

Experimental Radar Integrated Display with Geospatial Elements Version 2 RIDGE II

Product Description Document (PDD)

Part 1 – Mission Connection

1. Product / Service Description:

The display of radar data on the Internet is a critical piece of the mission of the National Weather Service (NWS). The display of radar typically accounts for nearly forty percent of the daily web traffic and can peak as high as eighty percent during major storms. RIDGE (Radar Integrated Display with Geospatial Elements) was an important step in the evolution of the display of radar on NWS web pages, and introduced a layered approach using geo-referenced graphics interchange format (GIF) images for radar, boundary and topographical data. RIDGE II improves upon the original RIDGE design by displaying the data in a web mashup using a web mapping application-programming interface (API) in combination with more-advanced global information system (GIS) imagery overlays in the form of web mapping services (WMS).

The enhanced view of NWS Doppler radar images allows interactivity with the display providing you with the ability to customize the way you "look" at weather. The radar image can be layered with geospatial elements such as topography maps, highways, state/county boundaries and weather warnings.

The primary radar display layer is now a national mosaic. By using the national mosaic, redundant radar coverage for many areas will help to fill in any "gaps" of coverage that may occur when any radar is down for maintenance. The user is no longer greeted with "No Radar Data are Available for this Area" message when viewing the RIDGE II page.

Advantages of RIDGE II include:

- Radar data is available for GIS programs
- Map backgrounds now provided by Google™ and/or ESRI™
- Warnings (Long Fuse and Polygon available)
- Individual radar images that change often are much smaller in file size (compared to the current (RIDGE 1) version)
- Overlays can be toggled on/off and settings are preserved when bookmarked or moving between adjacent radar locations

Disadvantages of RIDGE II include:

- Takes more system resources (local machine)
- Larger GIS Images (Due to Higher Resolution Images)

2. Purpose/Intended Use:

The NOAA Policy on Partnerships in the Provision of Environmental Information states that NOAA will make its data and products available in internet-accessible, vendor-neutral form.

Information will comply with recognized standards, formats, and metadata descriptions to ensure data from different observing platforms, databases, and models can be integrated and used by all interested parties

Radar images provide potentially life-saving information to the public in a more efficient manner. The greater temporal and spatial resolution of RIDGE II will aid both NWS Partners and the general public in time-sensitive decisions related to thunderstorms, and ultimately provide greater safety for the United States public.

3. Audience:

This service is intended to meet a wide range of needs of the general public, emergency managers, electronic media, NOAA, and other federal, state, and local government agencies. Any person with Internet access and a need to view weather radar information will have the ability to utilize this product.

4. Presentation Format:

The images are provided by WMS, an Open Geospatial Consortium GIS format. These images are overlaid on a Google™ and/or ESRI™ map background. On the webpage, the user can select which overlays are displayed through the use of check boxes located below the map.

5. Feedback Method:

Feedback is available via e-mail to the developers. The extended Experimental period will run from starting May 4, 2015 and ending on January 26, 2016.

Technical questions regarding this experimental web service may be addressed to:

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Policy questions regarding this experimental web service may be addressed to:

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Part 2 – Technical

1. Format and Science Basis:

The RIDGE II web page is a mashup of GIS data layers (radar and NWS hazard data) displayed on top of NWS Enterprise Mapping Services (Google™ and/or ESRI™). This mashup decreases the bandwidth requirement for the NWS web servers as the base map data is served from Google™ and/or ESRI™ and not from the NWS web services. This web service is Section 508 and DOC security compliant.

2. Availability:

This service will be available as close as possible to 24 Hours, seven days a week by visiting the website <http://www.srh.noaa.gov/ridge2/>. However, this system is not on the NWS Enterprise web services currently, so some downtime may occur.

All radars (including NEXRAD (WSR-88D) and Terminal Doppler Weather Radars (TDWR)) and polygon warning layers are currently available.

The following products are available from the Mosaic radars:

- Base Reflectivity (Processed every 5 minutes)
- Composite Reflectivity (Processed every 10 minutes)
- Echo Tops (Processed every 10 minutes)

The following products are available from individual WSR-88D radars: (Processed upon receipt)

- Digital Hydrometer Classification
- High Resolution Base Reflectivity
- Storm Relative Mean Radial Velocity
- High Resolution Radial Velocity
- Differential Reflectivity
- Composite Reflectivity
- Echo Tops

For individual TDWR Radars the following products are available: (Processed upon receipt)

- Composite Reflectivity
- Echo Tops
- Storm Total Accumulation
- Base Radial Velocity
- Long Range Reflectivity

This PDD will be updated when new products are added. Currently this is slated for October/November 2015.