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Current Status and Future Plan of KMA Satellite Program

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The KMA has been operating the first Korea meteorological satellite, COMS since 2010, disseminating its data via COMS itself and internet in real time. The 16 products were originally developed from COMS data and some of them have been improved for the purpose of operational weather forecast. The product of cloud amount from COMS shows a high correlation with the measurements of visual observation. The cloud amount and the cloud type are recently shown very useful in eliminating the false radar echo and improving the radar-derived precipitation. The Asian dust detection has been improved by correction of effect of humidity resulting in more continuous distribution of Asian dust without discontinuity between land and sea. The sea surface wind has been derived from the low frequency microwave imager data from AMSR2/GCOM-W1 and GMI/GPM using the relationship between the sea surface wind and the sea surface roughness which can be calculate from the microwave polarized data. This sea surface wind is very valuable in analyzing the tropical cyclone structure and intensity.

The KMA has been developing the follow-on geostationary meteorological satellite(GEO-KOMPSAT-2A, GK-2A) by 2018, which will have higher spatial and temporal resolution with 16 channels than COMS. The KMA will install KSEM(Korean Space Environmental Monitor) as well for the space weather monitoring. The 23 baseline meteorological products have been developed with 29 auxiliary products. Along with these products the integrated analysis and application facilities will be also developed to maximize the utilization and application of GK-2A data for daily weather forecast and environmental monitoring. The KMA is preparing a feasibility study for development of LEO satellite from 2017 to 2022 to complement GK-2A observation and contribute to international meteorological society.