

# The Book of EDD

## User Guide and Tutorial for Using the Enhanced Data Display

Last updated - 6/1/2012

### What is EDD?

EDD or the Enhanced Data Display is a web-based platform/framework that will serve as a gateway to distribute high spatial and temporal resolution data that NWS forecasters generate. It is envisioned that EDD will have a backend geospatial database that will enable users to query the data forecasters are providing enabling them to highlight areas of interest at any scale using EDD's mapping capabilities. By using a web-based framework, data can quickly be distributed via mobile and internet technology to our partners regardless of their location. This technology will give users in the field access to the raw data and the means to manipulate the data for their needs. The interface of EDD is designed to keep a lot of data in one place while at the same time be easy and intuitive to use. Most fields are just a click or two away and are clearly labeled into categories that best represent the product. EDD also provides quick access to deterministic and probabilistic forecasts.

To get to EDD go to:

<http://dev.nids.noaa.gov/~jwolfe/mwp/trunk/edd/build/> if you are on a noaa.gov network or <http://www.erh.noaa.gov/rlx/edd/> if not. Some functionality on this second url may be limited for the time being...once EDD has a permanent home all features should be accessible regardless of the network you are using it from.

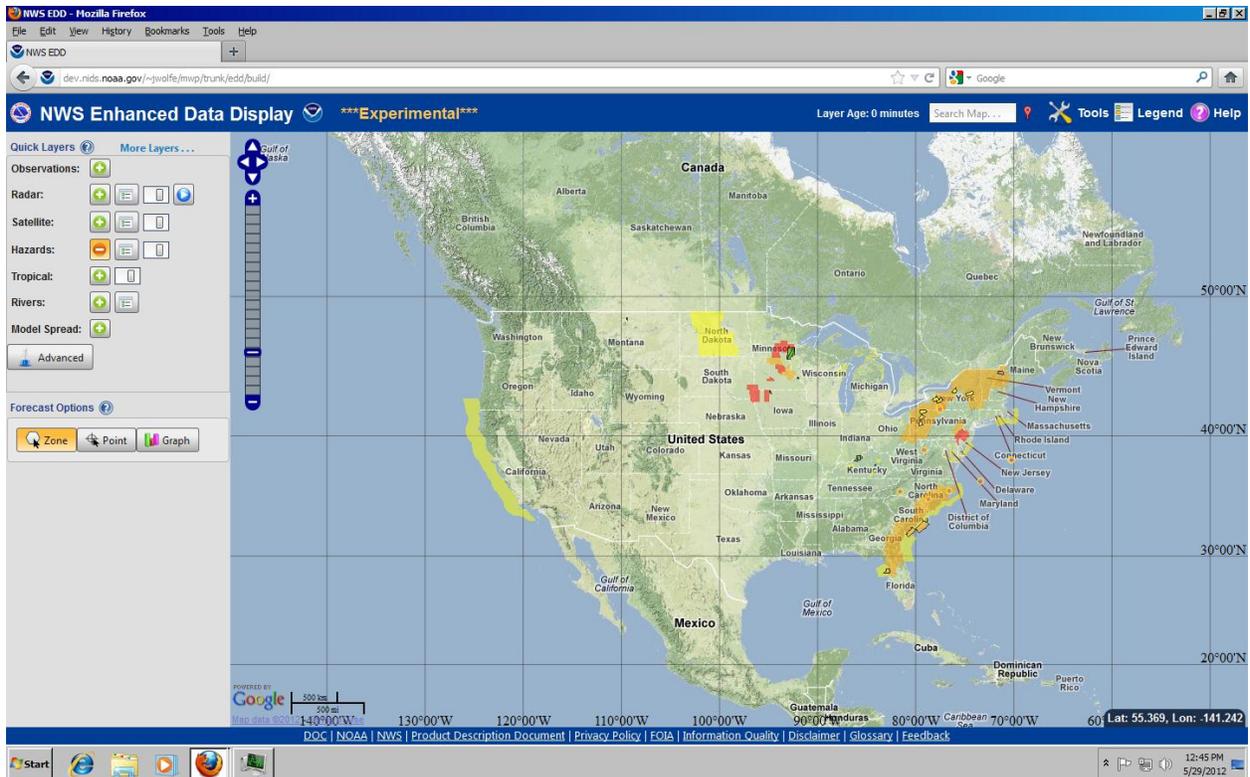
EDD is still very much under development and will likely be changing constantly. This user guide will be updated frequently but will likely lag the latest EDD changes slightly. If you find anything broken or have ideas of other things to add please let us know.

### An Initial Look at EDD

When you first open EDD the initial page will look similar to the screen capture below. By default the map will be zoomed out to a conus scale view with the hazard layers showing. If you are in another area like Alaska or Pacific Region...don't worry EDD works there too. The map can be moved around by clicking and dragging with the mouse or using the controls in the upper left of the map pane. Also once you get the map set to the location and zoom of your preference you can save these defaults (and whatever layers you have turned on at the time) by bookmarking the page.

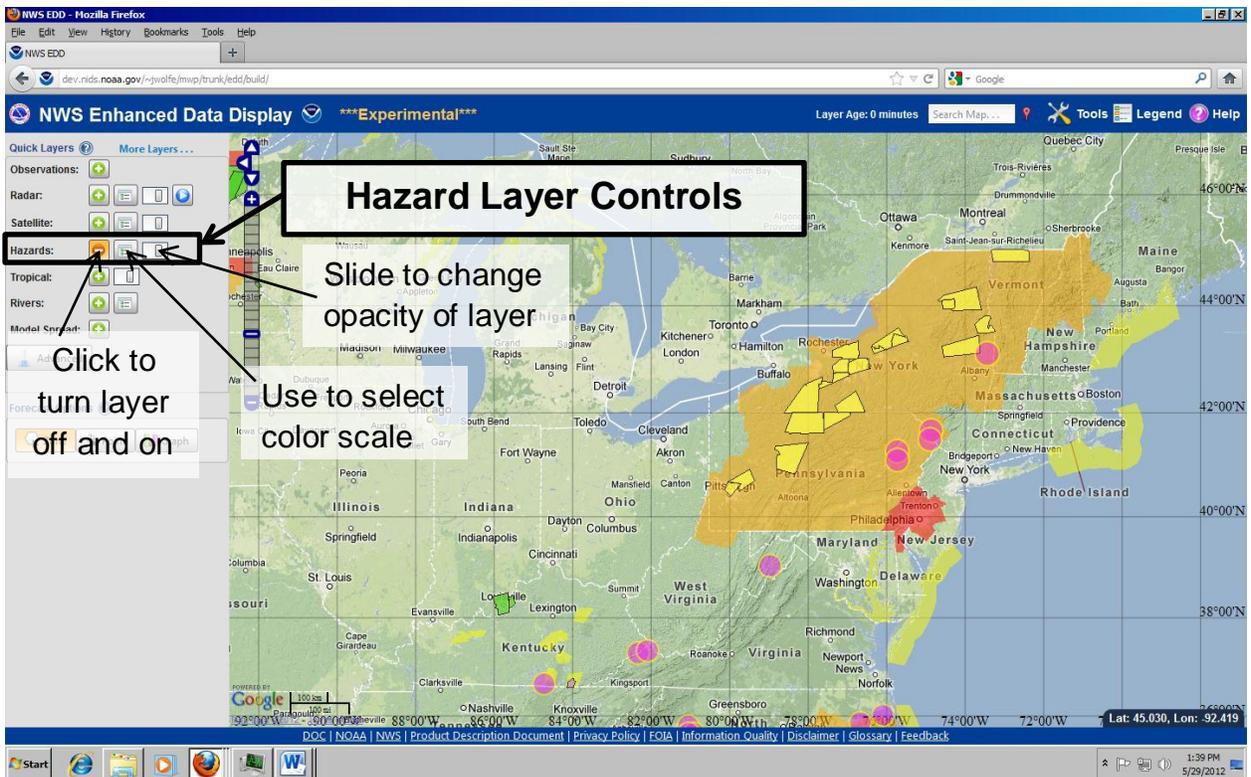
The menu bar across the top contains a variety of information and tools. From left to right the first label, layer age, will let you know the age of the layer shown (when it was last updated...different layers update at different frequencies but you can always force an update by

refreshing the web page). The search function will find a location on the map by entering the latitude and longitude, city, place or geographic place name (this feature uses the google map search engine so use the same format you would with that. Tools opens up a drop down menu that you access many more functions of EDD and switch to versions of EDD customized for different user groups or different scales and regions (the various features of the tools menu will be discussed in more detail in its own section). Legends will open up a legend for all the different layers displayed. Help gets you to a help menu...though this is still under development so ignore the references to the marine weather portal.

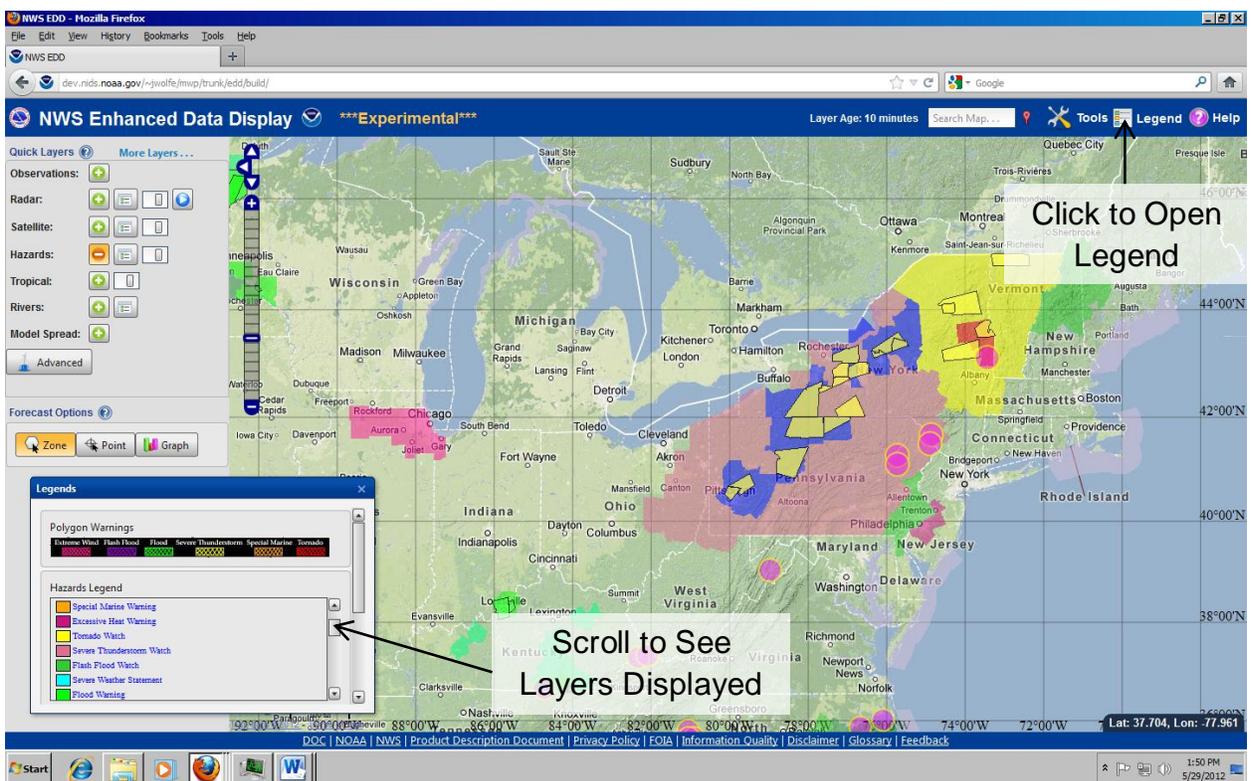


## Hazards and Warnings:

By default the hazard layer is turned on when EDD is initially started. This layer shows all the National Weather Service watches, warnings and advisories currently in effect. To keep this layer from getting too busy the colors have been simplified into 5 categories which you can find under legends. In general you will see Warnings in red, Watches in orange and advisories in yellow. Occasionally you will also see extreme events showing up in magenta and non-weather statements in grey. To see the classic many color scale view, click on the list box icon to the right of the plus/minus icon and select many colors. The legend (accessible from the upper right menu bar) will tell what all the different watches, warnings and advisories are by color. The opacity of the hazard layer can be adjusted using the slider bar to the right of other two buttons.

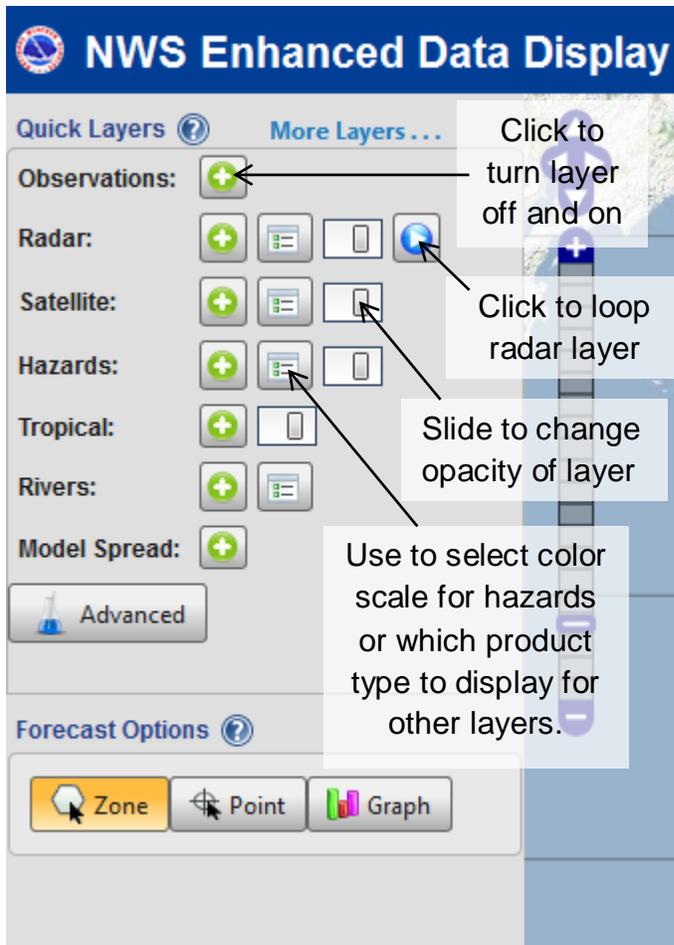


Below is an example of the hazard layer with the many color option on you can scroll through the legend to see all of the hazards displayed.



## Basic EDD Operations – Quick Layers, Tools & Forecast Options

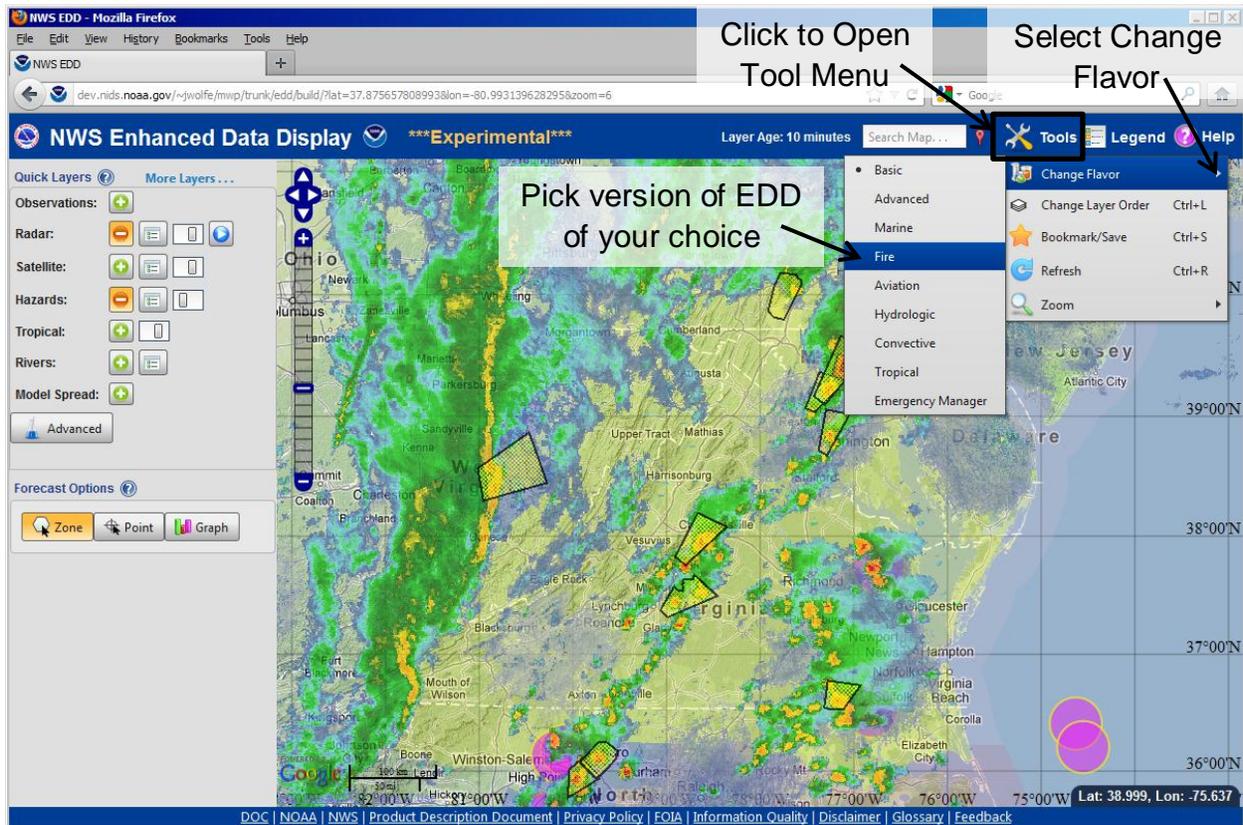
The quick layer menu in the upper left will turn off and on some of the basic features of EDD. Click on the green plus sign to turn on layers on and the red minus which then appears to turn them back off. The list icon lets you change the field displayed or the color scale and the slider icon adjusts the opacity of the layer. The blue play button furthest right will loop the radar layer. Multiple layers can be displayed at the same time but depending on your internet connection, too many can slow things down.



### Tools:

The tools menu along the top right side of EDD, accesses a variety of tools and functions within EDD. The Change Flavor menu will allow users to select a configuration of EDD tailored to their area of specific weather area interest (this feature is still in the coming soon phase so nothing happens if you click on these). Change Layer Order opens a tool to allow you to switch the order that layers appear in EDD by dragging and dropping them within a menu. The Bookmark/Save tool will set a bookmark with your current configuration and zoom so that you

can return to it by following that link. Refresh, refreshes the active layers but retains all your current settings. Use this option instead of your web browser refresh as that restarts EDD and you will lose your configuration changes. The zoom menu will take you to different preset regions and NWS WFO areas of responsibility.



### Forecast Options:

Forecast Options on the bottom of the menu lets you select what type of forecast you get back when you right click on the map. With zone selected you get the zone forecast back, with point you get the point specific forecast. Graph will bring up a time series graph of the various forecast elements. At the moment the graph option is only set to grab graph marine fields but should soon be updated to include many more.

## Marine or Land Zone Forecasts

Forecast is an area average valid for selected zone

Select zone under forecast options then right click on the map for a marine or land forecast zone forecast

**Forecast for 58.773, -135.158** Useful Links  
**NWS Zone Forecast for: Northern Lynn Canal, PK Zone: PKZ012**  
Issued by: National Weather Service Juneau, AK  
**Last Update:** 400 AM AKDT THU MAY 31 2012

**Synopsis** . A LOW IN THE NORTHWESTERN GULF WILL WEAKEN AS A RIDGE BUILDS OVER THE PANHANDLE ON THURSDAY. A DEVELOPING WAVE WILL MOVE INTO THE SOUTHEASTERN GULF ON FRIDAY.

**Today** . S wind increasing to 20 kt in the morning. Seas 4 ft. Showers.  
**Tonight** . S wind 20 kt becoming N 10 kt late. Seas 4 ft subsiding to 2 ft late.  
**Fri** . N wind increasing to 15 kt in the afternoon. Seas 3 ft.  
**Fri Night** . S wind 20 kt. Seas 4 ft.  
**Sat** . S wind 20 kt. Seas 4 ft.

## Point Specific Forecast

Note that this forecast is valid for the specific latitude, longitude and elevation of the 2.5 km grid box you select so click with care.

Select point in forecast options then right click on the map for a point specific forecast

**Forecast for 58.907, -137.586** Useful Links  
Issued by: National Weather Service Juneau, AK  
**20 Miles ENE Cape Fairweather AK**  
**Short Term Forecast**

**Today**  
Snow showers. High near 10. South wind between 13 and 20 mph. Chance of precipitation is 80%. Total daytime snow accumulation of 7 to 11 inches possible.  
**Tonight**  
Snow showers likely. Cloudy, with a low around 4. South wind around 10 mph. Chance of precipitation is 60%. New snow accumulation of 6 to 10 inches possible.  
**Friday**  
A slight chance of snow showers after noon. Mostly

# The Many Layers of EDD

## Viewing Observations in EDD:

When you turn on the Observation Layer in EDD by clicking on the green plus sign next to it in the quick layers menu, an Observation Display Options menu appears in the left pane (depending on what else you have open you may need to scroll down to find it).

The density slider bar at the top will control number of observations displayed. If you chose to turn this up to maximum it works best to zoom into your area of interest first otherwise you may end up loading a huge number of surface observations bogging the system down badly.

The Units Radio button lets you choice between knots and mph for wind speed.

The Icon Size pull down menu lets you adjust the size of the surface observation which can be helpful for briefings.

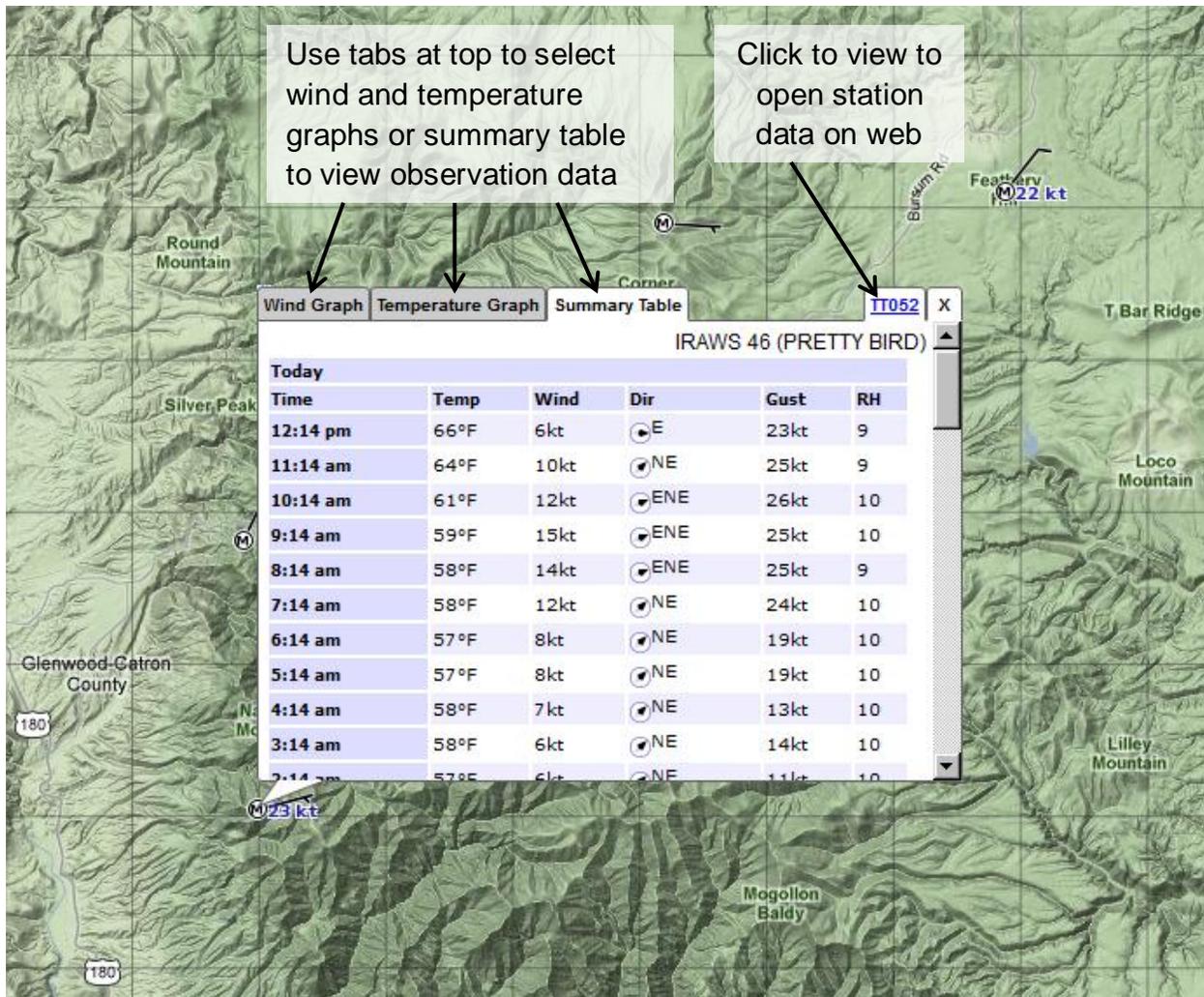
Clicking Ship Observations turns ship observations on.

Pointing at an observation pops up the current conditions, left clicking on an observation pops up graphs of winds and temperatures and a summary table of past observations.

The screenshot shows the NWS EDD web application interface in a Mozilla Firefox browser. The interface includes a top navigation bar with 'Observation' and 'Display Menu' tabs. A left sidebar contains 'Observation Display Options' and 'Display Fields' sections. The main area is a map showing various weather observations with wind speed and direction indicators. A 'Wind Graph' is visible on the right side of the map, showing wind speed and gust data over time. Annotations with arrows point to specific UI elements: a slider for 'Density', a radio button for 'Units', a dropdown for 'Icon Size', a checkbox for 'Ship Observations', and a callout for the 'Wind Graph'.

Annotations on the screenshot include:

- Slide to change observation density
- Click to select units for wind speed
- Pull down menu to adjust icon size
- Turn on Ship Observations
- Left click to get graphical and tabular station data



### Fields and Filters:

Clicking the green plus sign by fields and filters turns two more menus on. Display fields, lets you pick which fields are plotted and filters lets you choice to display observations that meet thresholds you define. Some fields such as wind and relative humidity are color coded to highlight thresholds of note.

The filter tool can be very hand as both a met watch and briefing tool. Note that if you choose multiple filters, all the criteria you select must be met to display the observation. Filters can be cleared by clicking the paintbrush icon next to the filter control button in the Observation Display menu.

Use caution in the number/density of observations you load. If you for example try to run complex queries on large map scales with the observation density set to max it may significantly slow down EDD and can cause script error messages to pop up.

NWS EDD - Mozilla Firefox

dev.rids.noaa.gov/~jwalfe/mwip/trunk/edd/build/?lat=33.372685010837&lon=-108.63677363887&zoom=11

NWS Enhanced Data Display \*\*\*Experimental\*\*\* Layer Age: 6 minutes Search Map... Tools Legend Help

Open Display Fields and Filter Menus

Click to Clear Filters

Display Field Menu: Select Fields to View Then Click Apply

Observation Display Options

Density: [ ] Units: kt mph Icon Size: Medium Ship Observations: [ ] Fields: [ ] Filters: [ ]

Display Fields

- Temperature
- Wind Barbs
- Wind Gust
- Peak Wind Gust
- Relative Humidity
- Visibility
- Ceiling
- Sea Level Pressure
- Significant Wave Height
- Primary Swell Period
- Primary Swell Direction
- Primary Swell Direction (Vector)

Filters

	Low	High
Wind Speed	0	150
Wind Gust	0	150

NWS Enhanced Data Display \*\*\*Experimental\*\*\* Layer Age: 10 minutes

Forecast Options Zone Point Graph

Observation Display Options

Density: [ ] Units: kt mph Icon Size: Medium Ship Observations: [ ] Fields: [ ] Filters: [ ]

Display Fields

- Temperature
- Wind Barbs
- Wind Gust
- Peak Wind Gust
- Relative Humidity
- Visibility
- Ceiling
- Sea Level Pressure
- Significant Wave Height
- Primary Swell Period
- Primary Swell Direction
- Primary Swell Direction (Vector)

Filters

	Low	High
Wind Speed	10	150
Wind Gust	0	150
Relative Humidity	0	25

In this example, stations are filtered to only display those with relative humidity 25% or less and sustained wind 10 knots or greater.

To use filters, click fields and filters on, selected display fields will appear in filter menu below

Select filters to activate by clicking on field name, then choice upper and lower ranges

## Radar Data:

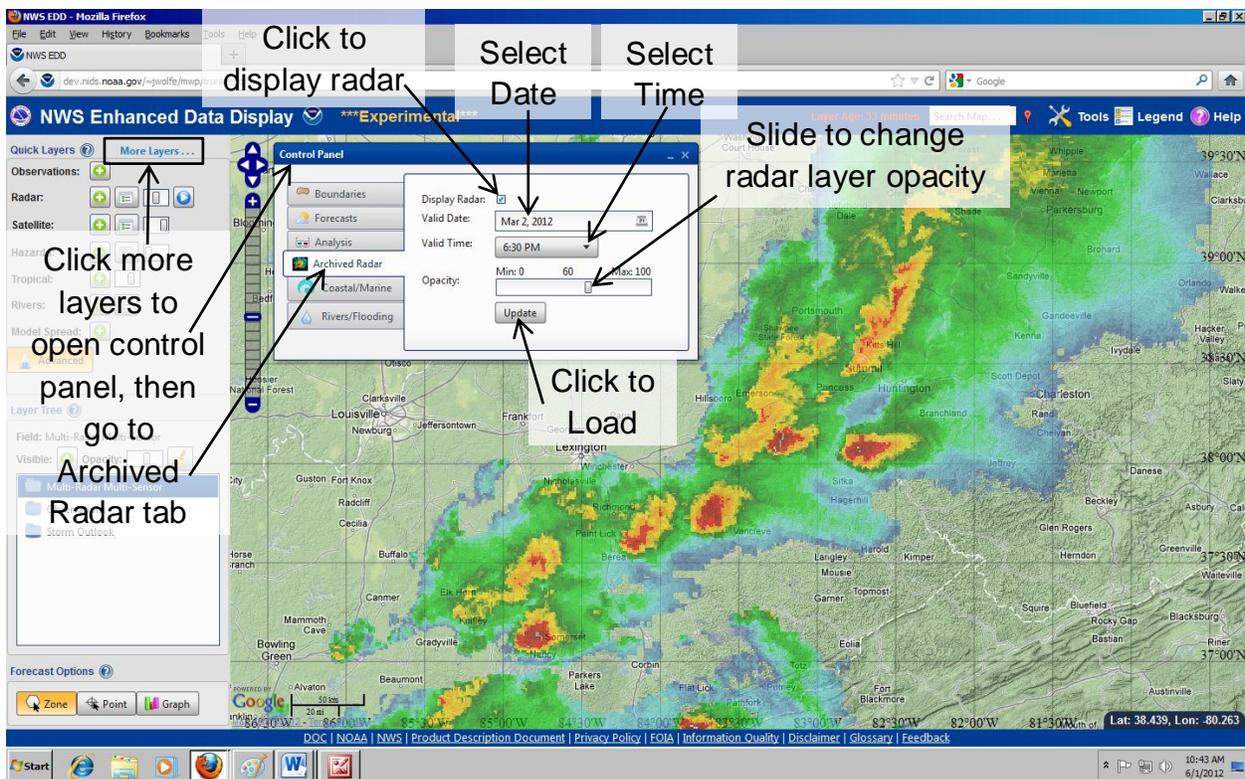
Radar data can be displayed in EDD by using the radar quick layer. To turn on the radar layer, click on the green plus sign next to the radar layer and a mosaic of the various NWS weather radars will be displayed. The list icon can be used to choose between base reflectivity and composite reflectivity. The slider bar to the right will adjust the opacity of the layer and the 'play' button to the right will loop the radar. Overlaying the radar with hazards will allow you to see when warnings are issued in association with specific storms. If hydrology is a concern the river layer could also be combined to monitor where flooding is possible or occurring.

But wait there's more... additional radar parameters and fields can be displayed using the Multi-Radar Multi-Sensor layers in the advanced menu and archived radar data is available through the More Layers control panel.

The screenshot displays the NWS EDD interface with several annotations explaining the radar layer controls:

- Click to turn radar layer on:** Points to the green plus sign next to the Radar layer in the Quick Layers panel.
- Slide to change radar layer opacity:** Points to the slider bar to the right of the Radar layer.
- Click to loop:** Points to the play button to the right of the Radar layer.
- Use pull down menu to select base or composite reflectivity product:** Points to the dropdown menu below the Radar layer, showing options for Base Reflectivity and Composite Reflectivity.
- Turn on hazards to see current warning polygons:** Points to the Hazards layer in the Quick Layers panel.

The main map area shows a radar mosaic over the Florida peninsula and surrounding regions, with various weather features and warning polygons overlaid. The interface includes a Layer Tree on the left, a Forecast Options panel at the bottom, and a status bar at the very bottom showing coordinates and time.

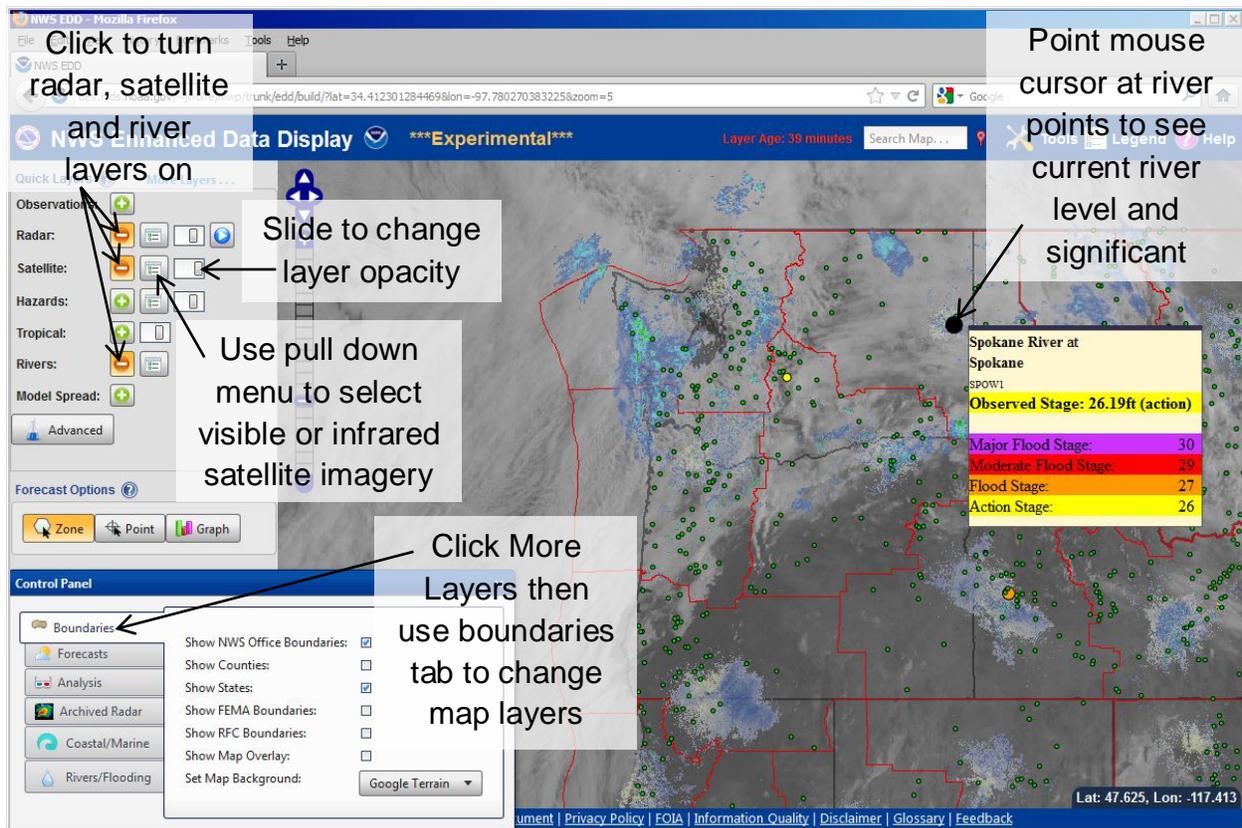


### Satellite Imagery Layer:

To overlay satellite imagery in EDD, click the green plus sign to turn the satellite layer on. Use the product list icon to change between visible and infrared satellite imagery. The slider bar will adjust layer opacity. Additional layers such as map boundaries can be found under the boundaries tab of the More Layers control panel and can help with geographic orientation. Satellite imagery may be combined with other image layers. An example of visible satellite imagery combined with radar and current river levels is shown below.

### River Layer:

This layer provides current and forecast river levels. The pull down product list menu lets you choose between observed and forecast data as well as allowing you to filter rivers that are meeting or exceeding different action or flood stages. The river points are scale by both color and size based on river stage. Green points are below flood stage, yellow points are at action/bank full stage, orange points indicate minor flooding, red points moderate flooding and purple major flooding.



Additional hydrologic related layers include a 100 year flood inundation zone map can be found under the Rivers/Flooding tab of the more layers control panel (you have to be zoomed very far in for this layer to load...currently if are not zoomed in and click this layer on it will auto zoom you in...which can be rather annoying so use this feature with caution). Radar estimated precipitation estimates for the last 3, 6 and 24 hours can be found in the layer tree (click advanced in the quick layer menu to open the layer tree) under the observations and precipitation folders. Also within the layer tree under Storm Outlook, Quantitative Precipitation Forecasts (QPF), QPF from HPC as well as flood outlook potential and drought forecasts can be found.

#### Tropical Layer:

The tropical layer shows the location and forecast path cone for any tropical depressions, storms or hurricanes. If there is no tropical activity nothing appears on the map when you turn it on. The slider bar works similarly to other fields, adjusting the layers opacity.

#### Model Spread:

The model spread layer accesses the model spectrum tool through point and click interface allowing users to see the range of model and NWS forecasts for specific forecast locations. Additional information on this tool can be found at:

[http://products.weather.gov/PDD/Experimental\\_Portland\\_Model\\_Spectrum\\_WebpagePDD.pdf](http://products.weather.gov/PDD/Experimental_Portland_Model_Spectrum_WebpagePDD.pdf)

NWS EDD - Mozilla Firefox

# 3-hr Radar Estimated Precipitation Combined with River Levels

dev.nids.noaa.gov/~jwolfe/mwp/trunk/edd/build/?lat=34.647617180284&lon=-95.20946043914&zoom=4

NWS Enhanced Data Display \*\*\*Experimental\*\*\* Layer Age: 53 minutes Search Map... Tools Legend Help

Click Advanced to open Layer Tree Menu

Select desired layer first then click to turn on

Slide to change layer opacity

Click to clear layers

Open observations folder then precipitation and select time period

Forecast Options

DOC | NOAA | NWS | Product Description Document | Privacy Policy | FOIA | Information Quality | Disclaimer | Glossary | Feedback