

Proving Ground Operations Plan Proposal

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

(1) Project Title:

- a. Quantitative Precipitation Forecasting with GOES-R Products.

(2) Organization:

- a. NWS/NCEP Hydrometeorological Prediction Center (HPC)
- b. NESDIS/Satellite Analysis Branch (SAB)

(3) Products to be demonstrated (list the GOES-R Products you would like to demonstrate as a GOES-R Proving Ground activity):

- a. Cloud/Moisture Imagery
- b. Derived Motion Winds
- c. RGB Air Mass
- d. Rainfall Rate/QPE

(4) Demonstration Project Summary:

- a. Purpose: Demonstrate the utility of identified GOES-R surrogate products to improve HPC forecasts in real-time in an operational environment. Specifically, Quantitative Precipitation Forecasts (QPFs), winter weather forecasts, and assessments of model performance will be impacted by the GOES-R products. Products will be demonstrated within the N-AWIPS/AWIPS system and used in the preparation of operational QPFs. Forecaster feedback will be captured and provided to the GOES-R algorithm developers.
- b. Scope: The products will be evaluated for use in short range forecasting, with an emphasis on precipitation forecasting.

(5) Participants (Centers) involved:

a. Providers

- i. CIRA & SPoRT (joint)
 - 1. RGB Air Mass (John Knaff, Gary Jedlovec)
- ii. NOAA/NESDIS/STAR
 - 1. Derived Motion Winds (Jamie Daniels)
 - 2. Rainfall Rate/QPE (Bob Kuligowski)
- iii. CIMSS & CIRA (joint)
 - 1. Cloud and Moisture Imagery (Tim Schmit & Dan Lindsay)

b. Consumers

- i. Forecasters at the HPC
- ii. Forecasters at the SAB

(6) Project schedule/duration (timeline):

- a. Begin: July 1, 2011

b. End: January 1, 2012

Note: Products would follow AWC model of phasing in 1/month from July – October 2012.

(7) Project decision points and deliverables

- a. Proving Ground Operations Plan
- b. Proving Ground Mid-term Report
- c. Proving Ground Final Report which includes recommendations for future improvements, additional products, or combinations of products.

(8) Responsibilities and Coordination

- a. The contractor (“Research Associate for HPC, OPC, and SAB), working within the Hydrometeorological Testbed at HPC (NOAA HMT-HPC) will take the lead in the evaluation of new GOES-R products. Products will be initially tested within the HMT, both by HMT staff and HPC forecasters, then, if appropriate, evaluated by forecasters preparing operational HPC forecasts.
- b. Overall management will be provided by the HPC Development and Training Branch Chief with the HMT staff providing the day to day guidance to the contractor. The HPC Science Operations Officer (SOO) will provide guidance on scientific issues. HPC will work with NCEP Central Operations to set up data flow, provide system administration support, and ensure data is available to HPC meteorologists on the N-AWIPS/AWIPS workstations. Final evaluation will be provided by a group consisting of the HPC Development and Training Branch Chief, the HMT staff, and the HPC SOO with input from participating forecasters.
- c. Products will also be demonstrated and evaluated within NESDIS Satellite Analysis Branch with Jamie Kibler as the Lead.

(9) Budget and resource estimate

- a. REMOVED in this version.

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

(1) Project Title: Marine Weather and Oceanographic Testbed – Thunderstorms in the Offshore Zones

(2) Organization:

- b. Ocean Prediction Center
- c. National Hurricane Center/ Tropical Analysis and Forecast Branch
- d. NESDIS Satellite Analysis Branch (SAB)

(3) Products to be demonstrated (list the GOES-R Products you would like to demonstrate as a GOES-R Proving Ground activity):

- e. Cloud and Moisture Imagery
(note: this will only be over an ‘extended’ CONUS region and not cover all of OPC’s domain)
- f. Derived Stability Indices
- g. Lightning Detection
- h. Convective Initiation
- i. Enhanced “V” / Overshooting Top Detection
- j. CT Phase, Height, Temperature
- k. RGB Air Mass

(4) Demonstration Project Summary:

- l. Purpose: Demonstrate proxy GOES-R products in the application of predicting and detecting thunderstorm activity in the Offshore zones.
- m. Scope: Products will be demonstrated via N-AWIPS and other means such as the web. Forecasters will become familiar with capabilities of products and provide feedback to GOES-R algorithm developers.

(5) Participants (Centers) involved:

n. Providers

- i. NOAA/NESDIS/STAR
 - 1. Lightning Detection (Steve Goodman/Scott Rudlosky)
 - 2. Cloud Top Phase (Mike Pavolonis)
 - 3. Cloud Top height (Andy Heidinger)
 - 4. Cloud Top Temperature (Andy Heidinger)
- ii. University of Alabama at Huntsville
 - 1. Convective Initiation (John Walker)
- iii. NASA LaRC
 - 1. Enhanced “V”/Overshooting Top Detection (Kris Bedka)
- iv. CIRA & SPoRT (joint)
 - 1. RGB Air Mass (John Knaff & Gary Jedlovec)
- v. CIRA & CIMSS (joint)
 - 1. Cloud and Moisture Imagery (Tim Schmit & Dan Lindsay)

o. Consumers

- i. Ocean Prediction Center
- ii. National Hurricane Center/Tropical Analysis and Forecast Branch
- iii. SAB

(6) Project schedule/duration (timeline):

- p. Evaluation would be done over one convective season and would focus on the northern Gulf of Mexico and western Atlantic Offshore waters, beginning June 1, 2011 through December 1, 2011.
- q. Establish plan to receive identified products and introduce and train forecasters to new capabilities.
- r. Products distributed and optimized for forecaster evaluation via N-AWIPS and McIDAS platforms.
- s. Forecasters train in real time using GOES-R surrogate products.
- t. Provide feedback and make recommendations and write evaluation report

(7) Project decision points and deliverables

- u. Proving Ground Operations Plan
- v. Proving Ground Mid-term Report
- w. Proving Ground Final Report which includes recommendations for future improvements, additional products, or combinations of products.

(8) Responsibilities and Coordination

- x. The OPC, SAB, and NHC TAFB require a full time contract meteorologist visiting scientist type of person to coordinate the evaluation effort within the three operational centers, help facilitate product availability, generate combined reports in a timely manner, interact with forecasters directly and via other means and help train concerning the application of products, and provide feedback to product developers. Mr. Joseph Sienkiewicz, Chief of OPC Applications Branch will authorize and manage the activities. Mr. James Clark, OPC Lead Forecaster and Satellite Focal Point, will also assist in managing the evaluation effort and act as a liaison with the OPC forecast staff and local technical by advising on training content and focus. Mr. Hugh Cobb, Chief Tropical Analysis and Forecast Branch of the National Hurricane Center to act as liaison with TAFB forecast staff and Mr. Jamie Kibler to act as the liaison with the SAB forecast staff.

(9) Budget and resource estimate submitted separately (for a total of 4 proposals encompassing 18 months)