



An Opportunity for China Remote Sensing Data Global Sharing

WANG, Fengyu
Earth Observation System and Data Center, CNSA

Jan 2024, Vienna, Austria



Outline

1

Background

2

CPEOS

3

Opportunity

1.1 Introduction of CNSA



China National Space Administration (CNSA) has continuously expanded multilateral and bilateral space cooperation on behalf of the government. So far, it has signed more than 170 intergovernmental space agreements with nearly 50 countries and international organizations, including more than 40 cooperation agreements in the field of Earth observation.



1.2 Introduction of EOSDC



The Earth Observation System and Data Center (EOSDC) of CNSA is the overall project unit of China's high resolution Earth observation system and civil space satellites, the national civil and commercial space emergency response force and the leading unit in the international cooperation of earth observation.



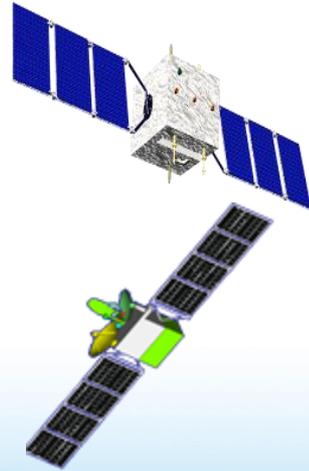
1.3 Introduction of China's Remote Sensing Satellite System



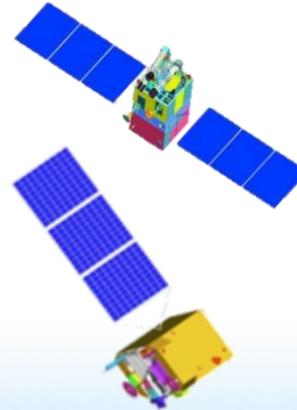
China has built and launched 200+ remote sensing satellites, enabling high-spatial-resolution, high-temporal-resolution and high-spectrum-resolution earth observation.



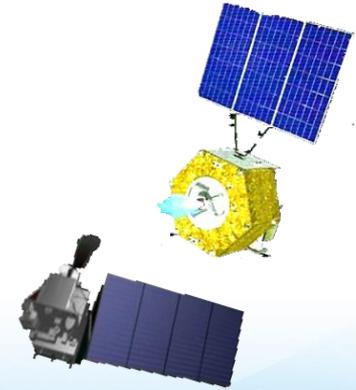
Gaofen satellite series (7 satellites on orbit)



Oceanic satellite series (7 satellites on orbit)



Land satellite series (180+ satellites on orbit)



Meteorological satellite series (9 satellites on orbit)

1.3 Introduction of China's Remote Sensing Satellite System



DQ-1:

Atmospheric Environment Monitoring Satellite (DQ-1) launched on 16 Apr 2022 is the world's first active carbon dioxide laser detection satellite, greatly improving the global carbon monitoring and high-precision monitoring of air pollution in a large range.



1.3 Introduction of China's Remote Sensing Satellite System



hyperspectral observation satellite:

Positioned in a 705-kilometer sun-synchronous orbit, this satellite enables all-weather, multi-element comprehensive detection of the atmosphere, water bodies, and natural ecosystems. It provides support for the protection and restoration of crucial global ecosystems and for actively responding to global climate change.



Outline

1

Background

2

CPEOS

3

Opportunity

2.1 Publishment of CPEOS



**2023 WENCHANG
INTERNATIONAL AVIATION
& AEROSPACE FORUM**

Accelerate BRICS Satellite Data Application
Promote Aerospace Information International Cooperation

**2023
文昌国际航空航天论坛**

加快金砖卫星数据应用 推动空天信息国际合作



WENCHANG INTERNATIONAL AVIATION & AEROSPACE FORUM

2.1 Publishment of CPEOS



- Serbia
- Kazakhstan
- Laos
- Bangladesh

Registered account

Account Information

Account*

E-mail*

Verification Code*

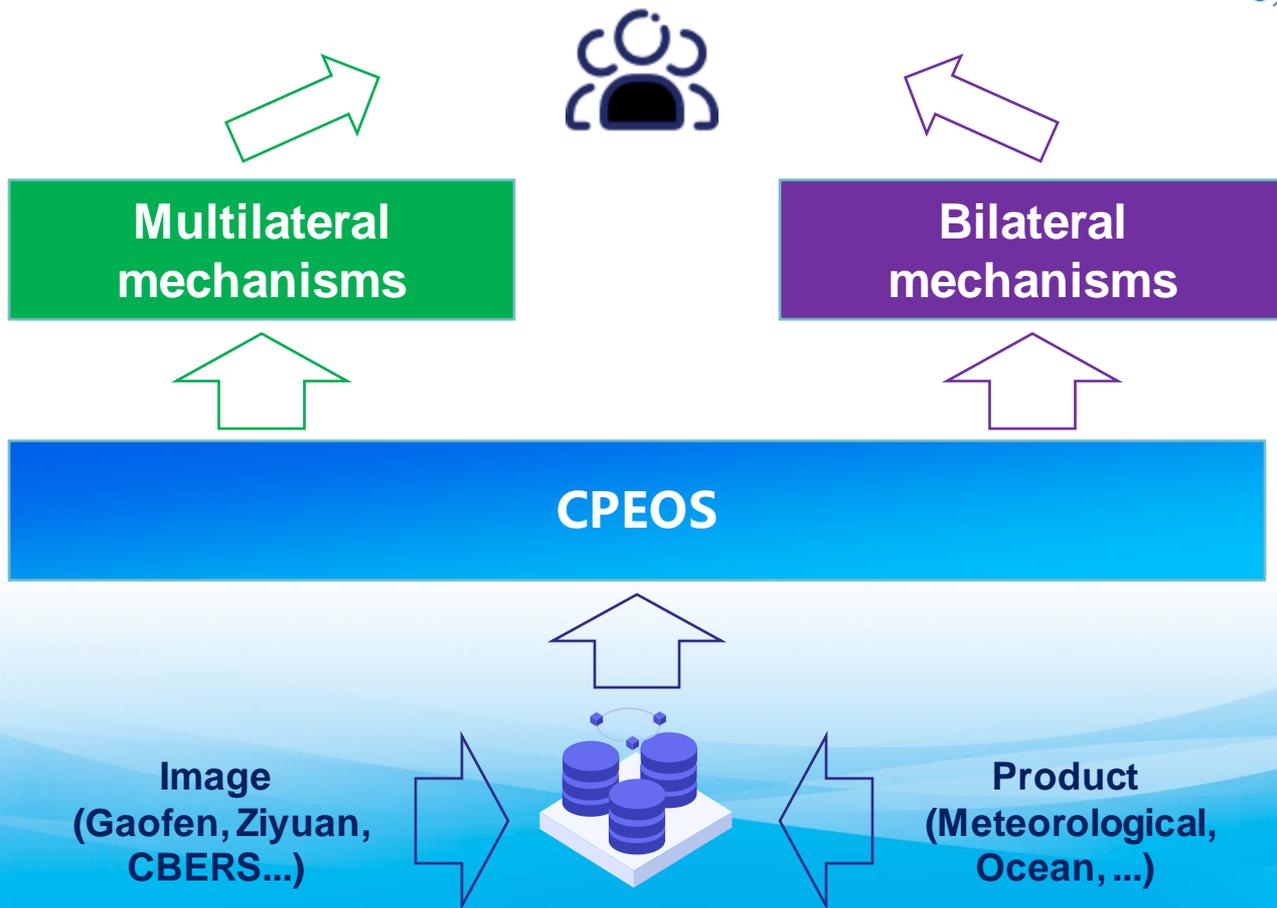
Send

Password*

Duplicate password*

Registration address:
<https://image.cpeos.cn/reg>

2.2 Structure of CPEOS



2.3 Function of CPEOS — Data Sharing



China Platform of Earth Observation System

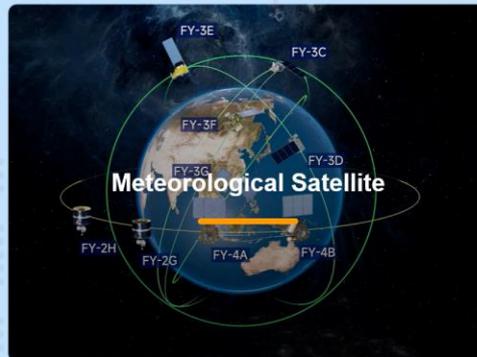


DATA

OPPORTUNITY

SATELLITE

ABOUT



Satellite List:

- Gaofen Satellites
- Meteorological satellites
- Ocean Satellites
- Land Satellites

China Platform of Earth Observation System

DATA OPPORTUNITY SATELLITE ABOUT

GF-1

Orbit	Sun-synchronous orbit
Altitude	645km
Launch	2013-04-26
Payload	23PM5, WVF
Mission	land and resources surveys, disaster monitoring, emergency response, environmental protection and agriculture

GF-2

Orbit	Sun-synchronous orbit
Altitude	631km
Launch	2014-08-19
Payload	13PM5
Mission	high-accuracy geographical mapping, land and resource surveying, environment change monitoring, disaster prevention and mitigation

GF-3

Orbit	Sun-synchronous orbit
Altitude	755km
Launch	2016-08-10
Payload	1C (bare SAR)
Mission	disaster prevention and mitigation, dynamic marine environment monitoring, water conservancy, agriculture, and meteorology

GF-4

Orbit	Geo-stationary orbit
Altitude	36000km
Launch	2016-12-29
Payload	13PM5
Mission	disaster prevention and relief, surveillance of geological disasters and forest disasters, and meteorology forecast

2.3 Function of CPEOS — Data Sharing

<http://image.cpeos.cn/index>



Image Data Hub

Home Satellites User Help My Center

admin



Image product search

Cloudage

0% 100%

Entity data

All online offline

Satellite data

Select

GF

GF1

GFV

PMS

GF2

PMS

GF3

SAR

GF4

PMS

PMI

IRS

B

Search result

Total 535 pieces of data



GF1 WFV4
GF1_WFV4_E99.9_N15.2_20181123_L1A0003618710.tar.gz offline



GF1 WFV4
GF1_WFV4_E99.9_N13.5_20180217_L1A0003009282.tar.gz offline



GF1 WFV4
GF1_WFV4_E99.9_N13.5_20140425_L1A000211315.tar.gz offline



GF1 WFV4
GF1_WFV4_E99.8_N16.8_20230418_L1A0007232982.tar.gz offline



GF1 WFV4
GF1_WFV4_E99.8_N13.5_20191025_L1A0004338321.tar.gz offline



GF1 WFV4
GF1_WFV4_E99.7_N15.1_20230525_L1A0003009282.tar.gz offline

1 2 3 ... 54 > 10/page Go to

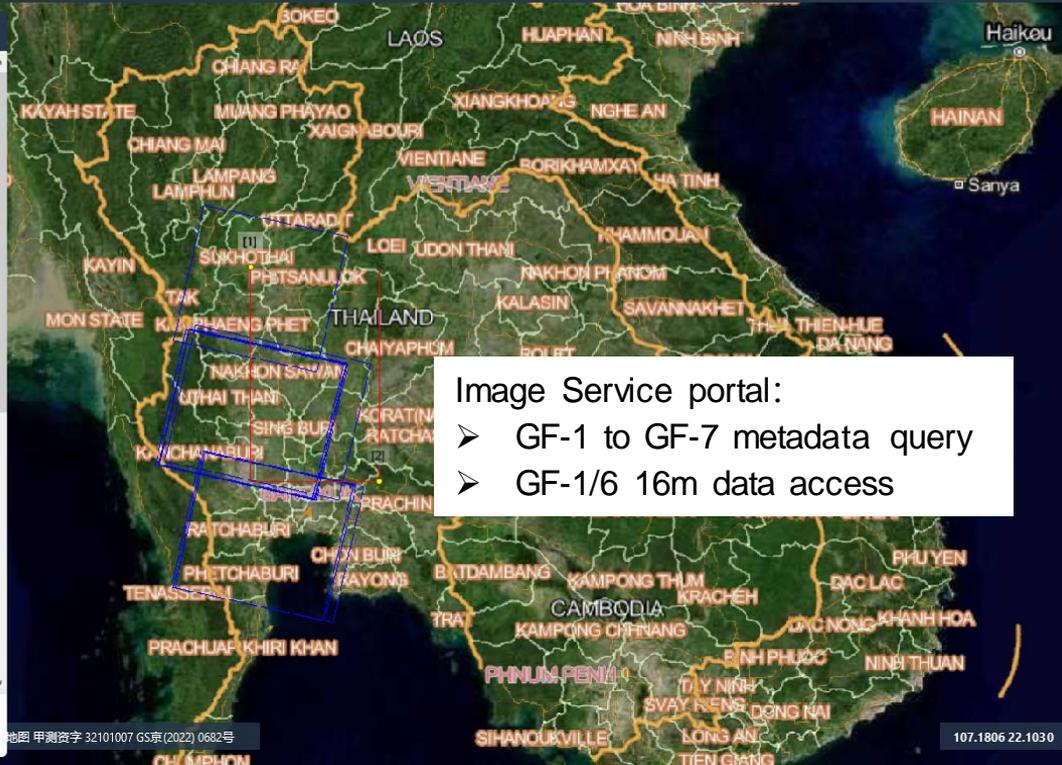


Image Service portal:

- GF-1 to GF-7 metadata query
- GF-1/6 16m data access

2.3 Function of CPEOS — Products Service

<http://product.cpeos.cn/index>



Product Data Hub

[Home](#)

[Product](#)

[User Help](#)

[My Space](#)

[Login](#)

Selection

Special

HY-1C

HY-1D

HY-2B

HY-2C

HY-2D

CFOSAT

Collection

Level

access

Chinese Ocean Color and Temperature Scanner (COCTS)

L2A, L2B, L2C



Coastal Zone Imager (CZI)

L2A, L2B, L2C



Product Service portal:

- Fengyun meteorological satellite products access
- Haiyang ocean satellite products access

2.3 Function of CPEOS — Products Service

<http://product.cpeos.cn/index>



Land Cover



Land Use



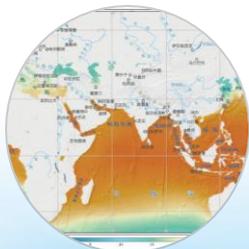
Cropping Indices



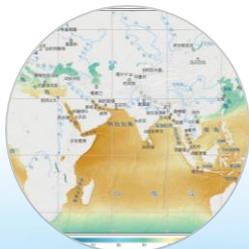
Forest Biomass Aboveground



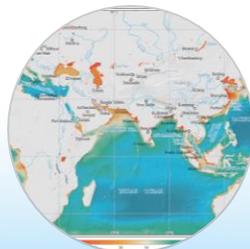
Grassland NPP



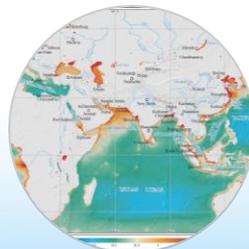
Sea Surface Temperature



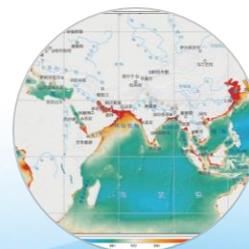
Photosynthetically Active Radiation



Seawater Transparency



Chlorophyll Concentration



Marine NPP

2.3 Function of CPEOS — BRICS RSSC

<https://brics.cpeos.cn/>

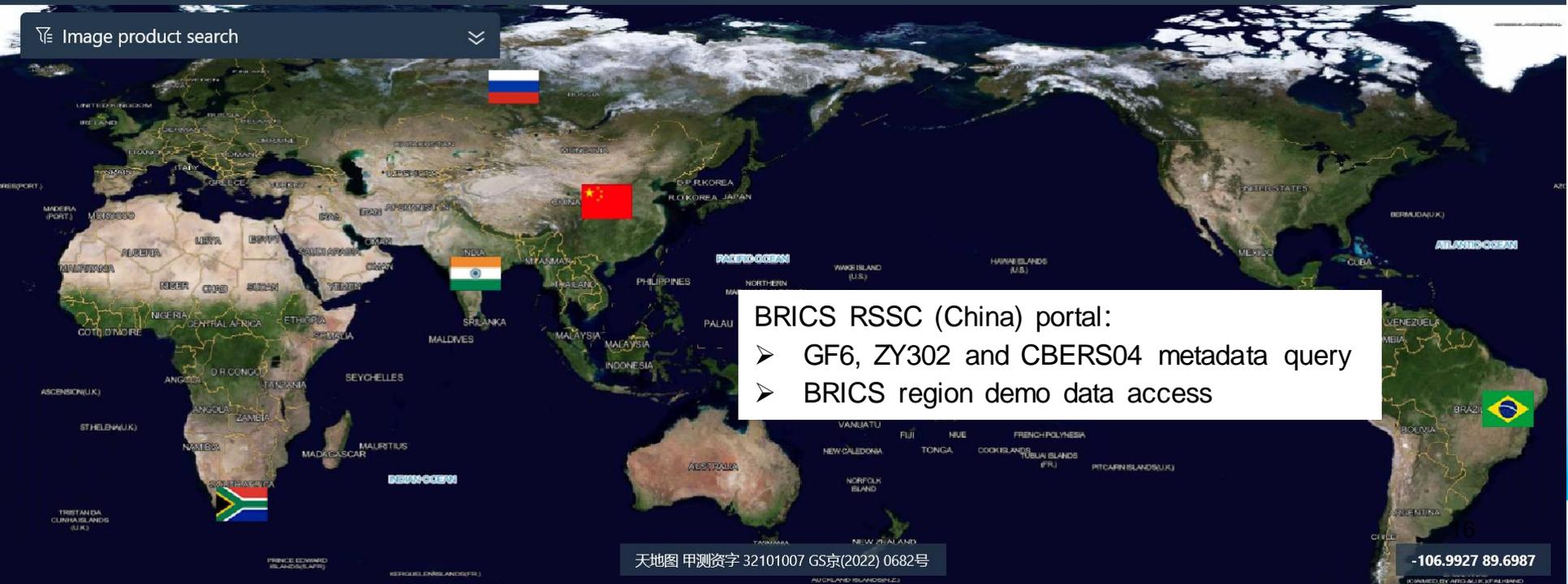


BRICS Remote Sensing Satellite Constellation (China)

Home News Remote Sensing Satellite Ground Station Pilot Program User Help About Us My Space

admin English

Image product search



BRICS RSSC (China) portal:

- GF6, ZY302 and CBERS04 metadata query
- BRICS region demo data access

2.3 Function of CPEOS — BRICS RSSC

<https://brics.cpeos.cn/>



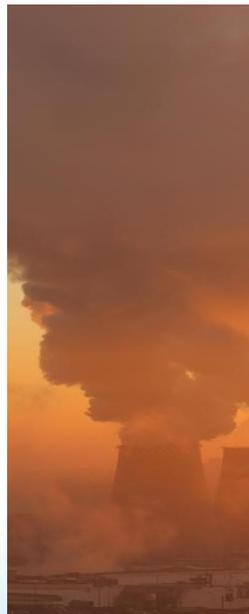
**Burned
Area**



**Water
Environment**



**Agriculture
Monitoring**



**Air
Pollution**



**Carbon
Source**



**Clean
Energy**



Outline

1

Background

2

CPEOS

3

Opportunity

3.1 Announcement of Opportunity

<https://www.cpeos.cn/opportunity>



Announcement of Opportunity Soliciting for China Remote Sensing Data Global Sharing

Schedule

LoI Due	January 1 st , 2024
Primary Selection of the Projects Due	February 1 st , 2024
Experts Review Due	March 1 st , 2024
Final Confirmation of the Projects Due	April 1 st , 2024
Signature of the Memorandum of Agreement	TBD

The Earth Observation System and Data Center, CNSA

Table of Contents

1. Background	1
2. Objectives of the AO	1
3. Functionality of the International Data Node System	1
4. Data Introduction	2
5. Enrollment and Selection	2
Appendix: LOI Cooperation on International Data Node	4

1. Background

In November 2023, during the Wenchang International Aviation & Aerospace Forum, the China National Space Administration (CNSA) officially launched the China Platform of Earth Observation System (hereinafter referred as "CPEOS"). To further promote China's achievements in Earth observation to countries around the world, CPEOS has established the international data node system. This system will provide normalized and standardized high-resolution remote sensing satellite data distribution services within the territory of the signing entities, assisting these entities in offering lightweight data sharing services to their own users.

2. Objectives of the AO

- To utilize the abundant resources of Chinese remote sensing satellite data to collaboratively promote the development of Earth observation with countries worldwide.
- To facilitate international cooperation with various countries in data sharing and data application by deploying international data nodes for remote sensing satellites.

3. Functionality of the International Data Node System

The International Data Node System is mainly composed of the Chinese end

3.2 Cooperation Network



United Nations

Office for Outer Space Affairs
UN-SPIDER Knowledge Portal



Multilateral



**GROUP ON
EARTH OBSERVATIONS**



Bilateral





Thank you

Wang, Fengyu

EOSDC, CNSA

CNSAICO@email.cn

+86 18611699033