**HISTORICAL GOES AMV RE-PROCESSING**

Steve Wanzong+, David Santek+, Christopher S. Velden+, Jaime Daniels\*, Dave Stettner+, Wayne C. Bresky# and Andrew Bailey#

+ University of Wisconsin – Madison/SSEC/CIMSS, Madison, Wisconsin

\*NOAA/NESDIS Center for Satellite Applications and Research, College Park, Maryland

# I.M. Systems Group (IMSG), Inc., Rockville, Maryland

Abstract

The European Centre for Medium-Range Weather Forecasts (ECMWF) plans (2nd quarter of 2014) a new reanalysis effort encompassing the years of 1979 until mid-2013. The hope is to have an ERA-Interim replacement by the year 2015. Atmospheric Motion Vectors (AMVs) will be an important component of the reprocessed observation suite.

The Space Science and Engineering Center at the University of Wisconsin-Madison (UW-SSEC), in partnership with the NOAA/NESDIS Center for Satellite Applications and Research, is leading an effort to reprocess AMVs derived from the Geostationary Operational Environmental Satellite (GOES) series of satellites over the period 1995 to mid-2013. This is considered the first phase of a broader plan to eventually reprocess back to 1979. The current GVAR (GOES VARiable) transmission format began in 1994 on GOES-8, with improved calibration and navigation modules compared to the pre-GVAR data (1978–1996), making it easier to reprocess.

There have been eight operational GOES (8-15) in use since 1995, with a concurrent East (75W longitude) and West (135W longitude) satellite configuration. All past GOES data are stored online and accessible from the UW-SSEC Data Center. The current operational NESDIS AMV processing software is being used in the first phase of reprocessing, as is the ECMWF ERA analysis for the background fields. Future phases may employ an alternative processing algorithm being developed for the future GOES-R series of satellites.

This presentation will summarize the phase-1 GOES AMV reprocessing effort, outline the reprocessing goals, and report on lessons learned. It is hoped this initial demonstration will yield impacts in the ECMWF reanalysis, and stimulate resources for future reprocessing phases.