

Assimilating Himawari-8 Brightness Temperature: A Case Study on Typhoon Soudelor (2015)

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The Japan Meteorological Agency started full operations of the new geostationary meteorological satellite "Himawari-8" in July 2015. Himawari-8 is the first of a series of the third-generation geostationary meteorological satellites including NOAA's GOES-R (planned for launch in 2016), producing about 50 times more data with more channels and 3 times more observing frequency than the previous generation. In August 2015, Himawari-8 successfully captured rapid intensification of Typhoon Soudelor (2015), the strongest northwestern Pacific typhoon in the summer of 2015 with minimum central pressure of 900 hPa. In this study, we assimilate brightness temperature from Himawari-8 using our new ensemble data assimilation system called "SCALE-LETKF" and investigate its impact on the analyses and forecasts of Soudelor.