Institute of Remote Sensing and Digital Earth
Chinese Academy of Sciences

RADI, Host Institution, Update

RADI International Cooperation Office

June 1, 2015 | Qingdao, China

On CAS Pioneer Initiative

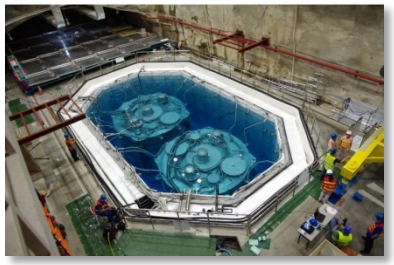
In 2014, following a year of intensive planning, the Chinese Academy of Sciences (CAS) announced an unprecedented program for institutional reform, within the framework of the 'Pioneer Initiative' .

Major Actions

- Restructure CAS institutes according to the four categories in order to bring into fuller play its combined and interdisciplinary strength for major discovery and innovation.
- Optimize scientific deployment by emphasizing the five priorities.
- Further reform talent & personnel management system.
- Further enhance the role and impact as a national scientific think-tank.
- Implement an open innovation strategy.

The Key Action of the Pioneer Initiative

It calls for a massive restructuring of all CAS research units into four distinct categories, each with clearly defined scientific mission and distinct management system.



- **Centers for Excellence (CFE)**

committed to cutting-edge research at the frontiers of science and to the fostering of young innovative talent

- **Centers for Innovation (CFI)**

focused on major national needs and development of industry by carrying out innovation of relevance, mission-oriented and industry-led research & development

- **Centers of Big Science Facility (CFBF)**

mega-science facility providers to the public for open science

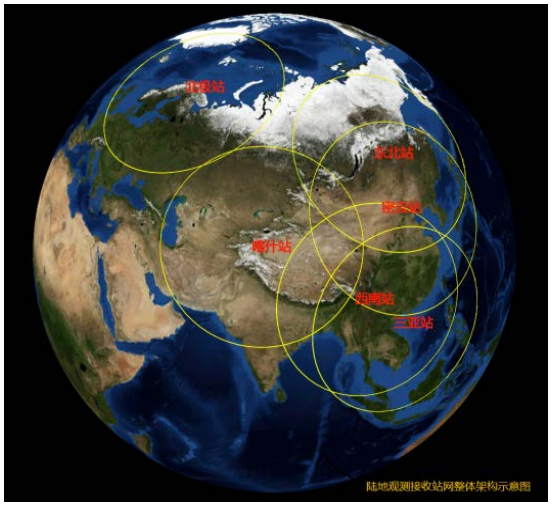
- **Institutes for special needs (ISN)**

committed to meeting special regional needs and development

Propose to establish “Centers of Big Science Facility on Earth Observation”

RADI is now building 2+2 Big Science Facilities and platforms, taking up 15% among 26 currently existing in CAS.

Under central coordination and management of CAS, A joint team, Led by RADI, in collaboration with the Institute of the Geographic Sciences and Natural Resources, and Institute of Atmospheric Physics, is now working together to establish *“Centers of Big Science Facility on Earth Observation*”, in order to improve the efficiency in the utilization of Major facilities for innovative research in S&T.



Updates on the Disaster-related work using Earth Observation done by RADI

CAS-TWAS Centre of Excellence on Space Technology for Disaster Mitigation

Highlight Activities

Joint Research Program

To lead collaborative research in developing countries that seek to increase the knowledge and capacity to use Earth observation technology for disasters early warning, preparedness, management, mitigation, and recovery.

Training Workshop

Each training course stretches over a 2-week period, covering both theoretical and practical aspects on the use of space technologies for disaster mitigation.

Education

The SDIM graduate student fellowship, and the SDIM visiting scholars and postdoctoral fellowships will be provided to students and the early/mid career scientists from developing countries, enhance their academic capabilities.

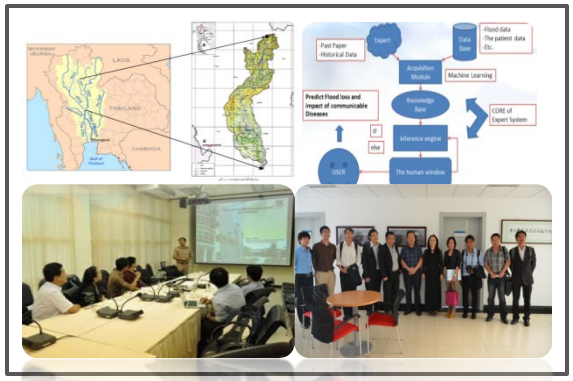
Conference and Seminar

The conference facilitates the broad discussion of capacity development for disaster risk reduction, innovative Earth observation products and tools for disaster management , and spatial technology and integrated disaster research.

CAS-TWAS Centre of Excellence on Space Technology for Disaster Mitigation

Progress Summary

- **11** research projects are launched cooperating with **7** developing countries
- Hold **1st** Meeting of DDR for Developing Countries
- **Over 20** students study at SDIM and hold **2** training workshops



SDIM GISTDA BRAC UNIVERSITY Pakistan Meteorological Department Government of Pakistan ЦАИИЗ www.cas.cn

SatSee Technology

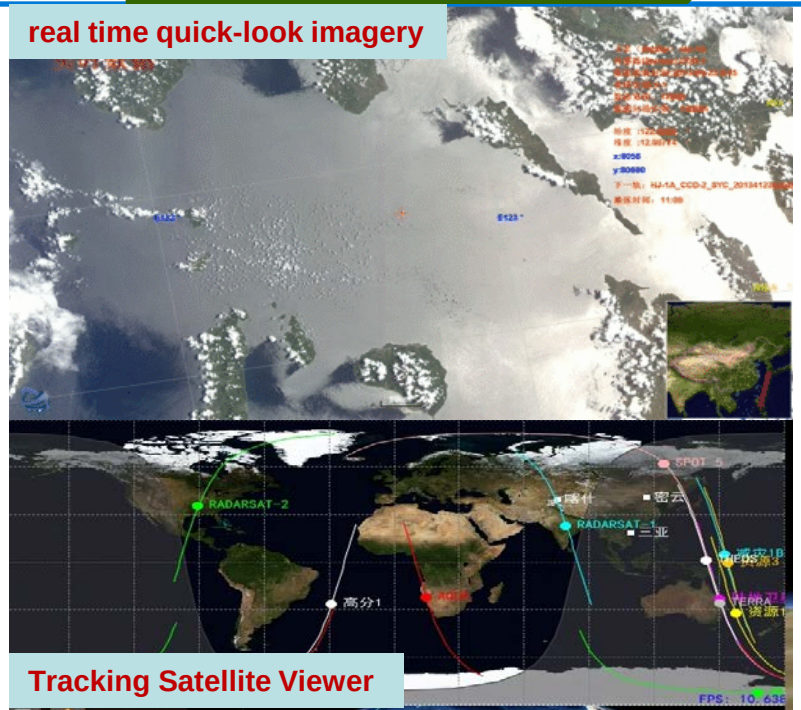
Low-cost “virtual ground station” for disaster mitigation

- 2Mbits **internet connection**
- **two computers** and a large **monitor or TV screen**
- Distributing **real time quick-look imagery** of high resolution satellite

RADI’s three stations receive data from satellites **covering 70% of Asia.**

SatSee System

real time quick-look imagery



Tracking Satellite Viewer

Installed in **Kirghizstan Mongolia and Cambodia**

CAS-NASA "Workshop on the Use of Earth Observations to Address Glacier Change and Associated Hazards in the HK Himalayas"

- Workshop was co-organized by the CAS Institute of Remote Sensing and Digital Earth (RADI) and the Earth Science Division of NASA.

"*This is one of key activities that NASA and CAS are pursuing together*"

To discuss the latest research to provide a better understanding of changing climate and implications of human impacts on glaciers using Earth Observations, to discuss how the changing glaciers can change the risk of hazards in the Hindu Kush-Himalayas, and its societal impacts.

Three Working Groups will prepare a GMT Analysis Report that identifies the state of knowledge, and key questions and gaps in order to improve our understanding :

- Overview of Change
- Remote sensing of glaciers and snow
- Hazards
- Downstream effects

Impact of Climate Change -
Some Examples…

Increased scarcity of drinking water

Natural springs and water sources drying up

Loss of productive lands

Habitat loss for wildlife and productive lands for domestic animals

Increased incidence of forest fires

RADI

UN Big Data Climate Challenge winners show how big data can drive climate action

2 September 2014 (NEW YORK) – The United Nations today announced the winners of the "Big Data Climate Challenge".

The project titled "Big Earth Observation Data for Climate Change Research" led by Prof. Guo, was selected for "Projects to Watch", projects designed to highlight particularly innovative uses of big data in emerging topics and geographic regions.

Submissions were received from 40 countries, representing more than 20 topics from forestry, biodiversity and transportation to renewable energy and green data centers. Two overall Big Data Climate Challenge winners and seven "Projects to Watch" were selected.

Spatial Cognition Study of the One Road and One Belt based on Earth Observation

Land deterioration

Glacier melting

Grassland fire

Food Security

Flood

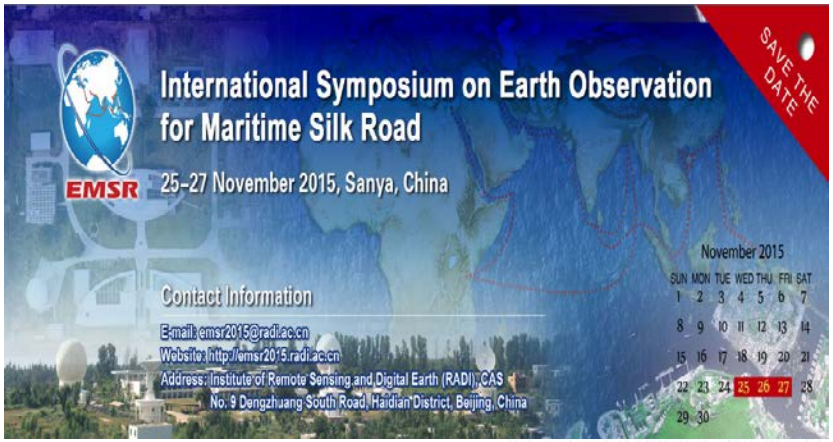
Endangered World Heritage

Facing severe challenges

Spatial cognition study of the One Road and One Belt based on Earth Observation

- Provide suggestions to development of the urbanization, environment and resource planning along the silk road belt.
- Provide support to the status report of the spatial information and environment;
- provide consultations for the macro and early national strategic planning;
- Promote the cooperation in all the aspects including science and technology of China and Central Asian countries, and support the overall situation of national neighboring diplomacy.

International Symposium on EO for Maritime Silk Road



Satellites help detect secondary disasters in Nepal

- A disaster relief group formed by scientists from the Chinese Academy of Sciences has spotted a number of serious secondary disasters in Nepal, which was hit by a devastating earthquake in late April.
- Chinese scientists analyzed data sent from Gaofen 1, a high-resolution Chinese satellite, and located several new hazards including mudslides, landslides and barrier lakes.
- Among these, the most severe took place in the Rasuwa region, with many landslides spotted along the slopes of the China-Nepal Highway and a 0.3 square kilometer barrier lake threatening downstream villages

加德满都kalmochan庙宇毁损遥感监测图

2015年4月11日高分一号影像　　2015年4月27日高分一号影像

Our Continued Support to the IPO

RADI Support to IRDR IPO

Staff Recruitment

- **Assist in recruiting staff, & help with the contract & work permit**

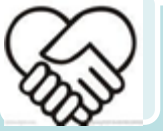
Visa Application

•Help IPO staff and visitors to get the appropriate visa in China.

- **Help to invite SC members to China, and issue the notification letter.**

Finance

- **Help to apply for annual budget & its financial management.**
- **Assist in the daily reimbursement.**



Logistic:

•Room cleaning, equipment purchase and maintenance, Offer solution to the Gmail access, & facilities such as meeting room, etc.

Coordination & Activities:

- **Coordinate with CAST, CAS, CASS and network with other agencies**
- **Help implement activities, e.g. identify host to SC Meeting in Qingdao.**

Access to literature & research resources in China

IRDR Auditing Report

Time: From Nov 2014 to March of 2015

Objective: To evaluate the IRDR program both on its performance, progress, especially the finanical execution.

Procedure: Work closely with IPO and submitted the preliminary material to CAST. Official auditing meeting, which was attended by over 30 experts, was held on March 9th, 2015.

Preliminary evaluation results:

1.IRDR was a successful initiative and has made great progress;

2.More detailed annual work plan & budget plan should be provided, and the tasks shall be measured in a more scientific and qualified way.

3.Need to strengthen the promotion of IRDR and its networking both in China and internationally, and strengthen the financial management and auditing of IRDR.

China Declares ‘War' on Pollution

Choking smog is a fact of life for many of China's residents, especially in mega city .

China is going to battle! Our enemy: polluting coal plants, gas-guzzling cars and smoggy cities.

Premier Li Keqiang "declared war" on pollution and also set hard targets for reducing pollution this year.

The Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution was revised.

- About 50,000 small coal-fired furnaces will be shut down this year.
- 6 million old high-emission vehicles will be removed from roads.
- Cleaning technologies will be introduced at coal-burning power plants.
- Cleaner diesel fuel will be provided nationwide this year.

China vs. Google

The relationship between Google and China has never been smooth.

CHINA welcomes the company to do business on the prerequisite that it obeys Chinese law; Versus Google values more its reluctance to be restricted by Chinese law, resulting in conflict”

Google said that it was no longer willing to censor its Chinese search engine.

China defended: "Maintaining the safe operation of the Internet and the secure flow of information is a fundamental requirement for guaranteeing state security and people's fundamental interests.“

Two proposed Solutions:

1. Use a Virtual Private Network (VPN), which allows unhindered access to any blocked sites and services
2. Transfer mailing system to Chinese Server

The Way Forward

- Doing by learning
  Never perfect

RADI will continue to dedicate ourselves to provide our support to:

- Identify what the obstacles and restrictions are really are, and work together to find possible and creative solutions;
- logistic issues;
- the next IRDR Conference, as part of local organizing committee
- The implementation of Sendai meeting, from IRDR China and CAS-TWAS Center perspective
- Upcoming IRDR Review
- Additional help during transitional period

Thanks!

There is a long Journey ahead, and we would like to walk together with you.

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