

# Cumulus PHP JpGraph Graphs

Documentation

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a Development of



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# Cumulus JpGraph Graphs Usage and Configuration

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## Licenses

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### Document Format

This document was created using MS Word 2003 and converted into PDF format using PDF995.

# Cumulus JpGraph Graphs Usage and Configuration

## Introduction

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**These graphs require the use of Cumulus 1.8.2 Beta or higher as they require the newer extended realtime.txt fields not present in the older versions.**

The following documentation covers an addon set of scripts called the Cumulus JpGraph Graphs. These scripts work in conjunction with Cumulus Weather Software a product of Sandaysoft and the export of realtime.txt data that is collected using the RealTimeLog script.

You can find out more information about Cumulus via the link:

<http://sandaysoft.com/products/cumulus>

These graphs allow you to display historical data in a graph format on your webserver using distinctive looking graphs especially designed for Cumulus.

These scripts are designed to work both as normal Web called scripts (via a web browser) and also in CLI mode (command line mode) which would be used normally via a scheduler or cron to generate static images. Creating static images would be used for sites that have a lot of visitors as having each visitor cause the dynamic generation of the images can put a higher load on the web server.

## About the Documentation

To reduce support requirements, a document (This one) is maintained along with the development of the code to try to keep the two in sync. Real software should have real documentation and even a "simple" script needs some.

If you find issues in the documentation that doesn't match the released version, please send an email to [Weather@TNETWeather.com](mailto:Weather@TNETWeather.com) to report it so we can fix it.

## Requirements

---

The following are requirements to use these scripts.

### Web Server Requirements

The web server must be running PHP5 and have support built into it for both GD and GD support for FreeType fonts. The following font is used with these graphs: Verdana

### Cumulus Weather Software

These scripts assume the use of Cumulus Weather Software, and its uploading of the realtime.txt data file in an interval of at least once a minute.

It is also necessary for you to be collecting the results of those files with the use of the RealTimeLog script and/or some other method.

**Version 1.8.2 Beta or higher is required.**

## Cumulus JpGraph Graphs Usage and Configuration

### JpGraph PHP Libraries

Your server must have installed, either the free or commercial version of JpGraph installed on the server and in your web space area.

Typically, this is loaded into the JpGraph directory off your web root.

You can obtain the JpGraph PHP Library from:

<http://www.aditus.nu/jpgraph/>

### FreeType (TrueType Fonts)

These graphs were designed to use truetype fonts. You will need to make sure that you have added the fonts used (Verdana) in the font area of the JpGraph Library source directories.

If you have a relatively recent version of JpGraph installed, that font should already be included. See installing JpGraph if you don't already have it installed and configured.

# Cumulus JpGraph Graphs Usage and Configuration

## Installation

---

### Installing JpGraph

Before attempting to use the Cumulus JpGraph Scripts, you need to have JpGraph PHP Libraries loaded and working.

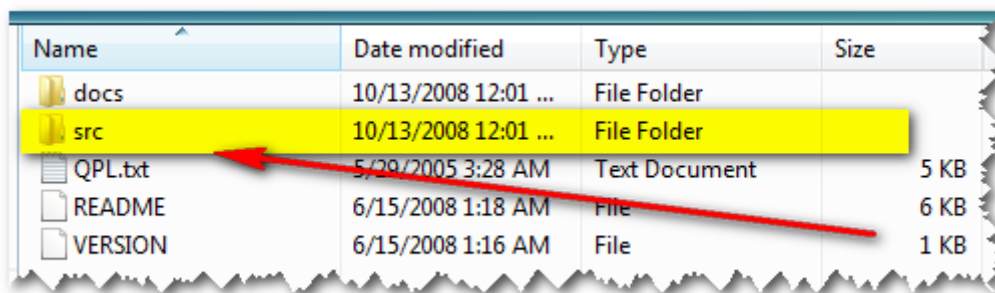
These instructions are basic ones provided for those who have not used that package before. For more detailed instructions and assistance, you might try the JpGraph Forums located at:

<http://jpgraph.intellit.nl/index.php>

### Download the Library

Get the library from the JpGraph site: <http://www.aditus.nu/jpgraph/jpdownload.php>  
You should be using the JpGraph 2.x – series on your PHP5 web server.

After you download and extract the library on your workstation, you will find in the directories the doc and src directories.



Name	Date modified	Type	Size
docs	10/13/2008 12:01 ...	File Folder	
src	10/13/2008 12:01 ...	File Folder	
QPL.txt	5/29/2005 3:28 AM	Text Document	5 KB
README	6/15/2008 1:18 AM	File	6 KB
VERSION	6/15/2008 1:16 AM	File	1 KB

### Create the jpgraph directory

On your Web Server... create a subdirectory on your web server in the web root called **jpgraph**.

### Upload the src directory

Upload the **src** directory from the jpgraph library directory into the jpgraph directory on your web server.

### Need the Documentation?

If you want to know more about the library to use with your own projects, you might want to also upload the **docs** directory. I would recommend that you protect that directory however from casual users since it will get indexed and you will begin to be a source for documentation on the net. The JpGraph site does not have the docs online.

# Cumulus JpGraph Graphs Usage and Configuration

## Test the Installation

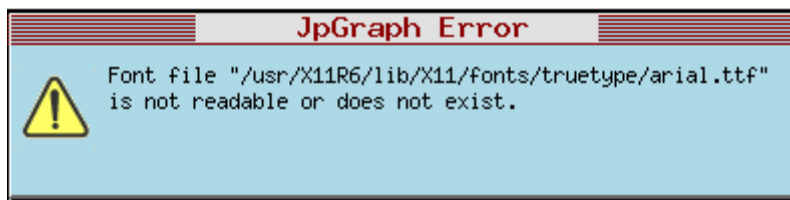
After you have done that, you should be able to see the sample graphs that JpGraph comes with using the URL:

<http://YOURWEBSITE/jpgraph/src/Examples/testsuit.php>

This should display a number of sample graphs to prove that the library is installed correctly and usable.

## Fonts Missing

If you see errors like:



This indicates that JpGraph cannot find fonts it is expecting. It normally looks for them on the native server (ie not included with the JpGraph PHP Library package).

You will need to copy these fonts to your webserver. Typically, I put them into a sub-directory called fonts in the jpgraph directory.

You will need to edit the: jpg-config.inc.php file in the jpgraph/src directory to reflect where you placed the fonts in the section like:

```
// DEFINE("CACHE_DIR", "/tmp/jpgraph_cache/");  
// DEFINE("TTF_DIR", "/usr/X11R6/lib/X11/fonts/truetype/");  
DEFINE("TTF_DIR", "/PATH_TO_YOUR_WEBROOT/jpgraph/fonts/");  
// DEFINE("MBTTF_DIR", "/usr/share/fonts/ja/TrueType/");
```

The following is a list of what fonts that are typically used with the JpGraph PHP libraries. You normally can copy them from your windows font directory.

```
arial.ttf  
arialbd.ttf  
arialbi.ttf  
ariali.ttf  
comic.ttf  
comicbd.ttf  
cour.ttf  
courbd.ttf  
courbi.ttf  
couri.ttf  
georgia.ttf  
georgiab.ttf  
georgiabi.ttf  
georgiai.ttf  
times.ttf
```



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timesbd.ttf  
timesbi.ttf  
timesi.ttf  
trebuc.ttf  
trebucbd.ttf  
trebucbi.ttf  
trebucit.ttf  
verdana.ttf  
verdanab.ttf  
verdanabi.ttf  
verdanai.ttf

Into the newly created fonts directory in the jpgraph directory.

There is a German web page that has info about this as well.

[http://support.uni-klu.ac.at/PhpKurs/0300\\_JpGraph\\_Bibliothek](http://support.uni-klu.ac.at/PhpKurs/0300_JpGraph_Bibliothek)

They include a copy of the truetype fonts used apparently.

## Included in the ZIP file

The files that make up the package is delivered in the form of a ZIP file and is setup to be extracted into a generated sub-directory called graphs. You would normally extract the contents of the ZIP file into the web root directory of your web server, the typical location of where the Cumulus realtime.txt and the resulting collected realtime.log files are located.

The following files should be included in the ZIP file. All of them should extract to the graphs directory.

baro.php	Barometric Graph Script
CheckServer.php	CheckServer Script
dewpt.php	DewPt Graph Script
GraphSettings.php	Configuration File used by all Scripts
index.php	Index Script (see below)
rain.php	Rainfall Graph Script
samp-graph.php	General Graph Sample page
temp.php	Temp and Humidity Graph Script
winddir.php	Wind Direction Scatter Graph Script
wind.php	Wind and Gusts Graph Script

The index.php script is there to redirect wayward visitors. It will redirect the visitor to the root index file.

Also included in the package will be a copy of this document.

# Cumulus JpGraph Graphs Usage and Configuration

## Checking your Server

Unless you are real familiar with your web server, it is a good idea to obtain and run the ServerCheck script. The script is included in the package. This script will tell you what capabilities are available on your server and if it has what is necessary to run these scripts. Its output will look something like:



They key sections of output you need to look for are of course that you have PHP, Whether you have GD support (you must have both GD and FreType support) and you might need to know what the direct directory location of your home page (web root).

## Uploading to your Web Server

You need to either upload the zip and extract it on your web server, or unzip the files on your workstation and upload them to your web server.

All the files should be located in the graphs directory.

# Cumulus JpGraph Graphs Usage and Configuration

## Configuring the Scripts

For the most part, the individual graph scripts all use a central GraphSettings.php configuration script to make changes to the output and to customize the images to your site and configuration.

The GraphSettings.php script is included by all the other scripts to get site name, various output formats.

If you open up the GraphSettings.php file you will find the following configuration settings:

The package comes with one configuration file called GraphSettings.php.

```
#####
# CONFIGURATION INFORMATION
#####
$SITE['version']      = "3.0";
$SITE['hloc']         = "../";
$SITE['jpgraphloc']   = "../jpgraph/src/";
$SITE['datafile']     = "realtime.log";
$SITE['sitename']     = "YOUR SITE NAME";
$SITE['bgncolor']     = "#EFEFEF";
$SITE['txtcolor']     = "#22464F";
$SITE['tz']           = "US/Arizona";
#-----
$SITE['infopass']     = "";
$SITE['debugpass']   = "";
$SITE['datapass']    = "sce";
$SITE['viewpass']    = "sce";
$SITE['debug']       = 0;      # Adjustable via debug
$SITE['info']        = 1;      # Adjustable via info
```

You will note that all the variables are stored in a common array called \$SITE. This allows them to all be included as globals in the various functions and subroutines used by the system.

Lets go through them one at a time so you know what they are...

### **\$SITE['version']**

Basically just the version of the graph package.

### **\$SITE['hloc']**

Location of home from where the package is. This is a relative position and if you have loaded the package in a subdirectory off of the main web directory it should be just fine as it is.

### **\$SITE['jpgraphloc']**

Again, this is a relative address and assumes that the JpGraph library is located in jpgraph off the main web root. If you loaded it somewhere else, you will need to change this.

## Cumulus JpGraph Graphs Usage and Configuration

### **\$SITE['datafile']**

The datafile that contains the history. DON'T PUT PATH INFO HERE, just the filename.

### **\$SITE['sitename']**

This is the name of your site.

### **\$SITE['bgncolor']**

### **\$SITE['txtcolor']**

These 2 settings for colors. bgncolor is the background of the margin and txtcolor is for most of the labels. If you change these, you will most likely need to adjust other colors used on the graphs.

### **\$SITE['tz']**

This allows the server to be set to the proper timezone when getting the current date.

For US values, it should be something like US/Eastern US/Pacific ...

For Europe, EUROPE/London etc...

Look at the following page for hints to match your locale...

<http://us.php.net/manual/en/timezones.php>

## Special Settings

### **\$SITE['infopass']**

This variable allows you to set a password on the info command. This would be an uncommon thing to do. It simply would deny the ability to toggle the info tags (shows hours and frequency in the bottom right hand corner of the graph). Normally, you would leave this blank.

### **\$SITE['debugpass']**

If you want to prevent someone from using the debug function of the script, you would set this to something that only you would know. If you are asking for assistance, you may be asked for this setting so that a tech can diagnose what problems you might be having.

### **\$SITE['datapass']**

If you want to prevent someone from using the dataview function of the script, you would set this to something that only you would know. If you are asking for assistance, you may be asked for this setting so that a tech can diagnose what problems you might be having.

The Dataview function displays the contents of the graphconfig.php file.

## Cumulus JpGraph Graphs Usage and Configuration

### **`$SITE['viewpass']`**

If you want to prevent someone from using the viewsource function of the script, you would set this to something that only you would know. If you are asking for assistance, you may be asked for this setting so that a tech can diagnose what problems you might be having.

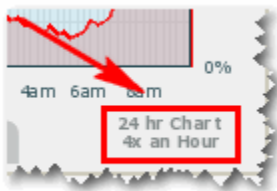
The Viewsource function displays the contents of the graph it is used on.

### **`$SITE['debug']`**

This is a variable used to determine if debug is on or off. This should always be set to 0

### **`$SITE['info']`**

This variable is used to change the default Info view for graphs. Normally it is set to 1 which means that the info data (shows hours and frequency in the bottom right hand corner of the graph) will be shown. Whatever the setting of this value, you can use the info argument to toggle it for specific graphs if the infopass is known (normally blank).



## Supported Graphs

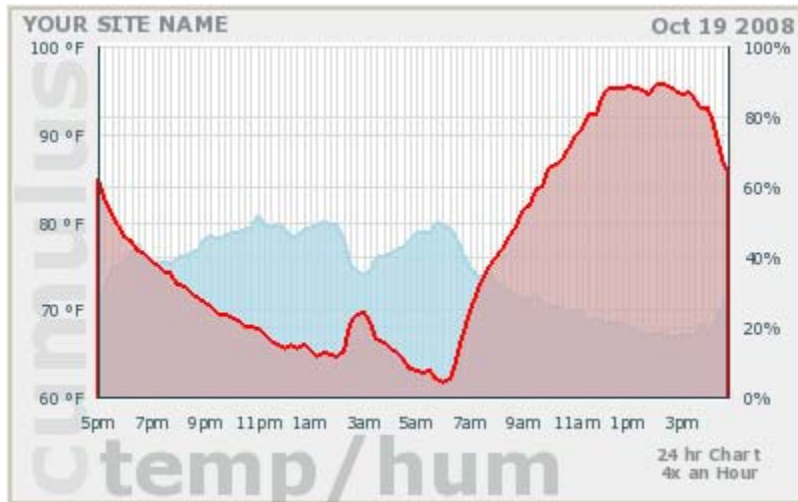
---

The following are current supported

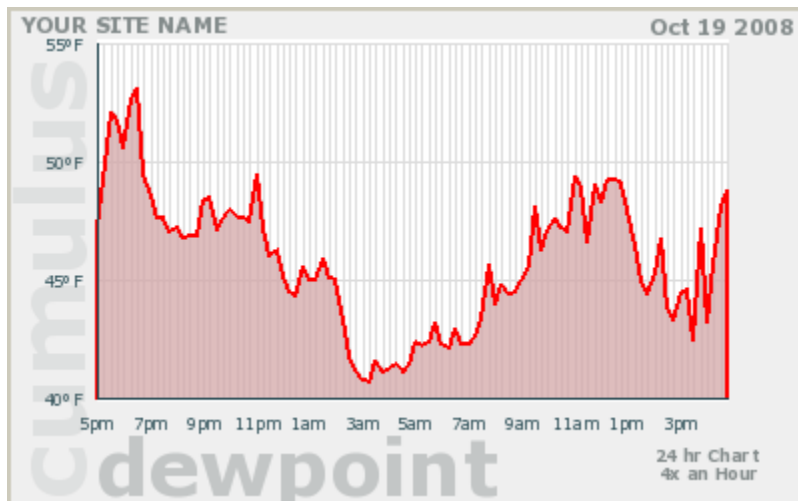
### Current Graphs

Examples of actual output is displayed below. Each graph shows a 24 hr output.

#### Temp (temp.php)



#### Dewpt (dewpt.php)

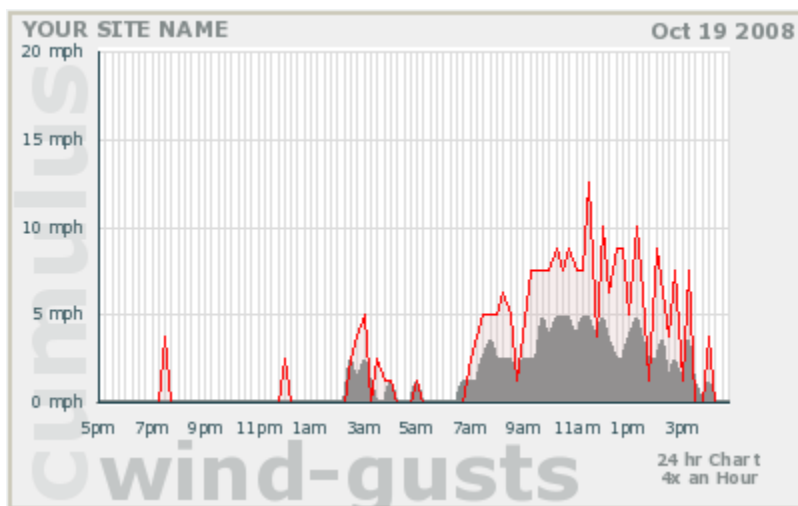


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### Baro (baro.php)



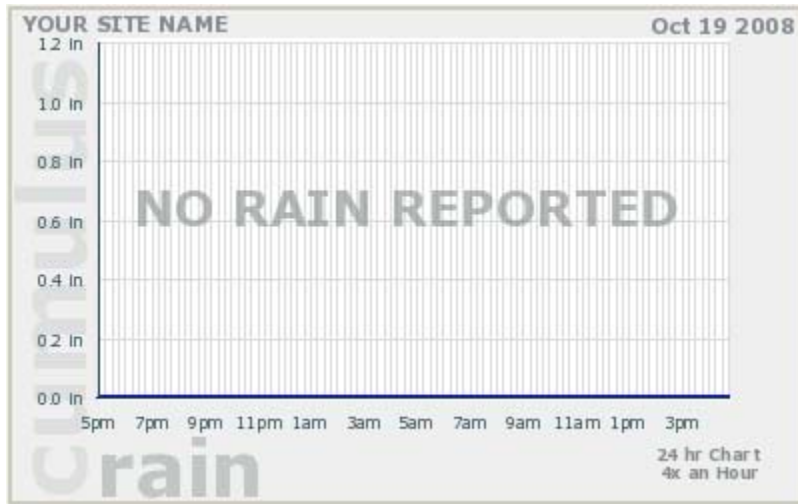
### Wind (wind.php)



### Rain (rain.php)

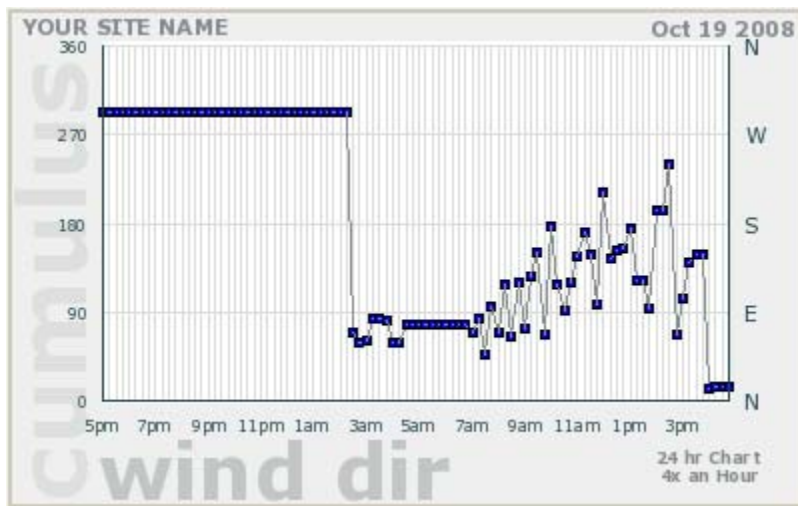
If no rain has been recorded you will see a graph like:

## Cumulus JpGraph Graphs Usage and Configuration



I don't currently have an example showing rain

### Wind Dir Scatter Plot (winddir.php)



### Indoor Temp/Hum (intemp.php)



## Cumulus JpGraph Graphs Usage and Configuration



### Selecting Options

---

There are a number of options that you can pass to the graph scripts to make them change their output...

#### Graphing Display Options

##### level=X

When the following parameter is passed the script will change the output of the number of hours it displays.

```
Level=0 (default) Displays 24 hours
Level=1 Displays 48 hours
Level=2 Displays 72 hours
Level=3 Displays 96 hours
```

##### freq=X

When the following parameter is passed the script will change the output of the frequency of samples:

```
freq=0 (default) Once an Hour
freq=1 Twice an Hour
freq=2 Four times an Hour
```

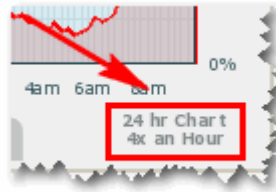
Note that once an hour is keyed to 00 minutes after the hour, twice an hour is keyed on 00 and 30 minutes after the hour and four times an hour is 00, 15, 30 and 45 minutes after the hour.

##### info or info=password

This option toggles the display of the info data (shows hours and frequency in the bottom right

## Cumulus JpGraph Graphs Usage and Configuration

hand corner of the graph) will be shown. The default for the graphs is to show this data and the default for the password for this is blank. This means you can simply use info without the = and password. Like <http://yourwebserver/graph.php?info>



### Debugging Options

#### **view=password**

This option allows you to view the source code of the graph.php file. Called ViewSource, it is a debugging tool that can be used to see if you have a coding error in your code. By default, the password is set to sce and is set in the GraphSettings.php file. If you want to prevent this from functioning, you need to change the **viewpass** variable in the GraphSettings.php file to something only you know.

If you are asking for assistance to diagnose issues with the graphs, you may be asked for this password.

#### **data=password**

This option allows you to view the source code of the GraphSettings.php file. Called DataView, it is a debugging tool that can be used to see if you have a coding error in your code. By default, the password is set to sce and is set in the GraphSettings.php file. If you want to prevent this from functioning, you need to change the **datapass** variable in the GraphSettings.php file to something only you know.

If you are asking for assistance to diagnose issues with the graphs, you may be asked for this password.

#### **debug or debug=password**

This option allows for debugging of data that the graphs see. Called Debug Mode, this is a debugging tool that can be used if you have a coding error in your data or problems with the data file the graphs are looking at. By Default, there is no password. If you want to prevent this from functioning, you need to change the debugpass variable in the GraphSettings.php file to something only you know.

If you are asking for assistance to diagnose issues with the graphs, you may be asked for this password if you have set one.

## How to pass Options (arguments):

---

Arguments are passed to the script using two different methods depending on how you are using the scripts.

Normally, you will be using the scripts via a web interface. An alternative method is to use a command line execution of the scripts using what is called CLI mode. This is normally used when calling the scripts from cron (crontab).

## Passing Arguments via Web:

In this mode, you add arguments to the end of the script name using ? and additional arguments using & like:

```
http://YOURWEBSITE/temp.php?level=2&freq=2
```

The above would display 72 hours on the graph, with a sample frequency of four times an hour.

```
http://YOURWEBSITE/temp.php?info
```

If you are using the default settings, this would display a 24 hour graph with no info shown (the number of hours and frequency displayed in the bottom right corner of the graph).

## Note about values displayed:

The modules search the database looking at the minutes of the entries.

If Frequency is set to 0, it looks for entries that end in 00 minutes.

If Frequency is set to 1, it looks for entries that end in 00 and 30 minutes.

If Frequency is set to 2, it looks for 00 15 30 and 45 minutes.

It ignores any entries that don't match the above. It is assumed that the realtime.log has entries for once a minute.

# Cumulus JpGraph Graphs Usage and Configuration

## Passing Arguments via CLI (Command Line Mode):

In this mode, you add arguments to the end of the script name with spaces like:

```
php temp.php level=2 freq=2 > temp.png
```

The above would save the output of the graphics to a file called temp.png with the display 72 hours on the graph, with a sample frequency of four times an hour.

```
php temp.php info > temp.png
```

If you are using the default settings, this would display a 24 hour graph with no info shown (the number of hours and frequency displayed in the bottom right corner of the graph).

### Note about values displayed:

The modules search the database looking at the minutes of the entries.

If Frequency is set to 0, it looks for entries that end in 00 minutes.

If Frequency is set to 1, it looks for entries that end in 00 and 30 minutes.

If Frequency is set to 2, it looks for 00 15 30 and 45 minutes.

It ignores any entries that don't match the above. It is assumed that the realtime.log has entries for once a minute.

### Not Currently Supported

---

The following planned included functions are not currently supported...

- Language support. Adding a simple array to the configuration file could make it easy to select the language used for the titles and labels...
- Multi-site report. This is actually just an idea.... but if you pass it a site number, it could look for different versions of the realtime.log files to display multiple site images using the same scripts. This would be for someone that has multiple locations.

## Future Support / Changes / New Versions

---

This is a FREEware package developed by TNET...

The idea, is that TNET will maintain the product package, documentation, coordinate Beta testing and maintain both a Stable and Development version of the code in central place to download.

Suggestions are always welcome and many times will be coded into the project.

### Contributed Code:

If you add something to the script that you think should be added to the package, please send a copy of that code to Weather@TNETWeather.com and I will work it into the package if it makes sense.

### Limited Email Support:

Suggestions are always welcome with posting to Weather-Watch forums in appropriate topic areas or via email addressed to Email: **weather@tnetweather.com**

### Updates and Documentation:

You can find current documentation and downloadable files from the following Scripts Support web page at:

**<http://www.TNETWeather.com/cumulus.php>**

### Forum Support:

Forums support is available via the Cumulus Weather Software forums (sandaysoft).

<http://www.sandaysoft.com/forums>

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## About the Author

---

This was developed by TNET Services, Inc which is a Arizona Corporation located in Mesa, AZ .

TNET is owned and operated by Kevin Reed who is a Systems Analyst that specializes in system and software development as well as Disability Systems, Web design, graphics, hosting services and consulting.

**TNET Services, Inc.**

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Mesa, AZ 85202

<http://www.tnet.com>  
<http://www.tnetweather.com>

Code Email - [programs@tnet.com](mailto:programs@tnet.com)  
Sales Email - [sales@tnet.com](mailto:sales@tnet.com)  
Weather Email - [weather@tnetweather.com](mailto:weather@tnetweather.com)

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