



Development and Optimization of Mesoscale Atmospheric Motion Vectors (AMVs) using Novel GOES-R Processing Algorithms on 1-5 min. SRSO Proxy Data, and Demonstration of Readiness for GOES-R Applications via Impact Studies in Mesoscale NWP Systems

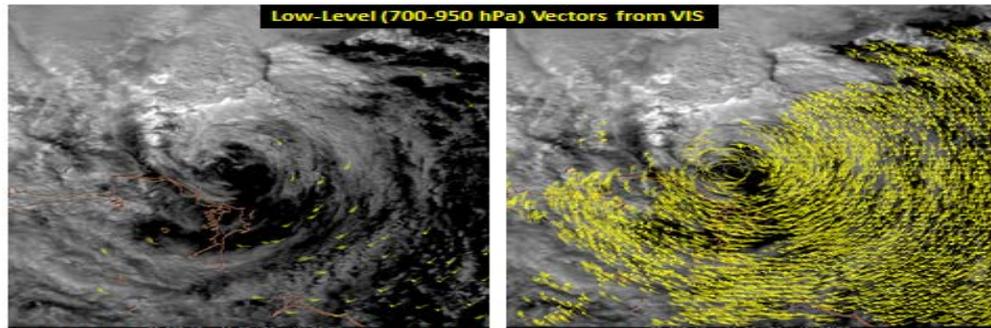


- Super-rapid-scan operations (SRSO) imagery (available at 1-5 min. frequency) provided during special GOES tests can be used as proxy data for GOES-R readiness.
- We can exploit this temporal upgrade towards the development and optimization of AMV production, particularly in situations where super-dense datasets are needed such as in hurricanes or mesoscale applications.
- Case study AMV datasets will be processed and optimized, then provided to our mesoscale and hurricane NWP partners for data assimilation and model forecast impact testing.



Atmospheric Motion Vectors from GOES-R

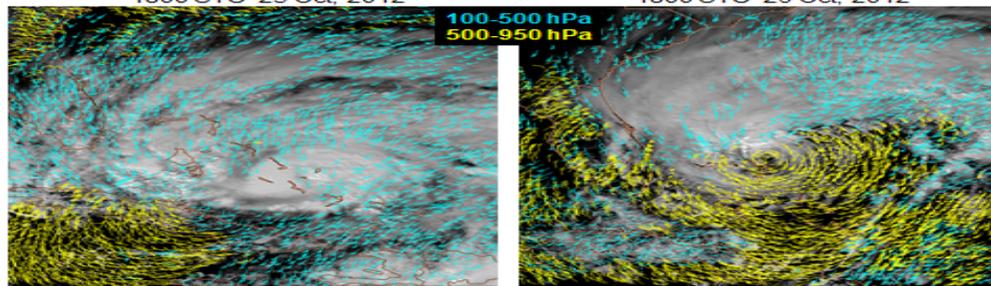
Proxy: AMVs from special GOES-14 super-rapid-scan ops during Hurricane Sandy



AMVs from 15-min images (routine GOES sampling) 1800 UTC 26 Oct, 2012
 AMVs from 1-min images (meso GOES-R sampling) 1800 UTC 26 Oct, 2012
 C. Velden (CIMSS)

Near-Future Plans

AMVs from GOES 5-min. rapid-scans during Hurricane Sandy
 1800 UTC 25 Oct, 2012 1800 UTC 26 Oct, 2012



VIS/IR cloud-tracked winds from 5-min image intervals derived using the current NESDIS operational AMV algorithm. Tests using the new GOES-R tracking algorithm are underway. Data assimilation and model forecast impact experiments are planned.
 C. Velden (CIMSS)

Example of AMVs achievable from GOES-14 rapid scan imagery (1-5 min.) available during Hurricane Sandy. The coverage and flow definition is greatly enhanced vs. that from current operational AMVs.

Optimization of AMVs from GOES-R for hurricane and mesoscale applications

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