

Proving Ground Demonstration Plan Proposal

Last Updated May 26, 2011

Please fill out and return to the GOES-R Program Office (richard.reynolds@noaa.gov and bonnie.reed@noaa.gov).

(1) Project Title:

- a. NHC 2011 Hurricane Season PG Experiment

(2) Organization:

- a. National Hurricane Center

(3) Products to be demonstrated: (Further details will be provided in the operations plan, product classification indicated in italics):

- a. Hurricane Intensity Estimate (HIE) (*Baseline*)
- b. Overshooting tops product (*Option 2*)
- c. GOES-R natural color imagery product (quantitative GOES-R color algorithm applied to MODIS) (*Decision Aid*)
- d. Red-Blue-Green (RGB) air mass product (*GOES-R Risk Reduction*)
- e. RGB aerosol/dust product (*GOES-R Risk Reduction*)
- f. Saharan air layer (SAL) product (*GOES-R Risk Reduction*)
- g. Super rapid scan operations (SRSO) imagery (*Baseline*)
- h. Rapid Intensification Index (RII) with lightning input (*GOES-R Risk Reduction*)
- i. Pseudo natural color imagery product (SEVIRI multi-channel product to highlight water, land, clouds based on qualitative channel combinations and enhancements) (*GOES-R Risk Reduction*)

(4) Demonstration Project Summary (Further details will be provided in the operations plan):

- a. Purpose/Scope: Demonstrate identified GOES-R surrogate products in real-time at the National Hurricane Center. RGB products will be provided in N-AWIPS format through a collaborative effort with SPoRT. Quantitative products (HIE and rapid intensification index) will be provided via ftp and websites. Other products (overshooting tops, SAL, natural color, pseudo natural color) will also be provided via web pages. SRSO data can be obtained directly at NHC, and archived at CIRA for future analysis and training. Additionally, NHC forecaster feedback will be captured and provided to the GOES-R algorithm developers, similar to the method used in 2010.

(5) Participants (Centers) involved:

- a. Providers
 - i. AWG
 1. Coordination on HIE
 - ii. CIRA
 1. RGB air mass product (with SPoRT)

- 2. RGB aerosol/dust Product (with SPoRT)
 - 3. Rapid Intensification Index (with STAR)
 - 4. SRSO imagery (with NHC)
 - 5. GOES-R natural color imagery (with STAR)
- iii. CIMSS
 - 1. Hurricane Intensity Estimate
 - 2. Overshooting tops product
 - 3. Saharan air layer product (with CIMAS)
 - 4. Pseudo natural color imagery product (with CIMAS)
 - iv. SPoRT
 - 1. RGB products in N-AWIPS format
 - b. Consumers
 - i. NHC

(6) Project schedule/duration (timeline):

- a. Product testing and raining: 1 JUN – 31 JUL 2011
- b. Experiment: 1 AUG – 30 NOV 2011

(7) Project decision points and deliverables

- a. Proving Ground Operations Plan (following template)
- b. Proving Ground Demonstration and Final Report (following template)

(8) Responsibilities and Coordination

- a. Jack Beven – Primary NHC focal point
 - i. Coordinate with other hurricane specialists as well as forecasters from the NHC Tropical Analysis and forecast Branch.
- b. Michael Brennan – Alternate focal point at NHC
 - i. Assist Jack in planning, preparation, and execution
- c. Andrew Levine – NHC focal point for the Tropical Analysis and Forecast Branch (TAFB)
- d. Jiann-Gwo Jiing, NHC Technical Support Branch (TSB) Chief
 - i. Coordinate all technical development
- e. Mark DeMaria (NOAA/NESDIS/STAR/RAMMB)
 - i. Overall NHC PG project management
 - ii. Lightning-based rapid intensification index
- f. John Knaff (NOAA/NESDIS/STAR/RAMMB)
 - i. MSG product generation
 - ii. POC for Super Rapid Scan Imagery
- g. Don Hillger (NOAA/NESDIS/STAR/RAMMB)
 - i. GOES-R true color algorithm
- h. Debra Molenaar (NOAA/NESDIS/STAR/RAMMB)
 - i. Technical support
- i. Andrea Schumacher (CIRA/CSU)
 - i. Overshooting tops interpretation, CIRA product training
- j. Kevin Micke (CIRA/CSU)

- i. Technical support
- k. Jason Dunion (U. of Miami, CIMAS-NOAA/Hurricane Research Division)
 - i. Coordinate with CIMSS and CIRA on demonstrating RGB aerosol/dust product
 - ii. Saharan air layer product
 - iii. Pseudo natural color imagery product
- l. Chris Velden (U. Wisconsin, CIMSS)
 - i. POC for HIE and overshooting tops product
- m. Gary Jedlovec (SPoRT)
 - i. Provision of RGB products in N-AWIPS format
- n. Training
 - i. CIMSS products – CIMSS responsible for training, CIRA will assist with overshooting tops training
 - ii. CIRA products – CIRA responsible for training
 - iii. SPoRT products – Coordinate with CIRA, CIMSS on RGB training
 - iv. COMET – CIRA/CIMSS training will reference existing COMET modules on RGB applications

(9) Budget and resource estimate

- a. CIRA and CIMSS contributions will be covered by their PG project funds and RGB project supplement
- b. CIMAS-HRD contributions will be covered in-kind
- c. SPoRT contributions covered by supplemental GOES-R RGB project
- d. NESDIS personnel contributions (Knaff, DeMaria, Hillger, Molenaar) will be covered by NESDIS/STAR base funds
- e. NHC personnel contributions (Beven, Brennan, Levine, Jiing, other TSB staff) will be covered by NHC base funds
- f. Real time WWLLN lightning data feed will be provided via commercial data buy by the GPO