Report Title: Advanced Satellite Aviation Weather Products (ASAP) initiative at the University of Wisconsin-Madison (CIMSS/SSEC)
Prepared For: Randy Moore (NASA LaRC) and John Murray (NASA LaRC)
Reporting Period: 16 September 2010 – 31 October 2010
Prepared By: Wayne F. Feltz
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Task Highlights & Progress Summary:

This is the 3rd quarterly progress (16 September 2010 – 31 October 2010) report for the 2010 ASAP initiative at University of Wisconsin-Madison CIMSS/SSEC in collaboration with the University of Alabama-Huntsville, MIT, and NCAR. Described are tasks as listed on the NASA LaRC/SSAI CIMSS Statement of Work for ASAP 2010.

Wayne Feltz leads the University of Wisconsin-Madison CIMSS/SSEC effort. The contact information is (608) 265-6283, or wayne.feltz@ssec.wisc.edu. The CIMSS ASAP-project staff also includes: Justin Sieglaff, Tony Wimmers, Mike Pavolonis, Ralph Petersen, Jason Brunner, and Chris Velden. Coordination between John Mecikalski at the University of Alabama-Huntsville, Robert Sharman NCAR, and Marilyn Wolfson/Haig Iskenderian MIT is ongoing.

Coordination, Presentations and Conferences:

Internal ASAP coordination meeting was held on October 12th, 2010. A telcon was also conducted with Dr. Haig Iskenderian on above dates with regard to satellite-based convective interest field and wind processing development. Other areas of common interests were discussed including turbulence.

Research Progress:

1) Support for JPDO NextGen Involvement (In collaboration with UAH and NASA LaRC)

Wayne Feltz participated in the following coordination conferences and meetings with one of primary goals to make sure satellite-based research applications are connected to operational pathways:

- Participated in 2010 EUMETSAT meeting in Cordoba, Spain presenting an abstract titled GOES-R Overview of Aviation Applications for Detection of Convection, Turbulence, and Volcanic ash from September 19th – 24th , 2010
- Attended 2010 AMS Satellite Meteorological and Oceanic Satellite Meeting in Annapolis, Maryland from September 28 – October 1, 2010 where presentation of abstracts titled “Progress toward satellite-based atmospheric interest field detection” poster was presented.
- Coordinated observational sessions at “Annual Interagency Weather Research Review and Coordination Meeting” to be held 30 November – 2 December 2010 in Boulder, Colorado.

2) Continue CoSPA validation ASAP research (In collaboration with UAH, MIT, and NCAR)

UW-CIMSS continues to collaborate with MIT/Lincoln Lab and UAH on transition of SATCAST into CoSPA algorithm. Highlights below:

- Transitioning atmospheric motion vectors for optimal use with GOES-13 and worked with MIT to expand wind processing to GOES-West
- Provided oversight and feedback on using box-average method within SATCAST to speed production time of convective initiation products,
- Provided ideas on possible strategies for object tracking convection

2010 ASAP related Peer-reviewed Papers:

Bedka, K. M., J. Brunner, R. Dworak, W. Feltz, J. Otkin, and Thomas Greenwald, 2010. Objective Satellite-Based Overshooting Top Detection Using Infrared Window Channel Brightness Temperature Gradients, Jour. of Appl. Meteor. and Clima, 49, 2, 181-202.

Sieglaff, J., L. Cronce, K. Bedka, W. F. Feltz, K. M. Bedka, M. J. Pavolonis, and A. K. Heidinger, 2010. Nowcasting Convective Storm Initiation Using Satellite Based Box-averaged Cloud Top Cooling and Cloud Typing Trends. Jour. Appl. Meteor. and Clim, online version:

http://journals.ametsoc.org/doi/pdf/10.1175/2010JAMC2496.1