

**REPORT ON PLANNED GEOSTATIONARY AND LOW
EARTH ORBITING SATELLITE COVERAGE TO SUPPORT
WMO'S TROPICAL CYCLONE PROGRAMME**

This working paper provides information of EUMETSAT plans to provide GEO and LEO satellite coverage over the Indian Ocean Region.

CGMS Members are invited to take note.

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1 INTRODUCTION

Meteosat-5 was launched on 2 March 1991 and in June 1998 it was re-located at 63°E to support the INDOEX experiment (1998 - 1999). Since January 2000 it has provided the Indian Ocean Data Coverage (IODC) Service. The satellite is generally in good health but it suffers from a high inclination (over 6°) as all inclination station keeping fuel has been consumed. The EUMETSAT Council has agreed that this service be supported by Meteosat-5 until the end of 2005.

IODC images are disseminated as High Resolution formats on channel A1 only, with AIVH, AW formats during daylight and AIW formats during night-time. Some X formats of the Meteosat-5, full disk, field of view, are also included in the dissemination schedule of the primary (Meteosat-7) 0° Service. From the user perspective, PDUS coverage is possible from around 135°East to 4°West. The reader should note that the full set of IODC images will also be broadcast via the EUMETCast dissemination Service (see EUM-WP-02 for details).

The following IODC Service Meteorological Products are generated and distributed in real-time on the GTS:

- Cloud Motion Winds (CMW)
- Sea Surface Temperatures (SST)
- Cloud Analysis (CLA)
- Upper Tropospheric Humidity (UTH)
- High Resolution Visible Winds (HRV)
- Clear Sky Radiances (CSR)

2 FUTURE OPERATION OF EUMETSAT GEOSTATIONARY SATELLITES OVER THE INDIAN OCEAN

Since Meteosat-5 has a definite life expectancy, EUMETSAT has studied contingency plans to provide another satellite to support the IODC Service in the event of a failure of Meteosat-5 or beyond 2005, should the requirement for the IODC Service remain. The eventual operations scenario depends upon the status of the new Meteosat Second Generation (MSG) satellites. Since it is now expected that MSG-1 will enter routine operations in January 2004, the possibility to utilise Meteosat-6 as a back up to Meteosat-5 becomes more realistic. Meteosat-6, like Meteosat-5 has consumed all its inclination station keeping fuel (current inclination around 3.2°). Whilst this higher than normal inclination does not affect image processing carried out by EUMETSAT, it does have an impact upon direct reception (PDUS) users in the field of view, who either have to employ a tracking antenna, a defocused antenna, more than one antenna, or a smaller than recommended antenna (to achieve the broader beam-width). Users will, however, also be able to receive IODC imagery via the EUMETCast dissemination service, thus avoiding such difficulties (see EUM-WP-02 for details).

It should also be recalled that, currently, Meteosat-6 is supporting the EUMETSAT Rapid Scan Service from its location at 10°E.

MSG-2 is expected to be launched in 2005 and will thus be available for routine operations by 2006. This could, in turn, release Meteosat-7 to support the IODC service, depending upon the overall requirement to support all other EUMETSAT Services and the agreement of the EUMETSAT Council.

3 FUTURE OPERATION OF EUMETSAT POLAR ORBITING SATELLITES OVER THE INDIAN OCEAN

The first in the new series of EUMETSAT Polar System (EPS) satellites, Metop-1, is currently expected to be launched in September 2005. Following successful completion of a long period of commissioning, it can be assumed that this satellite will commence routine operations in the second half of 2006. Since data provided by this satellite will be global, there will be regular swaths of data covering the Indian Ocean Region.

The key objectives supported by the Metop satellites are Operational Meteorology and Climate Monitoring. Contributing to these objectives are:

- Global Imagery
- Operational Sounding
- Advanced Sounding
- Ocean Winds
- Ozone Mapping
- Data Location & Collection
- Global and Local Data Access

Further information on the status of the EPS programme can be found in EUM-WP-03.

4 CONCLUSION

CGMS Members are invited to take note of the planned coverage of the Indian Ocean Region by EUMETSAT GEO and LEO satellites. It should be recalled that this EUMETSAT Council approved Service is operated, with the agreement of WMO and CGMS, on the understanding that there is currently no other similar service provided in this region by another satellite operator. However, this situation could change in the coming years and, at that time, the requirement for EUMETSAT to provide an IODC or similar service will be reviewed.