

ISRO and IMD Report on the status of current and future satellites

Presently, three geostationary meteorological satellites INSAT-3A, Kalpana and INSAT-3D are operational. INSAT-3D launched in July 2013, is now fully operational with products being generated regularly at the INSAT Meteorological Data Processing System (IMDPS) and available to the users from IMD and ISRO. INSAT-3D derived AMVs are regularly monitored by NCMRWF and ECMWF and quality of the products are found to be good. These AMVs are operationally assimilated at NCMRWF and IMD. INSAT-3D products have been extensively used for various weather applications.

The clear-sky radiance products from INSAT-3D Sounder are now being routinely generated and NCMRWF has started assimilating these products in operational models after examining the biases for three months. Based on RT model, the bias correction procedure was included in the Sounder processing using 6-month collocated RAOB and Sounder observations.

Polar orbiting satellites Oceansat-2, SARAL, RISAT and low-inclination satellite MeghaTropiques (MT) are presently operational. The Scatterometer is switched off in March 2014 while only OCM and ROSA are presently functioning. The MADRAS payload onboard MT worked only for 18 months after launch in 2011. SAPHIR and SCARAB data products are operational. SARAL-AltiKa data is being used operationally used in ocean state forecast models for improved prediction. Prototype coastal products of sea level, wave height and wind speed is ready to be made available to the researcher for science studies. Land hydrology product (inland water level) has been hosted on MOSDAC.

The future satellites INSAT-3DR, a repeat mission for INSAT-3D, is planned to be launched towards the end of 2015. The GISAT will be launched in 2017 that will enhance the nowcasting capability with the temporal repetition of 10 minutes over Indian landmass and the adjoining areas at spatial resolution of 1.5 km.

The polar orbiting satellites SCATSAT-1 is planned in early 2016 as a replacement for Oceansat-2 Scatterometer. Oceansat-3 is scheduled for launch in 2018 that will provide continuity for Scatterometer besides providing sea surface temperature measurements. A joint NASA- ISRO mission NISAR having a dual frequency Synthetic Aperture Radar (SAR) will be launched around 2020. A dedicated satellite NEMO-AM aimed at measuring and monitoring atmospheric aerosol is planned to be launched in 2016.