

# Satellite Radiance Data Assimilation at KMA

## Global NWP system at KMA:

- KIM(Korean Integrated Model) launched April 2020.  
Cubed sphere grid system, ne360np3 ~ 12 km(horizontal resolution)
- DA: Hybrid 4Demensional Ensemble Variation, ne144np3 ~ 32 km,  
Ensemble(LETKF) 50 members.

## New instruments activated since ITSC24:

- FY-3D/MWHS2, MSG-3
- Now assimilate 7 MW T-sounders, 5 MW Q-sounders, 1 MW imager, 3 hyperspectral IR, 4 geo IR imagers

## Main changes since ITSC24:

- VarBC update for ATMS, IASI, CrIS
- Expanding ATMS channel 8-15 over land

## Main impact of MW & IR on KIM forecasting

- The impact of MW is mostly positive except for 10-300 hPa temperature and geopotential height.
- The impact of IR is mostly less positive than that of MW.
- IR helps offset the negative impacts of MW, particularly by improving 10-300 hPa in the tropics.