

Introduction to China Meteorological Satellite Operational System

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Affiliation to the China Meteorological Administration, the National Satellite Meteorological Center (NSMC) is responsible for receiving, processing, distributing the meteorological satellite data in China.

There are two satellite operational systems operated by the NSMC: polar-orbiting and geostationary. The polar system consists of three satellite data receiving stations in Beijing, Guangzhou, Urumuqi, respectively. The data received by the three stations are transmitted to the Data Processing Center in Beijing. The ground segment of geo-stationary satellite consists of a primary processing center at NSMC and three ranging stations. Sub-systems include CDAS, SOCC, DPC ASC, CNAS and USS. Currently, NSMC receives data from 11 satellites (FY-1D, FY-2B/2C, Meteosat-5, GOES-9, NOAA-14/16/17, EOS/TERRA/AQUA).

More than 40 imagery and quantitative products are generated every day and distributed to users through dedicated meteorological communications network and internet. Also, a DVB-S system distributes level-1b data and various products, about 50Gb of data volume, to 86 users over the country every day. The satellite data and products are being used in weather forecast, climate and environment change, and disaster monitoring. Space weather service is being explored with the measurements of Space Environment Monitor and X-ray Monitor onboard the geo-stationary satellite.