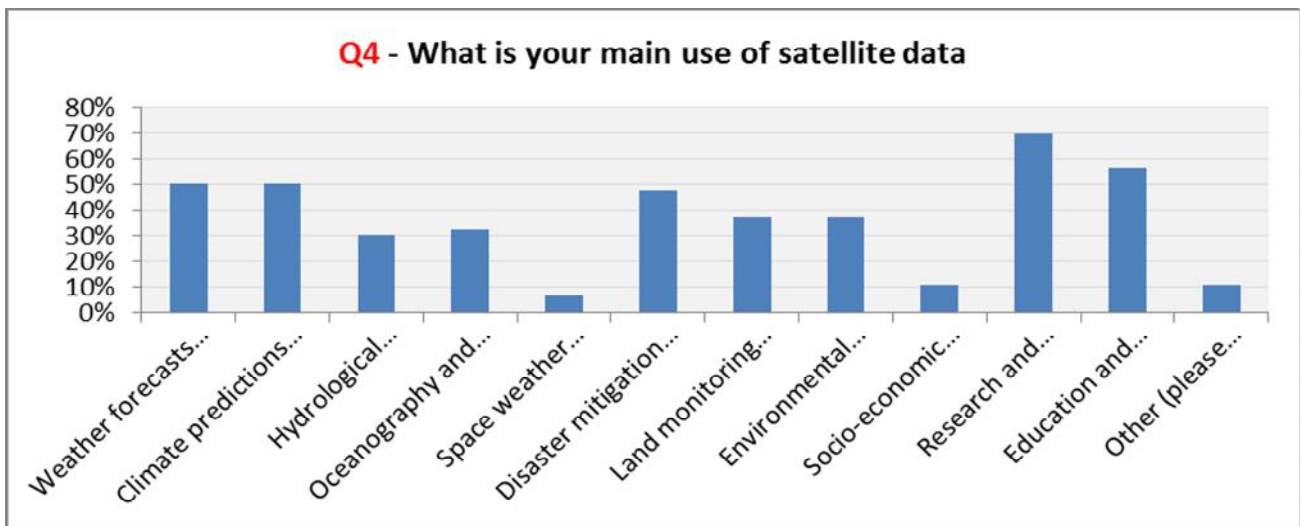
Figure 6: Main use of satellite data
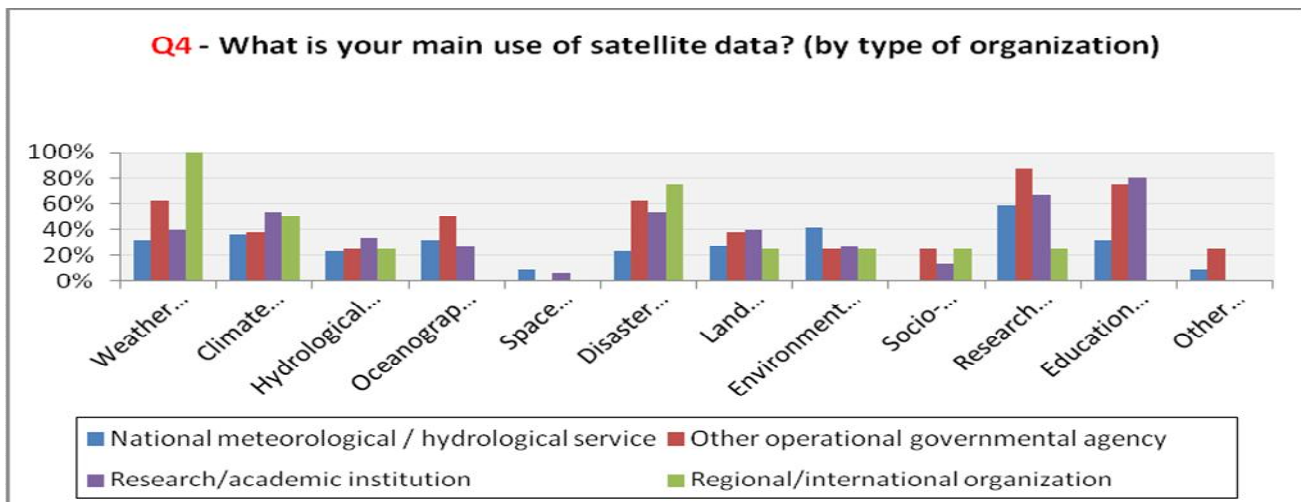
Figure 7: Main use of satellite data (by type of organization)

The survey identified the following areas of data use: Research and development (70%), Education and training (57%), Weather forecasts and warnings (50%), Climate predictions and assessments (50%), Disaster mitigation and preparedness (48%), Environmental assessments (36.96%), Land monitoring (37%), Oceanography and marine meteorology (32.61%), Hydrological forecasts, warnings and assessments (30%), Socio-economic mapping (11%) and Space weather applications (7%). We got responses from all areas contemplated in the survey, which permitted a wider view of the community needs.

The results showed that the satellite data use is very important for weather, climate, environmental and many other application areas, and greatly distributed across these areas. One can note a considerable support for research and development, this is probably due to the broad range of communites covered by this survey.

3.3 CONTEXT OF SATELLITE DATA USAGE (Q10)

Table 7: Context satellite data usage

Q10	Answers	%
Operations	33	71.74%
Research and Development	41	89.13%
Education	27	58.70%
Value-added services	12	26.09%
Other	1	2.17%
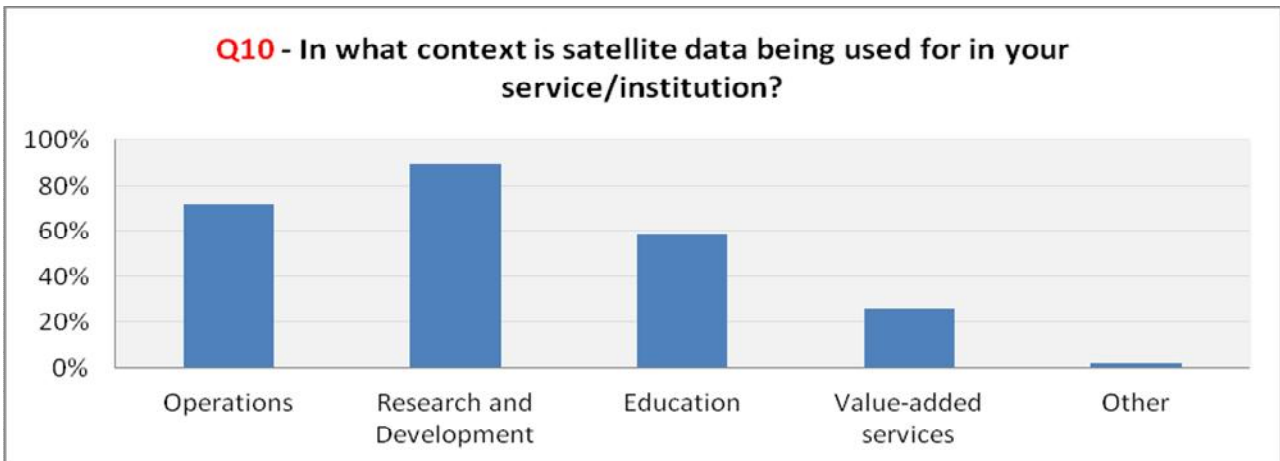
Figure 8: Context satellite data usage
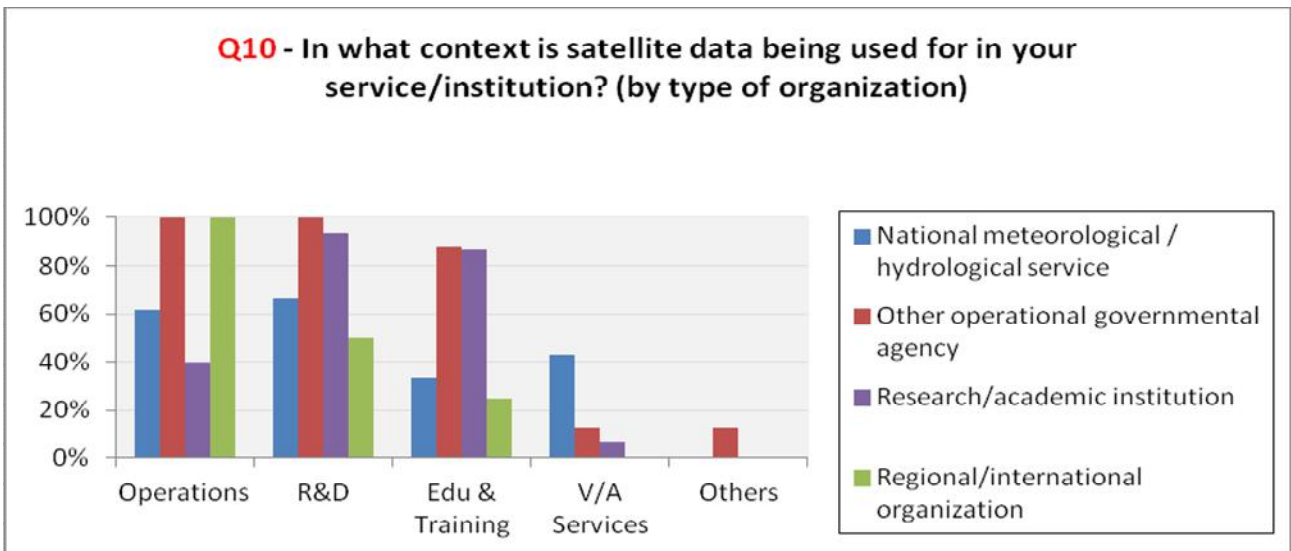
Figure 9: Context satellite data usage (by type of organization)

3.4   DATA TIMELINESS (Q5)

Table 8: Data timeliness

Q5	Answers
Near-real time data (timeliness 0-48 hours)	11
Historical data	3
Both are equally important to me	32
Total	46
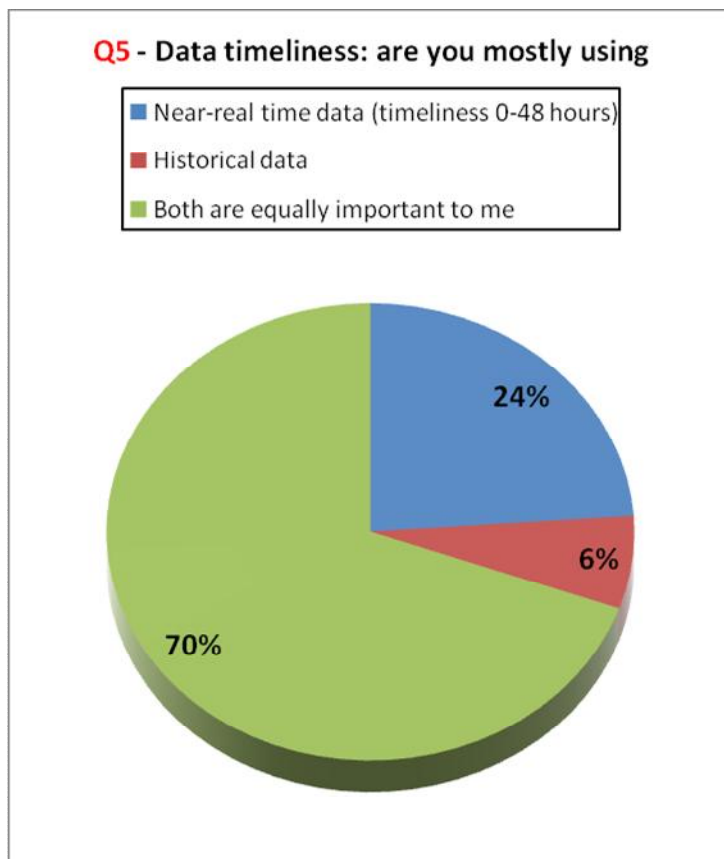
Figure 10: Data timeliness

With regards to the data latency, 6% of the institutions are interested only on historical data, 24% in real time data and 70% are interested in both. An optimized regional data distribution and dissemination system should consider this, providing a comprehensive and well documented set of products with ease of access for near-real time data and a reliable database for historical data.

4. DATA RECEIVING AND ACCESS (Q6 – Q8)

4.1 CURRENT AND FUTURE RECEIVING MECHANISM (Q6A and Q6B)

Table 9: Current Receiving Mechanism

Q6A	Answ.	%
Direct readout (e.g., HRPT)	16	34.78
GTS point-to-point	3	6.52
Internet (ftp, http)	38	82.61
DVB-S/S2: GEONETCast-Americas	3	6.52
DVB-S/S2: EUMETCast-Americas	13	28.26
Other	4	8.70

Table 10: Future Receiving Mechanism

Q6B	Answ.	%
Direct readout (e.g., HRPT)	20	43.48
GTS	6	13.04
Internet (ftp, http)	21	45.65
DVB-S/S2: GEONETCast-Americas	15	32.61
DVB-S/S2: EUMETCast-Americas	14	30.43
Other	3	6.52
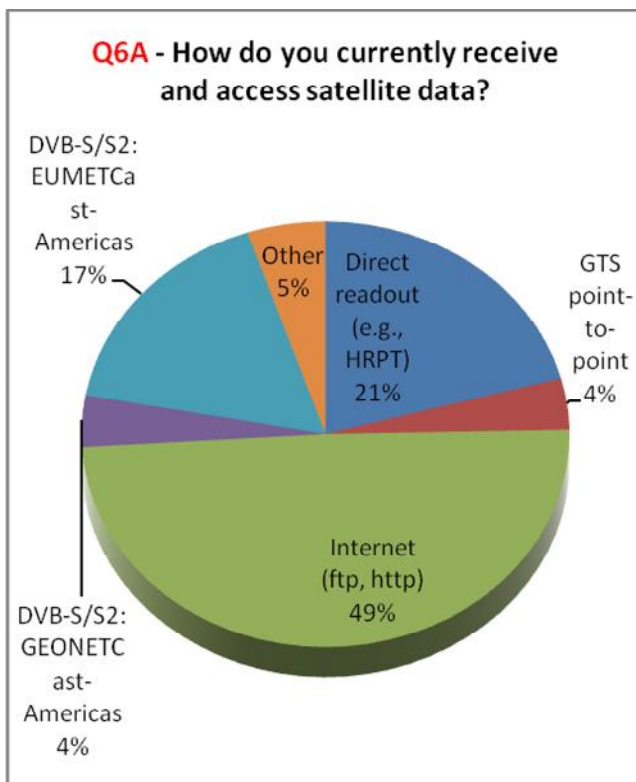
Figure 11: Current Receiving Mechanism
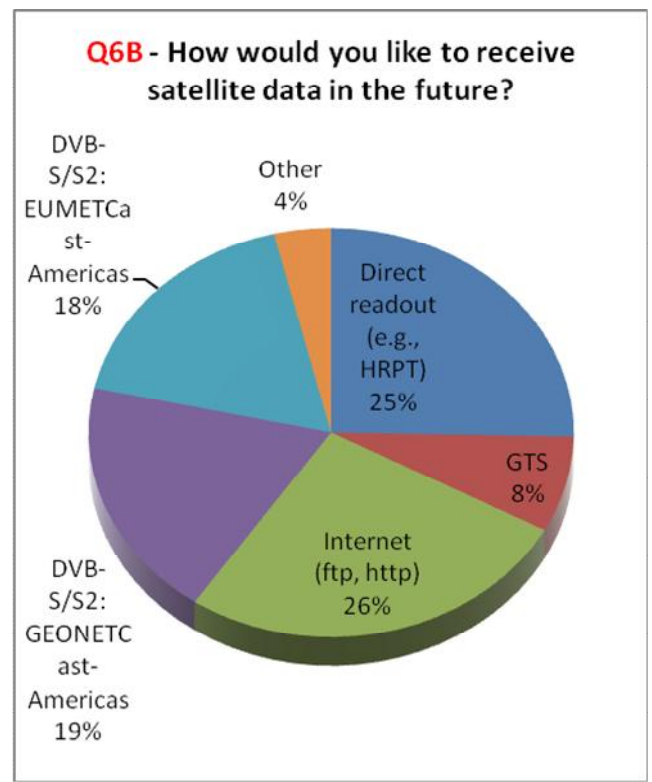
Figure 12: Future Receiving Mechanism

Currently, half of the users receive data using the internet, 21% use the DVB-S standard, 21% use direct readout stations and 4% use GTS.

The websites mentioned were from NOAA, NCEP, JAXA and ESA, and one is using Geoportals. Also, some data providers were mentioned (CONAE, NASA, NOAA, INPE and USGS). Three institutions declared to be using a GVAR system.

For the future, those interested in receiving data via DVB-S almost doubles (37%), confirming that an operational DVB-S system for the Regions is a necessity. This is corroborated by decreasing interest in using the internet.

4.2 DIRECT READOUT STATIONS (Q7)

Table 11: Direct Readout buying intention

Q7	Answers	%
Yes	25	54.35
No	21	45.65
Total	46	
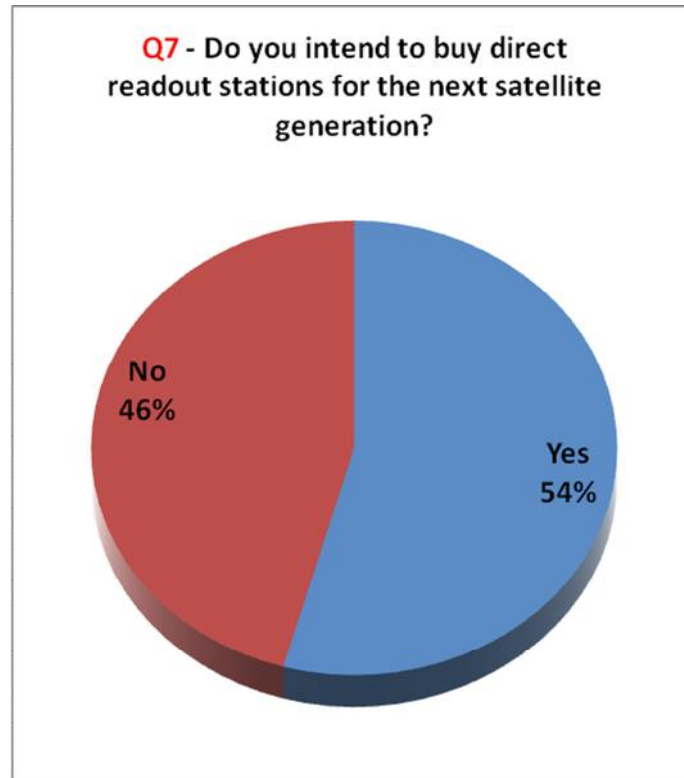
Figure 13: Direct Readout buying intention

More than half of the community (54%) have interest in acquiring direct readout stations for the next generation of satellites, but as seen in the commentaries, most of them have difficulties related to the high investment required (estimated value of US$ 1.000.000). According to the comments of this question, two institutions will acquire a station depending on the budged available and one institution has the bidding in process. One institution is considering this option in its operational area.

As expected, the largest investment will be for the GOES-R stations (3 institutions confirmed the acquisition of GOES-R Direct Readout Stations).
The user needs clarification about the costs and operation of a direct readout station. It is not clear to the user what they need to have to receive data from the new satellite generation.

4.3 GEONETCast/EUMETCast AWARENESS (Q8)

Table 12: GEONETCast/EUMETCast awareness

Q8	Answers	%
Yes	35	76.09
No	11	23.91
Total	46	
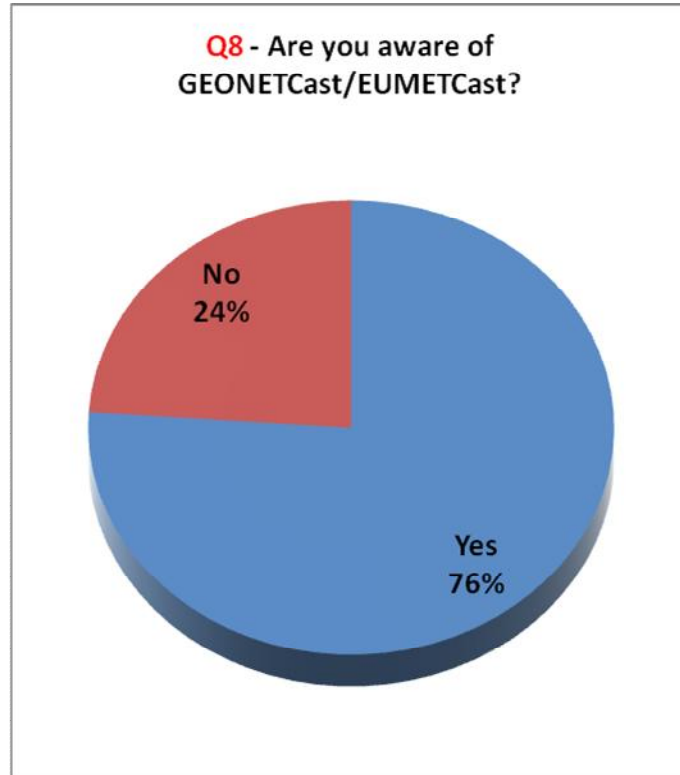
Figure 14: GEONETCast/EUMETCast awareness

24% of the community still does not know the GEONETCast system. A large majority of the answers was from DVB-S users, so this number might be much higher.

One user commented that he does not know how to manipulate the data received (the GeoTIFF format was mentioned, for its use on data manipulation, not just visualization). This, along with the difficulties in the acquisition of direct readout stations, enables new strategies and investments in the GEONETCast-Americas System broadcast.

This result makes clear the need to improve training and demonstration about GEONETCast-Americas. Also, it is clear that the system need a tool to help the use of the data (visualization, processing, alert generation, database creation, script generations, import and export data from and to different formats), and integrate the provided information with geographical layers of specific data from the user.

5. DATA COLLABORATION AND RESOURCES CONTRIBUTION (Q11 and Q12)

Table 13: Data collaboration

Q11	Answers	%
Yes	37	80.43
No	9	19.57
Total	46	

Table 14: Resources contribution

Q12	Answers	%
Yes	21	45.65
No	25	54.35
Total	46	
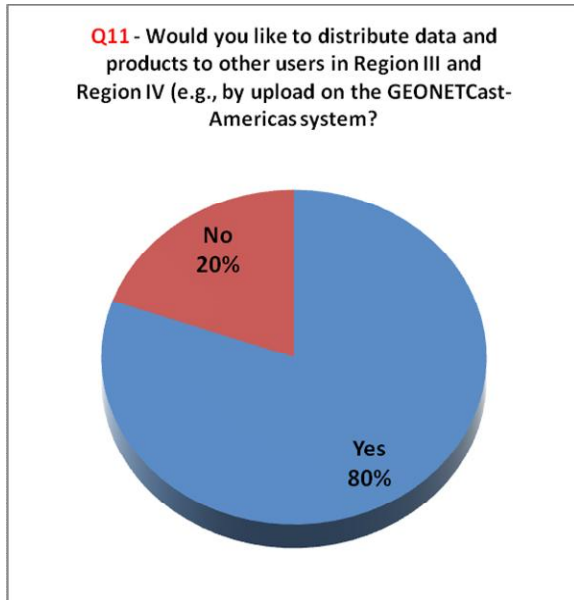
Figure 15: Data collaboration
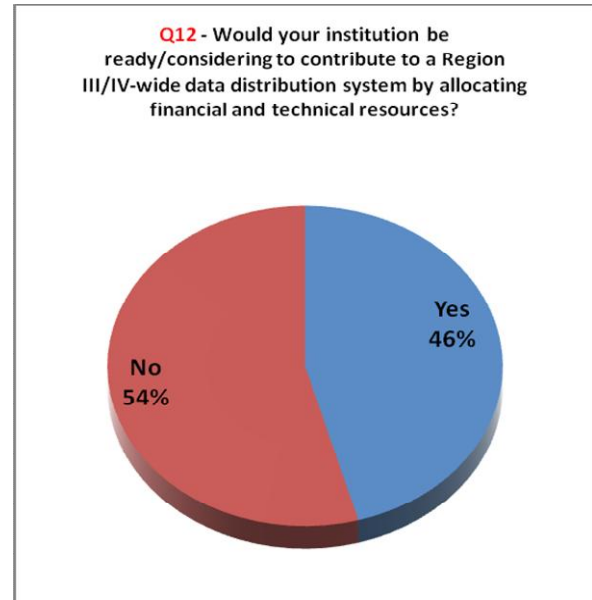
Figure 16: Resources contribution

The vast majority of institutions (80 %) are interested in distributing data and products to Region III and IV (e.g., using the GEONETCast-Americas System). The data range comprises meteorological products in general, lightning products, biomass maps, Data Collecting Platforms files, Oceanographic data, rainfall, NDVI, fog, among others.

A considerable part of the community (46%) would contribute to a Region III/IV-wide data distribution system by allocating financial and technical resources. The negative answers were mostly due to budget constraints and the lack of technical resources.

6.   RECOMMENDATIONS TO OPTIMIZE REGIONAL DATA DISTRIBUTION, DISSEMINATION AND UTILIZATION

- Broadcast the Data Requirements product list to all data providers;

- Instruct the community about the Data Requirements table and its use;

- Raise awareness and participation in the Coordination Group;

- Develop a user friendly-application that will act as a bridge between data and applications (e.g. ILWIS, McIDAS-V, SIGMACast);

- Stimulate the provision of data (upload) by users;

- Instruct the user community about the GEONETCast-Americas system, since approximately 25% of users do not know the system. Great part of the answers was from DVB-S users, so this number may be much higher;

- Raise awareness in the Region of GNC-A receiving stations and their cost. Promote the expansion of the user community / network of receiving stations, using new divulgation strategies, new tools for use / handling of data, and new sources of investment;

- Provide training for use, installation and reception of data, giving technical support in the specification, acquisition, testing and installation of the GEONETCast-Americas equipment on site;

- Launch user readiness projects in all institutions that indicated the intention to use GOES-R data, following WMO guidance (SATURN – Satellite User Readiness Navigator and the Reference User Readiness Project https://www.wmo-sat.info/satellite-user-readiness/topic/planning-for-readiness/;

- Concentrate on user preparadness for GOES-R and upcoming European satellites in the Americas and Caribbean;

- Coordinate such projects through the Coordination Group, and advertize and provide training to explain the needs to receive the new satellite generation;

- Provide infromations about each product, quality, how to read and employ;

  For each new product, the following information should be provided:

  Point of contact (for information on the product collection);
  Providing organization;
  Data source;
  Product detailed description (naming convention, format, average size, frequency, basic user, type, societal benefit areas, geographical region, resolution, etc);
  Applicability domain (targeted use, for which it has been validated);
  The algorithm to read and visualize the data;
  Free training courses on the use of the products – using the WMO/CGMS Virtual Laboratory;
  When available, offer tools that allow data analysis and/or integration with geographical data;
  Data quality monthly evaluation;
  Short Technical report discussing the data quality (e.g., in accordance with QA4EO principles);
  Short report describing the techniques employed to generate each data;
  A letter from stakeholders and users describing the importance of the data.

APPENDIX A

INVITATION E-MAIL

Dear Sir ,

As members of the COORDINATION GROUP ON SATELLITE DATA REQUIREMENTS FOR RA III AND RA IV (Americas and the Caribbean), and in order to achieve a more structured and organized communication between users and satellite data providers from the community, please answer the attached questionnaire.

We also encourage you to distribute it to those seemed necessary.

This questionnaire is essential for a better understanding of your needs as a user and responsibilities as a data provider.

In addition to the questionnaire, find attached the table for the question No. 9, containing the set of requirements and needs of satellite data to fill as needed.

Find also the accompanying letter of recommendation from Dr. W. Zhang, Director of the WMO Space Programme (WMO)
and a copy of the file "WMO 2012 Survey on the Use of Satellite Data" (Research on the use of satellite data - WMO, 2012).

Please send the completed questionnaire and until February 24, 2014 to the e-mail (diego.souza@cptec.inpe.br).

Thanks in advance for your valuable contribution.

Regards ,
Luiz A. T. Machado and Diego Souza

National Institute for Space Research – INPE / Brazil

APPENDIX B

WMO LETTER OF RECOMMENDATION

World Meteorological Organization
Organisation météorologique mondiale

WMO OMM

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wmo@wmo.int – www.wmo.int

TEMPS • CLIMAT • EAU
WEATHER • CLIMATE • WATER

Our ref.: 8003-14/OBS/SAT/SDR

GENEVA, 27 January 2014

Subject: Region III and IV Satellite Data Users Survey

Annexes: Questionnaire in English, Spanish, and Portuguese

Dear Sir/Madam,

I am writing in support of the 2014 Satellite Data Users Survey carried out under the auspices of the WMO Coordination Group on Satellite Data User Requirements in Region III (South America) and Region IV (North and Central America, and the Caribbean). The Group has a very important function in providing an organized, structured dialogue between Regional users and providers of satellite data for weather, water, and climate applications.

Pursuing a Region-based satellite data dissemination approach and related capacity building can only be effective if the needs and challenges of users are known and well documented. This survey is critical for establishing this evidence; it complements and updates the results of a global survey undertaken by WMO in 2012.

To this end, I encourage you to widely distribute the attached questionnaire among satellite users in Region III and Region IV (see Annexes), to seek responses by 1 March 2014, and to provide a synthesis report to the CBS Expert Team on Satellite Utilization and Products (ET-SUP).

I look forward to the results of this important survey.

Yours faithfully,

(W. Zhang)
Director, WMO Space Programme

To: Members of the Coordination Group on Satellite Data User Requirements in Region III and Region IV

APPENDIX C

RAIII AND RAIV USER SURVEY

<u>**On behalf of the Coordination Group on Satellite Data Requirements in Region III and Region IV**</u>
<u>**Of the World Meteorological Organization**</u>

1) **Country and name of your organization:**

2) **Type of your organization**
[ ] National meteorological/hydrological service
[ ] Other operational governmental agency
[ ] Regional/international organization
[ ] Research/academic institution
[ ] Other

3) **A) You are currently using data from which satellites:**

[ ] GOES-E   [ ] GOES-W   [ ] Meteosat-10
[ ] METOP   [ ] CBERS   [ ] POES   [ ] Aqua/Terra [ ] DMSP

[ ] Cloudsat/Calipso   [ ] FY-3[ ] METEOR-M[ ] NPP

[ ] SPOT   [ ] Oceansat   [ ] GOSAT   [ ] Landsat   [ ] Aquarius/SAC-D

[ ] SMOS   [ ] SAR missions (Radarsat-2, TerraSAR-X, Cosmo-Skymed, TanDEM-X)

[ ] Jason   [ ] TRMM   [ ] Megha-Tropiques [ ] HY [ ] COSMIC   [ ] Other

B) You are planning to use data from which satellites:

[ ] GOES-R/S
[ ] JPSS   [ ] METOP   [ ] Sentinel-3 [ ] Sentinel-1 [ ] Sentinel-2
[ ] FY-3[ ] Landsat   [ ] GCOM-W [ ] SMAP   [ ] ADM-Aeolus   [ ] GPM
[ ] Jason-CS [ ] Other

4) **What is your main use of satellite data?**

Weather forecasts and warnings	[ ]
Climate predictions and assessments	[ ]
Hydrological forecasts, warnings and assessments	[ ]
Oceanography and marine meteorology	[ ]
Space weather applications	[ ]
Disaster mitigation and preparedness	[ ]
Land monitoring (e.g., for agriculture)	[ ]
Environmental assessments	[ ]
Socio-economic mapping	[ ]
Research and development	[ ]
Education and training	[ ]
Other (please specify)	[ ]

5) **Data timeliness: are you mostly using**
Near-real time data (timeliness 0-48 hours) [ ]
Historical data   [ ]
Both are equally important to me   [ ]

6) **A) How do you currently receive and access satellite data? Give details on the reception system (e.g., antenna) as appropriate.**

System		Details
Direct readout (e.g., HRPT)	[ ]	
GTS point-to-point	[ ]	
Internet (ftp, http)	[ ]	
DVB-S/S2: GEONETCast-Americas	[ ]	
DVB-S/S2: EUMETCast-Americas	[ ]	
Other	[ ]	

B) How would you like to receive satellite data in the future?

System		Details
Direct readout (e.g., HRPT)	[ ]	
GTS point-to-point	[ ]	
Internet (ftp, http)	[ ]	
DVB-S/S2: GEONETCast-Americas	[ ]	
DVB-S/S2: EUMETCast-Americas	[ ]	
Other	[ ]	

7) **Do you intend to buy direct readout stations for the next satellite generation?**

Yes	[ ]
No	[ ]
Comments	

8) **Are you aware of GEONETCast/EUMETCast?**

Yes	[ ]
No	[ ]
Comments	

9) **An initial set of satellite data requirements for RA III and RA IV has been developed; please comment, and add your requirements as necessary:**
http://satelite.cptec.inpe.br/geonetcast/br/docs/RA-III-IV-Requirements-v20131106.xls

10) **In what context is satellite data being used for in your service/institution?**

Operations	[ ]
Research and Development	[ ]
Education	[ ]
Value-added services	[ ]
Other (pls specify)	

11) **Would you like to distribute data and products to other users in Region III and Region IV (e.g., by upload on the GEONETCast-Americas system?**

No	[ ]
Yes	[ ]
Give details	

12) **Would your institution be ready/considering to contribute to a Region III/IV-wide data distribution system by allocating financial and technical resources?**

No	[ ]
Yes	[ ]
Give details	

13) **Please provide any other comments, questions or concerns regarding your use of satellite data:**

ID #	1
Country	Brazil
Organization	FUNCEME
Type	Regional Organization
Q3A - Currently uses data from?	
Meteosat-10	
Q3B - Planning to use data from?	
N/A	
Q4 - Main use of data?	
Weather forecasts and warnings	
Q5 - Historical or Real-Time?	
Both are equally important to me	
Q6A - How do you currently receive data?	
DVB-S/S2: EUMETCast-Americas	
Q6B - How would you like to receive data?	
Direct readout (e.g., HRPT)	
DVB-S/S2: EUMETCast-Americas	
Q7- Direct Readout, will you buy?	
Yes	
Q8 - Are you aware of GEONETCast?	
Yes	
Q10 - Context of data usage:	
Operations	
Research and Development	
Education	
Q11 - Would you distribute your data?	
Yes	
Q12 - Would you contribute?	
Yes	

ID #	2
Country	Brazil
Organization	INMET
Type	National meteorological/hydrological service
Q3A - Currently uses data from?	
GOES-E	
Meteosat-10	
POES	
Aqua-Terra	
NPP	
Q3B - Planning to use data from?	
GOES-R	
JPSS	
Q4 - Main use of data?	
Weather forecasts and warnings	
Climate predictions and assessments	
Oceanography and marine meteorology	
Disaster mitigation and preparedness	
Land monitoring (e.g., for agriculture)	
Environmental assessments	
Research and Development	
Q5 - Historical or Real-Time?	
Both are equally important to me	
Q6A - How do you currently receive data?	
Direct readout (e.g., HRPT)	
DVB-S/S2: EUMETCast-Americas	
Q6B - How would you like to receive data?	
Direct readout (e.g., HRPT)	
DVB-S/S2: GEONETCast-Americas	
DVB-S/S2: EUMETCast-Americas	
Q7- Direct Readout, will you buy?	
Yes	
Q8 - Are you aware of GEONETCast?	
Yes	
Q10 - Context of data usage:	
Operations	
Research and Development	
Q11 - Would you distribute your data?	
Yes	
Q12 - Would you contribute?	
Yes	

'ID #	3
Country	Brazil
Organization	LAPIS
Type	Research/academic institution

Q3A - Currently uses data from?
Meteosat-10
Other

Q3B - Planning to use data from?
Other

Q4 - Main use of data?
Weather forecasts and warnings
Climate predictions and assessments
Oceanography and marine meteorology
Disaster mitigation and preparedness
Environmental assessments
Education and training

Q5 - Historical or Real-Time?
Near-real time data (timeliness 0-48 hours)

Q6A - How do you currently receive data?
DVB-S/S2: EUMETCast-Americas

Q6B - How would you like to receive data?
DVB-S/S2: GEONETCast-Americas
DVB-S/S2: EUMETCast-Americas

Q7- Direct Readout, will you buy?
Yes

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Research and Development
Education

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
Yes

ID #	4
Country	Brazil
Organization	Brazilian Navy Hydrographic Centre
Type	National meteorological/hydrological service

Q3A - Currently uses data from?
GOES-E
Meteosat-10
METOP

Q3B - Planning to use data from?
METOP
Jason-CS
Other

Q4 - Main use of data?
Weather forecasts and warnings
Oceanography and marine meteorology
Environmental assessments
Research and Development

Q5 - Historical or Real-Time?
Near-real time data (timeliness 0-48 hours)

Q6A - How do you currently receive data?
DVB-S/S2: EUMETCast-Americas

Q6B - How would you like to receive data?
DVB-S/S2: EUMETCast-Americas

Q7- Direct Readout, will you buy?
Yes

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development
Value-added services

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
No

ID #	5
Country	Brazil
Organization	SIMEPAR
Type	Regional Organization

Q3A - Currently uses data from?
GOES-W
Meteosat-10
POES
Aqua-Terra
Landsat
SAR Missions
TRMM

Q3B - Planning to use data from?
GOES-R
Sentinel-3
Sentinel-1
Sentinel-2
Landsat
SMAP

Q4 - Main use of data?
Weather forecasts and warnings
Climate predictions and assessments
Hydrological forecast, warnings and assessments
Oceanography and marine meteorology
Disaster mitigation and preparedness
Land monitoring (e.g., for agriculture)
Environmental assessments
Socio-economic mapping
Research and Development

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
Direct readout (e.g., HRPT)
Internet (ftp,http)
DVB-S/S2: EUMETCast-Americas

Q6B - How would you like to receive data?
Direct readout (e.g., HRPT)
Internet (ftp,http)
DVB-S/S2: EUMETCast-Americas

Q7- Direct Readout, will you buy?
Yes

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
Yes

ID #	6
Country	Brazil
Organization	Federal University of Lavras
Type	Research/academic institution
Q3A - Currently uses data from?	
Meteosat-10	
CBERS	
Aqua-Terra	
SPOT	
Landsat	
TRMM	
Other	
Q3B - Planning to use data from?	
METOP	
Landsat	
Other	
Q4 - Main use of data?	
Land monitoring (e.g., for agriculture)	
Research and Development	
Education and training	
Q5 - Historical or Real-Time?	
Historical Data	
Q6A - How do you currently receive data?	
Internet (ftp,http)	
DVB-S/S2: EUMETCast-Americas	
Q6B - How would you like to receive data?	
Internet (ftp,http)	
Q7- Direct Readout, will you buy?	
No	
Q8 - Are you aware of GEONETCast?	
Yes	
Q10 - Context of data usage:	
Research and Development	
Education	
Q11 - Would you distribute your data?	
Yes	
Q12 - Would you contribute?	
Yes	

ID #	7
Country	Brazil
Organization	CEFET
Type	Research/academic institution
Q3A - Currently uses data from?	
Meteosat-10	
Q3B - Planning to use data from?	
GOES-R	
FY-3	
GPM	
Q4 - Main use of data?	
Education and training	
Q5 - Historical or Real-Time?	
Both are equally important to me	
Q6A - How do you currently receive data?	
DVB-S/S2: EUMETCast-Americas	
Q6B - How would you like to receive data?	
DVB-S/S2: GEONETCast-Americas)	
DVB-S/S2: EUMETCast-Americas	
Q7- Direct Readout, will you buy?	
No	
Q8 - Are you aware of GEONETCast?	
Yes	
Q10 - Context of data usage:	
Education	
Q11 - Would you distribute your data?	
Yes	
Q12 - Would you contribute?	
No	

ID #	8
Country	Brazil
Organization	**University of São Paulo**
Type	Research/academic institution

Q3A - Currently using data from?
GOES-E
Aqua-Terra
DMSP
Cloudsat/Calipso
TRMM

Q3B - Planing to use data from?
GOES-R

Q4 - Main use of data?
Climate predictions and assessments
Oceanography and marine meteorology
Disaster mitigation and preparedness
Research and Development
Education and training

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
Internet (ftp,http)

Q6B - How would you like to receive data?
Internet (ftp,http)

Q7- Direct Readout, will you buy?
No

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Research and Development
Education

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
No

ID #	9
Country	Brazil
Organization	**Federal University of Rio Grande do Sul**
Type	Research/academic institution

Q3A - Currently using data from?
Meteosat-10
CBERS
Aqua-Terra
SPOT
Landsat
TRMM

Q3B - Planing to use data from?
METOP
Sentinel-3
Sentinel-1
Sentinel-2
Landsat

Q4 - Main use of data?
Research and development
Education and training

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
Internet (ftp,http)
DVB-S/S2: GEONETCast-Americas

Q6B - How would you like to receive data?
Internet (ftp,http)
DVB-S/S2: GEONETCast-Americas

Q7- Direct Readout, will you buy?
Yes

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Research and Development
Education

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
No

ID #	10
Country	Brazil
Organization	SEMA
Type	Regional Organization
Q3A - Currently uses data from?	
GOES-E	
Meteosat-10	
TRMM	
Q3B - Planning to use data from?	
N/A	
Q4 - Main use of data?	
Weather forecasts and warnings	
Disaster mitigation and preparedness	
Q5 - Historical or Real-Time?	
Near-real time data (timeliness 0-48 hours)	
Q6A - How do you currently receive data?	
Internet (ftp,http)	
DVB-S/S2: EUMETCast-Americas	
Q6B - How would you like to receive data?	
Direct readout (e.g., HRPT)	
Q7- Direct Readout, will you buy?	
Yes	
Q8 - Are you aware of GEONETCast?	
Yes	
Q10 - Context of data usage:	
Operations	
Q11 - Would you distribute your data?	
No	
Q12 - Would you contribute?	
No	

ID #	11
Country	Brazil
Organization	Water and Climate Agency of Pernambuco
Type	Regional Organization
Q3A - Currently uses data from?	
GOES-E	
Meteosat-10	
Q3B - Planing to use data from?	
Landsat	
Q4 - Main use of data?	
Weather forecasts and warnings	
Climate predictions and assessments	
Disaster mitigation and preparedness	
Q5 - Historical or Real-Time?	
Near-real time data (timeliness 0-48 hours)	
Q6A - How do you currently receive data?	
Internet (ftp,http)	
DVB-S/S2: EUMETCast-Americas	
Q6B - How would you like to receive data?	
DVB-S/S2: EUMETCast-Americas	
Q7- Direct Readout, will you buy?	
Yes	
Q8 - Are you aware of GEONETCast?	
Yes	
Q10 - Context of data usage:	
Operations	
Q11 - Would you distribute your data?	
Yes	
Q12 - Would you contribute?	
No	

ID #	12
Country	Brazil
Organization	Rural Federal University of Pernambuco
Type	Research/academic institution

Q3A - Currently uses data from?
GOES-W
METOP
CBERS
Aqua-Terra
Landsat
Other

Q3B - Planning to use data from?
METOP
Landsat
Jason-CS
Other

Q4 - Main use of data?
Climate predictions and assessments
Hydrological forecast, warnings and assessments
Disaster mitigation and preparedness
Land monitoring (e.g., for agriculture)
Environmental assessments
Socio-economic mapping
Research and Development
Education and Training

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
Internet (ftp,http)
DVB-S/S2: EUMETCast-Americas

Q6B - How would you like to receive data?
Direct readout (e.g., HRPT)
Internet (ftp,http)
DVB-S/S2: EUMETCast-Americas

Q7- Direct Readout, will you buy?
Yes

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development
Education

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
Yes

ID #	13
Country	Brazil
Organization	LAMCE / COPPE / UFRJ
Type	Research/academic institution

Q3A - Currently uses data from?
GOES-E
GOES-W
Meteosat-10
POES
Aqua-Terra
Jason
TRMM

Q3B - Planning to use data from?
GOES-R
METOP
SMAP
GPM

Q4 - Main use of data?
Weather forecasts and warnings
Climate predictions and assessments
Hydrological forecast, warnings and assessments
Oceanography and marine meteorology
Disaster mitigation and preparedness
Research and Development
Education and Training

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
Direct readout (e.g., HRPT)
Internet (ftp,http)
DVB-S/S2: EUMETCast-Americas

Q6B - How would you like to receive data?
GTS point-to-point
DVB-S/S2: GEONETCast-Americas

Q7- Direct Readout, will you buy?
Yes

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development
Education
Value-added services

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
Yes

ID #	14
Country	Brazil
Organization	**Federal University of Acre**
Type	Research/academic institution

Q3A - Currently uses data from?
GOES-E
CBERS
Aqua-Terra

Q3B - Planning to use data from?
GOES-R

Q4 - Main use of data?
Weather forecasts and warnings
Climate predictions and assessments
Hydrological forecast, warnings and assessments
Disaster mitigation and preparedness
Research and Development
Education and Training

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
Internet (ftp,http)
DVB-S/S2: EUMETCast-Americas

Q6B - How would you like to receive data?
Internet (ftp,http)
DVB-S/S2: EUMETCast-Americas

Q7- Direct Readout, will you buy?
Yes

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Research and Development
Education

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
Yes

ID #	15
Country	Brazil
Organization	**Federal University of Campina Grande**
Type	Research/academic institution

Q3A - Currently uses data from?
Meteosat-10
Aqua-Terra
Landsat

Q3B - Planning to use data from?
Landsat

Q4 - Main use of data?
Climate predictions and assessments
Land monitoring (e.g., for agriculture)
Environmental assessments

Q5 - Historical or Real-Time?
Historical Data

Q6A - How do you currently receive data?
Internet (ftp,http)

Q6B - How would you like to receive data?
Internet (ftp,http)
DVB-S/S2: GEONETCast-Americas

Q7- Direct Readout, will you buy?
Yes

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Research and Development
Education

Q11 - Would you distribute your data?
No

Q12 - Would you contribute?
Yes

ID #	16
Country	Peru
Organization	**National Service of Meteorology and Hydrology**
Type	National meteorological/hidrological service

Q3A - Currently using data from?
Aqua-Terra
TRMM

Q3B - Planing to use data from?
GOES-R

Q4 - Main use of data?
Climate predictions and assessments
Hydrological forecast, warnings and assessments
Oceanography and marine meteorology
Research and Development
Education and Training

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
Direct readout (e.g., HRPT)
Internet (ftp,http)

Q6B - How would you like to receive data?
Direct readout (e.g., HRPT)
DVB-S/S2: GEONETCast-Americas

Q7- Direct Readout, will you buy?
Yes

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development
Value-added services

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
No

ID #	17
Country	Brazil
Organization	State University of Norte Fluminense Darcy Ribeiro
Type	Research/academic institution

Q3A - Currently uses data from?
GOES-E
GOES-W
Meteosat-10
METOP
Aqua-Terra
Landsat
TRMM

Q3B - Planning to use data from?
GOES-R
Landsat
Other

Q4 - Main use of data?
Weather forecasts and warnings
Climate predictions and assessments
Hydrological forecast, warnings and assessments
Disaster mitigation and preparedness
Land monitoring (e.g., for agriculture)
Environmental assessments
Research and Development
Education and training

Q5 - Historical or Real-Time?
Near-real time data (timeliness 0-48 hours)

Q6A - How do you currently receive data?
Internet (ftp,http)
DVB-S/S2: GEONETCast-Americas
DVB-S/S2: EUMETCast-Americas

Q6B - How would you like to receive data?
Direct readout (e.g., HRPT)

Q7- Direct Readout, will you buy?
Yes

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development
Education

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
Yes

ID #	18
Country	Argentina
Organization	Naval Hydrographic Service - Oceanography Area - Romero
Type	Other operational gonvernmental agency

Q3A - Currently uses data from?
Aqua-Terra
DMSP
Landsat
Aquarius-SAC-D
SMOS
SAR Missions
Jason

Q3B - Planning to use data from?
N/A

Q4 - Main use of data?
Oceanography and marine meteorology
Research and Development
Education and training

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
Internet (ftp,http)
Other

Q6B - How would you like to receive data?
Other

Q7- Direct Readout, will you buy?
No

Q8 - Are you aware of GEONETCast?
No

Q10 - Context of data usage:
Research and Development
Education

Q11 - Would you distribute your data?
No

Q12 - Would you contribute?
Yes

ID #	19
Country	Argentina
Organization	Naval Hydrographic Service - Etala
Type	Other operational gonvernmental agency

Q3A - Currently uses data from?
METOP
Oceansat
Aquarius-SAC-D
Jason
Other

Q3B - Planning to use data from?
METOP
Sentinel-3
Sentinel-1
Sentinel-2
ADM-Aeolus
Jason-CS

Q4 - Main use of data?
Oceanography and marine meteorology
Research and Development

Q5 - Historical or Real-Time?
Both are equally important to me
Both are equally important to me

Q6A - How do you currently receive data?
Internet (ftp,http)

Q6B - How would you like to receive data?
GTS point-to-point
Internet (ftp,http)

Q7- Direct Readout, will you buy?
No

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Research and Development
Value-added services

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
No

ID #	20
Country	**Argentina**
Organization	**Naval Hydrographic Service - Barreira**
Type	**Other operational gonvernmental agency**

Q3A - Currently uses data from?
DMSP
Q3B - Planning to use data from?
Other
Q4 - Main use of data?
Climate predictions and assessments
Research and Development
Q5 - Historical or Real-Time?
Both are equally important to me
Q6A - How do you currently receive data?
Internet (ftp,http)
Q6B - How would you like to receive data?
Internet (ftp,http)
Q7- Direct Readout, will you buy?
No
Q8 - Are you aware of GEONETCast?
No
Q10 - Context of data usage:
Operations
Research and Development
Q11 - Would you distribute your data?
Yes
Q12 - Would you contribute?
No

ID #	21
Country	**Argentina**
Organization	**Naval Hydrographic Service - HS**
Type	**Other operational gonvernmental agency**

Q3A - Currently uses data from?
Aquarius-SAC-D
SAR Missions
Q3B - Planning to use data from?
SMAP
Q4 - Main use of data?
Hydrological forecasts, warnings and assessments
Land monitoring (e.g., for agriculture)
Research and Development
Education and Training
Other
Q5 - Historical or Real-Time?
Both are equally important to me
Q6A - How do you currently receive data?
Internet (ftp,http)
Other
Q6B - How would you like to receive data?
Internet (ftp,http)
Other
Q7- Direct Readout, will you buy?
No
Q8 - Are you aware of GEONETCast?
No
Q10 - Context of data usage:
Research and Development
Education
Q11 - Would you distribute your data?
No
Q12 - Would you contribute?
No

APPENDIX D

ID #	22
Country	Argentina
Organization	National Meteorological Service - Agro
Type	National meteorological/hidrological service
Q3A - Currently uses data from?	
GOES-W	
Aqua-Terra	
Other	
Q3B - Planning to use data from?	
N/A	
Q4 - Main use of data?	
Weather Forecasts and Warnings	
Climate predictions and assessments	
Hydrological forecasts, warnings and assessments	
Oceanography and marine meteorology	
Disaster mitigation and preparedness	
Land monitoring (e.g., for agriculture)	
Environmental assessments	
Research and development	
Education and training	
Q5 - Historical or Real-Time?	
Both are equally important to me	
Q6A - How do you currently receive data?	
Internet (ftp,http)	
Q6B - How would you like to receive data?	
Internet (ftp,http)	
Q7- Direct Readout, will you buy?	
No	
Q8 - Are you aware of GEONETCast?	
No	
Q10 - Context of data usage:	
Operations	
Education	
Value-added services	
Q11 - Would you distribute your data?	
Yes	
Q12 - Would you contribute?	
Yes	

ID #	23
Country	Argentina
Organization	National Meteorological Service - Tele
Type	National meteorological/hidrological service
Q3A - Currently uses data from?	
METOP	
POES	
Aqua-Terra	
Q3B - Planning to use data from?	
JPSS	
FY-3	
Q4 - Main use of data?	
Climate predictions and assessments	
Hydrological forecasts, warnings and assessments	
Oceanography and marine meteorology	
Disaster mitigation and preparedness	
Land monitoring (e.g., for agriculture)	
Environmental assessments	
Research and development	
Education and training	
Q5 - Historical or Real-Time?	
Both are equally important to me	
Q6A - How do you currently receive data?	
Direct Readout	
Internet (ftp,http)	
Q6B - How would you like to receive data?	
Direct Readout	
Internet (ftp,http)	
Q7- Direct Readout, will you buy?	
Yes	
Q8 - Are you aware of GEONETCast?	
Yes	
Q10 - Context of data usage:	
Operations	
Research and development	
Education	
Value-added services	
Q11 - Would you distribute your data?	
Yes	
Q12 - Would you contribute?	
Yes	

ID #	24
Country	Argentina
Organization	**National Meteorological Service - Yanina**
Type	National meteorology/hidrological service
Q3A - Currently using data from?	
GOES-W	
TRMM	
Q3B - Planing to use data from?	
GOES-R	
GPM	
Q4 - Main use of data?	
Research and development	
Education and training	
Q5 - Historical or Real-Time?	
Both are equally important to me	
Q6A - How do you currently receive data?	
Direct Readout3	
Internet (ftp,http)	
Q6B - How would you like to receive data?	
N/A	
Q7- Direct Readout, will you buy?	
Yes	
Q8 - Are you aware of GEONETCast?	
Yes	
Q10 - Context of data usage:	
Research and development	
Q11 - Would you distribute your data?	
Yes	
Q12 - Would you contribute?	
Yes	

ID #	25
Country	Argentina
Organization	**Faculty of Astronomy and Geophysics - UNLP**
Type	Research/academic institution
Q3A - Currently using data from?	
N/A	
Q3B - Planing to use data from?	
Other	
Q4 - Main use of data?	
Research and Development	
Education and Training	
Q5 - Historical or Real-Time?	
Both are equally important to me	
Q6A - How do you currently receive data?	
Direct readout (e.g., HRPT)	
Internet (ftp,http)	
Q6B - How would you like to receive data?	
N/A	
Q7- Direct Readout, will you buy?	
No	
Q8 - Are you aware of GEONETCast?	
No	
Q10 - Context of data usage:	
Research and Development	
Education	
Q11 - Would you distribute your data?	
Yes	
Q12 - Would you contribute?	
No	

ID #	26
Country	Argentina
Organization	**National Geographical Institute**
Type	**Other operational governmental agency**
Q3A - Currently uses data from?	
SPOT	
Landsat	
Aquarius-SAC-D	
SAR Missions	
Other	
Q3B - Planning to use data from?	
N/A	
Q4 - Main use of data?	
Reseach and Development	
Education and Training	
Other	
Q5 - Historical or Real-Time?	
Historial data	
Q6A - How do you currently receive data?	
Internet (ftp,http)	
Q6B - How would you like to receive data?	
Internet (ftp,http)	
Q7- Direct Readout, will you buy?	
No	
Q8 - Are you aware of GEONETCast?	
No	
Q10 - Context of data usage:	
Operations	
Research and Development	
Education	
Other	
Q11 - Would you distribute your data?	
No	
Q12 - Would you contribute?	
No	

ID #	27
Country	Argentina
Organization	**Department of Atmospheric Sciences and Oceans - FCEyN, UBA**
Type	**Research/academic institution**
Q3A - Currently uses data from?	
GOES-E	
Q3B - Planning to use data from?	
GOES-R	
Q4 - Main use of data?	
Climate predictions and assessments	
Q5 - Historical or Real-Time?	
Both are equally important to me	
Q6A - How do you currently receive data?	
Internet (ftp,http)	
Q6B - How would you like to receive data?	
Internet (ftp,http)	
Q7- Direct Readout, will you buy?	
No	
Q8 - Are you aware of GEONETCast?	
No	
Q10 - Context of data usage:	
Research and Development	
Q11 - Would you distribute your data?	
Yes	
Q12 - Would you contribute?	
Yes	

ID #	28
Country	Argentina
Organization	CONAE - National Comission on Space Activities
Type	Other operational governmental agency

Q3A - Currently uses data from?
METOP
CBERS
POES
Aqua-Terra
DMSP
NPP
SPOT
Landsat
Aquarius-SAC-D
SAR Missions
Other

Q3B - Planning to use data from?
GOES-R
Sentinel-3
SMAP
Other

Q4 - Main use of data?
Oceanography and marine meteorology
Disaster mitigation and preparedness
Land monitoring
Environmental assessments
Socio-economic mapping
Research and Development
Education and Training

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
N/A

Q6B - How would you like to receive data?
Direct readout (e.g., HRPT)
Internet (ftp,http)

Q7- Direct Readout, will you buy?
Yes

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development
Education
Value-added services

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
No

ID #	**29**
Country	**Argentina**
Organization	**Institute of Geology and Mineral Resources - Geological and Mining Service**
Type	**Other operational governmental agency**

Q3A - Currently uses data from?
CBERS
SPOT
Landsat
SAR Missions
Other

Q3B - Planning to use data from?
Landsat
Other

Q4 - Main use of data?
Disaster mitigation and preparedness
Land monitoring
Environmental assessments
Socio-economic mapping
Education and Training
Other

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
Internet (ftp,http)

Q6B - How would you like to receive data?
Internet (ftp,http)

Q7- Direct Readout, will you buy?
No

Q8 - Are you aware of GEONETCast?
No

Q10 - Context of data usage:
Operations
Research and Development
Education

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
Yes

ID #	30
Country	Argentina
Organization	Naval Hydrographic Service - Glaciology
Type	Other operational governmental agency

Q3A - Currently uses data from?
GOES-E
GOES-W
Aqua-Terra
DMSP
SPOT
Landsat
Aquarius-SAC-D
SAR Missions
Other

Q3B - Planning to use data from?
GOES-R
Sentinel-2
Landsat
Other

Q4 - Main use of data?
Weather forecasts and warnings
Climate predictions and assessments
Hydrological forecasts, warnings and assessments
Oceanography and marine meteorology
Disaster mitigation and preparedness
Research and Development
Education and Training

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
Internet (ftp,http)

Q6B - How would you like to receive data?
Internet (ftp,http)

Q7- Direct Readout, will you buy?
No

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development
Education

Q11 - Would you distribute your data?
No

Q12 - Would you contribute?
No

ID #	31
Country	Chile
Organization	**Meteorological Directorate of Chile**
Type	National meteorological/hidrological service

Q3A - Currently uses data from?
GOES-E
GOES-W
Aqua-Terra

Q3B - Planning to use data from?
GOES-R

Q4 - Main use of data?
Weather forecasts and warnings
Climate predictions and assessments
Disaster mitigation and preparedness
Land monitoring
Research and Development
Education and Training

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
Direct readout (e.g., HRPT)

Q6B - How would you like to receive data?
Direct readout (e.g., HRPT)
Internet (ftp,http)

Q7- Direct Readout, will you buy?
Yes

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development
Education

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
No

ID #	32
Country	Uruguay
Organization	**Uruguayan Institute of Meteorology**
Type	Research/aademic institution

Q3A - Currently uses data from?
GOES-E
GOES-W
Meteosat-10
POES
Aqua-Terra

Q3B - Planning to use data from?
GOES-R

Q4 - Main use of data?
Weather forecasts and warnings
Disaster mitigation and preparedness

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
Internet (ftp,http)

Q6B - How would you like to receive data?
Direct readout (e.g., HRPT)
GTS point-to-point
Internet (ftp,http)
DVB-S/S2: GEONETCast-Americas
DVB-S/S2: EUMETCast-Americas

Q7- Direct Readout, will you buy?
Yes

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
Yes

D #	33
Country	**Argentina**
Organization	**Faculty of Agronomy - University of Buenos Aires**
Type	**Research/academic institution**

Q3A - Currently uses data from?
TRMM

Q3B - Planning to use data from?
GOES-R

Q4 - Main use of data?
Land monitoring
Research and Development
Education and Training

Q5 - Historical or Real-Time?
Near real-time data (timeliness 0-48 hours)

Q6A - How do you currently receive data?
Internet (ftp,http)

Q6B - How would you like to receive data?
Internet (ftp,http)
DVB-S/S2: GEONETCast-Americas

Q7- Direct Readout, will you buy?
No

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development
Education

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
Yes

ID #	34
Country	**Costa Rica**
Organization	**National Meteorological Institute**
Type	**National meteorological/hidrological service**

Q3A - Currently uses data from?
Aqua-Terra
TRMM

Q3B - Planning to use data from?
GOES-R

Q4 - Main use of data?
Weather forecasts and warnings
Climate predictions and assessments
Disaster mitigation and preparedness
Environmental assessments
Research and Development
Education and Training

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
Direct readout (e.g., HRPT)
GTS point-to-point
Internet (ftp,http)
DVB-S/S2: GEONETCast-Americas

Q6B - How would you like to receive data?
Direct readout (e.g., HRPT)
GTS point-to-point
Internet (ftp,http)
DVB-S/S2: GEONETCast-Americas

Q7- Direct Readout, will you buy?
Yes

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development
Education

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
Yes

ID #	35
Country	Aruba
Organization	N/A
Type	Research/academic institution

Q3A - Currently uses data from?
GOES-E
GOES-W
Meteosat-10
TRMM

Q3B - Planning to use data from?
GOES-R

Q4 - Main use of data?
Weather forecasts and warnings
Climate predictions and assessments
Hydrological forecasts, warnings and assessments
Oceanography and marine meteorology
Space weather applications
Disaster mitigation and preparedness
Land monitoring
Socio-economic mapping
Research and Development
Education and Training

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
Direct readout (e.g., HRPT)
Internet (ftp,http)

Q6B - How would you like to receive data?
Direct readout (e.g., HRPT)
DVB-S/S2: GEONETCast-Americas

Q7- Direct Readout, will you buy?
No

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development
Education

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
Yes

APPENDIX D

ID #	36
Country	Barbados
Organization	Barbados Meteorological Services
Type	National meteorological/hidrological service
Q3A - Currently uses data from?	
GOES-E	
FY-3	
TRMM	
Q3B - Planning to use data from?	
GOES-R	
Q4 - Main use of data?	
Weather forecasts and warnings	
Disaster mitigation and preparedness	
Q5 - Historical or Real-Time?	
Near-real time data (timeliness 0-48 hours)	
Q6A - How do you currently receive data?	
Direct readout (e.g., HRPT)	
Q6B - How would you like to receive data?	
Direct readout (e.g., HRPT)	
Q7- Direct Readout, will you buy?	
No	
Q8 - Are you aware of GEONETCast?	
Yes	
Q10 - Context of data usage:	
Operations	
Research and Development	
Education	
Q11 - Would you distribute your data?	
No	
Q12 - Would you contribute?	
No	

ID #	37
Country	Trinidad and Tobago
Organization	N/A
Type	National meteorological/hidrological service
Q3A - Currently uses data from?	
GOES-E	
Aqua-Terra	
TRMM	
Q3B - Planning to use data from?	
GOES-R	
Other	
Q4 - Main use of data?	
Weather forecasts and warnings	
Climate predictions and assessments	
Disaster mitigation and preparedness	
Environmental assessments	
Education and Training	
Q5 - Historical or Real-Time?	
Both are equally important to me	
Q6A - How do you currently receive data?	
Direct readout (e.g., HRPT)	
Internet (ftp,http)	
Q6B - How would you like to receive data?	
DVB-S/S2: GEONETCast-Americas	
Q7- Direct Readout, will you buy?	
Yes	
Q8 - Are you aware of GEONETCast?	
Yes	
Q10 - Context of data usage:	
Operations	
Q11 - Would you distribute your data?	
Yes	
Q12 - Would you contribute?	
No	

ID #	38
Country	Colombia
Organization	IDEAM - Soil and Land Group
Type	National meteorological/hidrological service
Q3A - Currently using data from?	
Aqua-Terra	
SPOT	
Landsat	
TRMM	
Other	
Q3B - Planning to use data from?	
Sentinel-3	
Sentinel-1	
Sentinel-2	
Landsat	
Other	
Q4 - Main use of data?	
Land monitoring	
Environmental assessments	
Research and Development	
Q5 - Historical or Real-Time?	
Both are equally important to me	
Q6A - How do you currently receive data?	
Internet (ftp,http)	
Q6B - How would you like to receive data?	
Direct readout (e.g., HRPT)	
Q7- Direct Readout, will you buy?	
No	
Q8 - Are you aware of GEONETCast?	
No	
Q10 - Context of data usage:	
Operations	
Research and Development	
Value-added services	
Q11 - Would you distribute your data?	
Yes	
Q12 - Would you contribute?	
No	

ID #	39
Country	Colombia
Organization	IDEAM - Hydrology Subdivision
Type	National meteorological/hidrological service
Q3A - Currently using data from?	
SPOT	
Landsat	
Q3B - Planning to use data from?	
Sentinel-3	
Sentinel-1	
Sentinel-2	
Landsat	
Other	
Q4 - Main use of data?	
Hydrological forecasts, warnings and assessments	
Environmental assessments	
Research and Development	
Q5 - Historical or Real-Time?	
Both are equally important to me	
Q6A - How do you currently receive data?	
Internet (ftp,http)	
Q6B - How would you like to receive data?	
Direct readout (e.g., HRPT)	
Q7- Direct Readout, will you buy?	
No	
Q8 - Are you aware of GEONETCast?	
Yes	
Q10 - Context of data usage:	
Operations	
Research and Development	
Value-added services	
Q11 - Would you distribute your data?	
Yes	
Q12 - Would you contribute?	
No	

ID #	40
Country	**Colombia**
Organization	**IDEAM - Forest Monitoring**
Type	**National meteorological/hidrological service**

Q3A - Currently uses data from?
CBERS
Aqua-Terra
SPOT
Landsat
SAR Missions
TRMM
Other

Q3B - Planning to use data from?
Sentinel-3
Sentinel-1
Sentinel-2
Landsat
Other

Q4 - Main use of data?
Land monitoring
Environmental assessments
Research and Development

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
Internet (ftp,http)

Q6B - How would you like to receive data?
Direct readout (e.g., HRPT)

Q7- Direct Readout, will you buy?
No

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development
Value-added services

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
No

ID #	41
Country	**Colombia**
Organization	**IDEAM - Forecasts & Alerts**
Type	**National meteorological/hidrological service**

Q3A - Currently uses data from?
GOES-E
GOES-W

Q3B - Planning to use data from?
GOES-R

Q4 - Main use of data?
Weather forecasts and warnings
Climate predictions and assessments
Hydrological forecasts, warnings and assessments
Oceanography and marine meteorology
Research and Development

Q5 - Historical or Real-Time?
Near-real time data (timeliness 0-48 hours)

Q6A - How do you currently receive data?
Direct readout (e.g., HRPT)

Q6B - How would you like to receive data?
Direct readout (e.g., HRPT)

Q7- Direct Readout, will you buy?
Yes

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
No

APPENDIX D

ID #	42
Country	Argentina
Organization	National Meteorological Service - G. Pujol
Type	National meteorological/hidrological service

Q3A - Currently uses data from?
GOES-E
POES
Aqua-Terra
Cloudsat/Calipso
NPP
Landsat
Aquarius-SAC-D
TRMM

Q3B - Planning to use data from?
GOES-R
METOP
Landsat
GCOM-W

Q4 - Main use of data?
Research and Development

Q5 - Historical or Real-Time?
Both are equally important to me

Q6A - How do you currently receive data?
Direct readout (e.g., HRPT)
Internet (ftp,http)

Q6B - How would you like to receive data?
Internet (ftp,http)
DVB-S/S2: GEONETCast-Americas
DVB-S/S2: EUMETCast-Americas

Q7- Direct Readout, will you buy?
No

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development
Education

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
No

ID #	43
Country	Canada
Organization	Environment Canada
Type	National meteorological/hidrological service

Q3A - Currently uses data from?
METOP
DMSP

Q3B - Planning to use data from?
METOP
GCOM-W
SMAP

Q4 - Main use of data?
Weather forecasts and warnings
Oceanography and marine meteorology
Other

Q5 - Historical or Real-Time?
Near-real time data (timeliness 0-48 hours)

Q6A - How do you currently receive data?
Internet (ftp,http)
Other

Q6B - How would you like to receive data?
Other

Q7- Direct Readout, will you buy?
No

Q8 - Are you aware of GEONETCast?
No

Q10 - Context of data usage:
Operations
Research and Development

Q11
No

Q12
No

ID #	44
Country	Canada
Organization	Meteorological Service of Canada (Environment Canada)
Type	National meteorological/hidrological service

Q3A - Currently uses data from?
GOES-E
GOES-W
Meteosat-10
METOP
POES
Aqua-Terra
NPP
SAR-Missions
COSMIC

Q3B - Planning to use data from?
GOES-R
JPSS
Sentinel-3
Sentinel-1
Sentinel-2
FY-3
GCOM-W
SMAP
GPM

Q4 - Main use of data?
Weather forecasts and warnings
Climate predictions and assessments
Hydrological forecasts, warnings and assessments
Oceanography and marine meteorology

Q5 - Historical or Real-Time?
Near-real time data (timeliness 0-48 hours)

Q6A - How do you currently receive data?
Direct readout (e.g., HRPT)
GTS point-to-point
Internet (ftp,http)

Q6B - How would you like to receive data?
Direct readout (e.g., HRPT)
GTS point-to-point
Internet (ftp,http)
DVB-S/S2: GEONETCast-Americas
DVB-S/S2: EUMETCast-Americas

Q7- Direct Readout, will you buy?
Yes

Q8 - Are you aware of GEONETCast?
Yes

Q10 - Context of data usage:
Operations
Research and Development

Q11 - Would you distribute your data?
Yes

Q12 - Would you contribute?
Yes

ID #	45
Country	Ecuador
Organization	**National Institute of Meteorology and Hidrology**
Type	National meteorological/hidrological service
Q3A - Currently uses data from?	
GOES-E	
Q3B - Planning to use data from?	
GOES-R	
Q4 - Main use of data?	
Weather forecasts and warnings	
Climate predictions and assessments	
Space weather applications	
Disaster mitigation and preparedness	
Land monitoring (e.g. for agriculture)	
Environmental assessments	
Research and Development	
Education and Training	
Q5 - Historical or Real-Time?	
Both are equally important to me	
Q6A - How do you currently receive data?	
Direct readout (e.g., HRPT)	
Internet (ftp,http)	
Q6B - How would you like to receive data?	
Direct readout (e.g., HRPT)	
GTS point-to-point	
DVB-S/S2: EUMETCast-Americas	
Q7- Direct Readout, will you buy?	
Yes	
Q8 - Are you aware of GEONETCast?	
No	
Q10 - Context of data usage:	
Operations	
Research and Development	
Education	
Value-added services	
Q11 - Would you distribute your data?	
Yes	
Q12 - Would you contribute?	
No	

ID #	46
Country	Argentina
Organization	**National Meteorological Service - Division for Atmospheric Monitoring using Remote Sensors**
Type	National meteorological/hidrological service
Q3A - Currently uses data from?	
GOES-E	
Meteosat-10	
POES	
Aqua-Terra	
Q3B - Planning to use data from?	
GOES-R	
Q4 - Main use of data?	
Weather forecasts and warnings	
Other	
Q5 - Historical or Real-Time?	
Near-real time data (timeliness 0-48 hours)	
Q6A - How do you currently receive data?	
Direct readout (e.g., HRPT)	
Internet (ftp,http)	
Q6B - How would you like to receive data?	
Direct readout (e.g., HRPT)	
DVB-S/S2: GEONETCast-Americas	
DVB-S/S2: EUMETCast-Americas	
Q7- Direct Readout, will you buy?	
Yes	
Q8 - Are you aware of GEONETCast?	
Yes	
Q10 - Context of data usage:	
Operations	
Value-added services	
Q11 - Would you distribute your data?	
Yes	
Q12 - Would you contribute?	
No	

APPENDIX E

ADDITIONAL COMMENTARIES FROM USERS

Note: Please, check the institutions ID's in the previous appendix

Question 6A: How do you currently receive and access satellite data? Give details on the reception system (e.g., antenna) as appropriate.

Q6A - Institution ID / Comments
#5 - GOES and POES reveiving stations / Data search in websites from NOAA, NCEP, NASA, JAXA and ESA
#9 - We receive data with the GNC antenna, but we do not know how to open the data
#16 - GVAR for GOES-E / TRMM
#18 - Agreement with CONAE
#19 - Geoportals
#21 - Provided from CONAE
#23 - High resolution polar receiving station. Quorum comunication. / Rapid response system
#25 - Permanent GNSS (LPGS) station and our own equipment
#26 - CONAE services and ESRI Imagery
#28 - Córdoba Earth Station
#29 - from: Japan Space Systems; CONAE; USGS; INPE; others.
#32 - Antenna
#34 - GVAR antenna/Metlab 2/http, ftp/Antennas (direct
#42 - Cordoba earth station from CONAE / NASA y NOAA
#43 - Don't know
#46 - GVAR System

Question 6B: How would you like to receive satellite data in the future?

Q6B - Institution ID / Comments
#6 - The University do not have the necessary structure (human resources) to receive data and maintain a satellite data receiving system.
#18 - As before
#21 - Provided from CONAE
#23 - JPSS system
#28 - Improving existing links
#43 - Don't know

APPENDIX E

<u>Question 7:</u> **Do you intend to buy direct readout stations for the next satellite generation?**

Q7 - Institution ID / Comments
#1 - Maybe, if we have budget for this
#5 - We are in the process of gathering information and quotations from suppliers for future acquisition of a GOES-R receiving station.
#23 - Bidding in process
#24 - This issue is being considered in the operational area of the institution
#34 - GOES R reception system
#35 - No, we have a gvar receiver already
#41 - But depending the budget available
#43 - Don't know
#44 - Intend to buy for GOES-R. Already capable for next gen polar (x-band)

Question 8: Are you aware of GEONETCast/EUMETCast?

Q8 - Institution ID / Comments
 # 3 - http://www.lapismet.com/index.php?option=com_content&view=article&id=24&Itemid=38
#8 - Yes, but we never used
#9 - We receive data with the GNC antenna, but we do not know how to open the data
#14 - We own the key and license for use
#23 - Yes, in the 2013 virtual course
#28 - Partially
#31 - Limited coverage for our country
#34 - We have 2 antennas in use
#35 - Should have all the feed of noaaport !
#41 - In general, we would like know more details
#45 - This information is better known by former staff, who are few.

APPENDIX E

Question 11: Would you like to distribute data and products to other users in Region III and Region IV (e.g., by upload on the GEONETCast-Americas system?

Q11 - Institution ID / Comments
 # 1- Products for Meteorology Centers of the Brazilian Northeast, for example.
#5 - We could provide satellite products for users of the Southern Cone
#6 - We do not have human resources or support from the University to make a commitment of this magnitude.
#8 - Lightning over South America
#9 - Yes, when operative, we can distribute the biomass maps of the pampa (Southern part of South America)
#11 - DCP´s Data
#13 - Products primarily to the Brazilian southeast coast
#14 - In the future
#16 - We still not have developed products
#18 - We do not have proprietary data
#19 - We upload ocean wave forecasts through CONAE
#23 - Only when the MTF has the New satellite receiving system. And human resources. (Specialized staff for these tasks)
#25 - We already do through services like RAMSAC and SIRGAS
#28 - It is the function of CONAE
#34 - Yes, but we need more computational capacity
#41 - We generate, rainfall and temperature estimated from GOES images, weather and nowcasting models
#42 - NDVI EVI SST Clorofila (Sudamerica)
#43 - I don't know
#44 - Maybe, if there was a product that we are generating that is of interest to others.
#46 - Fog, nephanalisys and seawater temperature products.

	POSITIVE
	CONDITIONAL
	NEGATIVE

APPENDIX E

Question 12: **Would your institution be ready/considering to contribute to a Region III/IV-wide data distribution system by allocating financial and technical resources?**

Q12 - Institution ID / Comments
#1 - Probably just technical resources
#5 - Yes, through the allocation of financial resources, we could maintain a data distribution system to users of the Southern Cone (southern Brazil, Paraguay, Argentina and Uruguay) region
#9 - We do not have financial or technical resources avialable
#13 - There is acquisition structure. Very interested in contributing
#14 - Only if we receive financial and technical resources
#16 - We do not have sufficient funds
#18 - Yes, the data would be products of the original data
#23 - It depends on the institution's policies and resources available. (Technical and human).
#36 - Not likely due to budget constraints.
#41 - For now there are no plans, however exist the possibility and we´ll consult with the director about it
#43 - Don't know
#44 - Possibly but this would require more details.

	POSITIVE
	CONDITIONAL / LIMITED
	NEGATIVE

Question 13: Please provide any other comments, questions or concerns regarding your use of satellite data:

Q13 - Institution ID / Comments
#1 -The MSG meteorological images currently used by FUNCEME are only used internally, within the institution, without operational distribution, in real time or almost real, by Internet or other means, without commercial purposes.
#2 - The INMET has the capacity to receive data from satellites in polar orbit and geostationary (GOES and MSG). Recent investments have been made towards the adequacy of INMET stations to new satellites technologies in the X band, and with it, the polar orbit satellite receiving station recently updated and now operates in X/L Bands, which increased the capacity to receive and process data, from Aqua , Terra , NPP , MetOp and NOAA satellites. The new station is able to receive data from the FY3 and the new JPSS satellite series, however, processing will only be possible through software update (when available). With respect to the geostationary orbit satellite, the INMET currently operates with the GOES- 13 and MSG10.   Both receiving systems, geostationary and polar, are able to export files in various formats, such as GeoTIFF, GRIB and HDF. Efforts are now focused on the suitability of the INMET website to the new products, and thus better satisfying the user requests.
#3 - http://www.lapismet.com/index.php?option=com_content&view=article&id=24&Itemid=38
 # 4 - Apart from operational use in weather forecasting and monitoring, we are using satellite data to research and development of short-term forecast (nowcasting) systems, with the aim to monitor the risk of natural disasters such as landslides and floods.
#6 - For the needs of applied research and development, as is the case UFLA, the best receiving system is the internet (ftp, http).
#9 - The satellite data received via GEONETCast comes in a format that we are not able to open. At the online users meeting at the end of 2013 we were informed that the data would come in the GeoTIFF format. This would greatly facilitate the use of data, and not just the visualization.
 # 11 - We had doubts about the attached table that was sent and we want to ask you some questions, how can we contact you?
#12 - There is a possibility of data collected by our station be stored in another physical location due to lack of space in the RRS?
#14 - I would like to receive assistance to complete the installation of a EUMETCast station, and increase our collaboration (http://acrebioclima.net)
#25 - * Our Space Geodesy and Astrometry (FCAG-UNLP) group primarily use GNSS for acedemic and research purposes, for example, in geodynamics studies.
#28 - One of the main functions of CONAE is to promote the use of satellite information. To achieve that, the received data from Córdoba earth station pass through a series of certified processes to reach the user (from the operative to scientific). Having uplink/downlink with the users optimizes its service.
#31 - The Chilean Meteorological Office currently receives data from NOAA, GOES, TERRA and AQUA satellites directly from earth antennas, using Seaspace services.
#35 - Currently on Aruba we are receiving LDM data from UCAR/UNIDATA, through a high speed internet connection. The data is pretty much the same as the NOAAPORT data being pushed on SES Americom SES-1. Unfortunately NOAAPORT data through Satellite is not available for Aruba. From experience we know that internet data is never as reliable as satellite feeds, it is therefore highly recommended to add NOAAPORT data to Geonetcast. Internet feeds can be disrupted through damage on the cable, errors at the ISP servers and many other little things. Currently the WIFS and GIFS feeds are only pulled type and not pushed like NOAAPORT (http://www.nws.noaa.gov/noaaport/html/noaaport.shtml) . When data is being pulled compared to being pushed it also creates some delay.
#46 - Under the inherent responsibility of the Volcanic Ash Alert Center (VAAC) in Buenos Aires, it is imperative to receive satellite images in a higher frequency in our region, especially over high latitudes.

APPENDIX F

LIST OF ACRONYMS

(Note that the [WMO OSCAR (Observing Systems Capability Analysis and Review tool)](#)[1] provides extensive detail on satellite systems and instruments.)

QUESTION 3A:

GOES-E	Geostationary Operational Environmental Satellite – EAST (NOAA)
GOES-W	Geostationary Operational Environmental Satellite – WEST (NOAA)
METOP	Meteorological operational satellite (EUMETSAT)
CBERS	China-Brazil Earth Resources Satellite (CAST, INPE)
POES	Polar Operational Environmental Satellite (NOAA)
DMSP	Defense Meteorological Satellite Program (USA)
FY	Feng-Yun Satellite (CMA)
NPP	National Polar-orbiting Partnership (NOAA, NASA)
SPOT	Satellite Pour l'Observation de la Terre (Spot Image)
GOSAT	Greenhouse Gases Observing Satellite (JAXA)
SAC	Satelite de Aplicaciones Cientificas-D (CONAE, NASA)
SMOS	Soil Moisture and Ocean Salinity Satellite (ESA)
SAR	Synthetic Aperture Radar
TRMM	Tropical Rainfall Measuring Mission (JAXA/NASA)
HY	Hai Yang Satellite (CAST)
COSMIC	Constellation Observing System for Meteorology, Ionosphere & Climate (NSPO, NOAA, UCAR)

QUESTION 3B:

GOES-R	Geostationary Operational Environmental Satellite – R Series (NOAA)
METOP	Meteorological operational satellite (EUMETSAT)
FY	Feng-Yun Satellite (CMA)
GCOM	Global Change Observation Mission (JAXA)
SMAP	Soil Moisture Active Passive (NASA)
ADM-Aeolus	Atmospheric Dynamics Mission Aeolus (ESA)
GMP	Global Precipitation Measurement (NASA)
Jason-CS	Jason-Continuity of Service (EUMETSAT)

QUESTION 6A/B:

DVB-S	Digital Video Broadcasting — Satellite
DVB-S2	Digital Video Broadcasting — Satellite – Second Generation
GTS	Guaranteed Time Slot
FTP	File Transfer Protocol
HTTP	Hypertext Transfer Protocol

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[1] http://www.wmo.int/oscar

APPENDIX G
DATA REQUIREMENTS TABLE

			INFORMATION FROM PROVIDERS								USER REQUIREMENTS				
#	Product Name	Data Provider	Data characteristics	Format	Data distribution	Geographical area	Frequency	Size (kB)	size comment	Format expected in the Future	FINAL Size (compressed) - kB	Basic Application (defined by user)	Priority		Timeliness (min)	Required data rate (kb/s)
1	GOES imagery over the Region - A		GEO satellite, channel VIS, WV, IR, Resolution 4km	level 1B original from Satellite Operator		SAM	15 - 30 minutes	16500	three images	Geotiff	8250	1)Product and Image generation.	P1	Real time	15	73.3
		INPE	GOES images, channel VIS, WV, IR, Resolution 4km/ rectangular projection	level 1B original from Satellite Operator	...	SAM	15 - 30 minutes	16500	three images	Geotiff	8250					
		NOAA NESDIS	GOES images, channel VIS, WV, IR, Resolution 4km/ rectangular projection	LRIT	...	3AM (full disk)	3 hour	3000	3 images	LRIT	3000					
		EUMETSAT	GOES images, channel VIS, WV, IR, Resolution 4km/ rectangular projection	LRIT	EUMETCast-Americas	3AM (full disk)	Hourly	3000	3 images	LRIT	3000					
2	GOES imagery over the Region - B		Projection	tiff image		SAM	30 minutes	2100	three images	Geotiff	1050	warning (+Synoptic analysis)	P1	real time	5	28.0
		(TO BE COMPLETED BY PROVIDER 1)	ETC.													
		(TO BE COMPLETED BY PROVIDER 2)	ETC.													
		ETC.														
3	GOES imagery over the Region - C		GEO satellite, other channels	level 1B original from Satellite Operator		SAM	30 minutes	5500	GOES(+1 ch South America)	Geotiff	2250	1) Product and Image generation	P2	Real time	10	30.0

		ETC.														
4	GOES imagery from other regions		GEO satellite, channel IR Resolution 4km	level 1B original from Satellite Operator		to be defined	3 hours	5500	One ch/ additional GEO Sat.	Geotiff	2250	1)Product and Image generation.	P1	Real Time	20	15.0
5	MSG imagery over the Region - A		GEO satellite, channel VIS, WV, IR. Resolution 4km	level 1B original from Satellite Operator		30N, 30S, 50W, 50E	15 – 30 minutes	40500	six channels compress	Geotiff	40500	1)Product and Image generation	P1	Real time	10	540.0
6	MSG imagery over the Region - B		GEO satellite, channel VIS, WV, IR. Resolution 12km	tiff image		15N, 37S, 71W, 25E	30 minutes	2100	three images	Geotiff	1050	synoptic Analysis	P1	Real time	10	14.0
7	MSG imagery over the Region - C		GEO satellite, other channels	level 1B original from Satellite Operator		60N, 60S, 60W, 60E	30 minutes	13500	full disk one channel	Geotiff	6750	1)Product and Image generation.	P2	Real time	10	90.0
8	Regional Wind vectors from GEO - A		Low,middle, and high level. Low resolution.	Tiff mage		SAM	3 hours	2100	3 images	Geotiff	1050	Synoptic analysis	P1	real time	10	14.0
9	Regional Wind vectors from GEO - B		From IR, WV, VIS and 3.9 Retrieval zonal, meridional, height and quality indicator	BUFR		SAM	3 hours	8000	four images (4 channels)	BUFR	8000	Product generation. Synoptic analysis Assimilation	P1	real time	30	35.6
10	Global Wind vectors from GEO		From IR, WV, VIS and 3.9 channels. Retrieval zonal, meridional, height and quality indicator	BUFR		Global	3 hours	40000	(5 satellites)	Bufr	40000	Assimilation	P3	real time	60	88.9
11	Polar regions Wind vectors from LEO - A		Retrieval zonal, meridional, height and quality indicator	BUFR		POLAR	3 hours	7000		Bufr	7000	Synoptic analysis Assimilation	P1	real time	30	31.1
12	Polar regions Wind vectors from LEO - B		Low resolution. Retrieval zonal, meridional, height and quality indicator	Tiff image		POLAR	3 hours	6000		Geotiff	3000	Synoptic analysis	P1	real time	30	13.3

13	Global Radio-occultation sounding		Retrieval profiles	BUFR		Global	1 hour	10000		Bufr	10000	Product generation. Assimilation	P1	real time	40	33.3
14	Global hyperspectral Sounding		RARS Hyperspectral (IASI and CrIS)	level 1C, original from satellite operator		Global	30 minutes	21000	one pass	Bufr	21000	Product generation. Assimilation	P3	real time	10	280.0
15	Global operational LEO sounding		RARS Data (NOAA / METOp)	(level 1c data in BUFR)		Global	30 minutes	1500	one pass	Bufr	1500	Assimilation	P1	real time	10	20.0
16	GEO sounding channels over the Region		(full spatial resolution)	level 1b original from satellite operator		SAM	2 hours	380	one satellite	Bufr	380	Product and Image generation. Assimilation	P3	real time	10	5.1
17	GEO sounding over other regions		(full spatial resolution)	level 1b, original from satellite operator		to be defined	2 hour	760	GOES E and W	Bufr	760	Product and Image generation. Assimilation	P3	real time	10	10.1
18	Regional LEO MW Imagery for precipitation		(operational and R&O), (Ex: NOAA, DMSP and METOp)	Level 1b, original from satellite operator		SAM	3 hours	5500	(one granule)	Bufr	5500	Assimilation	P1	real time	10	73.3
19	Regional Data Operational LEO		3.9, 10 and 11u channels Full resolution imagery (NOAA-METOP – FY)	level 1b, original from satellite operator		SAM	3 hours	45000		Geotiff	22500	Product and Image generation.	P1	real time	30	100.0
20	Rainfall Nowcasting		(2 hour forecasts based on GOES satellite data) - Regional Coverage	tiff image low resolution		SAM	30 minutes	700		Geotiff	200	Warning (+Synoptic analysis)	P1	real time	5	5.3
21	Regional Rainfall Satellite		Rainfall Satellite (based on GOES satellite data)	tiff image low resolution		SAM	30 minutes	400		Geotiff	200	Synoptic analysis	P1	real time	10	2.7
22	Regional Precipitation		accumulated daily	tiff image low resolution		SAM	daily	400		Geotiff	200	Synoptic analysis	P1	real time	20	1.3
23	Total Precipitable Water		Regional LEO satellite	tiff image low resolution		SAM	3 hours	400		Geotiff	200	Synoptic analysis	P1	real time	20	1.3

24	Lightning Discharge Images		Regional GEO satellite and lightning detector network	tiff image low resolution		SAM	1 hour	400		Geotiff	80	Synoptic analysis	P1	real time	10	1.1
25	Stability index		Regional LEO satellite	tiff image low resolution		SAM	3 hours	400		Geotiff	100	Synoptic analysis	P1	real time	10	1.3
26	GEO Fire detection		(from GOES satellite) -	ASCII – time, latitude and longitude(CAP)		SAM	30 minutes	70		ASCII (CAP)	70	Warning	P1	real time	3	3.1
27	LEO Fire detection		(mosaics form NOAA, accumulated spots) -	tiff image low resolution		SAM	daily	400		Geotiff	50	Product generation	P1	real time	30	0.2
28	SST - A		Global LEO satellite - 50km	image tiff – low resolution		Global	3.5 days	700		Geotiff	350	Synoptic analysis	P1	no real time	50	0.9
29	SST - B		Regional LEO satellite	netcdf		SAM	daily	3000	South Am region, mosaic	Geotiff	1500	Product generation.	P1	no real time	40	5.0
29a	SST - C		Regional LEO satellite	netcdf		SAM	daily	3000	South Am region, mosaic	HDF	3000	Assimilation	P1	no real time	40	10.0
30	Cloud Top Pressure		GOES Imagery	tiff image low resolution		SAM	30 minutes	2100	three images	Geotiff	1050	warning (+Synoptic analysis)	P1	Real time	5	28.0
31	Cloud Classification		Regional GOES Imagery	tiff image low resolution		SAM	every 30 minutes	400		Geotiff	200	synoptic analysis	P1	real time	30	0.9
32	Regional Cloud analysis		Regional GOES Imagery	level 2		SAM	30 minutes	13000	image size	Geotiff	6500	Product and Image generation.	P1	real time	15	57.8
33	Global Cloud analysis - A		Global GOES Imagery	level 2		Global	3 hours	65000	(5 satellites)	Geotiff	32500	Product and Image generation.	P2	real time	60	72.2
33a	Global Cloud analysis - B		Global GOES Imagery	level 2		Global	3 hours	65000	(5 satellites)	HDF	65000	Assimilation	P3	real time	60	144.4
34	Turbulence		From forecast model	Bufr		SAM	3 hours	400		Bufr	400	Product generation	P1	real time	30	1.8
35	Synthetic Aperture Radar		(SAR) images	tiff image low resolution		to be defined	daily	400		Geotiff	200	Synoptic analysis	P1	real time	50	0.5

36	Soil moisture - A		Regional LEO satellite (AQUA/AMSR-E)	image tiff – low resolution		SAM	daily	3000		Geotiff	1500	Synoptic analysis	P1	no real time	40	5.0
37	Soil moisture - B		Regional LEO satellite (AQUA/AMSR-E)	Bufr		SAM	daily	3000		Bufr	3000	Assimilation	P1	no real time	40	10.0
37a	Soil moisture - C		Regional LEO satellite (ASCAT, SMOS, SMAP)	Bufr		SAM	daily	3000		Bufr	3000	Assimilation	P1	no real time	40	10.0
38	Volcanic ash - A		Regional LEO satellite	tiff image low resolution		SAM	daily – when it is detected	70		Geotiff	50	Warning	P1	real time	3	2.2
38a	Volcanic ash - B		Regional LEO satellite	tiff image low resolution		SAM	daily – when it is detected	70		Ascii CAP	50	Warning	P1	real time	3	2.2
39	Number of Days without Rain		Regional LEO and GEO satellites	tiff image low resolution		SAM	daily	400		Geotiff	100	Synoptic analysis	P1	real time	10	1.3
40	Ultra Violet Index			tiff image low resolution		SAM	every 30 minutes	400		Geotiff	100	Synoptic analysis	P1	no real time	50	0.3
41	Land Surface temperature		Regional GEO satellite	tiff image low resolution		SAM	every 30 minutes	400		Geotiff	100	Synoptic analysis	P1	no real time	50	0.3
42	R&O LEO Imagery		VIS to IR imagery Regional Data – (MODIS)	level L1b (HDF)		SAM	6 hours	50000	(granule)	Geotiff	25000	Product and Image generation.	P2	real time	50	66.7
43	Global LEO Scatterometer sensors		Retrieval Winds	BUFR		Global	3 hours	24900	(three granules	Bufr	24900	Assimilation	P2	real time	30	110.7
44	Ocean surface altimetry - A		Regional (Atlantic and Pacific) LEO satellite altimeter sensor	Retrieval altimetry level 2		SAM	6 hour	680		Bufr	680	Product generation Assimilation	P3	no real time	40	2.3
45	Ocean surface altimetry - B		Global LEO satellite altimeter sensor	Retrieval altimetry ASCII		Global	daily	10200	(15 granules)	Bufr	10200	Product generation. Assimilation	P3	no real time	60	22.7

|															
46	Oceanic chlorophyll		Global LEO satellite - Modis	tiff image low resolution		Global	daily	9000		Geotiff	4500	Synoptic analysis	P3	real time	50	12.0
47	Surface Solar and Earth radiation		Regionall LEO satellite - NOAA	tiff image low resolution		SAM	3 hours	400		Geotiff	200	Synoptic analysis and applications	P3	real time	10	2.7
48	Ice and snow extent		Special Sensor Microwave Imager/Sounder (DMSP/SSMIS)	tiff image low resolution		SAM	daily	400		Geotiff	200	Synoptic analysis	P3	no real time	50	0.5
49	Ozone		(sensor SBUV/2, GOME).	tiff image low resolution		SAM	daily	400		Geotiff	200	environmental analysis	P3	real time	50	0.5
50	Fog		1 Km NOAA/MODIS	tiff image low resolution		SAM	daily	400		Geotiff	200	synoptic analysis	P3	real time	30	0.9
51	Vegetation index - A		Global LEO satellite (VGT and Modis)	Level 2		Global	10 days	15000		Geotiff	12000	Product generation.	P3	no real time	120	13.3
51a	Vegetation index - B		Global LEO satellite (VGT and Modis)	Level 2		Global	10 days	15000		HDF	15000	Assimilation	P3	no real time	120	16.7
52	Vegetation index - C		Global LEO satellite (VGT and Modis)	tiff image low resolution		Global	every 15 days	200		Geotiff	180	Synoptic analysis	P3	no real time	50	0.5

Geographical area legend:

3AM (3 Americas)

SAM (South America) - 10N, 55S, 110W, 25W

SCA (South and Central Americas)

GLOBAL (Global coverage)

POLAR (Polar region)

TOTAL P1 =	1042.3

TOTAL P2 =	339.6

TOTAL P3 =	600.6

TOTAL GERAL	1982.4