MONITORING WEATHER AND CLIMATE FROM SPACE



MTG Dissemination Evolution

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For IRS MAG



MTG Service : InfraRed Sounder (IRS) For IRS MAG

- MTG-IRS will deliver unprecedented information on horizontal and vertical gradients of moisture, wind and temperature from the geostationary orbit:
 - hyperspectral soundings at 0.625 cm⁻¹ spectral sampling in two bands:
 - Long-Wave-IR (LWIR: 700 1210 cm⁻¹ ~820 spectral samples)
 - Mid-Wave-IR (MWIR: 1600 2175 cm⁻¹ ~920 spectral samples)
 - 4 Local Area Coverage (LAC) zones, South to North, with LAC4 covering Europe;
 - LAC-4 every 30 minutes;
 - spatial resolution of 4 km.





TRANSITION FROM MSG TO MTG



Dissemination of MTG vs MSG: a challenge



• Huge step after each launch:

MSG is negligible in volume compared to MTG;

- Select the right products to satisfy user needs;
- Ensure continuity and a smooth transition;
- Ensure affordability for End users and EUMETSAT.

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Contemplated dissemination evolution For IRS MAG

- Based on user feedback through the various MAG and working group, the Programme has put in place a task force to carefully review and improve the disseminated product baseline.
- Outcome will undergo a review during the SIR part #2.
- Presentation of the proposal through the year 2018 is planned:
 - Main elements are presented to the users (e.g. during MAGs);
 - The baseline will be described in a single new document:
 - For L1, L2 and SAF data distribution
 - For all mechanisms (EUMETCast, terrestrial...)
 - For all instruments
 - It will be an annex of the [EURD] reviewed by delegate bodies and approved by council in 2018.
 - This annex is a precursor of the equivalent routine document.

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IRS level 1: evolution



- 1. End to end timeliness should be significantly improved:
 - a) under consideration is a timeliness of 15mn (instead of 30mn) with a design goal of 10mn.
 - b) Applied at dwell level and not to the complete LAC (brings another improvement of 15mn)
 - c) Technical feasibility for reduced timeliness has been studied internally
 - d) To be further studied with suppliers
- 2. EUMETCast satellite disseminates Principal Component Scores (PCS)
- 3. Full L1B radiance spectra could be disseminated via terrestrial means to global Numerical Weather Prediction (NWP) centres
 - if needed but huge = 70Mbps



IRS level 2: planned evolution



- 1. The use of new algorithms, adapted from those demonstrated in operations with IASI are now planned:
 - 1. New products and format similar to IASI
 - 1. Temperature and humidity profile, Surface parameters product, Cloud, Ozone
 - 2. For all LAC (instead of LAC 4 only)
 - 3. End to End timeliness at dwell level better than 30mn (instead of 60mn) with a design goal of 20mn.
- 2. Feasibility of new algorithms and reduced timeliness is promising according to initial internal work.
- 3. SWG full support given on 05/09/17.
- 4. The size of the products are smaller.
- 5. EUMETSAT to pursue the on-going activities, including with subcontractors



Glossary

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- CRM: Clear sky Reflectance Map
- DCG: the corporate Dissemination Coordination Group (grouping GEO, LEO, OPS, TSS, LAD...) as per corresponding TOR
- DTF: Dissemination Task Force
- FDSS: Full Disc Scanning Service (=FES)
- HR: High Resolution channel of FCI (also called HRFI)
- LAC: Local Area Coverage (e.g. a quarter of earth disc for IRS)
- NR: Normal Resolution channel of FCI (also called FDHSI)
- OLDA: On-Line Data Archive (internet retrieval)
- OCA: Optimal Cloud Analysis
- PCS: Principal Component Scores
- TOR: Term Of reference

