CGMS-35, CMA-WP-06
Prepared by CMA
Agenda Item: IV/2
Discussed in WG IV

Summary of the Working Paper.

FengyunCast has switched to C band of ‘Asiasat-4’ satellite positioned at 122.2E longitude. The data bandwidth is 8 MHz. In October 2007, CMA officially announced opening of FengyunCast C-band data dissemination service. Currently, 130 domestic users benefit from the FengyunCast data broadcast. In near future, 19 international users will be able to receive data from FengyunCast.

Status of FENGYUNCast

I. About system

FENGYUNCast is designed to disseminate meteorological satellite data to domestic users and the authorized users in Asia-Pacific region in a near-real-time manner. The data sources the FENGYUNCast system can access to include MODIS stations (4 of the China Meteorological Administration in Beijing, Guangzhou, Urumqi and Lhasa, and 2 belonging to the State Oceanic Administration in Sanya and Beijing), as well as from NOAA/AVHRR, FY-1D and FY-2C stations of China Meteorological Administration. FENGYUNCast operates automatically to acquire, pre-process, and broadcast the data through Digital Video Broadcast Satellite (DVB-S).

The FENGYUNCast system is composed of a broadcasting centre and user reception terminals. The uplink station transmits data to DVB satellite. Before 2006, FENGYUNCast used 'ChinaStar-1' of China Satcom positioned at 87.6°. The bandwidth is 6 MHz, Ku band covering China and part of Southeast Asia and West Asia; Since 2007, 'Asiasat-4' of Asiasat Co. positioned at 122.2° is used by FENGYUNCast to broadcast at C band with 8MHz bandwidth, covering most Asia-Pacific region. User reception terminal adopts the normal standard. The broadcasting centre includes a server, packer, DVB-IP router, PC and software for display and management. The user terminal consists of an antenna, receiver, DVB router, PC and software for data reception and application. The aperture of antenna can be 1.2 m, 1.8m, 2.4m, but 1.8m in most cases.

The data at broadcasting centre is segmented and transmitted in real time through multiplex network to uplink station. The broadcasting centre collects data according to time schedule, broadcasts the data according to their priority level. User reception stations choose to receive data from a certain satellite.

II. Current Status

FENGYUNCast started operation on 1 June 2004. Through the system, data received from EOS-MODIS, FY serial satellites and NOAA serial satellites can be shared by more 100 domestic users in meteorology, oceanic, agriculture, forestry, water conservancy, transportation, aviation and space in China. 13 Chinese universities equipped FENGYUNCast terminals for their research work and education. In 2006, Bangladesh, Indonesia, Iran, Mongolia, Pakistan, Peru and Thailand installed receiving terminals. In October 2007, CMA donated the user terminals to NHMS of Cambodia, D.P.R. Korea, Kyrgyzstan, Laos, Malaysia, Myanmar, Nepal, Philippines, Sri Lanka, Tajikistan, Uzbekistan, Viet Nam, and formally announced the opening of FENGYUNCast C-band service. Domestically, 130 users benefit from this broadcasting service with data volume amounting to 28GB each day and 10TB each year.

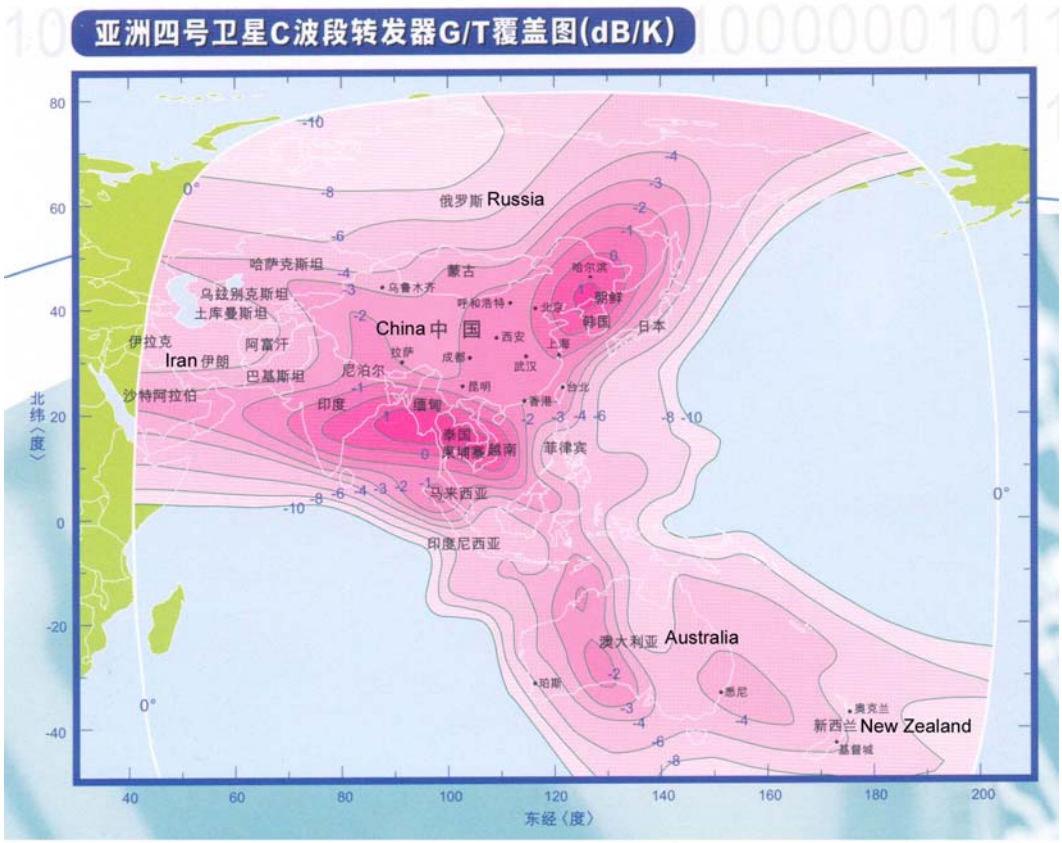
III. Products List

List of Current Internationally Disseminated Data and Product via FENGYUNCast

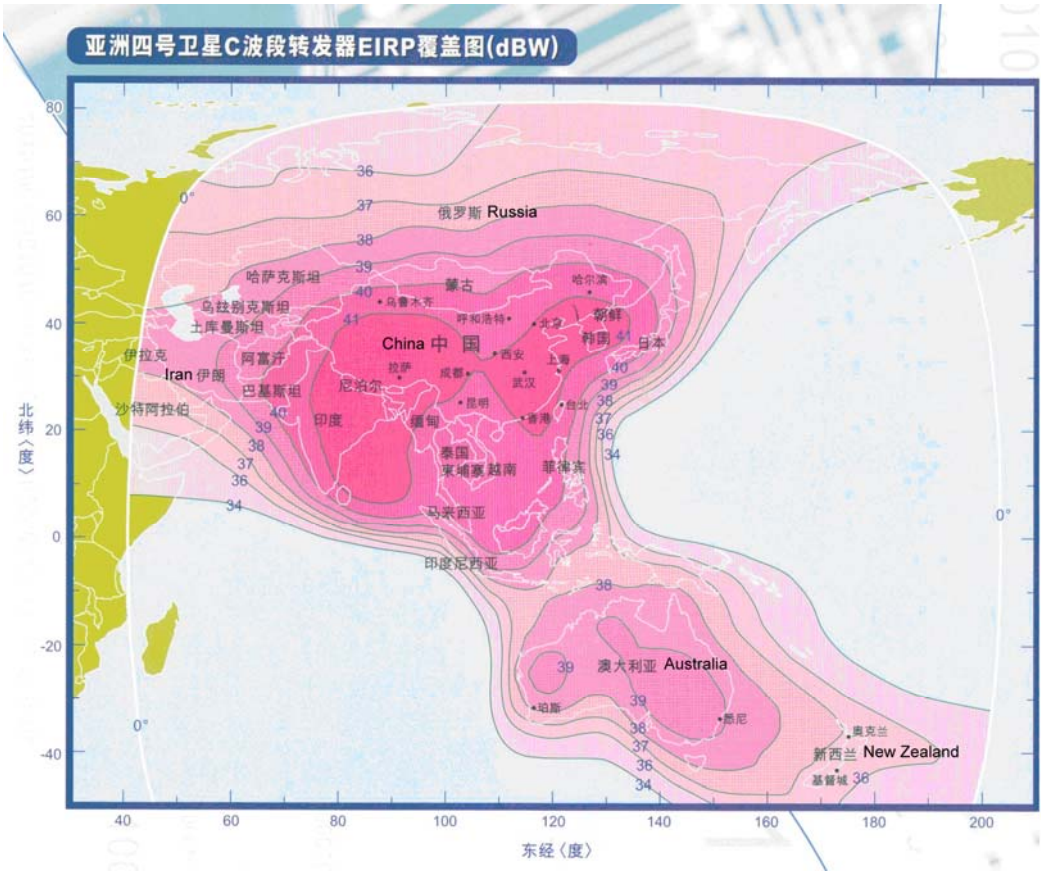
User	Data name	Cover area	Broadcasting frequency & timeliness /day						Note
			October-June			July-September			
			broadcast/day	Observation	Time delay	Broadcast times	Observation	Time delay	
	FY-2C S – VISSR	full disk	24	Every hour	<1 minute	24	integrated hour	<1 minute	
	FY-2C			23:30			23:30		

All users	cloud wind	full disk	4	05:30 11:30 17:30	<1 minute	4	05:30 11:30 17:30	<1 minute	10 frames/ broadcasting one time
	FY-2C S-VISSR	north hemisphere				20	Integral hour +30 minute	<1 minute	
	FY-2D S-VISSR	full disk	24	integrated hour +30minute	<1 minute		integrated hour +15minute	<1 minute	
	FY-2D cloud wind	full disk	4	03:00 09:00 15:00 21:00	<1 minute		02:45 08:45 14:45 20:45	<1 minute	
	FY-2D S-VISSR	north hemisphere				20	Integrated hour +45minute	<1 minute	
	MTSAT S-VISSR	F ull disk	24	integrated hour +33 minute	<1 minute	24	integrated hour +33 minute	<1 minute	

IV. AsiaSat-4 Satellite C-Band Transponder G/T Coverage



V. AsiaSat-4 Satellite EIRP Coverage



VI. Data Coverage from the Polar-Orbiting Ground Stations