Satellite Algorithm Test Bed

Steve Goodman, Andy Jones,
Tom Achtor, John Knaff, Ingrid
Guch, Jim Yoe

SATB Workshop, February 25-26, 2008
NSOF, Suitland, MD

SATB Objective

A test bed to accelerate the development, implementation, delivery, and operational application of new/improved environmental satellite data products

SATB

- Consistent with the NOAA Satellite Capitalization Plan roadmap
- Breaks down the stovepipe processing of GEO and LEO tied to satellite acquisition programs
- Accelerates transition from research to operations
- Inclusive of a broader community of developers and end users
- Moves us towards an integrated Observing System- GEOSS

SATB Workshop Genesis

- Interest from NESDIS Cooperative Institutes for joint projects where all CIs might collaborate
- SATB- one of 4 proposed projects introduced at NESDIS Cooperative Institute Directors Meeting at Madison, WI June 2007
- Breakout group- Goodman, Jones, Achtor, Knaff developed strawman white paper- merging an NDE-AWIPS initiative into the SATB as one concept to carry forward

SATB Benefits

- - It would allow research to focus on problems such as severe weather, soil moisture, ocean color without the artificial partitioning into acquisition program-related projects.
- - It would allow researchers to address remote sensing issues according to the physics involved and the skill sets required to solve problems associated with IR, microwave, visible channel, scatterometer etc disciplines.
- - It would allow emphasis for the first time on cross-sensor and cross-platform algorithm development which would maximize the utility of NOAA's satellite constellation for weather and climate.
- - It would allow algorithms to be developed or transitioned whose origins were outside of the normal POES/GOES mindset. Examples would be METOP and MSG development transitions

SATB Benefits con’t

- - It could exploit tools such as radiative transfer models, and innovative data processing technologies such as DPEAS more effectively.
- - Unlike other contractor funded methods for algorithm, validation, and calibration efforts the SATB would improve corporate memory on critical elements of satellite operational technology. Algorithm developers and experts in calibration would not cease employment when a specific satellite programs effort was completed. This would not only improve the efficiency of satellite acquisition but it would also vastly improve the future stewardship of the data.
- - The SATB would interface well with NESDIS algorithm and satellite product “stewardship” activities as recommended to NOAA by several advisory panels and groups.
- - It could develop long-term relationships with other NOAA virtual laboratory activities such as the Joint Center for Satellite Data Assimilation
- - Allow research to be proposed/conducted that would cross cut the geo/polar platform issues not relevant to the phenomena being addressed.

SATB Benefits con’t

- Improve both research and operational efficiencies where remote sensing can be explored with the proper mix of polar and geostationary sensors without acquisition program surf arguments and prerogatives muddying the water.
- - It would allow sustained research in areas that are now terminated as part of satellite programmatics.
- - It would expedite the use of cross-sensor/satellite methods in the calibration and validation of specific satellite systems.
- - It would allow new applied research to be started up under the continuing umbrella of the AP/SATB thus avoiding the delays in algorithm exploitation and development associated with the 7-year PPBES process.
- - Resources for algorithm development would be consolidated across NOAA programs providing a greater level of program sustenance

SATB Workshop Outcomes

- White Paper that can be briefed to NESDIS AA Mary Kicza and NOAA Goal Team Leads
- Validate key drivers, gaps, benefits, required resources with input from community of developers and stakeholders