



Introducing Actions/Recommendations from CGMS to the 16th IWW

Jaime Daniels (NOAA)
CGMS Rapporteur for IWWG

with IWWG co-chairs
Régis Borde (EUMETSAT)
Steve Wanzong (UW/CIMSS)

Welcome to IWW16!

Thank You!

- To Environment Climate Change Canada (ECCC) for hosting this workshop and to Stéphane Larouche and local organizing committees at ECCC and the University of Quebec at Montreal (UQAM).

Stéphane Laroche

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Université du Québec à Montréal (UQAM)

- To our IWWG co-chairs, Régis Borde (EUMETSAT) and Steve Wanzong (UW-Madison/CIMSS).

Welcome to IWW16!

Thank You!

- To all of you for your contributions to this workshop.
- To our meeting sponsors: WMO, CGMS, ECCC, EUMETSAT, NOAA, UW-Madison/SSEC, and Universite du Quebec at Montreal (UQAM)

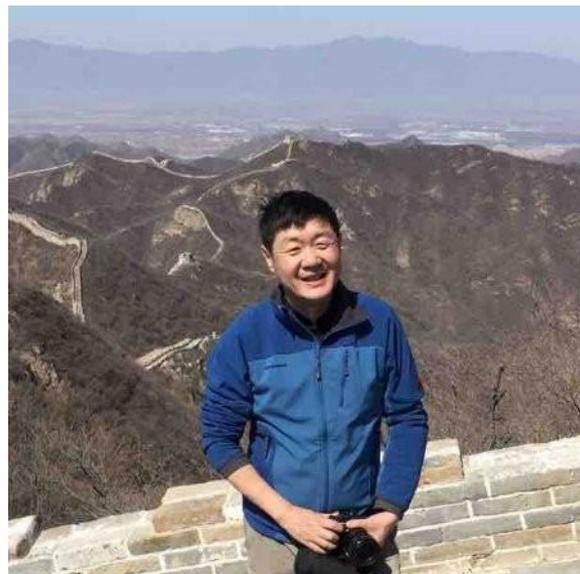
New IWWG Co-Chairs

Iliana Genkova (Lynker@NOAA/NCEP/EMC) and Feng Lu (CMA) are the new incoming co-chairs for the IWWG, endorsed by CGMS-50 Plenary in June 2022. Jaime Daniels (NOAA) will continue as the CGMS rapporteur.



Iliana Genkova

Task Lead Observations Processing
Lynker@NOAA/NCEP/EMC



Feng Lu

Chief Designer of FY-4 GS
CMA/NSMC/NARSSDC

Coordination Group for Meteorological Satellites (CGMS)

- The main goals of the **coordination activities** of the Coordination Group for Meteorological Satellites
 - **Support operational weather monitoring and forecasting as well as climate monitoring**, in response to requirements formulated by WMO, its programmes and other programmes jointly supported by WMO and other international agencies.

- It is the **policy of CGMS to coordinate satellite systems of its members in an end-to-end perspective**, including protection of in orbit assets and support to users - e.g. through appropriate training - as required to **facilitate and develop shared access to and use of satellite data and products in various applications**. This policy is reflected in the structure of the **High Level Priority Plan (HLPP) 2020 - 2025**, which covers:
 1. Operational Continuity and Contingency Planning
 2. Coordination of Satellite Systems and Operations
 3. Coordination of Data Access and End User Support
 4. Enhancement of the quality of satellite-derived data and Products
 5. Monitoring of Climate including Greenhouse Gases
 6. Space Weather Monitoring
 7. Outreach and training activities

https://www.cgms-info.org/documents/CGMS_HIGH_LEVEL_PRIORITY_PLAN.pdf

The Five International Science Working Groups under CGMS

- **ITWG:** The ITWG was established as a permanent Working Group of CGMS in 1983.
- **IWWG:** The International Winds Working Group was established in 1991 and became a Working Group of CGMS in 1994.
- **IPWG:** The International Precipitation Working Group was established as a permanent Working Group of the Coordination Group for Meteorological Satellites (CGMS) in June 2001.
- **IROWG:** The International Radio Occultation Working Group was established as a permanent Working Group of CGMS at the 37th meeting in October 2009.
- **ICWG:** The International Cloud Working Group was established as a permanent Working Group of CGMS at the 42nd meeting in May 2014.

CGMS WG II (Satellite Data and Products): Serves as a link between the annual CGMS meetings and the CGMS International Science Working Groups which provide regular reports and feedback to CGMS.

High Level Priority Plan (HLPP) and Related Actions:

Key issues of relevance to CGMS: HLPP 4.2.1:

Establish commonality in the derivation of AMV for global users where appropriate (e.g., through sharing of prototype algorithms) and consider backwards compatibility when designing AMV algorithms for the 16-channel imagers, so that present state-of-the-art algorithms can be applied to old imagery.

Key issues of relevance to CGMS:

A46.03: AMV producers to adopt the latest AMV BUFR template

Review progress and discuss at IWW16 (WG1)

Summary of the 4th AMV Intercomparison

- Participants included: JMA, CPTEC/INPE, EUMETSAT, KMA, NOAA and NWCSAF.
- A common GOES-16 data set was used.
- New reference (truth) data sets include **aircraft and Aeolus winds**.
- The AMV algorithms are becoming more similar with better agreement to each other. Differences in clear air AMVs are larger.
- Main variability driver are the number of AMVs and height assignment.
- A **plenary discussion** is planned for IWW16.

Locations of Collocated Obs for 2019102012

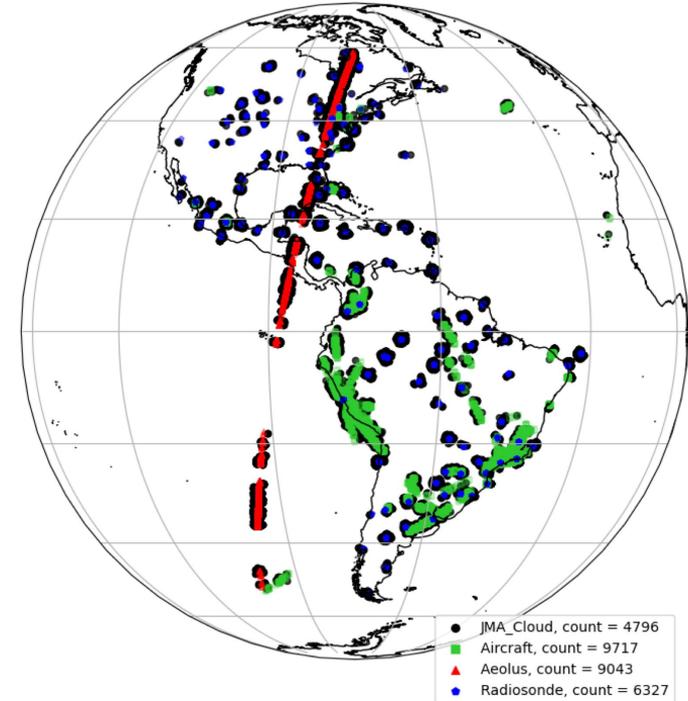


Figure 11-5: Experiment 2a. JMA cloud AMVs (CQI >= 80): Location of collocated observations. AMVs (black), rawinsondes (blue), aircraft (green), Aeolus (red).

2021 AMV Intercomparison Study report direct link is located here:
<https://www.nwcsaf.org/aemetRest/downloadAttachment/6869>

HLPP and Related Actions:

Key issues of relevance to CGMS: HLPP 4.2.2:

Investigate the best configurations to be used by the AMV producers for use in global and regional NWP models respectively, and clearly define the appropriate requirements for each of them.

Key issues of relevance to CGMS:

A46.04: NWP community to define best configuration to be used by the AMV producers for use in global and regional NWP models.

Key issues of relevance to CGMS:

A46.06: IWWG to look at improving quality indicators for high resolution wind derivation for mesoscale and regional applications.

Review and Discuss at IWW16 (WG1, WG2)

HLPP and Related Actions:

Key issues of relevance to CGMS: HLPP 4.2.3:

Assess the value of winds from GEO Hyperspectral IR.

- New funding for the CIMSS, UW-Madison will demonstrate the feasibility of tracking features in global profiles (humidity, ozone) derived from AIRS and CrIS radiances on Aqua, NOAA-20, and NOAA-21 (SNPP?).
- EUMETSAT's 3D IASI AMV processor is fully developed. Production of a demonstration dataset is ongoing as of this writing.
- Feng Lu (CMA) will update IWW16 on the status of 3D AMVs from GIIRS on FY-4B.

Review and Discuss at IWW16 (WG1, WG2)

Other Actions

A46.07: IWWG to consider developing climate projects from Atmospheric Motion Vectors (AMVs) and to report to the CEOS/CGMS WGClimate with a potential pilot project. (Ref. CGMS-46-IWWG-WP-01)

- EUMETSAT and JMA have active AMV re-processing activities.
- NOAA is planning for a GOES Imager FCDR for its pre-ABI satellites.
 - Leverage EUMETSAT's GeoRing L1b experience.
 - AMV re-processing will be one of the future Level-2 products.
 - Jaime to reach out to Jeff Privette (NOAA; Vice-Chair for the Joint CEOS/CGMS Working Group on Climate).

Review and Discuss at IWW16 (WG1)

Other Actions

AMV Status Update

- Régis presented the current state of the AMV processing to CGMS-51 WGII (April 24-25, 2023)
- **IWWG co-chairs will be requesting IWWG member inputs to extend this presentation**

CGMS and IWWG:

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Action WGII 50.07 to IWWG:

IWWG to provide a summary overview of different methodologies to measure atmospheric winds (e.g. wind lidars, wind surface scatterometer, AMVs and etc) and its pros and cons so that in the future space agencies might use it as a guidance (best practice document) in designing their future instruments.

Other Actions

A49.13: IWWG to clarify the approach for 3D wind profile measuring constellation.

To be discussed at IWW16. (WG2)

Suggest to close, unless clarified.

Other Items

Ocean Surface Winds Task Group (OSW TG)

- Ad Stoffelen will be leading a Plenary discussion (“Progress in Ocean Surface Vector Winds”) on Wednesday (5/10/23)

The Ocean Surface Wind Task Group (OSW TG) has been established in the CGMS International Winds Working Group (IWWG) that coordinates actions and recommendations with the Global Space-based Inter-Calibration System (GSICS), Committee on Earth Observations (CEOS), and the International Ocean Vector Winds Science Team (IOVWST).

This implies that the OSW TG actions and recommendation will be reported to/from CGMS through established IWWG mechanisms and in addition to CEOS and the IOVWST.