



AOMSUC-15 2025 FYSUC

THE 15TH ASIA-OCEANIA METEOROLOGICAL SATELLITE USERS' CONFERENCE (AOMSUC-15)
2025 FENGYUN SATELLITE USER CONFERENCE (2025 FYSUC)

Meteorological Satellite Data Application Solution

Beijing Huayun Shinetek Science and Technology Co., Ltd



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Company Background Introduction

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Company Background Overview

With professional technique in meteorological research and application fields

Beijing Huayun Shinetek Company

Guided by China Huayun Corporation under CMA to fulfill service requirements

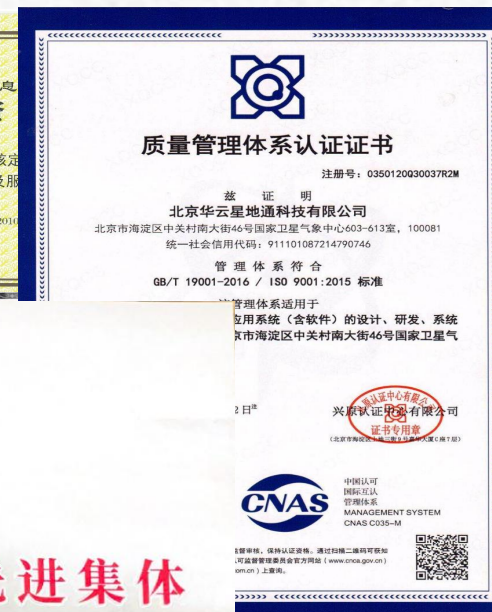
NSMC

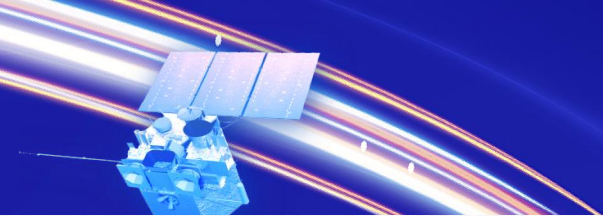
China Huayun Group

Technically supported by NSMC with strong research force for creative production

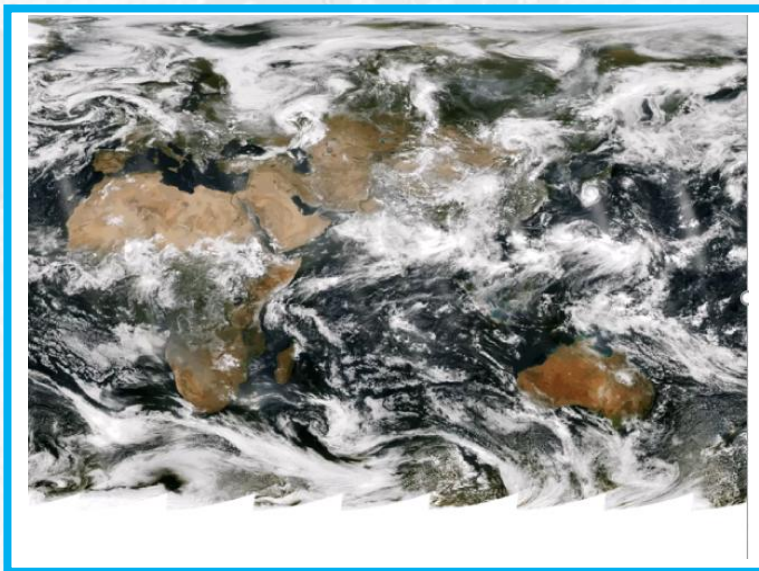
Shanghai Satellite Engineering Research Institute

Core techniques supported by Shanghai Satellite Engineering Research Institute with widely application upgrade for advanced technology.

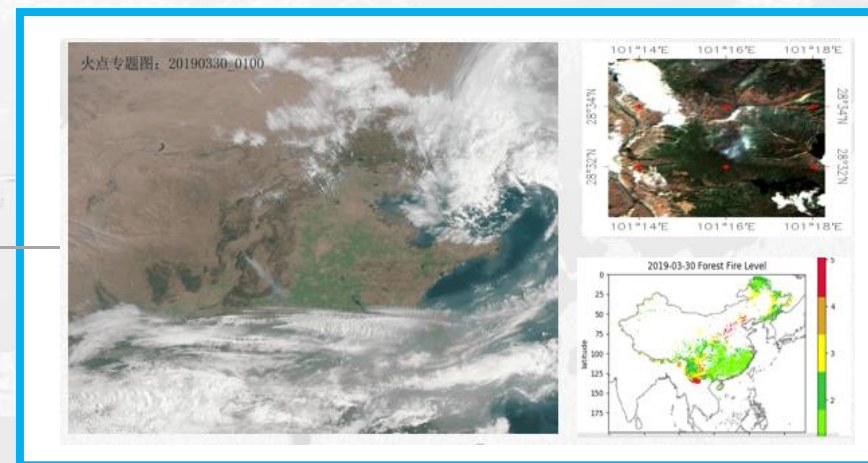




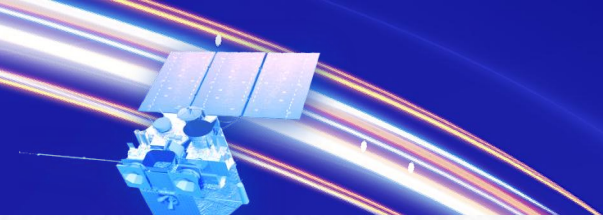
Company Background Introduction-Business Scope



- Fengyun Satellites
- International Satellites
- Chang'e Lunar Probe Program
- Mars Exploration
- Marine Satellite Series
- Earth System Numerical Simulation Facility
-



Remote Sensing Application in weather, marine, civil aviation, environment, ecological, forestry and traffic, etc.



Company Background-Business Scope



Providing remote sensing ground systems and software including data processing, data archiving, system integration.

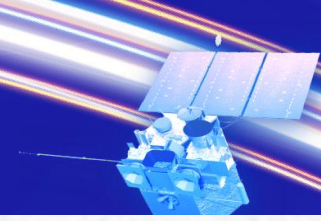
Remote Sensing Industry

Meteorological Satellite

Moonlet Satellite

Remote Sensing

- ◆ Multi-source Satellite Remote Sensing Application
- ◆ Moonlet satellite industry: telemetry and receiving ground station network
- ◆ Intelligent Satellite Data Service System Real-time Monitoring
- ◆ Research and Data Simulation Services
- ◆ Intelligent Data Services



Business Scope-Satellite Ground Station



Polar-Orbiting Satellite

Including data receiving system for domestic and abroad polar-orbiting satellite and high-resolution satellite.



Broadcast Satellite

Including CMACast Broadcast and EUMETCast Broadcast Satellite Data Receiving Systems.

Geostationary Satellite

Including FY-2, HimawariCast, GK2A and FY-4 Geostationary Data Receiving Systems.





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Data Source--Satellite Ground Station



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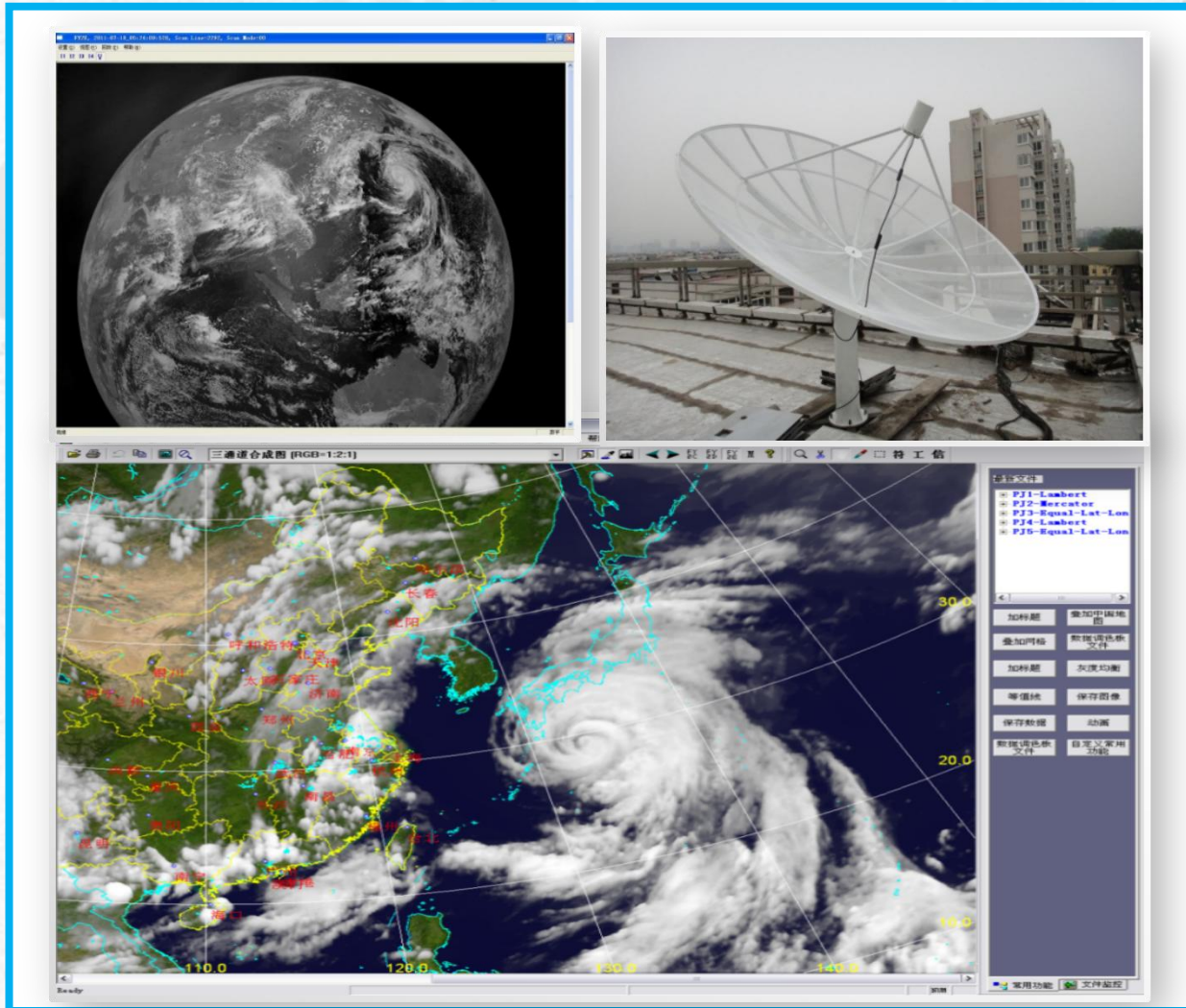
Ground Station User List (Till 2025)

Serial No.	System Type	Country	Serial No.	System Type	Country
1	CMACast	Maldives	1	FY-2H	Mozambique
2		Pakistan	2		Oman
3		Malaysia	3		Kyrgyzstan
4		Myanmar	4		Bangladesh
5		Philippines	5		Mongolia
6		Mongolia	6		Iran
7		Iran	7		Pakistan
8		Sri Lanka	8	FY-3	Zimbabwe
9		Uzbekstan	9		Namibia
10		Nepal	10	FY-4	Laos
11		Kyrgyzstan			
12		Laos			



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Satellite Ground Station-FY-2 Geostationary System



Integrated with software and hardware for:

- ✓ Data receiving
- ✓ Image display
- ✓ Product processing
- ✓ Data distribution through network

Widely applied in meteorological, marine, aviation, hydrology, electrical, scientific research and military fields, acting as main method for real-time monitoring of typhoon and other severe weather conditions.

With 412 users in domestic and worldwide range.

Satellite Ground Station-FY-3 Polar-Orbiting System

Satellite	Country	Resolution
F-3D/E/F/G	China	250m
NPP/JPSS	USA	375m
EOS-AQUA	USA	250m
METOPA/B/C	Europe	1000m

Outdoor/Indoor Devices

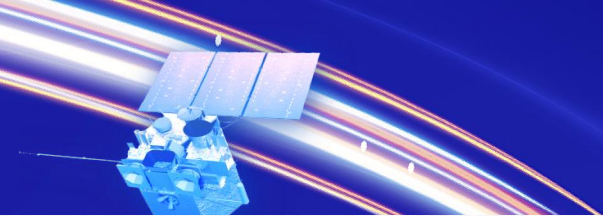


Integrated with software and hardware for:

- ✓ Satellite signal tracking,
- ✓ Data receiving,
- ✓ Data processing
- ✓ Product generation

Operating automatically with high reliability as new generation of meteorological satellite data application ground station system.

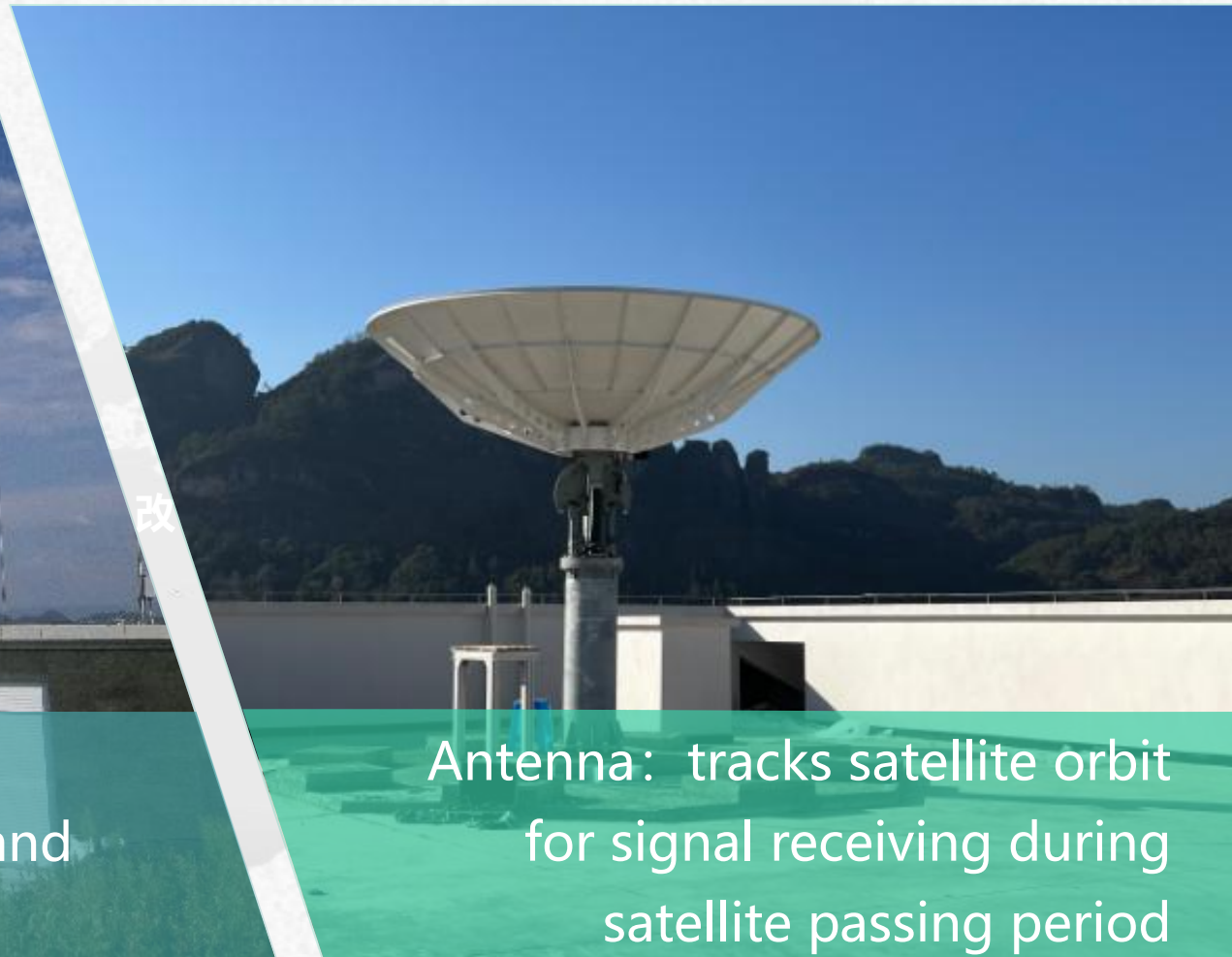
With 98 users totally in domestic and worldwide range.



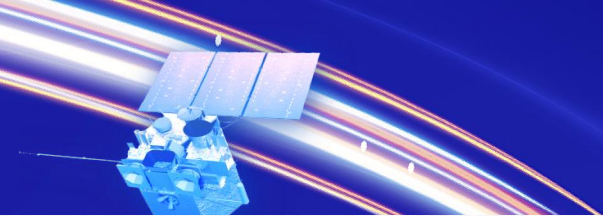
FY-3 System-Outdoor Equipment



Radome: protects antenna from damage by wind, rainfall, snowfall and dust weather conditions



Antenna: tracks satellite orbit for signal receiving during satellite passing period



FY-3 System-Indoor Equipment

01

Data Receiving Cabinet: devices within cabinet convert satellite signal frequency and demodulates signals for data ingestion and later data processing hence to generate standard HDF format products.



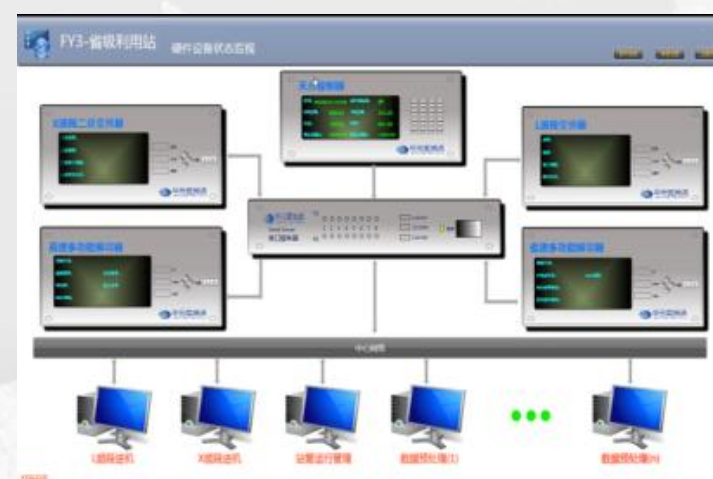
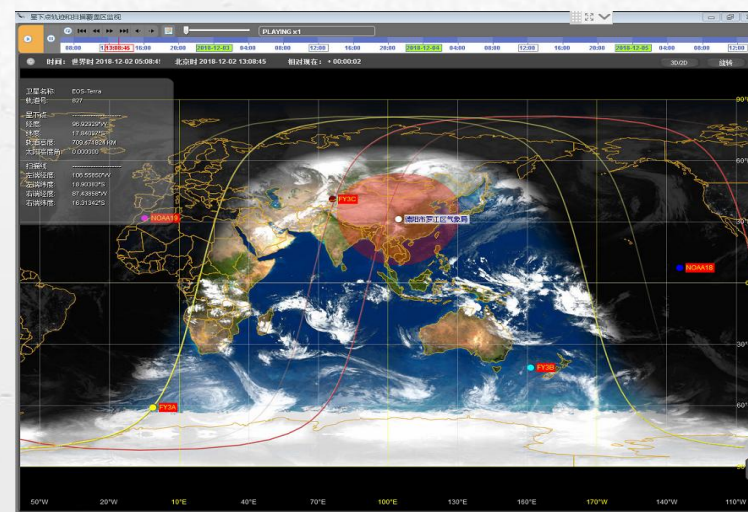
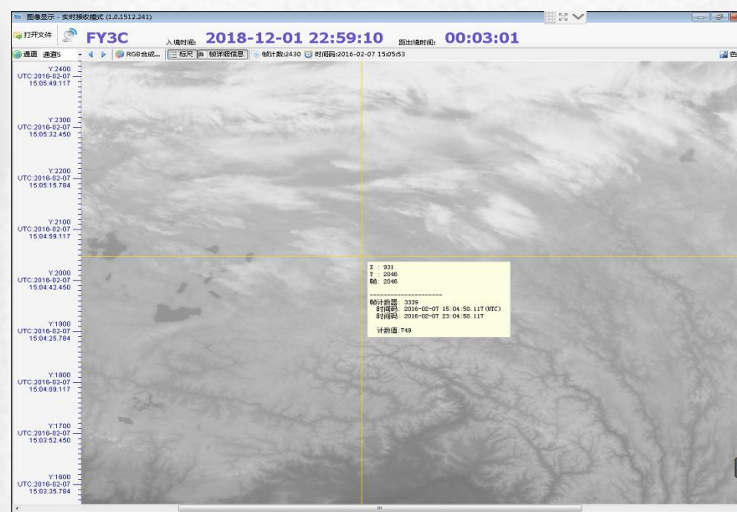
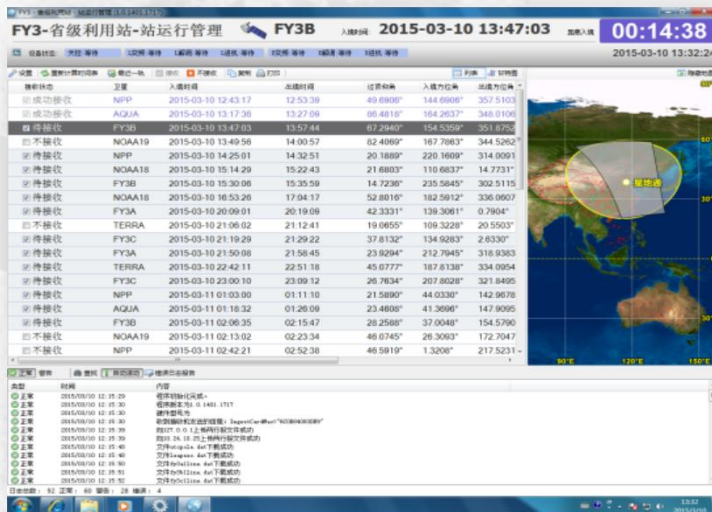
02

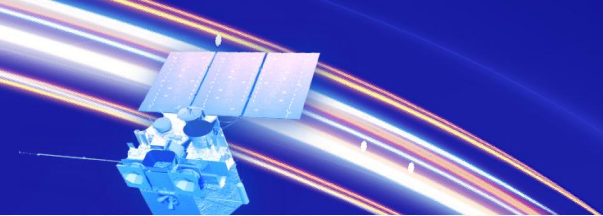
System Operation Monitoring and Product Analysis Platform: monitors operation status and workflow for the whole system; generates ecological monitoring products by satellite data including dust, vegetation, land surface temperature and sea ice temperature monitoring products, etc.



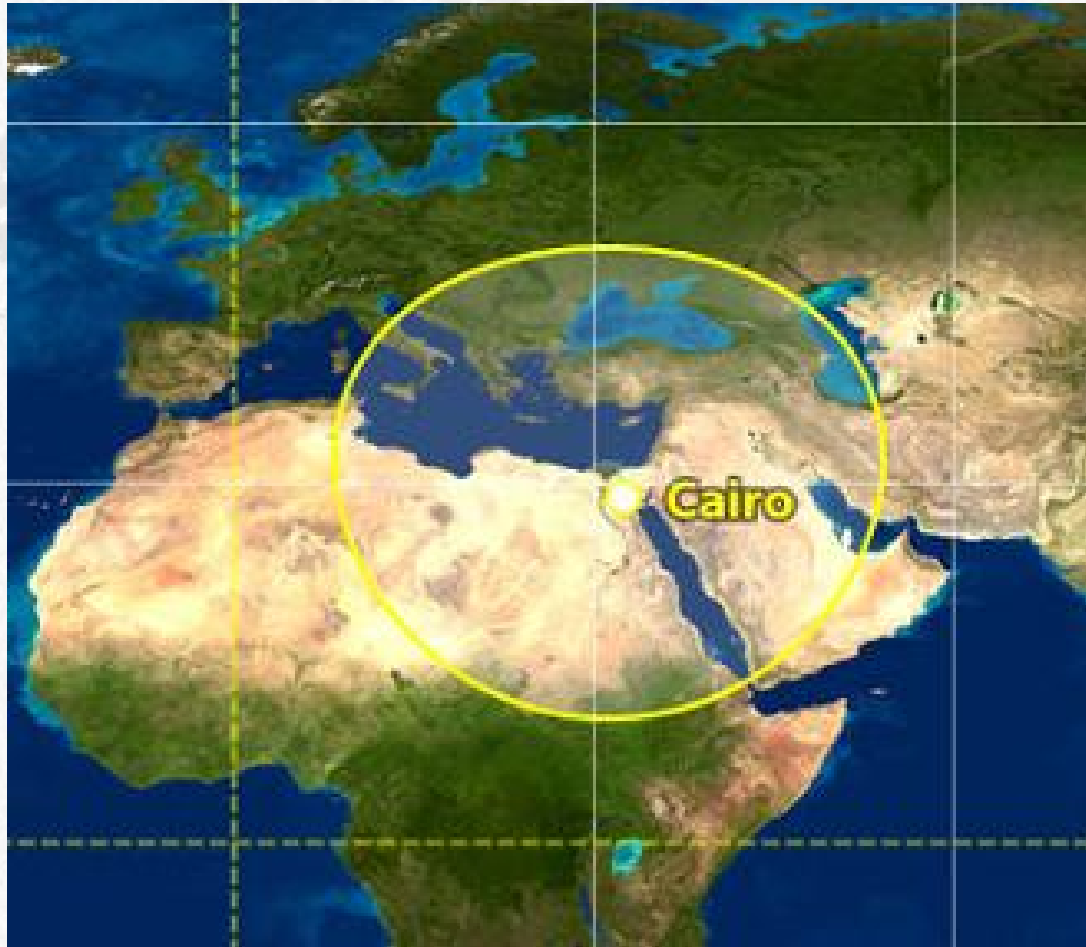
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FY-3 System Software





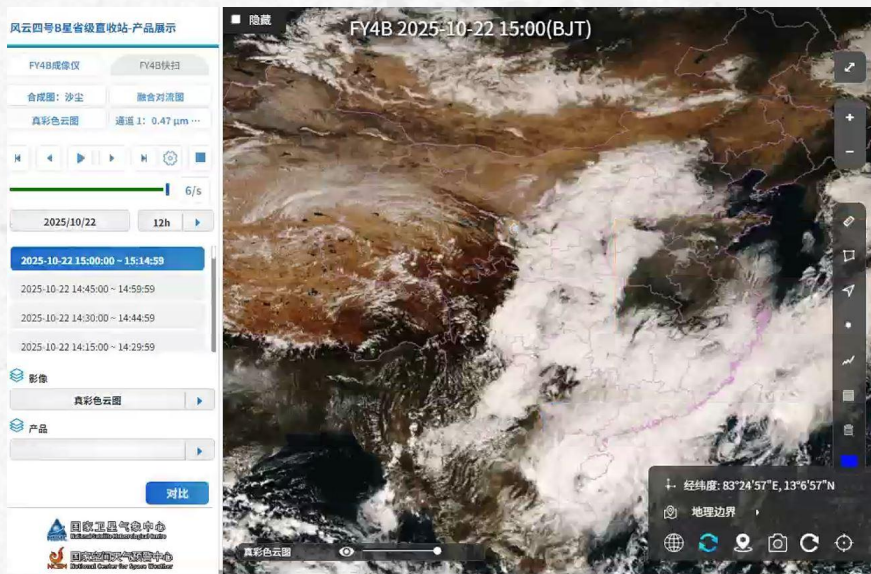
FY-3 System-Signal Receiving Area (For Reference)



1. Construction Location: Cairo
2. Longitude/Latitude: 30.04°N , 31.24°E
3. Satellite Data Coverage Area: Within Yellow Circle
4. Maximum Spatial Resolution: 250m
5. Time Interval: 1 satellite orbit every hour approximately
6. Daily Data Amount: 150GB

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Satellite Ground Station-FY-4 Geostationary System



Integrated with software and hardware for:

- ✓ Satellite signal tracking,
 - ✓ Data receiving,
 - ✓ Data processing and Product Display on browser,
 - ✓ Product data archiving and distribution
- Operating automatically as new generation of meteorological geostationary satellite data receiving and application ground station system.

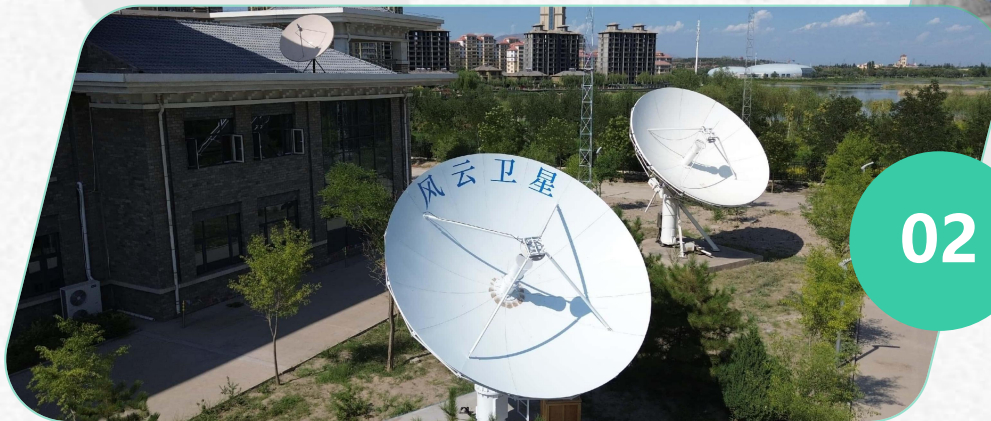
FY-4 System Overview

Indoor Devices: signal demodulation, data ingestion,
product generation and image display

01



02



Outdoor Antenna: FY-4 satellite signal
tracking and receiving for FY4A/FY4B
satellite signals and data

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FY-4 System Software

风云四号B星省级直收站-产品展示

FY4B成像仪

FY4B快扫

合成图: 沙尘

融合对流图

真彩色云图

通道1: 0.47 μm ...



6/s

2025/10/22 12h

2025-10-22 15:00:00 ~ 15:14:59

2025-10-22 14:45:00 ~ 14:59:59

2025-10-22 14:30:00 ~ 14:44:59

2025-10-22 14:15:00 ~ 14:29:59

影像

真彩色云图

产品

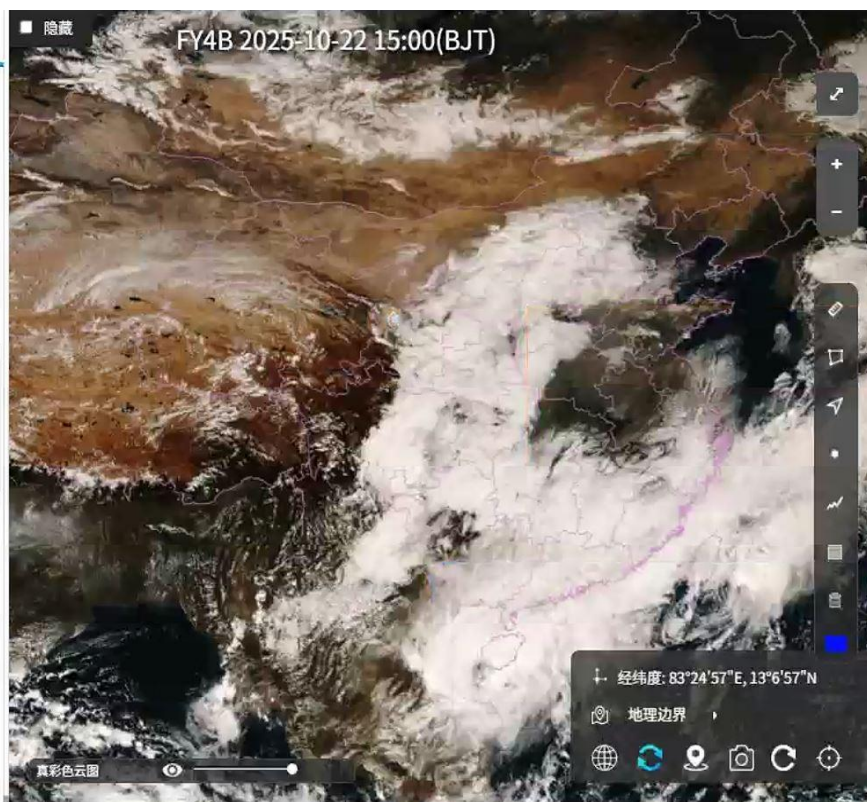
对比

国家卫星气象中心

National Satellite Meteorological Center

国家空间天气信息中心

National Space Weather Information Center



Product Display Platform

192.168.3.14.8200

Supervisor Status 风云卫星利用站数据...

FY4A数据站 首页 产品展示 数据管理 系统管理 作业流 守护 其他

FY4 运行集中监视 FY4 Centralized Monitoring

辅助数据

BTC: 2021/4/30 09:57:52 星期五

成像仪观测任务

00:00:00	00:15:00	00:30:00	00:34:00	00:38:00	00:45:00	00:49:00	00:53:00	01:00:00	01:15:00	01:19:00	01:23:00
01:30:00	01:34:00	01:38:00	01:45:00	01:49:00	01:53:00	02:00:00	02:15:00	02:19:00	02:23:00	02:30:00	02:34:00
02:38:00	02:45:00	03:00:00	03:15:00	03:30:00	03:34:00	03:38:00	03:45:00	03:49:00	03:53:00	04:00:00	04:15:00
04:19:00	04:23:00	04:30:00	04:34:00	04:38:00	04:45:00	04:49:00	04:53:00	05:00:00	05:15:00	05:19:00	05:23:00
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08:19:00	08:23:00	08:30:00	08:34:00	08:38:00	08:45:00	09:00:00	09:15:00	09:30:00	09:34:00	09:38:00	09:45:00
09:49:00	09:53:00	10:00:00	10:15:00	10:19:00	10:23:00	10:30:00	10:34:00	10:38:00	10:45:00	10:49:00	10:53:00
11:00:00	11:15:00	11:19:00	11:23:00	11:30:00	11:34:00	11:38:00	11:45:00	12:00:00	12:15:00	12:30:00	12:34:00
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22:34:00	22:38:00	22:45:00	22:49:00	22:53:00	23:00:00	23:15:00	23:19:00	23:23:00	23:30:00	23:34:00	23:38:00
23:45:00											



System Monitoring Platform

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Satellite Ground Station-Satellite Broadcast System

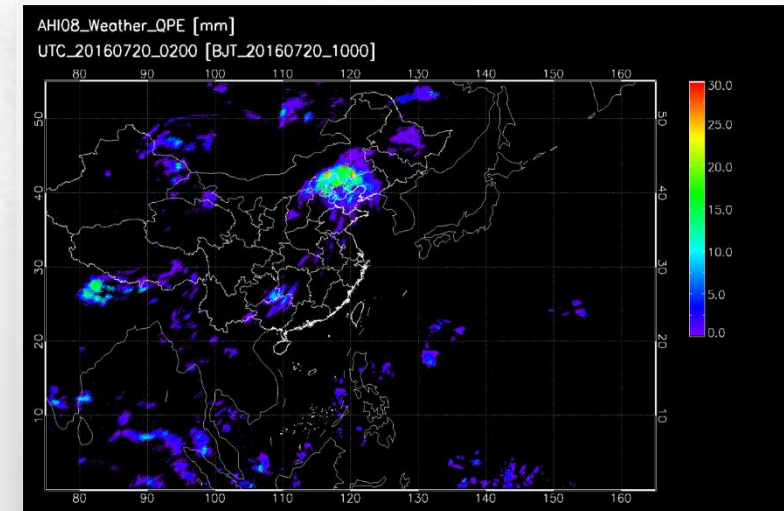


CMACast System

China Meteorological Administration adopts DVB-S2 standard with a C-band commercial satellite to broadcast data including meteorological, air sounding and radar data.

Hence to greatly enhance variety and amount of meteorological broadcast data with high efficiency and reliability.

72 users in global range.



GK2A System

GK2A Satellite Data Receiving and Processing System

developed by our company automatically receives Korean

GK2A satellite data in 16 channels including 4 visible channels with resolution of 0.5-1km and 12 infrared channels with resolution of 2km.

3 users in China.



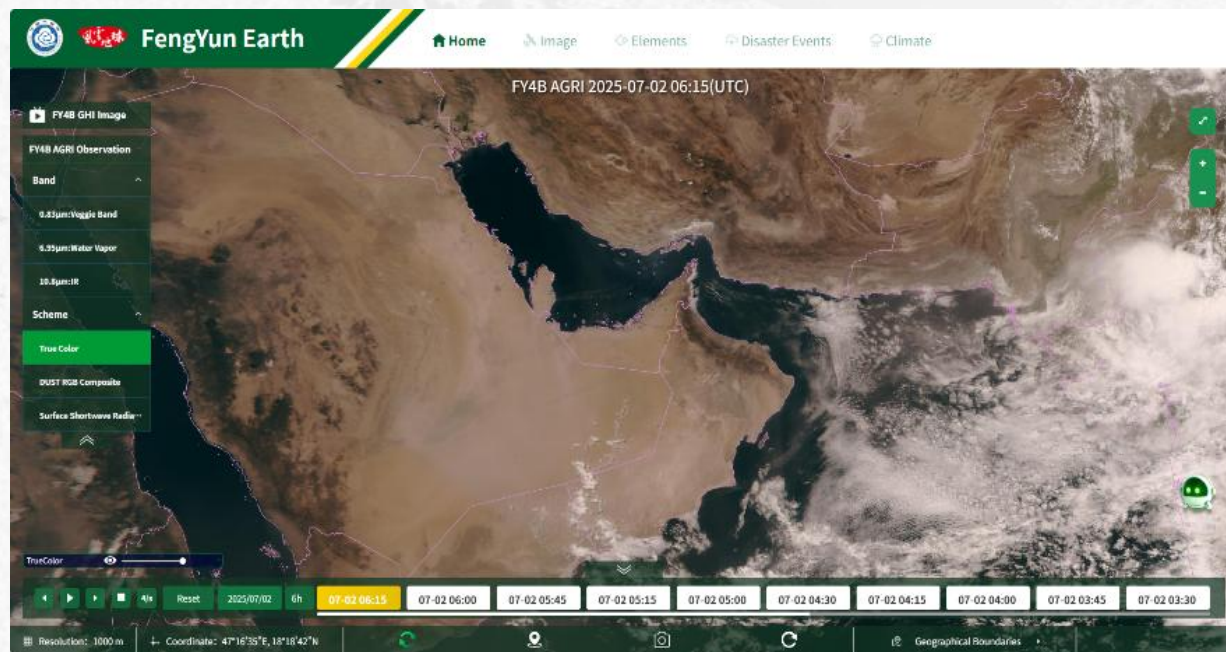
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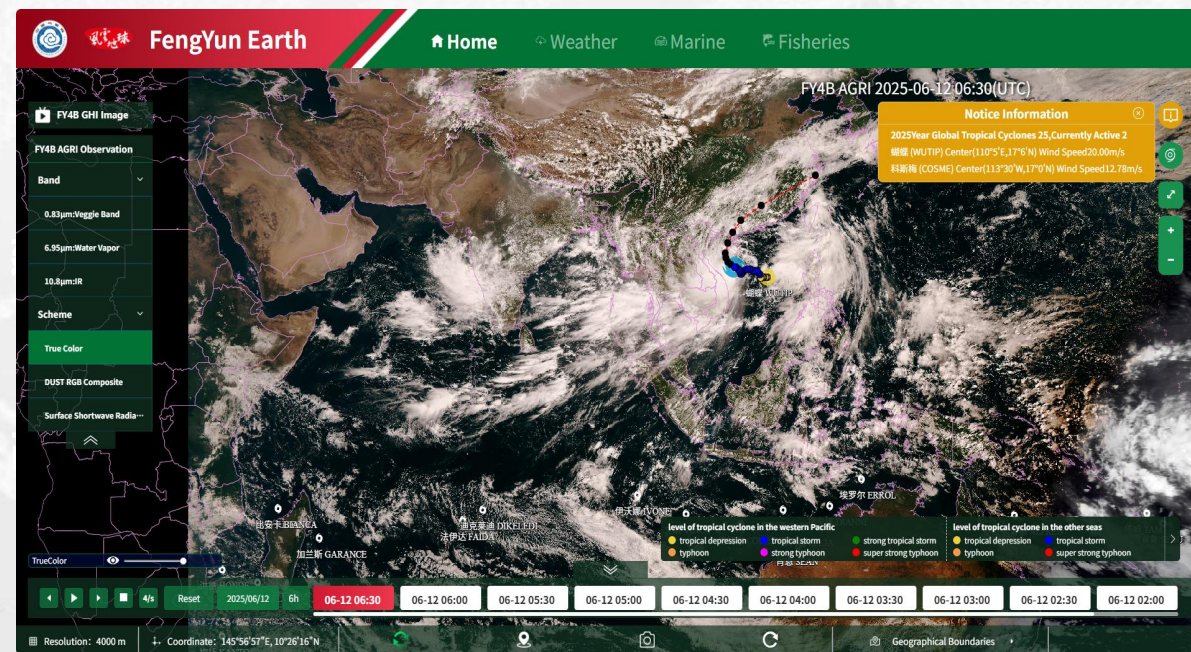
Satellite Data Application Platform

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Product Platform



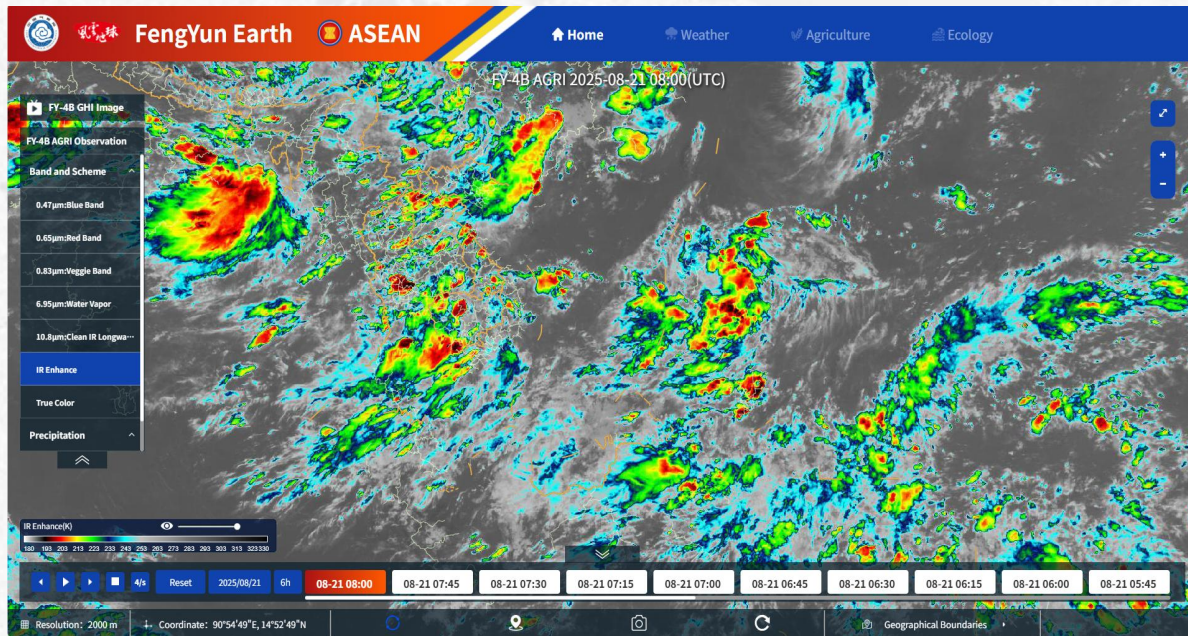
Arabic Version Platform



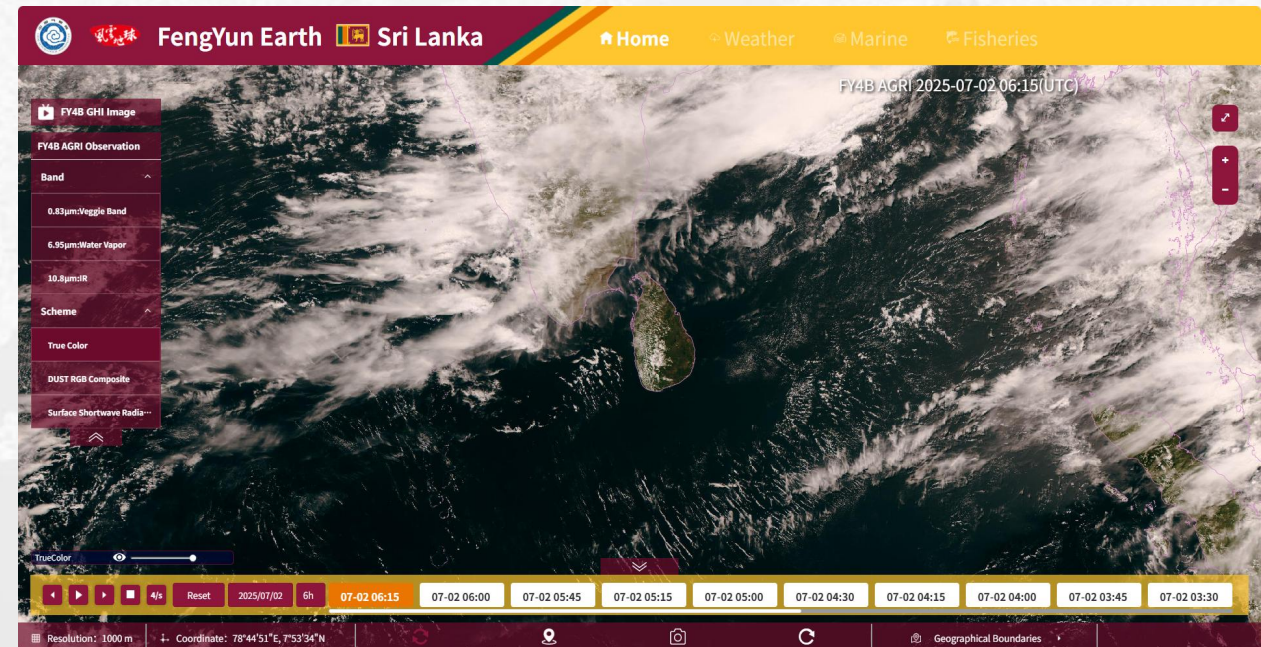
Customized Platform for Maldives

AOMSUC-15 2025 FYSUC

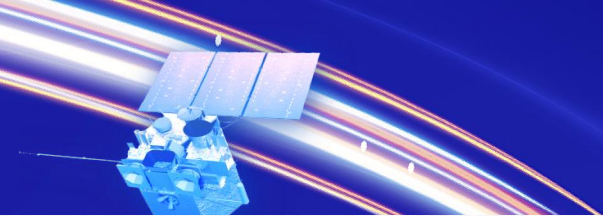
Product Platform



Customized Platform For ASEAN

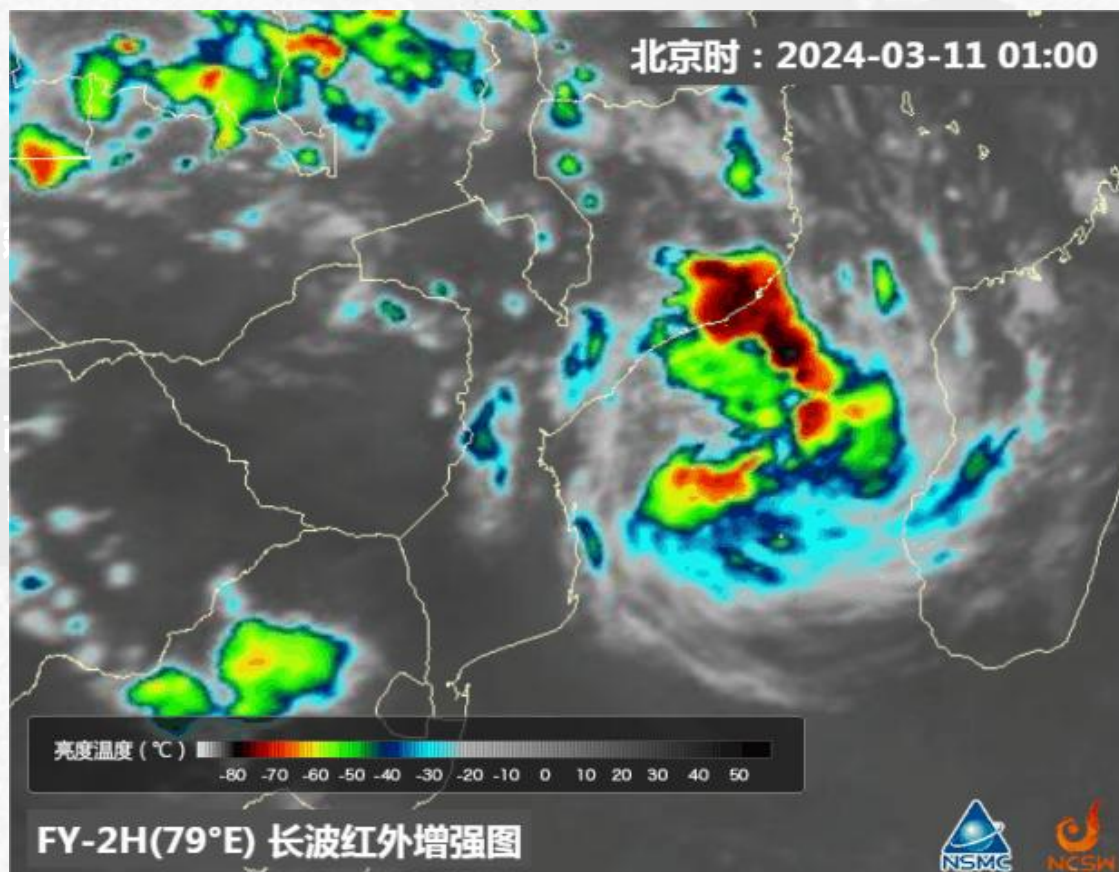
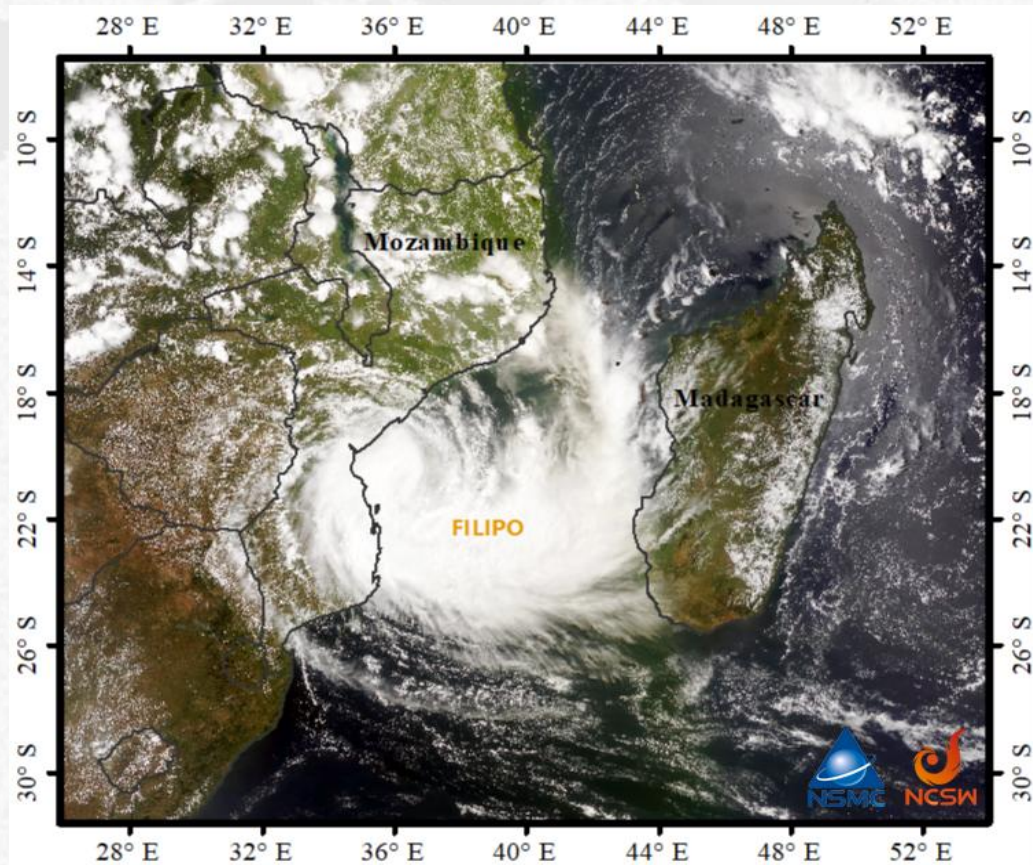


Customized Platform for Sri Lanka



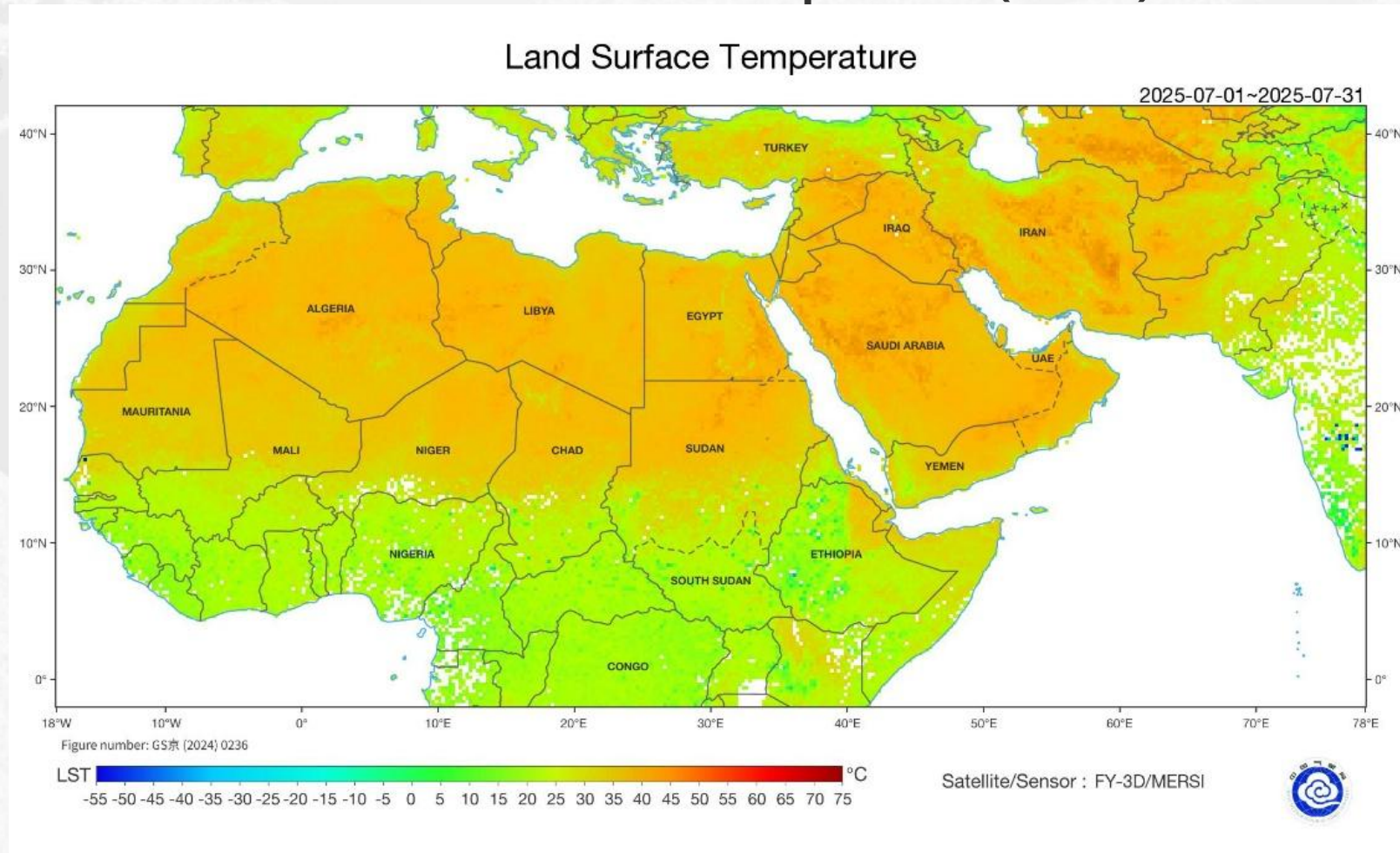
Monitoring Products

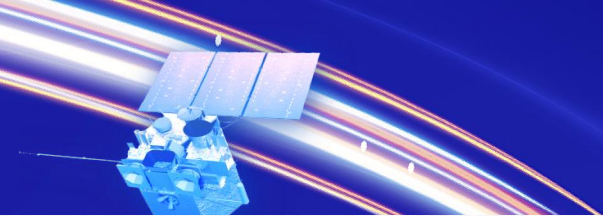
On March 11th, 2024, the severe tropical storm "FILIPO" formed in the southwestern Indian Ocean. Affected by "FILIPO" and its peripheral cloud system, the eastern coast of Mozambique has been experiencing continuous precipitation since the 11th.



Monitoring Products

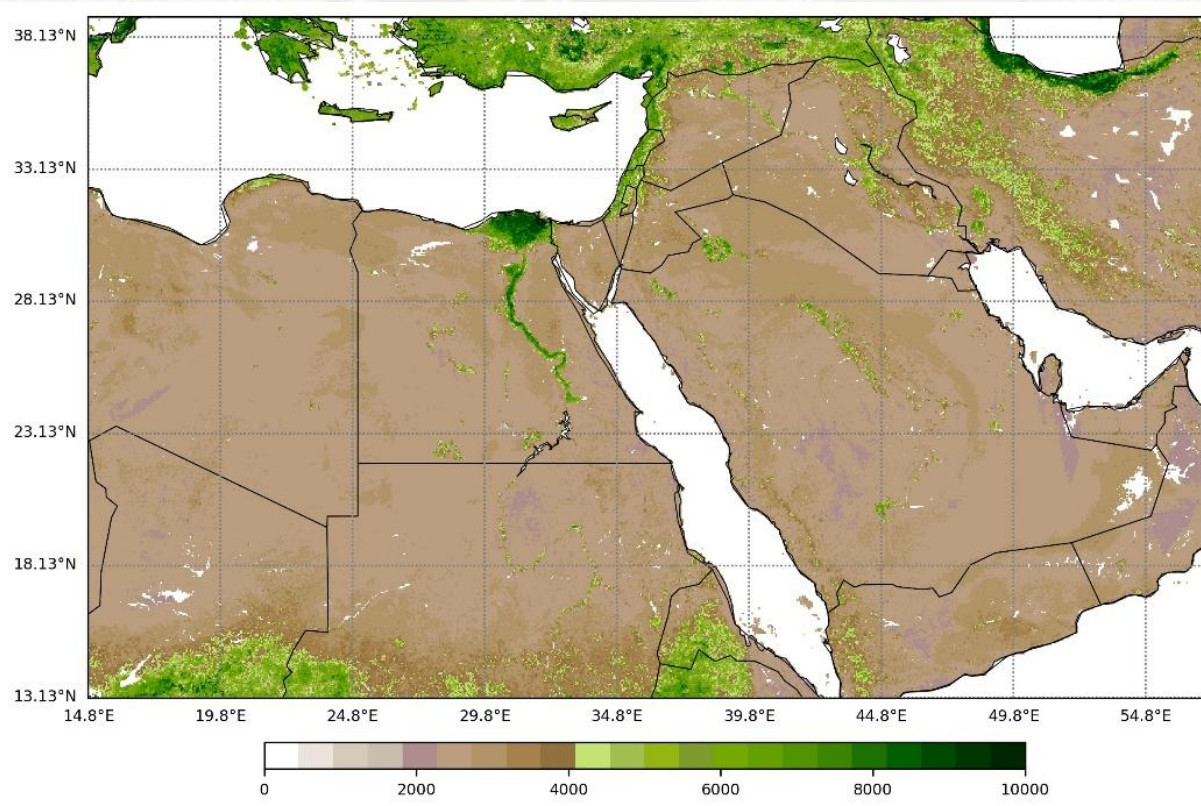
Land Surface Temperature (FY-3D)



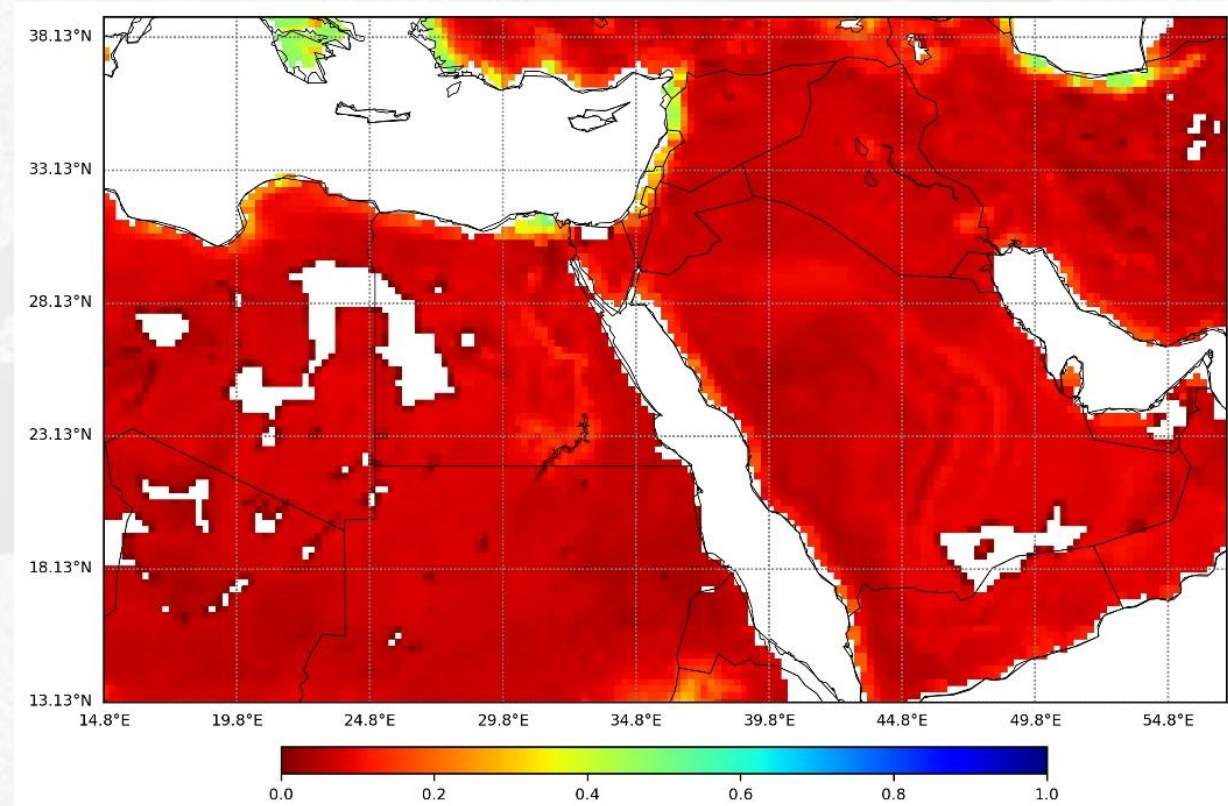


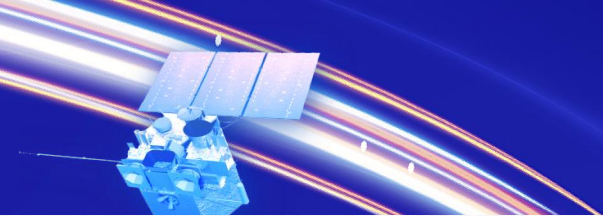
Monitoring Products

Vegetation Index (FY-3D)



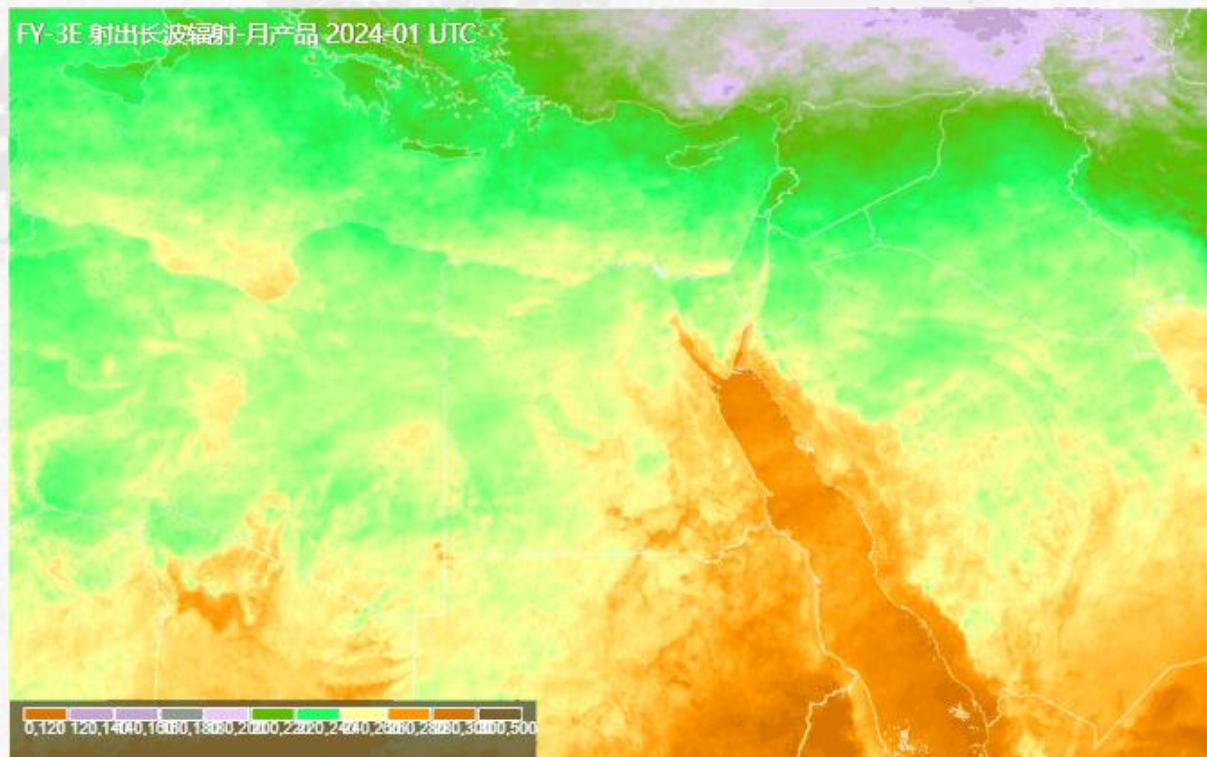
Soil Moisture (FY-3D)





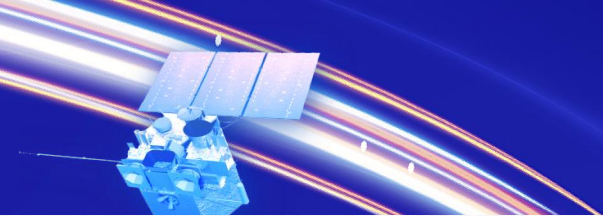
Monitoring Products

Long-wave Radiation (FY-3E)



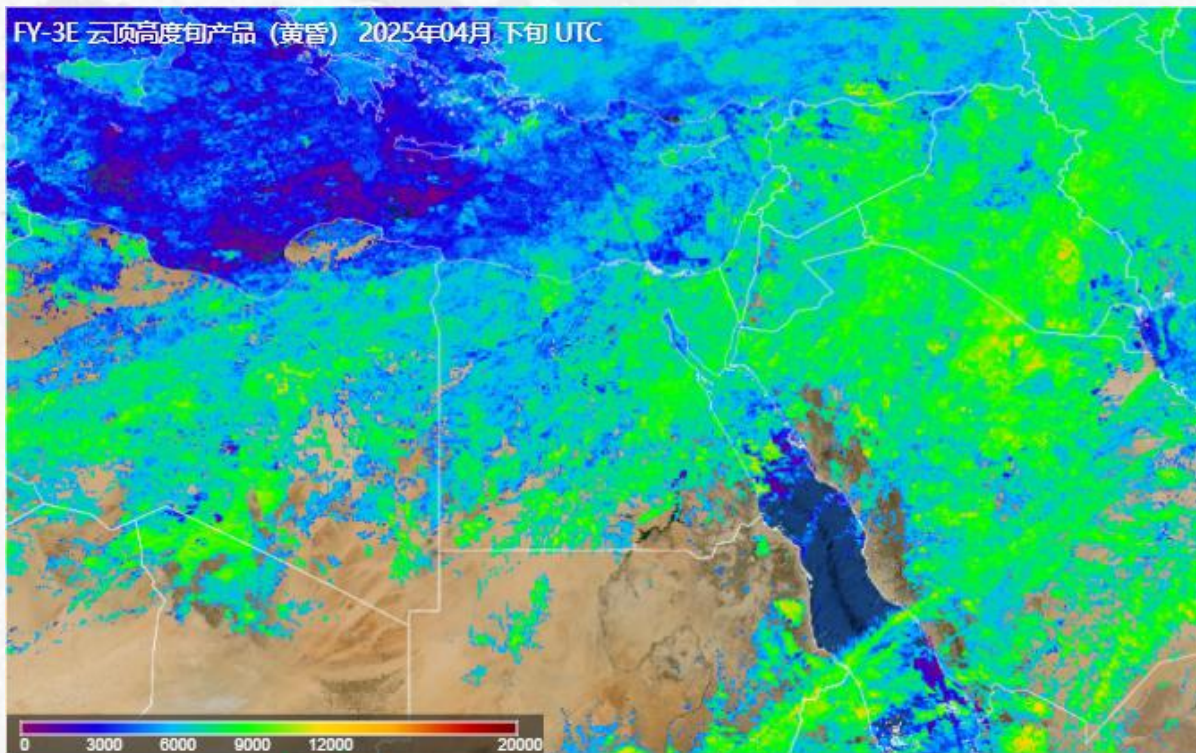
True Color Composite Image(FY-3D)



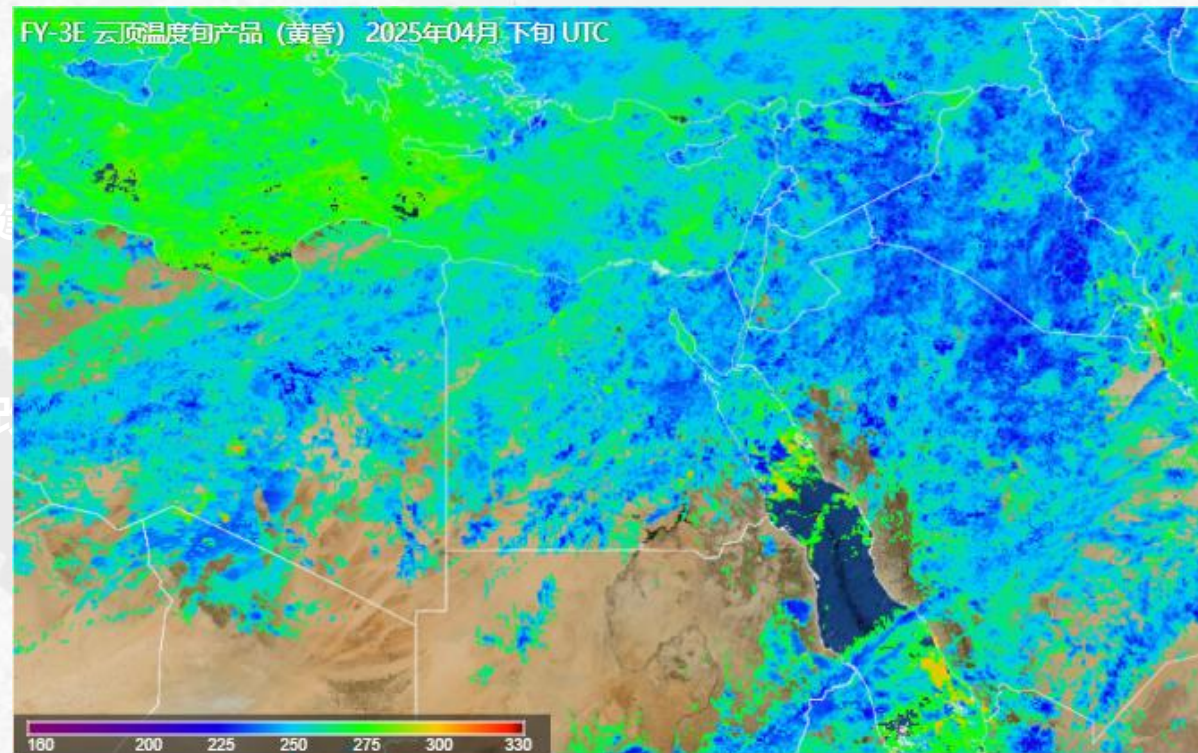


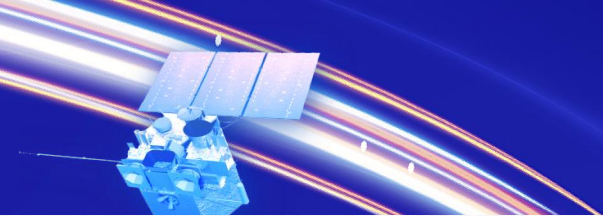
Monitoring Products

Cloud Top Height (FY-3E)



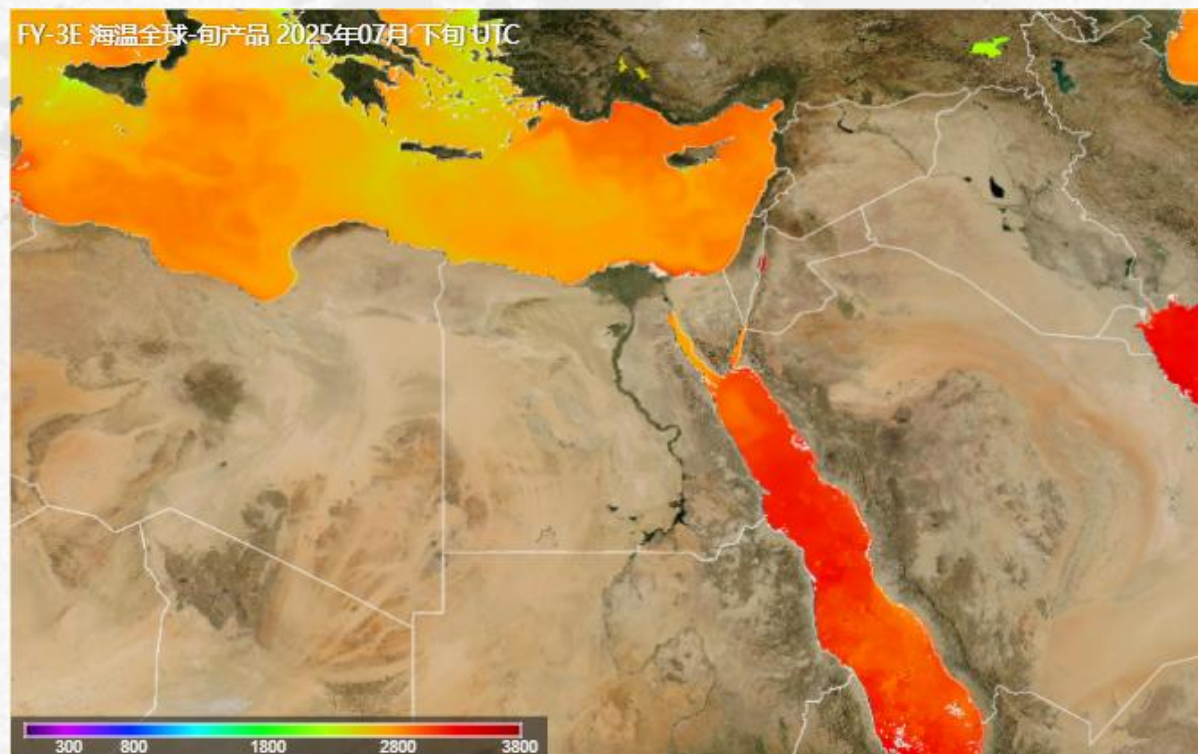
Cloud Top Temperature (FY-3E)



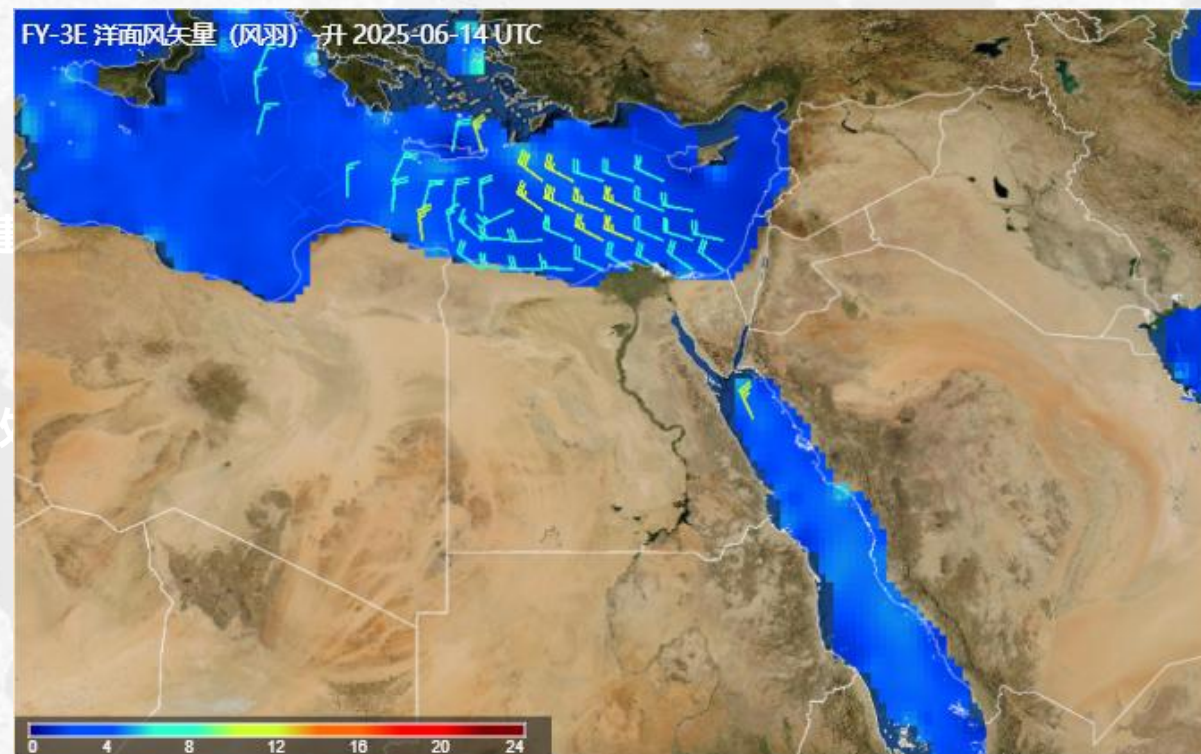


Monitoring Products

Sea Surface Temperature (FY-3E)

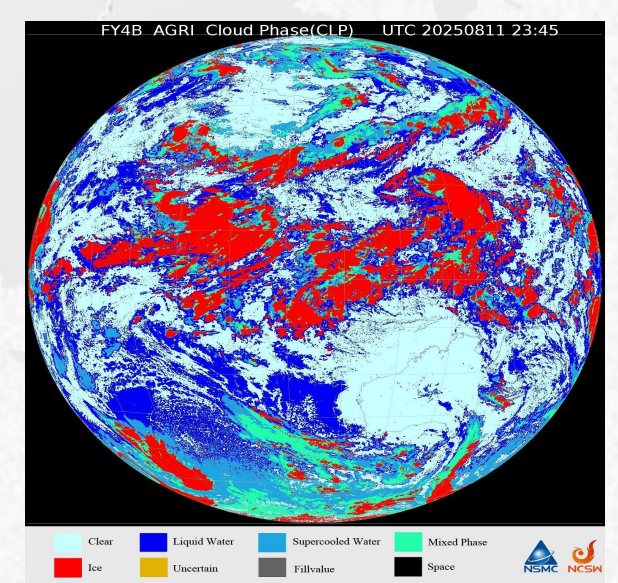
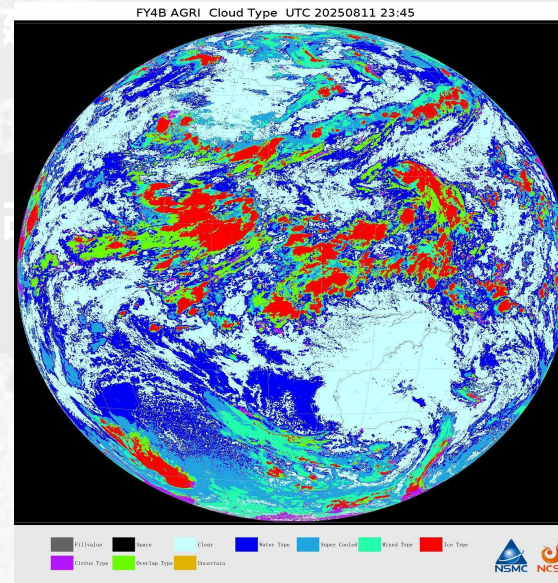
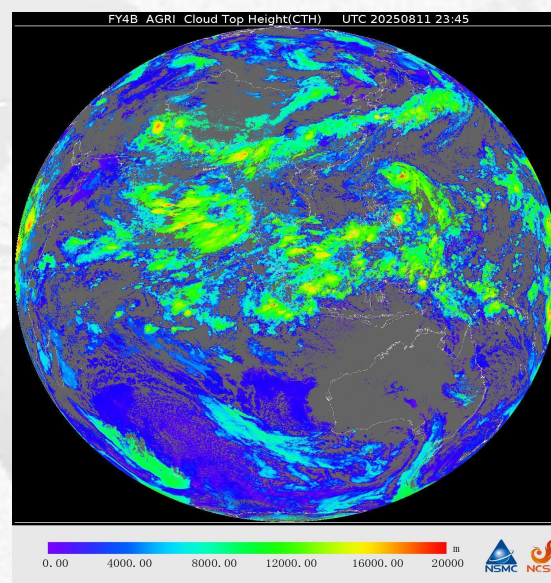
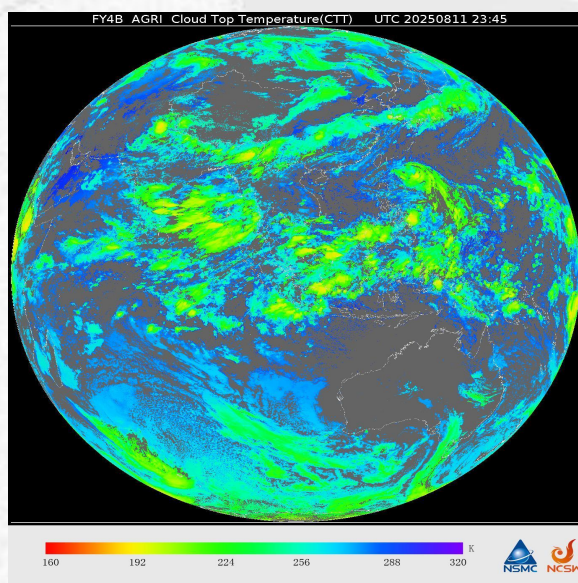


Sea Surface Wind (FY-3E)



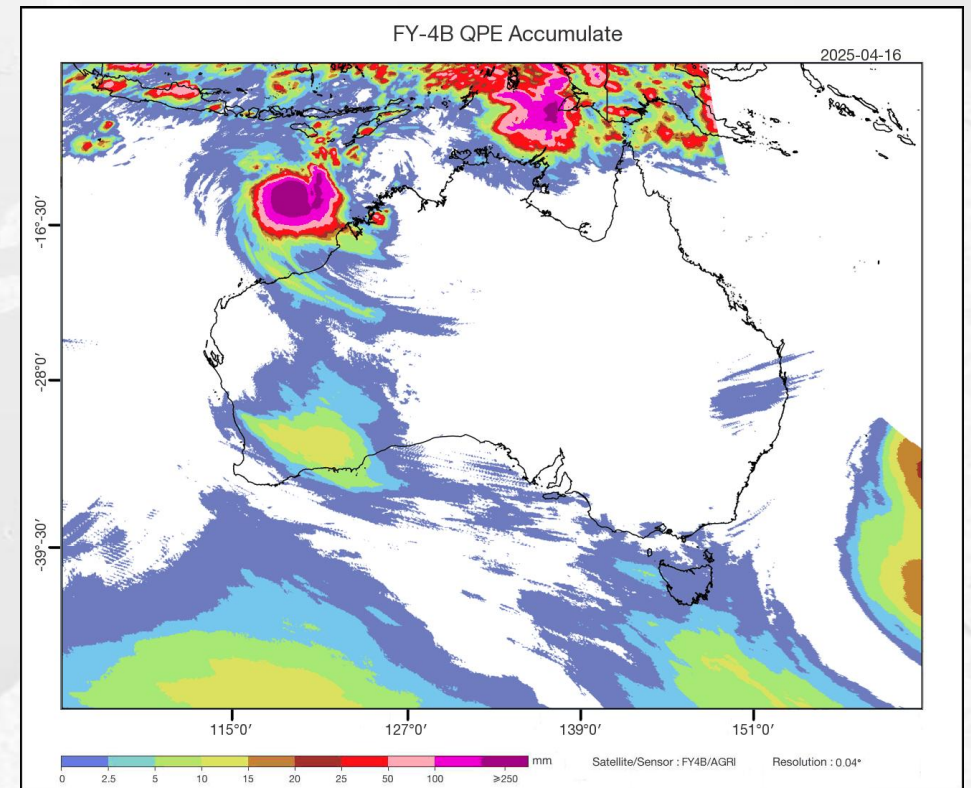
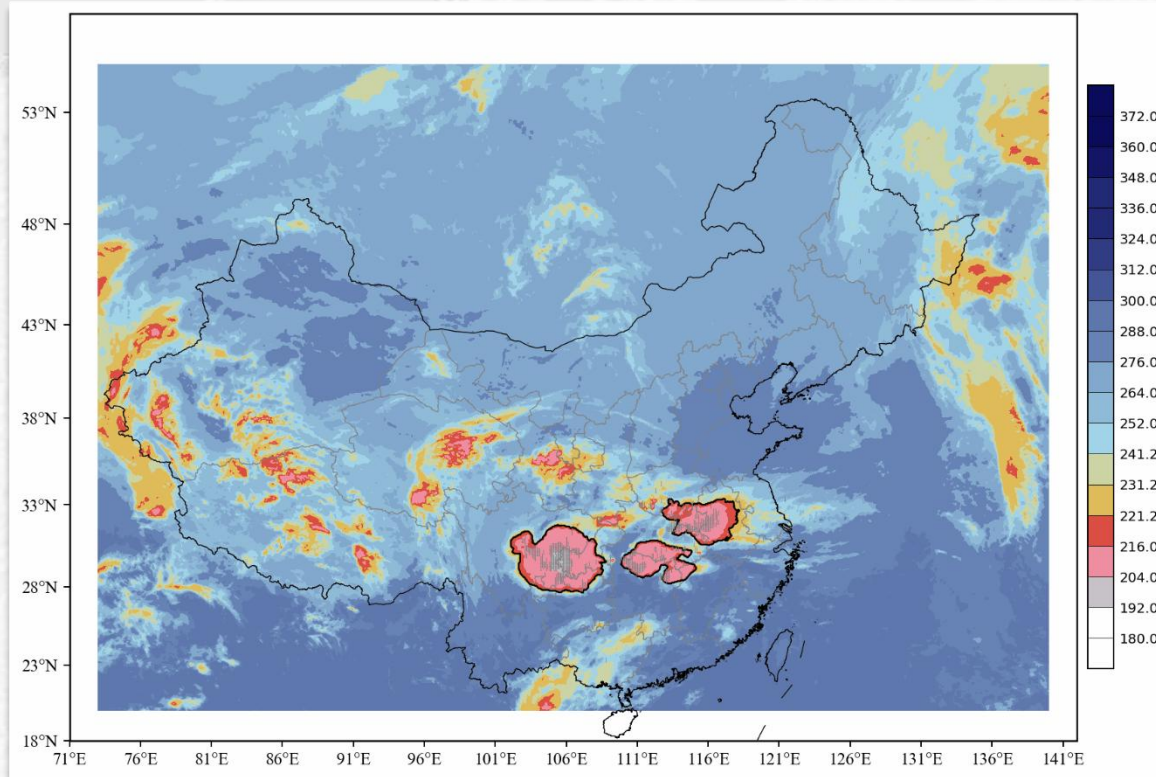
Monitoring Products

FY-4 satellite high-frequency observation provides cloud observation products including cloud type, cloud top height/temperature/pressure products, etc.



Monitoring Products

Application of FY-4 meteorological satellite data in monitoring heavy rain and severe convective weather conditions , and also in short range weather forecasting.





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THANKS FOR YOUR TIME!



Beijing Huayun Shinetek Science and Technology Co., Ltd