



**The WMO/CGMS
Virtual Laboratory (VLab)
for Education and Training in Satellite Meteorology**



What is the VLab ?



The VLab is a worldwide collaborative network of training Centres of Excellence (CoEs) and satellite operators

- **Established in 2000 by WMO and the Coordination group for Meteorological Satellites (CGMS), to improve the utilisation of data and products from meteorological and environmental satellites.**



VLMG-7 Meeting, Russian Federation,
2014



The VLab network



- Argentina (Buenos Aires and Cordoba)
- Australia (Melbourne)
- Barbados (Bridgetown)
- Brazil (Cachoeira Paulista)
- China (Beijing and Nanjing)
- Costa Rica (San Jose)
- Kenya (Nairobi)
- Morocco (Casablanca)
- Niger (Niamey)
- Oman (Muscat)
- Republic of South Korea (Jincheon)
- Russian Federation (Moscow and St. Petersburg)
- South Africa (Pretoria)



VLab links between CoEs and their supporting satellite operators



VLab objectives



- **To achieve better exploitation of data from the Space Based global observing system for services that are increasingly reliant on satellite data;**
- **To globally share knowledge, experience, methods and tools related to satellite data, especially in support of WMO Members that have limited resources.**



Training event in the CoE Republic of Korea



Key points of the VLab strategy 2015-2019



Provide support to education and training in the use of satellite data and technology among WMO Members by developing and delivering training around the various competency frameworks through:

- active support to the introduction of the new generation of satellites;**
- the delivery of Regional Focus Group (RFG) sessions;**
- the creation and maintenance of a central library/repository for recorded RFG sessions and other online events;**
- the organisation of Event Weeks on topics of particular interest (such as the new generation of satellites and the WMO priority areas);**
- supporting online capability in classroom events;**
- the assurance of high quality of training using state-of-the-art educational tools and methods;**
- encouraging the increase of capabilities to translate training material.**



Main Achievements 2014



Outline of Training Events organised in 2014

- **53 classroom events – 1000 participants**
- **13 online events – 1300 participants**
- **41 RFG sessions – 1000 participants**
- **6 WMO official languages plus Portuguese**
- **Participants from all WMO RA**



**Countries Reached by VLab
Training 2014**



Main Achievements 2014



Conceptual Models for the Southern Hemisphere

- Joint project between southern hemisphere Centres of Excellence: Argentina, Australia, Brazil and South Africa.

CM4SH website at:

<http://www.wmo-sat.info/vlab/conceptual-models-southern-hemisphere/>

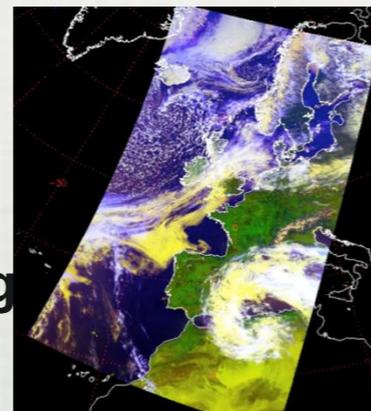


Satellite Direct Readout Events

Presentations by Mitch Goldberg and Liam Gumley

The Joint Polar Satellite System –

- NOAA's new operational satellite program
- Includes the Suomi National Polar-orbiting Partnership (S-NPP)
- Scheduled for launch in 2017.
- Critical data that supports: *forecasting, environmental assessments; climate variability, and supports the observation, forecasting and mitigation of natural disasters.*



Event:	Satellite Direct Readout
Date:	8 – 9 April 2014
Initiative:	VLab
Online sessions:	two
Registered*:	66 13 countries
Attended live*:	78 participants 9 countries



Want to learn more about the VLab?

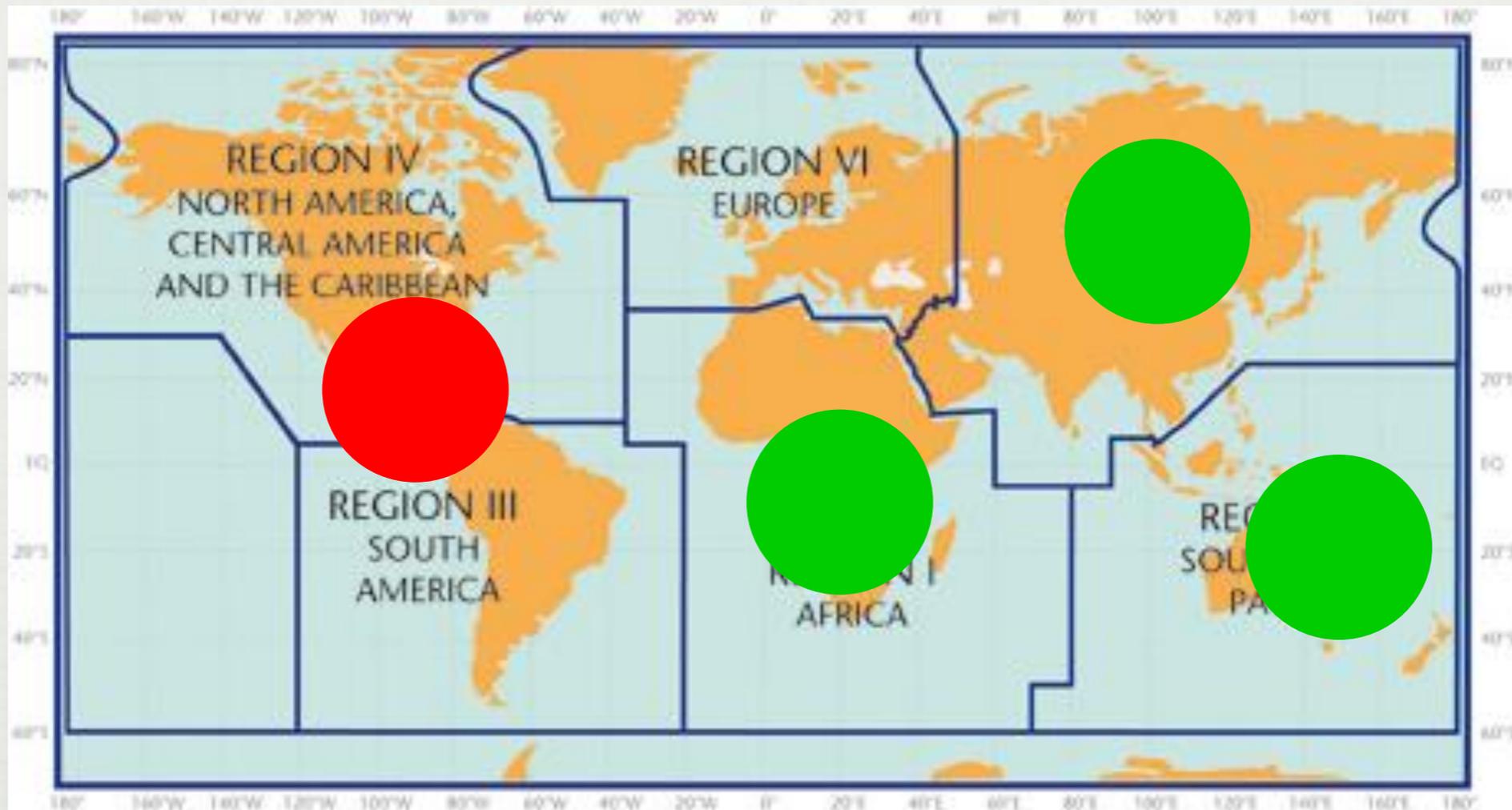


VLab central website - <http://vlab.wmo.int>

If you would like to be included in the VLab Mailing List to receive communications, please contact the VLab Technical Support Officer at luveeck@googlemail.com



Satellite Data Requirements for RA III and RA IV



**Strategy towards
Integrated global data dissemination services (IGDDS)**

Coordination Group on Satellite Data Requirements in Region III and IV

WMO Nomination Letter

Terms of Reference



World Meteorological Organization
Organisation météorologique mondiale
Secrétariat
7 bis, avenue de la Paix – Case postale 2300 – CH 1211 Genève 2 – Suisse
Tél.: +41 (0) 22 730 81 11 – Fax: +41 (0) 22 730 81 81
wmo@wmo.int – www.wmo.int

Weather • Climate • Water
Temps • Climat • Eau

Our ref.: OBS/SAT/SDR GENEVA, 19 March 2015

Annexes: 4 (available in English only)

Subject: Coordination Group on Satellite Data Requirements for RAs III and IV: Invitation to first meeting on 27-28 April 2015 in Greenbelt, MD, USA, together with NOAA 2015 Satellite Conference (27 April–1 May 2015) and WMO/NOAA VLab training event (25-26 April 2015)

Action required: To notify the WMO Secretariat at your earliest convenience but **not later than 31 March 2015** the name of your nominee

Dear Sir/Madam,

The WMO Coordination Group on Satellite Data Requirements for RAs III and IV has been recognized at the sixteenth sessions of Regional Associations III and IV held in 2014 and 2013, respectively, as a standing regional mechanism to document user requirements for satellite data access and exchange, and to foster the dialogue between users and satellite operators. This is critical to improve the utilization of satellite data for weather, climate, water and related environmental services. EC-65 (2013), through Resolution 12, recommended the establishment of such mechanisms in all Regions.

In RA III, the Group collaborates with the Sub-Group on Observation Systems under the Working Group on Infrastructure and Technological Development. Within RA IV, the Group serves as an advisory group to the RA IV Task Team on WIGOS and WIS Implementation. Annex I contains Terms of Reference of the Group, and Annex II its current composition.

In 2014, the Group achieved important results: it provided a coordinated response to a NOAA proposal for additional geostationary image scans over South America from GOES-13 (East) during rapid scanning operations, mitigating the loss of GOES-12 (see Annex III for details);

To: Permanent Representatives of Members of Regional Association III (AMS-495)
Permanent Representatives of Members of Regional Association IV (AMN-563)

cc: Hydrological Advisers to Permanent Representatives)
Mr Frederick R. Branski, president of CBS)
Lic. Julián Báez, president of RA III)
Mr Juan Carlos Fallas Sojo, president of RA IV)
WMO Regional Office for the Americas)
Dr Leonel F. Perondi (Director, INPE)) (for information)
Mr José Raimundo Braga Coelho (President Agência Espacial Brasileira))
Dr Conrado F Varotto (Executive Director, CONAE))
Dr Stephen Volz)
Assistant Administrator for Satellite and Information Services,)
(NOAA/NESDIS))
Mr Alain Ratier (Director-General, EUMETSAT))

WORLD METEOROLOGICAL ORGANIZATION

OBS/SAT/SDR, ANNEX I

COORDINATION GROUP ON SATELLITE DATA REQUIREMENTS FOR REGION III AND REGION IV TERMS OF REFERENCE

1. The Group consists of a representative number of members from the satellite data user community in the Region, joined, as associate members, by satellite data providers and WMO. The Group is chaired by one or two representatives from key satellite data user organizations of the Region.
2. The Group maintains an updated list of satellite data and products available to the Region through existing dissemination services. Data and products shall be classified by categories of variables and derived products.
3. The Groups regularly reviews sources of regional needs and undertakes, as needed, further information gathering, such as surveys, to ensure that views of WMO Members in the Region are adequately represented.
4. The Group analyses the requirements for each relevant category of product, and identifies which requirements are not adequately met by existing services. The unmet requirements are prioritized, taking into account:
 - (a) The applications supported and their impact;
 - (b) The number and representativeness of the users;
 - (c) The status of the required data or products;
 - (d) The quality and suitability of the required data or products.
5. In summary the Group formulates recommendations pertaining to:
 - (a) Existing satellite data/products (with detailed references) to be included in existing distribution services, or moving a product from one service to another, or assigning lower priority to an existing product (or removing it if obsolete);
 - (b) Amendments of existing products or development of new products;
 - (c) Evolution (upgrade, or consolidating) of data dissemination means, or other (e.g. training, tools, user equipment);
 - (d) Short-term action to implement these recommendations.
6. The Group maintains a dialogue with satellite data providers of relevance to the Region, and other partners as needed, to ensure that its recommendations are implemented.
7. The Group uses the WMO Procedure for Documenting Regional Requirements for Satellite Data Access and Exchange, for guidance.
8. The Group meets in person at least every two years, and, to ensure continuity, works through collaborative tools during the intersessional period.

Membership

RA-3-4-SDR-1 2015	
Name	State / Territory
Venantius Descartes	Saint Lucia
Fitzroy Pascal	Dominica
Egbert Westby	Belize
Homero Jacome	Ecuador
Mark Oduber	Aruba
Glendell DeSouza	BCT
Jorge Chira	Peru

Name	Institution	Country
Estela Collini	Servicio de Hidrografía Naval (SHN) and Servicio Meteorológico Nacional (SMN)	Argentina
Luiz Augusto Machado	Center for Weather Forecasting and Climate Studies (CPTEC), National Institute for Space Research (INPE)	Brazil
Wagner de Aragão Bezerra	National Institute of Meteorology (INMET)	Brazil
David Bradley	Meteorological Service of Canada	Canada
Miguel Egaña	Dirección Meteorológica de Chile	Chile
Olga Gonzalez	Institute of Hydrology, Meteorology and Environmental Studies (IDEAM)	Colombia
Luis Fernández	National Meteorological and Hydrological Institute (INAMEH)	Venezuela
Bryan Thomas	Meteorological Office	Trinidad and Tobago
Satellite operators		
Paul Seymour	NOAA NESDIS	USA
Kelly Sponberg	NOAA NWS and UCAR	USA
Sally Wannop	EUMETSAT	International

Total: 14 countries + NOAA, EUMETSAT

Benefits

Coordination Group on Satellite Data Requirements in Regions III and IV

- **Identify and synthesize user needs for satellite data, products and associated training**
- **Effective user-provider dialogue towards meeting these requirements**
- **Find user-friendly and affordable cost-sharing arrangements for data access and distribution**
- **Prepare for the next generation of meteorological satellites**
- **Support operational services, application development, and capacity building in meteorology (weather and climate) in the Region**
- **Exploit synergy through links with other users, applications and GEO SBAs**

Benefits

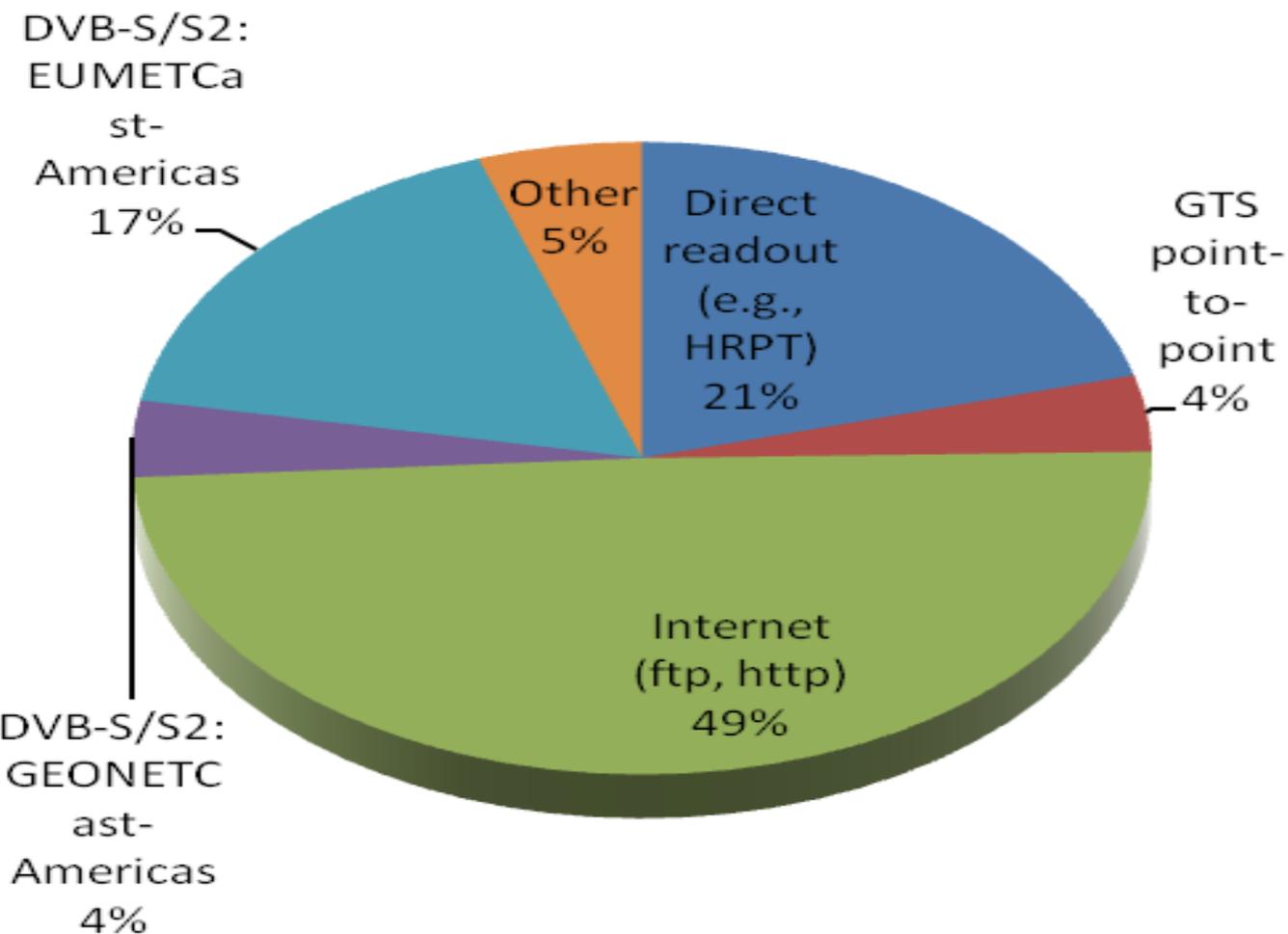
Coordination Group on Satellite Data Requirements in Region III and IV

- **Support standardization of Direct Readout services**
- **Provides the opportunity to have your products disseminated across the region.**
- **Provides opportunity to RA-III and IV members participate in the monthly discussions and other activities.**
- **Promote integrated dissemination services**

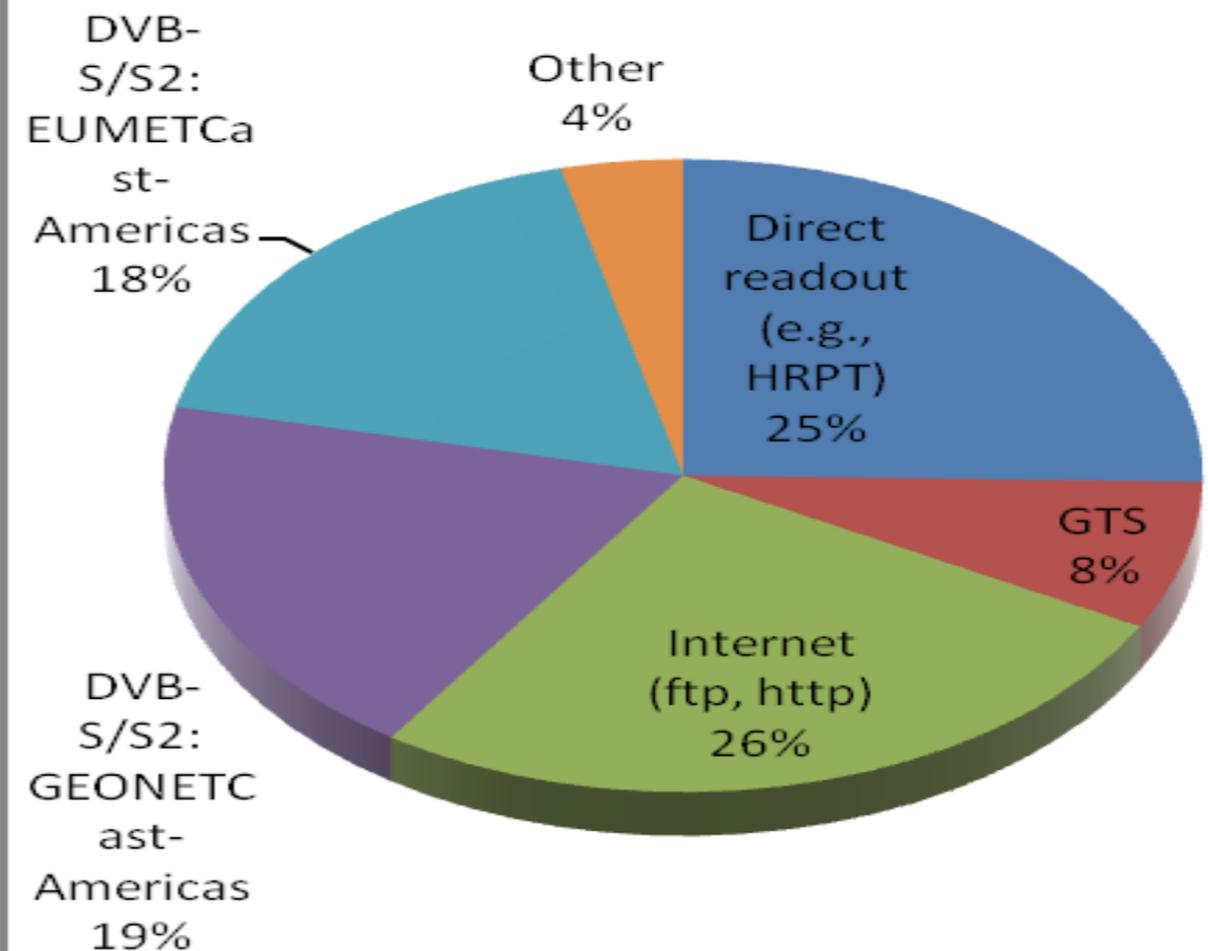
SDR Coordination Group Achievements

SATELLITE DATA REQUIREMENTS FOR RA III AND RA IV **SURVEY REPORT (2014)**

Q6A - How do you currently receive and access satellite data?

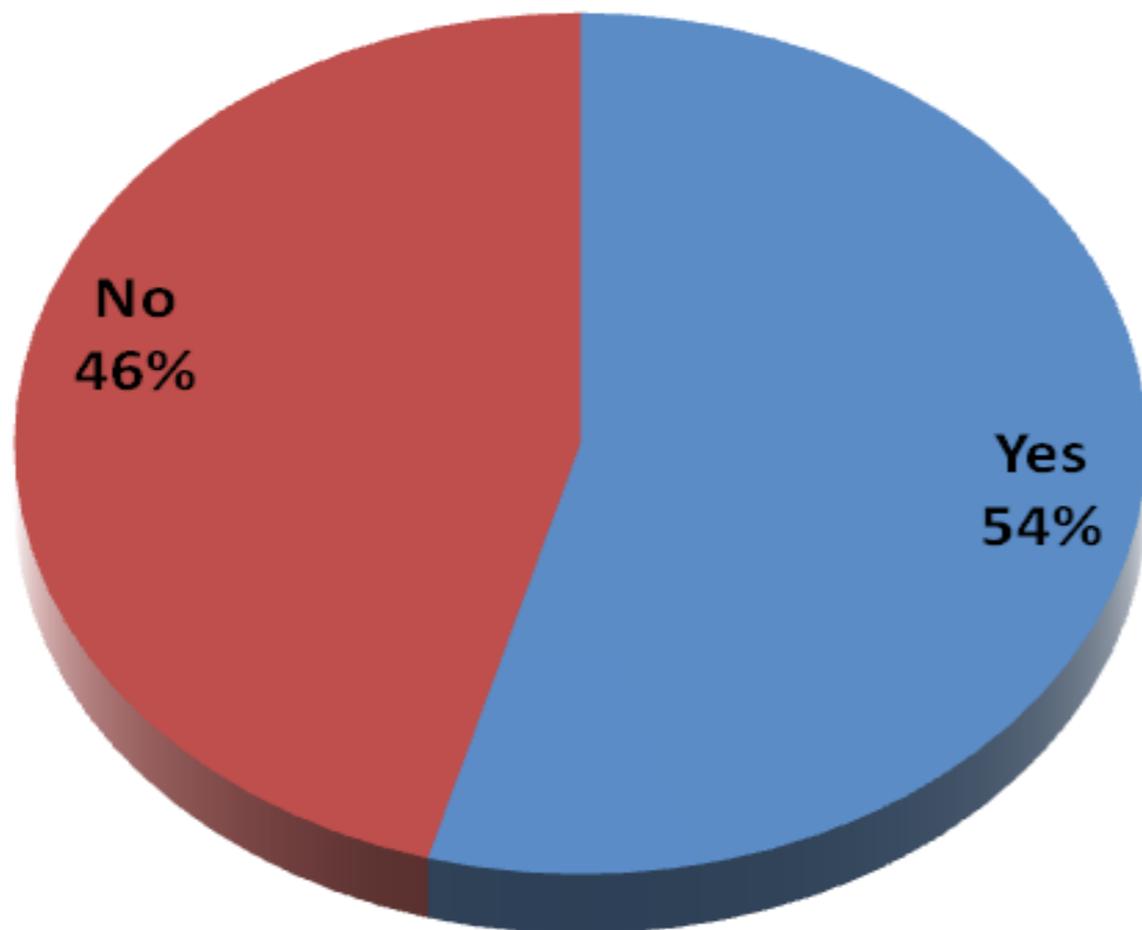


Q6B - How would you like to receive satellite data in the future?



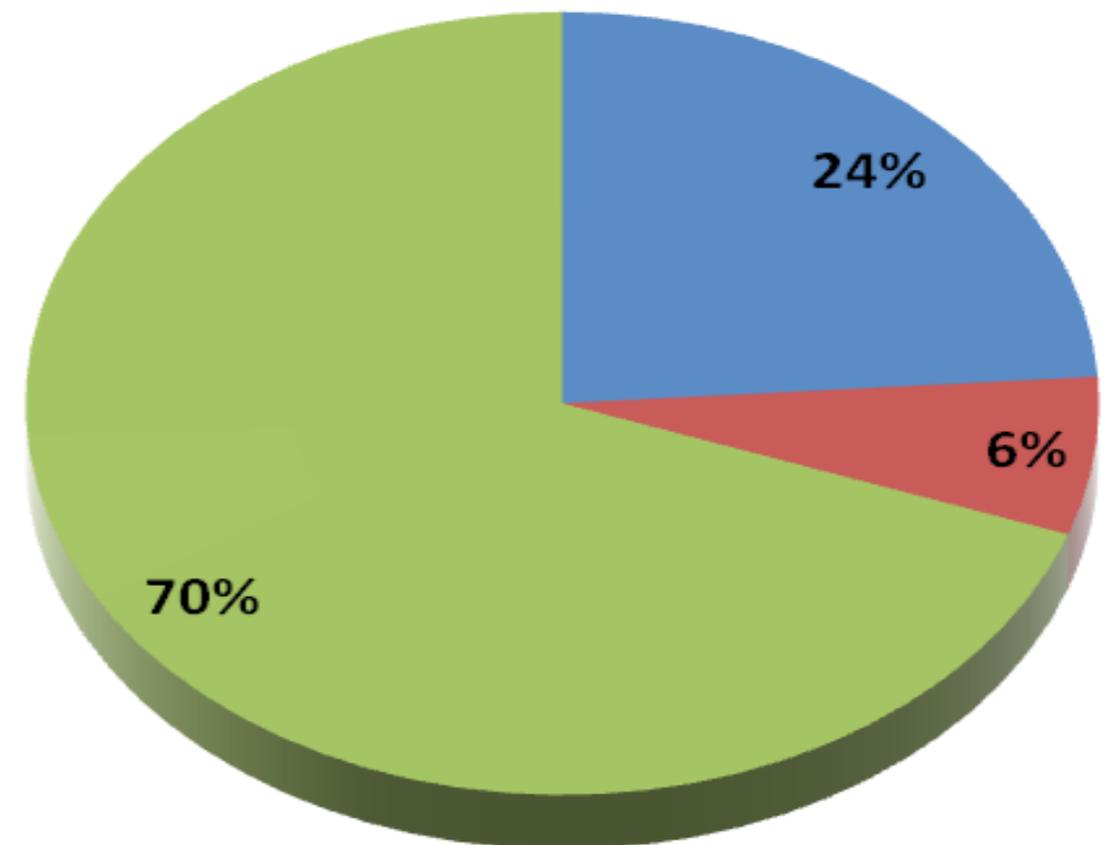
SURVEY REPORT 2014

Q7 - Do you intend to buy direct readout stations for the next satellite generation?



Q5 - Data timeliness: are you mostly using

- Near-real time data (timeliness 0-48 hours)
- Historical data
- Both are equally important to me



SDR Coordination Group Achievements

- **Conducted 13 Teleconferences**
- **Defined the Terms of Reference**
- **Recognized by the WMO RA III and RA IV**
- **Proposed optimized South America schedule for GOES 13**
- **Generated a GEO-LEO image mosaic to complement the new GOES schedule in southern South America**
- **Provided updates on GOES-R to users**
- **Plan activities for SDR and solve operational satellite and product issues**

Outcome from First 27-28 April meeting of the Coordination Group on Satellite Data Requirements for WMO RA III and IV:

22 Countries from the Regions met and also included NOAA management (Mark Paese), EUMETSAT, & WMO

Points Discussed:

- 1. How to ensure that data distribution systems meet the regional satellite data requirements on an operational basis?**
- 2. How to prepare the Region to receive and exploit data from the next satellite generation (GOES-R)?**
- 3. How to ensure effective dialogue of Group with satellite operators at both technical and management levels?**
- 4. How to ensure continued leadership and support to the Group?**

Thank You