

GRLevel 3 Radar Tutorial

© TheWxPage.Com 2005-Current. All Rights Reserved. Images Property Of Their Respective Owners

This Tutorial Covers Basic Navigation of the GRLevel3 Program.

"GR" Stands for "Gibson Ridge", the software developer, and Level 3 stands for the type of radar data the program interprets.

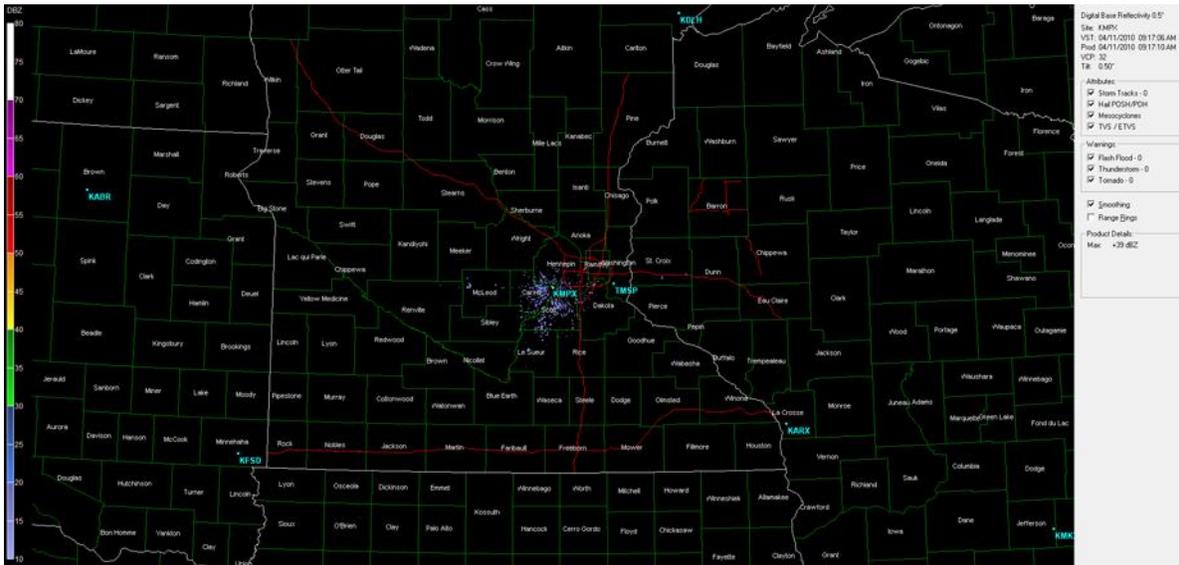
Level 3 Data is considered "Lower Resolution" radar data, but has more products. The Other Type of Radar is called Level 2 Data, Which is Higher Resolution, but has fewer products.

Contact Michael at TheWxPage.Com For More Information On This Tutorial.

Basic Knowledge Needed to Use The GrLevel3 Program

Below is a Sample Image of the GRlevel3 Program. This tutorial will aid you in using the program more effectively, and was written using GRLevel3 Version 1.74. This Tutorial can be Used for Many GrLevel3 versions as the superstructure of the program has not changed much.

NOTE: In versions later than ~1.60, The DBz Scale has changed with the upgrades to the WSR-88D radars. This will make GRLevel3 radar information appear like GRLevel2 data. The upgrade is sometimes referred to as "Super-Res" Level 3 for this reason. Only GRLevel3 versions later than ~1.7x can use this feature.



Radar Information

```
Digital Base Reflectivity 0.5°  
Site: KMPX  
VST: 04/11/2010 09:07:27 AM  
Prod: 04/11/2010 09:07:31 AM  
VCP: 32  
Tilt: 0.50°
```

Digital Base Reflectivity 1 - This states that the current view of your Radar is for Base Reflectivity 1, or the lowest radar tilt. The Radar Tilts vertically at different degree angles (0° being completely flat horizontally, 90° being straight up). Base Reflectivity 1 shows the radar beam at half a degree (0.5°) upward angle. Digital upgrades to WSR-88D radars began in early 2010 for this feature.

Site - The Site shows which Radar you are currently viewing as identified by its 4 letter callsign. KMPX represents Minneapolis, MN.

VST - Volume Scan Starting Time, essentially the time that the radar started scanning for the particular image you are viewing. this is useful to see how old the Radar Image is at the start of the scan. The time in between the VST and Prod is how long the radar took to sweep 360° Horizontally (Azimuth)

Prod - This is the Time that the radar image was generated and downloaded to your program. This is useful for telling how old the Image is by the end of the scan. The time in between the VST and Prod is how long the radar took to sweep 360° Horizontally (Azimuth)

VCP - This is a number correlating to the volume coverage pattern. Most common are 21 and 12. 12 indicates it takes 4 minutes to fully sweep, whereas 21 indicates it takes 6 minutes to do a full sweep. During severe weather, 12 is most commonly used for faster scanning. There is also VCP 32 and 212.

Tilt - This tells you at which angle the radar beam is being tilted at for the given product you are viewing. There are 4 standard tilts for the radar, with BR1 (Digital Base Reflectivity 1) being .5°

Storm Attributes



Storm Tracks: - The Storm Track Feature allows Us to see where the storm is Going/Headed To. The Feature Shows A White Line Extending from the Center of the Thunderstorm Cell. The "+"s along this white line indicate every 15 minutes where the center of the storm is forecasted to be, based on its current movement. Thus with the 4th "+" it shows where the storm would be in an hour. The Longer the White Line, The Faster The Storm Is Moving. The Number Next to the "Storm Tracks" are the number of tracks on the Radar Screen.

Hail POSH/POH - GRLevel3 Shows The Radar Indicated Hail Size of A Certain Thunderstorm Cell. POSH stands for "Probability of Severe Hail" and POH stands for "Probability of non-severe Hail". Severe Hail is categorized as .75" or Larger.

The Hail is Designated as a **GREEN** Triangle. This Triangle Appears at the CENTER of the cell. Here is a Table For What the Different Triangles Indicate:

If the POSH (Percentage of Severe Hail) is greater than 50%, a large filled green triangle will be present.

If the POSH (Percentage of Severe Hail) is greater than 30%, a large hollow green triangle will be present.

If the POH (Percentage of Hail) is greater than 50%, a small filled green triangle will be present

If the POH (Percentage of Hail) is greater than 30%, a small hollow green triangle will be present.

Essentially, Severe Hail is Present With A Large Triangle, and the chances are greater for hail the larger and the filled in Triangle you see.

Mesocyclones/MDA - GRLevel3 shows the new "MDA" or Mesocyclone Detection Algorithm. It is a newer product of the Radar and has certain values that correspond to the color of the Circle Shown Below. (Cont. Page 4 Below)

(MDA Circles Shown Below)



Each Color Corresponds to the Strength of the Mesocyclone. With White Being a Relatively "Weak" Mesocyclone and Purple Being The "Strongest". The Dashed Lined Indicate That the Mesocyclone is Elevated in the storm (not at the "surface"), and Solid Lines Indicate it is near the Surface. Mesocyclones do NOT indicate a tornado is forming or may be forming, however they do suggest the presence of rotation within the storm. The first icon (White) is shown for SR values of 1-2, second (Green) for SR values 3-4, third (yellow) for 5-6, fourth (red) for 7-8, and fifth (purple) icon for 9 and above. If you mouse over the MDA icon on GR3 the MSI is at the bottom of the information box that pops up. 0-2300 is considered weak, 2300-3600 is moderate and greater than 3600 is strong

TVS/ETVS - Research Into Radar Applications by the National Severe Storms Laboratory and theory formed the so called TVS/ETVS Radar Signature. It is based off of the Gate-To-Gate (Inbound to Outbound) Velocities. The TVS does NOT NOT NOT mean a tornado is present or has been spotted, however it does mean concern should be raised that a tornado MAY be developing. the ETVS is an "Elevated" TVS Signature, meaning it is elevated in the thunderstorm, and not located close to ground level.

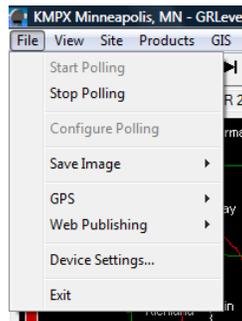
Warnings - Severe Thunderstorm Warning Tornado Warning Flood Warning

Perhaps the most important aspect of the radar is the ability to show the warning polygons. The Severe Thunderstorm Warnings Are shown as polygons in **RED**. Tornado Warnings are shown as **PURPLE** polygons and Flash Flood Warnings are shown as **GREEN** Icons. These Polygons replace the old "Whole County/Parrish" Warning System. It alerts only those people in the paths of storms so as to not "over-warn" people.

Top Menus

GRLevel3 has menu's at the top for navigation of the program. Below are some Descriptions of what Each Menu Shows

File Menu



Start Polling - Start Polling is used for starting the downloading of radar data. By default, when the program is opened it will automatically start downloading radar data for you.

Stop Polling - If you wish to stop downloading data for any reason, you may hit the stop polling button.

Configure Polling - GRLevel3 uses its own web server to download information from. Should you use a 3rd party server (such as allisonhouse.com) this is where you would paste a URL into the prompt box where the radar data is located.

Save Image - If you wish to save the current Image on your GRLevel3 Program, this will expand so as to include how much of the current screen image you would like saved.

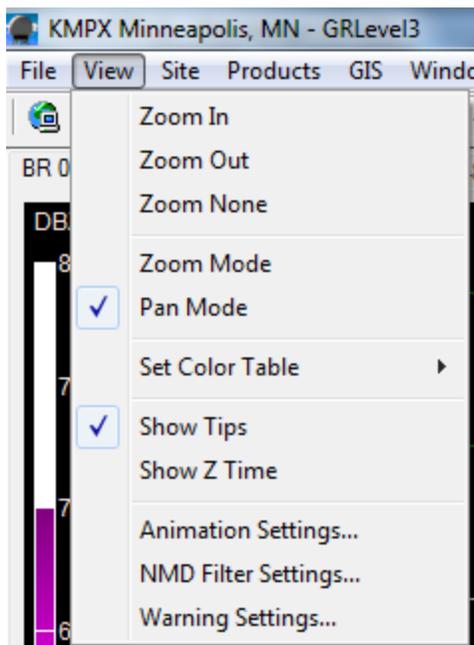
GPS - If you are using GRLevel3 in Conjunction with a GPS this will help you start the GPS or Stop the GPS position on the Radar. Your position, when started, will show up as a white circle with a dot in the center, the dot in the center being where you are located on the Radar map.

Web Publishing - If you wish to use GRLevel3 to publish an image to a remote server on the internet. You will need to supply the FTP information for the remote server in which to do this.

Device Settings - This is used to "Force 16-bit smoothing". This uses 16-bit color to smooth the Radar image if smoothing is available (Note the smoothing checkbox on the right side of the program. If smoothing is grayed out, your computer is not capable of smoothing without a graphics card upgrade).

Exit - This will Exit the GRLevel3 Program

View Menu



Zoom In - You can use the Zoom in on this menu to zoom in closer to a specific area on the Radar. There is a Zoom Icon on the Animation Settings Bar (Talked about Below) That works much easier and quicker. If you have a middle-scroll Mouse, you can use the scrolling feature on the mouse to zoom in and out with ease

Zoom Out -You can use the Zoom out on this menu to zoom out farther on the Radar. There is a Zoom out Icon on the Animation Settings Bar (Talked about Below) That works much easier and quicker. If you have a middle-scroll Mouse, you can use the scrolling feature on the mouse to zoom in and out with ease

Zoom None - This is used to return the Radar to its normal Zoom image. There is a Zoom image button on the animation settings Bar (Talked about below) That works much easier and quicker.

Zoom Mode - In Zoom Mode, you use the mouse to drag and draw a box over the area in which you want to zoom to.

Pan Mode - In Pan Mode, you click the mouse once and drag the image around until you locate your desired area for viewing.

Set Color Table - For Advanced Users Only, this is to change which colors are used for DBz and other parameters.

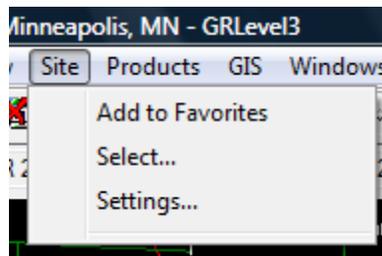
Show Z Time - Show Z/UTC time instead of Local Time in Radar Products. Can Be helpful for fast correlation of NWS/SPC Products to Radar Images.

Animation Settings - Used for How fast or slow and number of images the radar animation will play when the Play Button is hit on the animation bar.

NMD Filter Settings - In here you can adjust the settings for an NMD icon to show up. For basic users, I would not recommend adjusting the default settings.

Warnings Settings - This is used for designating where on the Internet you want to receive your warnings information from, and how thick you want the warning lines to be.

Site Menu



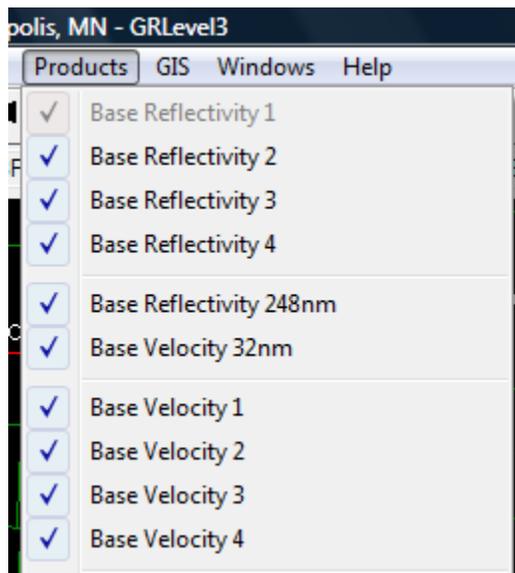
Add to Favorites - Adds the current radar site you are viewing to a fast access clickable item in the site menu underneath the "settings" sub-menu

Select - Used for selecting a radar site for viewing.

NOTE: Any radar site that begins with a "T" (See the First Image Of This Tutorial) such as "TMSP" is a Terminal Radar. These radars are available from data used with airport weather radars. They do NOT have the same capabilities as WSR-88D, and in some cases are better. For beginning users, I would recommend investigating these radars, as they are a great new tool available in the later versions of GRlevel3.

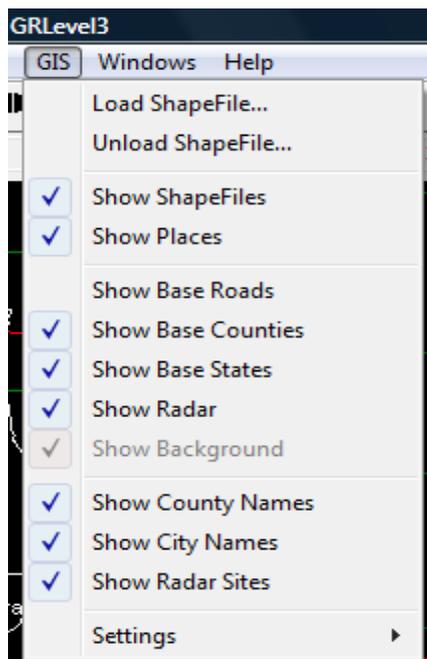
Settings - Change which radar site you want loading at program startup and add or delete favorite radar sites.

Products Menu



Check The Boxes in this menu of which radar products you want to have downloaded when your radar program is open. The only reason to not have all checked would be if you are on a slow internet connection, it will download less images/products and keep your program running smoother.

GIS Menu



Load/Unload Shapefile - These are for loading and unloading shapefiles that you can download from ESRI or other 3rd party websites. These files could include more detailed road networks for "street level zooming" and more accurate placement of Base Roads. This is for more advanced users with GIS experience.

Show Shapefiles - This is checked to show the shapefiles you have loaded into the program

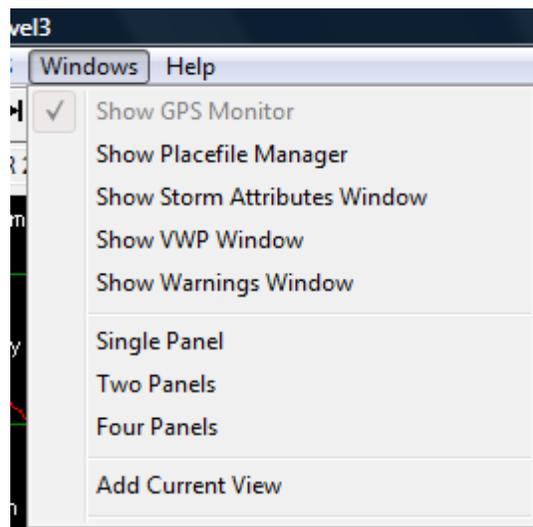
Show Places - This is checked to show the placefile you have loaded into the program (Placefile manager is in the Windows Menu)

Show Base Roads/Counties/States/Radar - Base Roads/Counties/States/Radar are all provided for a geopolitical way of showing where storms are located on the radar. If you do not wish to show counties or base roads (interstates and highways) then uncheck these boxes. If you Uncheck the "Show Radar" box, then you will have no radar images on the screen.

Show County Names/City Names/Radar Sites - These will put county and city names on your map for fast identification. Show Radar sites is turned on or off if you do not wish to have the Blue 4 Letter Radar site identifiers on your map.

Settings - Used for customizing the settings of the above Menu items. You can change settings for fonts, font size, etc.

Windows Menu



Show GPS - If you are using GRLevel3 in conjunction with a GPS, this is where you would be able to show the GPS data window on top of the GRLevel3 Program so as to monitor both at once.

Show Placefile Manager - This is where you would copy and paste URL's to dynamic or static placefiles to use as Overlays on your Program. Placefiles can include allisonhouse.com data or other free dynamic (updating) data feeds (such as surface observations)

Show Storm Attributes Window - If you check this box a window with individual storm cell data will pop up giving you a fast view information of the storm cells (such as height, max DBz, etc).

Show VWP Window - If you check this, a box showing the wind speed as collected from the Radar station velocity scans. This is NOT as accurate as using a real sounding.

Show Warnings Window - Check this in order to show weather warnings as they are issued. This box must be checked in order to un-gray out the warnings on the right side of the program.

Single Panel - Shows one radar product in GR3

Two Panels - Shows 2 Radar Products inside the program

Four Panels - Shows 4 radar products inside the program for fast viewing of many products

Add Current View - Add the Current Product to your multi-panel GRlevel3. Intended to be used with multi-panels

Horizontal Menus/Buttons

Animation Controls



(From Left to Right Separated By Commas)

Start Polling, Start Archiver (Downloads Radar Images for missed scans or initial program launch to get a radar loop instantly), Stop Polling, Oldest Volume Scan (Oldest Image), Back One Volume Scan, Play the Entire Radar Loop (When Play is enabled, Pause shows up in it's place), Forward One Volume Scan, Latest Volume Scan, Zoom Mode, Pan Mode, Zoom In One Level, Zoom Out One Level, Zoom None

Radar Products Tab

BR 1 | BR 2 | BR 3 | BR 4 | BR 248 | BV 32 | BV 1 | BV 2 | BV 3 | BV 4 | SRV 1 | SRV 2 | SRV 3 | SRV 4

These Tabs Will help you switch from Product to Product. Click on the Tab for the product you wish to View.

Radar Site Information Tab (Bottom of Program)

130° / 124.7 nm | 7.5 dbz | 16477 ft | 43.55162, -91.36541 | Next update: 00:06

(From Left to Right Separated By Commas)

Cardinal Direction and Distance away from the Radar, DBz Detected by Area your Mouse is Over, Height at Which Radar is Scanning at that Distance From the Radar, Lat and Lon of the position of your Mouse Cursor, Time Until Next Radar Image is Downloaded.

© TheWxPage.Com 2005-Current. All Rights Reserved. Images Property Of Their Respective Owners.

PAGE 11 (END)