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CHINA'S GEOSS

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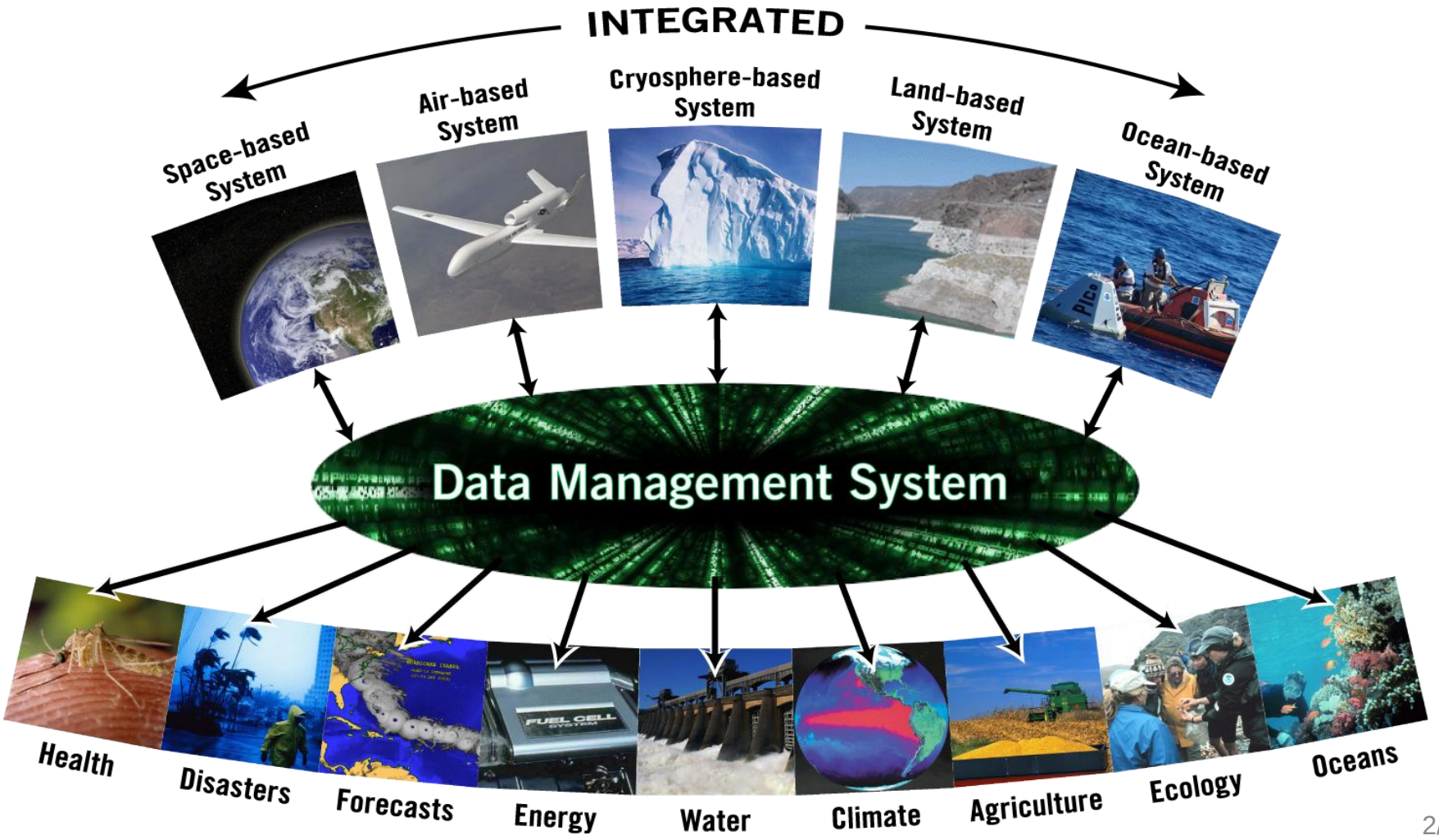
Global EO System of Systems（GEOSS）



Necessity for a GEOSS in China

- Sustainable and green development needs EO information as fundamental
- Many EO systems have been established:
  - Ocean-, land- and air-based systems for meteorology, hydrology, agricultural, forestry, seismology, geodesy …
  - EO satellites for resources, environment, disaster reduction, oceanography, survey & mapping, …
- There is a lack of integration for more effective development and applications

中国综合地球观测系统
（十年规划）

10-year plan for GEOSS in China

System of systems is the way for China to develop its EO capacity – in 2006, China formulated its concept on GEOSS in China

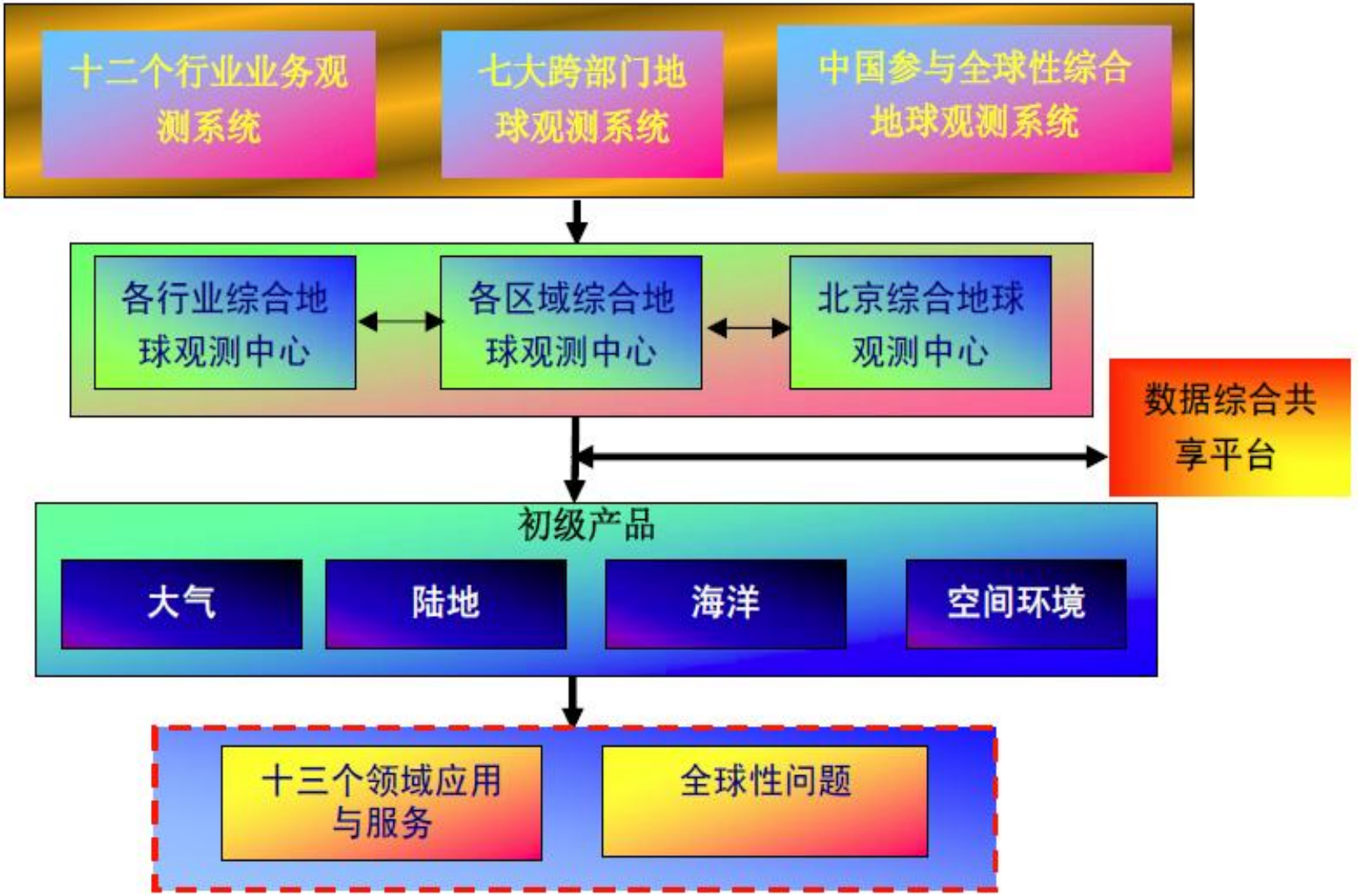
Multi-Ministry Coordination Group

- **Recently Established -- in March 2012**
- **Headed by the Ministry of Science and Technology**
- **For multi-sectional coordination in promoting a comprehensive, coordinated and sustainable GEOSS in China**
- **To enhance service capacity of China for broader applications of Earth observation**
- **To promote international cooperation, data sharing and technical assistance to developing countries**
- **With a secretariat hosted by National Remote Sensing Center of China**

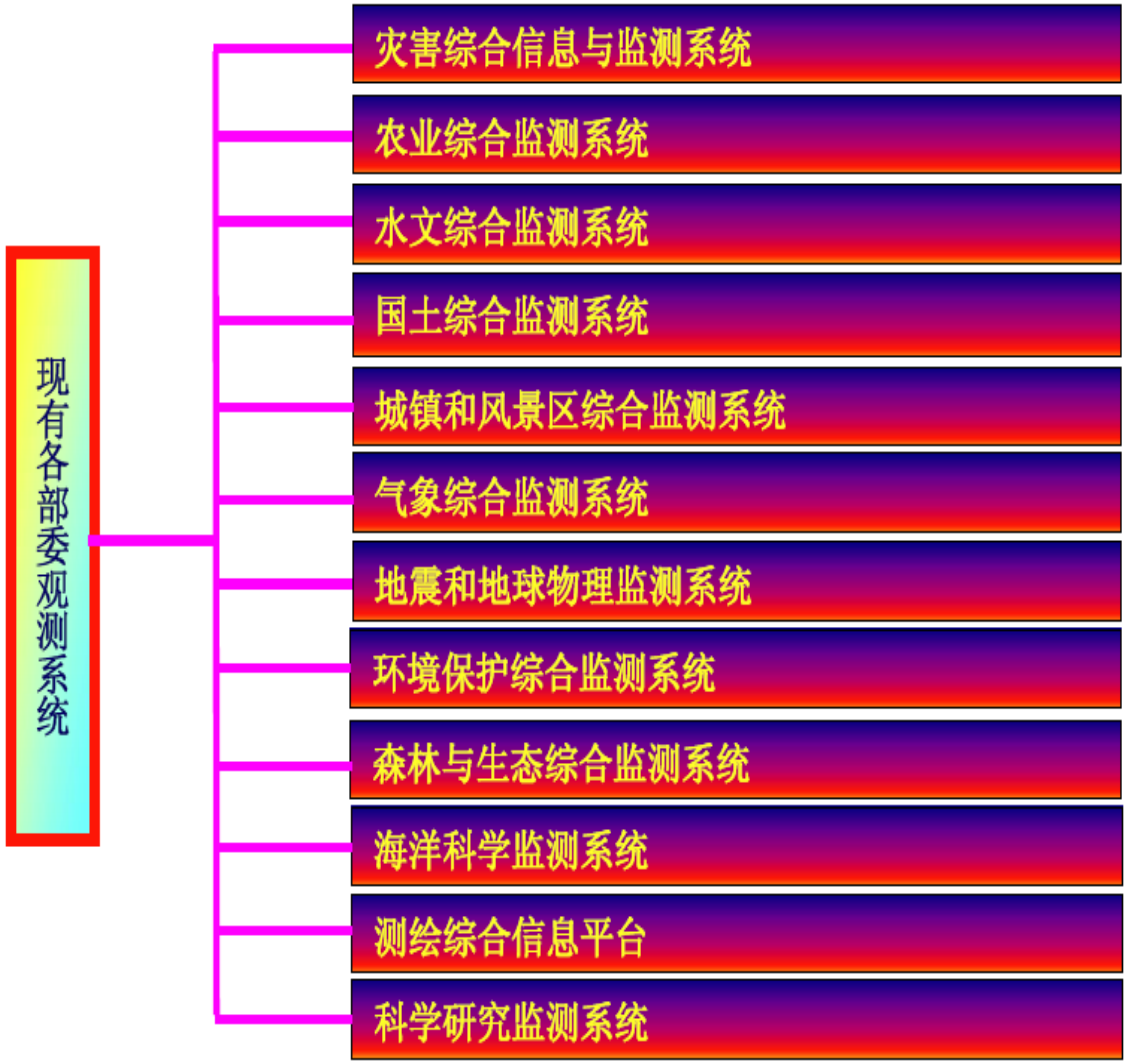
Principals for a GEOSS in China

- ✓ To serve the needs of China in its economic, social and ecological development
- ✓ To coordinated develop its EO systems
- ✓ To share relevant technical and data resources domestically and internationally
- ✓ To effective use of data resources of GEO
- ✓ To support developing countries easier access and effective use of China's EO satellite data

Proposed structure of GEOSS in China

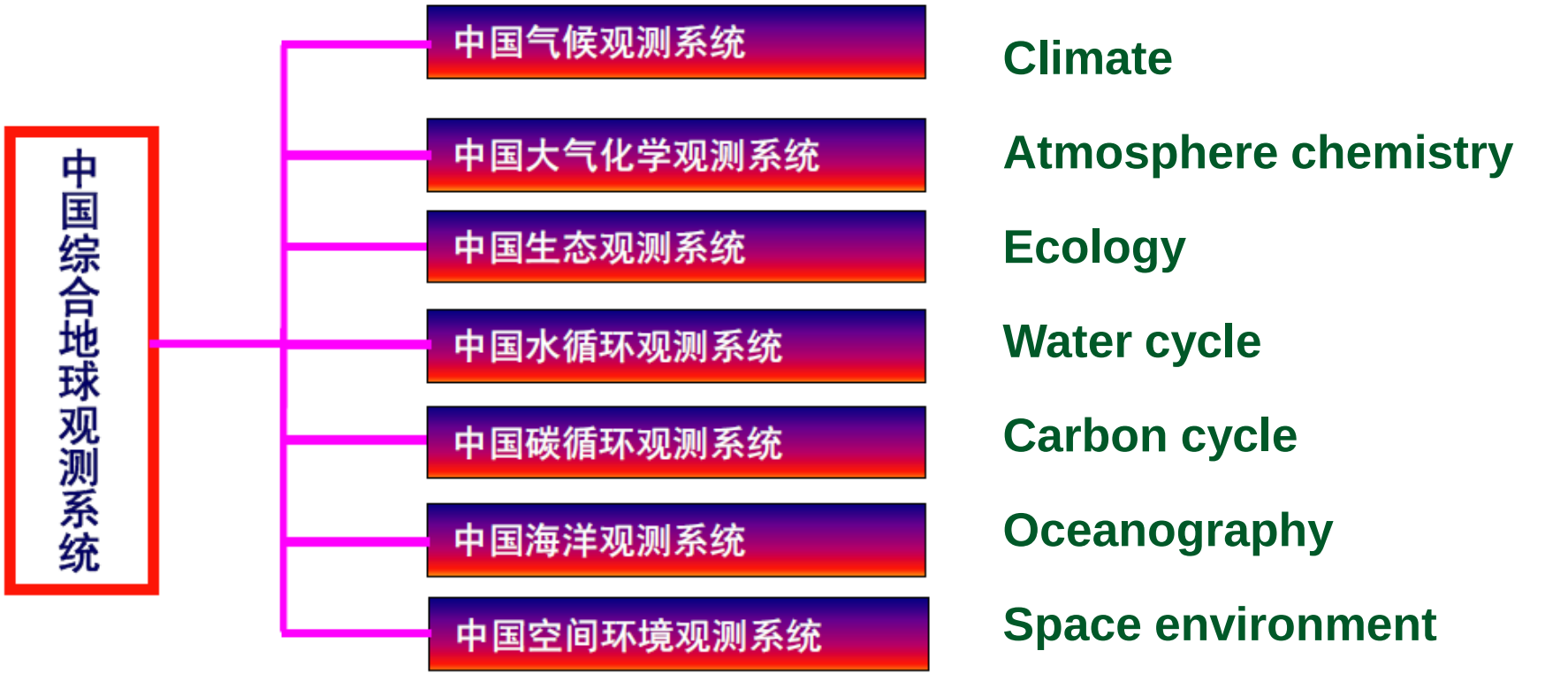


Based on existing 12 sectional EO systems

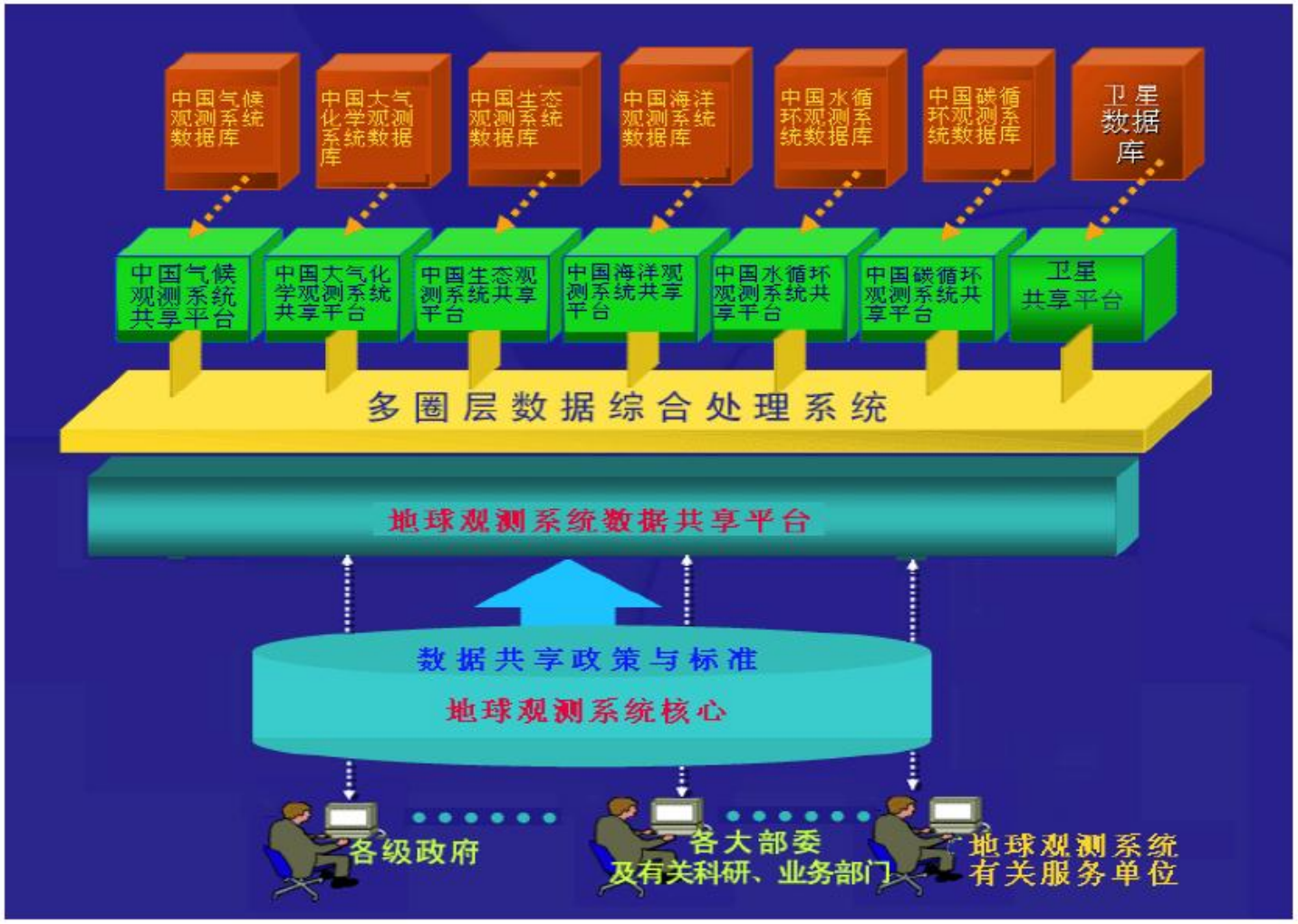


- Disaster management
- Agriculture
- Hydrology
- Land resources
- Urbanization
- Meteorology
- Seismology and geophysics
- Environment protection
- Forestry and ecology
- Oceanography
- Geodesy
- Scientific research

Further integration of 7 crosscutting systems



Proposed Data Sharing Platform for GEOSS in China



7 comprehensive EO systems

Multi-sphere comprehensive processing system

EO Data sharing platform

Data sharing policy and standards

User communities & service providers

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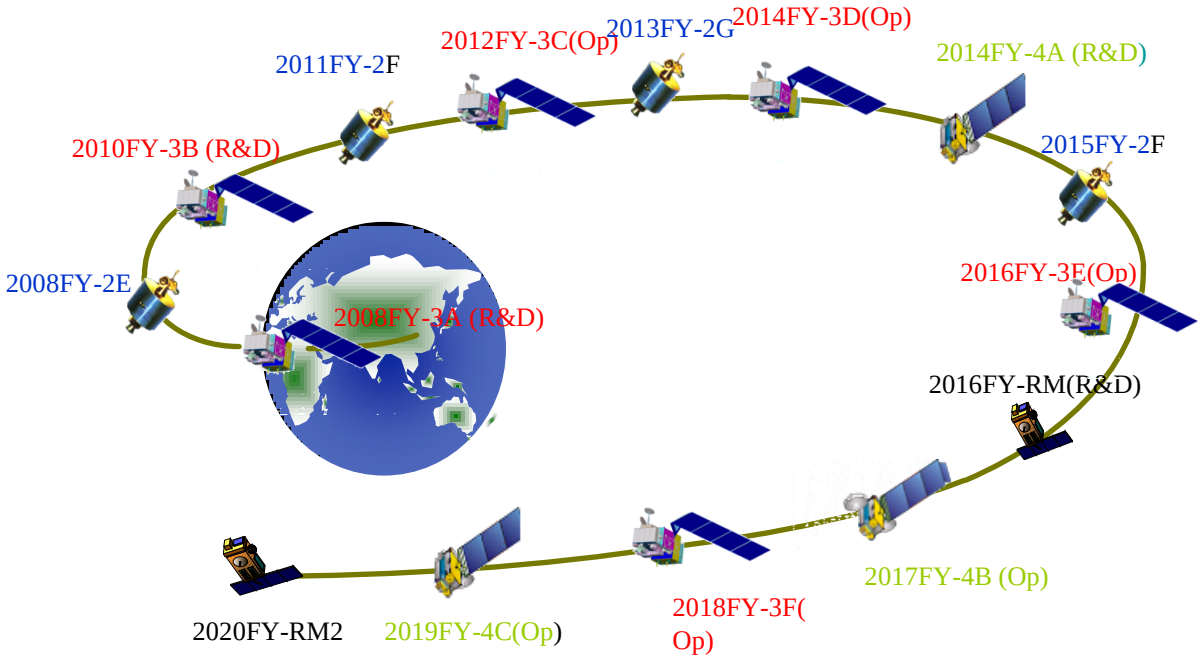
Status of GEOSS in China

Meteorological satellite series (FY)

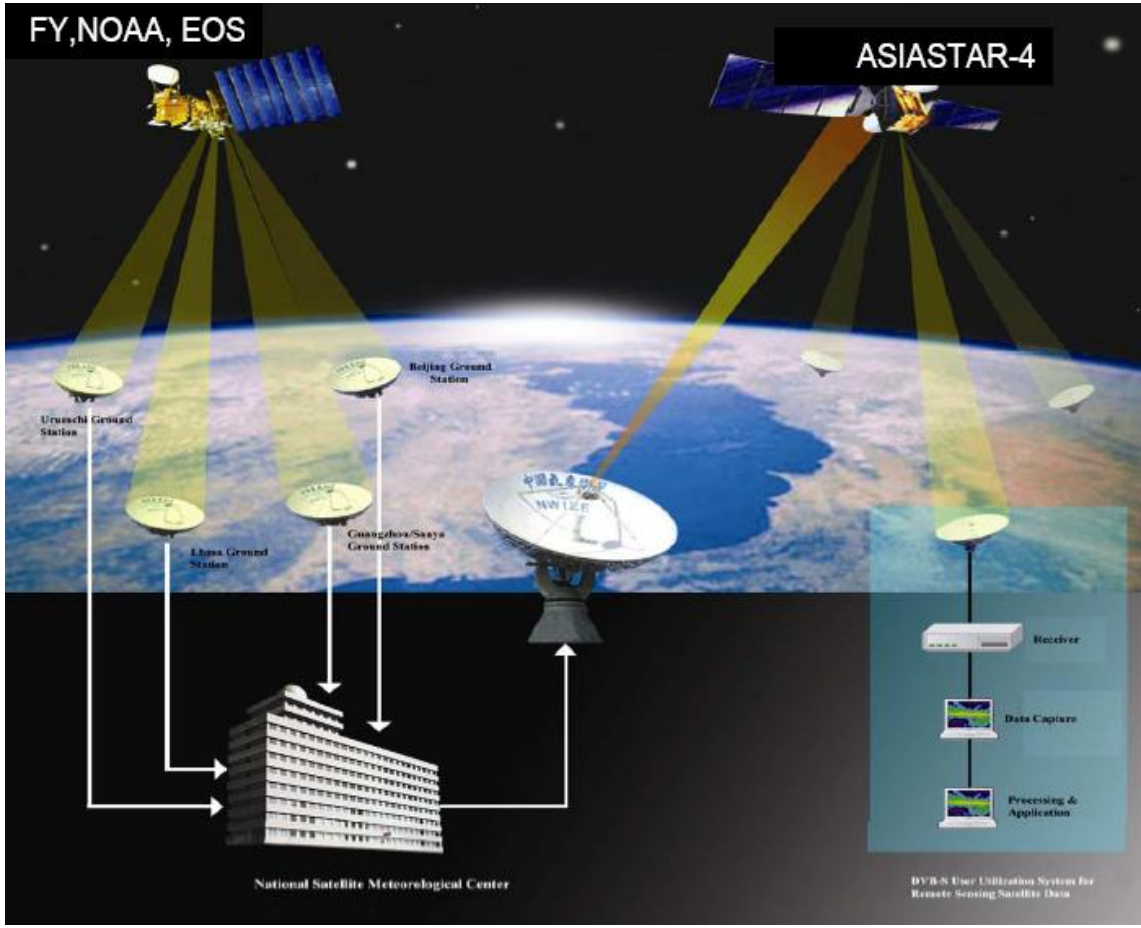
- 6 satellites in operation
  - Geostationary orbit : 15 min cloud image
  - Polar orbit : 2 hour global acquisition
- Automatic weather stations cover 95% of township of China



Mission	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	.....
FY1	▲A		▲B									▲C			▲D														
FY2										▲A			▲B				▲C			▲D		▲E							
FY3																					▲A		▲B				▲C		
FY4																												▲A	

CMACast

- Former FengyunCast, as one of 3 pillars of GEONETCast
- Many kinds of low-resolution satellite data, like FY of China, are broadcasted by comsat
- European metsat data are received and re-broadcasted
- Covering 75% of AP region
- Receiving equipment were granted to 17 AP developing countries



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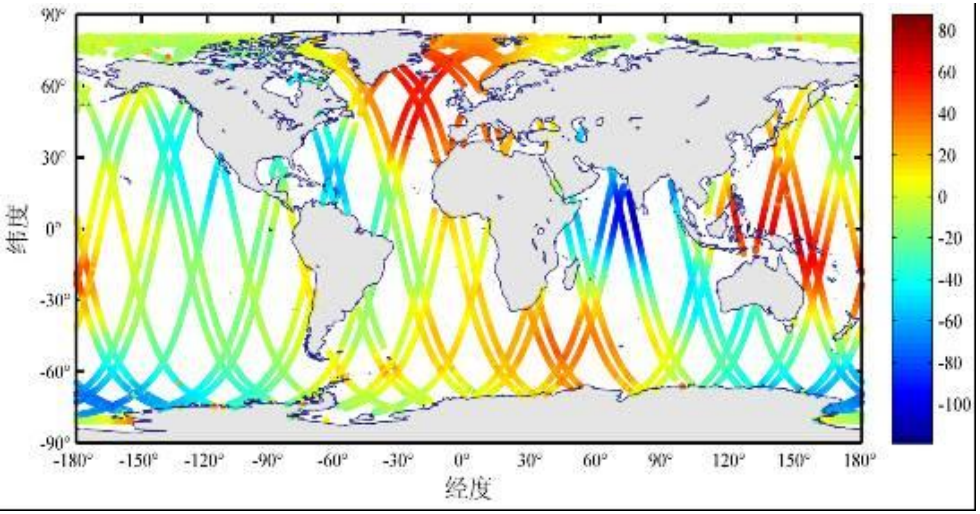
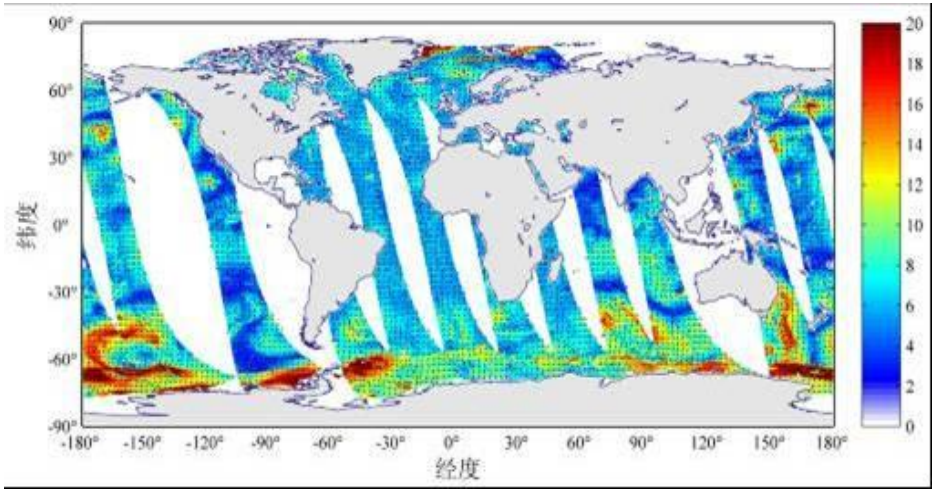
Oceanographic satellite (HY) series

- HY-2A with active/passive microwave sensors for ocean dynamic environment observation
- HY-1B with optical sensors of 10-band ocean color scanner and 4-band coastal zone imager



HY-2 satellite radar altimeter based global sea surface height chart



HY-2 satellite acquired global wind-field vectorgraph

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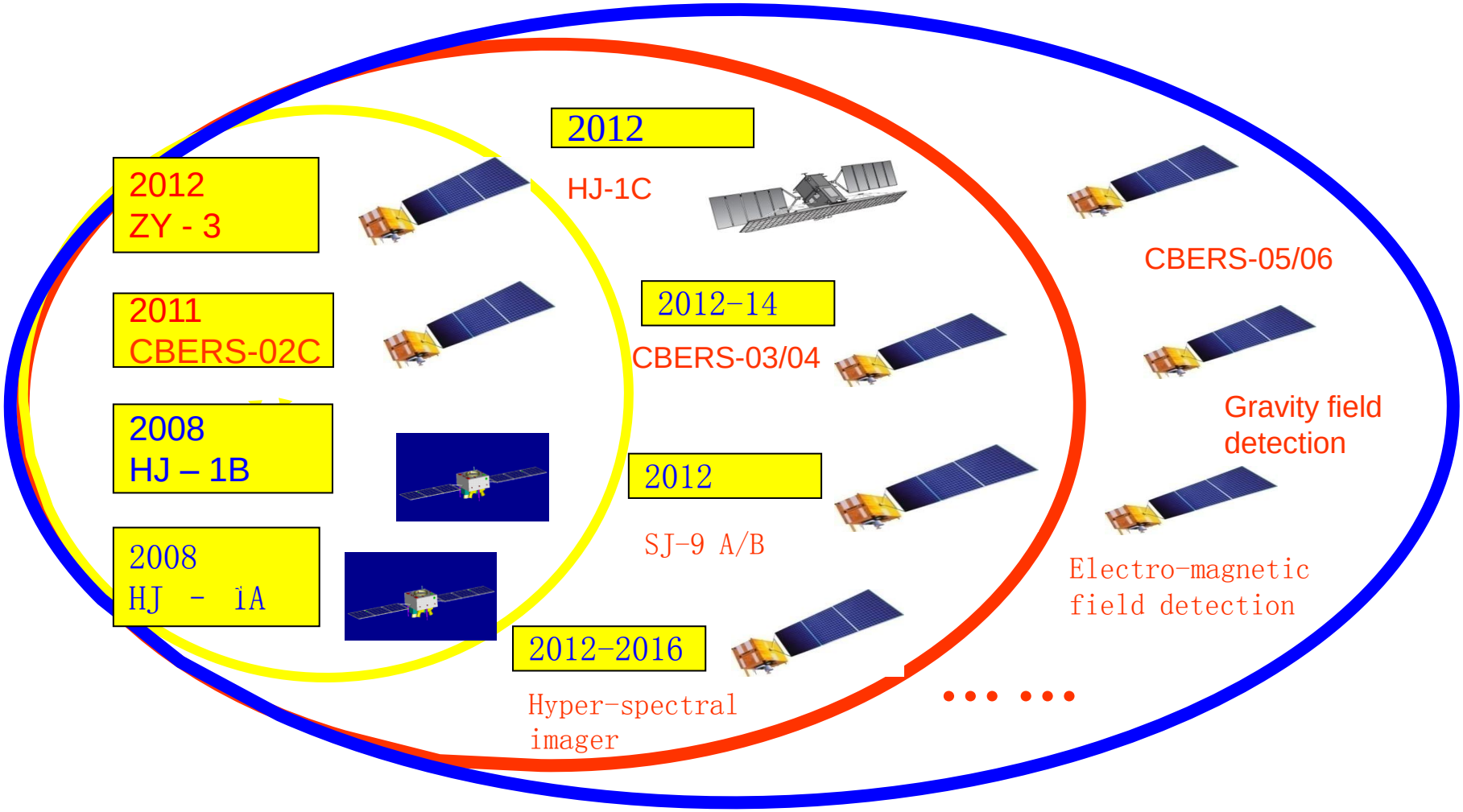
Land observation satellites (1)



In-orbit operation To be launched soon Under planning

Land observation satellites (2)

- **Resources (ZY) series**
  - 3 were jointly developed by China and Brazil, with spatial resolution 30 m
    - Receiving station: South Africa; Egypt, Nigeria, Kenya
    - Data are free accessible on web
  - ZY - 3 with resolution of 2.36m for geodesy
- **Environment and disaster monitoring (HJ) series**
  - 2 in operation with optical sensors
  - 1 with SAR will be launched soon
  - Total 8 will be deployed as constellation for 6 hour revisit interval
- **Micro EO satellites**
  - Three new ones will be developed with UK

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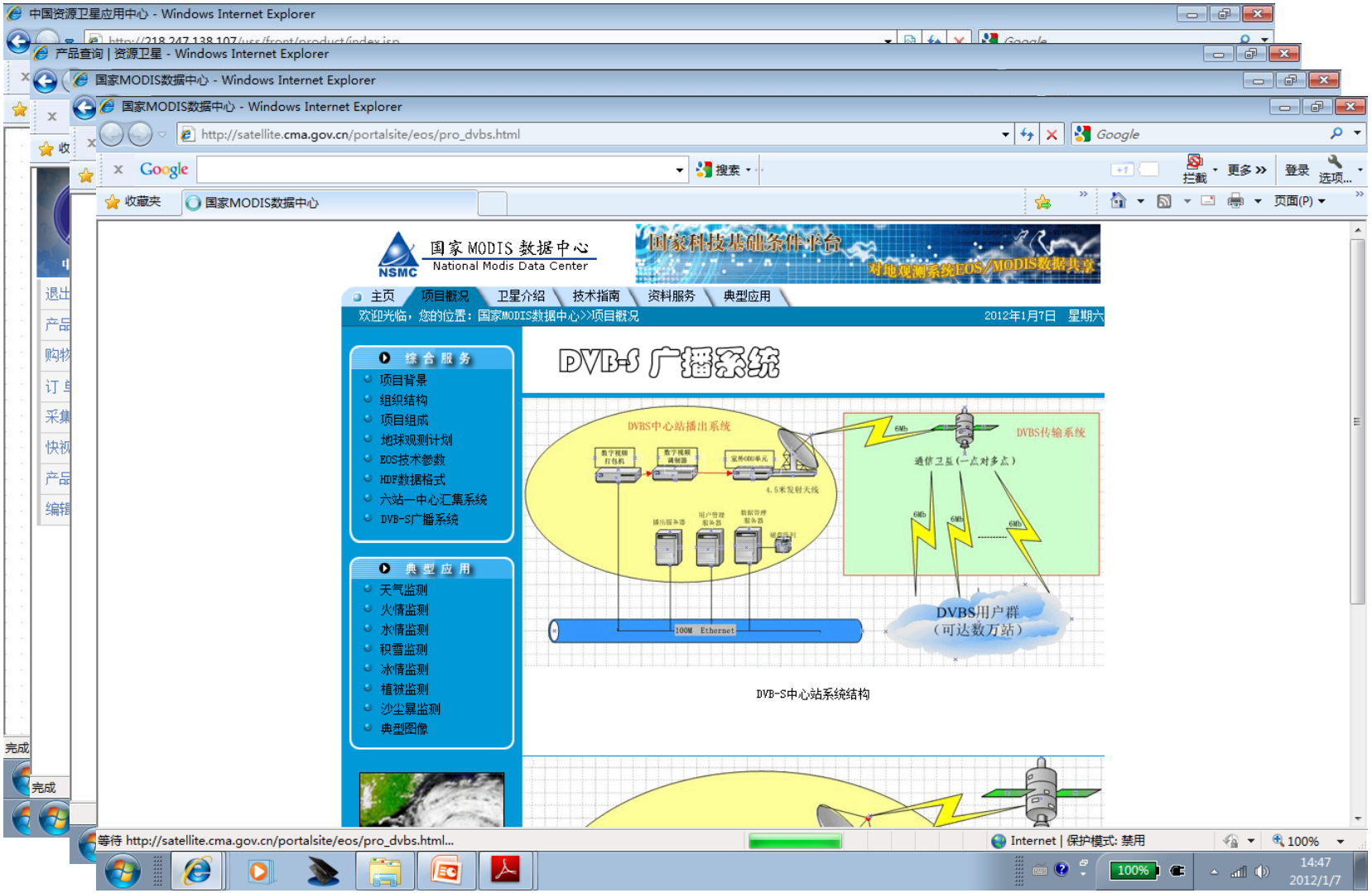
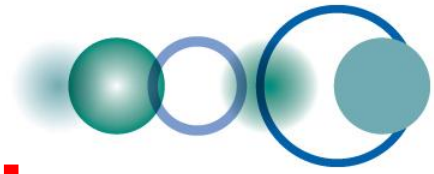
Fifth GEOSS Asia-Pacific Symposium
2-4 April 2012, Tokyo

Data Sharing Centers of Sectional EO Systems

Satellite Data Sharing Platforms





China Participated GEO Tasks

Category	Task
Infrastructure	
IN-01 Earth Observing Systems	Development and Coordination of Space-based Observing Systems
IN-02 Earth Data Sets	Advances in Life-cycle Data Management
IN-04 GEOSS Communication Networks	GEONETCast
IN-05 GEOSS Design and Interoperability	GEOSS Design and Interoperability
Institutions and Development	
ID-02 Developing Institutional and Individual Capacity	Institutional Development
	Individual Development
Information for Social Benefits	
SB-02 Global land Cover	Global Land-cover and Land-cover Change
SB-04 Global urban Observation and Information	Global Urban Observation and Information
SB-05 Impact Assessment of human Activities	Earth Observation Monitoring for World Heritage Environment

China participated GEO tasks (cont'd)

Category	Task
Information for Social Benefits	
DI-01Risk management and Disaster Reduction	Disaster Management System
	Geohazards Monitoring, Alert, and Risk Assessment
	Tsunami Early Warning and Hazard Assessment
	Global Wildland Fire Information System
CL-02 Global Carbon Observation and Analysis	Integrated Global Carbon Observation and Analysis System
WA-01 Integrated Water Information (incl. Floods and Droughts)	Information Systems for Hydro-meteorological Extremes
	Information Service for Cold Regions
AG-01 Global Agricultural Monitoring and Early Warning	A Global Operational Monitoring System of Systems or Agricultural Production, Famine Early-Warning, Food Security and Land-use Change

Promote ChinaEONet

- To be supported by positive data sharing policies and standards
- A platform for sharing EO data by Chinese users
  - Space-, air- and ground-based EO data
  - Adapting GEO standard and norms
  - Web accessible for different user groups
- A gate way for sharing data by GEO community
- A technical support center to assist Chinese users to access and use data under GEO framework
- Further strengthened CMACast to broadcast more data to broader user groups

Thank You