

# 8<sup>th</sup> CGMS Risk Assessment

Presented to CGMS-54 WGII session, agenda item 8.2  
CGMS-54-WGIII-WP12-WGI

Executive summary of the WP

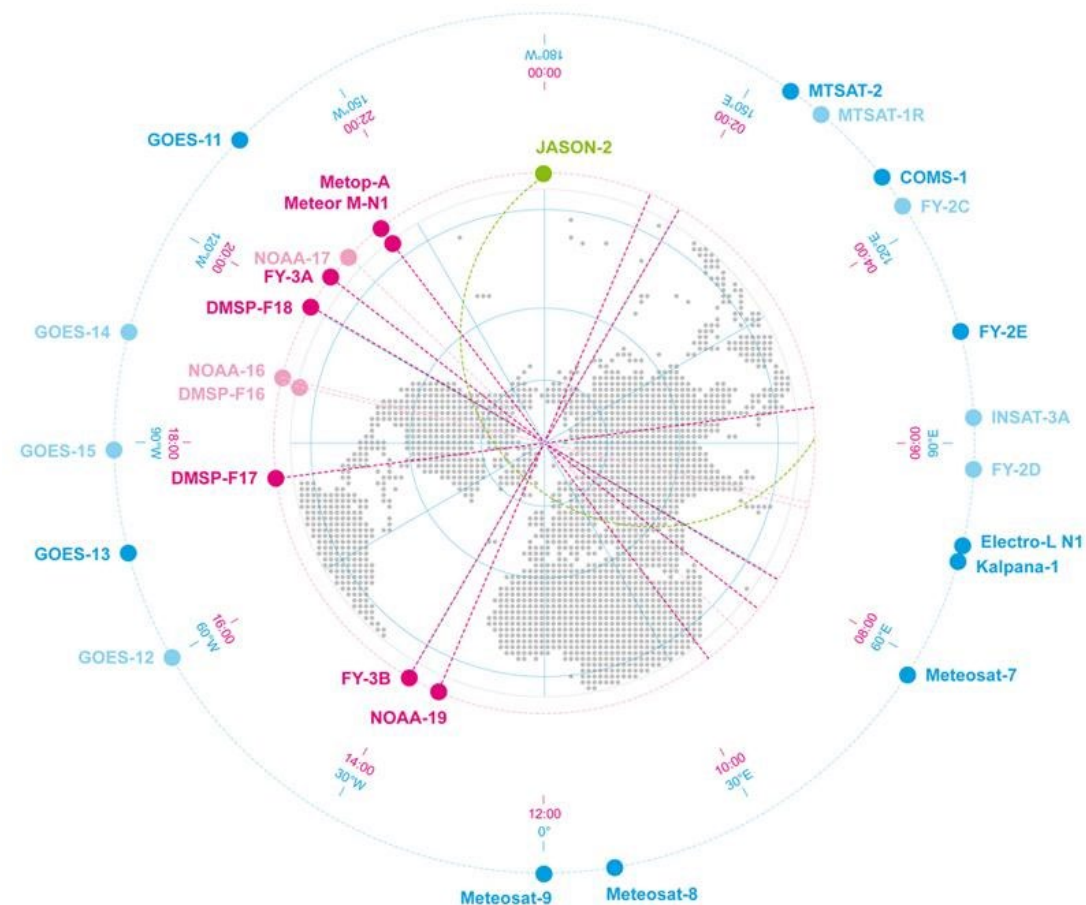
- Presentation provides the outcomes of the 8th CGMS Risk Assessment, focusing on what is most interesting to each Working Group.
- The accompanying paper is the CGMS baseline document with redline updates based on the 8th Risk Assessment workshop. It is informational for all Working Groups. It will be discussed in detail at WGIII.

## The CGMS Baseline:

- *Enumerates the sustained observations, measurements, and services* that form the CGMS contribution to observing the Earth System, Space Environment and the Sun, and responds to end-user requirements expressed in **WMO's Rolling Review of Requirements (RRR)**.
- Constitutes the **CGMS response to the WMO Integrated Global Observing System (WIGOS) 2040 vision** to document what missions are currently being, or planned on being flown.

## Key Principles of the CGMS Baseline:

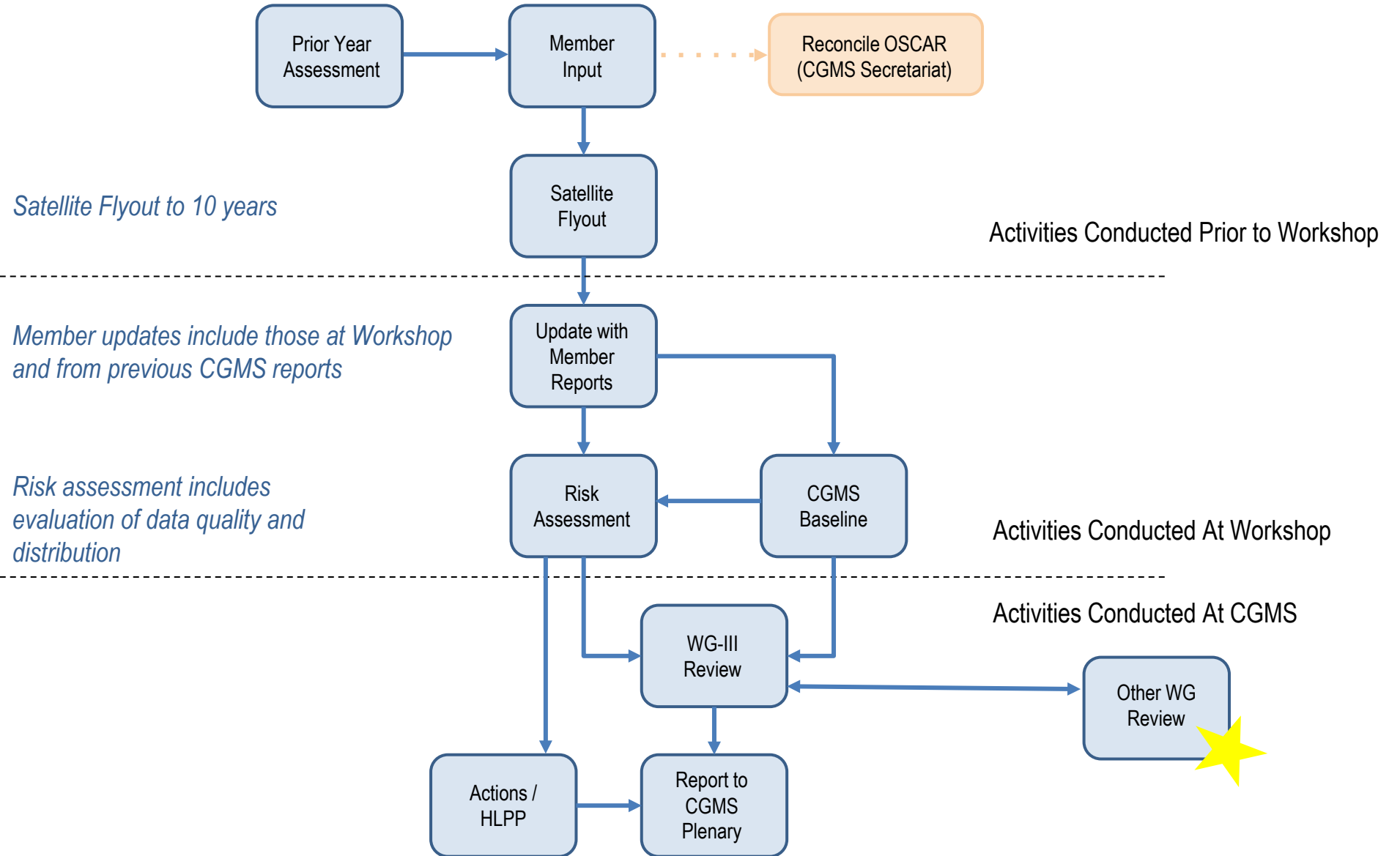
- *Commitment*: The CGMS Members are providing, or have firm plans to provide, the observations, measurements, and services
- *Sustained*: The observations, measurements, and services are provided on a sustained basis
- *Available*: The observations, measurements, and services are available on a free and open basis
- *Operational*: The data and products can be utilized in operational applications



## CGMS Risk Assessment

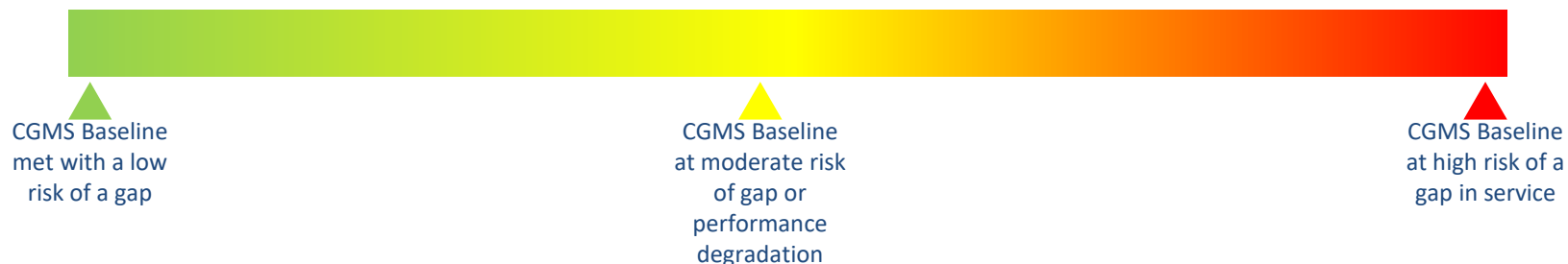
- ***CGMS conducts an annual risk assessment against the CGMS baseline*** to track how well CGMS is meeting its commitments.
- The top-level risk assessment for each sensor/observation is based on a qualitative analysis of all the orbits and satellite missions from which the observation is provided.
  - This assessment is given from a CGMS Member prospective and may not:
    - Include contributions from non-CGMS agencies
    - Include contributions from commercial providers
    - Incorporate all WMO requirements (which are covered by the gap analysis).
  - The assessment is based on planned launch dates, design life, and updated by operational experience.
  - System resiliency, nor the consequence of not meeting commitments was not specifically addressed.
  - Quality and availability were not analyzed in detail for all measurements.
  - Agency commitment to mission assumes related user readiness and ground segment operationalization.
  - Member owned and operated payloads hosted on commercial platforms are included when launch dates are determined, and members may provide commercially sourced data to meet commitments to the Baseline, with the understanding that they commit to the provision of such data consistent with the Baseline principles.

## CGMS Baseline Update / Risk Assessment Process



## CGMS Risk Assessment Assumptions

- 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 - Earth Observations (2026)



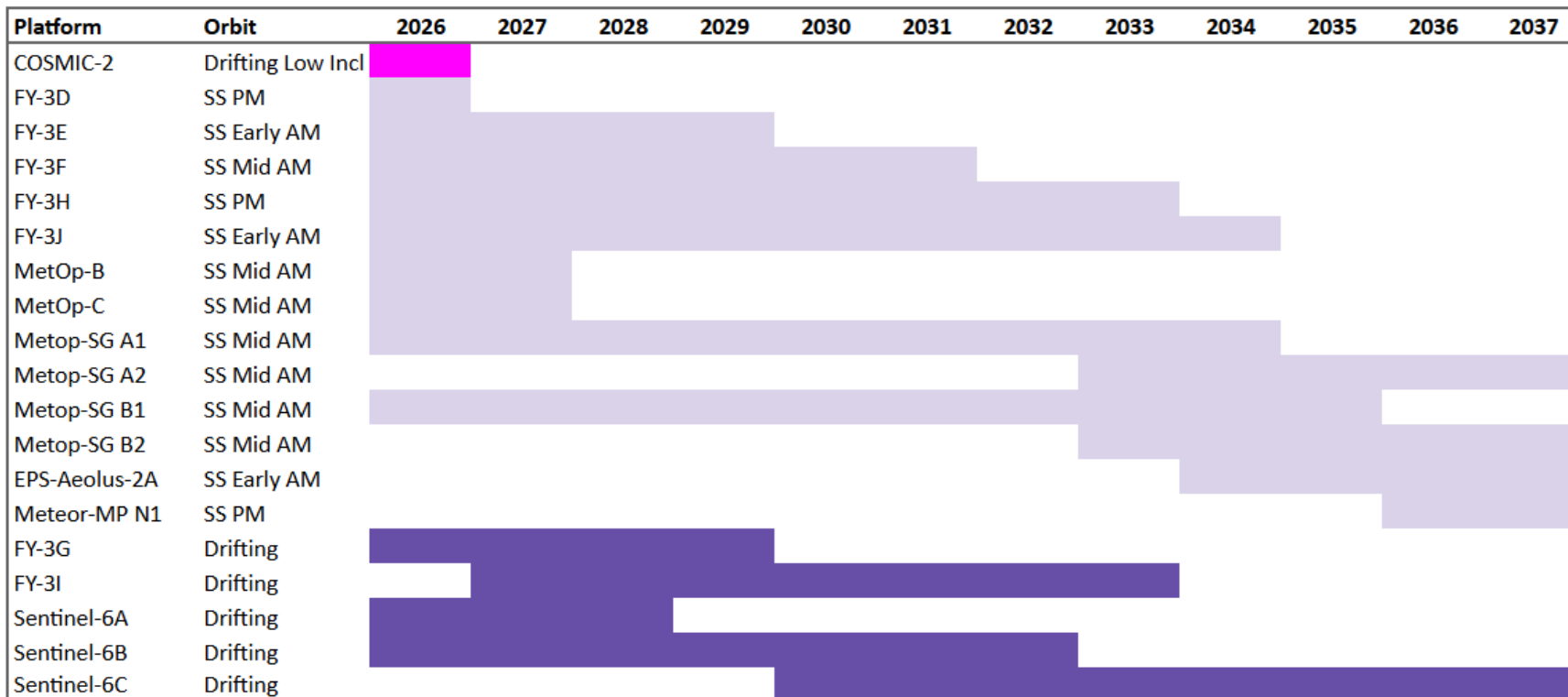
No commitment for low-inclination RO observations after COSMIC-2

Top-Level Risk Assessment - Solar/Space Observations (2026)

Sensor		2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Solar / Space Observations	Coronagraph												
	EUV Imager												
	X-ray Spectrograph												
	Low Energy Electrons & Protons												
	High Energy Electrons & Protons												
	Energetic Heavy Ions												
	Very High Energy Protons												
	Energetic Particle Sensor LEO (Magnetospheric)												
	Energetic Particle Sensor L1 (Solar Energetic Particles)												
	Magnetometer GEO (Earth's Magnetic Field)												
	Magnetometer L1 (Interplanetary Magnetic Field)												
	Plasma Analyzer												

# Coordination Group for Meteorological Satellites - CGMS

## Radio Occultation (Atmospheric Temperature, Humidity, and Ionospheric Electron Density)



↑  
Today

### LEO - 3 Orbits

6000 occultations from **low inclination (<30°)**

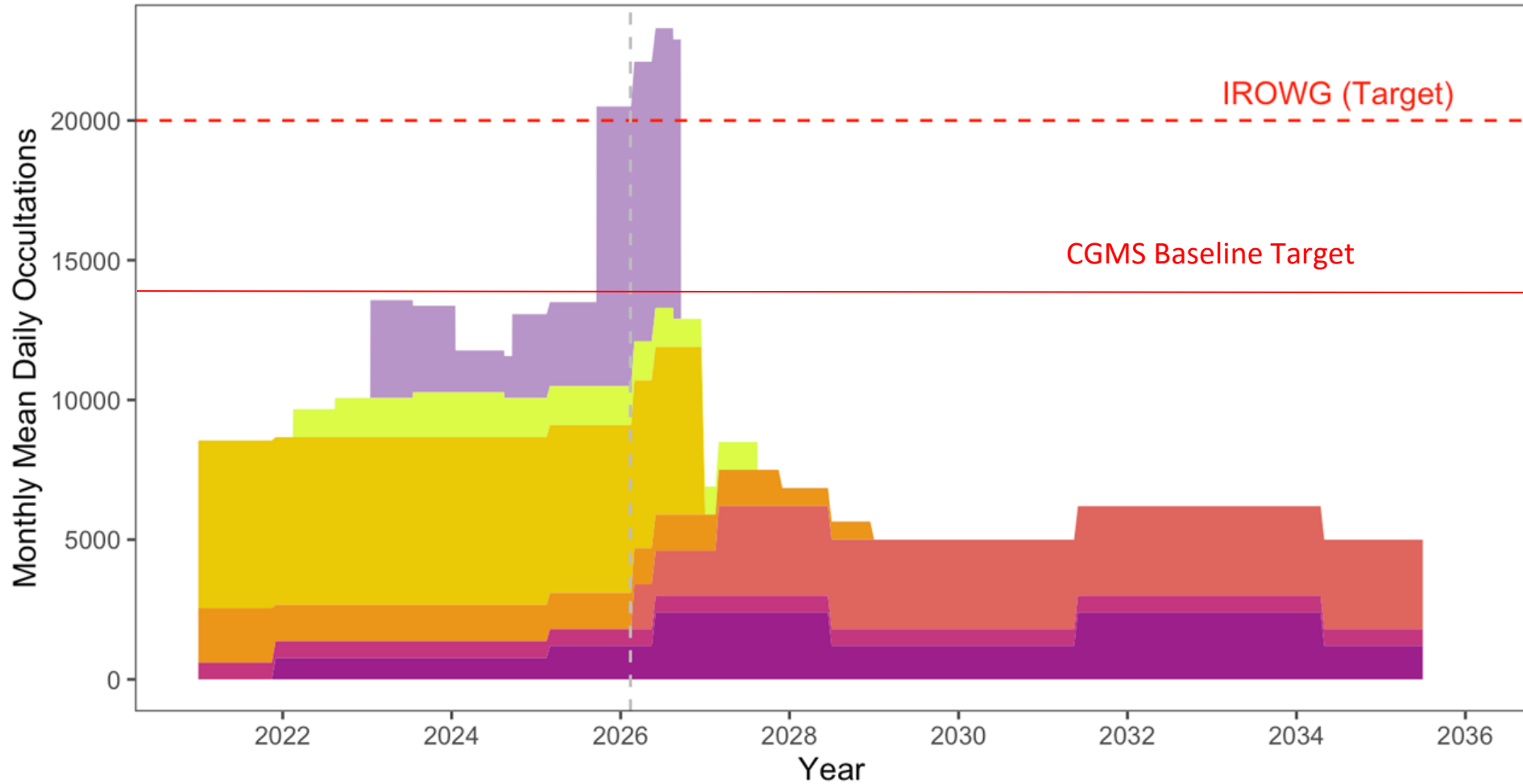
7600 occultations from **sun-synchronous**

1000 occultations from **other drifting orbits**

WGIII Assessment: Risk of not meeting the CGMS Baseline commitment in low-inclination RO observations after COSMIC-2 at the end of this decade. The SWCG to make a recommendation to WGIII how to separate RO and Ionospheric Electron Density profiles in the CGMS Baseline and Risk Assessment, and the IROWG to articulate and present the risk level and potential impacts associated with a gap of low inclination RO.

## Radio Occultation (Atmospheric Temperature, Humidity, and Ionospheric Electron Density)

Monthly Mean Daily RO Numbers (NRT)\*  
(as available today or from mission requirements)



### Missions

- NOAA (Comm.)
- EUM (Comm.)
- COSMIC-2
- EPS
- EPS-SG
- FengYun-3
- Sentinel-6

### \* Assumptions:

- Nominal COSMIC-2 EOL in late 2026
- First official data from EPS-SG in March 2026 (TBC)
- Commercial data shown are based on contractually agreed-upon purchases

EUMETSAT (February 2026)

# Coordination Group for Meteorological Satellites - CGMS

## UV Limb Spectrometer (Aerosol, Atmospheric Composition: O3)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
FY-3F	SS Mid AM	█												
Suomi NPP	SS PM	█												
NOAA-21	SS PM	█												
JPSS-4	SS PM		█											
JPSS-3	SS PM							█						
Meteor-MP N1	SS PM											█		

↑  
Today

LEO - 2 Orbits  
 Sun-synchronous mid-morning  
 Sun-synchronous afternoon

WGIII Assessment: Risk of not meeting the CGMS Baseline commitment in the mid-morning orbit in the mid 2030s. WGII is investigating other capabilities for UV limb sounding to complement JPSS.

# Coordination Group for Meteorological Satellites - CGMS

## SWIR Imaging Spectrometer (Atmospheric Composition: CO<sub>2</sub>, CH<sub>4</sub>)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
MicroCarb	SS Mid AM	Sun-synchronous late morning					Sun-synchronous afternoon							
CO2M-A	SS Mid AM	Sun-synchronous late morning		Sun-synchronous afternoon								Sun-synchronous late morning		
CO2M-B	SS Mid AM	Sun-synchronous late morning			Sun-synchronous afternoon							Sun-synchronous late morning		
CO2M-C	SS Mid AM	Sun-synchronous late morning				Sun-synchronous afternoon								
GOSAT	SS PM	Sun-synchronous afternoon		Sun-synchronous late morning										
GOSAT-2	SS PM	Sun-synchronous afternoon										Sun-synchronous late morning		
GOSAT-GW	SS PM	Sun-synchronous afternoon											Sun-synchronous late morning	
FY-3H	SS PM	Sun-synchronous afternoon												
OCO-2	SS PM	Sun-synchronous afternoon												
Sentinel-5P	SS PM	Sun-synchronous afternoon		Sun-synchronous late morning										
ISS OCO-3	Drifting	Sun-synchronous afternoon												

↑  
Today

LEO - 2 Orbits

Sun-synchronous late morning

Sun-synchronous afternoon

WGIII Assessment: Slight risk of not meeting CGMS Baseline commitment in the mid 2030s in the afternoon orbit. GHG TT via WGII has action to indicate if SWIR missions for CH<sub>4</sub> and CO<sub>2</sub> be added to the baseline.

# Coordination Group for Meteorological Satellites - CGMS

## Precipitation Radar (Precipitation)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
GPM Core	SS Drifting	█												
FY-3G	Drifting	█												
FY-3I	SS Drifting	█	█											

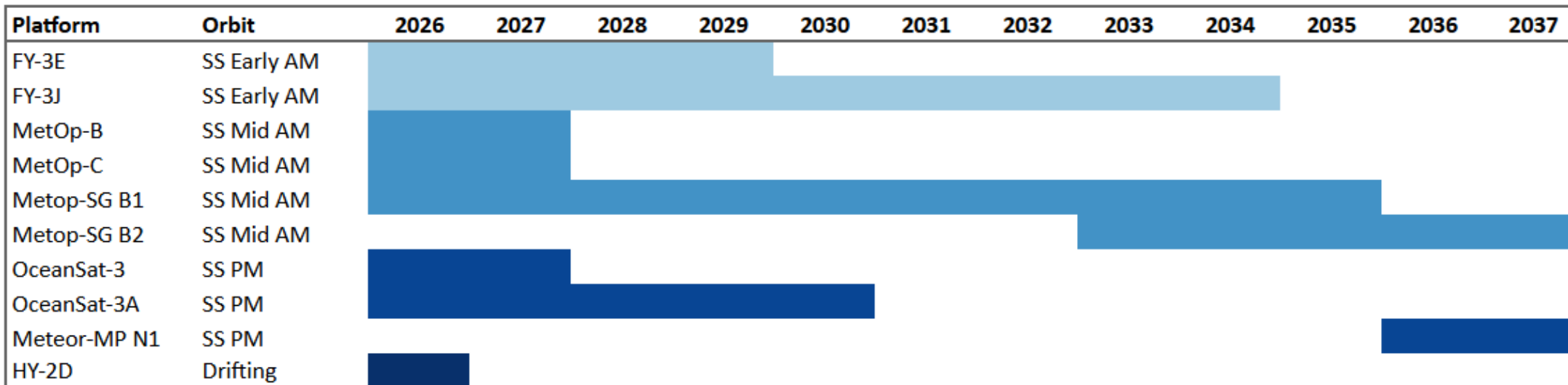
↑  
Today

LEO - 1 orbit  
Drifting

WGIII Assessment: Slight risk of not meeting the GGMS Baseline commitment in the early 2030s.

# Coordination Group for Meteorological Satellites - CGMS

## Scatterometry (Ocean Surface Winds)



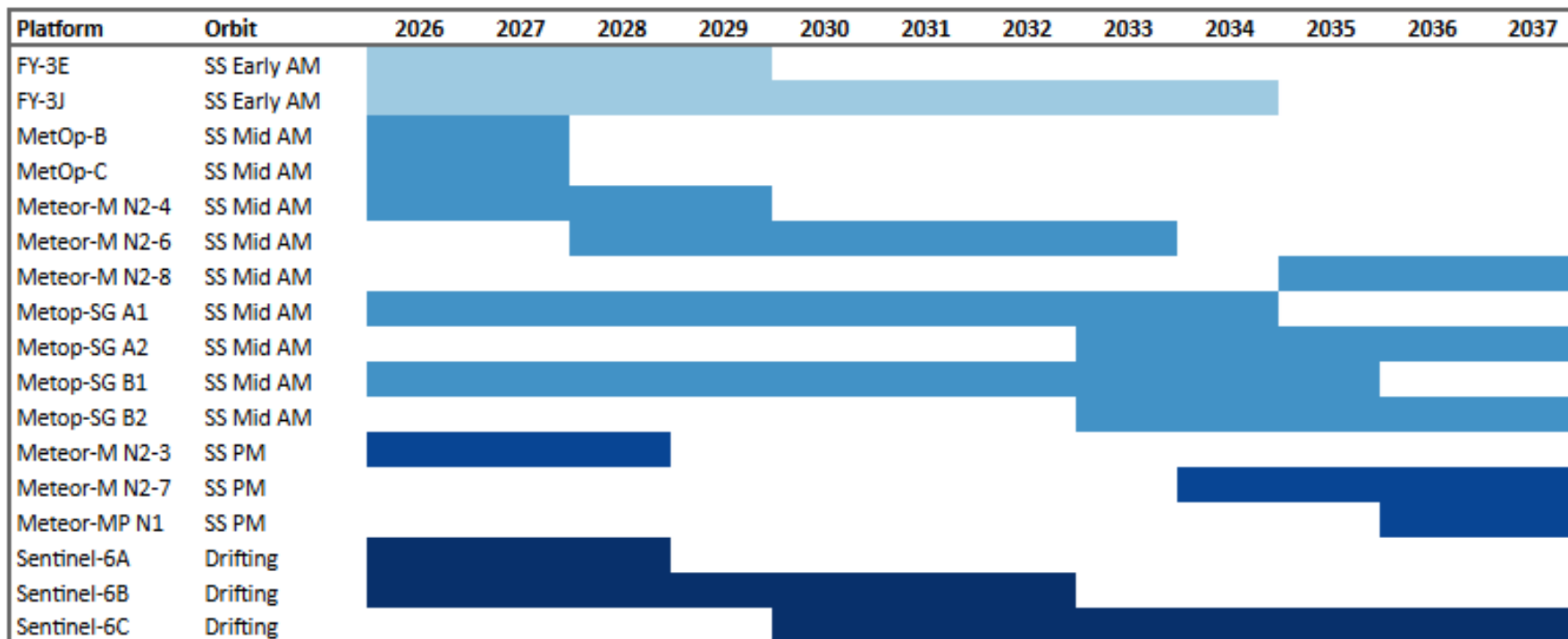
↑  
Today

LEO  
 Sun-synchronous early morning  
 Sun-synchronous mid-morning  
 Sun-synchronous afternoon

WGIII Assessment: Risk of not meeting the CGMS Baseline commitment in the afternoon orbit in the early 2030s.

# Coordination Group for Meteorological Satellites - CGMS

## Energetic Particle Sensor LEO (Magnetospheric)



↑  
Today

LEO - 3 orbits as in-situ measurements

WGIII Assessment: Risk of not meeting the CGMS Baseline commitment in the afternoon orbit in the early 2030s.

**Thank you!**

# BACKUP

## Full Risk Assessment

## Updates - 2026

- Updates to mission data were solicited in December 2025
- Each flyout chart has been updated with the new launch and EOL information:
  - ACE EOL moved to 2026
  - ALOS-2 EOL moved to 2026
  - CO2M-A launch moved to 2027 and EOL to 2034
  - CO2M-B launch moved to 2028 and EOL to 2034
  - CO2M-C launch moved to 2029 and EOL to 2035
  - CryoSat-2 EOL moved to 2028
  - DSCOVR EOL moved to 2029
  - EarthCARE EOL moved to 2028
  - Electro-L N5 launch moved to 2026
  - Electro-M N1 launch moved to 2036 and EOL to 2046
  - FY-3D EOL moved to 2026
  - FY-3E EOL moved to 2029
  - FY-3F EOL moved to 2031
  - FY-3G EOL moved to 2029
  - FY-3H EOL moved to 2033
  - FY-3I launch moved to 2027 and EOL to 2033
  - FY-3J launch moved to 2026 and EOL to 2034
  - FY-4B EOL moved to 2029
  - FY-4C EOL moved to 2033
  - GCOM-C EOL moved to 2026
  - GCOM-W EOL moved to 2026
  - GeoXO-2 launch moved to 2034 and EOL to 2043
  - GOES-18 EOL moved to 2041
  - GOES-19 EOL moved to 2043
  - GOSAT EOL moved to 2026
  - GOSAT-2 EOL moved to 2026
  - Himawari-9 EOL moved to 2034
  - Himawari-10 launch moved to 2030 and EOL to 2046
  - Jason-3 EOL moved to 2027
  - Meteor-M N2-5 launch moved to 2027 and EOL to 2032
  - Meteor-M N2-6 launch moved to 2028 and EOL to 2033
  - Meteor-MP N1 launch moved to 2036 and EOL to 2043

## Updates cont.

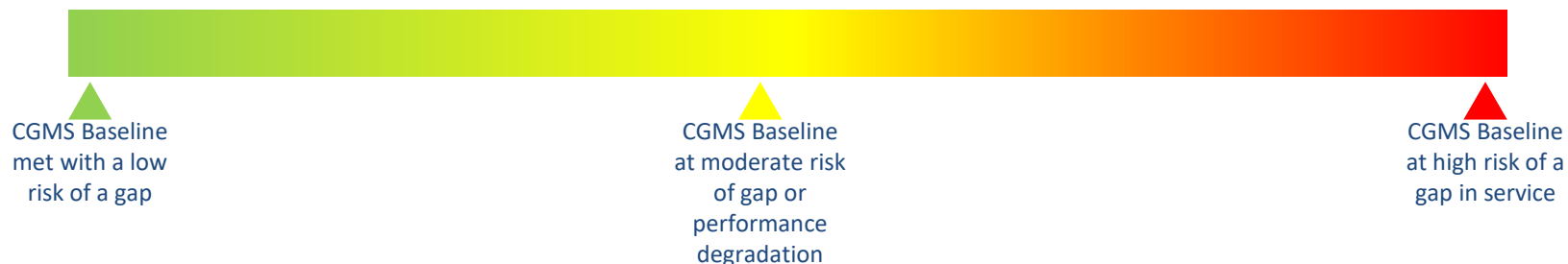
- Launch and EOL updates continued:
  - MetOp-SG-A1 EOL moved to 2034
  - MetOp-SG-A2 launch moved to 2033 and EOL to 2042
  - MetOp-SG-B1 EOL moved to 2035
  - Meteosat-12 EOL moved to 2033
  - MTG-I2 EOL moved to 2037
  - MTG-I3 EOL moved to 2044
  - MTG-I4 EOL moved to 2047
  - MTG-S1 EOL moved to 2036
  - MTG-S2 EOL moved to 2046
  - NOAA-20 EOL moved to 2032
  - NOAA-21 EOL moved to 2030
  - OceanSat 3A launch moved to 2026
  - S-NPP EOL moved to 2029
  - Sentinel-2A EOL moved to 2026

## Updates cont.

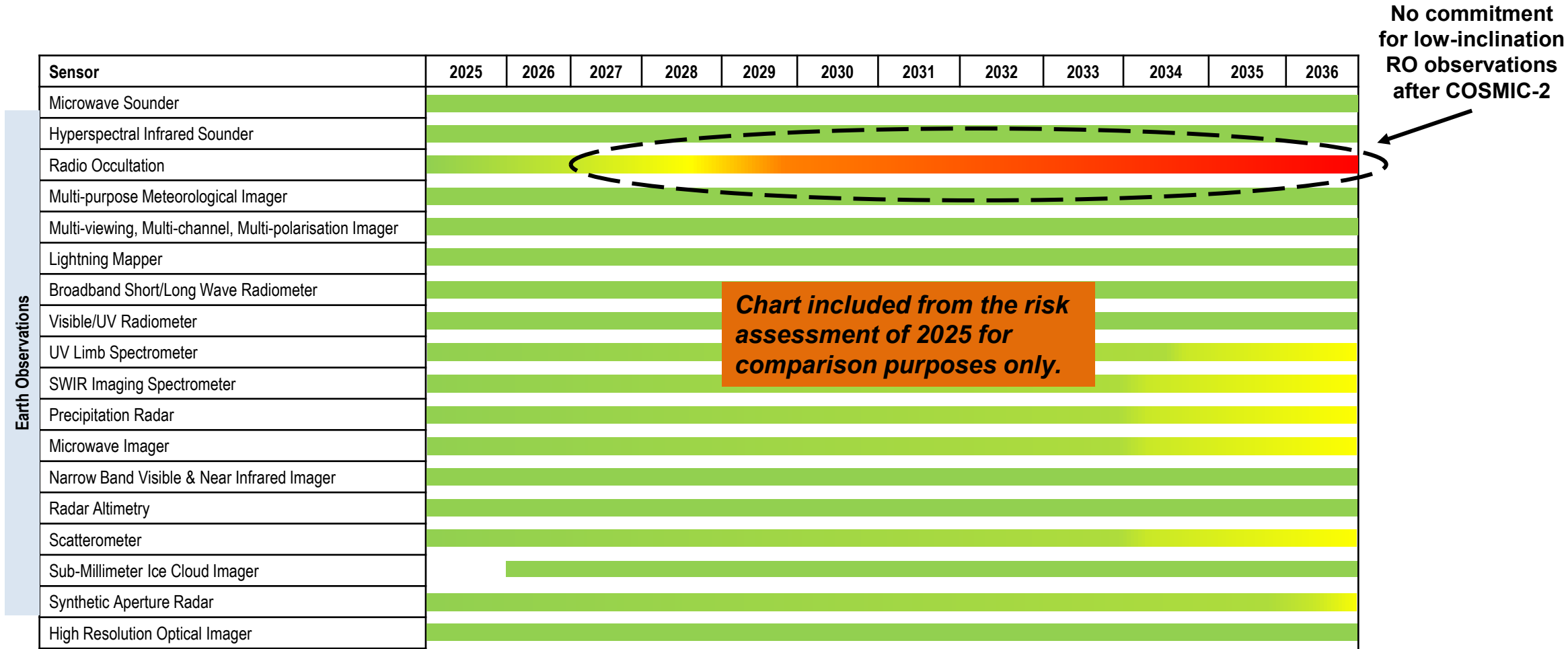
- The flyout charts also reflect the following additional updates:
  - Electro-L N6 and Electro-L N7 have been added to the flyouts for GEO Imager, Energetic Particle Sensor (Low, High and Very High), and Magnetometer in GEO
  - Electro-M N1 has been added to the flyouts for the Hyperspectral Infrared Sounder, Energetic Particle Sensor (Low, High and Very High), and Magnetometer in GEO
  - EPS-Sterna 1, 2 and 3 has been added to the flyout for Microwave Sounder
  - GEO-KOMPSAT-5 has been added to the flyout for Energetic Particle Sensor (Very High)
  - GeoXO-2 has been added to the flyout for the Hyperspectral Infrared Sounder
  - Meteor-M N2-2, Meteor-M N2-3, Meteor-M N2-4, Meteor-M N2-5, Meteor-M N2-6, and Meteor-MP N1 have been added to the flyout for Multi-purpose Meteorological Imager LEO
  - Meteor-M N2-7 and Meteor-M N2-8 have been added to the flyouts for Multi-purpose Meteorological Imager LEO, Microwave Imager, Synthetic Aperture Radar, and Energetic Particle Sensor LEO
  - Sentinel-6C has been added to the flyouts for Radio Occultation, Radar Altimetry and Energetic Particle Sensor LEO
  - SOHO has been added to the flyout for Energetic Particle Sensor at L1

## CGMS Risk Assessment Assumptions

- 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 - Earth Observations (2025)



Top-Level Risk Assessment - Solar/Space Observations (2025)

Sensor		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Solar / Space Observations	Coronagraph												
	EUV Imager												
	X-ray Spectrograph												
	Energetic Particle Sensor LEO (Magnetospheric)												
	Energetic Particle Sensor L1 (Solar Energetic Particles)												
	Low Energy Electrons & Protons												
	High Energy Electrons & Protons												
	Very High Energy Protons												
	Energetic Heavy Ions												
	Magnetometer GEO (Earth's Magnetic Field)												
	Magnetometer L1 (Interplanetary Magnetic Field)												
	Plasma Analyzer												

*Chart included from the risk assessment of 2025 for comparison purposes only.*

Top-Level Risk Assessment - Earth Observations (2026)



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

Top-Level Risk Assessment - Solar/Space Observations (2026)

Sensor	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Solar / Space Observations	Coronagraph											
	EUV Imager											
	X-ray Spectrograph											
	Low Energy Electrons & Protons											
	High Energy Electrons & Protons											
	Energetic Heavy Ions											
	Very High Energy Protons											
	Energetic Particle Sensor LEO (Magnetospheric)											
	Energetic Particle Sensor L1 (Solar Energetic Particles)											
	Magnetometer GEO (Earth's Magnetic Field)											
	Magnetometer L1 (Interplanetary Magnetic Field)											
	Plasma Analyzer											

## Top-Level Risk Assessment – Focus Areas

### High risk of a gap in service

- Continuity risk from RO observations in low inclination orbits in the later part of the decade as there is no commitment for a follow-on to COSMIC-2.
  - SWCG to make a recommendation to WGIII how to separate RO and Ionospheric Electron Density profiles.

### Moderate risk of gap or performance degradation

- Continuity risk for the UV Limb Spectrometer in the 2030s.
  - WGII to investigate other capabilities for UV limb sounding to complement JPSS
- Slight long-term continuity risk for the SWIR Imaging Spectrometer in the late 2030s.
  - GHG TT via WGII has action to indicate if SWIR missions for CH4 and CO2 be added to the baseline.
- Slight long-term continuity risk for the Precipitation Radar in the late 2030s.
- Continuity risk for Scatterometry in the early to mid 2030s.
- Slight continuity risk for Magnetometer in GEO in 2030.
- Continuity risk for Energetic Particle Sensor in LEO in the early to mid 2030s.

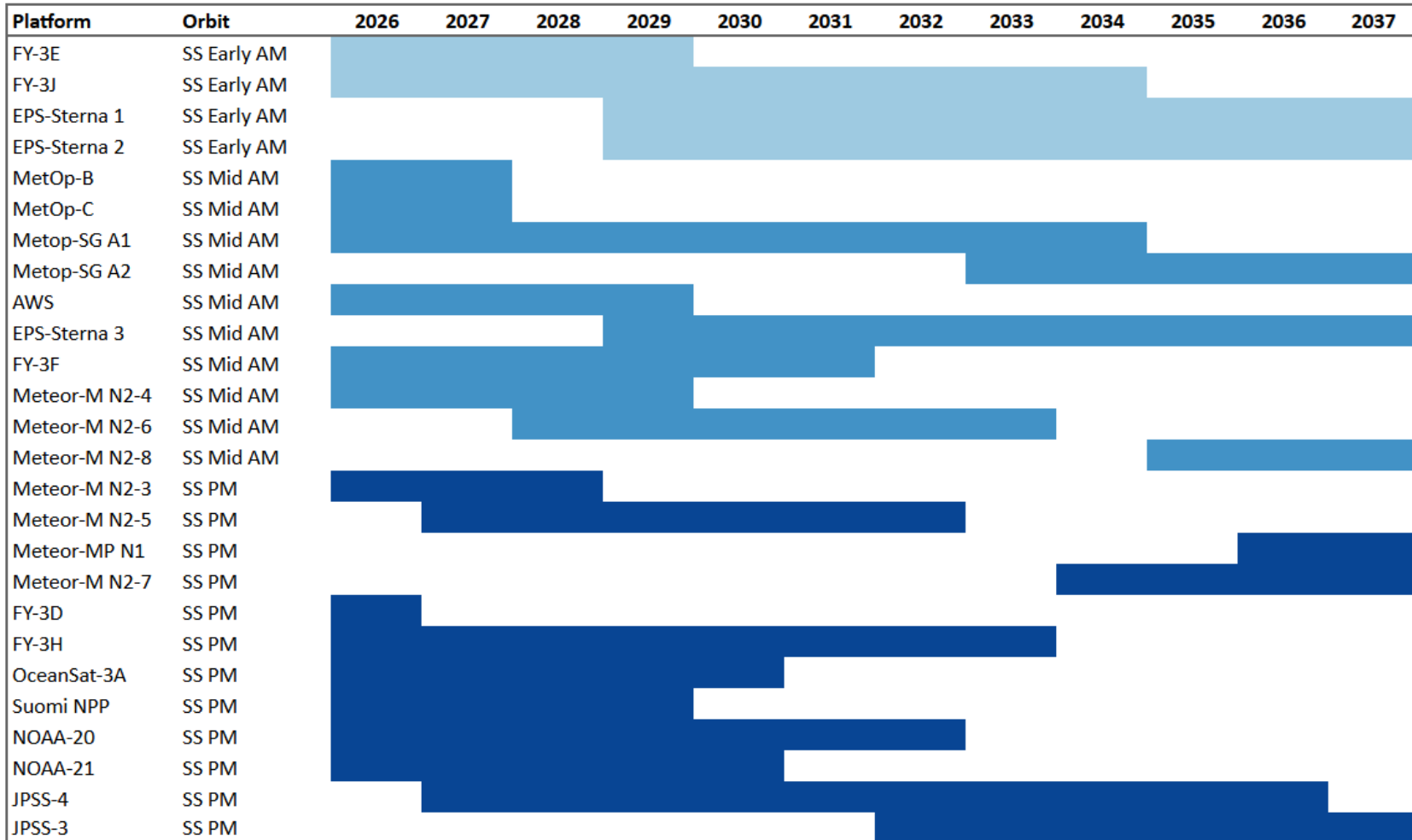
## Top-Level Risk Assessment – Associated Actions

### Associated Open Actions

- *WGIII/52.03*: WGII to articulate how MW missions with different frequencies should be addressed and visualized in the CGMS Baseline and Risk Assessment.
- *WGIII/52.04*: GHG TT (via WGII) to indicate if SWIR missions for CH<sub>4</sub> and CO<sub>2</sub> missions should be added to the CGMS baseline and the risk assessment.
- *WGIII/7RAWS-8*: SWCG to make a recommendation to WGIII how to separate RO and Ionospheric Electron Density profiles in the CGMS Baseline and Risk Assessment.
- *WGIII/7RAWS-12*: WGII to investigate other capabilities for UV limb sounding to complement JPSS
- *WGIII/7RAWS-13*: WGII to study and report back to WGIII the need of top of the atmosphere and spectral solar irradiance capabilities to be recorded in CGMS Risk Assessment and Baseline.
- *WGIII/7RAWS-14*: WGII to consider whether observations from geostationary orbit should be added to the CGMS baseline requirements for the broadband short/long wave radiometer.
- *WGIII/7RAWS-2*: IROWG to articulate and present the risk level and potential impacts associated with a gap of low inclination RO.
- *WGIII/7RAWS-4*: SWCG to clearly define the quantitative threshold between High and Very High (and Extremely High) Energy Electrons and Protons.

# Coordination Group for Meteorological Satellites - CGMS

## Microwave Sounder (Atmospheric Temperature, Humidity, and Precipitation)



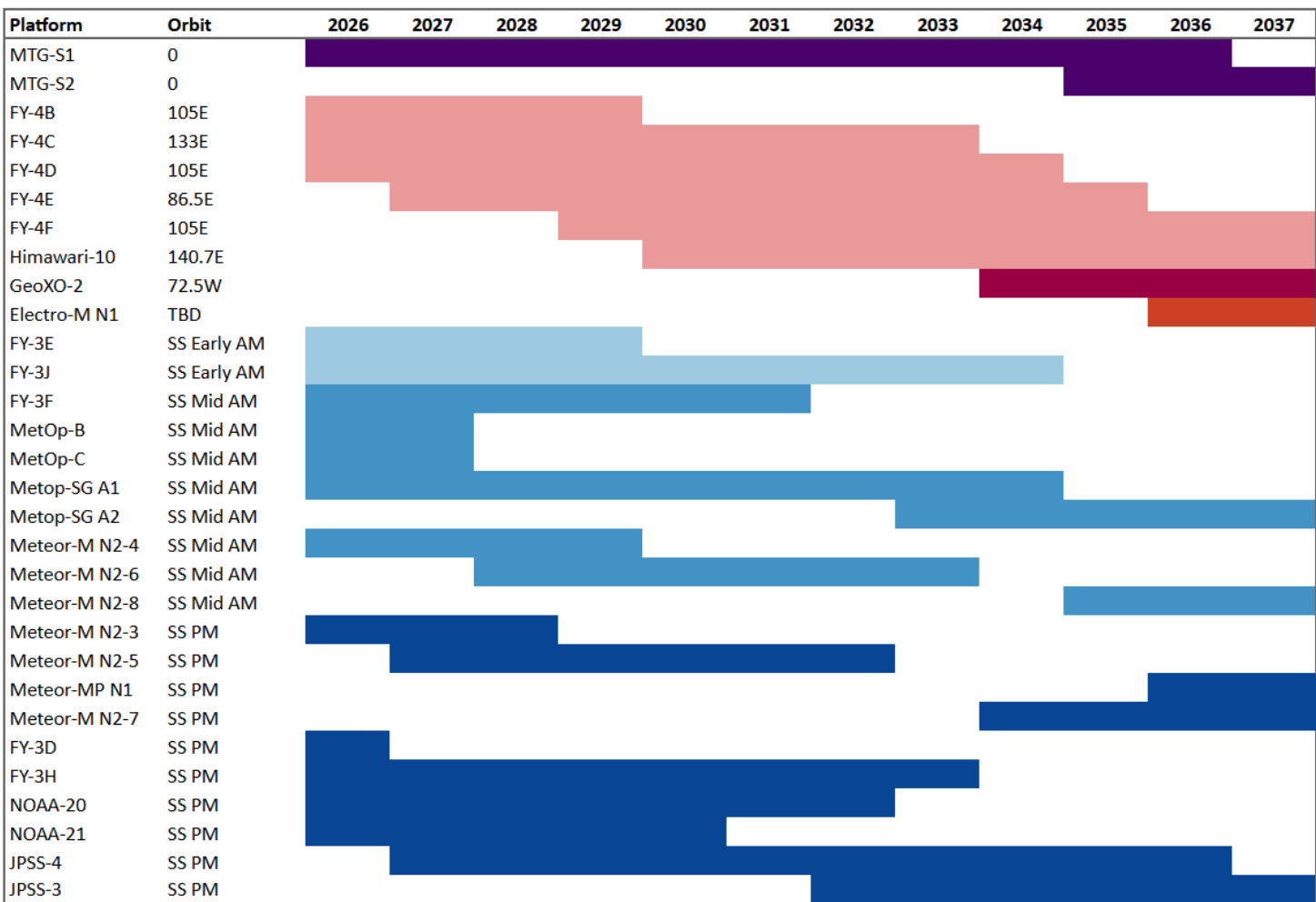
↑  
Today

LEO - 3 Orbits  
 Sun-synchronous early morning  
 Sun-synchronous mid-morning  
 Sun-synchronous afternoon

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment.

# Coordination Group for Meteorological Satellites - CGMS

Hyperspectral Infrared Sounder (Atmospheric temperature, humidity, and winds Atmospheric composition: CO, CO2, SO2 , depending on spectral band also CH4 and NH3)



↑  
Today

GEO - 2 Slots

0°

86.5°-140°E range

LEO - 3 Orbits

Sun-synchronous early morning

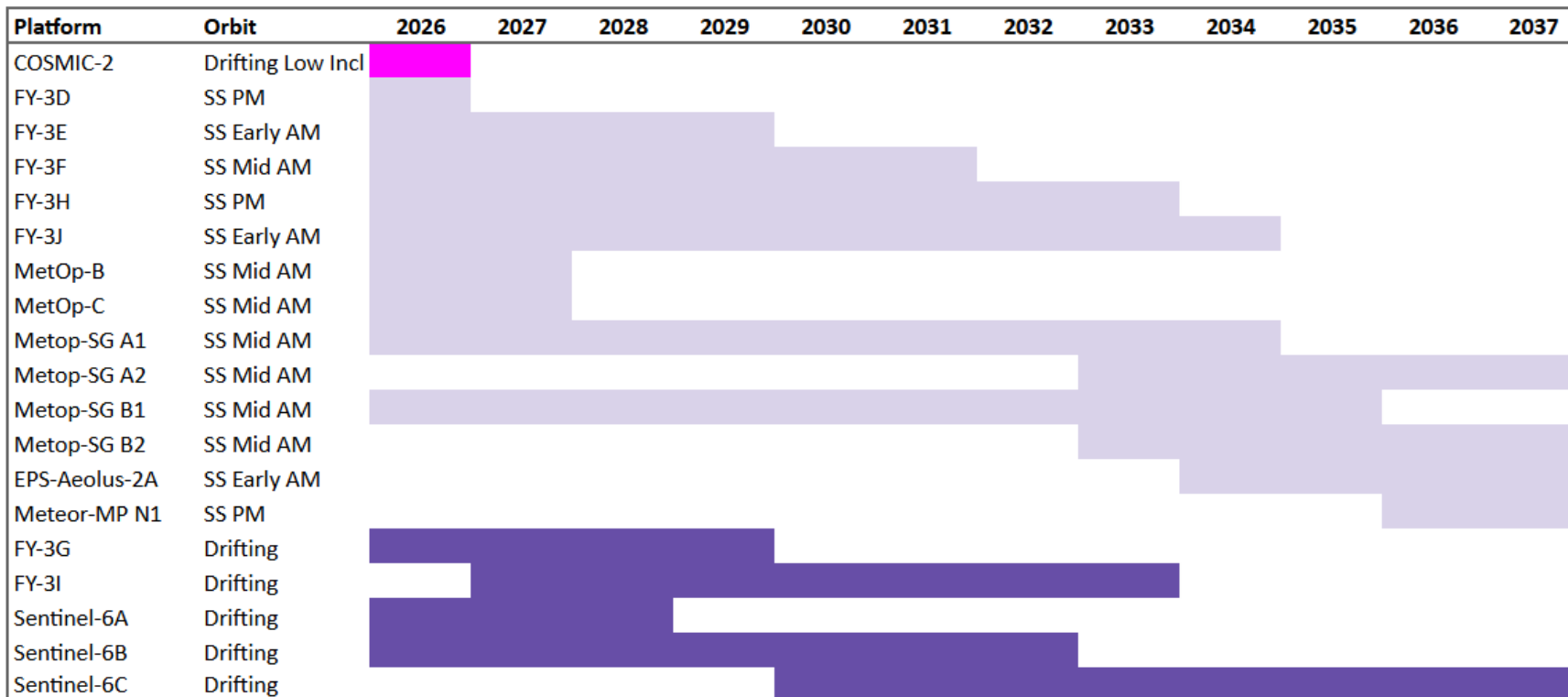
Sun-synchronous mid-morning

Sun-synchronous afternoon

WGIII Assessment: Low risk of not meeting CGMS Baseline commitment. Note the HLPP objective (1.2) to expand hyperspectral sounding from GEO to the full geostationary ring.

# Coordination Group for Meteorological Satellites - CGMS

## Radio Occultation (Atmospheric Temperature, Humidity, and Ionospheric Electron Density)



↑  
Today

### LEO - 3 Orbits

6000 occultations from **low inclination (<30°)**

7600 occultations from **sun-synchronous**

1000 occultations from **other drifting orbits**

WGIII Assessment: Risk of not meeting the CGMS Baseline commitment in low-inclination RO observations after COSMIC-2 at the end of this decade. The SWCG to make a recommendation to WGIII how to separate RO and Ionospheric Electron Density profiles in the CGMS Baseline and Risk Assessment, and the IROWG to articulate and present the risk level and potential impacts associated with a gap of low inclination RO.

## Radio Occultation (Atmospheric Temperature, Humidity, and Ionospheric Electron Density)

Monthly Mean Daily RO Numbers (NRT)\*  
(as available today or from mission requirements)



### Missions

- NOAA (Comm.)
- EUM (Comm.)
- COSMIC-2
- EPS
- EPS-SG
- FengYun-3
- Sentinel-6

### \* Assumptions:

- Nominal COSMIC-2 EOL in late 2026
- First official data from EPS-SG in March 2026 (TBC)
- Commercial data shown are based on contractually agreed-upon purchases

EUMETSAT (February 2026)

# Coordination Group for Meteorological Satellites - CGMS

Multi-purpose Meteorological Imagers (multispectral, visible and IR) (Sea Surface Temperature, Aerosols, Land Surface Temperature, Cloud Properties, Feature Tracking Winds (AMV), Flood Mapping, Fires, Cryosphere Applications (sea ice, snow cover, etc.)



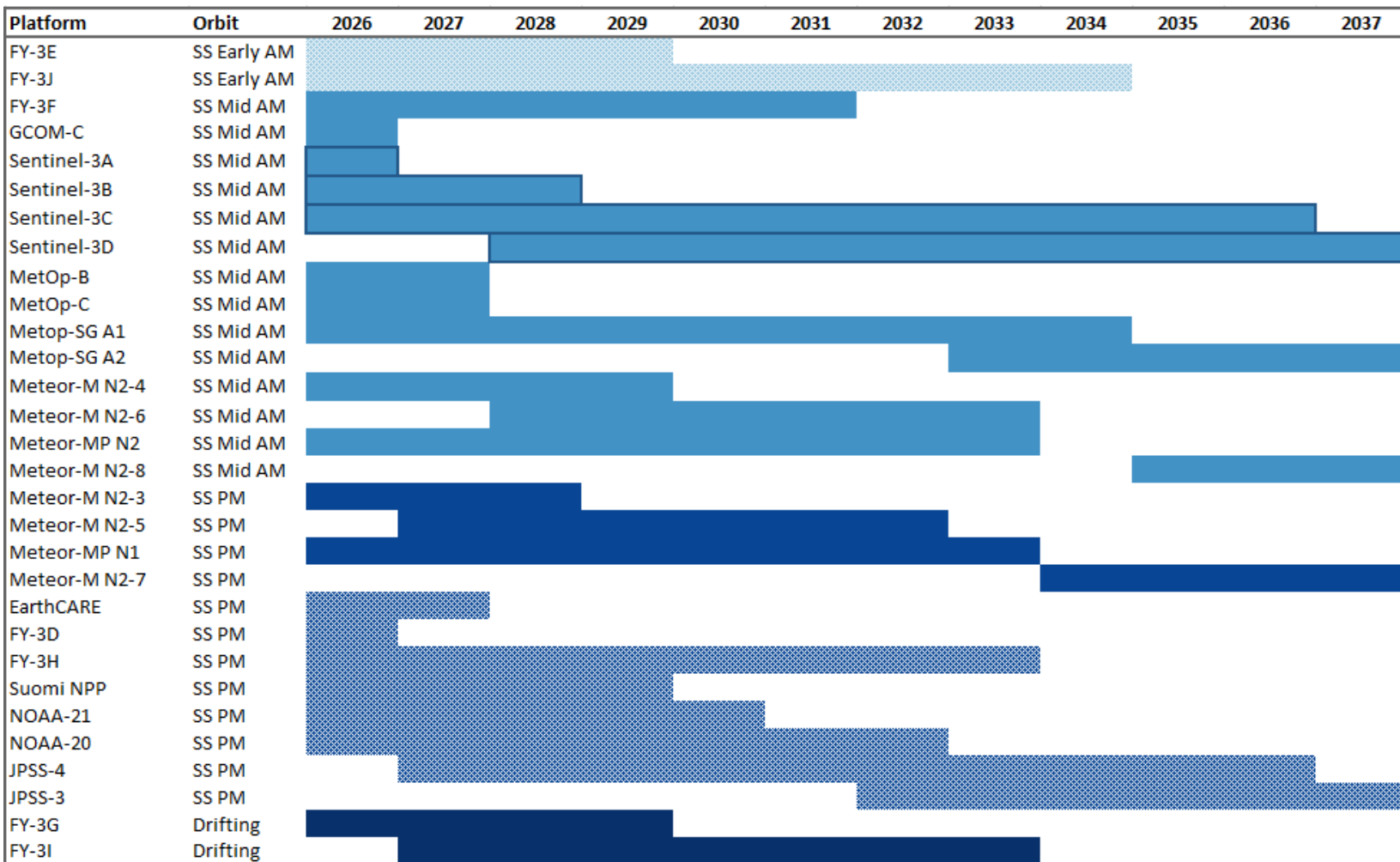
↑  
Today

GEO - Evenly spaced satellites  
**137°W**  
**75.2°W**  
**0°-45.5°E range**  
**14.5°W-165.8°E range**  
**74°-82°E range**  
**86.5°-140°E range**

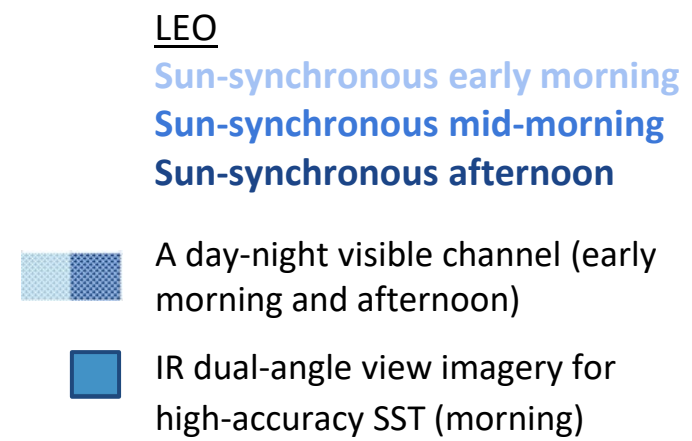
WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment.

# Coordination Group for Meteorological Satellites - CGMS

Multi-purpose Meteorological Imagers (multispectral, visible and IR) (Sea Surface Temperature, Aerosols, Land Surface Temperature, Cloud Properties, Feature Tracking Winds (AMV), Flood Mapping, Fires, Cryosphere Applications (sea ice, snow cover, etc.),



↑  
Today



WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment.

# Coordination Group for Meteorological Satellites - CGMS

Multi-viewing, Multi-channel, Multi-polarisation Imager (Aerosol)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Metop-SG A1	SS Mid AM	[Blue bar]											
Metop-SG A2	SS Mid AM											[Blue bar]	

↑  
Today

LEO - 1 orbit  
Sun-synchronous

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment.

# Coordination Group for Meteorological Satellites - CGMS

## Lightning Mapper (Lightning)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
Meteosat-12	0	█												
MTG-I2	0	█												
MTG-I3	0													
MTG-I4	0													
Electro-M N1	TBD													
Electro-M N2	76E													
Electro-M N3	165.8E													
FY-4C	133E	█												
FY-4D	105E	█												
FY-4F	105E													
GOES-17	104.7W	█												
GOES-18	137W	█												
GeoXO-1	137W													
GOES-16	104.7W	█												
GOES-19	75.2W	█												

↑  
Today

GEO - 4 slots  
 0°  
 86.5°-105°E range  
 137°W  
 75.2°W

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment. An HLPP objective (1.2) exists to provide the capability for the whole geostationary ring.

# Coordination Group for Meteorological Satellites - CGMS

## Broadband Short/Long Wave Radiometer (Radiation Balance)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
FY-3E	SS Early AM	Sun-synchronous morning				Sun-synchronous afternoon							
FY-3J	SS Early AM	Sun-synchronous morning								Sun-synchronous afternoon			
FY-3F	SS Mid AM	Sun-synchronous morning						Sun-synchronous afternoon					
Suomi NPP	SS PM	Sun-synchronous morning				Sun-synchronous afternoon							
NOAA-20	SS PM	Sun-synchronous morning		Sun-synchronous afternoon								Sun-synchronous morning	
JPSS-4	SS PM	Sun-synchronous morning	Sun-synchronous afternoon										

↑  
Today

LEO - 2 Orbits  
 Sun-synchronous morning  
 Sun-synchronous afternoon

WGIII Assessment: Low risk of not meeting the CGMS baseline commitment. Action on WGII to investigate the addition of GEO contributions to the CGMS Baseline.

# Coordination Group for Meteorological Satellites - CGMS

Visible / UV Spectrometer (Aerosol, Atmospheric Composition: O3, CO2, NO2, SO2, BrO, C)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
MTG-S1	0	[Dark Purple Bar]											
MTG-S2	0	[Dark Purple Bar]											
MetOp-B	SS Mid AM	[Light Blue Bar]											
MetOp-C	SS Mid AM	[Light Blue Bar]											
Metop-SG A1	SS Mid AM	[Light Blue Bar]											
Metop-SG A2	SS Mid AM	[Light Blue Bar]											
FY-3F	SS Mid AM	[Light Blue Bar]											
EarthCARE	SS PM	[Dark Blue Bar]			[Dark Blue Bar]								
Suomi NPP	SS PM	[Dark Blue Bar]			[Dark Blue Bar]								
NOAA-20	SS PM	[Dark Blue Bar]			[Dark Blue Bar]								
NOAA-21	SS PM	[Dark Blue Bar]			[Dark Blue Bar]								
JPSS-4	SS PM	[Dark Blue Bar]		[Dark Blue Bar]									
JPSS-3	SS PM	[Dark Blue Bar]		[Dark Blue Bar]									

↑  
Today

GEO - 1 Slot  
0°

LEO - 2 Orbits  
Sun-synchronous mid-morning  
Sun-synchronous afternoon

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment.

# Coordination Group for Meteorological Satellites - CGMS

## UV Limb Spectrometer (Aerosol, Atmospheric Composition: O3)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
FY-3F	SS Mid AM	█												
Suomi NPP	SS PM	█												
NOAA-21	SS PM	█												
JPSS-4	SS PM		█											
JPSS-3	SS PM							█						
Meteor-MP N1	SS PM											█		

↑  
Today

LEO - 2 Orbits  
 Sun-synchronous mid-morning  
 Sun-synchronous afternoon

WGIII Assessment: Risk of not meeting the CGMS Baseline commitment in the mid-morning orbit in the mid 2030s. WGII is investigating other capabilities for UV limb sounding to complement JPSS.

# Coordination Group for Meteorological Satellites - CGMS

## SWIR Imaging Spectrometer (Atmospheric Composition: CO<sub>2</sub>, CH<sub>4</sub>)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
MicroCarb	SS Mid AM	Sun-synchronous late morning					Sun-synchronous afternoon						
CO2M-A	SS Mid AM	Sun-synchronous late morning		Sun-synchronous afternoon									
CO2M-B	SS Mid AM	Sun-synchronous late morning			Sun-synchronous afternoon								
CO2M-C	SS Mid AM	Sun-synchronous late morning				Sun-synchronous afternoon							
GOSAT	SS PM	Sun-synchronous afternoon		Sun-synchronous late morning									
GOSAT-2	SS PM	Sun-synchronous afternoon										Sun-synchronous late morning	
GOSAT-GW	SS PM	Sun-synchronous afternoon											
FY-3H	SS PM	Sun-synchronous afternoon											
OCO-2	SS PM	Sun-synchronous afternoon											
Sentinel-5P	SS PM	Sun-synchronous afternoon		Sun-synchronous late morning									
ISS OCO-3	Drifting	Sun-synchronous afternoon		Sun-synchronous late morning									

↑  
Today

LEO - 2 Orbits

Sun-synchronous late morning

Sun-synchronous afternoon

WGIII Assessment: Slight risk of not meeting CGMS Baseline commitment in the mid 2030s in the afternoon orbit. GHG TT via WGII has action to indicate if SWIR missions for CH<sub>4</sub> and CO<sub>2</sub> be added to the baseline.

# Coordination Group for Meteorological Satellites - CGMS

## Precipitation Radar (Precipitation)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
GPM Core	SS Drifting	█											
FY-3G	Drifting		█										
FY-3I	SS Drifting		█				█						

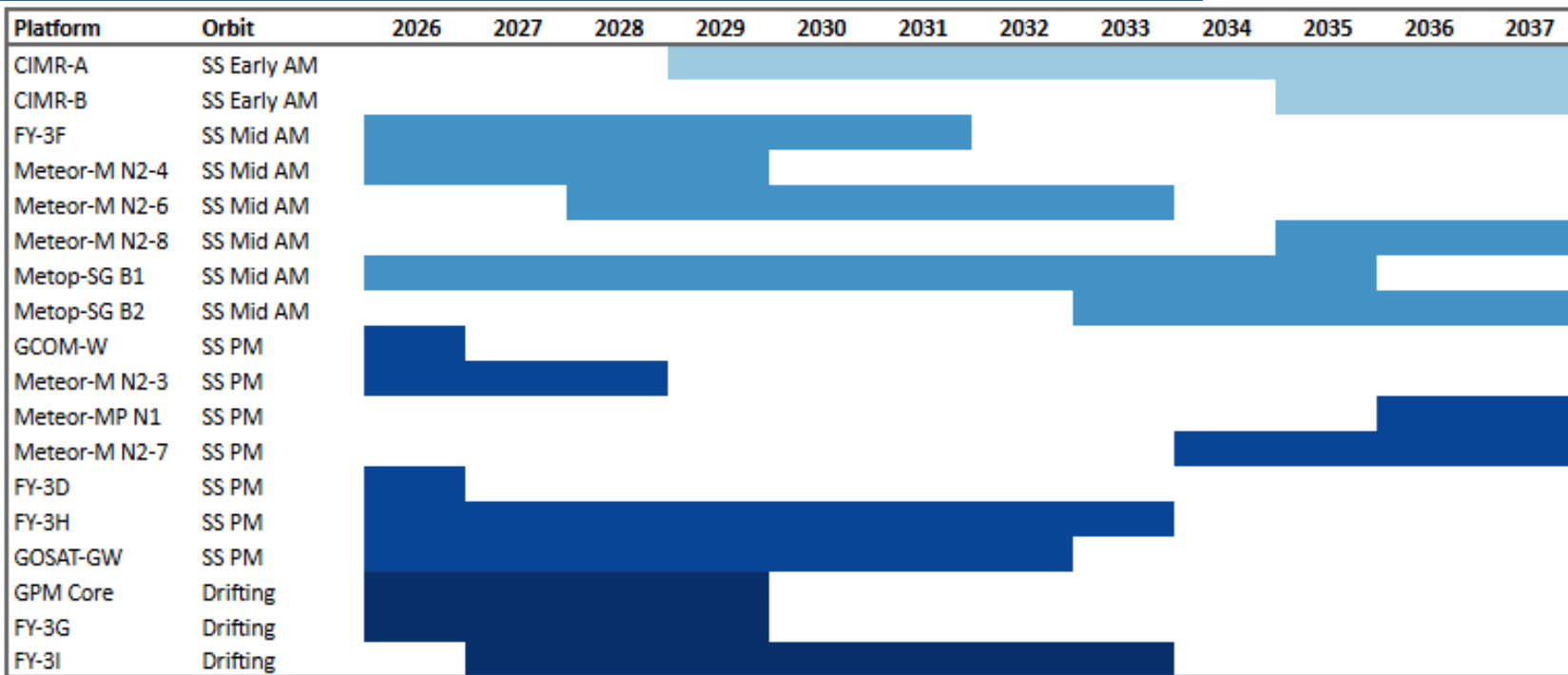
↑  
Today

LEO - 1 orbit  
Drifting

WGIII Assessment: Slight risk of not meeting the GGMS Baseline commitment in the early 2030s.

# Coordination Group for Meteorological Satellites - CGMS

Microwave Imager (Sea Surface Temperature, Ocean Surface Winds, Precipitable Water, Soil Moisture, Snow and Ice properties, Sea Ice Properties)



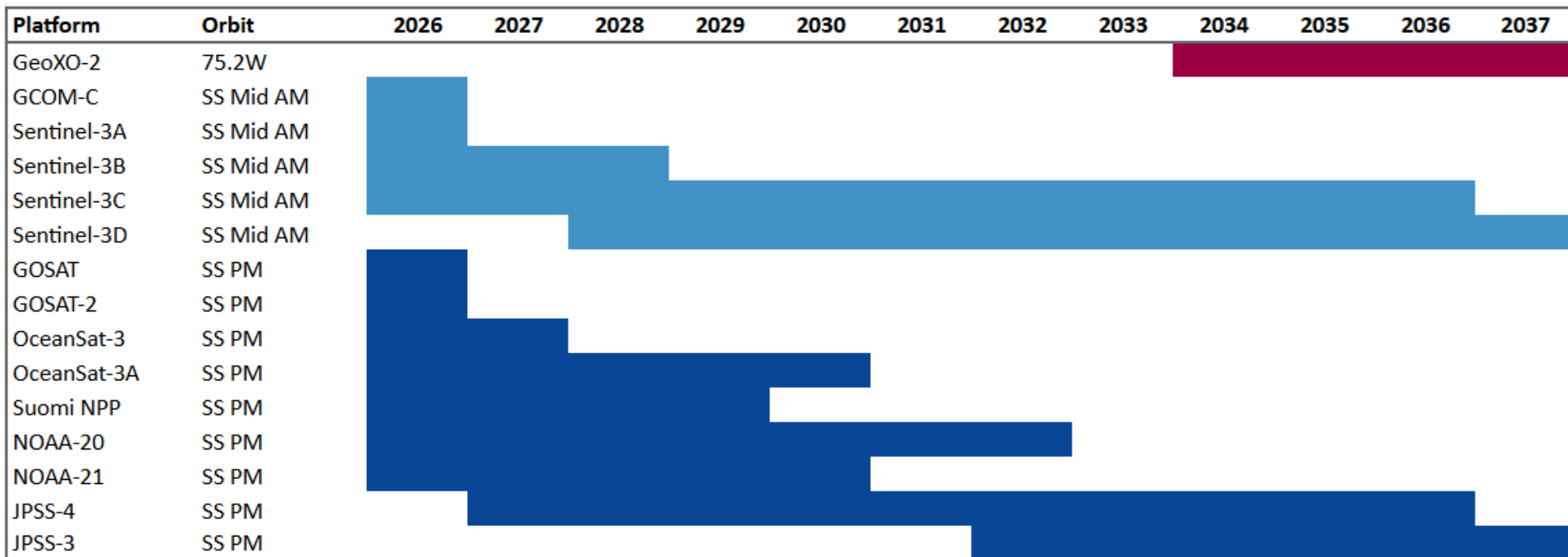
↑  
Today

LEO - 2 Orbits  
 Sun-synchronous mid-morning  
 Sun-synchronous afternoon

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment. WGIII reviewing WGII proposal to articulate how MW missions with different frequencies should be addressed and visualized in the CGMS Baseline and Risk Assessment.

# Coordination Group for Meteorological Satellites - CGMS

## Narrow Band Visible IR Imager (Ocean Colour, Aerosols)



↑  
Today

LEO - 2 Orbits  
 Sun-synchronous mid-morning  
 Sun-synchronous afternoon

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment.

# Coordination Group for Meteorological Satellites - CGMS

## Radar Altimetry (Ocean Surface Topography)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Sentinel-3A	SS Mid AM	█											
Sentinel-3B	SS Mid AM	█	█	█	█	█	█	█	█	█	█	█	█
Sentinel-3C	SS Mid AM	█	█	█	█	█	█	█	█	█	█	█	█
Sentinel-3D	SS Mid AM	█	█	█	█	█	█	█	█	█	█	█	█
EarthCARE	SS PM	█	█	█	█	█	█	█	█	█	█	█	█
HY-2D	Drifting	█	█	█	█	█	█	█	█	█	█	█	█
Jason-3	Drifting	█	█	█	█	█	█	█	█	█	█	█	█
CryoSat-2	Drifting	█	█	█	█	█	█	█	█	█	█	█	█
Sentinel-6A	Drifting	█	█	█	█	█	█	█	█	█	█	█	█
Sentinel-6B	Drifting	█	█	█	█	█	█	█	█	█	█	█	█
Sentinel-6C	Drifting	█	█	█	█	█	█	█	█	█	█	█	█
CRISTAL-A	Drifting			█	█	█	█	█	█	█	█	█	█
CRISTAL-B	Drifting									█	█	█	█

↑  
Today

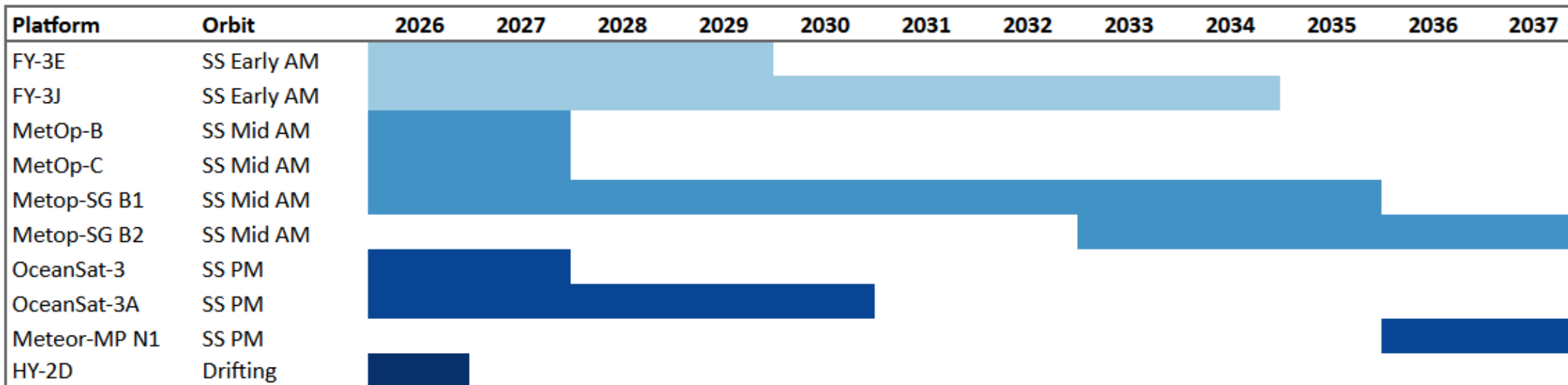
LEO - 1 Orbit  
Sun-synchronous mid-morning

Reference mission on a high-precision, drifting orbit

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment.

# Coordination Group for Meteorological Satellites - CGMS

## Scatterometry (Ocean Surface Winds)



↑  
Today

LEO  
 Sun-synchronous early morning  
 Sun-synchronous mid-morning  
 Sun-synchronous afternoon

WGIII Assessment: Risk of not meeting the CGMS Baseline commitment in the afternoon orbit in the early 2030s.

# Coordination Group for Meteorological Satellites - CGMS

## Sub-millimetre Ice Cloud Imager (Cloud Ice)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Metop-SG B1	SS Mid AM	[Blue bar covering 2026-2035]											
Metop-SG B2	SS Mid AM	[Blue bar covering 2026-2037]											

↑  
Today

LEO - 1 Orbit  
Sun-synchronous mid-morning

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment

# Coordination Group for Meteorological Satellites - CGMS

## Synthetic Aperture Radar (Soil Moisture, Sea Ice)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
ALOS-2	SS PM	█	█	█	█	█	█	█	█	█	█	█	█
ALOS-4	SS PM	█	█	█	█	█	█	█	█	█	█	█	█
Meteor-M N2-3	SS PM	█	█	█	█	█	█	█	█	█	█	█	█
Meteor-M N2-4	SS Mid AM	█	█	█	█	█	█	█	█	█	█	█	█
Meteor-M N2-5	SS PM	█	█	█	█	█	█	█	█	█	█	█	█
Meteor-M N2-6	SS Mid AM	█	█	█	█	█	█	█	█	█	█	█	█
Meteor-M N2-7	SS PM	█	█	█	█	█	█	█	█	█	█	█	█
Meteor-M N2-8	SS Mid AM	█	█	█	█	█	█	█	█	█	█	█	█
Sentinel-1C	SS Early AM	█	█	█	█	█	█	█	█	█	█	█	█
Sentinel-1D	SS Early AM	█	█	█	█	█	█	█	█	█	█	█	█

↑  
Today

LEO - 1 Orbit  
Sun-synchronous

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment

# Coordination Group for Meteorological Satellites - CGMS

## High Resolution Optical Imager (Land Use, Vegetation Type and Status, Aerosols)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Sentinel-2A	SS Mid AM	█											
Sentinel-2B	SS Mid AM	█	█										
Sentinel-2C	SS Mid AM	█	█	█	█	█	█	█	█	█			
Sentinel-2D	SS Mid AM			█	█	█	█	█	█	█	█	█	█

↑  
Today

LEO - 1 Orbit  
Sun-synchronous

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment

# Coordination Group for Meteorological Satellites - CGMS

## Coronagraph (Coronagraphy)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
GOES-19	75.2W	On Sun-Earth Line (Dark Red)											
SOHO	L1	On Sun-Earth Line (Orange)											
SWFO-L1	L1	On Sun-Earth Line (Orange)											
SOLAR-A	L1	On Sun-Earth Line (Orange)											
SOLAR-B	L1	On Sun-Earth Line (Orange)											
Vigil	L5	Off Sun-Earth Line (Magenta)											

↑  
Today

On Sun-Earth Line

L1

**GEO - 1 slot**

Off Sun-Earth Line

L5

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment

# Coordination Group for Meteorological Satellites - CGMS

## EUV Imager (EUV Imagery)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
FY-3E	SS Early AM	Light Blue												
FY-3J	SS Early AM	Light Blue												
FY-4C	133E	Dark Red												
FY-4D	105E	Dark Red												
GOES-17	104.7W	Hatched												
GOES-18	137W	Dark Red												
GOES-16	104.7W	Hatched												
GOES-19	75.2W	Dark Red												
Vigil	L5							Magenta						

↑  
Today

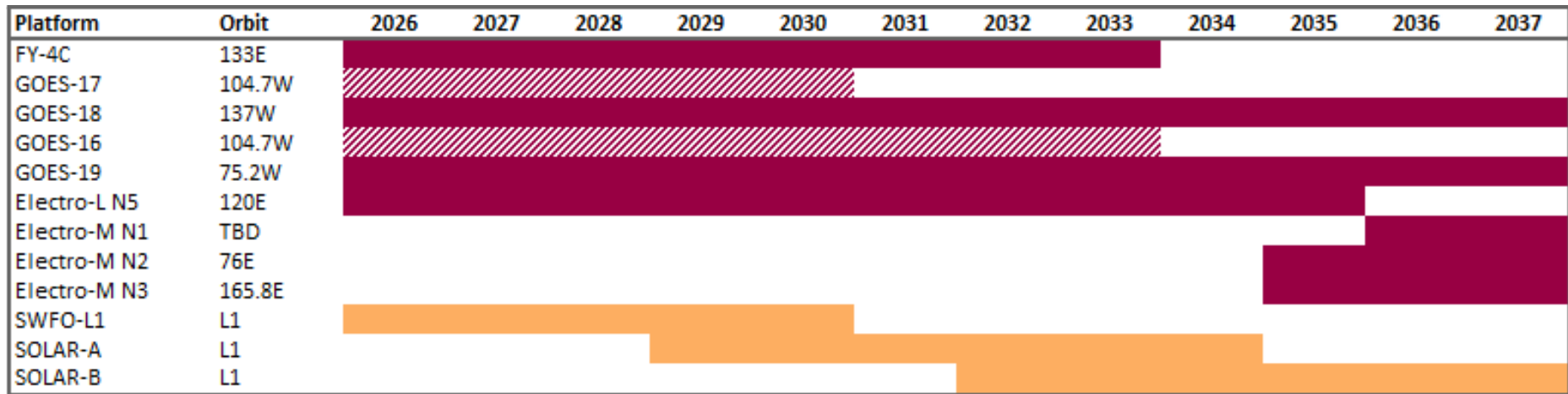
On Sun-Earth Line  
LEO - 1 orbit  
GEO - 2 slots

Off Sun-Earth Line  
L5

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment

# Coordination Group for Meteorological Satellites - CGMS

## X-Ray Spectrograph (X-Ray Flux)



↑  
Today

On Sun-Earth Line  
**GEO - 5 slots**  
**L1**

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment

# Coordination Group for Meteorological Satellites - CGMS

## Low Energy Electrons and Protons (Magnetospheric particles)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
FY-4B	105E	█					█							
FY-4D	105E	█										█		
GOES-17	104.7W	█						█						
GOES-18	137W	█												
GOES-16	104.7W	█								█				
GOES-19	75.2W	█												
Electro-L N6	TBD						█							
Electro-L N7	TBD								█					
Electro-M N1	TBD											█		

↑  
Today

GEO, as in-situ measurements

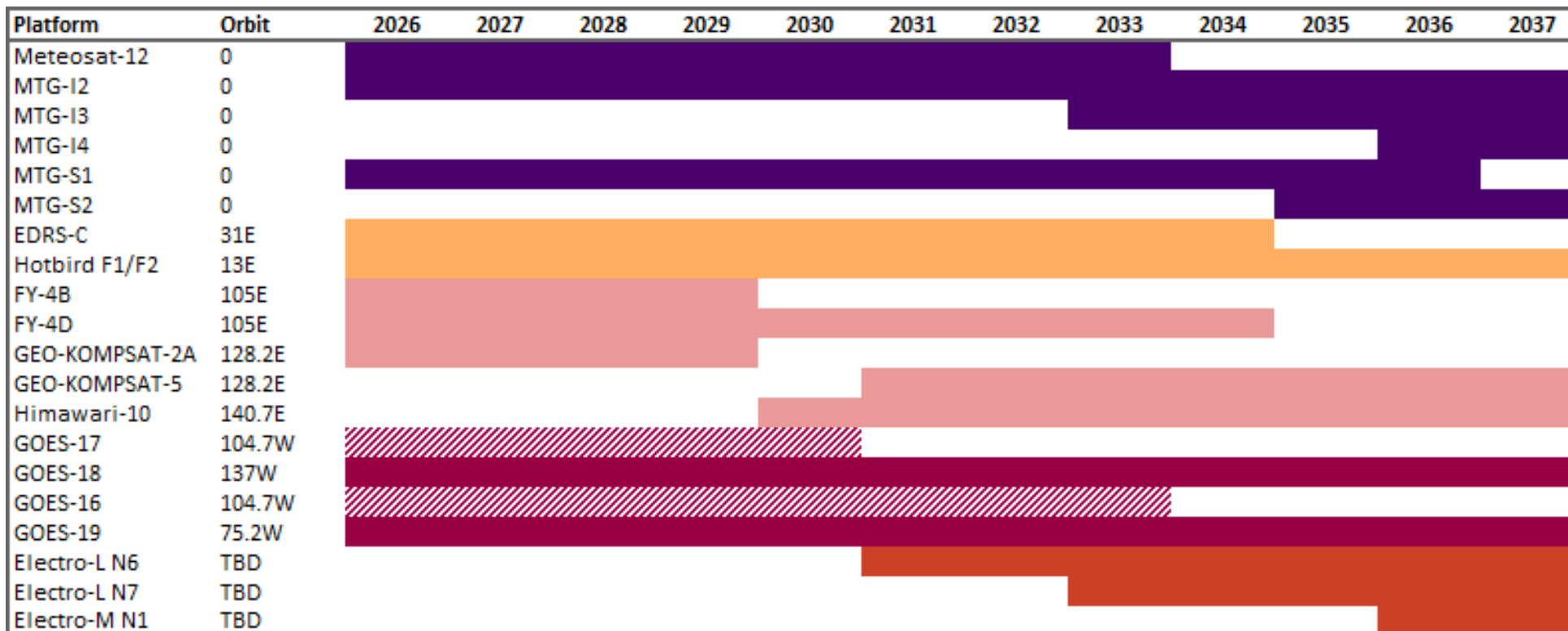
105°E

75.2°W, 104.7°W, 137.2°W

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment.

# Coordination Group for Meteorological Satellites - CGMS

## High Energy Electrons and Protons (Magnetospheric and solar energetic particles)



Today

GEO, as in-situ measurements

0°

13°E, 31°E

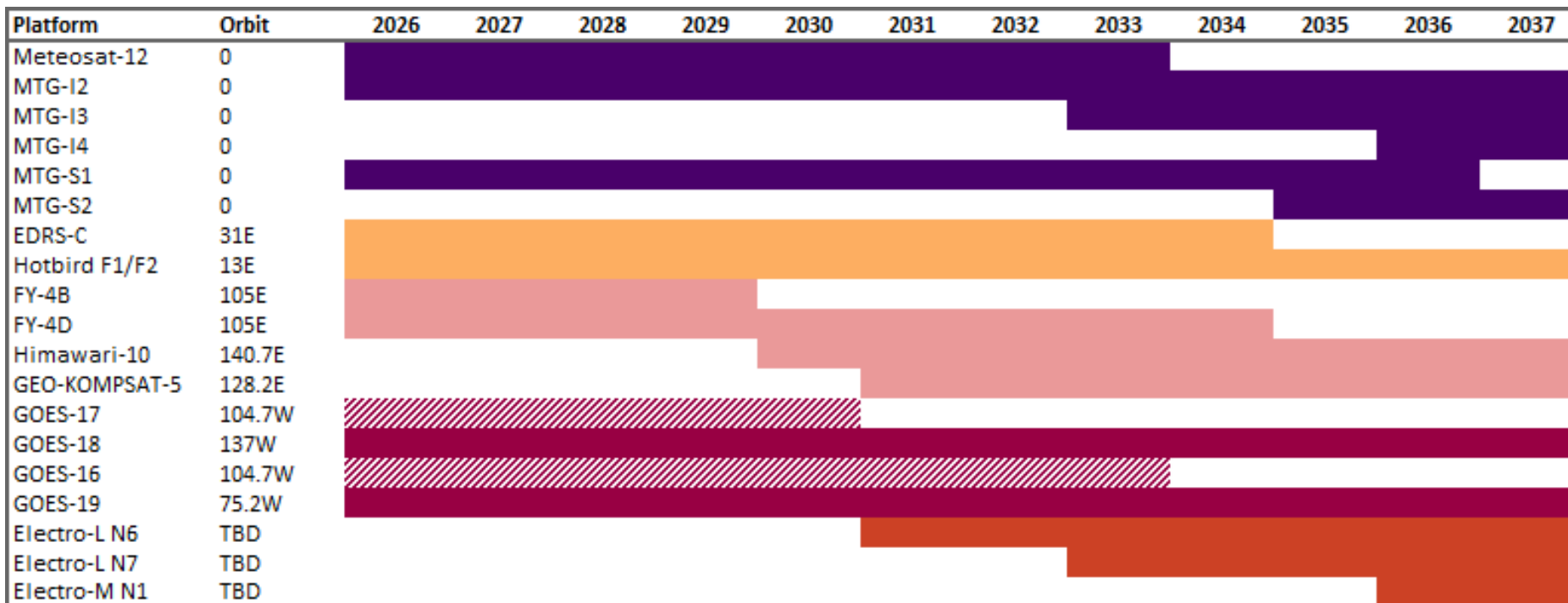
105°E, 128°E, 140.7°E

75.2°W, 104.7°W, 137.2°W

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment. SWCG to clearly define the quantitative threshold between High and Very High Energy Electrons and Protons.

# Coordination Group for Meteorological Satellites - CGMS

## Very High Energy Protons (Magnetospheric and solar energetic particles)



↑  
Today

GEO, as in-situ measurements

0°

13°E, 31°E

105°E, 140.7°E

75.2°W, 104.7°W, 137.2°W

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment. SWCG to clearly define the quantitative threshold between High and Very High Energy Electrons and Protons.

# Coordination Group for Meteorological Satellites - CGMS

## Energetic Heavy Ions (Magnetospheric and solar energetic particles)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
Meteosat-12	0	█												
MTG-I2	0	█												
MTG-I3	0													
MTG-I4	0													
MTG-S1	0	█												
MTG-S2	0													
EDRS-C	31E	█												
Hotbird F1/F2	13E													
GOES-17	104.7W	█												
GOES-18	137W	█												
GOES-16	104.7W	█												
GOES-19	75.2W	█												

↑  
Today

GEO, as in-situ measurements

0°

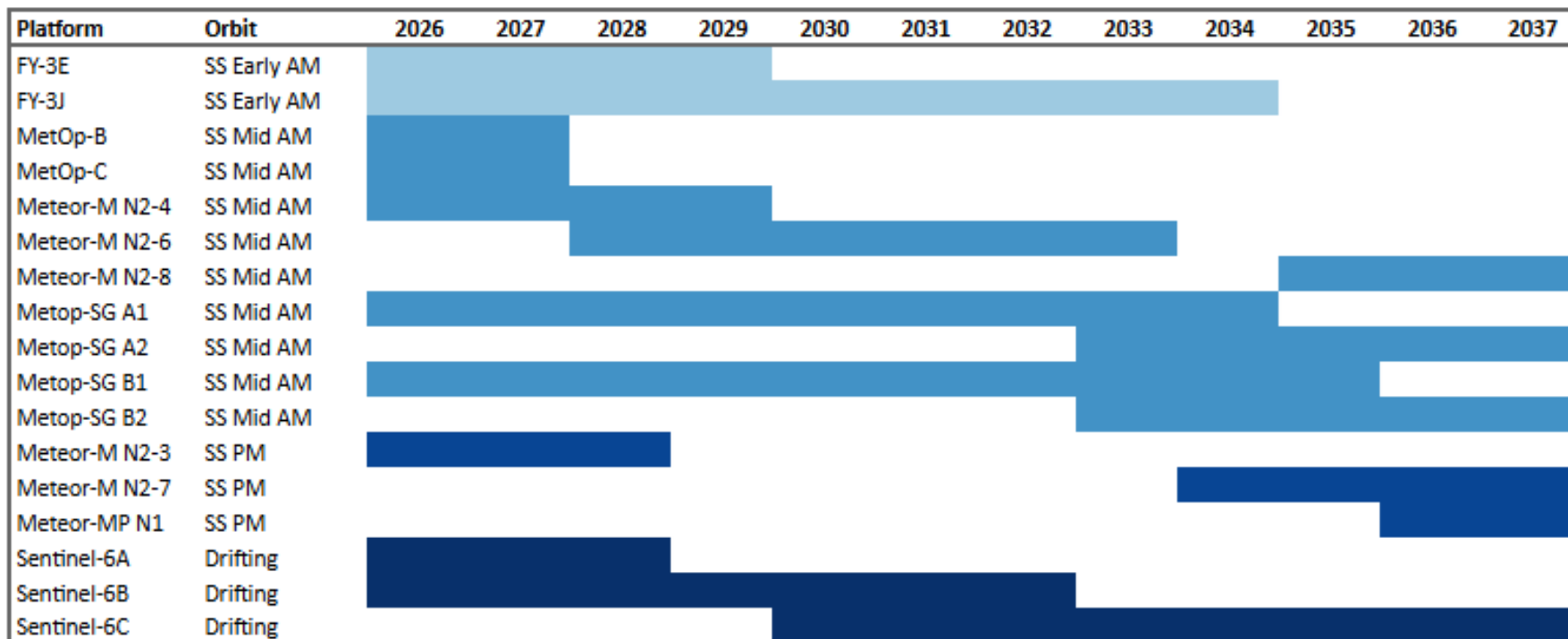
13°E, 31°E

75.2°W, 104.7°W, 137.2°W

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment

# Coordination Group for Meteorological Satellites - CGMS

## Energetic Particle Sensor LEO (Magnetospheric)



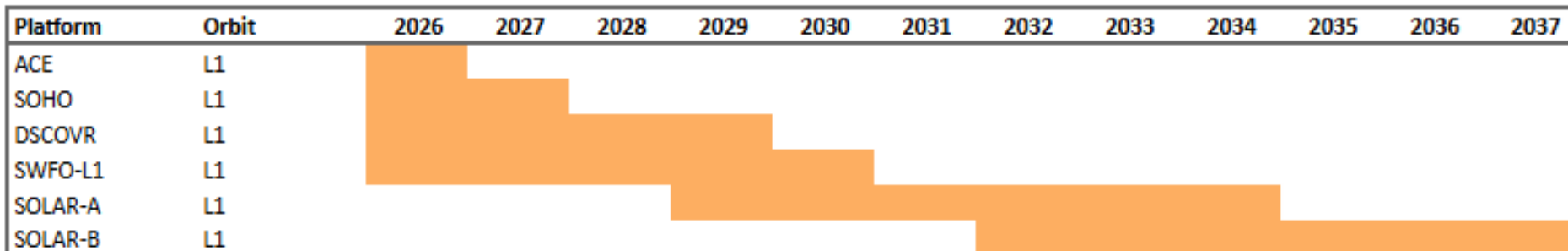
↑  
Today

LEO - 3 orbits as in-situ measurements

WGIII Assessment: Risk of not meeting the CGMS Baseline commitment in the afternoon orbit in the early 2030s.

# Coordination Group for Meteorological Satellites - CGMS

## Energetic Particle Sensor L1 (Solar Energetic Particles)



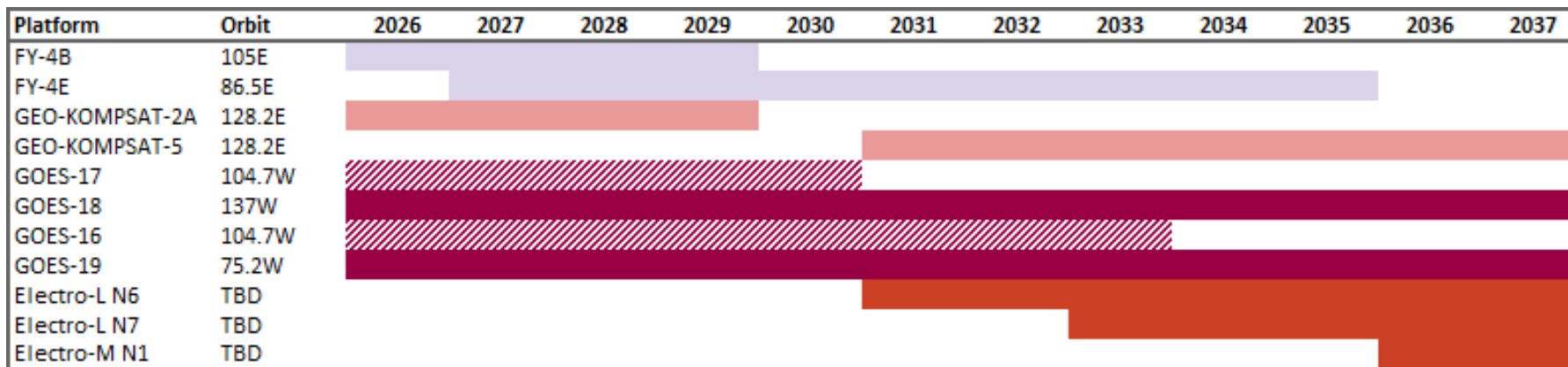
↑  
Today

L1 as in-situ measurement

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment

# Coordination Group for Meteorological Satellites - CGMS

## Magnetometer GEO (Earth's Magnetic Field)



↑  
Today

GEO, as in-situ measurements

86.5°E, 105°E

128°E

137°W, 104.7°W, 75.2°W

WGIII Assessment: Slight risk of not meeting the CGMS Baseline commitment at 128°E in 2030.

# Coordination Group for Meteorological Satellites - CGMS

## Magnetometer L1 (Interplanetary Magnetic Field)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
ACE	L1	█											
DSCOVR	L1	█	█	█	█	█							
SWFO-L1	L1	█	█	█	█	█	█	█	█	█			
SOLAR-A	L1				█	█	█	█	█	█	█	█	█
SOLAR-B	L1							█	█	█	█	█	█
Vigil	L5							█	█	█	█	█	█

↑  
Today

L1, as an in-situ measurement  
L5, as an in-situ measurement

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment

## Plasma Analyzer (Solar Wind)

Platform	Orbit	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
ACE	L1	Active											
DSCOVR	L1	Active	Active	Active	Active	Active							
SWFO-L1	L1	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active
SOLAR-A	L1			Active	Active	Active	Active	Active	Active	Active	Active	Active	Active
SOLAR-B	L1							Active	Active	Active	Active	Active	Active
Vigil	L5						Active	Active	Active	Active	Active	Active	Active

↑  
Today

L1, as an in-situ measurement  
L5, as an in-situ measurement

WGIII Assessment: Low risk of not meeting the CGMS Baseline commitment