

China's FENGYUN Meteorological Satellites

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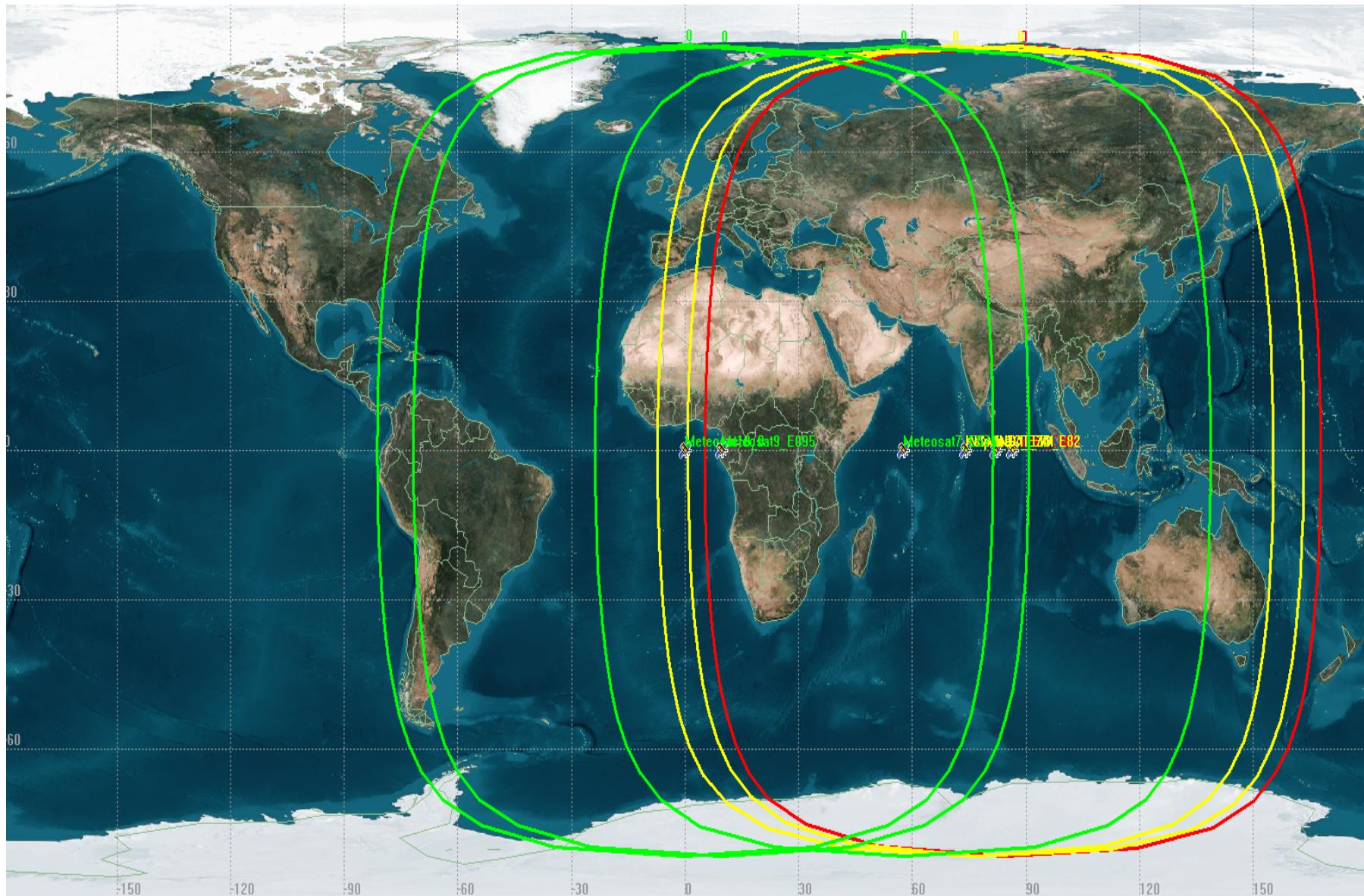


Outline

- I. Coverage of China's FENGYUN
Meteorological Satellites over Africa**

- II. Contribution of FENGYUN Meteorological
satellites to Africa**

I. Coverage of meteorological satellites over Africa



FENGYUN GEO

In operation

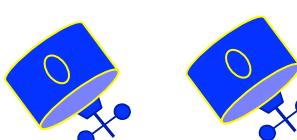
FY-2D: Full Disk (123.5°)

FY-2E: Full Disk (86.5°)

FY-2F: Regional (112°)

FY-2G Full disk (105°)

Operation



FY-2E



FY-2G



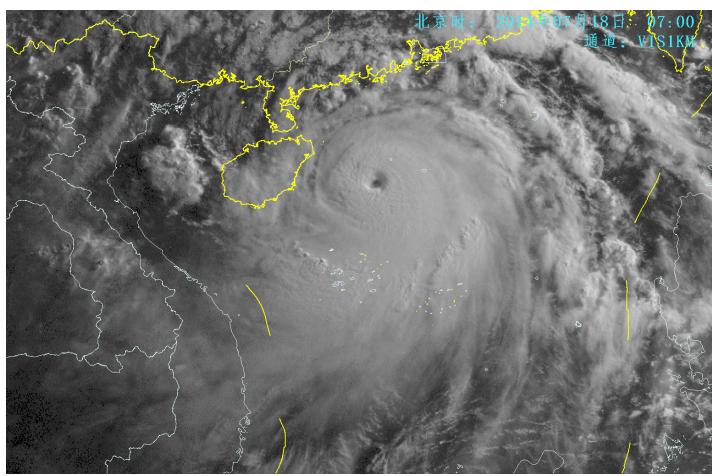
FY-2F



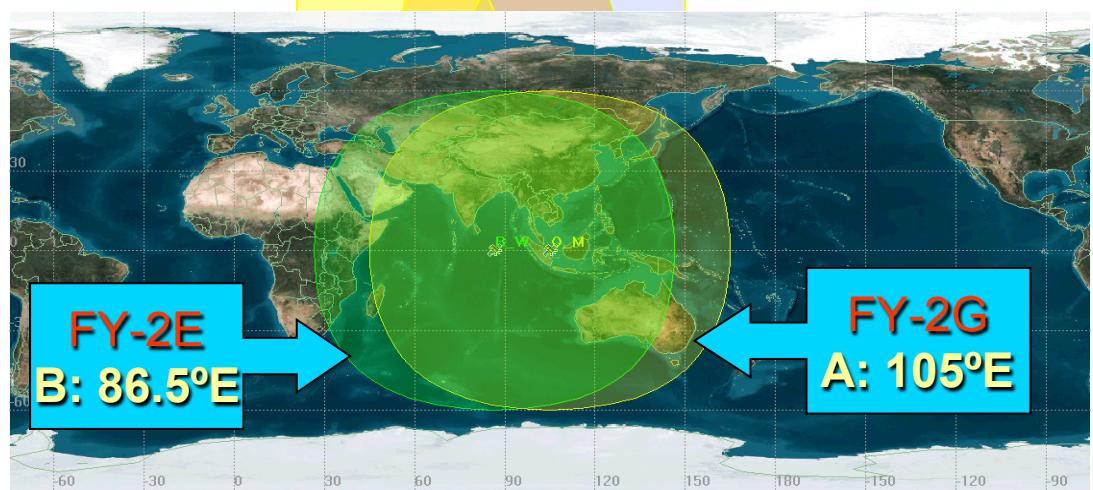
FY-2D

Rapid Regional Scan

Full Disk Scan



2014-11-18



4

FY-2E

S-VISSR --- 5 channel visible and infrared spin scan radiometer

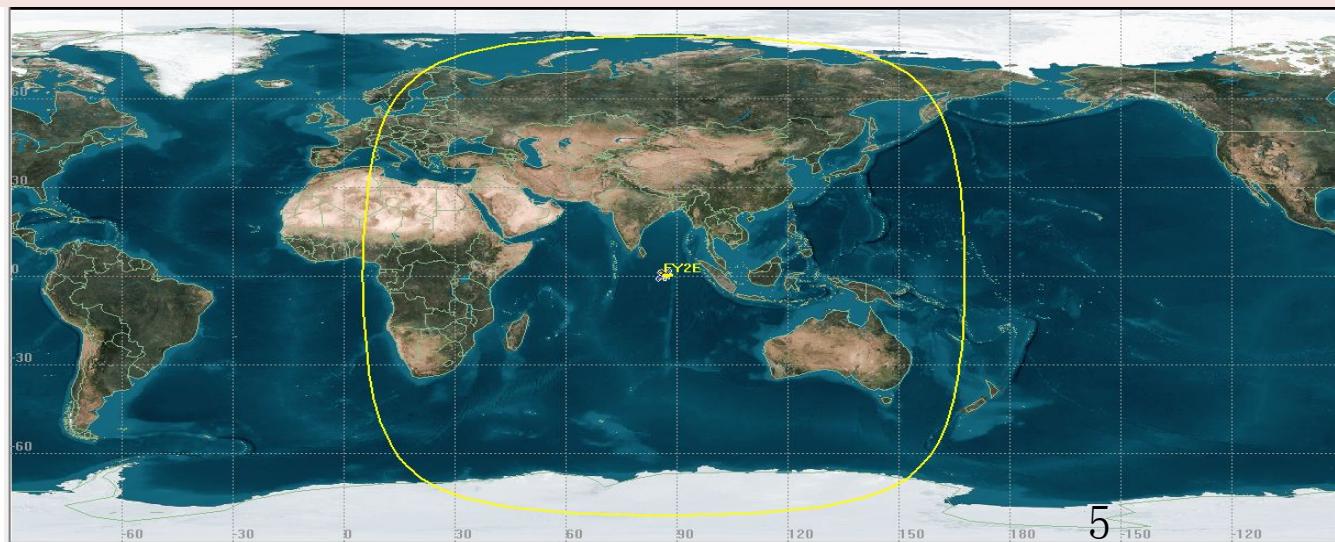
VIS	0.50-0.9 μm
IR	3.5 - 4.0μm
WV	6.3 - 7.6 μm
IR(Split windows)	10.3-11.3 μm、11.5-12.5 μm

Space Environment Monitoring – solar particle in immediate vicinity of satellite

SEM	Space Environment Monitor
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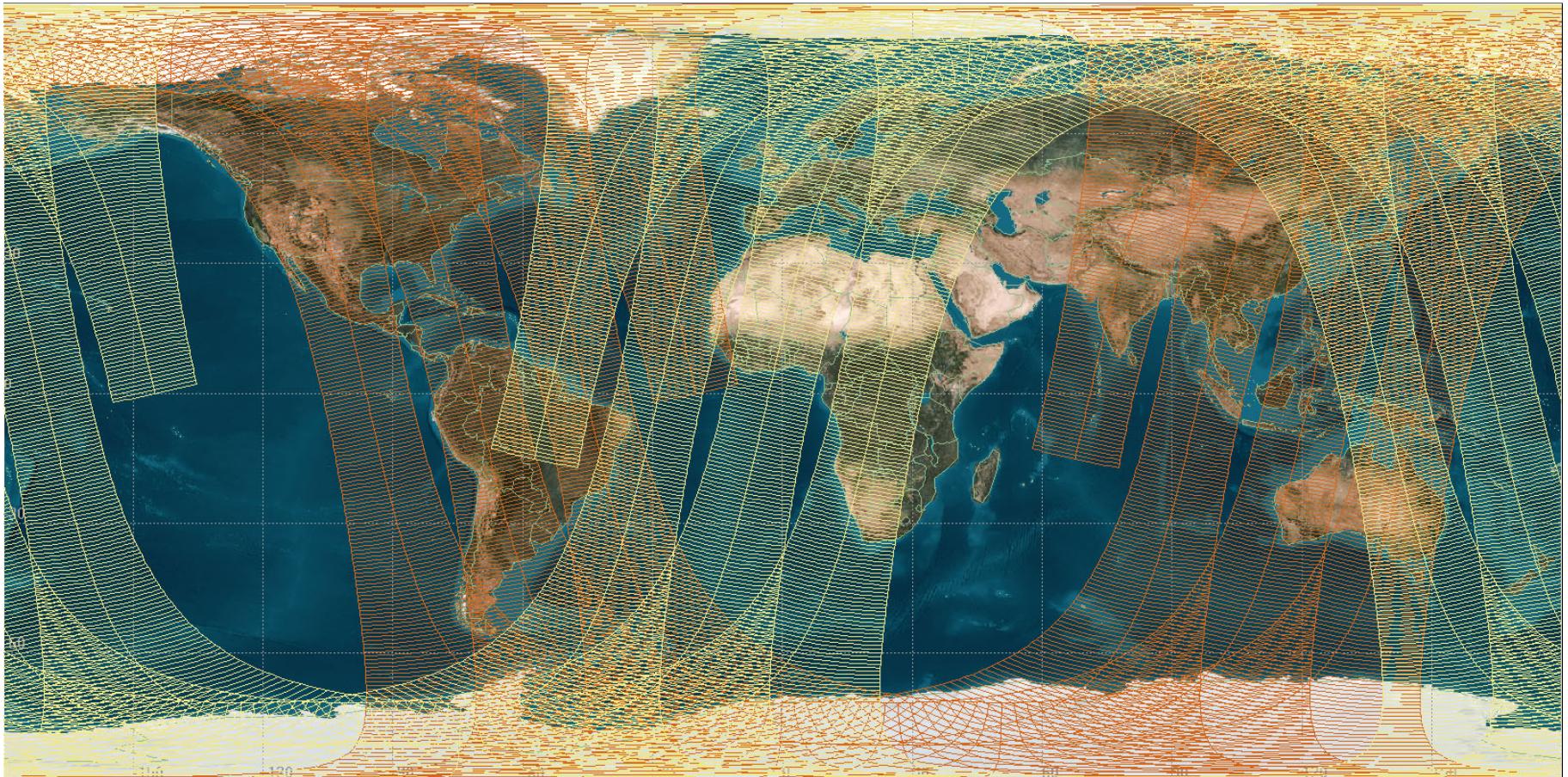
DCPS – data collection service for 4,000 platforms at present capability

Domestic	401. 1-401. 4 MHz
International	402. 0-402. 1 MHz



FENGYUN Polar

- To be decommission: FY-3A
- In operation: FY-3B + FY-3C **Global Coverage per 6 hours**



2014-11-18

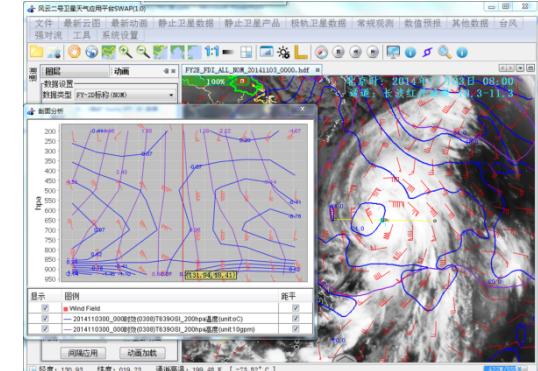
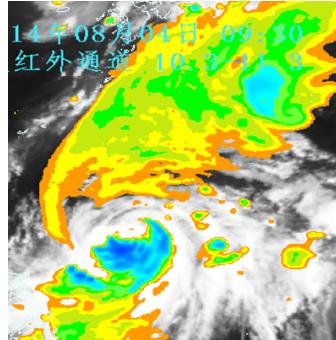
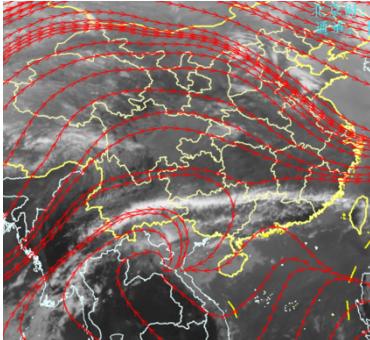
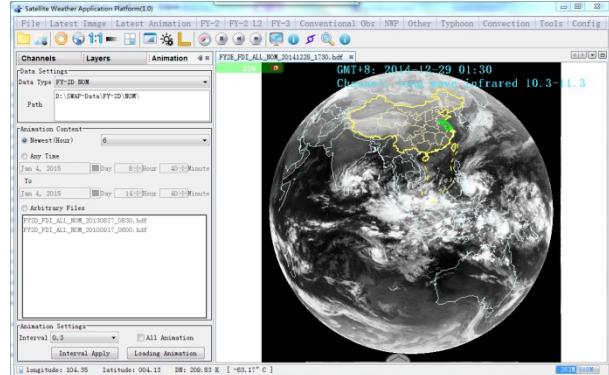
FY-3C LTC 10:30 AM

FY-3B LTC 13:40 PM

Satellite applications

Satellite Weather Application Platform(SWAP) –

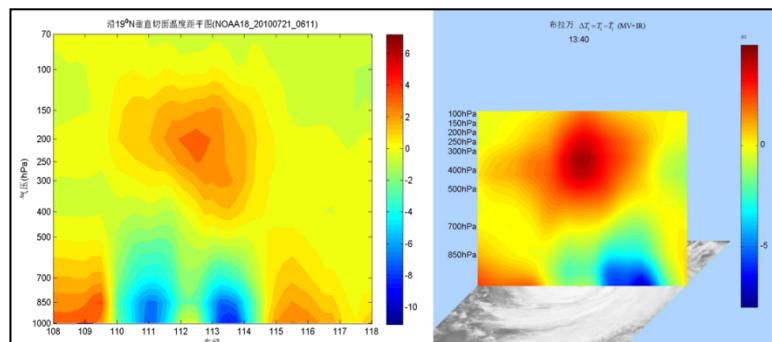
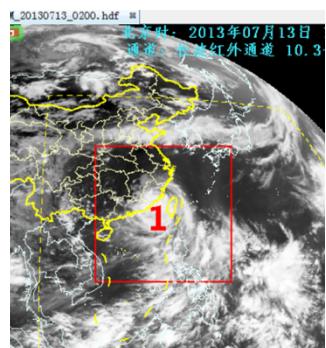
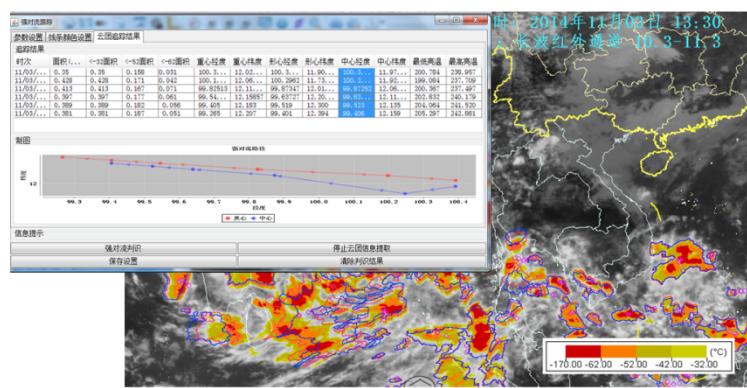
for Geo-stationary Satellite



- Cloud image and animation display
- Multi screen synchronization
- Dynamic loading

- Conventional & NWP data display
- MicroWave & Radar data support

- Profile analysis
- Statistic analysis

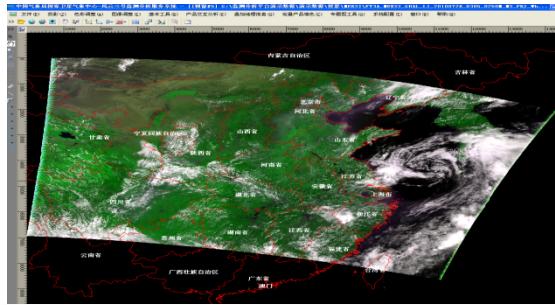


- Convective Detection
- Convective cloud path tracing & extrapolation
- Precipitation Estimation

- Tropical cyclone auto detection
- TC location & strength analysis
- TC 3D Analysis

Satellite applications

Satellite Monitoring Analysis Remote-sensing Toolkit (SMART) - for Polar satellites

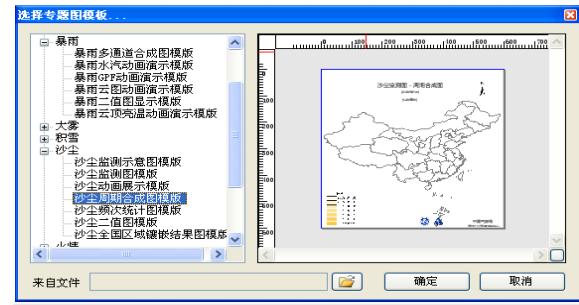


- Reading and displaying Satellite data
- Reading and displaying GIS data
- Customizable color palette for data displaying

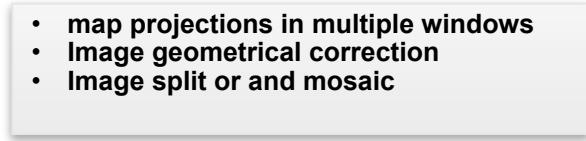


Source image Objective image Matched image

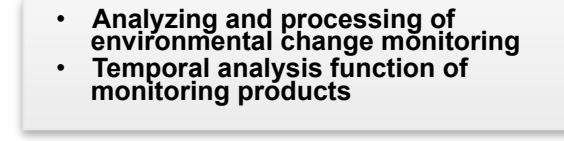
- Multiple functions of color adjustment
- Multiple image adjustment functions
- Multiple auxiliary tools including magnetic lasso etc.



- Customization of thematic map templates
- Label for thematic map



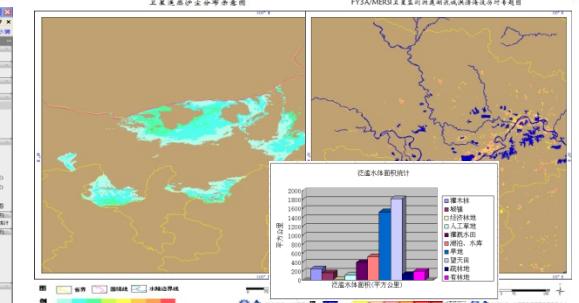
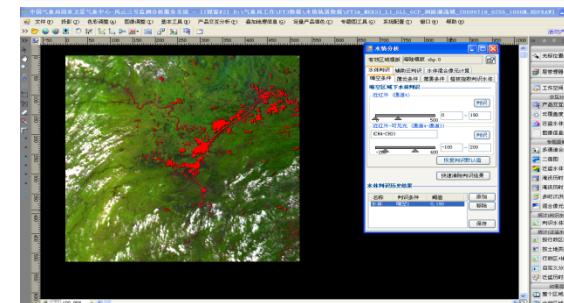
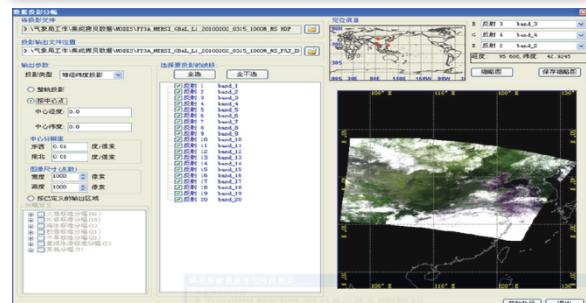
- map projections in multiple windows
- Image geometrical correction
- Image split or and mosaic



- Analyzing and processing of environmental change monitoring
- Temporal analysis function of monitoring products



- Thematic products
- Statistic table
- Operational reports, etc.



New capabilities in FY-3C and follow-ons

FY-3 OPERATIONAL SATELLITE INSTRUMENTS	FY-3C	FY-3D	FY-3E	FY-3F
MERSI – Medium Resolution Spectral Imager (I, II)	√(I)	√(II)	√(II)	√(II)
MWTS – Microwave Temperature Sounder (II)	√	√	√	√
MWHS – Microwave Humidity Sounder (II)	√	√	√	√
MWRI – Microwave Radiation Imager	√	√		√
WindRAD - Wind Radar			√	
GAS - Greenhouse Gases Absorption Spectrometer		√		√
HIRAS – Hyper spectral Infrared Atmospheric Sounder		√	√	√
OMS – Ozone Mapping Spectrometer			√	
GNOS – GNSS Occultation Sounder	√	√	√	√
ERM – Earth Radiation Measurement (I, II)	√(I)		√(II)	
SIM – Solar Irradiance Monitor (I, II)	√(I)		√(II)	
SES – Space Environment Suite	√	√	√	√
IRAS – Infrared Atmospheric Sounder	√			
VIRR – visible and Infrared Radiometer	√			
SBUS – Solar Backscattered Ultraviolet Sounder	√			
TOU – Total Ozone Unit	√			

- Improved Medium Resolution Spectrum Imager (**MERSI II**) in FY-3D, 3E, 3F
- Greenhouse Gases Absorption Spectrometer (**GAS**) in FY-3D,3F
- Hyper-Spectral Infrared Sounder (**HIRAS**) will take replace of current **IRAS** in FY-3D,F
- Sea Surface Wind Radar (**WindRAD**) in FY-3E

II. Contribution of China's FENGYUN Meteorological satellites to Africa

- Moving FY-2E from 105°E to 86.5°E to secure Indian Ocean geostationary coverage after the decommissioning of Meteosat-7 by the end of 2016, together with other satellites operators , i. e. EUMTSAT, India and Russia as of 1 July 2015.
- Global coverage of FY-3 polar-orbitting satellites (including Africa) with new oberservation capability, and high spatial and temporal resolution and high spectrum data and products.
- To maintain a FY-3 satellite on the early-morning orbit, improving temporal sampling of the atmosphere and global NWP.



Thank you