S41-01

Facilitating Exploitation of International LEO/GEO Meteorological Satellite Observing Systems Through Community Satellite Processing Package (CSPP)

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Space Science and Engineering Center (SSEC) and its Cooperative Institute for Meteorological Satellite Studies (CIMSS) have supported the international Direct Broadcast/Readout (DB/DR) user community since 1985 through the development and distribution of the International TOVS and ATOVS Processing Packages (ITPP, IAPP) for NOAA Polar Orbiting Environmental Satellites

(POES), and since 2000 via the International MODIS/AIRS Processing Package (IMAPP) for Moderate Resolution Imaging Spectroradiometer (MODIS), Advanced Microwave Sounder (AMSU), Atmospheric Infrared Sounder (AIRS) onboard NASA Terra and/or Aqua. Since 2007, SSEC/CIMSS has supported a DB/DR version of the software for generating Cross-Track Infrared Sounder

(CrIS), Advanced Technology Microwave Sounder (ATMS), and Visible Infrared Imaging Radiometer Suite (VIIRS) Sensor Data Records (SDRs) and Environmental Data Records (EDRs). Since 2012 SSEC/CIMSS is continuing the facilitating of efficient use of polar orbiter satellite data through the development of a Community Satellite Processing Package (CSPP) that supports the Suomi-NPP/JPSS and, GOES-16 with CSPP Geosynchronous Earth Orbit (GEO) component, as well as adding support for other international sensors onboard European METOP-A/B/C, Chinese FY-3 LEO satellites and, most recently, Advanced Himawari Imager (AHI) onboard Japanese Himawari 8 and 9 GEO satellites.

In this presentation, we'll start with a brief overview of the past and then quickly transition to focus on recent developments and plans for CSPP, and IAPP (now released and supported through the CSPP framework) that facilitate the exploitation of global meteorological satellite observing systems. Specifically, we will discuss the imaging and sounding products and their subsequent integrated usage on near-real-time weather nowcasting, air quality monitoring/forecasting, fire, flood, and droughts.