Configuration: Station

This screen allows you to supply information about your weather station and your location.

Station Type

Select the make and model of your weather station. The EasyWeather setting is an (obsolete) alternative for stations which use the EasyWeather software (Fine Offset, MyDEL, Nevada, WH1080 etc) and is used when running *Cumulus* at the same time as EasyWeather so *Cumulus* can 'piggy-back' off the EasyWeather data file. It is preferable to choose the 'Fine Offset etc' setting for these stations so that *Cumulus* can drive them directly - but you must not try to run Easyweather at the same time if you choose this option. Note that if you really must use the Easyweather setting, you will have to run both Easyweather and *Cumulus* 24/7 (all the time) as otherwise you will get gaps in your data and many of your statistics will be meaningless. It is *strongly* recommended that you do not use the 'Easyweather' setting.

COM port

Specify which COM port in your computer is connected to your weather station. For Oregon Scientific and similar re-badged stations (Huger, Radio Shack etc), if your model is not listed, try WM-918 if your station has wired connections, and WMR-928 if it is wireless. You do not need to set a COM port for EasyWeather stations.

SETTINGS:

Wind Bearing

Use bearing zero when calm
Tick this to make *Cumulus* display a bearing of zero (and '---' for the compass point) when the wind is calm, otherwise it displays the current bearing read from the station (i.e. the last direction the wind was blowing from before it became calm). Note that the average wind bearing will always display zero bearing if there has been no wind for the last 10 minutes, as the average bearing takes wind speed into account.

Wind Speed

Use 10 min average wind speed
Tick this to make *Cumulus* calculate and display a 10-minute average wind speed instead of using the value supplied by the station. Normally only useful for Oregon Scientific and Fine Offset stations, as these stations supply an average wind speed based on the last few seconds only. Davis stations supply a 10-minute average directly.

Use 'speed' for avg calculation
Typically, stations supply two wind speeds; a short-term speed, which *Cumulus* calls 'Latest', and a longer-term 'speed', which *Cumulus* uses for 'Average', unless the 'Use 10-min average wind speed' option is ticked, in which case *Cumulus* calculates a 10-minute average using the short-term 'latest' values. If you tick this option, *Cumulus* will instead use the longer-term 'speed' values in the calculation. The 'Use 10-min average wind speed' option must be selected for this option to have any effect.

Note that there isn't really any point using this option for Davis stations, as their 'longer-term speed' is a 10 minute average anyway; neither for La Crosse stations, as they only supply one wind speed anyway.

Round wind speeds
Tick this to have wind speeds rounded to the nearest integer

Humidity

Use 100% for 98% humidity
Tick this if your weather station registers a maximum of 98% relative humidity and you would like this to be displayed and recorded as 100%. Normally only useful for Oregon Scientific stations.

Dew Point

Calculate dewpoint
Tick this to make *Cumulus* calculate the dew point instead of using the value supplied by the station. This avoids the restriction in the Oregon Scientific stations where the dew point can never be below freezing point.

Wind chill

Calculate wind chill
Tick this to make *Cumulus* calculate the wind chill instead of using the value supplied by the station. Note that some stations (Fine Offset, for example, do not supply a wind chill value anyway, so *Cumulus* always calculates it). You should set this if you have specified any calibration values for wind or temperature, so that *Cumulus* can also apply those values to the wind chill.

Time Sync

Synchronise Davis clock to PC
When set, at start-up, *Cumulus* will set the Davis VP/VP2 clock to the same

time as the PC (recommended).

Logger

Use data logger
When set (which is the default), at start-up, *Cumulus* will download data from the stations data logger (if it has one) to catch up from the point where *Cumulus* was last shut down. If you unset this, *Cumulus* will not use the data in the logger next time it runs. If *Cumulus* is not currently running, and you want it to not use the logger the next time it runs, you can edit the cumulus.ini file, and change the line 'UseDataLogger' in the [Station] section so that it has a value of zero (add the line if it does not exist). Note that editing the cumulus.ini file is the same as unsetting the option; don't forget to select the 'use data logger' option again when you want *Cumulus* to start using the logger again.

Pressure trend names

Cumulus pressure trend names
Set this to get *Cumulus* to generate the name for the current pressure trend, e.g. "Falling", "Rising quickly" etc, instead of the one supplied by your station. The names used are those in the UK Shipping Forecast. Note that some stations do not supply this anyway, so setting this has no effect (*Cumulus* always generates the names for those stations).

Vantage Pro Barometer Updates

VP 1-min barometer update
Set this to force the Vantage Pro (and Pro2) barometer to update once a minute instead of the default 15 minutes. Note that you may not need this, more recent stations already update every minute.

EasyWeather Interval

Normally, you don't need to set this. If using the Easyweather.dat method (not recommended), set this to the same value that you have used in EasyWeather.

EasyWeather File

Normally, you don't need to set this. If using the Easyweather.dat method (not recommended), set this to the location of the EasyWeather.dat file (you can click the little folder icon and browse for the file).

Station Model

You can specify the actual model of your weather station here so it will appear on the web pages rather than the default generic description. This is useful particularly if you have one of the many different 'Fine Offset' type stations, or, for example, if you have an Oregon Scientific station that has a slightly different model number than the ones *Cumulus* knows about.

Program Settings

Confirm shutdown

When set, *Cumulus* will ask when you close it whether you really want to close.

Close on suspend

When set, *Cumulus* will close if you suspend/standby/hibernate your computer. You can use this option if you are in the habit of suspending your computer without closing down *Cumulus*. You should unset 'Confirm shutdown' if you use this option. Please note that this option can occasionally cause problems, and you should avoid its use if at all possible. Better to make sure that your PC doesn't suspend!

Stop 2nd instance

When set, prevents multiple instances of *Cumulus* from running. Requires a Cumulus restart to take effect.

Restart if unplugged

When set, *Cumulus* will restart if it detects that a Fine Offset station is unplugged. It may recover, no guarantees! Use with care. Set other options sensibly.

VP Type

Serial

Select this if your Vantage Pro is connected to a serial port

USB

This setting should let you use your VP2 in USB mode. However, support for this in the Davis DLL seems to be broken. You will therefore need to install the CP210X virtual serial port drivers and use the station in serial mode. Note that if you have been using Weatherlink in USB mode, it will have set the station into "USB express" mode, and before you can use Cumulus, you will need to first run Weatherlink and change to serial mode via the virtual COM port.

TCP/IP

Select this if your Vantage Pro is connected via TCP/IP. You will also need to set the TCP Port and IP Address

VP TCP/IP Settings

TCP port — If your Vantage Pro is connected via TCP/IP, specify the TCP port number here

IP address — If your Vantage Pro is connected via TCP/IP, specify the IP address here

Discon period — Causes *Cumulus* to disconnect for the specified number of seconds, once a minute, on the minute (or as close as possible) to allow the Weatherlink IP to connect to the Davis Weatherlink site. Set to zero to disable, if you are not using the Weatherlink site.

Annual rainfall

YTD Amount — You may have a total rainfall figure for the year to date when you start using *Cumulus*. Enter the amount here, and *Cumulus* will add it to its annual rainfall calculation for the specified year. The figure you supply will be effective the next time Cumulus starts.

Year — The year to which the year-to-date rainfall applies.

Rainfall season start — If you want your annual rainfall total to be counted from the start of a particular month (e.g. your rainfall season might be August to July rather than January to December), you can specify the start month here.

LOCATION:

Latitude — Set to the appropriate values for the location of your weather station.

Longitude — Set to the appropriate values for the location of your weather station.

Altitude — Set to the appropriate values for the location of your weather station.

Name — Supply a 'short' name for your location.

Example: *Wanlockhead*.

Description — Supply a longer description of your location.
N.B. If you use the supplied HTML pages for your web site, this description will appear on your web site after the words "Welcome to ".

Example: *Wanlockhead in the Lowther Hills, Dumfries and Galloway.*

UNITS:

Wind Speed
Pressure
Temperature
Rainfall — Select the units which you would like *Cumulus* to use to store and display the data.

IMPORTANT: You should choose your units the first time you run *Cumulus* and then stick to them. *Cumulus* logs the data using whichever units you have selected; so if you subsequently change units your data logs and all time records will be inconsistent and meaningless.

xAP Settings

Enabled — When set, Cumulus will periodically send out xAP weather reports. See http://www.xapautomation.org/ for more details

UID — Sets the UID for xAP messages. You should only need to change this if you have more than one instance of Cumulus running on a network.

Log Rollover

9am
Tick this if you want the daily logs to change over at 0900 hrs each day. *Cumulus* will automatically use 1000 hrs in summer.

midnight
Tick this if you want the daily logs to change over at midnight each day.

Data log interval — Choose the interval at which you would like *Cumulus* to add entries to the data log files. It is recommended that you set this to the same interval as your weather station logger (if it has one). Note that Cumulus cannot set the *station's* logger interval, you will need to use whatever method the station requires (i.e. via its console or supplied software).

Forecast

Set this to get *Cumulus* to generate a simple weather forecast, if your station

Cumulus forecast	does not supply one, or as an alternative to the one supplied by your station. Note that you should regard the forecast as 'for entertainment purposes only'. Please don't base any important decisions on it, and please don't complain to me if it doesn't get it right!
Update hourly	If you have chosen to have *Cumulus* generate a forecast, this setting causes the forecast to be updated only once an hour (on the hour), to avoid the fluctuations that can occur when the forecast is updated at every read of the station data.
Pressure extremes	Set the minimum and maximum pressures expected in your part of the world. The default values are expected to be suitable for the UK and similar latitudes, but you may wish to experiment. You can supply the extremes in either "mb" (which is the same as hPa) or "in" (inches of mercury), but make sure that the values you supply match the units you select. The units you use here are not related to the units you use for pressure in *Cumulus*; the option is given here simply as a convenience.

Solar

Sun threshold	If you have a solar sensor: Cumulus tries to determine whether the sun is shining by determining whether the current solar radiation value is above a certain percentage of the current theoretical maximum. The value you supply here is used as that percentage. The default value is 75%.
Sun minimum	This setting allows you to specify a minimum solar radiation value which needs to be reached before it can be considered to be sunny. Note that this setting does not replace the calculation using the current theoretical maximum, it specifies an additional condition which has to be met. This setting therefore allows you to cater for the periods at the beginning and end of the day when the theoretical maximum is very low.
Trans factor	Cumulus uses the Ryan-Stolzenbach formula to determine the current theoretical maximum solar radiation at your location at the current moment in time. This formula has a factor to allow for the transmission of the radiation through the atmosphere; the default is 0.8.

Configuration: Display Settings

This screen allows you to configure the appearance of *Cumulus*.

Heading	This changes the title heading on the main screen.
Minimise to tray	Selecting this causes *Cumulus* to appear as an icon in the system tray when it is minimized. The icon will flash if a record is broken or an error occurs. Double click on the icon to restore the main window (or right click on the icon and use the pop-up menu).
Forecast centred	Selecting this causes the forecast on the main screen to be centred rather than left-justified.
Display solar/extra data	Selecting this causes Vantage Pro solar data (ET, UV and Solar radiation) to be displayed on the main screen (if supported by the station), or extra sensor data in the case of Oregon WMR-928 stations.
Display cloud base	Selecting this causes the calculated cloud base to be displayed on the main screen. The calculation is a simple one; 1000 feet for every 4.5 degrees Fahrenheit difference between the temperature and the dew point. Note that this simply gives the theoretical height at which Cumulus clouds would begin to form, the air being saturated.
Display humidex instead of heat index	Selecting this causes the calculated Humidex value to be displayed on the main screen instead of Heat Index. Note that Cumulus displays degrees C or F for Humidex, whereas strictly speaking it is unitless. This is for the convenience of those who use Fahrenheit but would still prefer to see Humidex displayed, where it might be

	confusing to show the unconverted value.
Show current conditions box	Selecting this causes the 'Current conditions' box on the main screen to be displayed. The contents of the box are entered manually, and the web tag <#currcond> corresponds to those contents, for inclusion on a web page. Note that the web tag always takes the contents of the box, regardless of whether it is currently visible or not.
Wind gauge animated	Selecting this causes the wind gauge on the *Cumulus* main screen to be 'animated' from one position to the next.
Transparent gauge backgrounds	*Cumulus* creates copies of the three wind gauges on its main screen, so that these can be uploaded to a web site. The square backgrounds for these gauges can be the same colour as the main window background, or, with this option selected, the images will be processed to make the background colour transparent. Note that if your colour settings are such that the background colour also appears in the gauges themselves, those parts of the gauges will also become transparent. You may be able to correct for this with careful choice of your colours; just changing them slightly to a different RGB value will be sufficent.
Show FTP errors on error log window	If set, FTP errors will be logged to the the error log window, and the red error light will flash. Clicking on the error light displays the error log window.
Save main window position	If set, the current position of the main window will be saved to cumulus.ini when *Cumulus* closes, and the window will open again at that position the next time Cumulus starts.
Start minimised	If set, *Cumulus* will start with the main window minimised, either to the system tray or the task bar, depending on the 'Minimise to tray' setting.
Display Beaufort description	If set, the Beaufort description of the current average wind speed will appear in the header of the wind panel on the main screen. If not set, it will instead appear as a 'tool tip' for the wind panel.
Display barometer trend text	If set, the description of the current barometer trend will appear in the header of the barometer panel on the main screen. If not set, it will instead appear as a 'tool tip' for the barometer panel.
Wind gauge animation factor	This sets the speed of the wind gauge animation. Lower values correspond to a faster animation speed. Be careful not to set the animation too slow, particularly with stations which update frequently (e.g. Davis) as the animation will never catch up, and will use significant CPU time.
Wind gauge range	This allows you to select the initial range for the wind gauge. When the wind speed gets above this value, the range will increase to 2x the value, then 3x, and so on. The minimum value you can supply is 5. Note that some values will cause the gauge scale to look rather odd; multiples of 5 are probably best.
Snow units	This allows you to set the text that appears with the snow depth in the weather diary. Note that there is no significance attached to this and the effect is purely cosmetic; the snow depth is effectively unitless and you can supply any text you wish.
Graphs: Period	This allows you to choose whether the graphs display the last 12, 24 or 48 hours of readings. Note that if you increase the interval, the graphs are not immediately redrawn, as they would be redrawn from the data in the logs, so this would cause loss of the 1-minute resolution (unless you are using a 1-minute log interval). To force an immediate redraw, restart *Cumulus*.
Graphs: Display 3D	This allows you to choose whether the graphs are

	displayed in 2D or 3D.
Graphs: Plot latest gust	On the wind graph, *Cumulus* normally plots the highest gust from the last 10 minutes. Selecting this option causes *Cumulus* to plot the latest 'gust' value from the station instead. The effect of this depends on the type of station you have, and how it generates this 'latest' value; you may prefer it this way, or you may not. Note that changing this does not cause the graph to be redrawn, it just changes the method of plotting from that point onwards.
Graphs: Use South for Wind dir origin	Makes the bottom axis on the wind direction graphs correspond to South
Graphs: Show freezing line	Plots a horizontal line at the 0C/32F point on the temperature graphs.
Graphs: Chart line width	This allows you to set the thickness of the lines used to draw the charts.
Graphs: Legend symbol width	This allows you to set the thickness of the lines in the chart legends. Note: To see the change on the graph, you will need to select a different graph.
Graphs: Wind Rose Points	This setting relates to the Wind Rose on the main screen. It allows you to choose the number of discrete compass points which are plotted (8 or 16). This is an attempt to give a better display for Fine Offset stations which tend to under-report 'intermediate' wind directions.
WMR928 extra channel captions	Allows you to set the captions on the main screen which are displayed along with the extra channel data for WMR928 stations.

Configuration: Internet Settings

[See "Setting up your website" first.]

This screen allows you to supply information about your web site so that *Cumulus* can upload the pages containing your weather statistics.

Sites/Options page:

Host name	This is the name (or the IP address) of the ftp server which you connect to when you upload pages to your web site. Example: *ftp.sanday.org.uk*
FTP Port	This is the port to use for ftp connections. You will not normally need to change this from the default (21).
Directory	This is the name of the directory on the ftp server which will hold your weather pages. Remember to include the path from your root directory if necessary. It's normally safer and easier to use a relative path, i.e. without a leading slash, so you avoid the need to know about how your hosting is set up. Leave it blank if you will be using the 'default' or 'root' directory, i.e. the one which the ftp server puts you in when you log in. Don't add a trailing slash. Example: *myweatherdirectory* will change the upload directory on the ftp server to a first level subdirectory called myweatherdirectory.
User name	This is the user name you normally use when you log in to the ftp server for your web site.
Password	This is the password you normally use when you log in to the ftp server. Note that although *Cumulus* will hide the password on screen as you type it using asterisks, it will be stored in the .ini file on your computer in plain text.

Forum URL This is an optional setting. You can use it to supply the URL of a discussion forum for your web site; *Cumulus* will place a link to it on the web pages it creates. If you wish, you can use the default, which is the support forum on the sandaysoft.com web site. If you erase the field, *Cumulus* will not create any forum links on your web pages.

Webcam URL This is an optional setting. You can use it to supply the URL of your webcam, if you have one; *Cumulus* will place a link to it on the web pages it creates. If you wish, you can use the default, which is the webcam on the sanday.org.uk web site. If you erase the field, *Cumulus* will not create any forum links on your web pages.

Web settings

Auto update If you tick this box, *Cumulus* will automatically upload your updated web pages to your web site at regular intervals (as specified by the 'Update Interval'). If you choose not to have *Cumulus* do this, you can perform a manual update using the Web update button on the main screen.

Use Active FTP Mode If you tick this box, *Cumulus* will use 'active' FTP mode instead of the default 'passive' mode. You should only select active mode if you are having problems with FTP uploads.

Use FTP rename If you tick this box, *Cumulus* will upload files using a temporary file name, then rename it to the required name. It is recommended that you use this option if possible, but note that a few ftp servers do not support it.

Delete before upload If you tick this box, *Cumulus* will delete a file on the server before uploading a new version. This is for ftp servers which do not allow over-writing of files. You will not normally need to use this - **don't use it unless you are certain you need it.** There is normally no point in using this setting and the 'FTP rename' setting at the same time.

Interval Time in minutes between web updates.

Enable Realtime If you tick this box, *Cumulus* will start a timer at the interval specified by Realtime Interval (see below). Each time the timer expires, *Cumulus* will create a realtime.txt file, containing various weather parameters and is used by the CumulusRealtime.swf real time wind gauges (as on the supplied 'gauges' web page) and the separate *Cumulus Realtime* Silverlight web application. If you don't have this option selected, but do have the 'auto update' option set (and a suitable interval configured), *Cumulus* will still create the realtime.txt file at the specified Interval (not the Realtime Interval) so that you can specify it as an extra file to upload during the 'normal' upload, or use it for any other purpose on your PC.

Enable Realtime FTP If you tick this box, *Cumulus* will establish an FTP connection to your web site, so that the realtime.txt file, and any other files you specify, can be uploaded when realtime processing takes place. Realtime must be enabled for this setting to have any effect.

Realtime.txt FTP If you tick this box, *Cumulus* will upload the realtime.txt to your web site during realtime processing. Realtime and Realtime FTP must both be enabled for this setting to have any effect.

Realtime Interval The time in seconds between processing of 'realtime' files. The default is 30 seconds. You may want to adjust this depending on the update interval of your station. For example, Fine Offset stations update every 48 seconds, so the default is probably reasonable for these, but Davis stations update approximately every three seconds, so you may want to reduce the realtime interval correspondingly. But note that while the realtime.txt file isn't particularly large (currently around 250 bytes), uploading it very frequently will use up a significant bandwidth over a long period, so you should check with your internet provider and/or web space provider to see what limits, if any, your accounts have.

APRS Settings

Enabled Tick this to allow *Cumulus* to upload data to CWOP/APRS at the interval specified in 'Interval' below.

ID Your APRS identifier.

	Pass	Your APRS pass code, if you have one. Normally only used by licensed radio amateurs, everyone else should leave this at -1.
	Server	The APRS server to use.
	Port	The port number to use on the APRS server.
	Interval	Time in minutes between uploads to the APRS server.
	Include Solar rad	Causes Solar Radiation value to be sent with the data
Weather Underground	**Enabled**	Tick this to allow *Cumulus* to upload data to Weather Underground at the interval specified in 'Interval' below.
	Include UV	Causes UV value to be sent with the data
	Include Solar rad	Causes Solar Radiation value to be sent with the data
	Rapid fire	Tick this to enable 'rapid fire' mode. You should also tick 'Enabled'. Rapid fire updates occur every 5 seconds.
	Send average wind	Tick this to cause average wind speed and directon to be sent rather than instantaneous/gust speed and direction.
	Station ID	Your Weather Underground *station* identifier (note: **not** your user name).
	Password	Your Weather Underground password.
	Interval	Time in minutes between upload. Weather Underground recommend an interval of 5 or 15 minutes. When 'rapid fire' is selected, this setting has no effect; all updates are done in rapid fire mode.
PWS Weather	**Enabled**	Tick this to allow *Cumulus* to upload data to PWS Weather/WeatherForYou/HAMweather at the interval specified in 'Interval' below.
	Include UV	Causes UV value to be sent with the data
	Include Solar rad	Causes Solar Radiation value to be sent with the data
	Station ID	Your PWS Weather *station* identifier (note: **not** your user name).
	Password	Your PWS Weather password.
	Interval	Time in minutes between uploads. PWS Weather suggest an interval of 30 minutes.
Twitter		
	Enabled	Tick this to allow *Cumulus* to upload reports to Twitter (http://www.twitter.com) at the interval specified in 'Interval' below. If you want to customise the twitter message, create a file in the Cumulus installation directory called twitter.txt with your message in it. You can use the standard web tags. Cumulus sends your latitude and longitude along with your tweet. If you want Twitter to display your location with each tweet, you will need to enable "Add a location to your tweets" in your Twitter account settings.
	User	Your Twitter user name.
	Password	Your Twitter password.

	Interval	Time in minutes between uploads to Twitter.
Graphs		
	Resize	Tick this to cause *Cumulus* to resize the large graph images when creating them for upload to your web site. Specify the required height and width in the corresponding boxes. Note that the images are simply scaled to the new size; there will be some loss of quality.
	Height	The required image height.
	Width	The required image width.
External Programs		
	Program	The name (including path) of a command-line program to be run at the 'normal' web update interval, after all of the processing has been performed. The corresponding 'params' box can be used to specify any parameters to be passed to the command.
	Realtime Program	The name (including path) of a command-line program to be run at the 'realtime' web update interval, after all of the processing has been performed. The corresponding 'params' box can be used to specify any parameters to be passed to the command.

Files page:

Include Standard Files	If this is ticked, the standard web files provided with *Cumulus* will be processed and uploaded at each web update.
Include Standard Images	If this is ticked, the standard image files generated by *Cumulus* (graphs, etc) will be uploaded at each web update.
Local Filenames	This column allows you to specify the names of up to 10 files on your system which will be uploaded to your web site at each web update. Clicking the 'Browse...' button opens a standard file selection dialogue to allow you to browse for a particular file. Don't list the 'standard' files here, use the two settings above.
Binary?	This column allows you to specify whether each file is Binary (e.g. images) or not (e.g. HTML files).
Remote Filenames	This column allows you to specify the corresponding name on your web site of each file. You should specify the full path for the file, starting from the point you are at when you log in to your site's FTP server. If the FTP? box is not ticked (see below) then this specifies the file on the local system to which the specified file is to be copied.
Process?	This column allows you to specify whether each file should be passed through the 'tag processor' in *Cumulus*, in the same way that the standard *Cumulus* web pages are. This allows to you to create your own web pages into which *Cumulus* will insert the various weather parameters. See the "Web tags" section of the help file for a list of the tags which you can use. *Cumulus* will create a temporary file to hold the processed version of your file and then upload that. Do not set this option if your file does not contain web tags, or is binary.
Realtime?	This column allows you to specify whether each file should be uploaded during the Realtime upload or the 'normal' upload. If you select this for any files, you will also need to select the Realtime option (on the Sites/Options tab). If you also select 'ftp' for any files designated as 'realtime', you will also need to select the 'realtime FTP' option.
FTP?	This column allows you to specify whether each file should be uploaded by ftp, or just copied to a location on the PC. In the latter case, the destination file is specified in the Remote Filename box.
Copy images to folder	This allows you to specify a folder to which the standard image files are copied at each web update interval, either the 'normal' interval, or the 'realtime' interval, depending on whether or not the 'realtime?' box is ticked. If you tick the 'realtime' box, you will also need to select the Realtime option (on the Sites/Options tab)

Note that while the display is limited to ten extra files, you can add a further ten files by editing the cumulus.ini file. Add sets of lines like this (one set per file) to the [FTP site] section:

ExtraLocalXX= (local file path + name)
ExtraRemoteXX= (remote file path + name)
ExtraProcessXX= (0 = file has no web tags, 1 = file has web tags)
ExtraBinaryXX= (0 = file is ascii, 1 = file is binary)
ExtraRealtimeXX= (0 = upload at 'normal' interval, 1= upload at realtime interval)
ExtraFTPXX= (0 = copy, 1 = ftp)

Replace XX with a number from 10 to 19 (the existing files are 0 to 9). Look at your existing files in cumulus.ini if you're unsure what to put.

Calibration

This screen can be displayed by selecting **Calibration** from the **Configuration** menu. The screen allows you to set values to allow for errors in the data supplied by your weather station sensors, if you have an accurate reference to compare them to, or to compensate for the position of your sensors (e.g. the height of your anemometer). Values in the **Offsets** section are added to or subtracted from (if negative) the readings, and values in the **Multipliers** section are used to multiply the readings.

An offset of zero has no effect, and similarly a multiplier of 1 has no effect. A multiplier of 0.75, for example, reduces the data values by 25%, and a multiplier of 1.25 increases the data values by 25%, and so on.

If an item has both a multiplier and an offset, the multiplier is applied before the offset.

Note that if you specify any wind or temperature values here, you will probably also want to set the 'calculate wind chill' option in the station configuration settings, so that *Cumulus* can apply the values to the wind chill. Note also that you should try to avoid using the pressure calibration setting; it is much better to calibrate your station correctly for sea level pressure - all stations allow you to do this.

The "**Spike removal**" section allows you to specify the maximum differences between successive readings that you wish to allow, for Fine Offset and La Crosse stations. If a reading differs from the previous reading by the value you specify, or more, then it will be ignored. Be careful in your choice of values; if the difference is genuine, (i.e. not a 'spike') and exceeds your supplied value, then that reading will be 'stuck' at the previous value until a new reading returns to within your supplied difference.

Note that the spike removal values **must** be supplied in the 'native' units of the station, as shown on the screen. The gust value has no effect on La Crosse stations, as it only supplies one wind value - 'spike removal' is applied at the station level, unlike offsets and multipliers which are applied at a 'common' level; just use the 'wind speed' value.

Customisation and Internationalisation

In the folder where you installed Cumulus, you will find a file called '**samplestrings.ini**'. Take a copy of this, leave it in the Cumulus installation folder, and name it '**strings.ini**'. The file contains strings used in various places in Cumulus, e.g. for forecasts.

forecast23=Precipitation at frequent intervals

Edit the string as desired, e.g.:

forecast23=Raining again!

or even:

forecast23=Il pleut!

When you start Cumulus, it will use the strings you have specified instead of the defaults. More strings will be added as time goes on.