International Issues and Future Systems
ITSC-25

Co-chairs: Heikki Pohjola (WMO) and Niels Bormann (ECMWF)

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INTERNATIONAL ATOVS WORKING GROUP

International Issues and Future Systems

Co-chairs: Heikki Pohjola and Niels Bormann

Saturday, 9:00 – 12:00

Topics for the WG meeting:

1. Evolution of the global observing system
   - Progress towards implementation of the WIGOS Vision 2040 beyond the current CGMS baseline
   - Update of the WIGOS Vision: WIGOS Vision 2050
   - Commercial sounding data and implications
2. Calibration aspects and GSICS activities
3. Report from the RFI sub-group meeting and any follow-ons
4. HLPP-related topics and CGMS future directions
5. AOB

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Evolution of the future observing system (1/2)

- Given NWP impact shown again at ITSC-25, we agreed to restate the existing recommendation:

Recommendation IIFS25-R1 to CGMS:

To advance the implementation of the WIGOS Vision 2040 for passive IR and MW sounding with agency commitments beyond the established 3-orbit baseline. Noting recent assessments of expected impact, the WG recommends complementing the 3-orbit CGMS baseline with a further 3-orbit system that features at least MW sounding capabilities, with equator-crossing times between those of the 3-orbit baseline to optimize time-to-coverage of the overall system.

- Noting that EPS-Sterna addresses the above recommendation, we recommend:

Recommendation IIFS25-R2 to EUMETSAT member states: To sign up for EPS-Sterna, as it is an important step toward implementing the WIGOS Vision 2040.

Recommendation IIFS25-R3 to space agencies: To also implement missions with MW sounders in low inclination orbit, noting potential benefits for inter-calibration, as well as improved temporal sampling in the tropics.

Evolution of the future observing system (2/2)

Noting uncertainty regarding the inclusion of a hyperspectral IR instrument in geostationary orbit in the GeoXO programme, we recommend:

- **Recommendation IIFS25-R4 to NOAA: To commit to a GEO hyperspectral IR mission to fill the gap in coverage from geostationary orbit over the Americas with respect to the WIGOS Vision 2040. (wording to be checked with Andy Heidinger)**

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Coverage from MW imagers

- WSF-M1 was launched 11 Apr 2024. It carries a MW imager, as a follow-on for the DoD Windsat/SSMI radiometers.
- DSMP satellites had open data policy.

Recommendation IIFS25-R5 to NOAA and DoD: To continue pursuing activities to make WSF-M data publicly available.

- IIFS also noted the coming launch of GOSAT-GW with AMSR-3 on 24 June 2025. We encourage JAXA to involve users early in the data evaluation, before data is expected to be publicly available in mid-2026.

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Discussion on commercial data

ITSC-25 saw a growing representation from commercial data providers, particularly in the area of MW sounding.

Main points raised:

- Concern over the continuation of the missions; need to balance risks, e.g.:
  - Space agency's risks that the data provider do not continue operations
  - Data provider's risk that space agencies do not commit to buy data long term
  - Risk of lacking competition with only few companies in business
- Calibration and data quality, and need for consolidated requirements.
  - Strong role of space agencies as link between commercial data providers and users
- Open and dual-way communication between users/space agencies and commercial data providers
- IIFS noted that there are CGMS BP in place for commercial data buys including emphasis of global license purchase. https://cgms-info.org/wp-content/uploads/2024/06/CGMS-best-practice-document-Relationship-with-the-private-sector-for-commercial-data-purchases.pdf

Recommendations on the role of commercial data

Resulting from the discussion, IIFS recommends:

- **Recommendation IIFS25-R6 to organisations involved in data buys: To follow the approaches established with RO data purchases also for any passive MW/IR data buys, in particular with respect to global licenses and coordination regarding the complementarity of data purchases by different organisations.**
- **Recommendation IIFS25-R7 to organisations in data buys: To include established data sharing best practices as requirements in the contracts of data buys (incl., e.g., sharing of meta-data, user notification, etc, see, for instance, INFCOM document "Satellite data requirements for global NWP").**
- **Recommendation IIFS25-R8 to CGMS space agencies: To continue to guarantee ownership of the backbone system and related infrastructure. Therefore, commercial data buys should be complementary assets.**

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Global Space-based Inter-Calibration System (GSICS)

- Bojan Bojkov reported on GSICS structure and activities.
  - International collaborative effort initiated by WMO and CGMS to monitor, improve and harmonize the quality of observations from operational weather and environmental satellites
- There is a need to enhance calibration activities related to cube sats/small sats
- IIFS sees an opportunity for commercial satellite data providers to follow GSICS calibration methodology

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Radio Frequency Interference (RFI)

- The technical sub-group on RFI had an online meeting before ITSC-25.
- A summary of the sub-group meeting was given.
- IIFS noted the following relevant documents:
  - CGMS Agency Best Practices for RFI Detection, Monitoring, and Mapping for Remote Passive Sensors
  - Potential Future and Existing Uses of AI, ML and Pattern Recognition for RFI Detection and Mitigation in Remote Sensors

  Action IIFS25-A1 on Simon Elliott: To share these documents with the IIFS WG and the RFI sub-group via the IIFS co-chairs

- IIFS noted that there is also an RFI Task Group under CGMS WG1

Recommendation IIFS25-R9: Interaction is encouraged between ITWG RFI sub-group and WG1 RFI task group.

For information: A new RFI reporting tool will be included in OSCAR

- Aims to be easy to use, low hurdle
- Encourage ITWG to report!

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