

# ET-SUP

# Presentation to

# ET-SAT

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And ET-SUP Members

# Outline

- ET-SUP work plan
- Membership
- Issues discussed at ET-SUP-7
  - Breakout groups
- SCOPE-NWC
- Data formats
- IGDDS

# ET-SUP Work Plan

- monitoring the progress of satellite data availability and use by WMO Members;
- providing advice and support to the development and implementation of WIGOS;
- initiating and promoting activities to improve the availability of satellite data;
- reviewing present and future R&D satellite data and products and providing advice with a view of increased utilization by WMO Members;
- reviewing and assisting in addressing the needs of WMO Members for information regarding access to and utilization of satellite data and products;
- promoting development and harmonization of satellite data and products responding to WMO Members' needs; and
- keeping under review the needs of WMO Members for training in satellite meteorology and related fields.

# ET-SUP Membership

- All WMO Regions – all continents
- Full spectrum of users covered:
  - NWP centres
  - Processing and application centres
  - Forecasts and Warnings
  - Climate and atmospheric composition
- Around 50 per cent turnover since ET-SUP-6
- Links to other bodies:
  - JCOMM
  - COSPAR
  - CEOS
- Satellite operators represented

# Issues Discussed

## Breakout Groups - Tuesday

<b>SCOPE Nowcasting – Pilot Projects</b>	<ul style="list-style-type: none"><li>• Criteria for projects</li><li>• Learnings from SCOPE-CM</li></ul>
<b>Data Formats – Issues and Recommendations</b>	<ul style="list-style-type: none"><li>• Identify issues for users</li><li>• High-level recommendations for ET-SAT</li></ul>
<b>GFCS – Case Studies</b>	<ul style="list-style-type: none"><li>• Evaluate case studies</li><li>• Target specific studies for further analysis and follow-up by the team</li></ul>

# Issues Discussed

## Breakout Groups - Wednesday

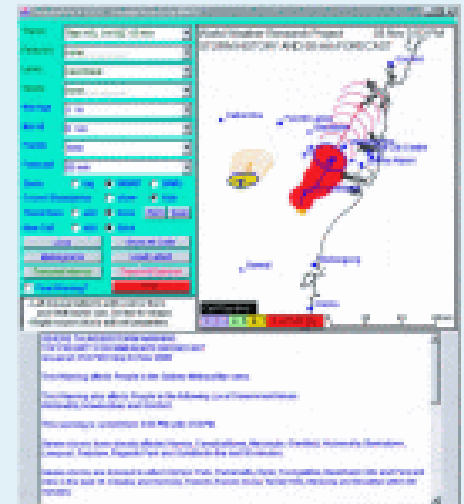
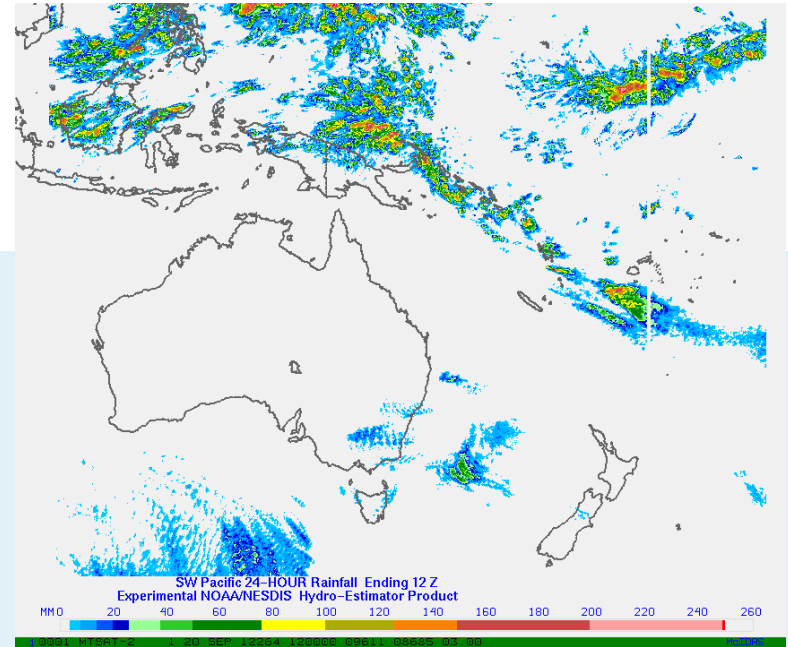
<b>Questionnaire Analysis</b>	<ul style="list-style-type: none"><li>• Review of survey results</li><li>• Recommendations for further follow-up by interview or more detailed survey</li></ul>
<b>Regional Requirements Gathering</b>	<ul style="list-style-type: none"><li>• Relationship to ET-SUP</li><li>• Recommendations on future directions</li><li>• Framework for requirements gathering</li></ul>
<b>SCOPE-NWC Workplan</b>	<ul style="list-style-type: none"><li>• Further refinement of pilot projects</li><li>• Revision of draft work plan</li></ul>

# Issues for Discussion

- SCOPE-Nowcasting
- Data Formats
- Other issues

# SCOPE-NWC

- Sustained,
- Co-Ordinated
- Processing of
- Environmental Satellite Data for
- Nowcasting





# SCOPE-NWC Aims

- Provide a mechanism through which satellite data can be made available simply and quickly
- Primarily for users in the NMHSs of smaller or developing nations, where expertise and facilities for processing and utilizing satellite data may be limited or non-existent
- Also for more advanced nations where there may be efficiencies possible through combining resources, expertise, and efforts

# Desired Outcomes

- Ensuring continuous and sustained provision of consistent, well-characterized satellite products,
- Applications to nowcasting and severe weather risk reduction.
- To be demonstrated by pilot projects, and
- To be achieved through establishing a collaborative network among experts, user institutions and satellite operators, that can help sustain product dissemination and facilitate user uptake.

# Expected Benefits

- Benefits of this approach will be:
  - Improved access to satellite data by member states;
  - Improved confidence in products generated through SCOPE-NWC;
  - Reduced operating costs associated with technological change and software upgrades;
  - Reduced training overheads;
  - Improved cooperation between NMHSs through access to shared products.

# Background

- Concept arose from discussions in 2010 (in the WMO Expert Team on Satellite Utilization and Products – ET-SUP-5)
- Recognised the benefits of the SCOPE for Climate Monitoring (SCOPE-CM) initiative, where the value of different models of cooperation among satellite operators in generating satellite datasets for climate has been demonstrated through theme-driven pilot projects.
- [http://www.wmo.int/pages/prog/sat/scope-cm\\_en.php](http://www.wmo.int/pages/prog/sat/scope-cm_en.php)

# Rationale

- It was felt by ET-SUP-5 that the concept could be usefully applied to the nowcasting domain, given that:
  - The related science is reasonably mature;
  - An organized user community is available;
  - An established description of the needs of this community exists; and
  - There are opportunities and synergy with other initiatives.
- Useful in the forecasting range zero to six hours where, in the case of NWP, current model forecasting capability is limited.

# SCOPE-NWC Products

- Products need to be consistent across platforms and use standard formats
- Four broad categories of SCOPE-NWC products
  - Basic (Atmospheric) Nowcasting Products
  - Advanced (Atmospheric) Nowcasting Products
  - Realtime Ocean Products
  - Realtime Atmospheric Composition Products: these include fire detection, smoke, sand and dust, aerosols and volcanic ash

# ET-SUP Discussion

## Considerations:

- a. Should use multi satellite data
- b. Should have an easy data format
- c. Should have a product description and limitations.
- d. Open access
- e. Real time
- f. Easy access
- g. Include training.
- h. Official commitment for all agencies evolve in the project

# DATA FORMATS

BUFR

Standards

WMO <sup>World</sup> <sup>Weather</sup> <sup>Organization</sup>  
on Formats

DISSEMINATION

HRIT

COMMUNITIES

SEGMENTATION

Software  
(read/write/display)

NETCDF

Change  
management

Datatypes

Coordination  
or agreement  
of formats



# Data Formats

- Draft 'wish list':
  - Agreed at WMO level
  - Self describing
  - Compressed (lossless) as much as possible
  - Visualisable using standard tools
  - Rapid change management process
  - Enable clean up of proliferation of formats
  - Easy to read/write/test using standard tools
  - Agreed well in advance of flow of data
  - Platform independent
  - Fast I/O
  - Easy to segment/reconstruct
  - Agreed metadata standard
  - NRT , archive and retrieval compatability
  - Easy to subsample

# Other Issues Discussed

- Commercial meteorological satellite operators
  - Impact on free exchange of data between nations
  - Creation of winners and losers
- Radio Occultation
  - Need for continuity of observations
  - Need for coordination of "instruments of opportunity"
- IGDDS
  - Proliferation of DVB services (RA-II and RA-V)
  - Greater cooperation between providers sought

# Issues Arising

- Request to stagger imagery from Himawari-8 and Geo-KOMPSAT-2A by 5 minutes to provide 5-minute imagery to the region

# Thank you

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