

GMS Monthly Operations Report

May 2003

Announcement of the Start of the Back-up of GMS-5 with GOES-9

On 06UTC 22 May 2003, the Japan Meteorological Agency (JMA) started the back up of GMS-5 with GOES-9 in cooperation with US NOAA/NESDIS.

GMS-5 made its final observation at 00 UTC on 22 May 2003. From 06 UTC on 22 May 2003, the broadcasting service of WEFAX derived from GOES-9 GVAR data has been started. GOES-9 is positioned at 155E above the equator.

The S-VISSR data (IR-1 channel) derived from GOES-9 GVAR data are put on the RSMC Data Server of JMA. This data is for the National Meteorological and Hydrological Services, which registered to JMA to access the data through the Internet.

There is no longer broadcasting service of S-VISSR data via GMS-5, whilst the GMS-5 data collection system is continuously operated. GMS-5 is still on the present position at 140E for the back up.

1. Events of Special Operation

1.1 Eclipse Operation

No Eclipse Operation.

1.2 Solar-interference Operation

No Solar-interference Operation.

1.3 Typhoon Special Observation

On 21 May, the fifteen minutes interval observations were performed for the extraction of Atmospheric Motion Vector around typhoons.

1.4 System Maintenance

System maintenance, which affects GMS operation, was not performed this month.

1.5 VISSR Expanded Frame Operation

VISSR Expanded Frame Operation was performed on 6, 13, 20 and 26 May in order to prevent the lubricant buildup of VISSR. This operation has no influence on the GMS operation schedule.

2. Image Observations and Dissemination

2.1.1 Image Observations and Stretched VISSR (S-VISSR) Dissemination by GMS-5

VISSR image observations and S-VISSR dissemination were satisfactory as scheduled except for the cancelled observations during this month. The following table shows performance of image observation and summary of S-VISSR dissemination by GMS-5 until 00UTC 22 May 2003.

Performance of Image Observations and S-VISSR Dissemination

GMS-5	Observations	S-VISSR Dissemination	Remarks
Scheduled	590	590	
Performed	590	590	
Performance in %	100	100	

Summary of Cancelled Observations

Date	Cancelled	Reasons
	None	

Summary of Cancelled S-VISSR Dissemination

Date	Cancelled	Reasons
	None	

2.1.2 S-VISSR type data disseminations

From 06UTC 22 May 2003, disseminations via the Internet of S-VISSR type data converted from GOES-9/GVAR signals at the MSC have been started. S-VISSR type data Disseminations were satisfactory as scheduled except for the cancelled observations during this month. The following table shows performance and summary of S-VISSR type data disseminations from 06UTC 22 May 2003.

Performance of S-VISSR type data disseminations

GMS-5	S-VISSR type data Disseminations	Remarks
Scheduled	234	
Performed	227	
Performance in %	97.0	

Summary of cancelled S-VISSR type data disseminations

Date	Cancelled	Reasons
23 May	G00,G01,G02	Missing GVAR data
24 May	G08,G20	Missing GVAR data
27 May	G12	Problems with GVAR data
27 May	G16	Trouble of receiving system at MSC

2.2 WEFAX Dissemination

From 06UTC 22 May 2003, the broadcasting service of WEFAX derived from GOES-9/GVAR data has been started. WEFAX broadcasting service was satisfactory except for the cancelled observations during this month. The following table shows performance and summary of WEFAX broadcasting service.

Performance of WEFAX Disseminations

GMS-5	Disseminated	Remarks
Scheduled	2590	
Performed	2545	
Performance in %	98.3	

Summary of Cancelled WEFAX Dissemination

Date	Cancelled	Reasons
12 May	H/I-07	Attitude maneuver of GMS-5
14 May	B-06	Trouble of ground subsystem at CDAS/MSC
22 May	K/L/M/N-00	Change of observation system
23 May	H/I-00,01,02 A/B/C/D-00 K/L/M/N-00	Missing GVAR data
24 May	A/C/D-00	Problems with data processing at MSC
24 May	H/I-08 H/I-20	Missing GVAR data
26 May	C/D-12	Problems with GVAR data
27 May	H/J-16 H-17	Trouble of receiving system at MSC
27 May	H/J-12 A/B/C/D-12 K/L/M/N-12	Problems with GVAR data
30 May	C/D-09	Trouble of receiving system at MSC

3. Data Collection System

3.1 International Data Collection System (IDCS)

The following table shows the IDCP messages are received at MSC and disseminated through the GTS.

Reception and Dissemination of Messages

IDCP channel	Number of IDCPs ^{a)}	Received messages	Format errors ^{b)}	Non WMO code ^{c)}	Disseminated messages to the GTS
I06	14	0	0	0	0
I07	22	124	0	0	124
I10	3	0	0	0	0
I14	3	8	1	0	7
I15	7	67	0	0	67
I16	5	0	0	0	0
I18 (ASDAR)	9	324	62	0	262
I20	3	0	0	0	0
Total	66	523	63	0	460

a) Number of DCPs registered on GMS-5 IDCS as of 1 May 2003.

b) Format error was caused by the radio telecommunication interference.

c) The messages were none or unsuited to the WMO codes and "DATA BUFFER EMPTY" or "NO MESSAGE was detected by the DCP data processing software at MSC

3.2 Interference on IDCP Channels

The following table shows the interference on GMS International Data Collection System(IDCS) channels.

Interference on GMS IDCS Channels (May 2003)

ch.	1	2	3	4	5	6	7	8	9	10	11
May.	S				S		W				

ch.	12	13	14	15	16	17	18	19	20	21	22
May.											

ch.	23	24	25	26	27	28	29	30	31	32	33
May.											S

S: severe interference

W: weak interference

4. Satellite System Status

4.1 Satellite Status

GMS-5 was located at 140 degree East and continued to provide its operational services.

4.2 Maneuver

Attitude maneuver was performed on 12 and 29 May.

4.3 Orbit and Attitude Elements of GMS-5

The orbit and attitude elements of GMS-5 are shown following table.

Epoch 00:00:00 UTC, 19 June 2003

	Element	Unit	Value
Orbit	Semi-major axis (a)	Km	42163.82426
	Eccentricity (e)	-	0.00008823
	Inclination (I)	Degree	2.07071
	Right ascension of ascending node (Ω)	Degree	82.86310
	Argument of perigee (ω)	Degree	350.03429
	Mean anomaly (M)	Degree	334.06026
Attitude	Right ascension (α)	Degree	173.83216
	Declination (δ)	Degree	-88.07082

5. Ground System Status

On 22 May, The change of an observation system at DPC/MSK for the Back-up of GMS-5/VISSR with GOES-9/GVAR was performed. Observation from 0100UTC to 0500UTC, DCP communications from 0200UTC to 0215UTC were canceled.