

NexRad Radar Rainfall

February 2006

The NexRad Radar Rainfall tool is located is accessed through the [Radar-Based Rainfall Data](#) link on the DBHYDRO Browser Menu.

Entering the NexRad Radar Rainfall Application

The NexRad Radar Rainfall application provides users with the ability to access rainfall data for District areas. Elements on the main application screen include detailed and overview map images; a **navigation panel** that allows users to activate and display different layers, a **time series retrieval panel** that enables near-real-time and time-specific information to be returned; and a **toolbar** that enables mapping functions. The application has the ability to retrieve information from District GIS data layers and the Arc Hydro (AHED) pilot database.

The screenshot displays the NexRad Radar Rainfall application interface within a Microsoft Internet Explorer browser window. The browser title bar indicates the application is provided by SFWMD. The main interface is divided into several key sections:

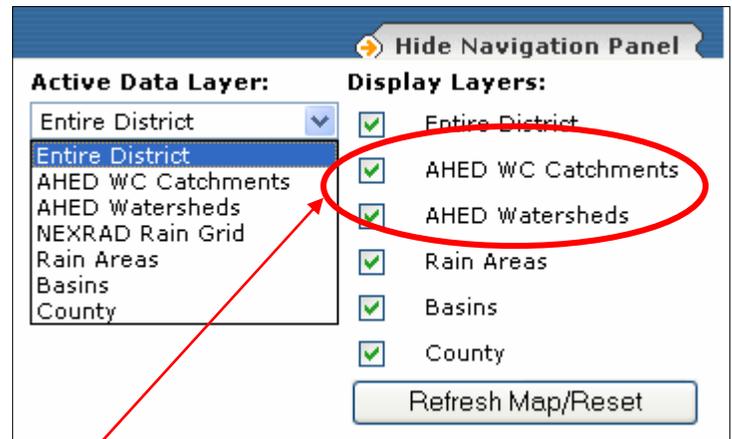
- Mapping Function Toolbar:** Located on the left side, it contains various icons for map navigation and manipulation, such as zoom in, zoom out, and pan.
- Navigation Panel:** Located on the right side, it includes a 'Hide Navigation Panel' button, an 'Active Data Layer' dropdown menu (currently set to 'Entire District'), and a 'Display Layers' section with checkboxes for 'Rain Gage', 'Entire District', 'AHED WC Catchments', 'AHED Watersheds', 'Rain Areas', 'Basins', and 'County'. A 'Refresh Map/Reset' button is also present.
- Time Series Retrieval Panel:** Located below the Navigation Panel, it features two tabs: 'Time Specific Data' (selected) and 'Near Real Time Data'. It includes a 'Get Data!' button, radio buttons for 'Map' and 'Text' output, and date selection fields for 'Start Date' and 'End Date' (both set to 01 January 1996 00:00).
- Map:** The central area displays a map of Florida with numerous district labels and a rainfall overlay.
- Default Map:** A small inset map in the top left corner shows the state of Florida with a red box indicating the current map's location.

At the bottom of the browser window, there are links for 'NEXRAD Text Based Interface', 'About Nexrad Data', and 'Users Guide'. The Windows taskbar at the very bottom shows the Start button, several open applications (including 'Rainfall by Watershe...', 'Internet Explorer', and 'C:\Documents and Se...'), and the system clock showing 11:24 AM.

Using the Navigation Panel

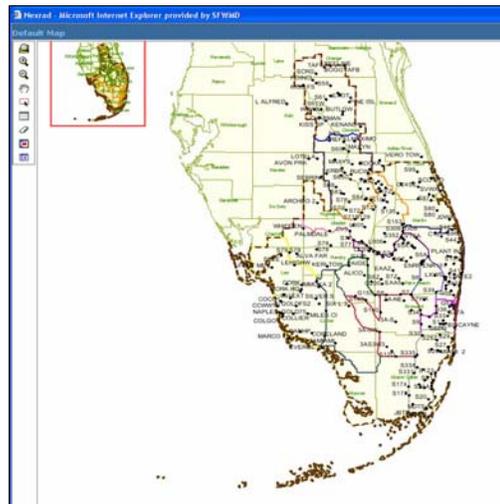
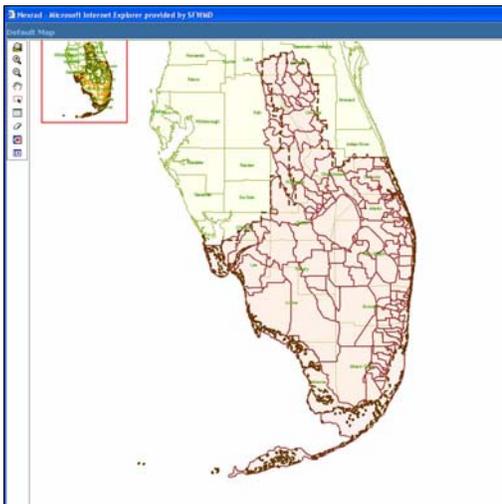
The navigation panel allows users to determine how information is displayed on NexRad map. Users can select the Active layers that they want to query information for by selecting from the Active Data Layer drop-down box. Map display layers are picked from the Display Layers check boxes. Map refreshing and resetting is also controlled through the Navigation Panel.

The NexRad application allows users to access information from production GIS layers and the Arc Hydro pilot database.



Arc Hydro Pilot database information can be accessed by selecting layers that start with AHED.

Map display is controlled by Navigation Panel selections.



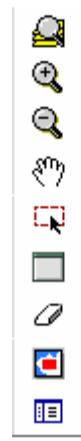
Hiding the Navigation Bar
Users can choose to hide the Navigation Bar. When this is done a full-screen map image is presented. The Navigation Bar can be toggled on or off.

Using the Map Function Toolbar

The Map Function Toolbar allows user to perform several Mapping functions including:

- Zoom to Full Extent**
- Zoom-In, Zoom-Out, Pan,**
- Select Polygons, Clear Selection,**
- Show/Hide Navigation Panel,**
- Toggle Legend, and Toggle Overview Map**

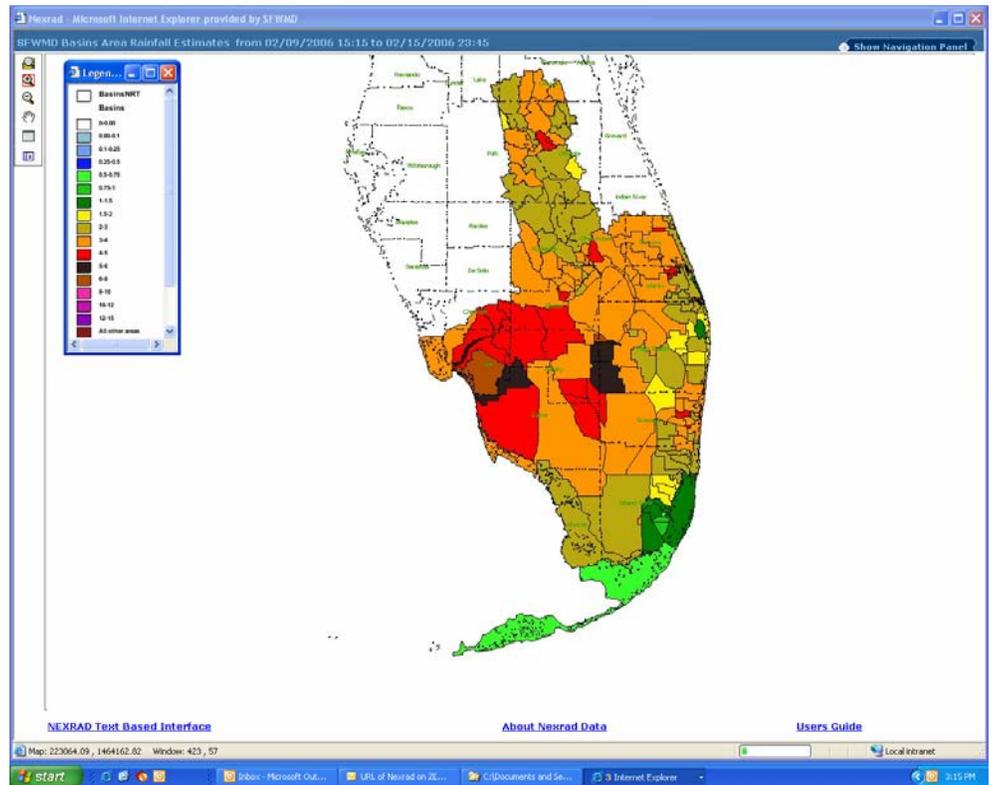
Available mapping tools will change based on the functions being performed.



Hovering the mouse over the map function displays the function name

Full Screen Retrieval & Automatic Screen Update

Users can choose to hide the Navigation Panel. If this is done a full screen map image is displayed. If Near-Real-Time data is selected, **the map will be updated automatically every 15 minutes**. This will happen whether or not the full-screen map is being displayed.



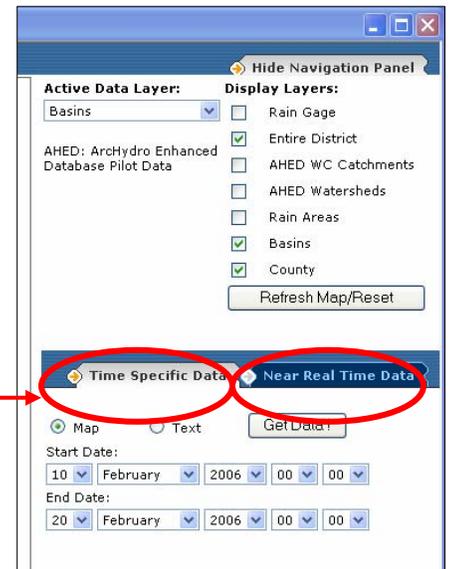
Using the Times Series Retrieval Panel

The Time Series Retrieval Panel allows two types of information to be retrieved:

Near Real Time Data and Time Specific Data

The panel can be toggled between these data types. In both cases, data from the NexRad Radar Rainfall database is retrieved and displayed to the map image or as text output.

Time Series Selection: Near-Real Time or Time Specific



Near Real Time (NRT) Data Display

Data can be gathered for specific time sets available in the NRT selection box. After choosing NRT data that you want, click on the *Get Map Image* button to retrieve the map. The time frame of available data appears on the screen's header bar. The Legend can be toggled on or off as needed.

The screenshot displays the Nexrad web application interface. At the top, a blue header bar contains the text "SFWMD Basins Area Rainfall Estimates from 02/14/2006 10:45 to 02/15/2006 23:45", which is circled in red and labeled "Time Series Header".

On the left side, there is a legend titled "BasinsNRT" with a color-coded scale for rainfall amounts, ranging from 0-0.00 to 12-15. Below the legend is a map of Florida showing various basins colored according to the legend. The map is labeled with various county names such as Hernando, Pasco, Hillsborough, Polk, Greenwood, Indian River, Manatee, Hardee, DeSoto, Citrus, Alachua, and Marion.

On the right side, there is a control panel. Under "Active Data Layer", "Basins" is selected. Under "Display Layers", "Basins" and "County" are checked. Below this, there is a section for "Time Specific Data" with "Near Real Time Data" selected. Under "RAINDAR (Radar Rainfall Estimates)", the "7-Day" option is selected in a dropdown menu, which is circled in red and labeled "Time Selection". A "Get Map Image" button is also present. A note below states: "Note: The Data will Auto-Refresh every 15 minutes."

At the bottom of the interface, there are links for "NEXRAD Text Based Interface", "About Nexrad Data", and "Users Guide". The status bar at the very bottom shows the map coordinates (533634.65, 1086382.26), window size (463, 254), and the system tray with the time 10:46 AM.

Time Specific Data Display Data can be gathered for specific time periods defined by the user. Requested data can be displayed to the map or be made available in text format. After choosing the desired time period, click *Get Data* to display information to the map or to a text file. If the desired output is a map, **the time frame of available data appears on the screen's header bar.**

A confirmation message will appear before data is retrieved.

Time Specific Text Retrieval Text formatted data can be returned to the browser or sent to a file. After choosing the desired time period, click *Get Data* to display information to the map or to a text file. If text is chosen, users can **select a time interval** from the Time Interval selection box and **route the output to either the browser or a file**.

Users can also elect to include zero rainfall entries or pixel-in-polygon data. Both of these selections could result in large files.

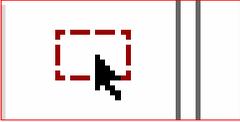
The requested information is displayed to the screen. If *File* is selected, a text file is created and the user can save the file to the desired output file type.

POLYGON	DATE - TIME	VALUE	FREQUENCY	QUALITY
S-154	02/09/2006 0000	0.000	15	NRT
S-154	02/09/2006 0015	0.000	15	NRT
S-154	02/09/2006 0030	0.000	15	NRT
S-154	02/09/2006 0045	0.000	15	NRT
S-154	02/09/2006 0100	0.000	15	NRT
S-154	02/09/2006 0115	0.000	15	NRT
S-154	02/09/2006 0130	0.000	15	NRT
S-154	02/09/2006 0145	0.000	15	NRT
S-154	02/09/2006 0200	0.000	15	NRT
S-154	02/09/2006 0215	0.000	15	NRT
S-154	02/09/2006 0230	0.000	15	NRT
S-154	02/09/2006 0245	0.000	15	NRT
S-154	02/09/2006 0300	0.000	15	NRT
S-154	02/09/2006 0315	0.000	15	NRT
S-154	02/09/2006 0330	0.000	15	NRT
S-154	02/09/2006 0345	0.000	15	NRT
S-154	02/09/2006 0400	0.000	15	NRT
S-154	02/09/2006 0415	0.005	15	NRT
S-154	02/09/2006 0430	0.002	15	NRT
S-154	02/09/2006 0445	0.000	15	NRT
S-154	02/09/2006 0500	0.000	15	NRT

Polygon Selection

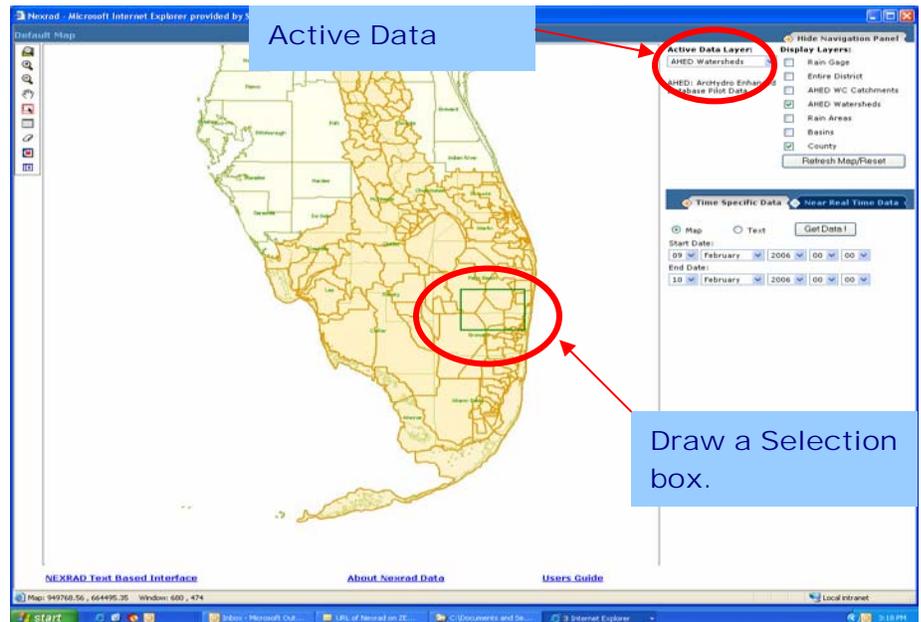
The Nexrad Radar Rainfall application enables specific polygons to be selected for display and further analysis. In order to begin the polygon selection process, first click the Refresh Map/Reset button to start with a new map display.

Use the Selection Tool



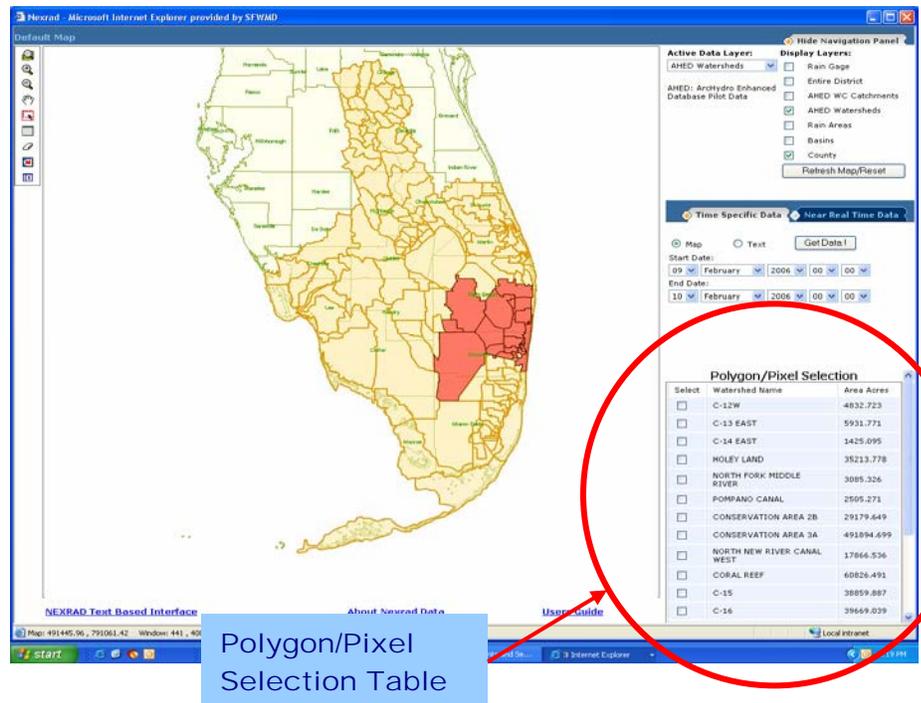
on the Map Function Toolbar to select the desired polygons. **Use the Selection tool to draw a box that includes the polygons you want information for.**

The polygons that are selected will correspond to the current Active Data Layer.



The selected polygons will be highlighted to the screen. A Polygon/Pixel Selection Table with all the selected polygons will display. **Click the Select box for the polygons that you would like to more information on.**

Once you have selected the polygons, **click on Get Data.**

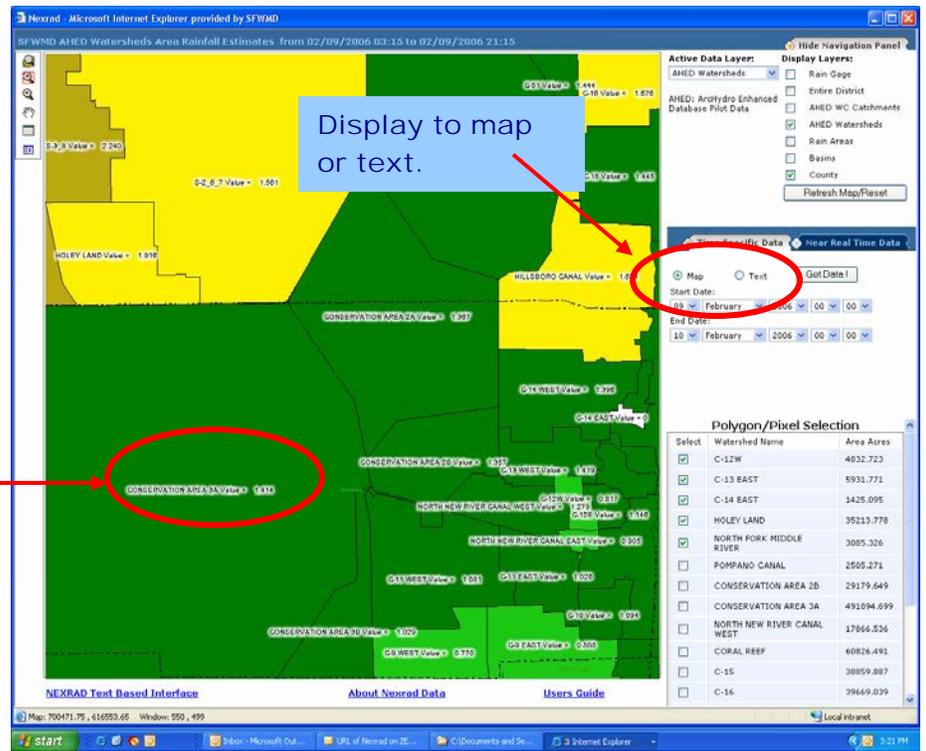


If *Map* is selected, the map image zooms to the extent of the selected polygons. The rainfall amounts for the polygons within the extent area are displayed.

Click **Refresh Map / Reset** to begin another query.

Polygon rainfall amounts.

Getting Text Information for selected polygons
If text data is desired, select the *Text* button prior to getting data.



Using the Rain Grid

When needing to see Rain Grid information make the the Rain Grid the Active Layer. This will allow the Nexrad Rain Grid to be displayed. The Rain Grid only displays for the Entire District. You can also use the map Zoom-In tool to access the Rain Grid to see its relationship to a specific polygon. Further zooming will display the pixel-id for each pixel.

