# Imagery-Cloud Applications Outbrief

# Basic questions

- Describe how SNPP/JPSS products provide continuity from legacy POES, METOP, DMSP, EOS?
  - Or is SNPP/JPSS  a new capability for our application?
- What benefits or improvements do you expect from SNPP/JPSS?
  - Expected impact (low, medium, high) and why?
- Provide Details on:
  - when do you plan to use the SNPP/JPSS Product?
    - Is there an actionable plan?
    - Is it funded?
    - What is the priority?
    - Have you thought about how you will get the data and have you identified the issues with your operational use of SNPP/JPSS ?
  - Are the current legacy products well utilized?
  - Is the SNPP/JPSS product part of a blended product?
  - What additional work needs to be done to ensure that the SNPP/JPSS product is/will be well utilized?

# Are enhancements needed for:

- Accessibility  (data flow, latency, format)
- Product performance (accuracy, precision)
- User applications (modifications to modeling , decision tools, visualization to use the new products)

# Imagery and Clouds

- Current Uses
  - Cloud products are being distributed primarily thru LDM
  - DNB for AK is in SBN (see footnote below)*
  - Future imagery and cloud SBN plans controlled through Suomi NPP Data Exploitation (NDE)
  - DNB
    - Is being worked as a L1RD KPP
  - DNB has been shown to be critical in
    - NCEP Centers
    - NWS PAC found value with TC Flossie
    - AK
    - WFOs
  - Evaluating single channel and RGB Products continuity with Geo
  - Value of hybrid Leo-Geo imagery products (OPC, WPC, NWS Pac and AK is already doing this from DB)
    - AWC, SPC looking for this in the future

# Imagery and Clouds Concerns

- Latency
- Bandwidth constraints
  - Raw data for generating products
  - Products to users
- Education of who is doing what
- Accessibility to data
  - Data Formats
  - NWS users have a mix of AWIPS 1 and AWIPS II
  - Lack of tools to manipulate the datasets
- Not far along with validating products with model data
- Moving products from the demonstration efforts to operations in NCEP Centers, regions, and WFOs
- Need to continually prioritize to guide future decisions

# Imagery and Clouds - Initiatives

- NWS is going towards a RTMA and URMA (Mesoscale Analysis) – forecasters need to know what the actual analysis is in 3D (see footnote below)[1]
  - Provides a snapshot of the atmos in as NRT as possible
  - VIIRS needs to get into this process – would go into the existing database
  - Plugs into aviation
  - Is there a plan and is it sufficiently resourced?
  - NESDIS provides the cloud product for the RTMA and URMA
- Synthetic model imagery has proven very valuable for GOES how can JPSS evaluate this capability (see footnote below)[2]
  - Sounders on Polar can help push Peterson model work

# Imagery and Clouds - Initiatives

- Need verification of physical consistency from cloud products and solar insolation
  - Clouds drive what happens at the surface which in turn drives models

# Cloud and Imagery Priorities

- Cloud levels and type for aviation support
- Polar wind data assimilated into models
- RTMA and URMA
- More access to DB – TAFB/OPC for Pacific
- Education and Training – basic, application-based,
- Better communication of who is doing what

# BACKGROUND

# Imagery and Clouds

- Ward
  - Cloud layers for aviation (IDPS has a cloud layer product h/m/l and cloud type)
    - Cloud altitudes (ft)  just arrived at AWC (thru LDM) this is global Geo.  Could be a good hybrid product
    - Adding VIIRS to the NOAA AK Cloud composites ….evaluate its value for Pacific
- Andrew Collard
  - Polar winds from VIIRS into global models.  Wind products produced 9 May need to be assimilated
    - Earliest assimilation is Spring 2015