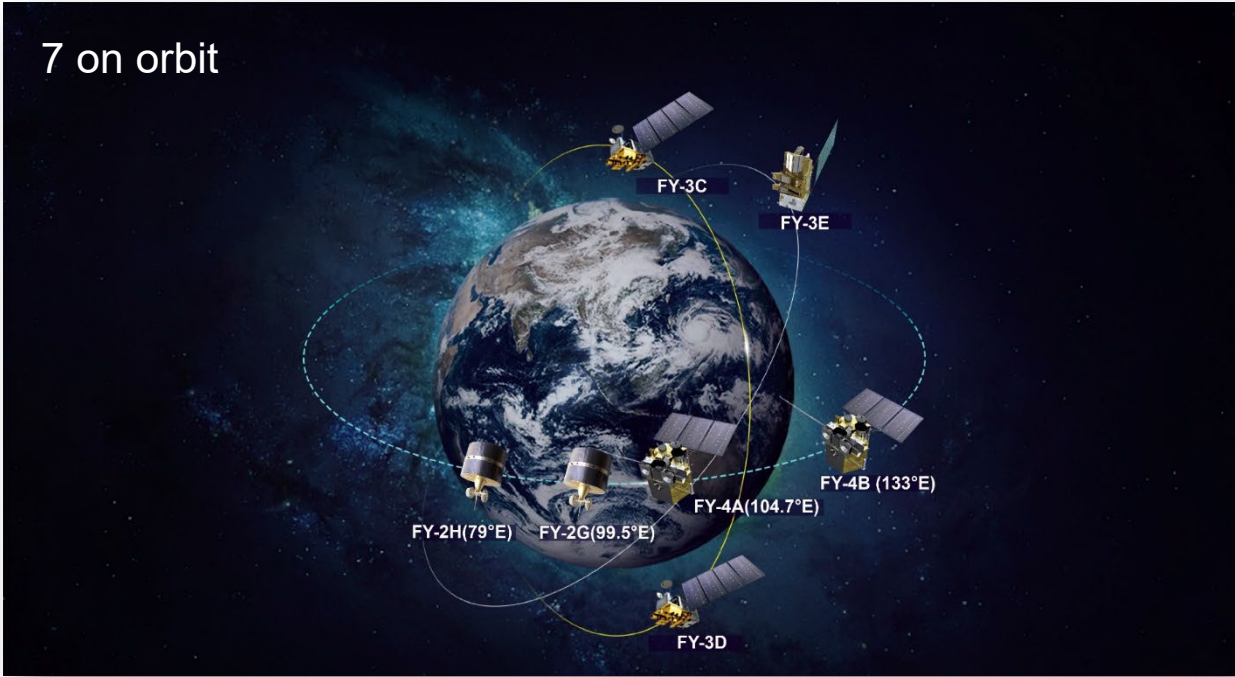


# Current FY satellite and instruments status on orbit

<http://www.nsmc.org.cn/nsmc/en/operation/status.html>



Satellite Status
Op = Operational
P = Pre-operational
B = Back-up, secondary
L = Limited availability



7 on orbit

## GEO instruments status:

Satellite (status)		Location	Launch	EO instruments			
FY-2G	(Op)	99.2° E	2014-12-31	S-VISSR			
FY-2H	(L)	79° E	2018-06-05	S-VISSR			
FY-4A	(Op)	105° E	2016-12-11	AGRI	GIIRS	LMI	SEP
FY-4B	(Op)	133° E	2021-06-03	AGRI	GIIRS	GHI	

## LEO instruments status:

Satellite		Launch	EO instruments					
FY-3C	(L)	2013-09-23	MERSI	VIRR	IRAS	MWTS	MWHS	MWRI
			SBUS	TOU	ERM	SIM-II	SEM	GNOS
FY-3D	(Op)	2017-11-15	MERSI	HIRAS	MWTS	MWHS	MWRI	IPM
			GAS	WAI	SEM	GNOS		
FY-3E	(Op)	2021-07-05	MERSI-LL	HIRAS-II	SIM-II	SSIM	MWTS-III	MWHS-II
			WindRAD	GNOS-II	Tri-IPM	SEM-II	X-EUVI	

Instrument Status	
	Operational(or capable of)
	Operational with limitations(or Standby)
	Operational with Degraded Performance
	Not Operational
	Functional, Turned Off

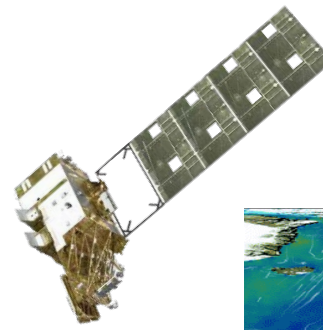
# FY-4B status



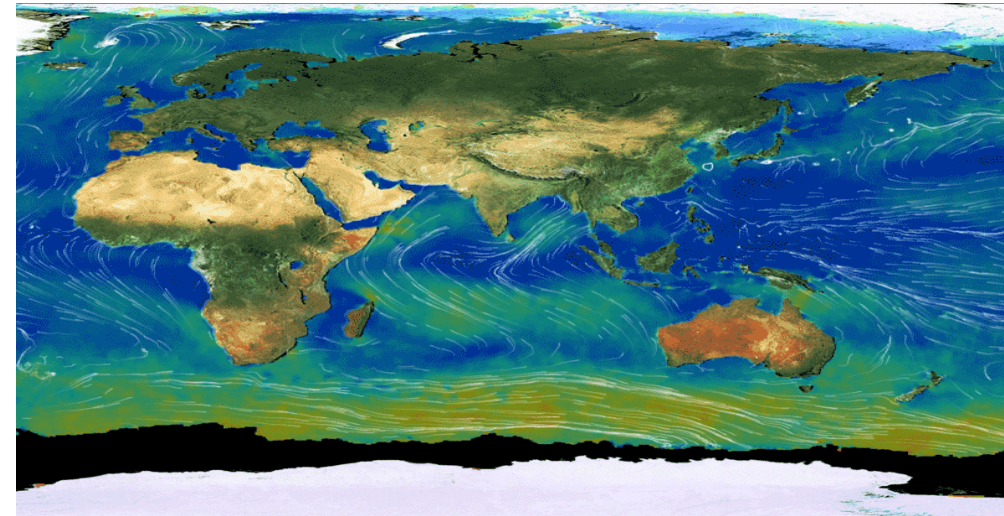
- Launched on Jun. 3rd, 2021. Located at 133°E now.
- Satellites with 4 instruments onboard have passed the post-launch test.
- Satellite data is available on NSMC website for trial application since June 1, 2022.
- 52 baseline products(L2) have been developed.
- Key Improvement :
  - GHI: High-speed imager, 1 minute interval;
  - GIIRS: Improved calibration;
  - SEP/FGM: Wide-range energetic and multi-direction particles, high-time resolution magnetic field.



# FY-3E status

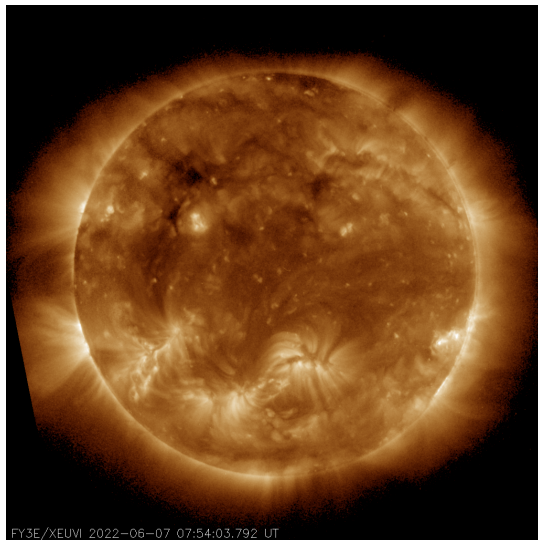


- Launched on July 5th, 2021, local Equator Crossing Time: 5:40 desc.
- First operational meteorological satellite in EM orbit for civil use.
- Satellite data is available on NSMC website for trial application since June 1, 2022.
- FY-3E provides an optimal temporal distribution with the mid-morning and afternoon satellites. NWP communities will significantly benefit.
- 46 baseline products(L2) have been developed.



Ocean Vector Winds (WnidRAD )

X-EUV Animation



FY3E/XEUVI 2022-06-07 07:54:03.792 UT

HIRAS-2 for NWP

Score Card for HIRAS2 against CTL

Domain	Parameter	Level	Anomaly	Correlation	RMS Error
NH	HGT	850	▲	▲	▲
		500	▲	▲	▲
		250	▲	▲	▲
	TEMP	850	▲	▲	▲
		500	▲	▲	▲
		250	▲	▲	▲
	UWIND	850	▲	▲	▲
		500	▲	▲	▲
		250	▲	▲	▲
VWIND	850	▲	▲	▲	
	500	▲	▲	▲	
	250	▲	▲	▲	
SH	HGT	850	▲	▲	▲
		500	▲	▲	▲
		250	▲	▲	▲
	TEMP	850	▲	▲	▲
		500	▲	▲	▲
		250	▲	▲	▲
	UWIND	850	▲	▲	▲
		500	▲	▲	▲
		250	▲	▲	▲
VWIND	850	▲	▲	▲	
	500	▲	▲	▲	
	250	▲	▲	▲	
EASI	HGT	850	▲	▲	▲
		500	▲	▲	▲
		250	▲	▲	▲
	TEMP	850	▲	▲	▲
		500	▲	▲	▲
		250	▲	▲	▲
	UWIND	850	▲	▲	▲
		500	▲	▲	▲
		250	▲	▲	▲
VWIND	850	▲	▲	▲	
	500	▲	▲	▲	
	250	▲	▲	▲	
TRO	HGT	850	▼	▼	▼
		500	▼	▼	▼
		250	▼	▼	▼
	TEMP	850	▲	▲	▲
		500	▲	▲	▲
		250	▲	▲	▲
	UWIND	850	▲	▲	▲
		500	▲	▲	▲
		250	▲	▲	▲
VWIND	850	▲	▲	▲	
	500	▲	▲	▲	
	250	▲	▲	▲	

▲ : For better      ▲ : Better      ■ : Better but not significant      ■ : Equality  
 ▼ : For worse      ▼ : Worse      ■ : Worse but not significant



Nighttime Lights (MERSI-LL)

# International Application and Services



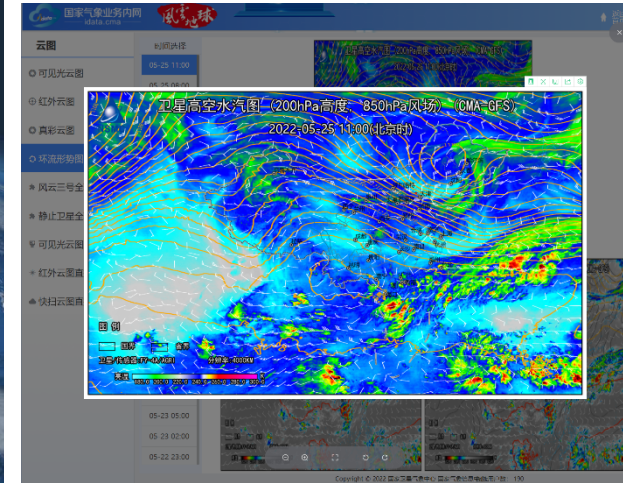
H.E. Csaba Kőrösi, the President of the 77th Session of the UN General Assembly, visits CMA on Feb. 2<sup>nd</sup>, 2023



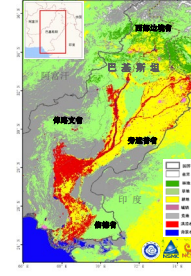
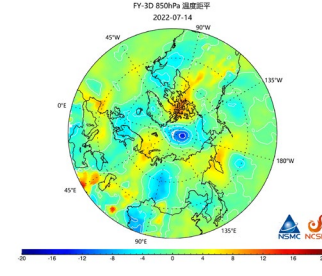
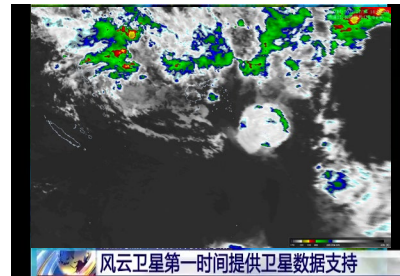
- Data service covers **126 countries**.
- FY\_ESM registered member: **30 countries**
- Over 100 emergency supports (42 times in 2022)



- **FengYun Earth:** an upgrade platform for weather application
- **RICHCEOS:** a new climate data records from Chinese Satellites



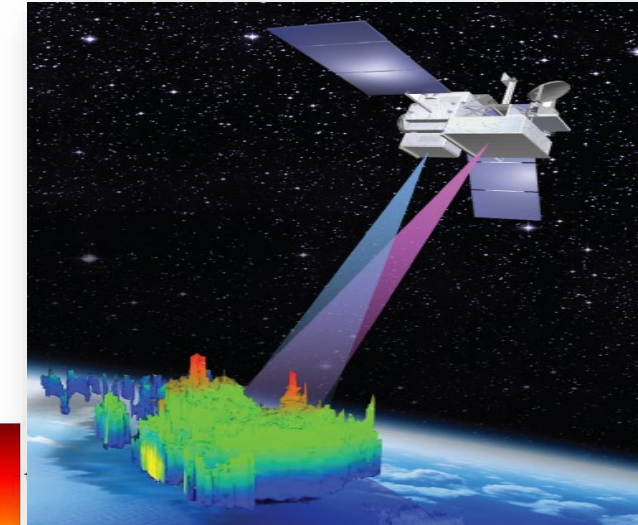
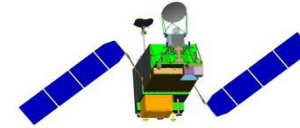
The screenshot shows the 'Retrospective Calibration of Historical Chinese Earth Observation Satellite Data' website. It includes a navigation menu with 'About', 'Data', 'Document', and 'Members'. The main content area displays a list of data products with filters for 'Refine By' (e.g., Mission/Satellite, Spatial coverage, Time resolution) and 'Spatial resolution'. The first product listed is 'Satellite microwave instrument primary climate product data for MWTs' (2008-11-29 to 2020-05-09). The second product is 'Fundamental Climate Data Record of meteorological satellite passive microwave instrument-Microwave Radiation Imager (MWR)' (2010-11-10 to 2020-12-30). The third product is 'The Fundamental Climatic Data Record (FCDR) of Visible and Infrared Radiometer (VIR) on Meteorological Satellites (FY-3)' (2003-01-20 to 2019-12-30).



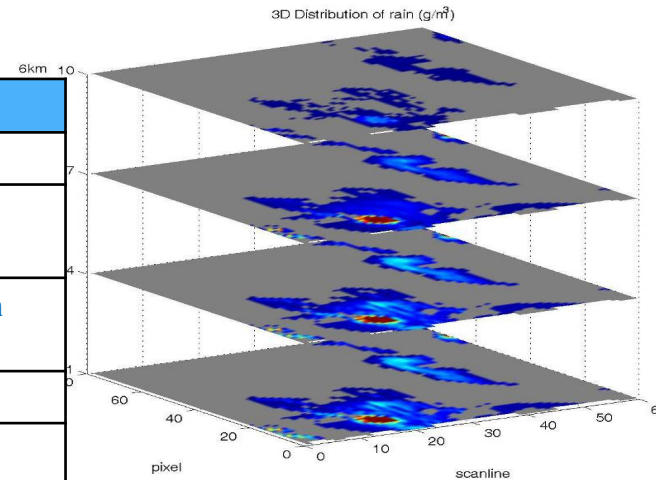
# FY-3G (Rainfall Mission)

## □FY-3G: planning in April 2023

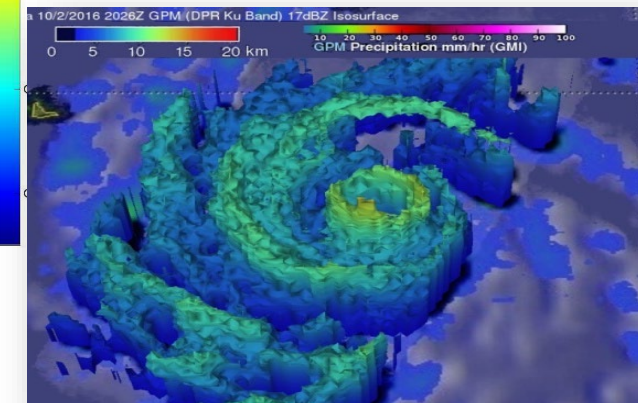
- China's first three-dimensional precipitation detection capability
- Precipitation radar+microwave imager+optical imager : comprehensively improve cloud and rain detection level and improve the accuracy of precipitation numerical prediction.
- Flexible observation mode to improve the ability to capture precipitation events;
- Construct a virtual constellation for precipitation detection to improve the timeliness and consistency of observation data.



No.	Category	Instrument
1.	Active Microwave	<b>Precipitation Measurement Radar(PMR)</b>
2.	Passive Microwave	<b>Microwave Radiation Imager-Rainfall Mission (MWRI- RM)</b>
3.	Optical	<b>Medium Resolution Spectral Imager-Rainfall Mission (MERSI-RM)</b>
		<b>High Accuracy On-board Calibrator (HAOC)</b>
		<b>Short-wave Infrared Multi-Angle Polarized Imager (MAPI)</b>
4.	Occultation Sounding	<b>GNSS Radio Occultation Sounder-II (GNOS-II)</b>



- Newly
- Updated
- Inherited



# FY-3F(AM)

**FY-3F**: planning in August 2023

On the basis of enhance the global imaging and atmospheric vertical detection of polar orbit meteorological satellites, FY-3F focuses on the imaging and detection of the earth's surface and atmospheric components , and is newly equipped ultraviolet hyperspectral ozone detection instruments.

No.	Category	Instrument
1.	Optical	<u>Medium Resolution Spectral Imager-III (MERSI-III)</u>
2.	Passive Microwave	<u>Microwave Humidity Sounder-II (MWHs-II)</u>
		<u>Microwave Temperature Sounder-III (MWTS-III)</u>
		<u>Microwave Radiation Imager-II (MWRI-II)</u>
3.	Occultation Sounding	<u>GNSS Radio Occultation Sounder-II (GNOS-II)</u>
4.	Hyperspectral Sounding	<u>High Spectral Infrared Atmospheric Sounder-II (HIRAS-II)</u>
		<u>Ozone Monitoring Suite –Nadir (OMS-N)</u>
		<u>Ozone Monitoring Suite –Limb (OMS-L)</u>
5.	Radiation Observation	<u>Earth Radiation Monitor–II (ERM-II)</u>
		<u>Solar Irradiance Monitor-II (SIM-II)</u>

□ Newly  
□ Updated  
□ Inherited

