

Report by WG II (Satellite data and products)

Ken Holmlund

Mitch Goldberg and Johannes Schmetz (Rapporteurs)

Stephan Bojinski and Toshiyuki Kurino
(Co-Chairs)

Presented to CGMS-43 Plenary, agenda item F.1.1

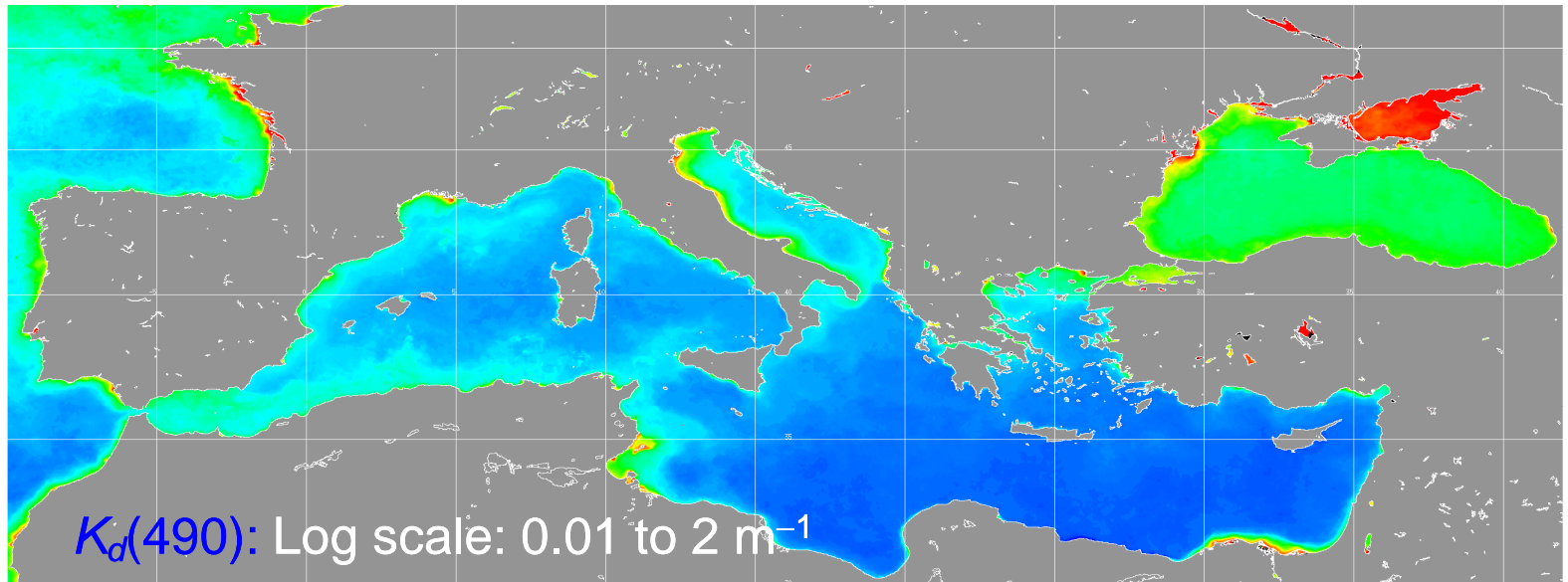
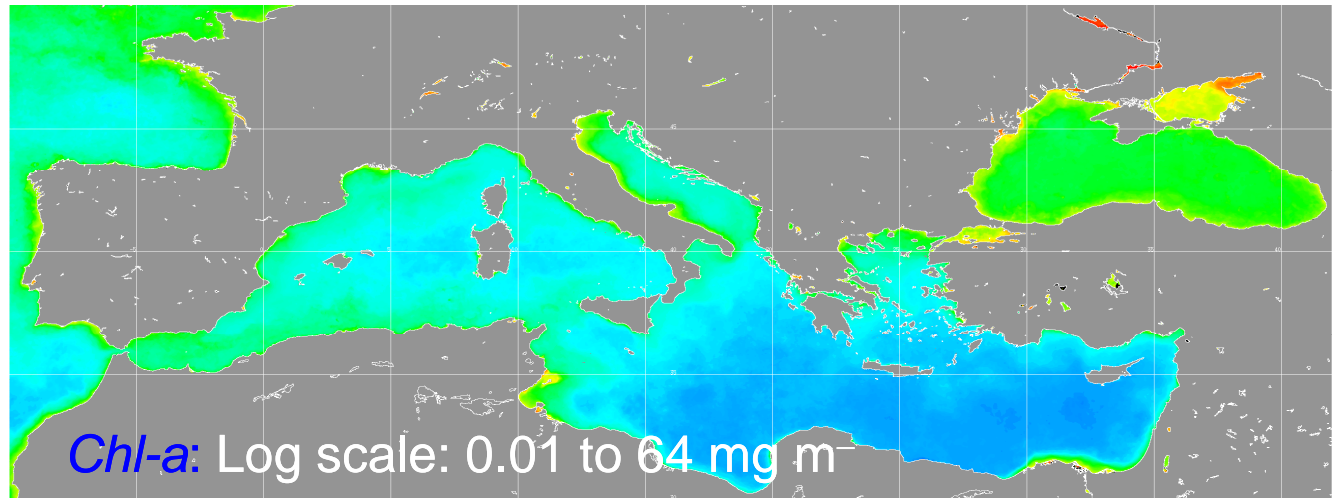
Function of WG II

- WG II provides guidance on aspects of technical and scientific nature related to instrument calibration and products from satellites.
- WG II serves as important link between the annual CGMS meetings and the CGMS International Science Working Groups (on Winds, Precipitation, Soundings, Radio Occultation, Clouds) which provide regular reports and feedback to CGMS
- WG II discusses coordination of satellite inter-calibration (GSICS) and data processing (through Sustained Coordinated Processing of Environmental Satellite Data – SCOPE projects)

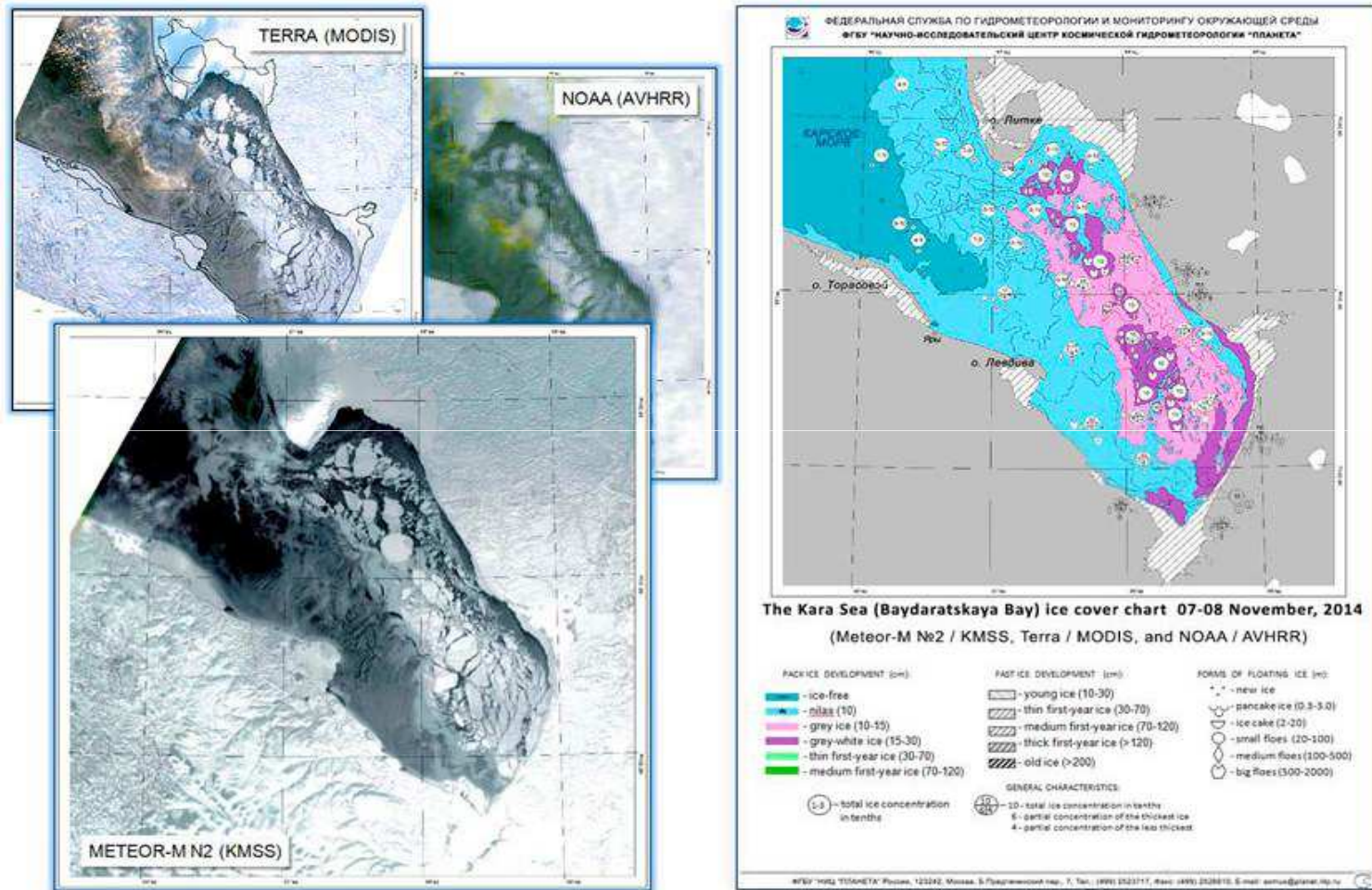
Highlights

- 65 Working Papers
- 40 participants
- First results from Himawari-8
- Demonstrated benefits of GSICS for characterizing new satellites
- Progress in consistent inter-calibration of TIR channels using hyperspectral sounders as reference
- Encouraging preview on Meteor-M N2 data, with encouragement for intercomparison with other instruments
- Variety of products and applications demonstrated using S-NPP (many available through direct readout)
- Progress in deriving INSAT-3D AMVs
- Increasing use of satellite soil moisture products in applications
- Demonstrated value of S-NPP/VIIRS for marine services

High-quality VIIRS
Ocean Colour
products for
Copernicus Marine
Service



Meteor-M N2 first results: sea ice cover



CMA Aerosol Products

- ◆ NSMC Provide different temporal and spatial resolution AOD product.
- ◆ the operational MERSI AOD products are being used to monitor the haze intensity (Figure 2).
- ◆ Potential contribution to SCOPE-Nowcasting Pilot Project on Asian Dust Monitoring

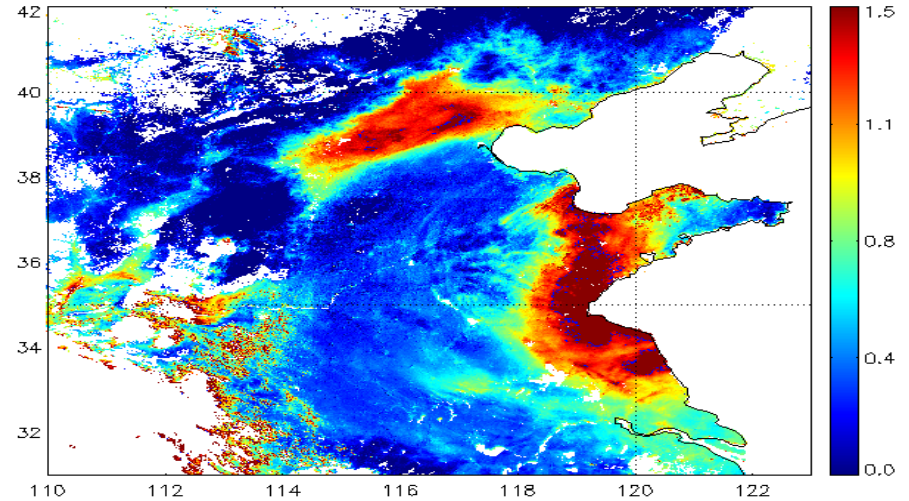


Figure 2. AOD(550nm) from FY-3C/MERSI on 14 Apr. 2014. Spatial resolution 1Km.

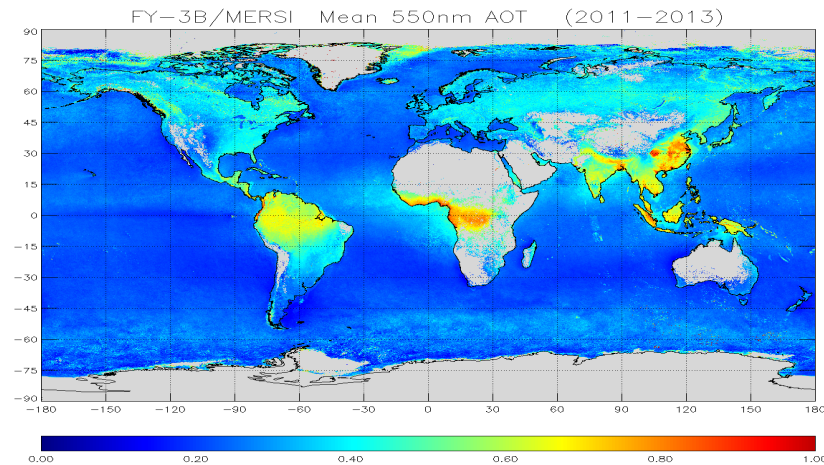


Figure 3. Mean AOD(550nm) from FY-3B/MERSI in 2011 - 2013.

Actions and Recommendations (1) - Cal/val, climate

RECOMMENDATION: SCOPE-CM to invite contributions to its next call for proposals, with particular regard to the sea ice, snow cover and land surface temperature communities, and others currently not represented. [HLPP 3.3]

ACTION: Calibration events logging task team to prepare a white paper outlining the set of parameters, the nomenclature, and the standards to be used for reporting on instrument calibration across space agencies. To be presented at CGMS-44 [HLPP 3.1.1, 3.1.2]

RECOMMENDATION: CGMS members to consider removing spectral gaps from future hyperspectral sounders to support GSICS intercalibration of IR imagers. [HLPP 3.1.1]

RECOMMENDATION: CGMS members to consider include a water vapour channel and a CO2 channel to polar-orbiting imagers, to maintain accuracy and coverage of polar winds and cloud height retrievals achieved by MODIS. [HLPP 3.2]



Actions and Recommendations (2): Cal/val, climate

RECOMMENDATION: CGMS operators to consider displaying instrument performance in a way similar to the ICVS. NOAA could share the software among CGMS operators. [HLPP 3.1, 3.5]

RECOMMENDATION: NOAA to organize a workshop for CGMS operators on ICVS software development and design, and implementation. [HLPP 3.1, 3.5]

ACTION: GSICS to document and implement its approach to manage changes in reference instruments. [HLPP 3.1]

RECOMMENDATION: CGMS agencies to make available a non real-time cache of satellite level 1 data over the previous 2-3 months, similar to the NOAA CLASS system. [HLPP 2.6]

Actions and Recommendations (3) - Various

RECOMMENDATION: With the new capabilities on the horizon, Roshydromet is invited to attend the next sessions of the ICWG, ITWG and the other Int'l Science Working Groups. [HLPP 3.3, 3.6]

ACTION: Roshydromet to present an update on Meteor-M N2 data access, processing packages, and results of an intercomparison of the IKFS-2 with other hyperspectral sounders (IASI, AIRS, CrIS), to CGMS-44. [HLPP 3.3, 3.6]

RECOMMENDATION: CGMS to confirm the new IPWG co-chairs Rémy Roca and Tufa Dinku, and the IWWG co-chairs Régis Borde and Steve Wanzong.

Actions and Recommendations (4) – ITWG

ACTION: CGMS operators to provide a report on their approach on cal/val, including information on dedicated campaigns and permanent sites, and potential support to cal/val infrastructure, in order to maximize benefits of satellite missions.

[HLPP 3.1, 3.3]

Actions and Recommendations (5) – IPWG

- **RECOMMENDATION:** CGMS operators to ensure continuity of geostationary coverage and data access over the Indian Ocean area [HLPP 1.1]
- **ACTION:** CGMS operators to report on their specific plans for reprocessing and associated user requirements (such information would be useful for the ISWGs) [HLPP 3.3, 3.6]
- **ACTION:** The session recommended a stronger application focus of IPWG (e.g, NWP, hydrology, agriculture), and asked IPWG to organize a IPWG-NWP workshop in 2015 or 2016. [HLPP 3.3]
- **RECOMMENDATION:** ISRO encouraged to implement a multi-sensor precipitation estimate based on SAPHIR and INSAT-3D. [HLPP 3.3]
- **ACTION:** NASA and JAXA to provide information about availability of GPM data on near real-time data distribution channels (GTS, DVB-S). (JAXA to confirm) [HLPP 2.3]

Actions and Recommendations (6) – IWWG

RECOMMENDATION: ICWG and IWWG to liaise as appropriate on the provision of further information characterising the AMV derivation for enhanced QC and error characterisation. [HLPP 3.3]

RECOMMENDATION: IWWG to liaise with the application focal points in the WMO RRR process (on IPET-OSDE) to provide feedback on the winds-related observation requirements in the RRR database. [HLPP 1.1]

ACTION: IWWG to define the experiments for the next intercomparison at the next IWW workshop in 2016. [HLPP 3.2.1, 3.3]

Actions and Recommendations (7) – IROWG

ACTION: The session took note of the COSMIC-2 capabilities to support space weather applications ; CGMS members that operate RO instruments to explore this and report on their support to space weather application to CGMS-44. [HLPP 5.2]

RECOMMENDATION: Operators of GNSS systems to make available information on the signal structure and interface control (ICD) in a timely manner to enable the use of these for future RO missions. [HLPP 1.1]

Actions and Recommendations (8) - ICWG

RECOMMENDATION: At its next meeting, ICWG should put focus on investigating data from the new-generations instruments on Himawari-8 and if available GOES-R for the retrieval of cloud parameters. [HLPP 5.3]

ACTION: WMO to provide a report on the volcanic ash intercomparison within SCOPE-Nowcasting at CGMS-44. [HLPP 3.2.2]

ACTION: NASA to report on polar-based RGB composite viewing angle corrections to CGMS-44. [HLPP 3.3]

Actions and Recommendations (9) – Other parameters

ACTION (from WG IV): CGMS members to nominate focal points that would work with the WMO Secretariat in populating the WMO Product Access Guide, initially for one year; such nomination could take into account current membership of the WMO Expert Team on Satellite Utilization and Products (ET-SUP). [HLPP 2.8]

Status

ESA: Jean-Louis Fellous, jfellous@noos.fr

EUM: Sally.Wannop@eumetsat.int

JMA: Daisaku Uesawa, satellite@ml.kishou.go.jp

NOAA nominates Tony Mostek, anthony.mostek@noaa.gov

ROSH: Dr. Sergey Uspensky, Head of Department, SRC "PLANETA"

E-mail: uspenskys@planet.iitp.ru

CMA: Xu Zhe xuzhe@cma.gov.cn

KMA?

Actions and Recommendations (10) – Other parameters

ACTION: CGMS members to request responses to the questionnaire on use of satellite data for SRNWP from experts (in their organization) and provide a compilation of responses to CGMS-44. [HLPP 5.3]

ACTION: NASA to report on progress in testing the use of surface pressure retrievals from OCO-2 by NWP centres, with a view to report on results at the WMO Impact workshop in May 2016 (and to CGMS-44). [HLPP 2.3]

Recommendation: WGII is nominating Ken Holmlund as new rapporteur to replace Jo Schmetz and Mitch Goldberg to continue.

Recommendation: WGII nominates Toshiyuki Kurino and Stephan Bojinski to continue as Chair and Co-chair