WeatherBug Driver Help

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WeatherBug Driver Help

Help version 1.022

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Overview

The WeatherBug Driver plugs into the industrial-based communications OPC server and offers real-time connectivity to weather information for use in OPC Client applications, including HMI, SCADA, Historian, MES, ERP, and countless custom applications.

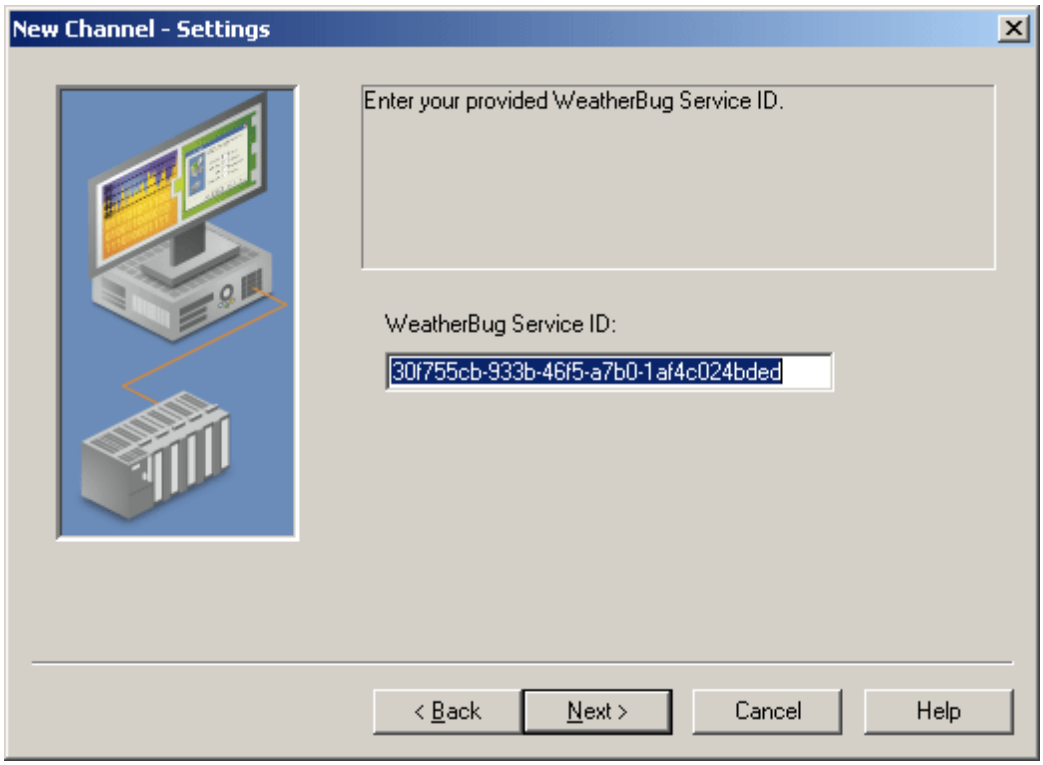
OPC Channel and Device Setup

General dialogs in the channel setup process are described in the main OPC server help file. Dialogs that are specific to the WeatherBug driver are described in the links below.

Channel Setup
Settings - WeatherBug Service ID

Device Setup
Location - Zip Code and Station
Subscriptions

Settings - WeatherBug Service ID



In the **WeatherBug Service ID** field, enter the ID number provided by the vendor. The Service ID is case sensitive.

Service ID Demo Period
The default Service ID provides users with a working WeatherBug Service ID to use during an evaluation period. When the demo period expires, the default Service ID will no longer be valid and the quality for any tags that have been created will turn to bad.

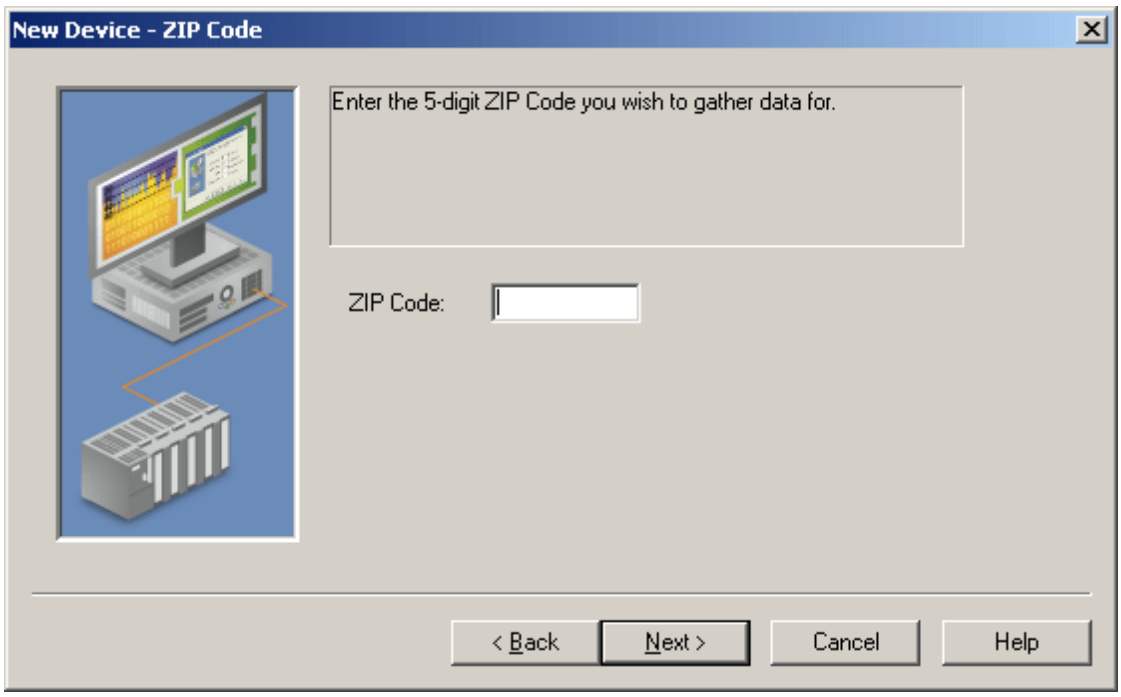
After a license has been purchased for the WeatherBug driver, users will be provided with the valid WeatherBug Service ID. When the new Service ID is entered, the tags that have been created will return to quality=good.

Location - Zip Code and Station

The location for which data is gathered is identified by two fields: Zip Code and Station ID. Click on the following links for a description.

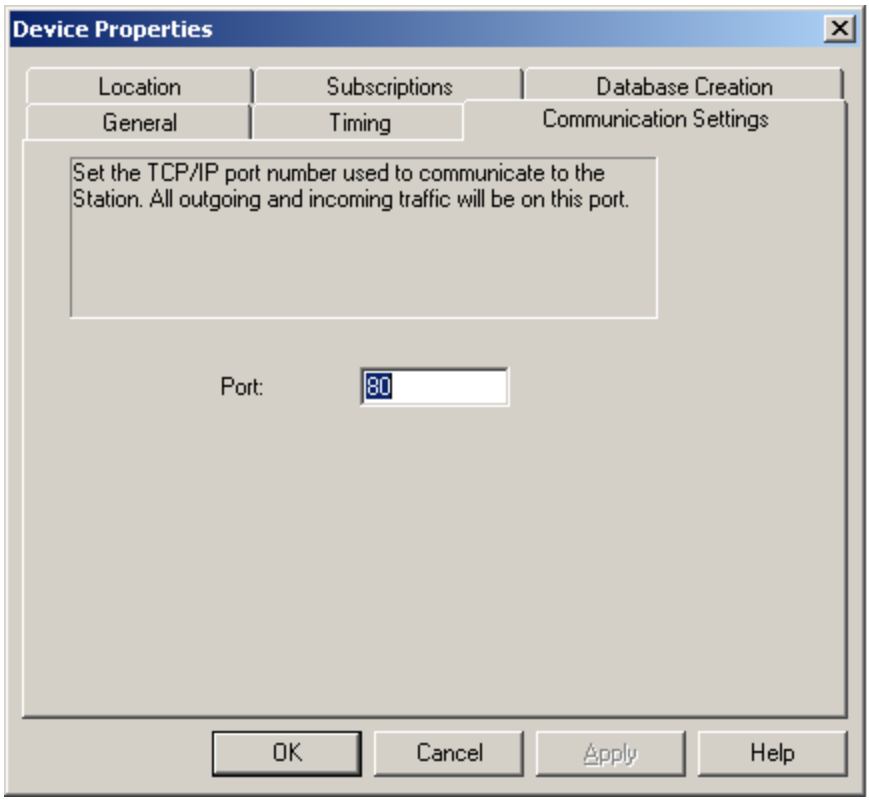
Zip Code
Communication Settings
Station ID
Location

Zip Code
The Zip Code dialog prompts users to enter the 5-digit zip code for the location in which data is being gathered.



Communication Settings

The **Port** parameter, found in Communication Settings, specifies the port to which the driver's TCP/IP communications will be bound. All outgoing and incoming traffic will be on this port.

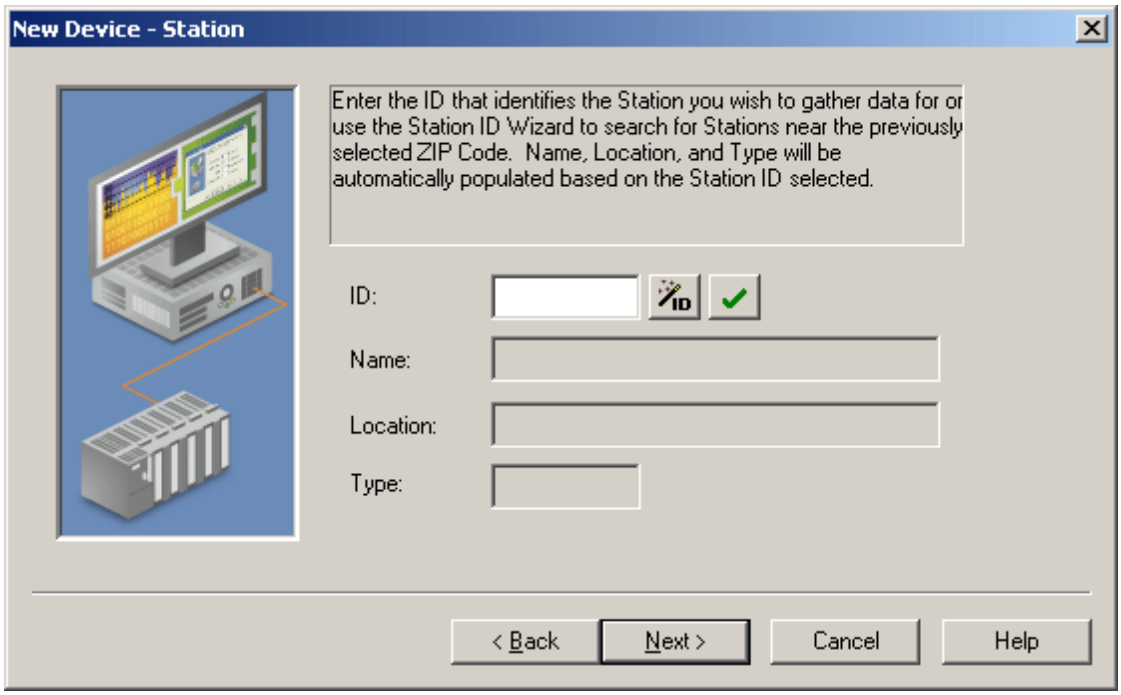


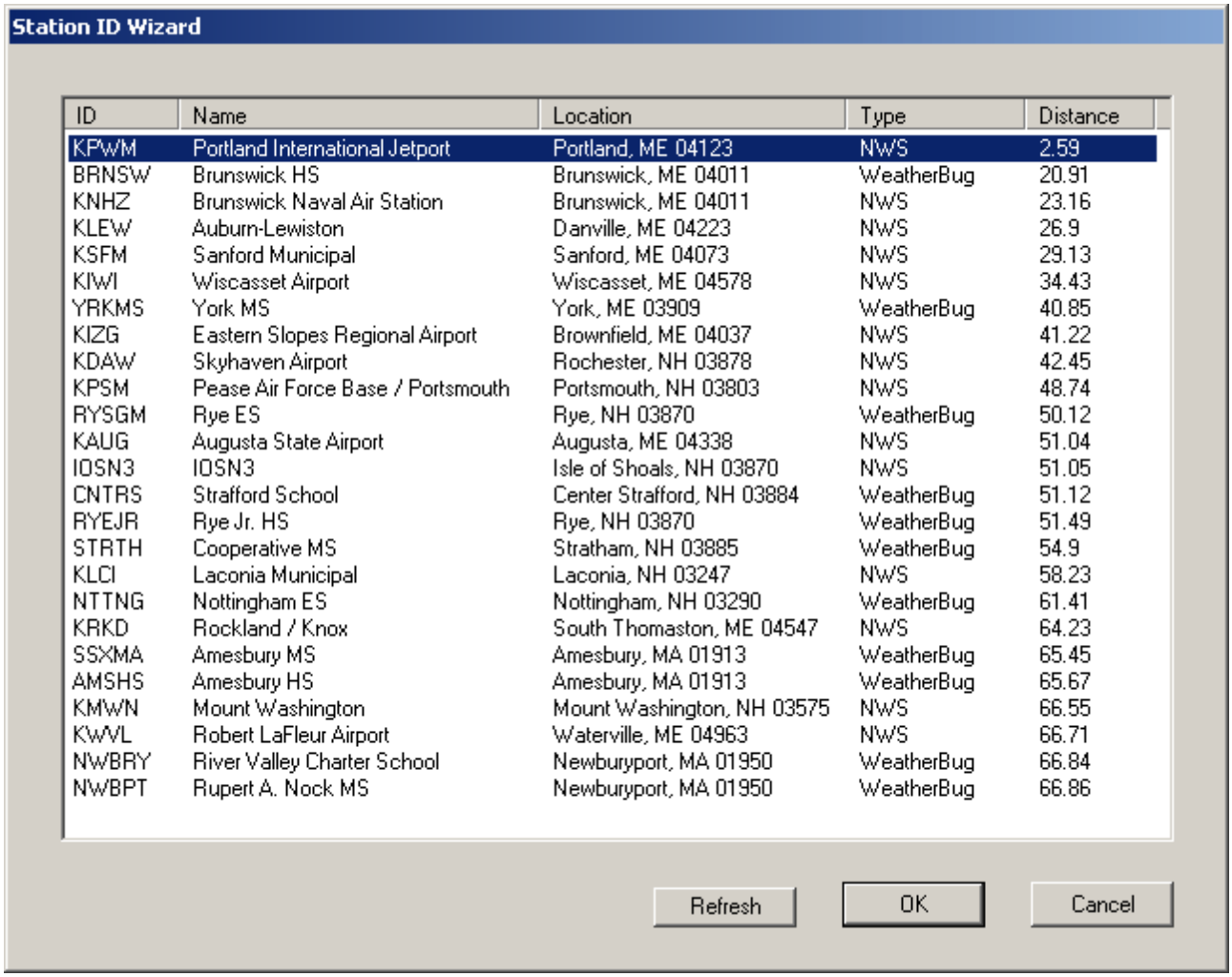
Station ID

The Station dialog prompts users to enter the ID of the desired weather station. This can be entered either by typing in the Station ID then clicking the green checkmark icon (in order to check and verify the choice) or by using the Station ID Wizard to search for the stations in or near the zip code that was entered previously. To use the wizard, click the wizard icon  . The Station Wizard window will be displayed with stations in or near the zip code

that was entered previously. If the list of stations appears incomplete, click the **Refresh** button at the bottom of the window. To choose a station, simply click on it once and then select **OK**.

The **Name**, **Location** and **Type** fields will be filled automatically. Verify that the fields show the station that will be used.

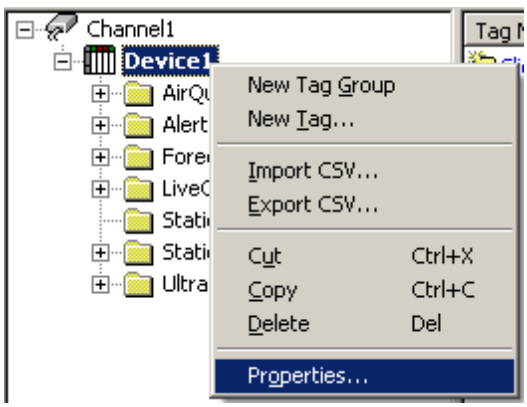




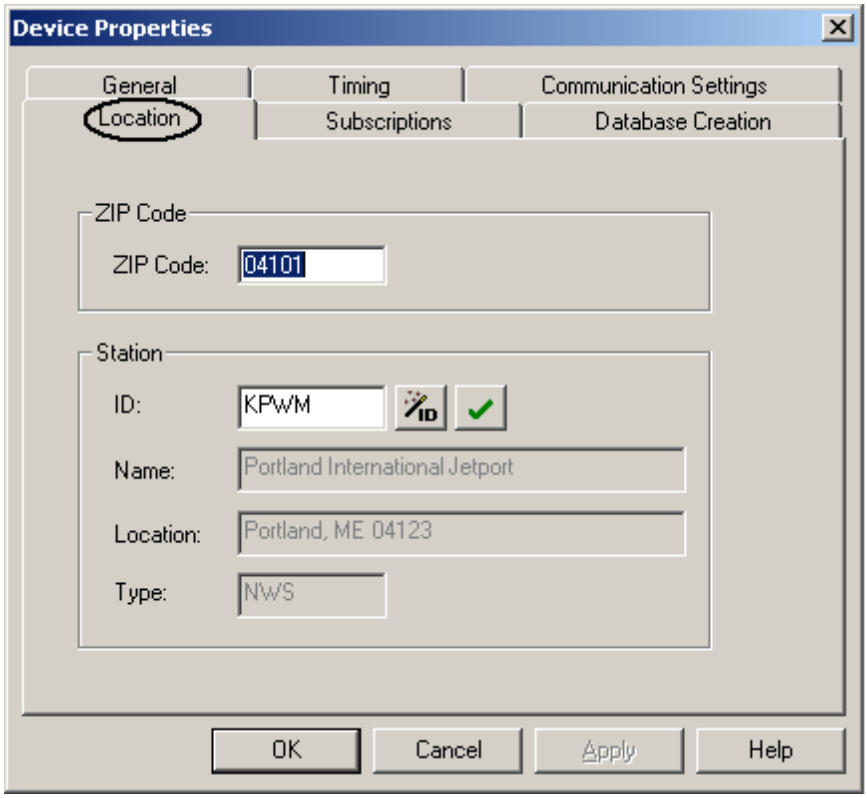
The Station ID Wizard screen displays the 25 closest weather stations to the zip code entered. Note that the list includes both WeatherBug and National Weather Service stations, as indicated in the Type column. WeatherBug station data is updated more frequently than NWS stations.

Device Properties - Location

To call up the settings for a location that has already been added to the OPC project, right-click on the device and select **Properties** as shown below.



Click the **Location** tab.



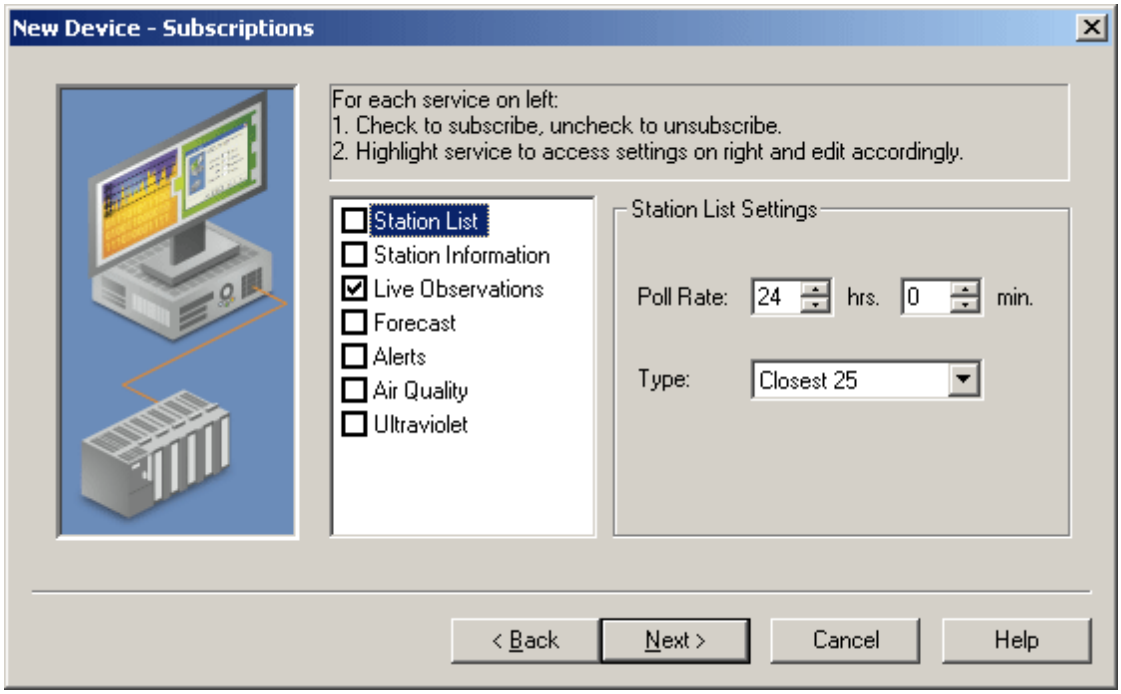
Subscriptions

The Subscriptions dialog enables users to control the OPC data settings for the WeatherBug subscription services being used. By default, the **Live Observations** service is displayed first. When choosing a subscription service on the left, the settings fields for that service will be displayed on the right.

Station List
Station Information
Live Observations
Forecast
Alerts
Air Quality
Ultraviolet
Poll Rate and Driver Cache
Connection Timeouts

See Also: **Automatic Tag Generation**.

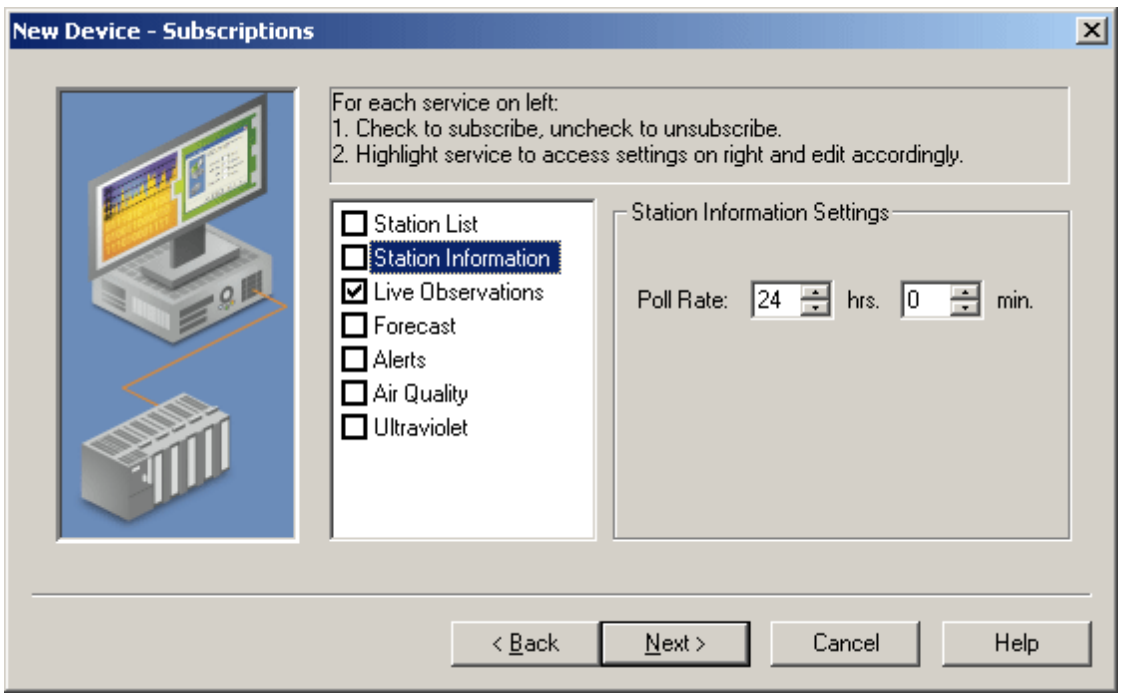
Station List



Use the **Poll Rate** fields (**hrs** and **min**) to set the rate at which the driver will request data from the WeatherBug web service for Station List data. The acceptable range is 0-240 hours. The default value is 24 hours (24 hrs, 0 min). In the **Type** field, select the type of station list (Closest, Closest 25, etc.).

Note: For a description of how the driver polls data, stores it in cache, and updates clients, refer to **Poll Rate and Driver Cache**.

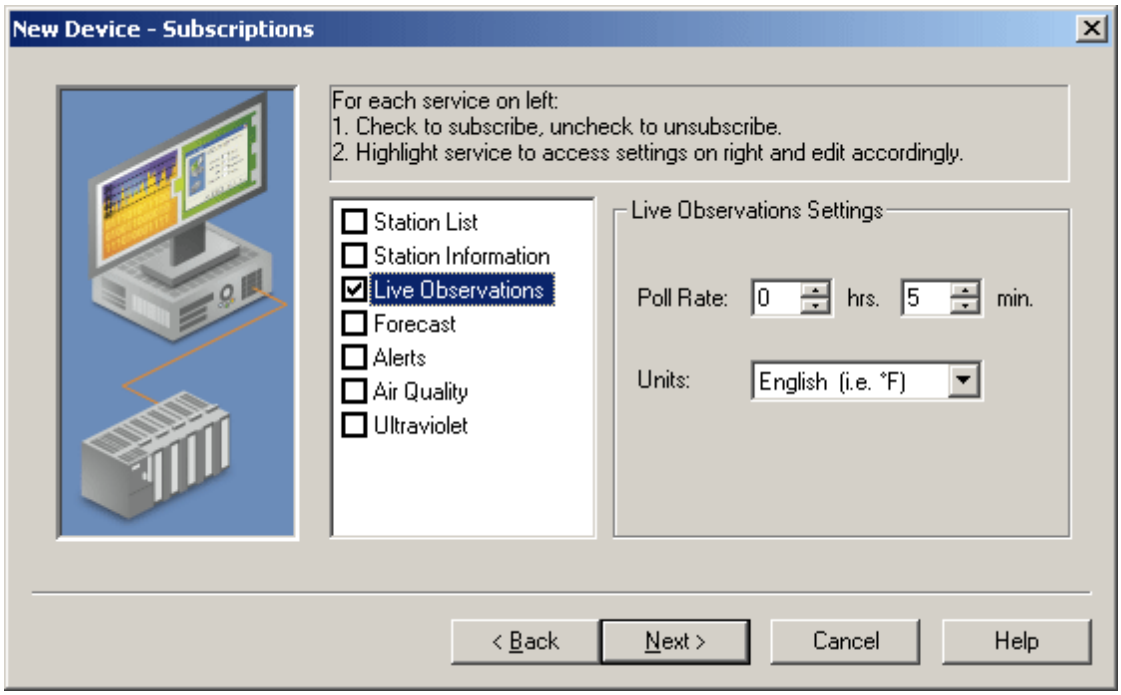
Station Information



Use the **Poll Rate** fields (**hrs** and **min**) to set the rate at which the driver will request data from the WeatherBug web service for Station Information data. The acceptable range is 0-240 hours. The default value is 24 hours (24 hrs, 0 min).

Note: For a description of how the driver polls data, stores it in cache, and updates clients, refer to **Poll Rate and Driver Cache**.

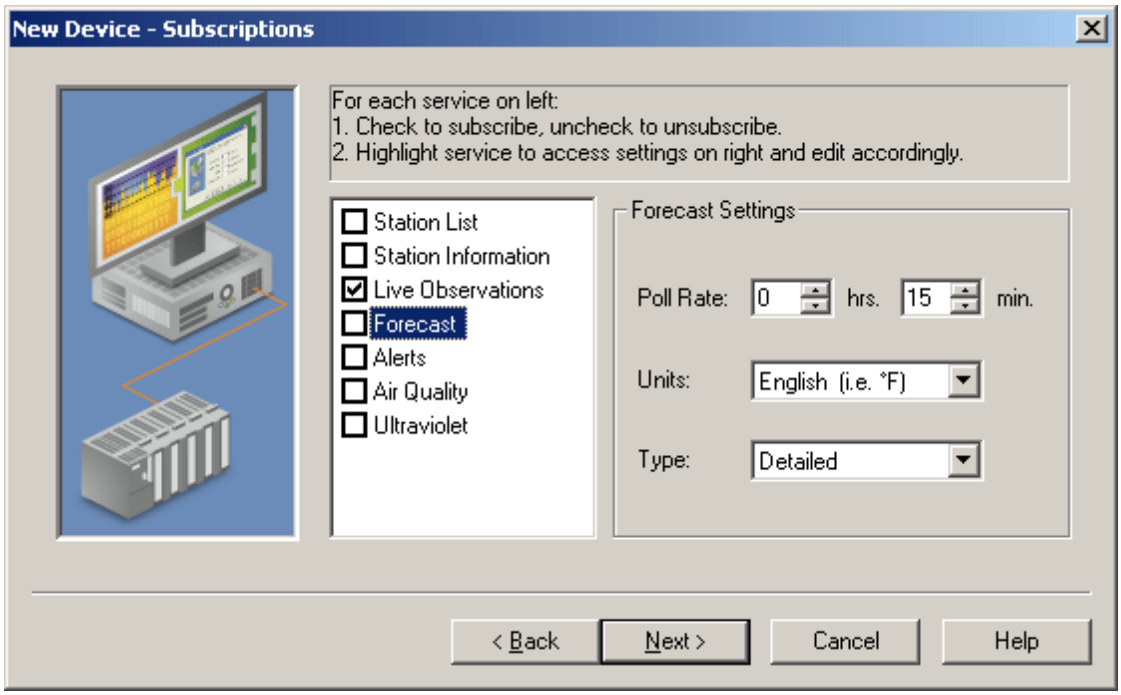
Live Observations



Use the **Poll Rate** fields (**hrs** and **min**) to set the rate at which the driver will request data from the WeatherBug web service for Live Observations data. The acceptable range is 0-240 hours. The default value is 5 minute (0 hrs, 5 min). In the **Units** field, select English (Fahrenheit) or Metric (Celsius).

Note: For a description of how the driver polls data, stores it in cache, and updates clients, refer to **Poll Rate and Driver Cache**.

Forecast

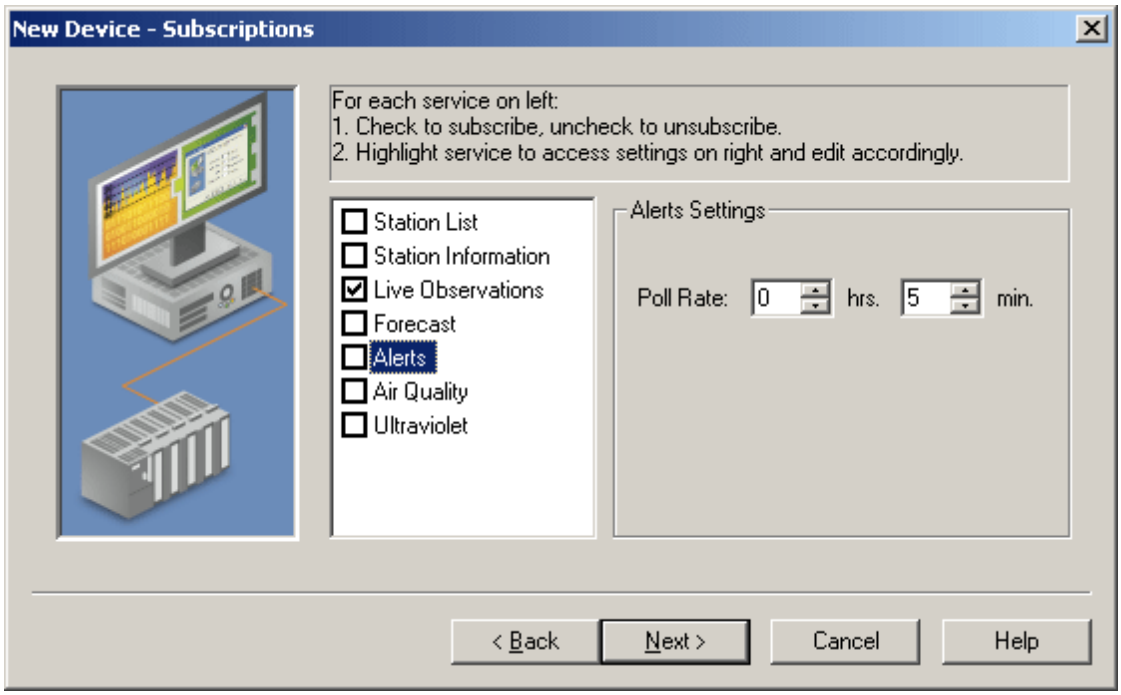


Use the **Poll Rate** fields (**hrs** and **min**) to set the rate at which the driver will request data from the WeatherBug web service for Forecast data. The acceptable range is 0-240 hours. The default value is 15 minutes (0 hrs, 15 min).

In the **Units** field, select English (Fahrenheit) or Metric (Celsius).
In the **Type** field, select the type of forecast (3 Day, Weekend, etc.).

Note: For a description of how the driver polls data, stores it in cache, and updates clients, refer to **Poll Rate and Driver Cache**.

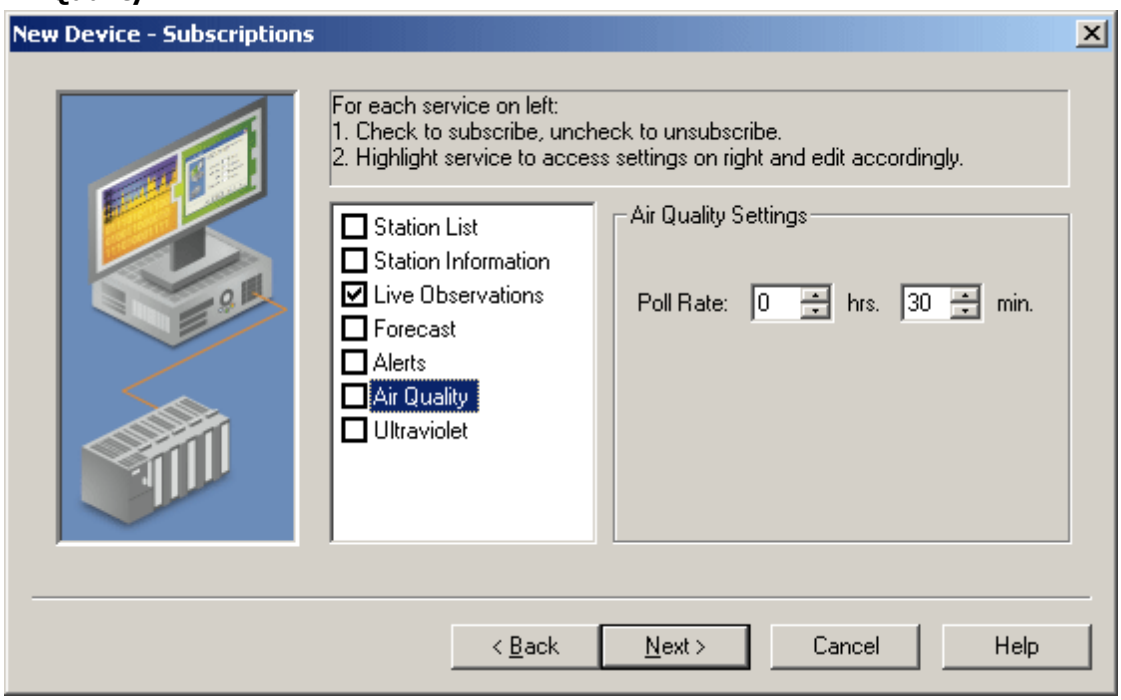
Alerts



Use the **Poll Rate** fields (**hrs** and **min**) to set the rate at which the driver will request data from the WeatherBug web service for Alerts data. The acceptable range is 0-240 hours. The default value is 5 minutes (0 hrs, 5 min).

Note: For a description of how the driver polls data, stores it in cache and updates clients, refer to **Poll Rate and Driver Cache**.

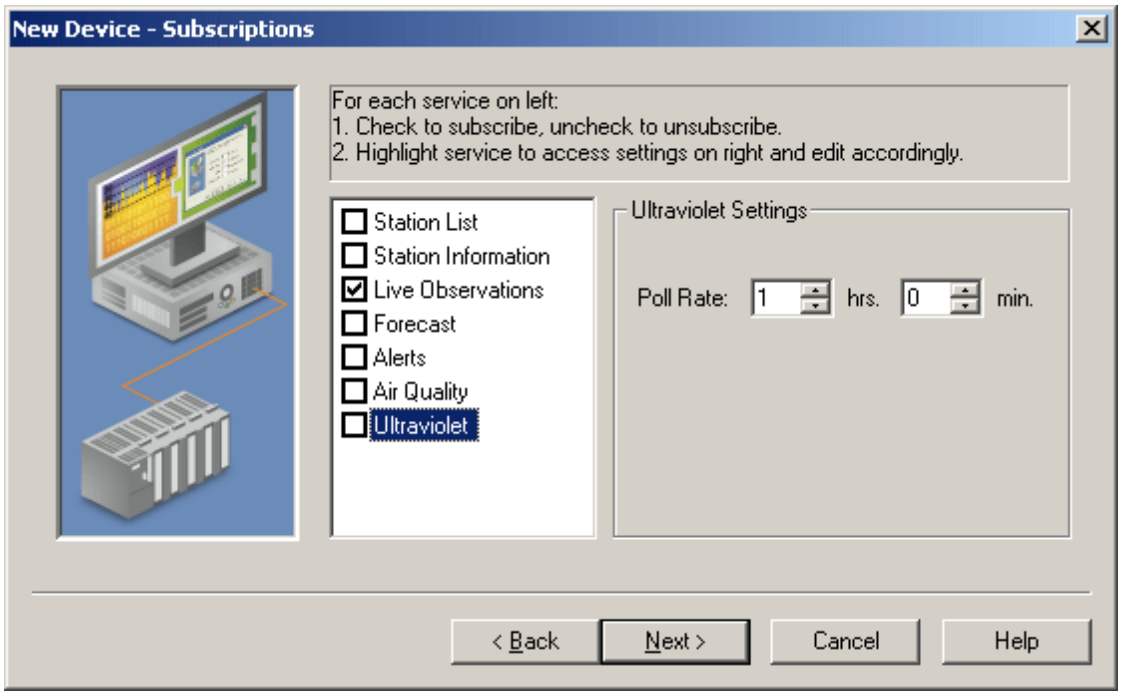
Air Quality



Use the **Poll Rate** fields (**hrs** and **min**) to set the rate at which the driver will request data from the WeatherBug web service for Air Quality data. The acceptable range is 0-240 hours. The default value is 30 minutes (0 hrs, 30 min).

Note: For a description of how the driver polls data, stores it in cache, and updates clients, refer to **Poll Rate and Driver Cache**.

Ultraviolet



Use the **Poll Rate** fields (**hrs** and **min**) to set the rate at which the driver will request data from the WeatherBug web service for Ultraviolet data. The acceptable range is 0-240 hours. The default value is 1 hour (1 hrs, 0 min).

Note: For a description of how the driver polls data, stores it in cache, and updates clients, refer to **Poll Rate and Driver Cache**.

Poll Rate and Driver Cache

In the Subscriptions dialogs shown above, the **Poll Rate** fields determine the rate at which the driver will request data from the WeatherBug service. The driver stores the polled data in cache, and clients read the data from the driver cache. For example, if the driver's **Live Observations** poll rate is set to 5 minutes:

- The driver connects to and requests **Live Observations** data from the WeatherBug service every 5 minutes.
- The driver writes the data to cache.
- During this ongoing process, clients are requesting data from the driver cache. Each client will request data at the client's own update rate. If the client's update rate is faster than the driver poll rate, then the data returned by the driver to the client will be unchanged until the driver polls new data from the WeatherBug service. The reason for this is that the client is reading from the driver cache, but the driver has not updated the cache - not until the next poll rate iteration.

Connection Timeouts

The driver poll rate is an important factor with regard to connection timeouts. For example:

Driver Poll Rate: 5 min.s
Client Update Rate: 2 min.s
Connect Timeout: 30 sec.s
Request Timeout: 10000 milliseconds
Fail After: 2 successive timeouts

Note: To access the **Device Timing** dialog, right-click on the device and select **Properties**. Then, select the **Timing** tab in the Device Properties dialog.

In this example, the driver is polling the WeatherBug service every 5 minutes. If there was a failure in the connection to the WeatherBug service 2 minutes after the last driver polling:

- For the next 3 minutes (until the next driver polling), the client will be reading data from the driver cache.
- At the 5-minute interval, the driver will attempt to connect to the WeatherBug service. After 30 seconds without being able to connect, the driver would try again. If the driver still cannot connect after an additional 30 seconds, the driver will display an error message indicating a connection failure. At that point, the data in the driver cache is marked "bad."

Data Types Description

Data Type	Description
DWord	Unsigned 32 bit value bit 0 is the low bit bit 31 is the high bit
Long	Signed 32 bit value bit 0 is the low bit bit 30 is the high bit bit 31 is the sign bit
String	Null terminated ASCII string
Float	32 bit floating point value

Automatic Tag Generation

The WeatherBug driver automatically creates a full set of tags when a device is added to an OPC channel. All tags are created regardless of the user's WeatherBug subscriptions; however, only the data that the user has subscribed to will be available. Tags are described in the **Address Descriptions**.

Note: For information on how to regenerate the default tags for a device, refer to **Database Creation**.

Database Creation

The WeatherBug driver automatically creates a database of tags when a device is added to an OPC channel. To regenerate the default tags for that device, use the **Regenerate Database** feature. Note the following:

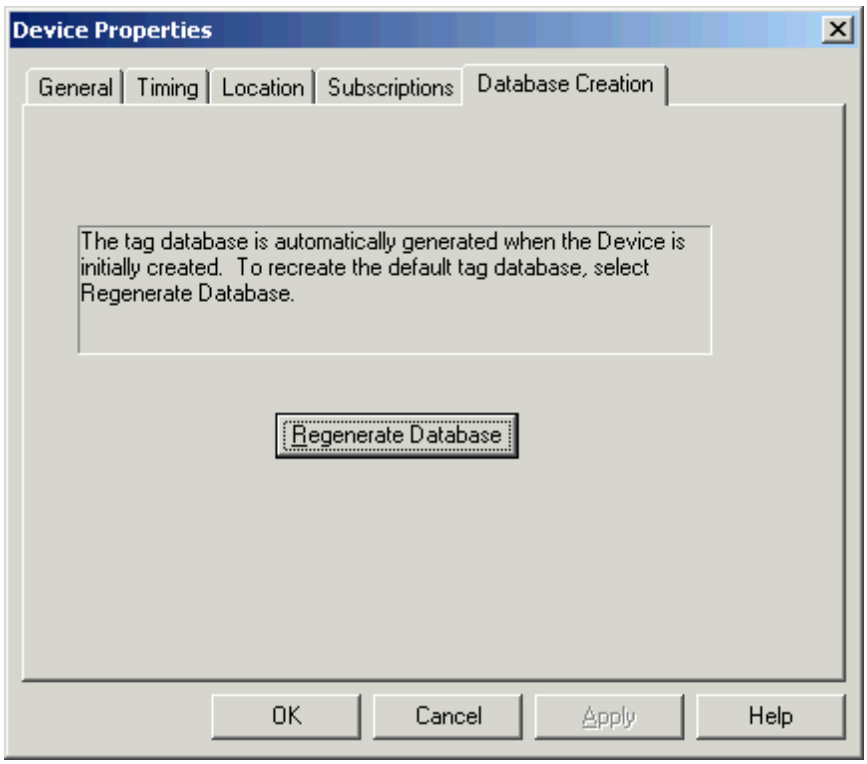
- All of the standard default tags will be recreated. This will, in effect, recreate any tags that have been deleted.
- If the tags were created and then added to the project with unique names, the Regenerate Database feature will not alter them.
- If a tag was created and then added to the project with the same name as a standard default tag, the Regenerate Database feature will delete and recreate that tag because it has the name of a default tag. It is recommended, therefore, that users do not add the custom tags using the same name as an existing default tag.

Follow the instructions below for information on how to use the Regenerate Database feature.

1. In the main OPC project, right-click on the device and select **Properties**.

2. Select **Database Creation** tab as shown below.

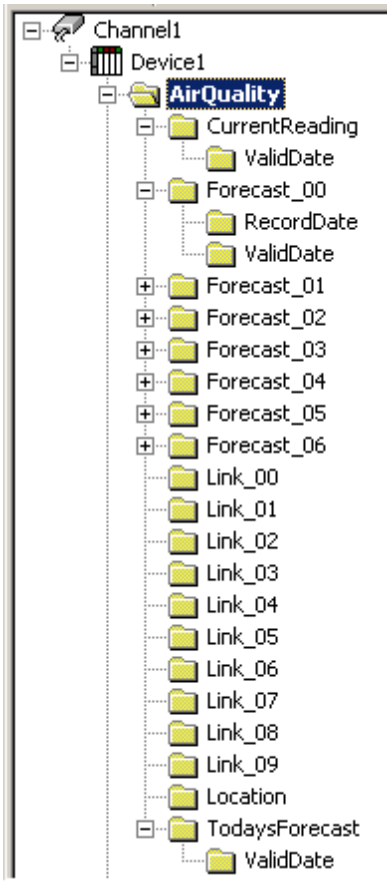
3. Click **Regenerate Database**. All of the default tags will be recreated.



Address Descriptions

Address specifications vary depending on the model in use. Select a link from the following list to obtain specific address information for the model of interest.

Air Quality Addressing



AirQuality

Address	Data Type	Description
AirQuality.airquality.location	String	Location for the specified zip code

AirQuality | CurrentReading

Address	Data Type	Description
AirQuality.airquality.current-reading.city	String	Location (City) for this current reading
AirQuality.airquality.current-reading.state	String	Location (State) for this current reading
AirQuality.airquality.current-reading.action-day	String	Whether or not voluntary action is being requested of the public
AirQuality.airquality.current-reading.aqi-value	Long	Current air quality index
AirQuality.airquality.current-read-	String	Category air quality index fits into.Ex. Unheathly

ing.aqi-category		
AirQuality.airquality.current-reading.pollutant-name	String	Most major pollutant that is responsible for the air quality index
AirQuality.airquality.current-reading.color-code	String	Color coding for the current air quality index
AirQuality.airquality.current-reading.no2	String	Text description of what Nitrogen Dioxide means to the current air quality index
AirQuality.airquality.current-reading.so2	String	Text description of what Sulfur Dioxide means to the current air quality index
AirQuality.airquality.current -reading.co	String	Text description of what Carbon Monoxide means to the current air quality index
AirQuality.airquality.current -reading.pm	String	Text description of what Particulate Matter means to the current air quality index
AirQuality.airquality.current-reading.ozone	String	Text description of what Ozone means to the current air quality index
AirQuality.airquality.current-reading.valid-date	String	The date/time from which the reading is valid. This isn't the date/time that the data is for.

AirQuality | CurrentReading | ValidDate

Address	Data Type	Description
AirQuality.airquality.current-reading. valid-date.year.number	Long	The date (Year in numerical form) from which the reading is valid.This isn't the date that the data is for.
AirQuality.airquality.current-reading. valid-date.month.number	Long	The date (Month in numerical form) from which the reading is valid.This isn't the date that the data is for.
AirQuality.airquality.current-reading. valid-date.month.text	String	The date (Month in full text form) from which the reading is valid.This isn't the date that the data is for.
AirQuality.airquality.current-reading. valid-date.month.abbrv	String	The date (Month in abbreviated text form) from which the reading is valid.This isn't the date that the data is for.
AirQuality.airquality.current-reading. valid-date.day.number	Long	The date (Day in numerical form) from which the reading is valid.This isn't the date that the data is for.
AirQuality.airquality.current-reading. valid-date.hour.number	Long	The time (Hour in numerical form) from which the reading is valid.This isn't the time that the data is for.
AirQuality.airquality.current-reading. valid-date.hour.hour24	Long	The time (Hour in 24-hour format) from which the reading is valid.This isn't the time that the data is for.
AirQuality.airquality.current-reading. valid-date.ampm.abbrv	String	The time (AM/PM) from which the reading is valid. This isn't the time that the data is for.

AirQuality | Forecast_xx

Address	Data Type	Description
AirQuality.airquality.forecast[xx]. city	String	Location (City) for this forecast
AirQuality.airquality.forecast[xx]. state	String	Location (State) for this forecast
AirQuality.airquality.forecast[xx]. action-day	String	Whether or not voluntary action is being requested of the public
AirQuality.airquality.forecast[xx]. aqi-value	Long	Forecasted air quality index
AirQuality.airquality.forecast[xx]. aqi-category	String	Category air quality index fits into. Ex. Unheathly
AirQuality.airquality.forecast[xx]. valid-date	String	The date from which the forecast is valid. This isn't the date that the data is for.
AirQuality.airquality.forecast[xx]. pollutant-name	String	Most major pollutant that is responsible for the air quality index
AirQuality.airquality.forecast[xx]. color-code	String	Color coding for the current air quality index
AirQuality.airquality.forecast[xx]. no2	String	Text description of what Nitrogen Dioxide means to the current air quality index
AirQuality.airquality.forecast[xx]. so2	String	Text description of what Sulfur Dioxide means to the current air quality index
AirQuality.airquality.forecast[xx].	String	Text description of what Carbon Monoxide means to the

co		current air quality index
AirQuality.airquality.forecast[xx].pm	String	Text description of what Particulate Matter means to the current air quality index
AirQuality.airquality.forecast[xx].ozone	String	Text description of what Ozone means to the current air quality index
AirQuality.airquality.forecast[xx].record-date	String	The date for which the forecast is valid

AirQuality | Forecast_xx | RecordDate

Address	Data Type	Description
AirQuality.airquality.forecast[xx].record-date.year.number	Long	The date (Year in numerical form) for which the forecast is valid
AirQuality.airquality.forecast[xx].record-date.month.number	Long	The date (Month in numerical form) for which the forecast is valid
AirQuality.airquality.forecast[xx].record-date.month.text	String	The date (Month in full text form) for which the forecast is valid
AirQuality.airquality.forecast[xx].record-date.month.abbrv	String	The date (Month in abbreviated text form) for which the forecast is valid
AirQuality.airquality.forecast[xx].record-date.day.number	Long	The date (Day in numerical form) for which the forecast is valid

AirQuality | Forecast_xx | ValidDate

Address	Data Type	Description
AirQuality.airquality.forecast[xx].valid-date.year.number	Long	The date (Year in numerical form) from which the forecast is valid. This isn't the date that the data is for.
AirQuality.airquality.forecast[xx].valid-date.month.number	Long	The date (Month in numerical form) from which the forecast is valid. This isn't the date that the data is for.
AirQuality.airquality.forecast[xx].valid-date.month.text	String	The date (Month in full text form) from which the forecast is valid. This isn't the date that the data is for.
AirQuality.airquality.forecast[xx].valid-date.month.abbrv	String	The date (Month in abbreviated text form) from which the forecast is valid. This isn't the date that the data is for.
AirQuality.airquality.forecast[xx].valid-date.day.number	Long	The date (Day in numerical form) from which the forecast is valid. This isn't the date that the data is for.

AirQuality | Link_xx

Address	Data Type	Description
AirQuality.airquality.link[xx].type	String	Related information (type)
AirQuality.airquality.link[xx].title	String	Related information (title)
AirQuality.airquality.link[xx].url	String	Related information (URL)

AirQuality | Location

Address	Data Type	Description
AirQuality.airquality.location.zipcode	String	Location (Zip-Code) for the specified Zip-Code
AirQuality.airquality.location.city	String	Location (City) for the specified Zip-Code
AirQuality.airquality.location.state	String	Location (State) for the specified Zip-Code
AirQuality.airquality.location.aqi-city	String	Location (City) of the air quality sensors
AirQuality.airquality.location.aqi-state	String	Location (State) of the air quality sensors

AirQuality | TodaysForecast

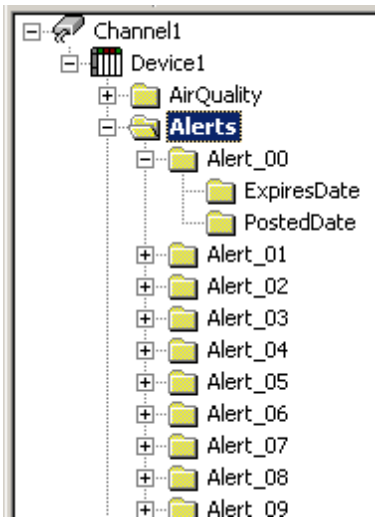
Address	Data Type	Description
AirQuality.airquality.todays-forecast.city	String	Location (City) for this forecast
AirQuality.airquality.todays-forecast.state	String	Location (State) for this forecast
AirQuality.airquality.todays-forecast.action-day	String	Whether or not voluntary action is being requested of the public
AirQuality.airquality.todays-forecast.aqi-value	Long	Forecasted air quality index

AirQuality.airquality.todays-forecast.aqi-category	String	Category air quality index fits into. Ex.Unheathly
AirQuality.airquality.todays-forecast.valid-date	String	The date from which the forecast is valid. This isn't the date that the data is for.
AirQuality.airquality.todays-forecast.pollutant-name	String	Most major pollutant that is responsible for the air quality index
AirQuality.airquality.todays-forecast.color-code	String	Color coding for the current air quality index
AirQuality.airquality.todays-forecast.no2	String	Text description of what Nitrogen Dioxide means to the current air quality index
AirQuality.airquality.todays-forecast.so2	String	Text description of what Sulfur Dioxide means to the current air quality index
AirQuality.airquality.todays-forecast.co	String	Text description of what Carbon Monoxide means to the current air quality index
AirQuality.airquality.todays-forecast.pm	String	Text description of what Particulate Matter means to the current air quality index
AirQuality.airquality.todays-forecast.ozone	String	Text description of what Ozone means to the current air quality index

AirQuality | TodaysForecast/ValidDate

Address	Data Type	Description
AirQuality.airquality.todays-forecast.valid-date.year.number	Long	The date (Year in numerical form) from which the forecast is valid. This isn't the date that the data is for.
AirQuality.airquality.todays-forecast.valid-date.month.number	Long	The date (Month in numerical form) from which the forecast is valid. This isn't the date that the data is for.
AirQuality.airquality.todays-forecast.valid-date.month.text	String	The date (Month in full text form) from which the forecast is valid. This isn't the date that the data is for.
AirQuality.airquality.todays-forecast.valid-date.month.abbrv	String	The date (Month in abbreviated text form) from which the forecast is valid. This isn't the date that the data is for.
AirQuality.airquality.todays-forecast.valid-date.day.number	Long	The date (Day in numerical form) from which the forecast is valid. This isn't the date that the data is for.

Alerts Addressing



Alerts

Address	Data Type	Description
Alerts.alerts.count	Long	Number of alerts currently posted
Alerts.alerts.state	String	Location (State) for this alert
Alerts.alerts.fips	String	Location (Fips) for this alert
Alerts.alerts.county	String	Location (County) for this alert
Alerts.alerts.zip	String	Location (Zip-Code) for this alert

Alerts | Alert_xx

Address	Data Type	Description
Alerts.alerts.alert[xx].expires-date	String	Date & time alert will expire (Custom format). Ex. 12/31/2007 11:59:59 PM EST
Alerts.alerts.alert[xx].html-msg-body	String	HTML formatted full text of the alert issued by the National Weather Service
Alerts.alerts.alert[xx].id	String	Alert ID number
Alerts.alerts.alert[xx].msg-summary	String	Plain-text summary of the alert text
Alerts.alerts.alert[xx].posted-date	String	Date & time alert was posted (Custom format). Ex. 12/31/2007 11:59:59 PM EST
Alerts.alerts.alert[xx].title	String	Alert title
Alerts.alerts.alert[xx].type	String	Alert type

Alerts | Alert_xx | ExpiresDate

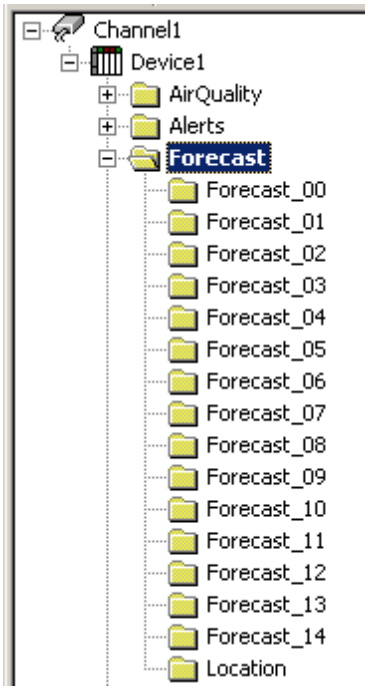
Address	Data Type	Description
Alerts.alerts.alert[xx].expires-date.year.number	Long	Date alert will expire (Year in numerical form). Ex. 2007
Alerts.alerts.alert[xx].expires-date.month.number	Long	Date alert will expire (Month in numerical form). Ex. 12
Alerts.alerts.alert[xx].expires-date.month.text	String	Date alert will expire (Month in full text form). Ex. December
Alerts.alerts.alert[xx].expires-date.month.abbrv	String	Date alert will expire (Month in abbreviated text form). Ex. Dec
Alerts.alerts.alert[xx].expires-date.day.number	Long	Date alert will expire (Day in numerical form). Ex. 31
Alerts.alerts.alert[xx].expires-date.day.text	String	Date alert will expire (Day in full text form). Ex Monday
Alerts.alerts.alert[xx].expires-date.day.abbrv	String	Date alert will expire (Day in abbreviated text form). Ex. Mon
Alerts.alerts.alert[xx].expires-date.hour.number	Long	Time alert will expire (Hour). Ex. 11
Alerts.alerts.alert[xx].expires-date.hour.hour-24	Long	Time alert will expire (Hour in 24-hour format). Ex. 23
Alerts.alerts.alert[xx].expires-date.minute.number	Long	Time alert will expire (Minute). Ex. 59
Alerts.alerts.alert[xx].expires-date.second.number	Long	Time alert will expire (Second). Ex. 59
Alerts.alerts.alert[xx].expires-date.am-pm.abbrv	String	Time alert will expire (AM/PM). Ex. PM
Alerts.alerts.alert[xx].expires-date.time-zone.offset	Long	Time alert will expire (Time-zone as GMT numerical off-set). Ex. -5
Alerts.alerts.alert[xx].expires-date.time-zone.text	String	Time alert will expire (Time-zone in full text form). Ex. Eastern Standard Time
Alerts.alerts.alert[xx].expires-date.time-zone.abbrv	String	Time alert will expire (Time-zone in abbreviated text form). Ex. EST

Alerts | Alert_xx | PostedDate

Address	Data Type	Description
Alerts.alerts.alert[xx].posted-date.year.number	Long	Date alert was posted (Year in numerical form). Ex. 2007
Alerts.alerts.alert[xx].posted-date.month.number	Long	Date alert was posted (Month in numerical form). Ex. 12
Alerts.alerts.alert[xx].posted-date.month.text	String	Date alert was posted (Month in full text form). Ex. December
Alerts.alerts.alert[xx].posted-date.month.abbrv	String	Date alert was posted (Month in abbreviated text form). Ex. Dec
Alerts.alerts.alert[xx].posted-date.day.number	String	Date alert was posted (Day in numerical form). Ex. 31

Alerts.alerts.alert[xx]. posted-date.day.text	String	Date alert was posted (Day in full text form). Ex Monday
Alerts.alerts.alert[xx]. posted-date.day.abbrv	String	Date alert was posted (Day in abbreviated text form). Ex. Mon
Alerts.alerts.alert[xx]. posted-date.hour.number	Long	Time alert was posted (Hour). Ex. 11
Alerts.alerts.alert[xx]. posted-date.hour.hour-24	Long	Time alert was posted (Hour in 24-hour format). Ex. 23
Alerts.alerts.alert[xx]. posted-date.minute.number	Long	Time alert was posted (Minute). Ex. 59
Alerts.alerts.alert[xx]. posted-date.second.number	Long	Time alert was posted (Second). Ex. 59
Alerts.alerts.alert[xx]. posted-date.am-pm.abbrv	String	Time alert was posted (AM/PM). Ex. PM
Alerts.alerts.alert[xx]. posted-date.time-zone.offset	Long	Time alert was posted (Time-zone as GMT numerical off-set). Ex. -5
Alerts.alerts.alert[xx]. posted-date.time-zone.text	String	Time alert was posted (Time-zone in full text form). Ex. Eastern Standard Time
Alerts.alerts.alert[xx]. posted-date.time-zone.abbrv	String	Time alert was posted (Time-zone in abbreviated text form). Ex. EST

Forecast Addressing



Forecast

Address	Data Type	Description
Forecast.forecasts.date	String	Date & time forecast was last updated
Forecast.forecasts.location	String	Location for this forecast
Forecast.forecasts.type	String	Type of forecast (Detailed/Three-day/Two-day/Week-end/High/Low)

Forecast | Forecast_xx

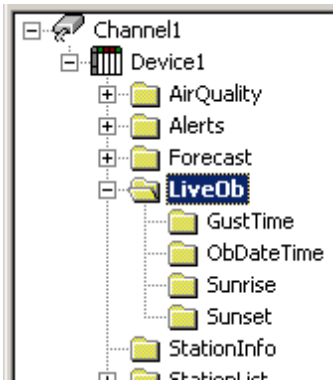
Address	Data Type	Description
Forecast.forecasts.forecast[xx] .title	String	Description of the time period for this forecast
Forecast.forecasts.forecast[xx] .short-title	String	Short description of forecast

Forecast.forecasts.forecast[xx] .image	String	URL to image that represents the forecast
Forecast.forecasts.forecast[xx]. image.icon	String	Image name that represents the forecast
Forecast.forecasts.forecast[xx] .description	String	Very short forecast description
Forecast.forecasts.forecast[xx] . prediction	String	Plain-text forecast. Not available on High/Low forecasts
Forecast.forecasts.forecast[xx] .short-prediction1	String	Line 1 of the abbreviated plain-text forecast for High/Low forecasts only
Forecast.forecasts.forecast[xx] .short-prediction2	String	Line 2 of the abbreviated plain-text forecast for High/Low forecasts only
Forecast.forecasts.forecast[xx] .high	String	Forecasted high temperature
Forecast.forecasts.forecast[xx] .high.unit	String	High temperature unit of measurement
Forecast.forecasts.forecast[xx] .low	String	Forecasted low temperature
Forecast.forecasts.forecast[xx] .low.unit	String	Low temperature unit of measurement

Forecast | Location

Address	Data Type	Description
Forecast.forecasts.location.city	String	Location (City) for this forecast
Forecast.forecasts.location.state	String	Location (State) for this forecast
Forecast.forecasts.location.zip	String	Location (Zip-Code) for this forecast
Forecast.forecasts.location.zone	String	Location (Zone) for this forecast

Live Observations Addressing



LiveOb

Address	Data Type	Description
LiveOb.ob.aux-temp	Float	Temperature at the auxiliary probe for the station
LiveOb.ob.aux-temp.units	String	Auxiliary temperature unit of measurement.
LiveOb.ob.aux-temp-rate	Float	Rate of change in temperature at the auxiliary probe
LiveOb.ob.aux-temp-rate.units	String	Auxiliary rate of change unit of measurement
LiveOb.ob.ob-date	String	Date & time of observation (Custom format). Ex. 12/31/2007 11:59:59 PM EST
LiveOb.ob.station-id	String	Station's ID
LiveOb.ob.station	String	Station's name
LiveOb.ob.city-state	String	Station's location (City/State)
LiveOb.ob.city-state.zip	String	Station's location (ZipCode)

LiveOb.ob.site-url	String	Web site for owner of station
LiveOb.ob.dew-point	Float	Temperature to which the air must be cooled to condense.
LiveOb.ob.dew-point.units	String	Dew-point unit of measurement
LiveOb.ob.elevation	Long	Elevation above sea level for this station
LiveOb.ob.elevation.units	String	Elevation unit of measurement
LiveOb.ob.feels-like	Float	Wind Chill (cold temps) or Heat Index (hot temps) temperature
LiveOb.ob.feels-like.units	String	Feels-Like unit of measurement
LiveOb.ob.gust-time	String	Date & time of strongest wind gust recently recorded (Custom format)
LiveOb.ob.gust-direction	String	Cardinal direction of strongest wind gust recently recorded
LiveOb.ob.gust-speed	Float	Speed of strongest wind gust recently recorded
LiveOb.ob.gust-speed.units	String	Gust speed unit of measurement
LiveOb.ob.humidity	Float	Current relative humidity
LiveOb.ob.humidity.units	String	Relative humidity (current) unit of measurement
LiveOb.ob.humidity-high	Float	Highest relative humidity measured today
LiveOb.ob.humidity-high.units	String	Relative humidity (high) unit of measurement
LiveOb.ob.humidity-low	Float	Lowest relative humidity measured today
LiveOb.ob.humidity-low.units	String	Relative humidity (low) unit of measurement
LiveOb.ob.humidity-rate	Float	Rate of change in relative humidity
LiveOb.ob.indoor-temp	Float	Indoor temperature at the facility that hosts the station
LiveOb.ob.indoor-temp.units	String	Indoor temperature unit of measurement
LiveOb.ob.indoor-temp-rate	Float	Rate of change in indoor temperature at the station's host facility
LiveOb.ob.indoor-temp-rate.units	String	Indoor temperature rate of change unit of measurement
LiveOb.ob.light	Float	Relative percentage of daylight currently at the station's location
LiveOb.ob.light-rate	Float	Rate of change in light at the station's location
LiveOb.ob.moon-phase	String	Phase of the moon
LiveOb.ob.moon-phase.moon-phase-img	String	Moon phase image URL
LiveOb.ob.pressure	Float	Current barometric pressure
LiveOb.ob.pressure.units	String	Barometric pressure (current) unit of measurement
LiveOb.ob.pressure-high	Float	Highest barometric pressure measured today
LiveOb.ob.pressure-high.units	String	Barometric pressure (high) unit of measurement
LiveOb.ob.pressure-low	Float	Lowest barometric pressure measured today
LiveOb.ob.pressure-low.units	String	Barometric pressure (low) unit of measurement
LiveOb.ob.pressure-rate	Float	Rate of change in barometric pressure
LiveOb.ob.pressure-rate.units	String	Barometric pressure rate of change unit of measurement
LiveOb.ob.rain-month	Float	Amount of rainfall so far this month
LiveOb.ob.rain-month.units	String	Month rainfall unit of measurement
LiveOb.ob.rain-rate	Float	Current rate at which rain is falling
LiveOb.ob.rain-rate.units	String	Rain rate (current) unit of measurement
LiveOb.ob.rain-rate-max	Float	Maximum rate at which rain has fallen today
LiveOb.ob.rain-rate-max.units	String	Rain rate (max) unit of measurement
LiveOb.ob.rain-today	Float	Amount of rainfall so far today
LiveOb.ob.rain-today.units	String	Rainfall unit of measurement
LiveOb.ob.rain-year	Float	Amount of rainfall so far this year
LiveOb.ob.rain-year.units	String	Year rainfall unit of measurement
LiveOb.ob.temp	Float	Current temperature
LiveOb.ob.temp.units	String	Temperature unit (current) of measurement
LiveOb.ob.temp-high	Float	Highest temperature measured today
LiveOb.ob.temp-high.units	String	Temperature unit (high) of measurement
LiveOb.ob.temp-low	Float	Lowest temperature measured today
LiveOb.ob.temp-low.units	String	Temperature unit (low) of measurement

LiveOb.ob.temp-rate	Float	Rate of change in temperature
LiveOb.ob.temp-rate.units	String	Temperature rate of change unit of measurement
LiveOb.ob.sunrise	String	Date & time of last/next sunrise (Custom format)
LiveOb.ob.sunset	String	Date & time of last/next sunset (Custom format)
LiveOb.ob.wet-bulb	Float	Temperature at which no evaporation occurs and temperature stops dropping
LiveOb.ob.wet-bulb.units	String	Wet-bulb unit of measurement
LiveOb.ob.wind-speed	Float	Current wind speed
LiveOb.ob.wind-speed.units	String	Wind speed (current) unit of measurement
LiveOb.ob.wind-speed-avg	Float	Average speed of the wind so far today
LiveOb.ob.wind-speed-avg.units	String	Wind speed (average) unit of measurement
LiveOb.ob.wind-direction	String	Current cardinal direction of the wind
LiveOb.ob.wind-direction-avg	String	Average cardinal direction of the wind so far today

LiveOb | GustTime

Address	Data Type	Description
LiveOb.ob.gust-time.year.number	Long	Date of strongest wind gust recently recorded (Year in numerical form).
LiveOb.ob.gust-time.month.number	Long	Date of strongest wind gust recently recorded (Month in numerical form).
LiveOb.ob.gust-time.month.text	String	Date of strongest wind gust recently recorded (Month in full text form).
LiveOb.ob.gust-time.month.abbrv	String	Date of strongest wind gust recently recorded (Month in abbreviated text form).
LiveOb.ob.gust-time.day.number	Long	Date of strongest wind gust recently recorded (Day in numerical form).
LiveOb.ob.gust-time.day.text	String	Date of strongest wind gust recently recorded (Day in full text form).
LiveOb.ob.gust-time.day.abbrv	String	Date of strongest wind gust recently recorded (Day in abbreviated text form).
LiveOb.ob.gust-time.hour.number	Long	Time of strongest wind gust recently recorded (Hour).
LiveOb.ob.gust-time.hour.hour-24	Long	Time of strongest wind gust recently recorded (Hour in 24-hour format).
LiveOb.ob.gust-time.minute.number	Long	Time of strongest wind gust recently recorded (Minute).
LiveOb.ob.gust-time.second.number	Long	Time of strongest wind gust recently recorded (Second).
LiveOb.ob.gust-time.am-pm.abbrv	String	Time of strongest wind gust recently recorded (AM/PM).
LiveOb.ob.gust-time.time-zone.offset	Long	Time of strongest wind gust recently recorded (Time-zone as GMT numerical offset).
LiveOb.ob.gust-time.time-zone.text	String	Time of strongest wind gust recently recorded (Time-zone in full text form).
LiveOb.ob.gust-time.time-zone.abbrv	String	Time of strongest wind gust recently recorded (Time-zone in abbreviated text form).

LiveOb | ObDateTime

Address	Data Type	Description
LiveOb.ob.ob-date.year.number	Long	Date of observation (Year in numerical form). Ex. 2007
LiveOb.ob.ob-date.month.number	Long	Date of observation (Month in numerical form). Ex. 12
LiveOb.ob.ob-date.month.text	String	Date of observation (Month in full text form). Ex. December
LiveOb.ob.ob-date.month.abbrv	String	Date of observation (Month in abbreviated text form). Ex. Dec
LiveOb.ob.ob-date.day.number	Long	Date of observation (Day in numerical form). Ex. 31
LiveOb.ob.ob-date.day.text	String	Date of observation (Day in full text form). Ex Monday
LiveOb.ob.ob-date.day.abbrv	String	Date of observation (Day in abbreviated text form). Ex. Mon
LiveOb.ob.ob-date.hour.number	Long	Time of observation (Hour). Ex. 11
LiveOb.ob.ob-date.hour.hour-24	Long	Time of observation (Hour in 24-hour format). Ex. 23

LiveOb.ob.ob-date.minute.number	Long	Time of observation (Minute). Ex. 59
LiveOb.ob.ob-date.second.number	Long	Time of observation (Second). Ex. 59
LiveOb.ob.ob-date.am-pm.abbrv	String	Time of observation (AM/PM). Ex. PM
LiveOb.ob.ob-date.time-zone.offset	Long	Time of observation (Time-zone as GMT numerical offset). Ex. -5
LiveOb.ob.ob-date.time-zone.text	String	Time of observation (Time-zone in full text form). Ex. Eastern Standard Time
LiveOb.ob.ob-date.time-zone.abbrv	String	Time of observation (Time-zone in abbreviated text form). Ex. EST

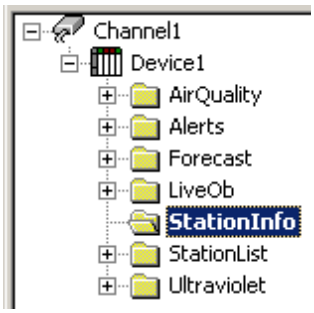
LiveOb | Sunrise

Address	Data Type	Description
LiveOb.ob.sunrise.year.number	Long	Date of last/next sunrise (Year in numerical form).
LiveOb.ob.sunrise.month.number	Long	Date of last/next sunrise (Month in numerical form).
LiveOb.ob.sunrise.month.text	String	Date of last/next sunrise (Month in full text form).
LiveOb.ob.sunrise.month.abbrv	String	Date of last/next sunrise (Month in abbreviated text form).
LiveOb.ob.sunrise.day.number	Long	Date of last/next sunrise (Day in numerical form).
LiveOb.ob.sunrise.day.text	String	Date of last/next sunrise (Day in full text form).
LiveOb.ob.sunrise.day.abbrv	String	Date of last/next sunrise (Day in abbreviated text form).
LiveOb.ob.sunrise.hour.number	Long	Time of last/next sunrise (Hour)
LiveOb.ob.sunrise.hour.hour-24	Long	Time of last/next sunrise (Hour in 24-hour format)
LiveOb.ob.sunrise.minute.number	Long	Time of last/next sunrise (Minute)
LiveOb.ob.sunrise.second.number	Long	Time of last/next sunrise (Second)
LiveOb.ob.sunrise.am-pm.abbrv	String	Time of last/next sunrise (AM/PM)

LiveOb | Sunset

Address	Data Type	Description
LiveOb.ob.sunset.year.number	Long	Date of last/next sunset (Year in numerical form).
LiveOb.ob.sunset.month.number	Long	Date of last/next sunset (Month in numerical form).
LiveOb.ob.sunset.month.text	String	Date of last/next sunset (Month in full text form).
LiveOb.ob.sunset.month.abbrv	String	Date of last/next sunset (Month in abbreviated text form).
LiveOb.ob.sunset.day.number	Long	Date of last/next sunset (Day in numerical form).
LiveOb.ob.sunset.day.text	String	Date of last/next sunset (Day in full text form).
LiveOb.ob.sunset.day.abbrv	String	Date of last/next sunset (Day in abbreviated text form).
LiveOb.ob.sunset.hour.number	Long	Time of last/next sunset (Hour)
LiveOb.ob.sunset.hour.hour-24	Long	Time of last/next sunset (Hour in 24-hour format)
LiveOb.ob.sunset.minute.number	Long	Time of last/next sunset (Minute)
LiveOb.ob.sunset.second.number	Long	Time of last/next sunset (Second)
LiveOb.ob.sunset.am-pm.abbrv	String	Time of last/next sunset (AM/PM)

Station Info Addressing

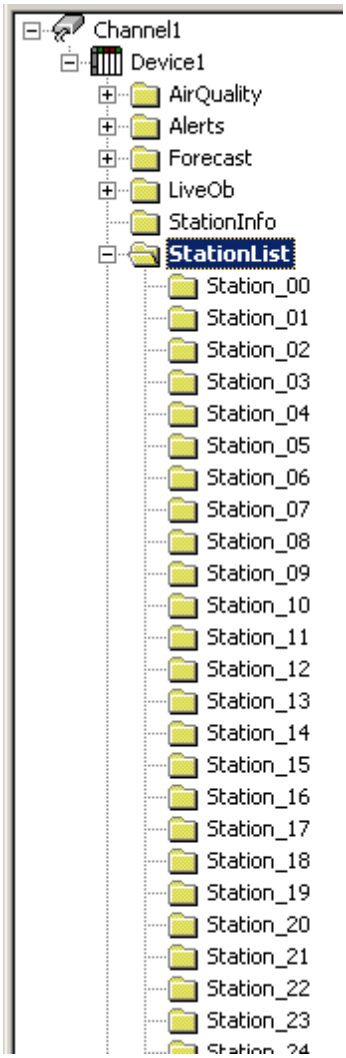


StationInfo

Address	Data Type	Description
StationInfo.station.id	String	Station's ID

StationInfo.station.name	String	Station's name
StationInfo.station.city	String	Station's location (city)
StationInfo.station.state	String	Station's location (state)
StationInfo.station.zipcode	String	Station's location (zip code)
StationInfo.station.station-type	String	WeatherBug or NWS (National Weather Service) weather station
StationInfo.station.latitude	Float	Station's location (Latitude coordinate)
StationInfo.station.longitude	Float	Station's location (Longitude coordinate)

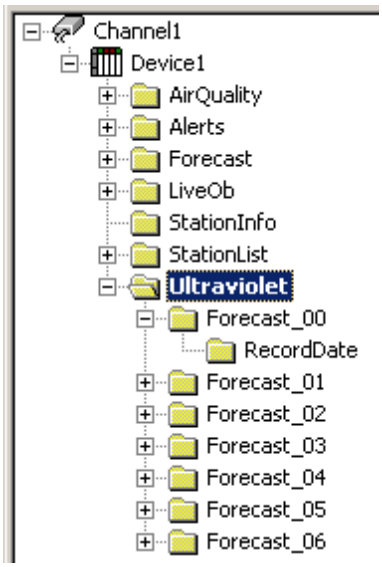
Station List Addressing



StationList | Station_xx

Address	Data Type	Description
StationList.station[xx].id	String	Station's ID
StationList.station[xx].name	String	Station's name
StationList.station[xx].city	String	Station's location (City)
StationList.station[xx].state	String	Station's location (State)
StationList.station[xx].zipcode	String	Station's location (Zip Code)
StationList.station[xx].station-type	String	WeatherBug or NWS (National Weather Service) weather station
StationList.station[xx].distance	Float	Station's location (Distance from target zipcode)
StationList.station[xx].latitude	Float	Station's location (Latitude coordinate)
StationList.station[xx].longitude	Float	Station's location (Longitude coordinate)

Ultraviolet Addressing



Ultraviolet

Address	Data Type	Description
Ultraviolet.ultraviolet.city	String	Location (City) of the cosest UV sensor
Ultraviolet.ultraviolet.legend-url	String	URL to image that depicts the legend for the map image
Ultraviolet.ultraviolet.map-url	String	URL to image that depicts current UV Index across the nation
Ultraviolet.ultraviolet.state	String	Location (State) of the cosest UV sensor

Ultraviolet | Forecast_xx

Address	Data Type	Description
Ultraviolet.ultraviolet.forecast[xx]. uv-index	Float	The actual UV Index number for this forecast date
Ultraviolet.ultraviolet.forecast[xx]. record-date	String	The date for which the forecast is valid

Ultraviolet | Forecast_xx | RecordDate

Address	Data Type	Description
Ultraviolet.ultraviolet.forecast[xx]. record-date.year.number	Long	The date (Year in numerical form) for which the forecast is valid
Ultraviolet.ultraviolet.forecast[xx]. record-date.month.number	Long	The date (Month in numerical form) for which the forecast is valid
Ultraviolet.ultraviolet.forecast[xx]. record-date.month.text	String	The date (Month in full text form) for which the forecast is valid
Ultraviolet.ultraviolet.forecast[xx]. record-date.month.abbrv	String	The date (Month in abbreviated text form) for which the forecast is valid
Ultraviolet.ultraviolet.forecast[xx]. record-date.day.number	Long	The date (Day in numerical form) for which the forecast is valid

Error Descriptions

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

Invalid Station ID specified. You will need to enter a valid Station ID to access the Live Observations and Station Information services

Error Type:
Warning

Possible Cause:
A valid Station ID has not been entered.

Solution:
Right-click on the device and select **Properties**. Click on the **Location** tab and enter a valid **Station ID**.

See Also:
Location - Zip Code and Station

Invalid WeatherBug Service ID specified. You will need to enter a valid WeatherBug Service ID to access the WeatherBug services

Error Type:
Fatal

Possible Cause:
A valid WeatherBug Service ID has not been entered.

Solution:
Right-click on the channel and select **Properties**. Click on the **Settings** tab and enter a valid **WeatherBug Service ID**.

See Also:
Settings - WeatherBug Service ID

Invalid Zip Code specified. Please enter a 5 digit zip code with no letters or special characters

Error Type:
Fatal

Possible Cause:
A valid zip code has not been entered.

Solution:
Right-click on the device and select **Properties**. Click on the **Location** tab and enter a **valid zip code** (5 digits only, no letters or special characters).

See Also:
Location - Zip Code and Station

Service '<subscription name>' [Path=<url>] failed on Device '<device>'. Data provider not responding

Error Type:
Warning

Possible Causes:
1. WeatherBug service is unable to respond to the request made according to the transaction timeout specified. Transaction timeout = Request Timeout * Fail after x successive timeouts.
2. The PC is not connected to the Internet.
3. The WeatherBug service is temporarily unavailable.

Solution:
1. Modify the timing settings for the device, specifically the **Connect Timeout**, **Request Timeout**, and **Fail After # Successive Timeouts** values. To find the settings, right-click on the device and select Properties. Then, select the Timing tab.
2. Verify the internet connection.
3. Try again later.

Note:
The default values for device timing properties are as follows:
Connect Timeout: 30 seconds
Request timeout: 10000 milliseconds
Fail after: 3 successive timeouts.

If you are receiving **Data provider not responding** errors, try the following alternate settings:
30 / 8000 / 4
30 / 9000 / 4
30 / 10000 / 4
30 / 8000 / 5
30 / 9000 / 5
30 / 10000 / 5
30 / 5000 / 10

See Also:
Connection Timeouts

Service '<subscription name>' [Path=<url>] failed on Device '<device>'. HTTP Status = '<status code>'. No data in response

Error Type:
Warning

Possible Causes
1. Invalid parameter(s) provided. Verify the ZIP Code and Station ID are correct.
2. The WeatherBug Service ID has improper credentials to access this service. Verify the WeatherBug Service ID.
3. The station is not available. Try another Station.
4. No ZIP Code was specified or the format is invalid.
5. No Station ID was specified.
6. The WeatherBug Service ID specified does not have the privileges to access to '<subscription name>'.
7. The station being accessed is having technical difficulties.

Solutions
1. Verify that a valid 5-digit ZIP Code is specified.
2. Verify that a valid Station ID is specified. This Station ID must exist in the WeatherBug system. To ensure it is, use the Station ID Wizard to list Stations closest to the ZIP Code specified and choose accordingly.
3. When the WeatherBug Service ID was assigned, it was given rights to either all or select subscriptions. Verify the WeatherBug Service ID specified has rights to '<subscription name>'.

4. Try a different station.

See Also:
Settings - WeatherBug Service ID

Service '<subscription name>' [Path=<url>] failed on Device '<device>'. Missing expected XML element. Request invalid

Error Type:
Warning

Possible Causes:
Invalid response returned from WeatherBug service.

Solution:
If this problem persists, contact Technical Support.

Service '<subscription name>' [Path=<url>] failed on Device '<device>'. Timed out connecting to data provider

Error Type:
Warning

Possible Causes:
1. WeatherBug service unable to respond in the time specified in connection timeout.
2. PC not connected to the internet.
3. WeatherBug service temporarily unavailable.

Solutions:
1. Increase the connection timeout.
2. Verify the internet connection.
3. Try again later.

See Also:
Connection Failures

Service '<subscription name>' [Path=<url>] failed on Device '<device>'. Unable to connect to data provider

Error Type:
Warning

Possible Causes:
1. Unable to bind to local network adapter.
2. PC not connected to the internet.
3. WeatherBug service temporarily unavailable.

Solutions:
1. Refer to the solutions for the "Unable to Bind to Adapter" error message.
2. Verify the internet connection.
3. Try again later.

See Also:
Unable to Bind to Adapter

Service '<subscription name>' [Path=<url>] failed on Device '<device>'. XML parse error occurred

Error Type:
Warning

Possible Causes:
1. No XML Parser is installed.
2. Incorrect XML Parser is installed.

Solution:
Install MSXML 4.0.

Unable to bind to adapter: '<adapter>'

Error Type:
Warning

Possible Cause:
Since the driver was unable to bind to the network adapter specified, the driver will bind to the default network adapter as assigned by the operating system.

Solution:
Verify the settings for the network adapter specified.

Winsock initialization failed (OS Error = <number>)

Error Type:
Fatal

OS Error 10091
Indicates that the underlying network subsystem is not ready for network communication.
Wait a few seconds and restart the driver.

OS Error 10067
1. Limit on the number of tasks supported by the Windows Sockets implementation has been reached.
2. Close one or more applications that may be using Winsock and restart the driver.

Winsock shut down failed (OS Error = <number>)

Error Type:
Fatal

OS Error 10036
The network subsystem is still busy with unfinished processing. Wait a few seconds and restart the driver.

OS Error 10050
The network subsystem has failed. Refer to the network administrator.

OS Error 10093
The network subsystem was not initialized before the shutdown was attempted. Wait a few seconds and try again.

Winsock V1.1 or higher must be installed to use the WeatherBug driver

Error Type:
Fatal

Possible Cause:
The version number of the Winsock DLL found on the system is less than 1.1.

Solution:
Upgrade Winsock to version 1.1 or higher.

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