NOAA/NESDIS Operational Requirement and Support on the GPM-era Data Products

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Current Status of TRMM Data

- ## Data Ingest and Products
  - Data made available through NASA TSDIS, which is involving into PPS
  - NESDIS pulls the data products from *trmmrt* ftp site
  - TMI channel TBs, TPW, RR and also PR data for validation

- ## Real-time Users
  - NESDIS SAB Precip and Tropical Teams
  - NWS, including CPC, NHC, …etc.
  - FNMOC

- ## Data Formats
  - Input – HDF
  - Tailored – BUFR, McIDAS, GIFs/PNGs

- ## Data Distribution
  - ESPC Data Distribution Server (DDS)
  - NESDIS Shared Processing Gateway (DAPE)
  - Internet – TC Monitoring page

Requirements in the GPM-era

- **Continuity of Operation**
  - TRMM-like capability for products accuracy, timeliness, etc.
  - Expected to pull data from NASA PPS
- **Operational Data Expectations/Requirements**
  - Data available in near-time with 24/7 support
  - Early information, e.g., test data, cal-val data etc, available to NWP centers as soon as possible to prepare and facilitate early transition to operational use
  - Data context include error statistics
  - Common data format and proper metadata
- **NOAA-Unique Products**
  - Tailoring capability/tools to fulfill NOAA users' unique requirements on data formats and products
    - BUFR, netCDF4, GRIB, McIDAS and imagery
    - Additional products, such as, Ocean Wind Speed, Temperature and Moisture profiles, etc. from other satellites in the GPM constellation

Users, Products and Distribution

Users	Products	Formats	Data Type	Distribution Interface	Applications
NHC	TBs, RR, T(z), q(z)	McIDAS/netCDF4	Level 2	N-AWIPS AWIPS	Used for analysis and forecasting of tropical cyclone (TC) location, intensity, and structure.
JTWC	TBs	GeoTIFF, GIFs	Level 2	DAPE	tropical cyclone monitoring and warning
NRL	TBs, TPW, RR, CLW, OSW	netCDF4	Level 2	DAPE	Used for analysis and forecasting of tropical cyclone (TC) location, intensity, and structure.
SAB	TBs, TPW, RR, OSW	McIDAS	Level 2, 3	McIDAS ADDE	Make use of data and products through the blended TPW and RR products
eTRAP	TBs, RR	McIDAS	Level 2	McIDAS ADDE	Make use of data and products through eTRAP
NWS/WFO	TPW, RR	HDF/netCDF4	Level 2, 3	N-AWIPS, AWIPS	Make use of data and products through the blended TPW and RR
CIRA	TPW, RR	HDF/netCDF4	Level 2	DDS	Merge data into the blended TPW and RR to increase temporal and spatial coverage
NCDC	Radiation Budget	netCDF4	Level 2	DDS	Shortwave/Longwave Radiation
STAR	Radiance	netCDF4	Level 2	DDS	Satellite inter-calibration
JCSDA	Radiance	BUFR/netCDF4	Level 2	DDS	NWP model assimilation

GPM Processing and Distribution

- **Processing**
  - Enterprise IT Architecture Approach
    - Utilize virtualized platforms in ESPC for a consolidated processing solution
  - Transition of the PPS core capability from NASA to NOAA
    - Ensure the 24/7 support to operational users
  - Continue to utilize TRMM and other constellation satellites to support NOAA's mission goals in current pre-GPM era
    - NOAA PSDI supports development effort for M-T NOAA unique products

- **Distribution**
  - PDA - Enterprise Approach in Future
  - Utilize the exist network/interfaces in current pre-GPM era
    - NESDIS ESPC Data Distribution Server
    - Shared Processing Gateway (DAPE)
    - NDE
    - JPSS IDPS