

Working Group III Report

Presented to CGMS-50 Plenary
Agenda Item 4: Working Group Reports

Agenda

- Report of WGIII Meeting
- 4th Risk Assessment (2022)
- CGMS Baseline Update
- WGIII Terms of Reference Update

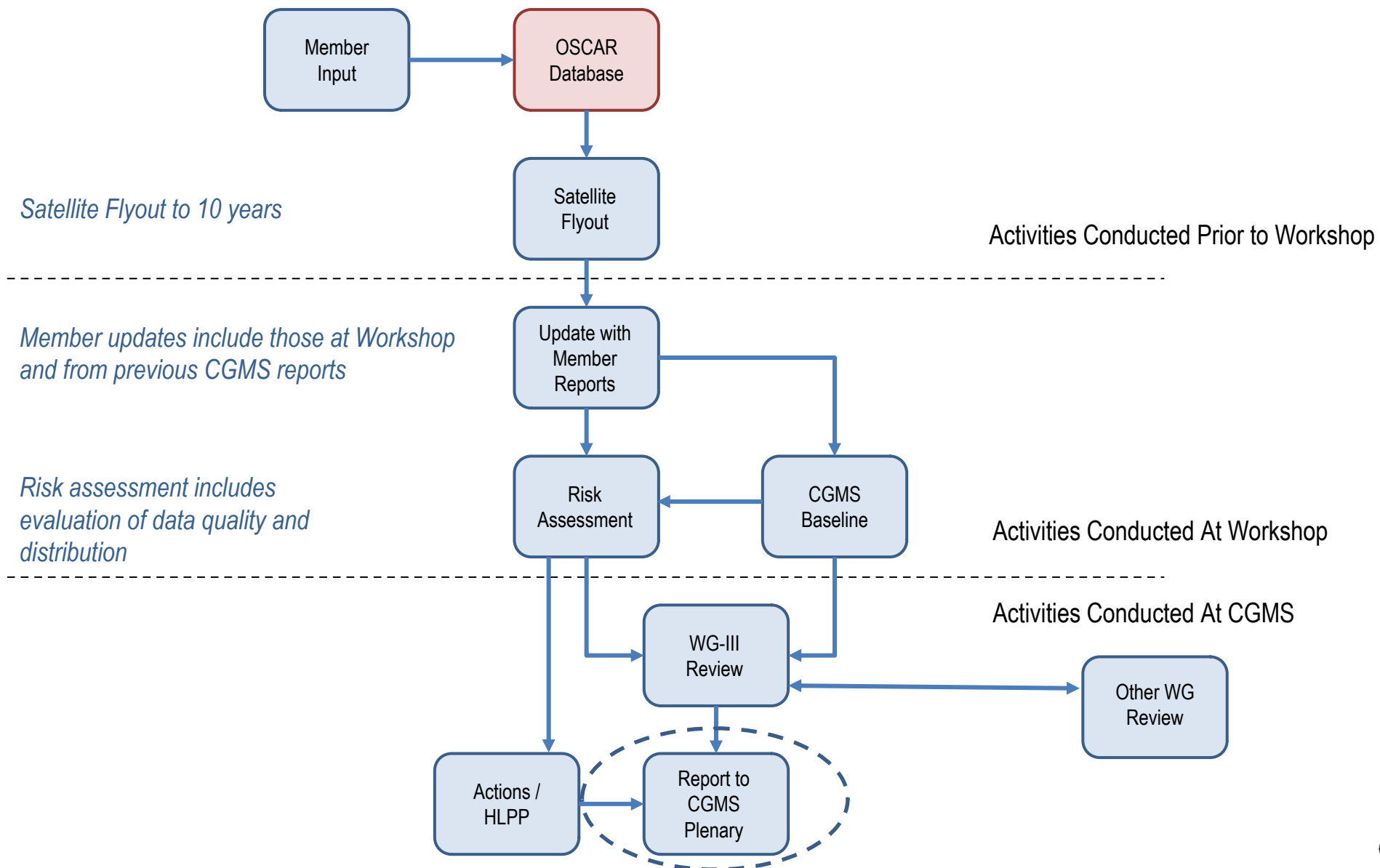
Report of WGIII Meeting (1 of 2)

- Update from WMO on Unified Data Policy and establishing core satellite data
 - New Unified Data Policy approved by WMO members; replaces Resolution 40 (weather), 25 (hydrology); and 60 (climate)
 - Covers Earth system data with two main categories of data: core and recommended
 - Specifics in Technical Regulations; WMO will coordinate with Space Agencies for satellite data
- Status of operational and research missions
 - CMA FY-3J is the planned follow-on satellite to FY-3E in the early morning orbit with basically the same instrument suite as FY-3E
 - CMA FY-3I is the planned follow-on to FY-3G to provide precipitation measurements
 - JAXA provided a status on their next-generation precipitation radar project; Mission Definition Review completed with a System Requirements Review planned for June 2022
 - EUMETSAT provided an introduction on a Doppler Wind LIDAR program currently under consideration as a cooperation with ESA
 - NASA provided an update on the TEMPO mission to improve understanding and prediction of air quality
 - ESA provided status on Earth Explorer, Earth Watch and Sentinel program satellites including CIMR

Report of WGIII Meeting (2 of 2)

- WMO Gap Analysis
 - Covered 16 areas including space weather
 - User requirements generally met or included in HLPP
 - Noted gaps include: polarimetric MW imagery; HEO coverage; frequency range and resolution for MW radiometers for precipitation; and limb sounding for climate monitoring and NWP applications
- Contingency Plan review
 - Contains guidance and a process for identifying, mitigating and coping with risks to the continuity of the CGMS Baseline
 - Plan needs to be updated (e.g., reference document list, commercial data, reflect experience of 4 annual risk assessments)
 - New action to update Contingency Plan at next Risk Assessment Workshop
- WMO OSCAR/Space status
 - Ongoing work to improve OSCAR/Space (e.g., improved gap analysis content, fixing bugs, expected data latency, improved export features)
 - WMO continues to establish contacts and update content for non-CGMS

4th Risk Assessment (2022)



CGMS Risk Assessment Key

- CGMS Risk Assessment uses **Green**, **Yellow**, and **Red** to graphically represent the overall status of that sensor/observation. The criteria for each colour is as follows:
 - **Green:** CGMS Baseline met with a low risk of a gap.
 - **Yellow:** The CGMS Baseline is at moderate risk of not being fully met. Some mitigation by CGMS Members may be required.
 - **Red:** There is a high risk of not meeting the CGMS Baseline without CGMS Member action
 - **No Colour:** Observation is not planned to be available until a later date



Top-Level Risk Assessment (2021)

Sensor	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Microwave Sounder	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow
Hyperspectral Infrared Sounder	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow
Radio Occultation	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Red
Multi-purpose Meteorological Imager	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Multi-viewing, Multi-channel, Multi-polarisation imager	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Lightning Mapper	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Broadband Short/Long Wave Radiometer	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow
Visible/UV Radiometer	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
UV Limb Spectrometer	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
SWIR Imaging Spectrometer	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Precipitation Radar	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Red
Microwave Imager	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Narrow Band Visible & Near Infrared Imager	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Radar Altimetry	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Scatterometer	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow
Sub-Millimeter Ice Cloud Imager	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Synthetic Aperture Radar	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
High Resolution Optical Imager	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Coronagraph	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
EUV Imager	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
X-ray Spectrograph	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Energetic Particle Sensor	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow
Magnetometer	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Plasma Analyzer	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

Risk in the early morning orbit after FY-3E;
no planned low-inclination RO observations
after COSMIC-2

Risk in the
early morning
orbit after FY-
3E

Risk in
continuity
after FY-3G
and GPM
Core

Risk in the early
morning and
afternoon orbits
after FY-3E and
Oceansat-3A

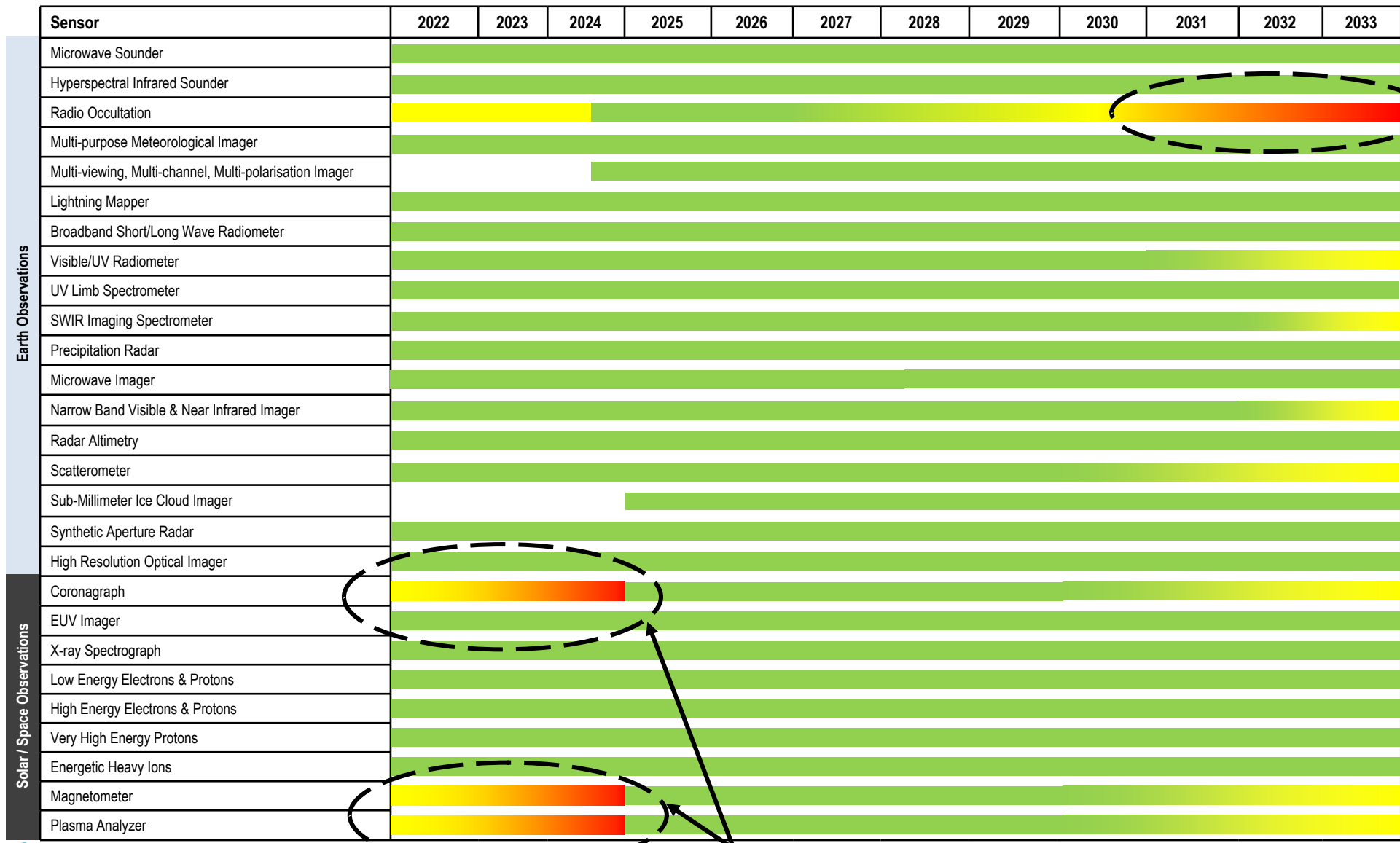
Risk of near-term gap until
SWFO-L1 is launched

Risk of near-term gap until SWFO-L1 and
GOES-U are launched

Top-Level Risk Assessment (2022)

Sensor		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	
Earth Observations	Microwave Sounder	Green												
	Hyperspectral Infrared Sounder	Green												
	Radio Occultation	Yellow			Green									
	Multi-purpose Meteorological Imager	Green												
	Multi-viewing, Multi-channel, Multi-polarisation Imager	Green			Green									
	Lightning Mapper	Green												
	Broadband Short/Long Wave Radiometer	Green												
	Visible/UV Radiometer	Green												
	UV Limb Spectrometer	Green												
	SWIR Imaging Spectrometer	Green												
	Precipitation Radar	Green												
	Microwave Imager	Green												
	Narrow Band Visible & Near Infrared Imager	Green												
	Radar Altimetry	Green												
	Scatterometer	Green												
	Sub-Millimeter Ice Cloud Imager	Green			Green									
	Synthetic Aperture Radar	Green												
	High Resolution Optical Imager	Green												
Solar / Space Observations	Coronagraph	Yellow			Green									
	EUV Imager	Green												
	X-ray Spectrograph	Green												
	Low Energy Electrons & Protons	Green												
	High Energy Electrons & Protons	Green												
	Very High Energy Protons	Green												
	Energetic Heavy Ions	Green												
	Magnetometer	Yellow			Green									
	Plasma Analyzer	Yellow			Green									

Top-Level Risk Assessment (2022)



No plans for low-inclination RO observations after COSMIC-2

Observations at L1 at risk in the near-term until SWFO-L1 is launched

Top-Level Risk Assessment (2022) – Recommended and Existing Actions

- Recommended Actions
 - KMA should confirm plans beyond GK-2B for the Visible / UV Spectrometer and Narrow Band Visible Imager
 - NOAA should review additional ground resources needed to track STEREO-A and PUNCH to provide additional coverage in the near-term
- Existing Actions
 - ISRO to confirm plans beyond OceanSat-3
 - NOAA and NASA to confirm plans on accommodation of a radiation budget instrument on JPSS-3 and beyond
 - WGII/III to consider whether observations from geostationary orbit should be added to the CGMS baseline requirements for the broadband short/long wave radiometer
 - WGIV to consider recommended gap mitigation observation requests and develop plans to ensure near real-time access to those data
 - CGMS Members to continue to propose near-term alternative data sources for consideration as gap mitigation in event of loss or degradation of current L1 capabilities prior to SWFO-L1 data availability; WGIV to consider recommended gap mitigation observation requests and develop plans to ensure near real-time access to those data

CGMS Baseline and WGIII Terms of Reference Updates

- Papers provided separately (CGMS-50 WGIII-WP-04 and CGMS-50 WGIII-WP-05)
- Key updates being proposed to the Plenary for the CGMS Baseline:
 - Updates to reference documents
 - New text on hosted payloads and commercially sourced data
 - New space weather sensors to capture energetic particle measurements
- Key updates being proposed to the Plenary for the Terms of Reference:
 - Scope of WGIII expanded to include oceans, atmospheric composition and space weather (in addition to weather and climate monitoring)
 - Specific reference to conducting risk assessments and coordinating contingency actions