



World Meteorological Organization

Weather • Climate • Water

# Objectives, Background, Context

Preparatory Meeting of the Coordination Group on  
Satellite Data Requirements for RA III and RA IV

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## Objectives of the meeting

To prepare the work of a standing coordination group on satellite data requirements for RA III and RA IV, by:

1. Reviewing existing requirements for satellite data access and exchange
2. Making recommendations on the group's
  - a. Terms of reference
  - b. Composition
  - c. Working arrangements (incl. next steps)
  - d. Support structure



# Background

- Strategy towards
  - Integrated data dissemination systems (IGDDS)
  - Rolling review of requirements (WIGOS, WIS)
  
- Requirements developed by task team (TT-SDR) 2009-2011

Template for documenting requirements for satellite data and products (Oct 2012)

item	INFORMATION FROM PROVIDER									INFORMATION FROM USER				
	Product Name	Data characteristics	Format	Geographical area	Frequency	Size (kB)	size comment	Format expected in the Future	FINAL Size (compressed) - kB	Basic Application	Priority	Real time / No real time	Timeliness (min)	Required data rate (kb/s)
<b>3 EXAMPLE ENTRIES, FOR ILLUSTRATION ONLY:</b>														
1	GOES imagery over the Region	GEO satellite, channel VIS, WV, IR, Resolution 4km	level 1B original from Satellite Operator	South America	15 - 30 minutes	16500	three images	Geotiff	8250	1) Product and Image generation / Marine forecasting / Ocean colour / ...	P2	Real time	15	73.3
2	Soil moisture - A	Regional LEO satellite (AQUA/AMSR-E)	image tiff - low resolution	South America	daily	3000		Geotiff	1500	Synoptic analysis	P1	no real time	40	5.0
3	Global LEO scatterometer sensors	Retrieval Winds	BUFR	Global	3 hours	24900	three granules	Bufr	24900	Assimilation	P1	real time	30	110.7
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...



# Background

- Some findings of TT-SDR, and follow-up:

- Several dissemination capabilities available in Regions III/IV;
- Capabilities often not integrated;
- None of them includes all data/products required;
- Sustainability of dissemination;
- Level of detail of user requirements

## Data/Product | Baseline | Comments/Issues

Data/product category	Baseline	Issue/Comment
Imager data from GOES	Direct Readout	Cost, complexity
Imager data from other geostationary	Needs retransmission	Needs retransmission
Imager data from NOAA, Metop	Direct Readout (except Metop-A)	Cost, complexity of HRPT stations
Data from DMSP, R&D sat, CBERS	FTP	Poor Internet access, timeliness
ATOVS Sounding retransmission (RARS)	GTS	Poor GTS access, but small volume
Advanced sounder retransmission	TBD	Large volume
Products for NWP (ROS, Winds)	GTS	Poor GTS access
Products for NMHS and other (marine)	GTS and FTP	Poor or no GTS access
Other products (imagery, warnings)	FTP, broadcast	Easy to include in a broadcast service

Source: [TT-SDR1 Final Report](#)

## Dissemination system | Data Rate | Coverage | Sustainability

System	Technology	DataRate	Coverage	Sustainability	Comments
GNC-A	DVB-S	2Mbps	Whole region	TBC after 2013	OK for products but TBD for data
EUMETCAST	DVB-S	2.7 Mbps	Whole region	TBC after 2013	Data & products
NOAAPort	DVB-S	10 Mbps	North-America	At least 2013	Requirements driven by NWS offices
LRIT (incl EMWIN)	Direct Readout (*)	300/400 kbps	Whole region	Yes	Bandwidth limits the selection of products
ISCS	VSat	128/64 kbps	Whole region	TBD after 2012	ICAO and WMO requirements. Limited flexibility
RANET	Various		Large footprint	TBD	Suitable for end-user distribution, remote areas

(\*) « Direct Readout» because LRIT is transmitted from a meteorological satellite



# Background

- With NOAA, INPE, WMO leadership, TT-SDR work led to improved & tailored dissemination of satellite data products in RA III, RA IV
- Jun 2012: Letter by CBS President to all RA Presidents, on draft “Procedure for Documenting Regional Requirements for Satellite Data Access and Exchange”
- Sep 2012: TT-SDR dissolved, results [published](#)
- Sep 2012: WMO Commission for Basic Systems (CBS) [adopts](#) “Procedure”, encouraging formation of task teams and standing coordination groups in all WMO Regions
- Nov 2012: WMO Secretary-General reports on TT-SDR results to Members in RA III/IV, and invites to nominate candidates for a standing regional coordination group on satellite data requirements
- To date, nominations received by
  - Argentina, Brazil (INPE, INMET), Canada, Colombia, Chile, Trinidad and Tobago, Venezuela
  - CONAE, EUMETSAT



# Background

## “Procedure” says re Task Team:

- Lead of group shall be space-based applications specialist in the region
- Membership to reflect regional and sub-regional diversity and fields of expertise involved in WMO and co-sponsored Programmes (e.g., from ET-SUP, VLab Training Centres of Excellence)
- Team to reviews sources of regional needs, including from GEO SBAs
- Team collectively to strive to represent interests of whole Region
- Main satellite providers for Region shall be invited to participate in Team activities (e.g., NOAA, EUMETSAT)
- ToR of Team decided by RA, based on template maintained by WMO secretariat; template sets scope, purpose, duration, methodology, reporting scheme
- Team eventually to encompass expression of non-satellite-related user requirements



# Background

“Procedure” says further:

- “Once the Regional Requirements for Satellite Data Access and Exchange have been established, they need to be maintained on a routine, regular, long-term basis by an appropriate Regional mechanism. This could for example be a standing Regional Requirements Coordination Group linked to the relevant regional WIGOS working structure. It is up to the WMO Regional Association to decide upon such a mechanism.”



## Important!

This group is subject to formal endorsement by the WMO Regional Associations III (South America) and IV (North America, Central America and the Caribbean)

- RA IV-16: 12-19 April 2013, Curaçao
- RA III-16: March 2014, Asunción, Paraguay (tbc)

Group can make recommendations, for consideration by RA IV, by:

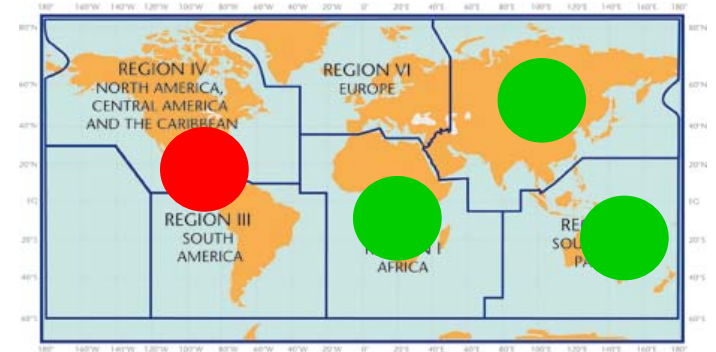
- Providing 1-2 ppt slides, to WMO (D/OBS) presentation





# Regional Requirements for Satellite Data Access and Exchange

- ✓ Regional approach to defining / maintaining requirements for satellite data access and exchange
- ✓ In support of all WMO programmes
- ✓ Builds on positive experience:
  - RA I (Africa): Dissemination Expert Group
  - RA II (Asia): Pilot Project
  - RA III/IV (Americas): Task Team 2009-2011
  - RA V (SW Pacific): Task Team 2012-
- ✓ Operational users, Training centres (VLab CoEs), Science, others



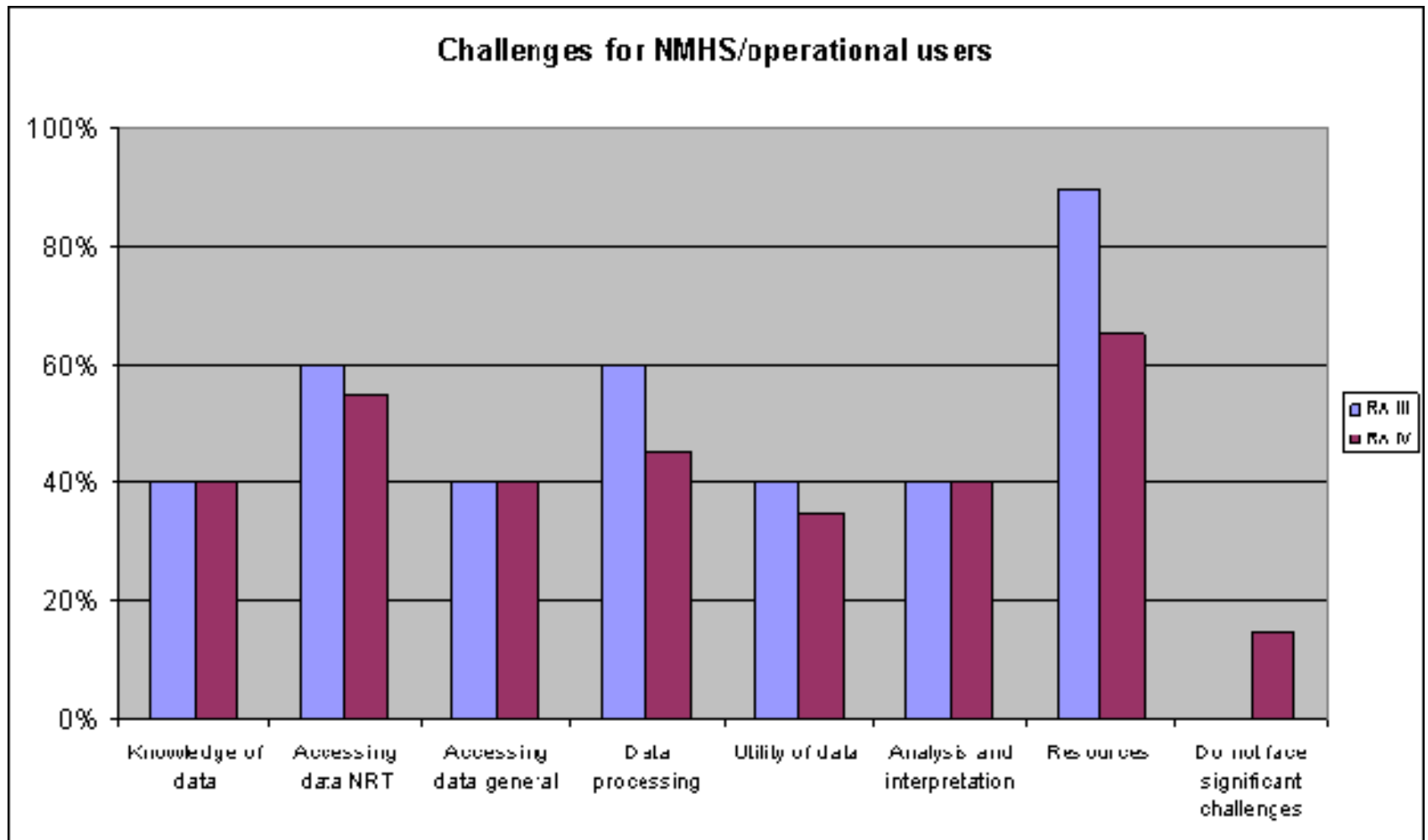
## Regional Events

- ✓ NSC 2013:  
WMO-NOAA “Train the Trainer”
- ✓ EUMETSAT 2012 Conf: Training sess
- ✓ 3<sup>rd</sup> Asia/Oceania Met Sat Users’  
Conference 2012: WMO-KMA VLab  
Training Event
- ✓ 4<sup>th</sup> Asia/Oceania Met Sat Users’  
Conference 2013:  
Planned training event



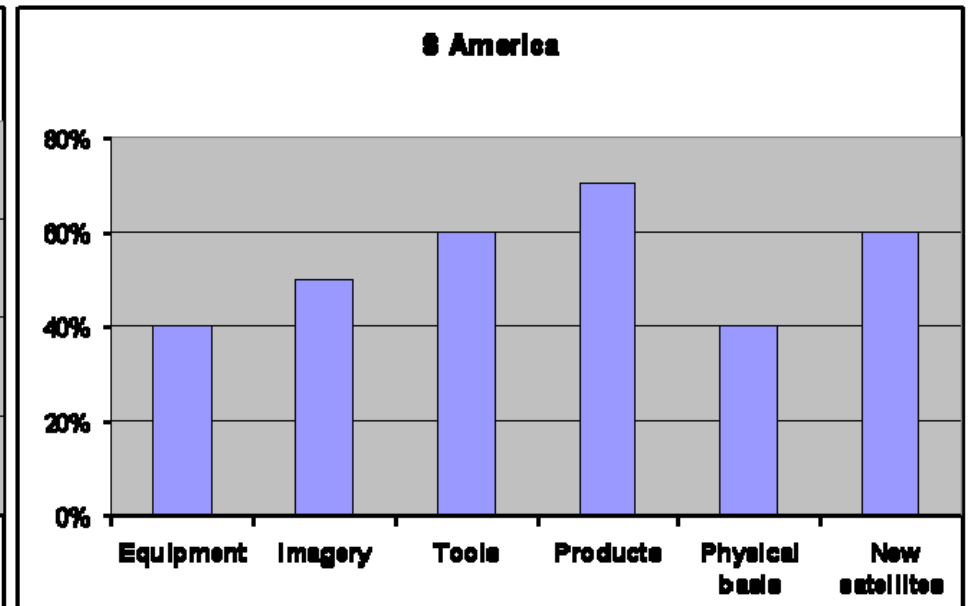
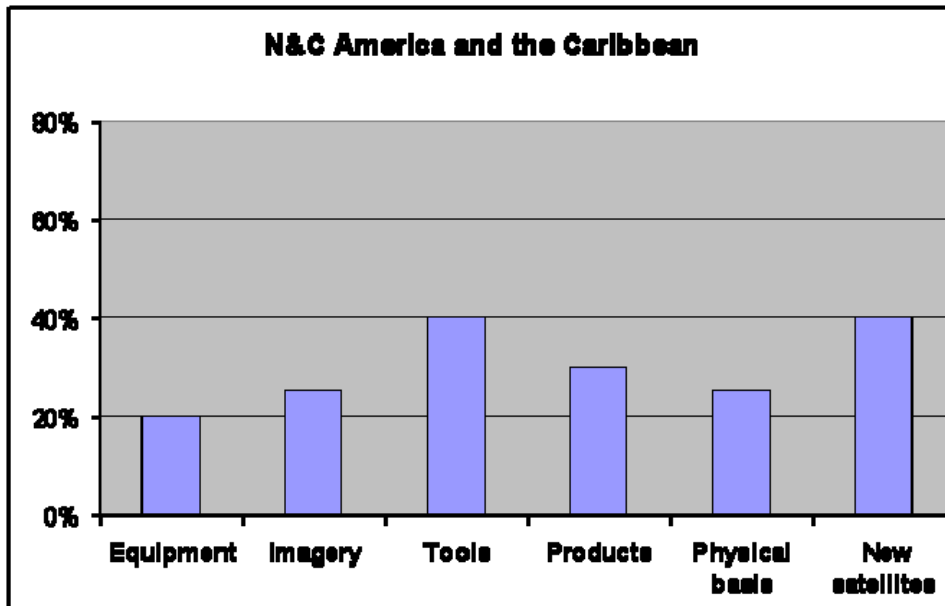
# Context: WMO Satellite User Survey

NMHSs / other operational users: RA III (10), RA IV (20)



# Context: WMO Satellite User Survey

- Unmet training needs (NMHS/operational users):



## Context: WMO Satellite User Survey

- Top 3 “planned use of satellite products” (NMHSs/operational users):

RA III: Soil moisture, GHG/Trace gases, Aerosol

RA IV: Soil moisture, Lightning, Sea level

- Top 3 “required but currently not available/useable” (NMHSs/operational users):

RA III: Winds, Sea level, Sea state (wave spectrum)

RA IV: Soil moisture, Land surface temperature, Land cover

- Survey Report to be published by WMO in May 2013



# Resources

- [Template for group terms of reference](#)
- [Generic user requirements table](#)





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Thank you for your attention

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