VLab activities in NSMC/CMA

7th VLMG , Saint Petersburg, Russian Federation
July 22 -25 2014

VLab activities in NSMC/CMA

1. Most important achievements
2. Main challenges
3. Future plans

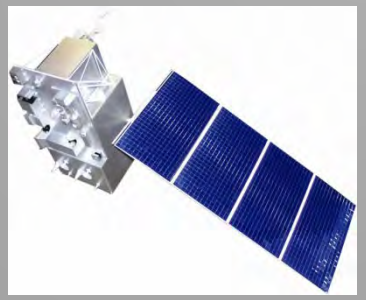
Satellite Data in NSMC/CMA

- FENGYUN Geostationary satellite

No	Satellite-ID	Coverage	Begin Time	End time
1	FY-2A	Full Disk / 1-h	1997.10	2003.03
2	FY-2B	Full Disk /1-h	2000.07	2005.06
3	FY-2C	Full Disk /1-h	2004.10	2009.11
4	FY-2D	Full Disk /1-h	2006.12	
5	FY-2E	Full Disk /1-h	2008.12	
6	FY-2F	Full Disk / 1-h + Regional Rapid Scan / <6 min	2012.08	

Satellite Data in NSMC/CMA

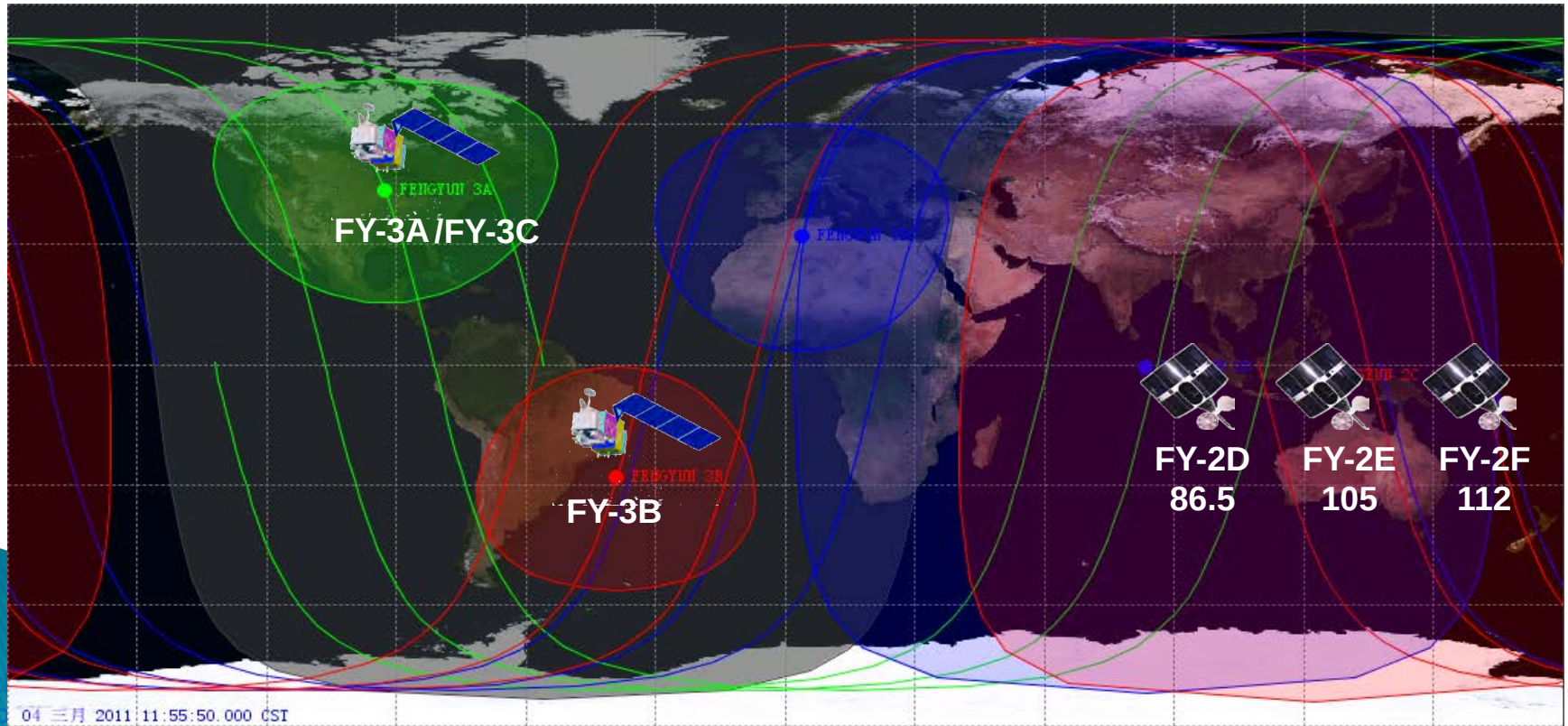
- FENGYUN Sunsynchronous orbit



No	Satellite -ID	Begin Time	End Time	ECT
1	FY-1A	1988.09	1988.10	15:30 as.
2	FY-1B	1990.09	1991.08	07:50 des.
3	FY-1C	1999.05	2004.07	07:00 des.
4	FY-1D	2002.05	2012.04	09:00 des.
5	FY-3A	2008.07		10:15 des.
6	FY-3B	2010.11		13:40 as.
7	FY-3C	2013.09		10:00 des.

The Observation and Data service of FY Satelllites

- Global observation---FY-3 series
- High frequency and Specific regional rapid scan mode- ---FY-2 series
- Real-time data dissemination via CMACast ,Website, Direct broadcast….



,CMA

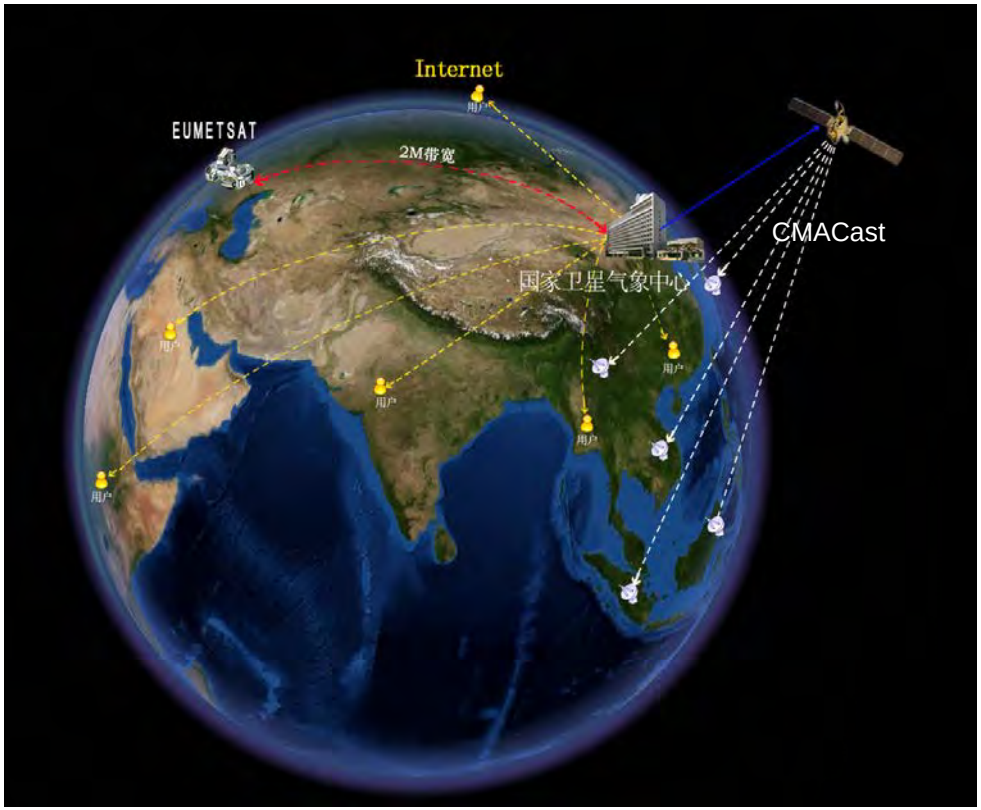
Satellite Data Service

1) Besed on web service

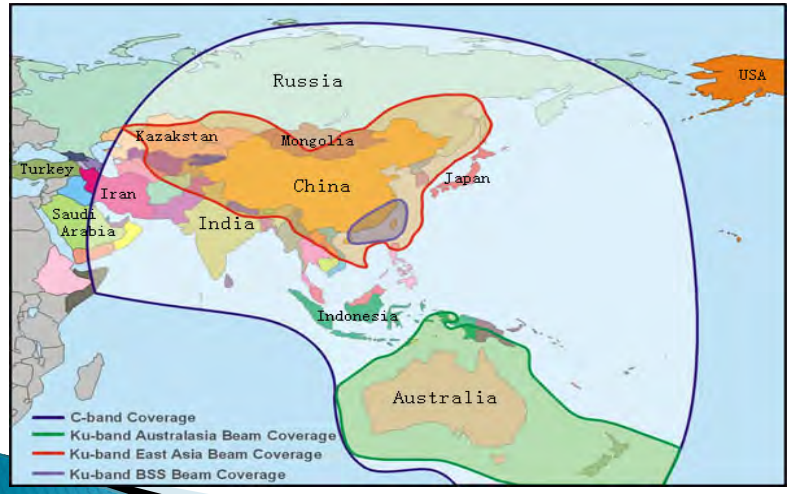
2) CMACast

3) FTP

4) Direct broadcast

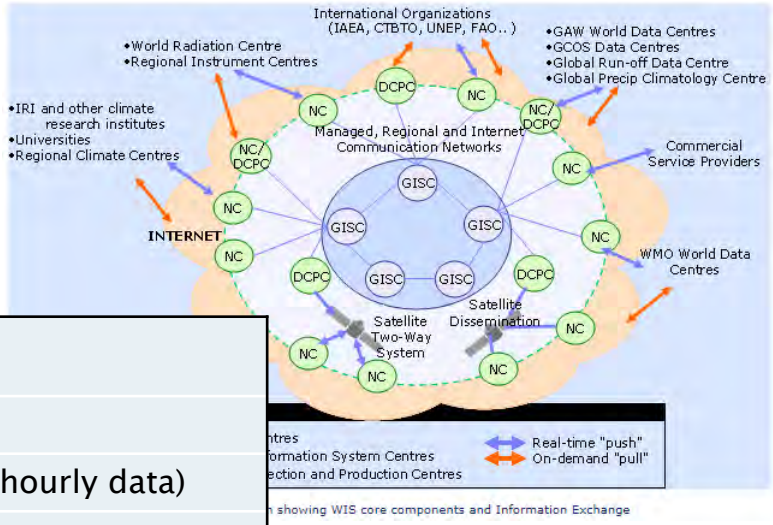


CMACast coverage



Satellite Data Service

- June 2012, WMO/DCPC
- 29 kinds of product

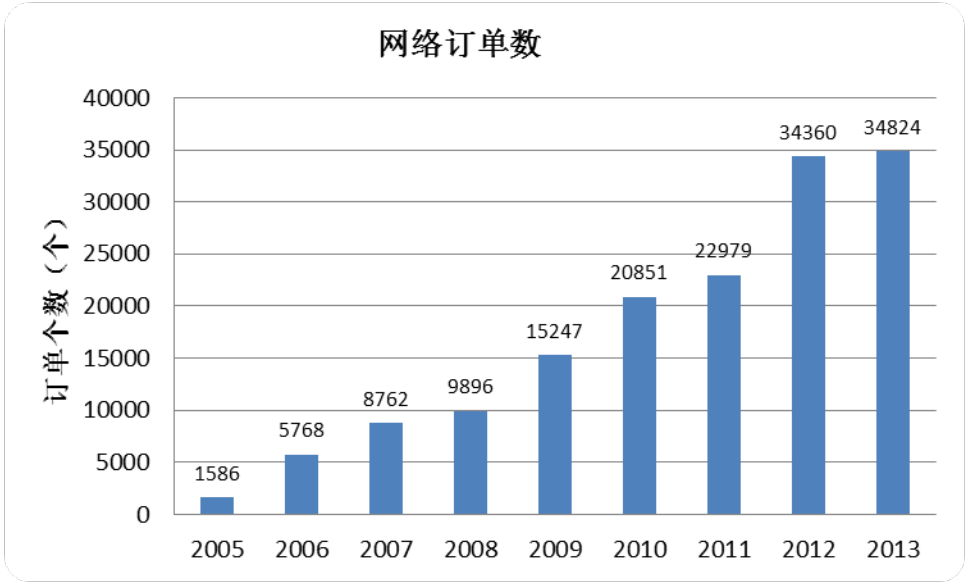


	Products
1	FY-2E nominal data (hourly data)
2	FY-2E atmospheric Motion Vectors (infrared,water vapour, 6 hourly data)
3	FY-2E precipitation estimate (6 hourly, 24 hourly data)
4	FY-2E black boday brightness temperature (hourly, daily, 5 days, 10 days, monthly data)
5	FY-2E total cloud cover (hourly data)
6	FY-2E precipitable water from a clear sky (3 hourly data)
7	FY-2E surface incidence solar radiation (daily data)
8	FY-2E cloud land moisture profile (3 hourly data)
9	FY-2E could type(hourly data)
10	FY-2E snow cover(daily data)
11	FY-2E outgoing longwave radiation (3 hourly, daily, 5 days, 10 days, monthly data)
12	FY-3A/3B /3C MWTS 1b data
13	FY-3A/3B /3C MWHS 1b data

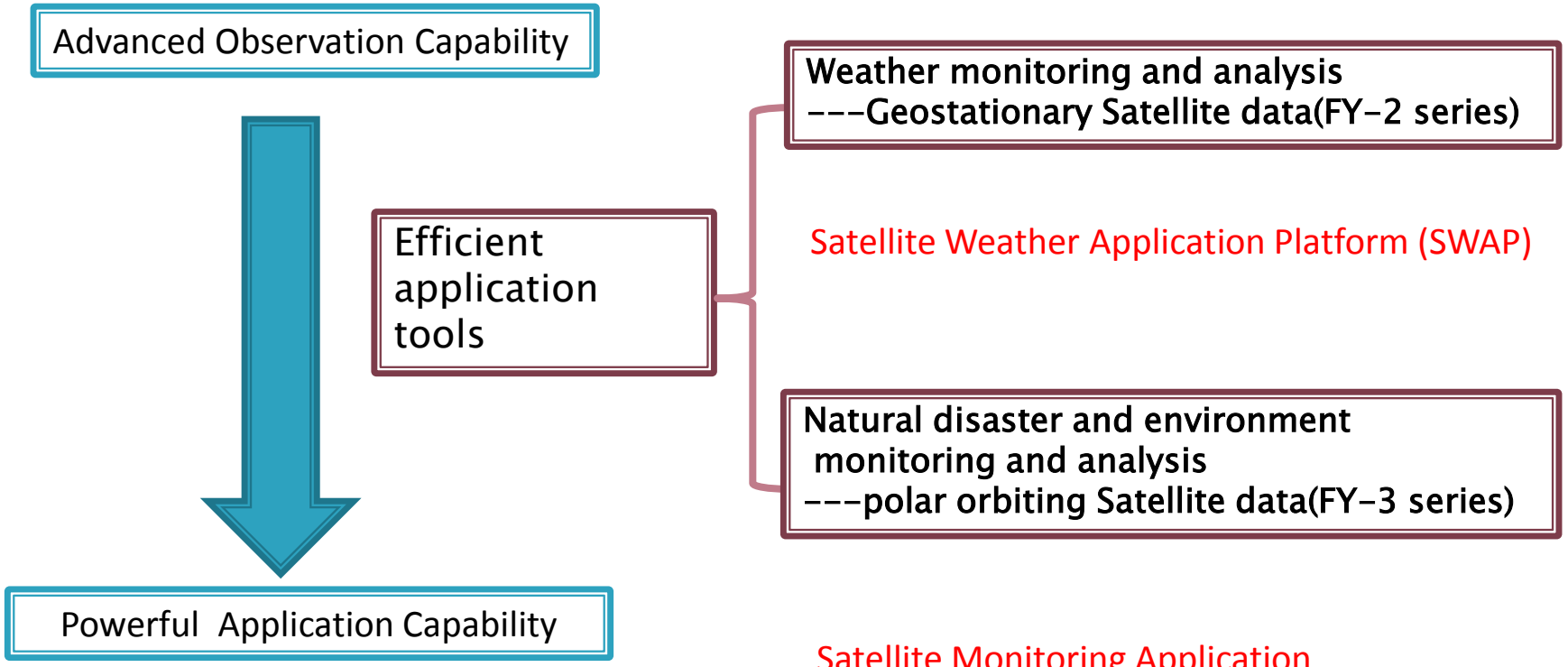
exchange data with EUMETSAT in the real time

Satellite Data Service

http://satellite.cma.gov.cn



Application of FY satellite data



Domestic training activities have been organized and SWAP & SMART have been applied in operation all around China.

Satellite Weather Application Platform(SWAP)

Users: Weather Forecasters

Purpose : A highly efficient tool for cloud image displaying and analyzing

Special Features:

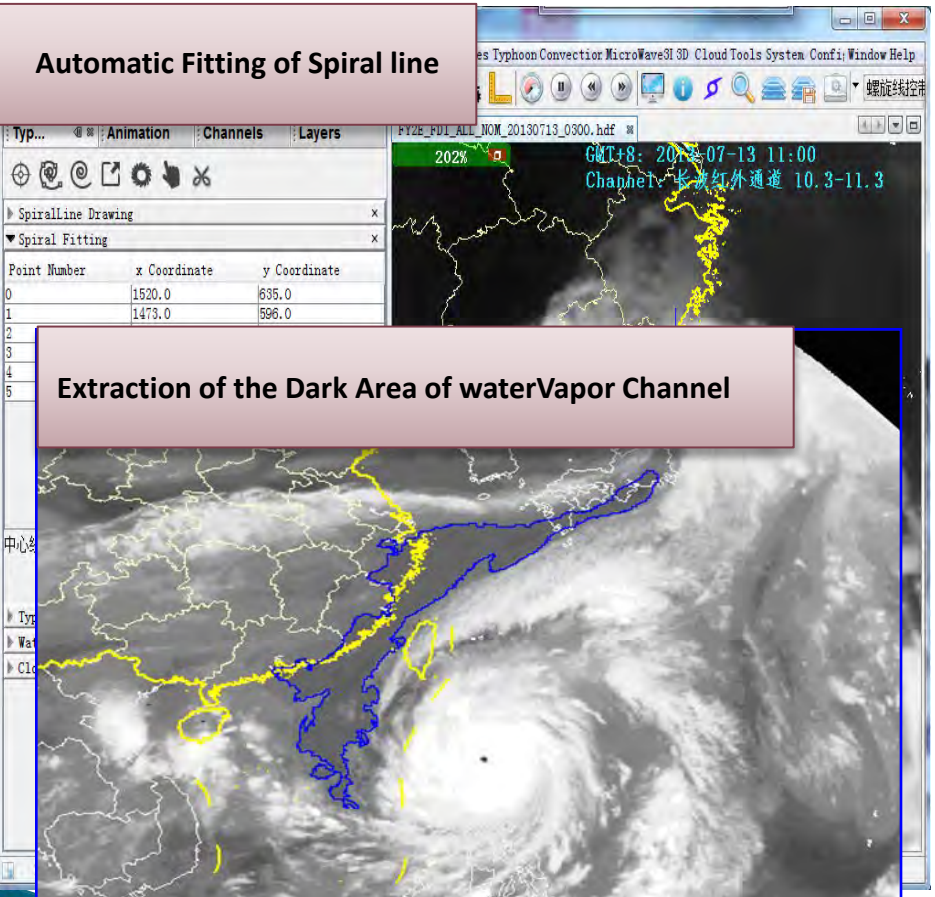
- Powerful ability of data processing
- Flexible software architecture
- Specialized analysis tools for TC and convective system

Functions of SWAP

- Automatic data collection and processing
- Display and Animation of satellite data
- 3D visualization analysis
- monitoring and analysis of tropical cyclone and convective system

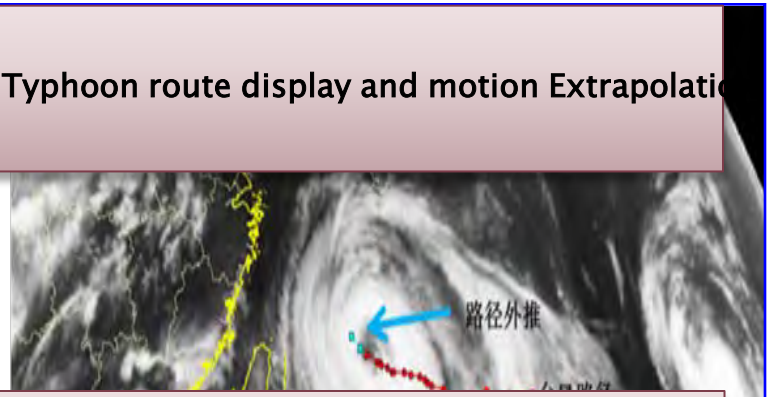
Monitoring and analysis of tropical cyclone

Automatic Fitting of Spiral line

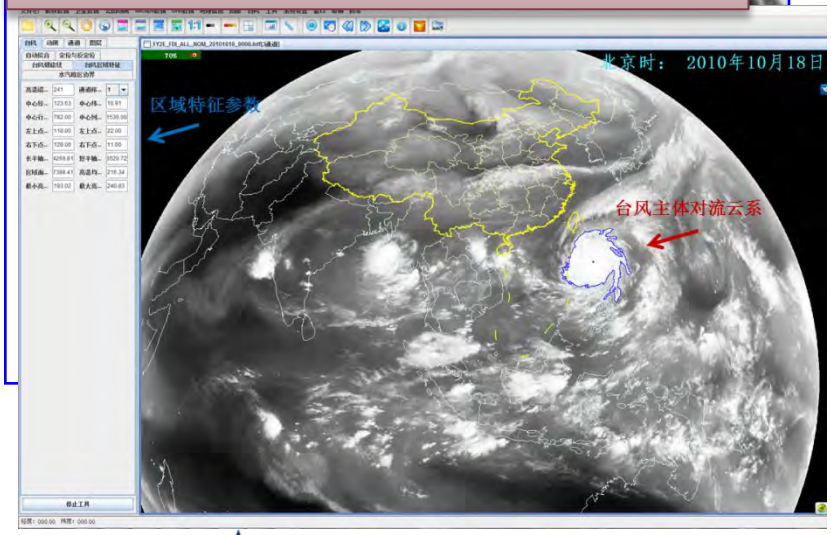


Extraction of the Dark Area of waterVapor Channel

Typhoon route display and motion Extrapolati



Picking up the convective region from typhoon system



Satellite Monitoring Analysis Remote-sensing Toolkit（SMART）

Users: Operators and researchers of disaster and environment monitoring

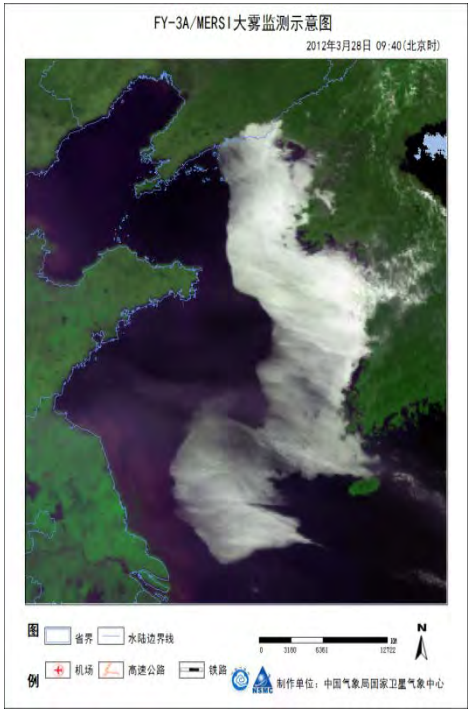
Purpose: Comprehensive application platform of FY-3 and other polar orbit meteorological satellite data

Special Features:

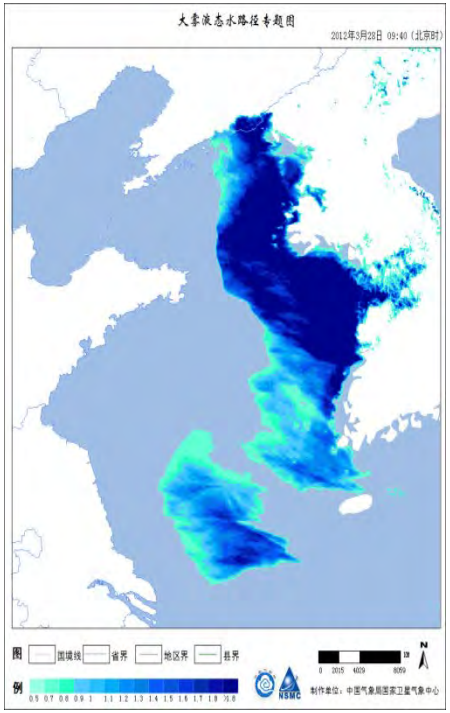
- Standard operation flow
- Professional monitoring models
- Powerful image processing tools

Application Examples

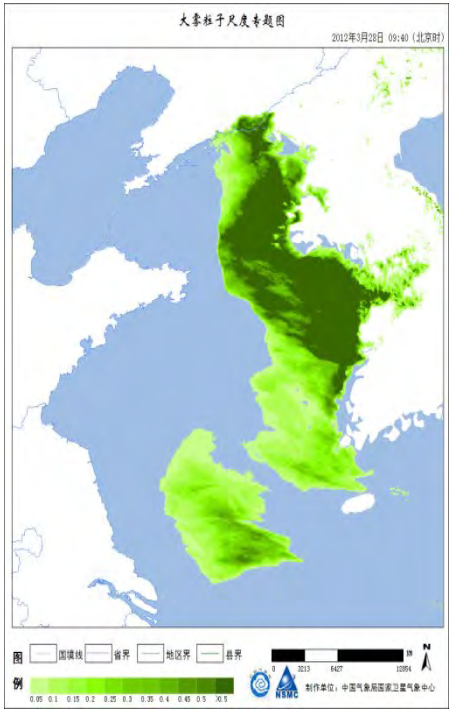
Fog monitoring



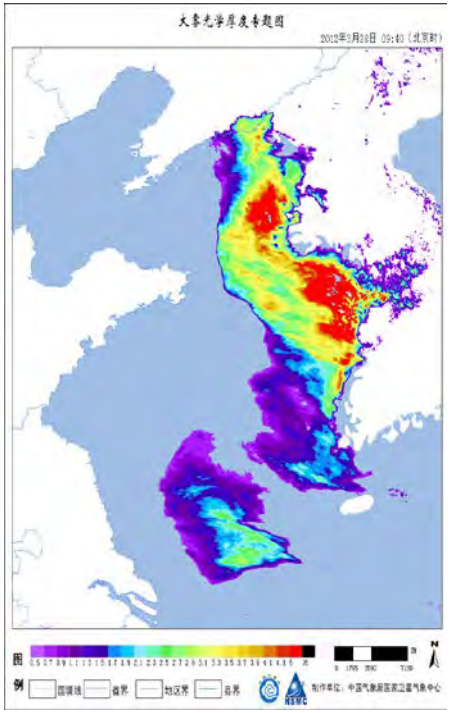
Fog RS Image



Liquid Water Path Map



Fog Droplet Scale Map



Fog Optical Depth Map

Support to training activities

Time	Address	thesis	Host
3-13 September 2013	Beijing	The 7th International Training Course on The Application of Meteorological Satellite Products	CMATC
Oct. 22-Nov. 2, 2012	Beijing	The International Training Course on the Application of Meteorological Satellites in Disaster Mitigation and Environmental Studies （for Indesina)	CMATC
2-22 Nov, 2012	Nanjing	Training Seminar on Application of Meteorological Satellite in Disaster Risk Reduction and Environment	WMO RTC Nanjing China

Main Challenges & Future planes

- Access data timeliness
- Targeted training object
- High efficiency training activities

- Standardized training courseware

Thank you for your kindly attention!