

Source RSGS



Station special issue

# RSGS GEARS UP TO CHINA'S

**The construction of the China Remote Sensing Satellite Ground Station (RSGS) was an important element of the Sino-American Science and Technology agreement, signed by Deng Xiaoping and U.S. President Jimmy Carter during Deng's visit to the USA in 1979. The station became operational in December 1986. RSGS is a fundamental facility for acquiring geospatial information, providing links with remote-sensing satellites and a vast number of users.**

## 20-year legacy

The data receiving and recording system is located in Miyun, a suburb of Beijing, approximately 100 km from the city centre. It is surrounded by hills but offers a wide field of view. The landscape is beautiful, and electromagnetic interference is comparatively weak. RSGS headquarters and the satellite data processing, archiving and user service departments are located in the centre of Beijing. RSGS has about 130 employees at these two sites. Since the station started operating, it has always been actively supported by the government. In 1986, Deng Xiaoping himself painted the station's name. For its tenth anniversary in 1996, President Jiang Zemin and Premier Li Peng each wrote banners of encouragement. And in 1997, current Premier Wen Jiabao paid a visit. From the outset, RSGS has continuously received, recorded, archived and distributed various types of Earth resource satellite data, which have brought enormous economic and social benefits. The station has become China's main centre for spatial infor-

mation and is a key member of the international network of Earth observation stations.

## High-performance systems

In the last 20 years, RSGS has developed substantial technical strength and operational capability. In 1986, it installed the first 10-metre-diameter antenna and corresponding recording system for remote-sensing satellites in

China. In 1999 and 2004, an 11-metre-diameter and 6-metre-diameter antenna and recording system were added. Data reception and storage is all automatically computer controlled and the Miyun receiving station communicates with headquarters in Beijing over an optical fibre link. Since commissioning its first large-scale data pre-processing system, the station has made several other large-scale system upgrades and changes. In

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**SATELLITE DATA RECEIVED BY RSGS**

# SERVE DEVELOPMENT

2002, a processing system was set up for the SPOT 5 satellite. As a result, RSGS was the first international station outside France with the ability to process SPOT 5 data. Through the efforts of its engineers, the station has moved on in recent decades from its original single data processing system to more than 10 multi-satellite data systems today, reducing data processing and distribution turnaround time from three weeks to one to two days in the process. For urgent needs, data can now be delivered within minutes.

RSGS currently has the largest archiving database in China for Earth observation satellite data. The station maintains all of the data it has acquired since coming on line, thus preserving a

unique copy of uninterrupted and extremely precious historical geospatial data of China for the world. For data searching, the station's engineers have developed a multi-satellite catalogue system, which stores description data for each remotely sensed image and the corresponding quicklook image for browsing. Remote-sensing users in China and overseas can quickly access the RSGS database over the Internet from anywhere in the world.

### Diversifying the business

RSGS also provides value-added products, including multi-satellite data fusion products, satellite imagemaps, thematic information products and print products. The station is pursu-

ing a constant effort to develop more value-added products, including domain expertise for specialized requests. Users' committee meetings are convened regularly. The User Notes newsletter is published to promote information release and exchange, and user feedback is carefully evaluated. RSGS has a broad spectrum of over 800 users, delivering Earth remote-sensing data for areas ranging from scientific research to practical and operational use. The station has provided more than 80,000 services and is among the world's leading receiving stations in terms of volume of data distributed.

RSGS is closely involved in international cooperation and has cooperation agreements with many international space administrations and companies. So far, it has signed nine agreements for international satellite data reception on behalf of the Chinese government. In 1998, RSGS formed a joint venture with Spot Image in Beijing, which has proven very successful. As a result, SPOT 5 data are now widely used in many fields in China.

RSGS is now looking to further the construction of its key technical facilities and deployment of a remote-sensing satellite station network is already underway, with new receiving stations set to open soon in western and southern China. RSGS will continue its efforts to provide more satellite data with more coverage to more people. ■



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RSGS antenna