

## **FUTURE PLANS OF INSAT SATELLITES FOR METEOROLOGICAL APPLICATIONS**

Future Plans of INSAT Satellites for Meteorological Applications

CGMS Members are invited to take note.

## **FUTURE PLANS OF INSAT SATELLITES FOR METEOROLOGICAL APPLICATIONS**

### **INTRODUCTION**

Under the INSAT –3 Programme, a new Geostationary Meteorological Satellite INSAT - 3D is being designed and developed in India. It will have an advanced imager with six channels and a Nineteen channel sounder for derivation of atmospheric temperature and moisture profiles. It will provide 1 km resolution imagery in Visible band and 4 km resolution in IR bands. This new satellite is scheduled for launch in middle of 2006 and will provide much improved capabilities to the users of meteorological data from satellites.

### **Appendix-B**

#### **INDIAN NATIONAL SATELLITE (INSAT) and METSAT**

##### **INSAT-3: Geostationary Satellite Series – FUTURE**

<b>Satellite</b>	<b>Launch Date</b>	<b>Met. Payload with Wavelength Bands</b>	<b>Major Applications</b>
INSAT-3D	2006	1. Imager  Bands : 0.52-0.75 $\mu$ m 1.55-1.70 $\mu$ m 3.80-4.00 $\mu$ m 10.2-11.2 $\mu$ m 11.5-12.5 $\mu$ m  2. Sounder  Bands : 19 channels between 0.69-14.71 $\mu$ m	-do-

**Table-1**  
**SPECTRUM AND SENSITIVITY**  
**(INSAT-3D SOUNDER WITH IR DETECTORS AT 100K)**

Channel No.	Centre Wavelength ( $\mu\text{m}(\text{cm}^{-1})$ )	Bandwidth $\mu\text{m} (\text{cm}^{-1})$	NEDT at 300 (typical) K
1.	14.71 (680)	0.281(13)	1.5
2.	14.37 (696)	0.268(13)	1
3.	14.06 (711)	0.256 (13)	0.5
4.	13.96 (733)	0.298 (16)	0.5
5.	13.37 (749)	0.286(16)	0.5
6.	12.66 (790)	0.481 (30)	0.3
7.	12.02(832)	0.723 ( 50)	0.15
8.	11.03 (907)	0.608 (50)	0.15
9.	9.71 (1030)	0.235 (25)	0.2
10.	7.43 (1345)	0.304 (55)	0.2
11.	7.02 (1425)	0.394 (80)	0.2
12.	6.51 ( 1535)	0.255 (60)	0.2
13.	4.57 (2188)	0.048 (23)	0.15
14.	4.52 (2210)	0.047 (23)	0.15
15.	4.45 (2245)	0.0456 (23)	0.15
16.	4.13 (2420)	0.0683 (40)	0.15
17.	3.98 (2513)	0.0663 (40)	0.15
18.	3.74 (2671)	0.140 (100)	0.15
19.	0.695 (14367) 0.05 (1000) (067-0.72)		0.1% albed

### INSAT-3D Met Payloads

INSAT- 3D to Carry :

Six Channel Imager :

No.	Channel	Resolution
1.	0.52-0.72 $\mu\text{m}$	1 km
2.	1.55-1.70 $\mu\text{m}$	1km
3.	3.80- 4.00 $\mu\text{m}$	4 km
4.	650-7.00 $\mu\text{m}$	8 km
5.	10.2- 11.2 $\mu\text{m}$	4 km
6.	11.5-12.5 $\mu\text{m}$	4 km

**Nineteen channel IR Sounder for INSAT –3D (10 km resolution)**

1.	Short-Wave IR ( 3.74-4.57 $\mu\text{m}$ )	Six Channels
2.	Mid-wave IR ( 6.51-9.71)	Six Channels
3.	Long-wave IR ( 11.03-14.71 $\mu\text{m}$ )	Six Channel
4.	Visible ( 0.67-072 $\mu\text{m}$ )	One Channel