

## **Review of Polar Products Assurance Plan**

### **Comments by Dan Birkenheuer**

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#### **NWS Modernization**

.... Utilization of images and derived products will be distributed to NWS field users through AWIPS..... Since FSL is key to developing data interfaces for AWIPS, FSL should be in the loop on this item. At a minimum, the requirements for polar AWIPS should be made available to FSL's modernization division. Also details on the means to disseminate polar data for AK and HI are desired. Plans for and FSL role for polar data assessment in AWIPS may wish to be considered at a future time, however, direct-readout polar resources at FSL are limited.

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#### **Exploit the NOAA-K series capabilities**

Additional emphasis could be made regarding connections between GOES and polar. While polar has the advantage of microwave with IR, GOES has similar IR channels. For example, by tuning an IR rain-rate algorithm with microwave data from polar, the tuned algorithm might be run using similar IR channels on GOES, but able to run more frequently (GOES IR only) between polar/microwave updates to the algorithm. More polar/GOES combined algorithms offer future benefit to satellite meteorology and should be advocated.

Note that on page 16 a joint GOES/ATOVS retrieval algorithm is proposed.

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#### **FSL**

Section 4.6.1 is the part of this proposal mentions FSL's direct involvement. It is to utilize polar satellite products in its models and provide feedback to ORA. The document accurately describes the working level possible at FSL in our ability to assess polar data (via MAPS/RUC and LAPS). Page 30 section 4.5 on NWS participation deals with numerical prediction models run at NCEP and "use by field personnel for local weather warnings and forecasts." Again, the AWIPS evaluation responsibility is unclear to me.

ORA is responsible for forward models for direct radiance assimilation. The requirements table at the end looks reasonable from a standpoint of retrieved layer and level temperature and moisture data, does it follow automatically that the channel selection as optimized for retrievals is the best for direct radiance assimilation?

## Summary

- I missed the mechanism via polar data evaluation in AWIPS. How is this planned to come about? I assume AK and HI will be the major players here.
- Joint use of GOES/polar programs could always be stressed more.
- FSL's role appears to be reasonable and clear.
- Involvement of FSL's modernization division in polar AWIPS applications is recommended.

## **Review of ORD for Future GOES**

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### **Imager**

- 5 minute CONUS scanning is reasonable
- New IR channels sound good, but don't have experience working with these new channels... hard to comment on.

### **Sounder**

- Sounder features are adequate.
- Might ask the question regarding variational assimilation and channel selection. As in the NPOESS ORD the document is describing retrieval final product capabilities (i.e., 20 level temperatures in the retrieval product). This does not indicate the number of channels used for achieving this goal. From a variational perspective it might be advantageous to also describe the number of channels and their respective wavelengths and anticipated weighting functions.