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Taiwan Analysis Center for FORMOSAT-3/COSMIC and Applications of Data

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The FORMOSAT-3/COSMIC mission is a collaboration project between Taiwan and the United States to deploy a constellation of six micro-satellites. Each satellite equips two GPS occultation receivers to collect the GPS signals passing through the ionosphere and the atmosphere. TACC (Taiwan Analysis Center for COSMIC) is the data processing, archive and distribution center for FORMOSAT-3. After the launch of FORMOSAT-3 satellites, TACC will receive GPS occultation data via CDAAC (COSMIC Data Analysis and Archive Center) at UCAR, USA and compute and provide more than 2,500 occultation profiles per day globally with atmospheric refractivity, temperature, dry air pressure, and water vapor pressure. We will present the functions and data service of TACC, and the applications of those scientific data for global temperature monitoring, global water vapor monitoring, and regional data assimilation to predict the trajectory of typhoons.

Keywords: FORMOSAT-3; TACC; occultation profile; data assimilation.