

### **Current status of operationally derived CMVs**

This paper briefly presents results of improvements carried out during last two years in the CMV derivation scheme in operational use at INSAT Meteorological Data Processing System (IMDPS). Results up to August/Sept,2001 were also presented during CGMS-XXIX Basically, no further changes were incorporated after last CGMS meeting. Improved quality of CMVs was continued up to April, 2002. However, From 14 May, 2002 operational production of INSAT CMVs was discontinued due to non-availability of any INSAT satellite. Now after the recent successful launch of METSAT on 12 Sept, 2002 operational production of CMVs will be started soon.

**Current status of operationally derived Cloud Motion Vectors(CMV) from INSAT Data.**

During the 29<sup>th</sup> CGMS meeting held in Capri, Italy in October, 2001 India had presented a paper bringing out results of improvements carried out during last 2 years in the operational derivation scheme of INSAT Cloud Motion Vectors(CMV). Basically the improvements were made in the following three areas.

- Better Navigation of images.
- Use of Limited Area Model (LAM) analysis for Quality control.
- Improved height assignment scheme using temperature of 25% of the coldest cloud pixels.

It was shown that as a result of above changes, there was considerable improvement in the quality of operational CMVs at all levels. The rmse and biases were comparable to the METEOSAT-5 derived CMVs over the same area of coverage. The improved quality of CMVs was also sustained.

2. No further changes were made in the operational scheme of CMV derivation after the last CGMS meeting except strict control on the monitoring of quality on a daily operational basis. Improved quality of CMVs was continued upto April, 2002 and results were presented during the 6<sup>th</sup> International Winds Workshop in Madison, Wisconsin, USA (7-10 May, 2002). Figures 1, 2, 3, and 4 summarize the results in terms of rmse and biases in the form of a time series.
3. Operational production of CMVs was however, stopped from 14 May, 2002 due to deactivation of INSAT-1D satellite, the last satellite of INSAT-1 series which was in operational use at that time and no other satellite of INSAT was then available for production of CMVs.
4. A new dedicated meteorological satellite (METSAT-1) was successfully launched on 12 September, 2002. It is currently in use for production of cloud pictures for operational utilization. Production of CMVs on an operational basis will soon be started using data from this satellite after completion of initial trials for a few days and monitoring the quality of CMVs.

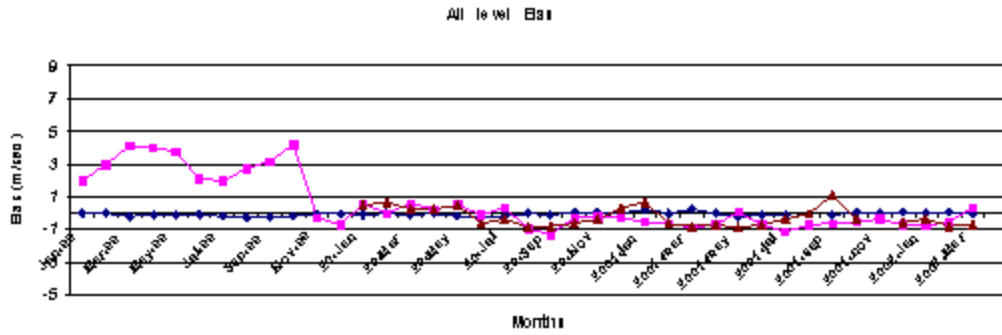


Fig 1(a)

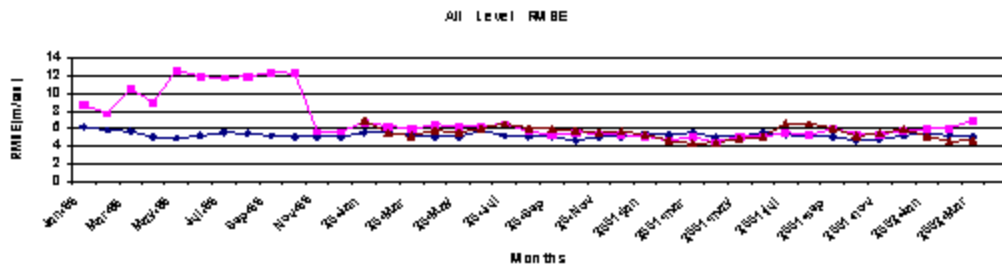


Fig 1(b)

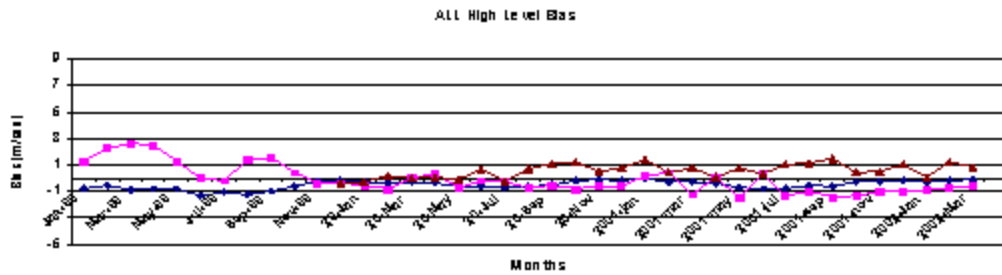


Fig 1(c)

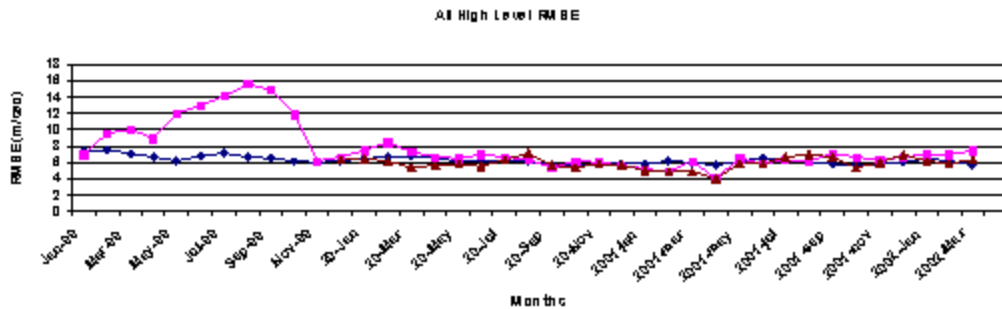
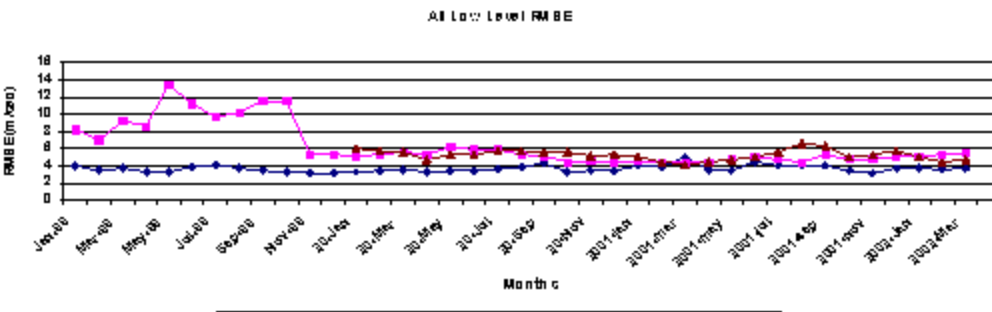
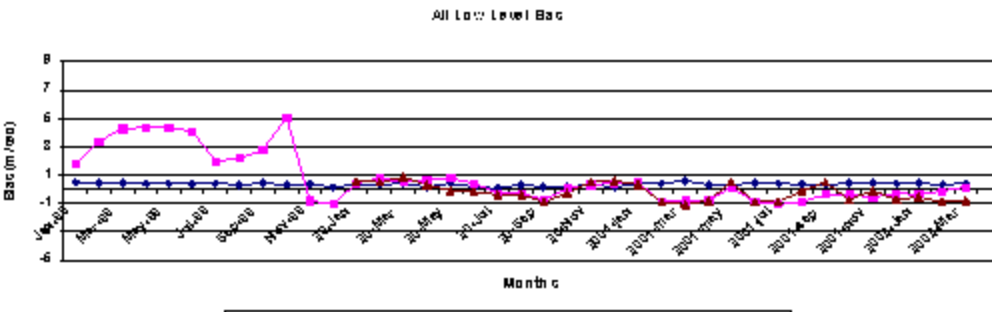
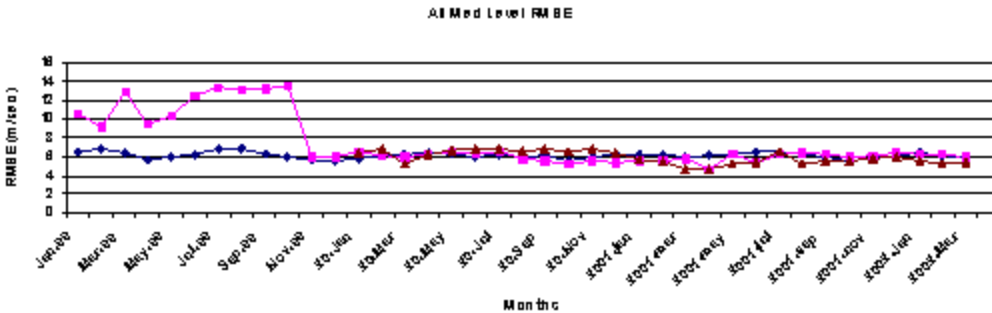
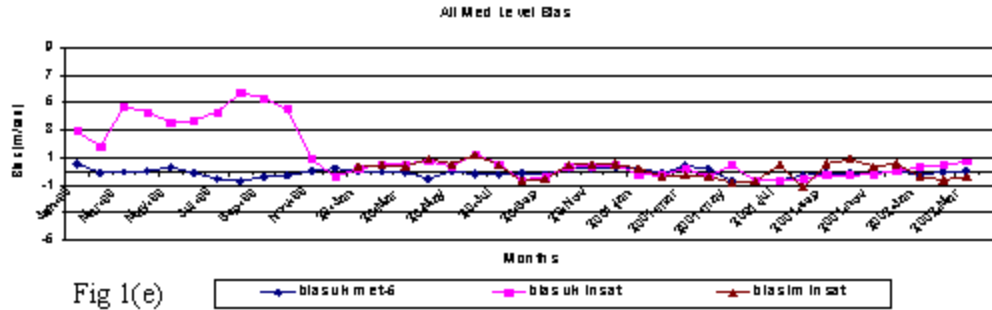


Fig 1(d)



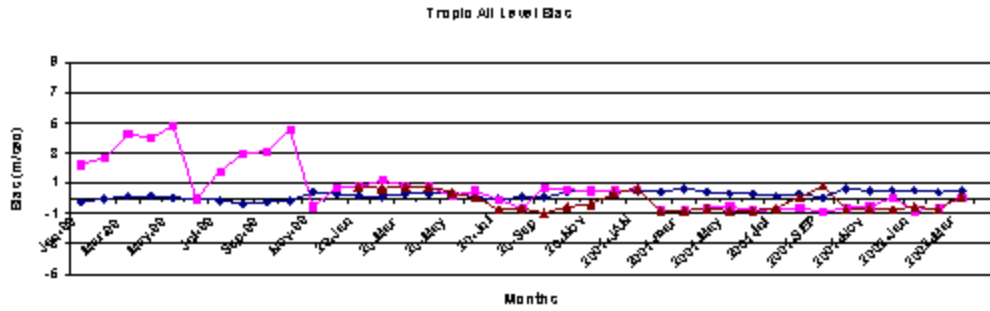


Fig 2(a) —♦— bias uk met-5 —■— bias uk insat —▲— bias lm insat

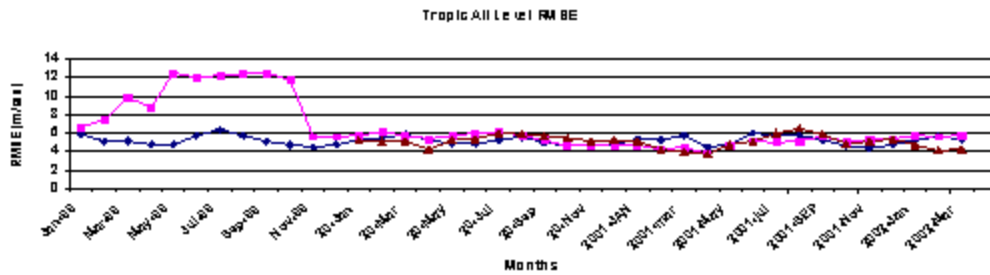


Fig 2(b) —♦— rms uk met-6 —■— rms uk insat —▲— rms lm insat

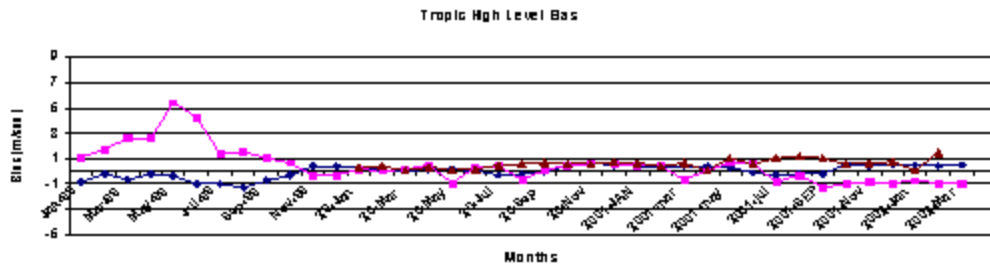


Fig 2(c) —♦— bias uk met-6 —■— bias uk insat —▲— bias lm insat

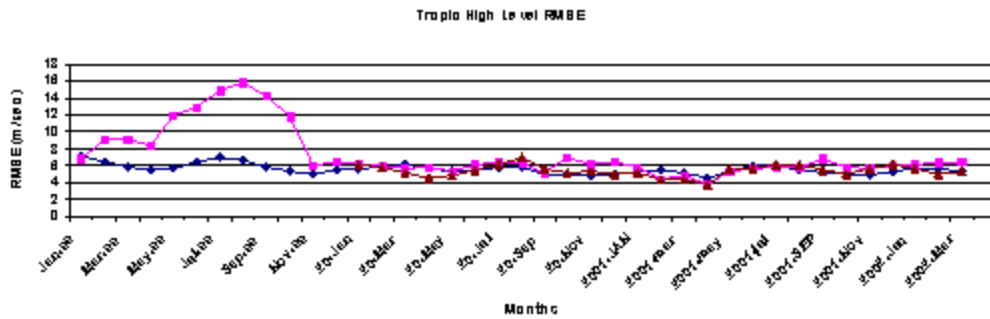


Fig 2(d) —♦— rms uk met-5 —■— rms uk insat —▲— rms lm insat

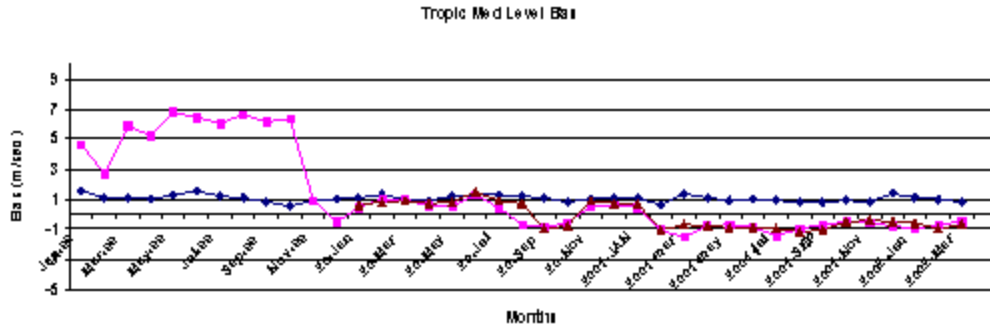


Fig 2(e)

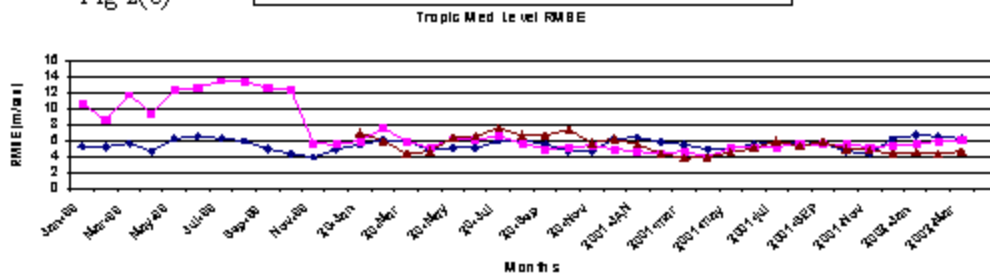


Fig 2(f)

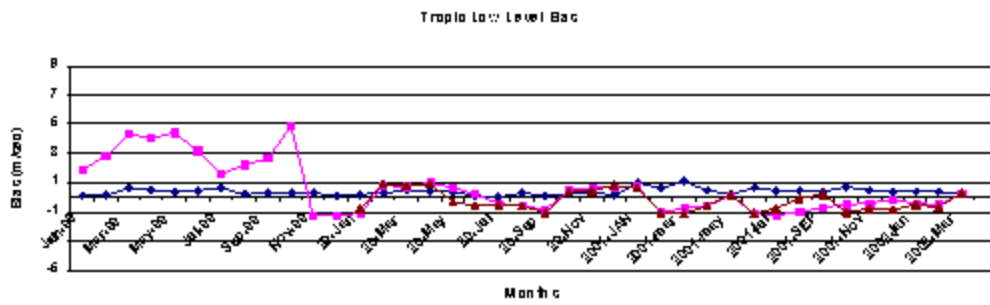


Fig 2(g)

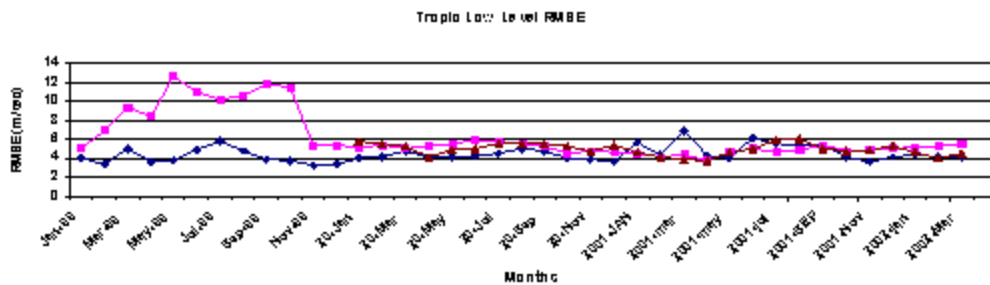
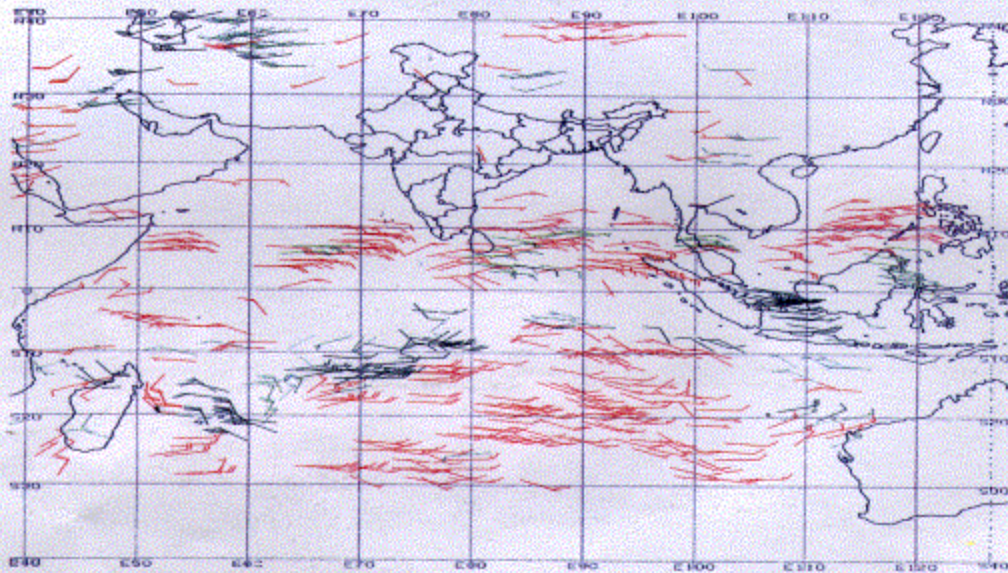


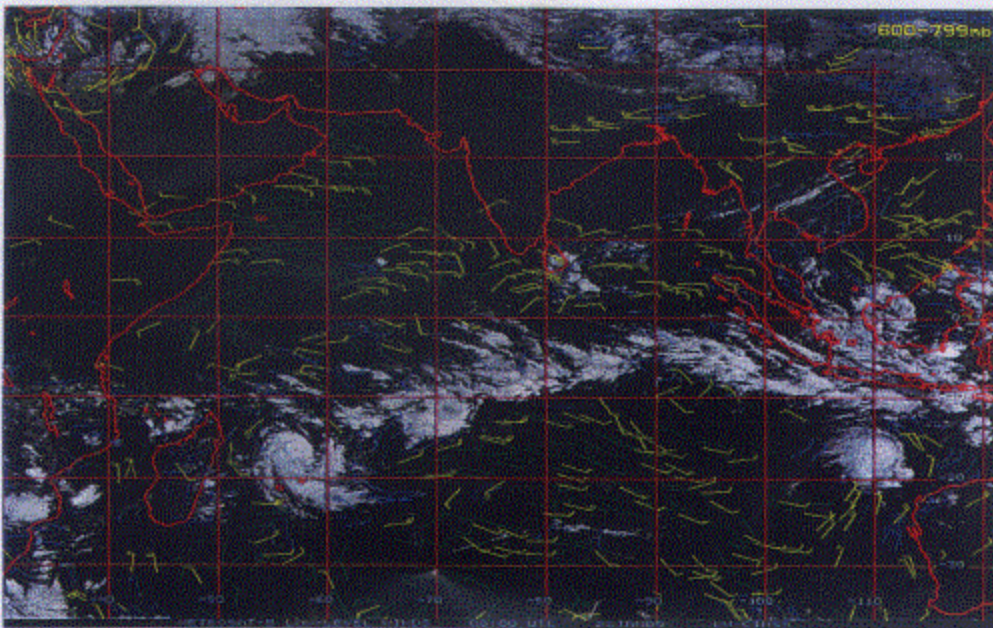
Fig 2(h)

CLOUD MOTION VECTORS OF INSAT IR AND METEOSAT-5 IR  
(28-01-2000 06:00 UTC)



INSAT (601-950 hpa , 600-301 hpa , 300-200 hpa)

Fig 3(a)



METEOSAT-5 (800-950 hpa , 600-799 hpa , 400-599 hpa)

Fig 3(b)