Report Generator Help Guide

Report Generator lets you create custom reports from multiple data sources.

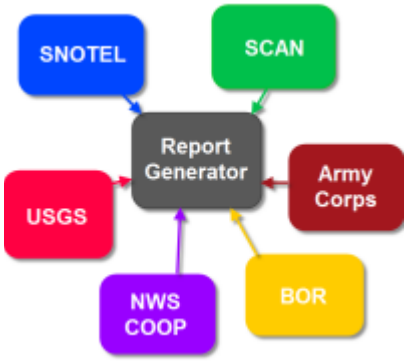
Contents

Report Generator Features - Overview

Open the Report Generator application.

A quick overview of the features and capabilities of Report Generator.


Mt Hood Test Site (651)
Oregon SNOTEL/SCAN Site - 5370 ft



Report Generator is a web application developed by the Natural Resources Conservation Service (NRCS) National Water and Climate Center (NWCC).

The application uses long-term snowpack, precipitation, reservoir, streamflow, and soils data from a variety of quality-controlled sources to create reports.

Users can choose from predefined templates or build custom reports.

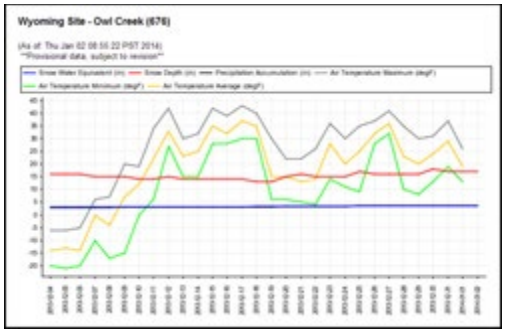
Data from tabular reports may be exported to different formats, including comma-separated value (CSV) files. Charts can be saved to graphics formats, such as JPG and PNG.

The **Report Generator** network incorporates data from many agency databases. The NRCS snow survey flagship database, the Water and Climate Information System (WCIS), provides a wealth of data, including manually-collected snow course data and information from automated Snow Telemetry (SNOTEL) and Soil Climate Analysis Network (SCAN) stations across the United States.

Report Generator also uses precipitation, streamflow, and reservoir data from the U.S. Army Corps of Engineers (USACE), the U.S. Bureau of Reclamation (BOR), the Applied Climate Information System (ACIS), the U.S. Geological Survey (USGS), various water districts and other entities.

In addition to creating reports, **Report Generator** lets you view information on sites, including "metadata," such as elevation, latitude/longitude and hydrologic unit code (HUC).

View photos of the site, including a site map (in Google maps when available).



Report Generator creates reports in both tabular and chart format. Single-station and multiple-station charting is also supported. Data may be displayed in either English or Metric units.

Who can benefit from using these data and products?

Farmers, municipalities, water and hydroelectric utilities, environmental organizations, fish and wildlife managers, tribal nations, reservoir managers, recreationists, wetlands managers, urban developers, transportation departments, and research organizations regularly use our data

Create a Single Station Report

This tutorial describes how to create a custom report for a single station in Report Generator. The example will use a SNOTEL station (Site 526, Hogg Pass) to create a report which compares snow water equivalent (SWE) and snow depth data for the current year and the previous year.

Step 1: Select station

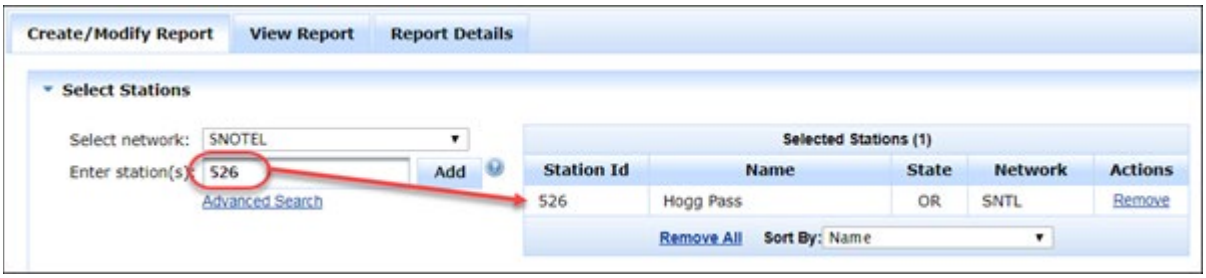
Start Report Generator.

Select the **Create/Modify Report** tab.

Add the Hogg Pass station to the Selected Stations list. In **Select network:** select **SNOTEL** from the dropdown list.

In **Enter station(s):** enter **526** (the station ID for Hogg Pass). Optionally, enter the first few characters of the Station Name to activate the auto-fill capability.

Select the **Add** button to add Station 526 to the Selected Stations list.



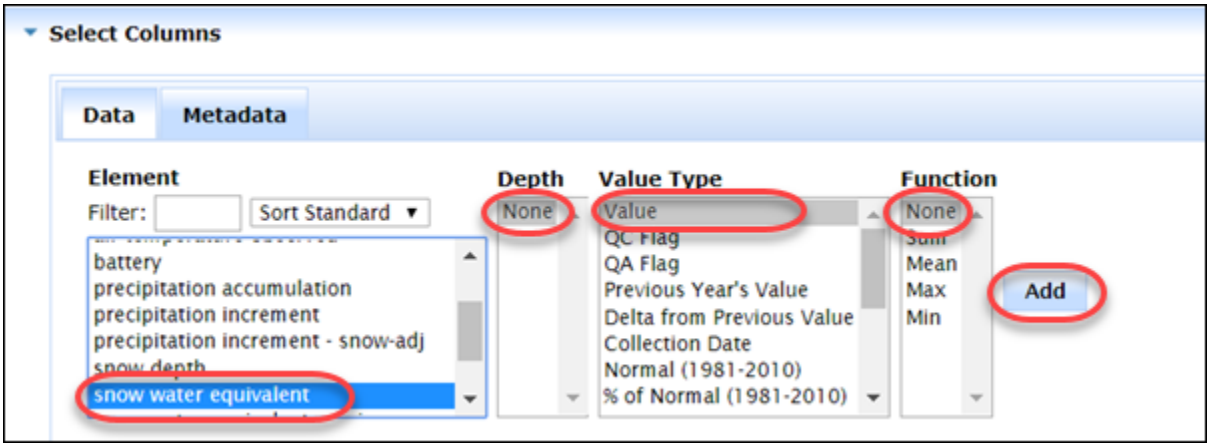
The Hogg Pass station is now the selected station for the custom report.

Step 2: Select columns

In the Select Columns pane, ensure the **Data** tab is selected.

In the **Element** area, select **snow water equivalent**. Select Depth = **None**, Value Type = **Value**, Function = **None**.

Select the **Add** button to add the element to the Manage Selected Columns list.



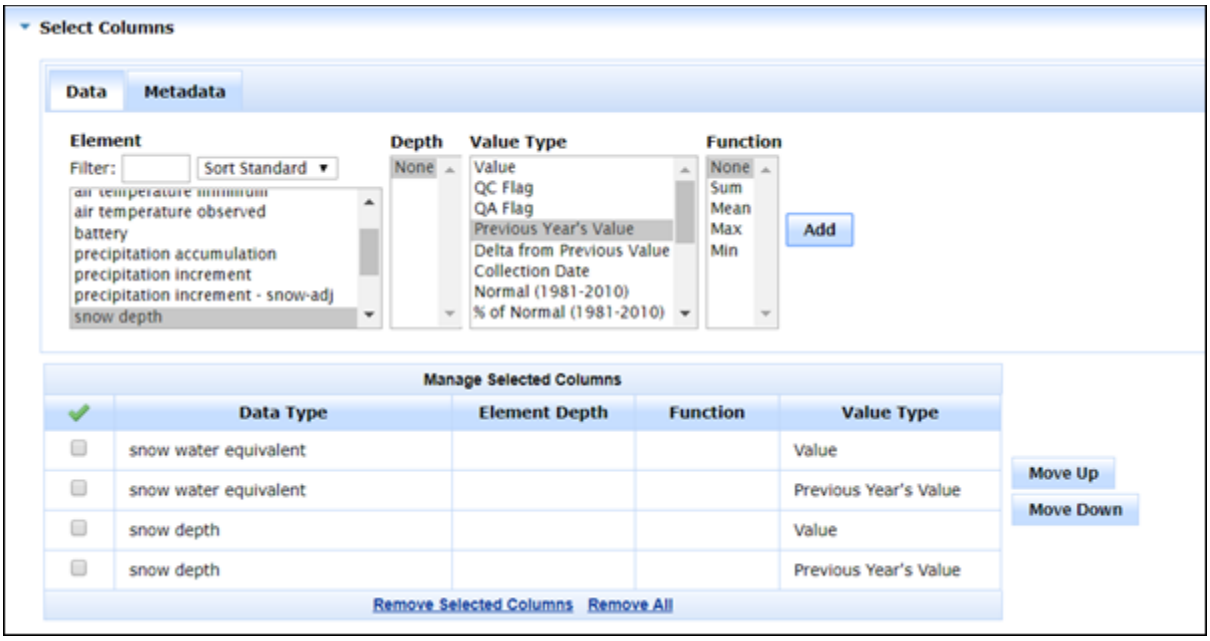
In the **Element** area, select **snow water equivalent**. Change the **Value Type** to **Previous Year's Value**.

Select the **Add** button to add the element to the Manage Selected Columns list.

In the **Element** area, select **snow depth**. Select Depth = **None**, Value Type = **Value**, Function = **None**.

Select the **Add** button to add the element to the Manage Selected Columns list.

Repeat steps 6 and 7, using **Previous Year's Value** as the Value Type. The screen should look similar to the following.

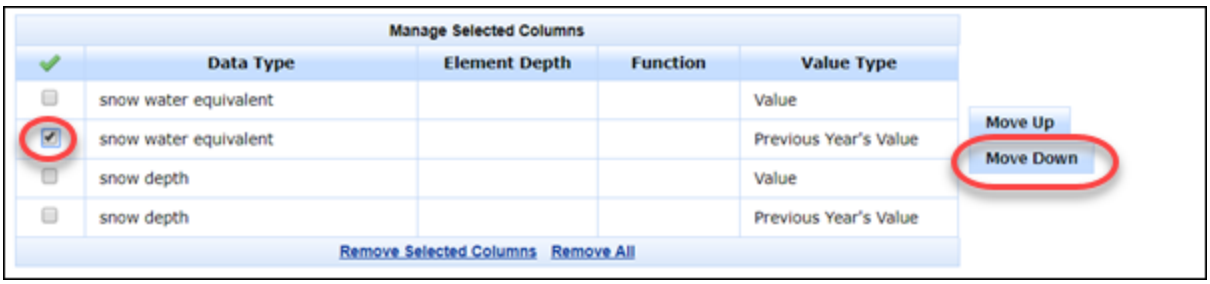


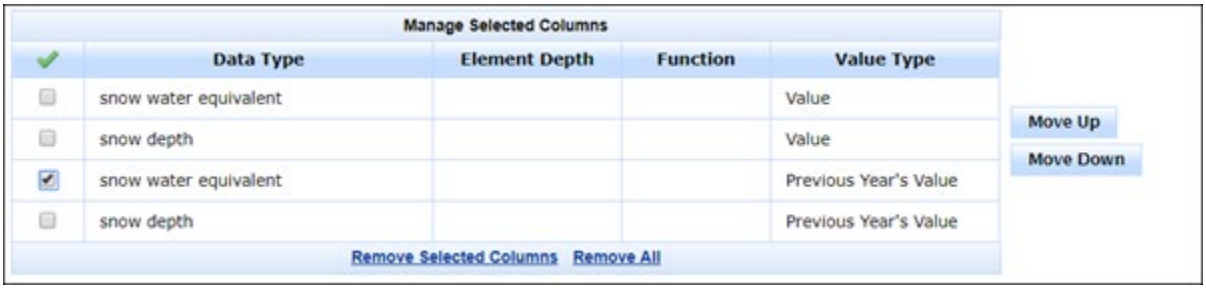
Step 3: Determine column order

The next step is to determine the order in which the columns will be displayed.

To change the order of a column. Enable (select) the checkbox to the left of the snow water equivalent Previous Year's Value data type.

Select the **Move Down** button. The snow water equivalent Previous Year's Value will move down one level in order.





The report will contain snow water equivalent and snow depth data for the current year, followed by snow water equivalent and snow depth data for the previous year for the Hogg Pass station (526).

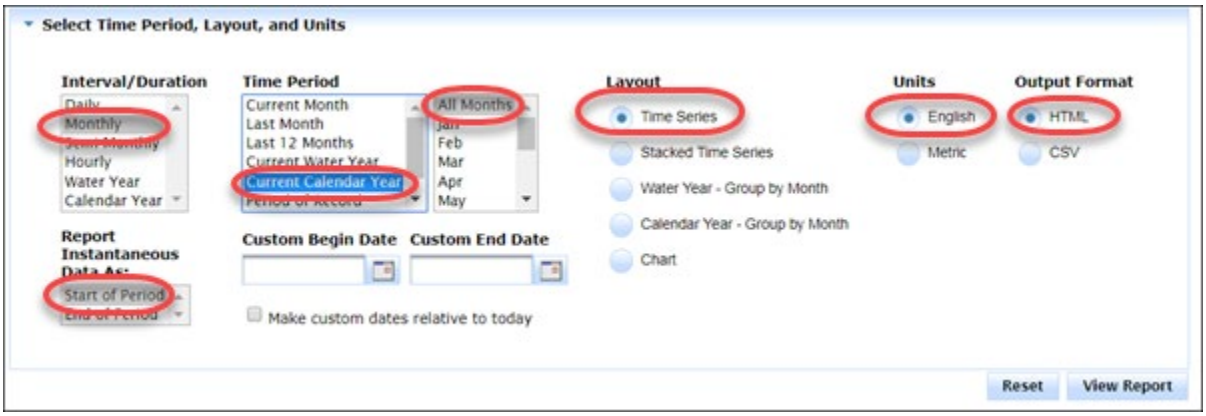
Now that the data types and order of the columns are complete, it's time to determine the layout of the final report.

Step 4: Determine report layout

For this example, the initial report will be generated with a frequency of monthly and a time series layout.

In the **Select Time Period, Layout, and Units** pane, select the following:

Frequency = Monthly
Report Instantaneous Data As = Start of Period
Time Period = Current Calendar Year and All Months
Layout = Time Series
Units = English
Output Format = HTML

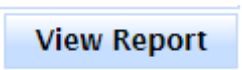


The report will contain snow water equivalent and snow depth data for the current year, followed by snow water equivalent and snow depth data for the previous year for the Hogg Pass station (526).

Now that the data types and order of the columns are complete, it's time to determine the layout of the final report.

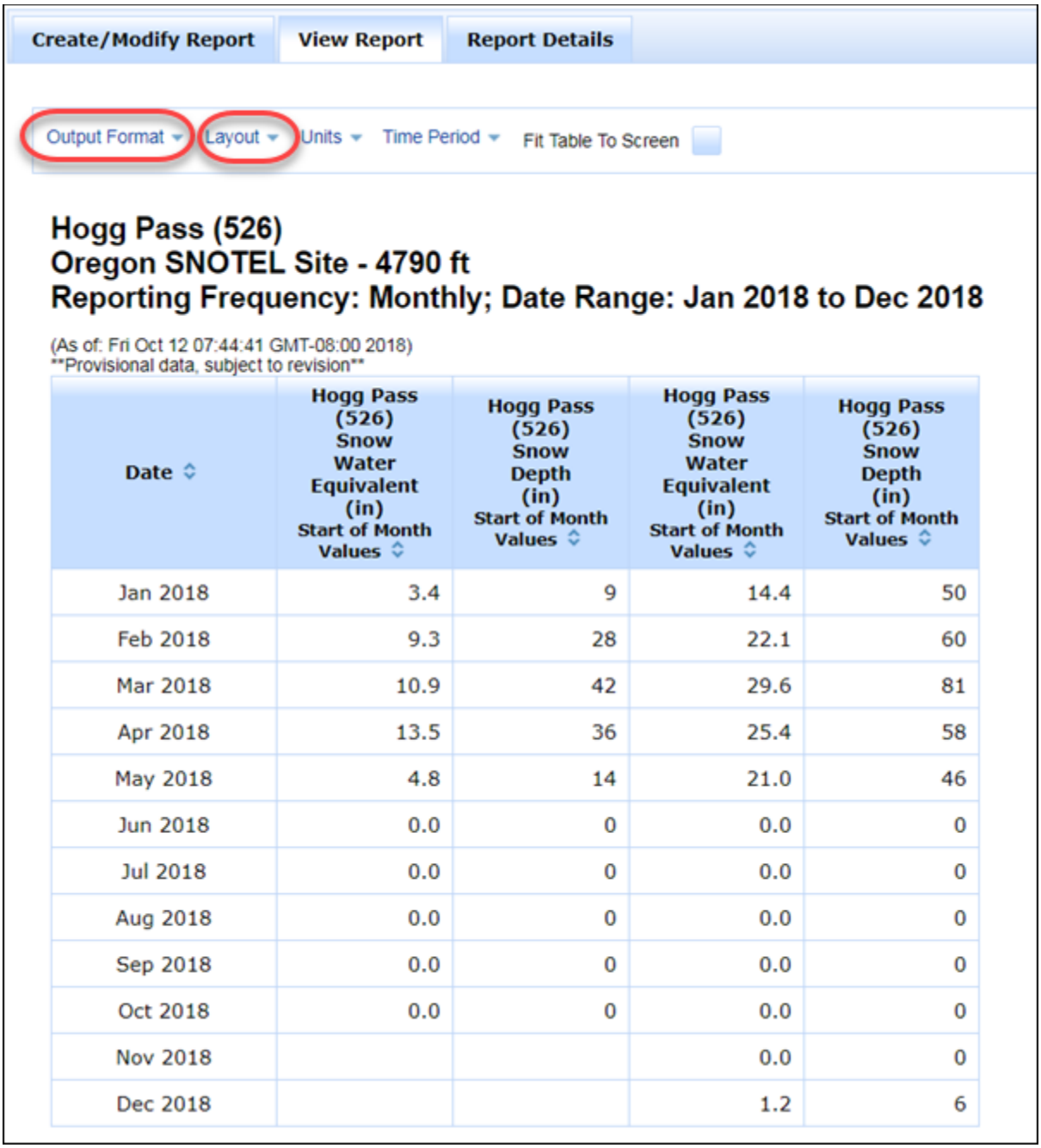
Step 5: Create the report

Now that the station has been identified, the data types and their order defined, and the look and feel of the final report determined, it's time to view the report and analyze the results.

Select the 

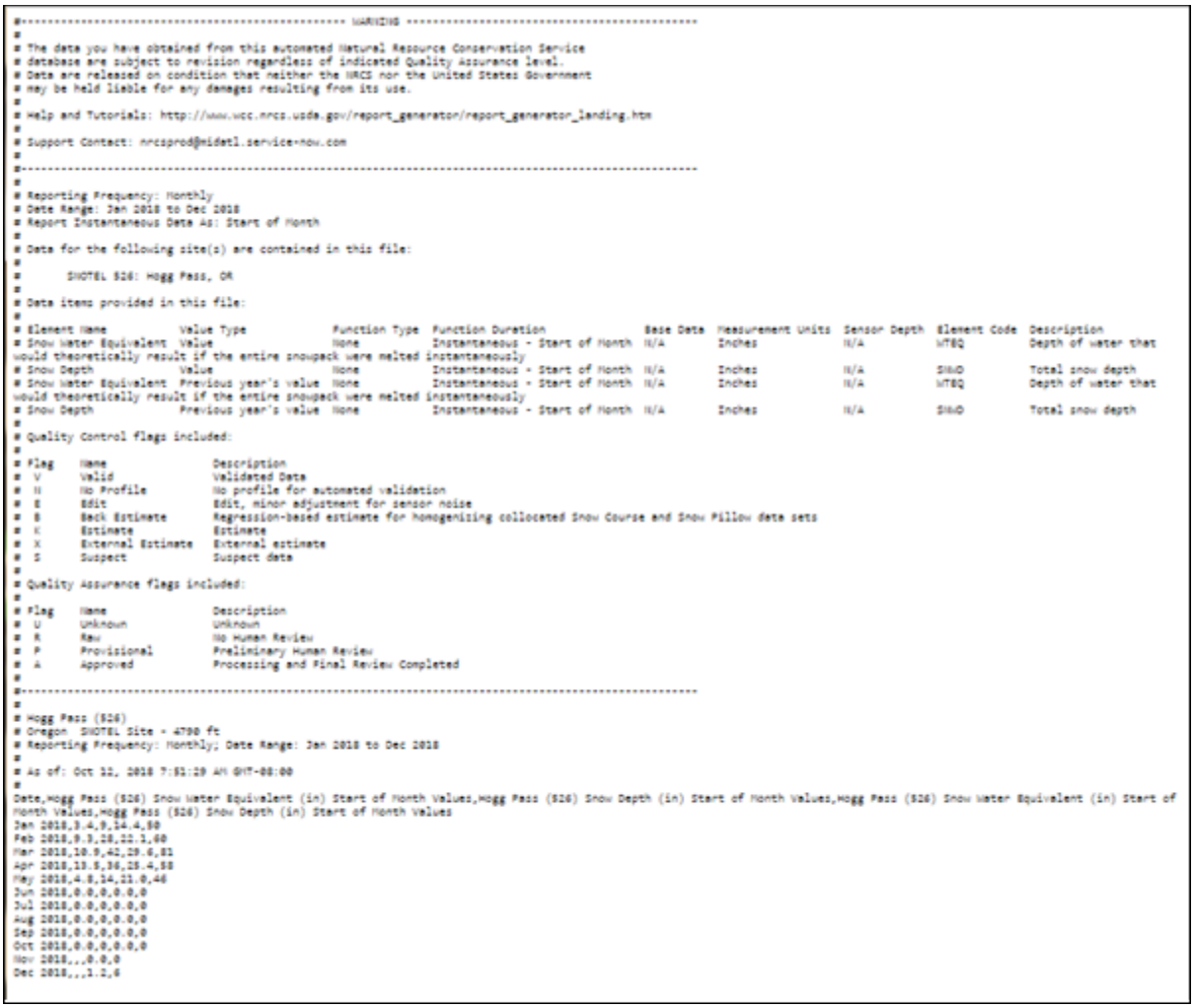
button. The results of the report are displayed in the **View Report** tab.

Note that snow water equivalent and snow depth data are displayed for the current and previous year for the Hogg Pass station (526).



Date	Hogg Pass (526) Snow Water Equivalent (in) Start of Month Values	Hogg Pass (526) Snow Depth (in) Start of Month Values	Hogg Pass (526) Snow Water Equivalent (in) Start of Month Values	Hogg Pass (526) Snow Depth (in) Start of Month Values
Jan 2018	3.4	9	14.4	50
Feb 2018	9.3	28	22.1	60
Mar 2018	10.9	42	29.6	81
Apr 2018	13.5	36	25.4	58
May 2018	4.8	14	21.0	46
Jun 2018	0.0	0	0.0	0
Jul 2018	0.0	0	0.0	0
Aug 2018	0.0	0	0.0	0
Sep 2018	0.0	0	0.0	0
Oct 2018	0.0	0	0.0	0
Nov 2018			0.0	0
Dec 2018			1.2	6

To save the results of the report in comma-separated value format, select **CSV** from the **Output Format** dropdown list. A web page will open with the data from the report displayed.

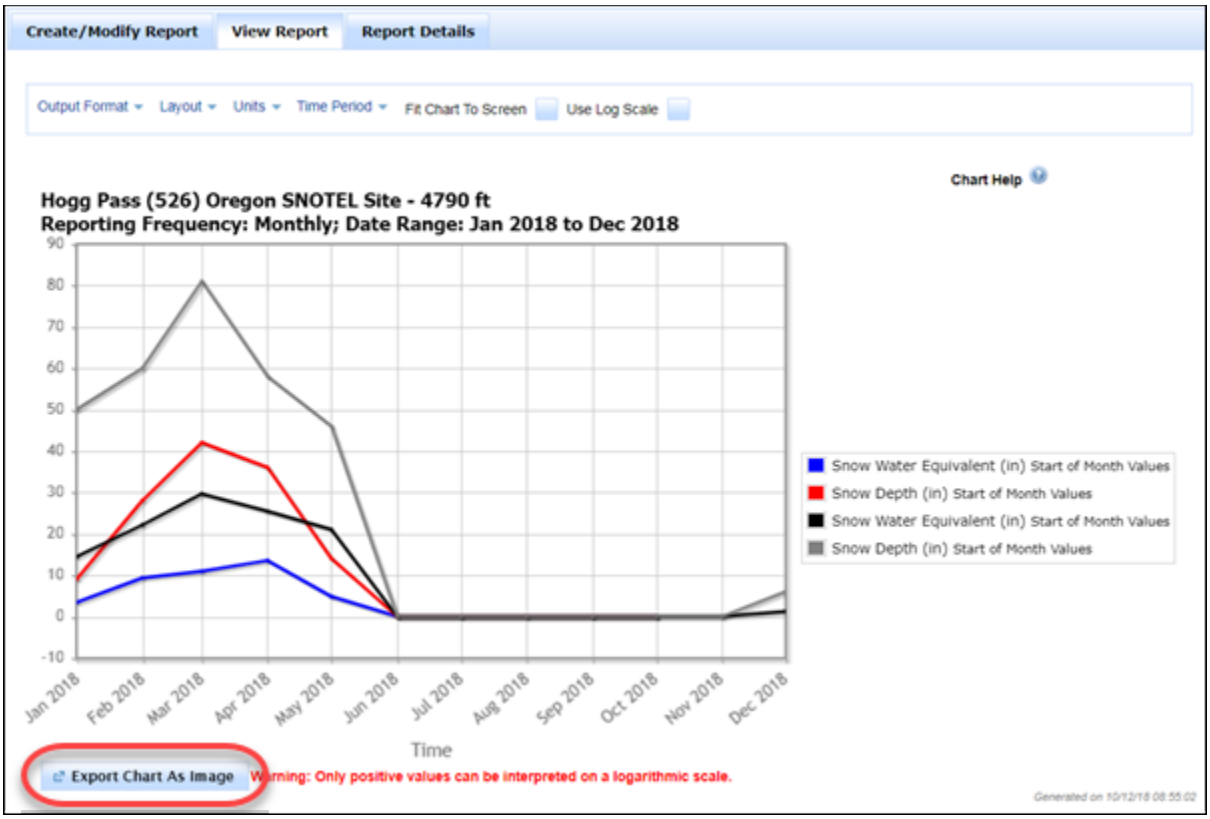


```
#------------------------------------------- WARNING ------------------------------------------
#
# The data you have obtained from this automated Natural Resource Conservation Service
# database are subject to revision regardless of indicated Quality Assurance level.
# Data are released on condition that neither the NRCS nor the United States Government
# may be held liable for any damages resulting from its use.
#
# Help and Tutorials: http://www.wcc.nrcs.usda.gov/report_generator/report_generator_landing.htm
#
# Support Contact: nrcsprod@nidetl.service-now.com
#
#----------------------------------------------------------------------------------------------
#
# Reporting Frequency: Monthly
# Date Range: Jan 2018 to Dec 2018
# Report Instantaneous Data As: Start of Month
#
# Data for the following site(s) are contained in this file:
#
#       SNOTEL 526: Hogg Pass, OR
#
# Data items provided in this file:
#
# Element Name          Value Type            Function Type  Function Duration              Base Date  Measurement Units  Sensor Depth  Element Code  Description
# Snow Water Equivalent  Value                 None           Instantaneous - Start of Month  N/A        Inches             N/A           WTEQ          Depth of water that
would theoretically result if the entire snowpack were melted instantaneously
# Snow Depth            Value                 None           Instantaneous - Start of Month  N/A        Inches             N/A           SNWD          Total snow depth
# Snow Water Equivalent  Previous year's value  None           Instantaneous - Start of Month  N/A        Inches             N/A           WTEQ          Depth of water that
would theoretically result if the entire snowpack were melted instantaneously
# Snow Depth            Previous year's value  None           Instantaneous - Start of Month  N/A        Inches             N/A           SNWD          Total snow depth
#
# Quality Control flags included:
#
# Flag    Name               Description
#  V      Valid              Validated Data
#  N      No Profile         No profile for automated validation
#  E      Edit               Edit, minor adjustment for sensor noise
#  B      Back Estimate      Regression-based estimate for homogenizing collocated Snow Course and Snow Pillow data sets
#  K      Estimate           Estimate
#  X      External Estimate  External estimate
#  S      Suspect            Suspect data
#
# Quality Assurance flags included:
#
# Flag    Name               Description
#  U      Unknown            Unknown
#  R      Raw                No Human Review
#  P      Provisional        Preliminary Human Review
#  A      Approved           Processing and Final Review Completed
#
#----------------------------------------------------------------------------------------------
#
# Hogg Pass (526)
# Oregon  SNOTEL Site - 4700 ft
# Reporting Frequency: Monthly; Date Range: Jan 2018 to Dec 2018
#
# As of: Oct 12, 2018 7:51:29 AM GMT-08:00
#
Date,Hogg Pass (526) Snow Water Equivalent (in) Start of Month Values,Hogg Pass (526) Snow Depth (in) Start of Month Values,Hogg Pass (526) Snow Water Equivalent (in) Start of
Month Values,Hogg Pass (526) Snow Depth (in) Start of Month Values
Jan 2018,3.4,9,14.4,50
Feb 2018,9.3,28,22.1,60
Mar 2018,10.9,42,29.6,81
Apr 2018,13.9,36,25.4,58
May 2018,4.8,14,21.0,46
Jun 2018,0.0,0,0.0,0
Jul 2018,0.0,0,0.0,0
Aug 2018,0.0,0,0.0,0
Sep 2018,0.0,0,0.0,0
Oct 2018,0.0,0,0.0,0
Nov 2018,,,0.0,0
Dec 2018,,,1.2,4
```

Right-click on this web page and select **Save as...**.

Save the file with a .csv extension.

To change the report from tabular to chart view, select **Chart** from the **Layout** drop-down menu. The table will display as a chart, similar to the one shown below.



Create a Multi-Station Report

This tutorial describes how to create custom reports for multiple stations in Report Generator. The example will use several SNOTEL (Snow Telemetry) stations in the state of Oregon to compare standard elements and generate two reports: a multi-station report grouped by element and a multi-station chart.

Step 1: Select stations

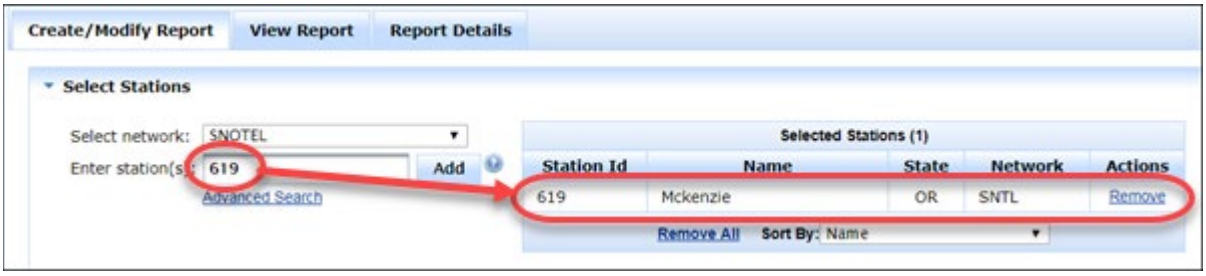
Start Report Generator.

Select the **Create/Modify Report** tab.

Add stations to the Selected Stations list. In **Select network:** select **SNOTEL** from the dropdown list.

In **Enter station(s):** enter **619** (the station ID for McKenzie). Optionally, enter the first few characters of the Station Name to activate the auto-fill capability.

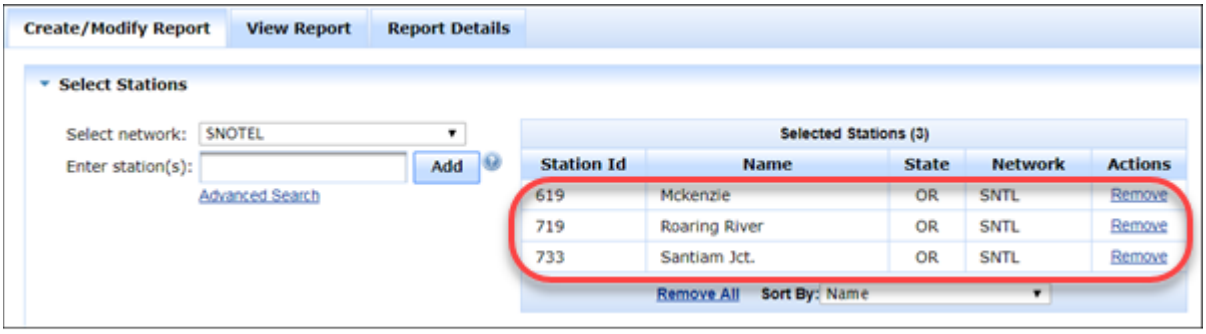
Select the **Add** button to add Station 619 to the Selected Stations list.



Repeat Steps #4 and #5 to add each of these stations to the Selected Stations list:

- 719 Roaring River
- 733 Santiam Junction

When finished, there should be three stations in the Selected Stations list.



Step 2: Select columns

The next step is to determine the data columns which will be part of the multi-station report. For this tutorial, we will add two data columns (snow water equivalent and precipitation accumulation) and a metadata column (HUC) to display for the multiple stations.

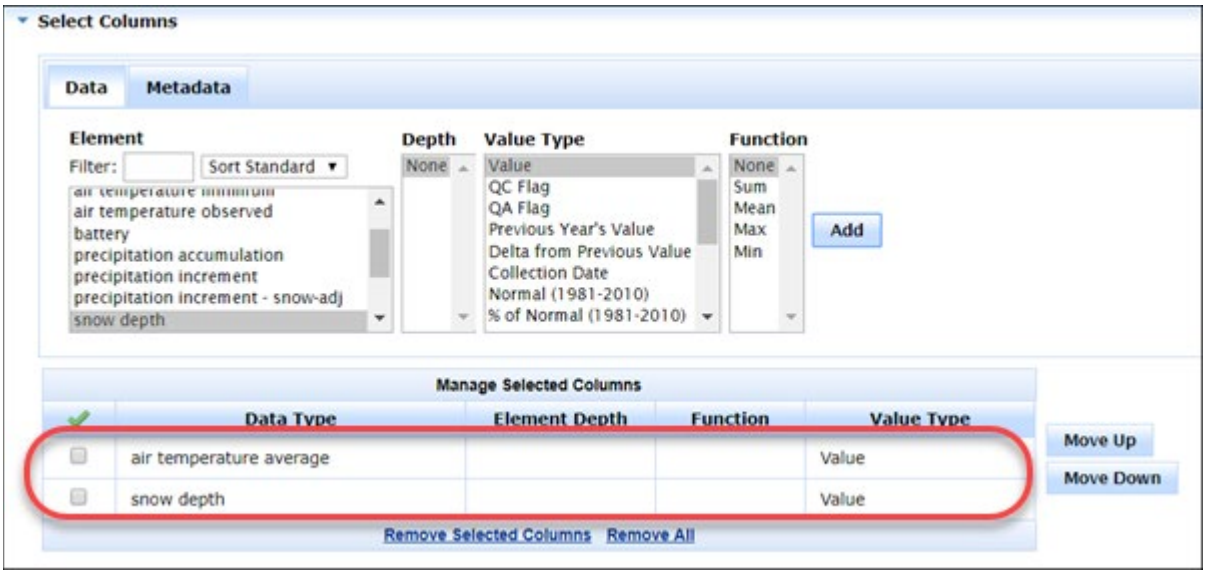
Add the data columns. In the **Select Columns** pane, select the **Data** tab.

For element, select **air temperature average.** Depth = **None**, Value Type = **Value**, Function = **None**.

Select the **Add** button to add the element to the Manage Selected Columns list.

Repeat Steps 2 and 3, this time selecting the **snow depth** element.

The display should look similar to the following.

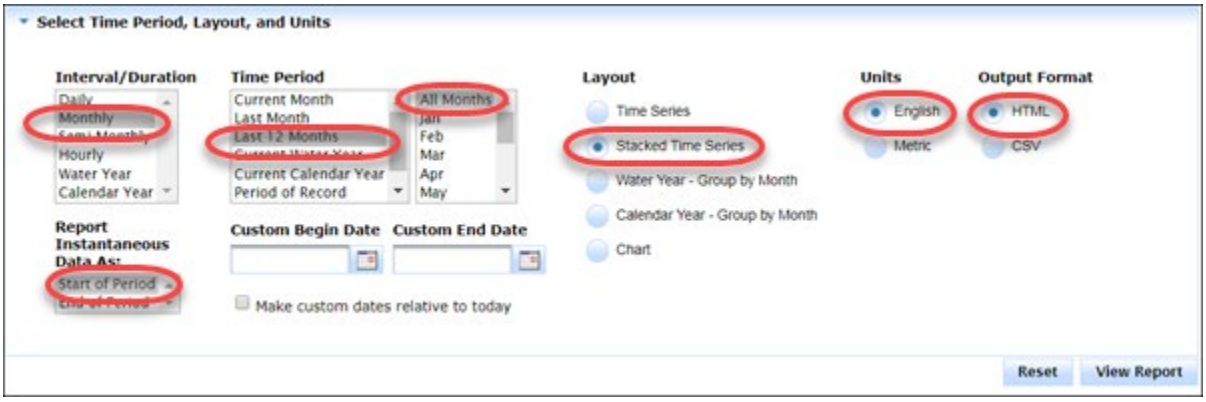


Step 3: Determine report layout

For this example, the report will be generated with a frequency of **Water Year**, a time period of the **Last 3 Water Years** and **Water Year - Group by Month** layout.

In the **Select Time Period, Layout, and Units** pane, select the following:

Frequency = Monthly
Report Instantaneous Data As = Start of Period
Time Period = Last 12 Months, All Months
Layout = Stacked Time Series
Units = English
Output Format = HTML

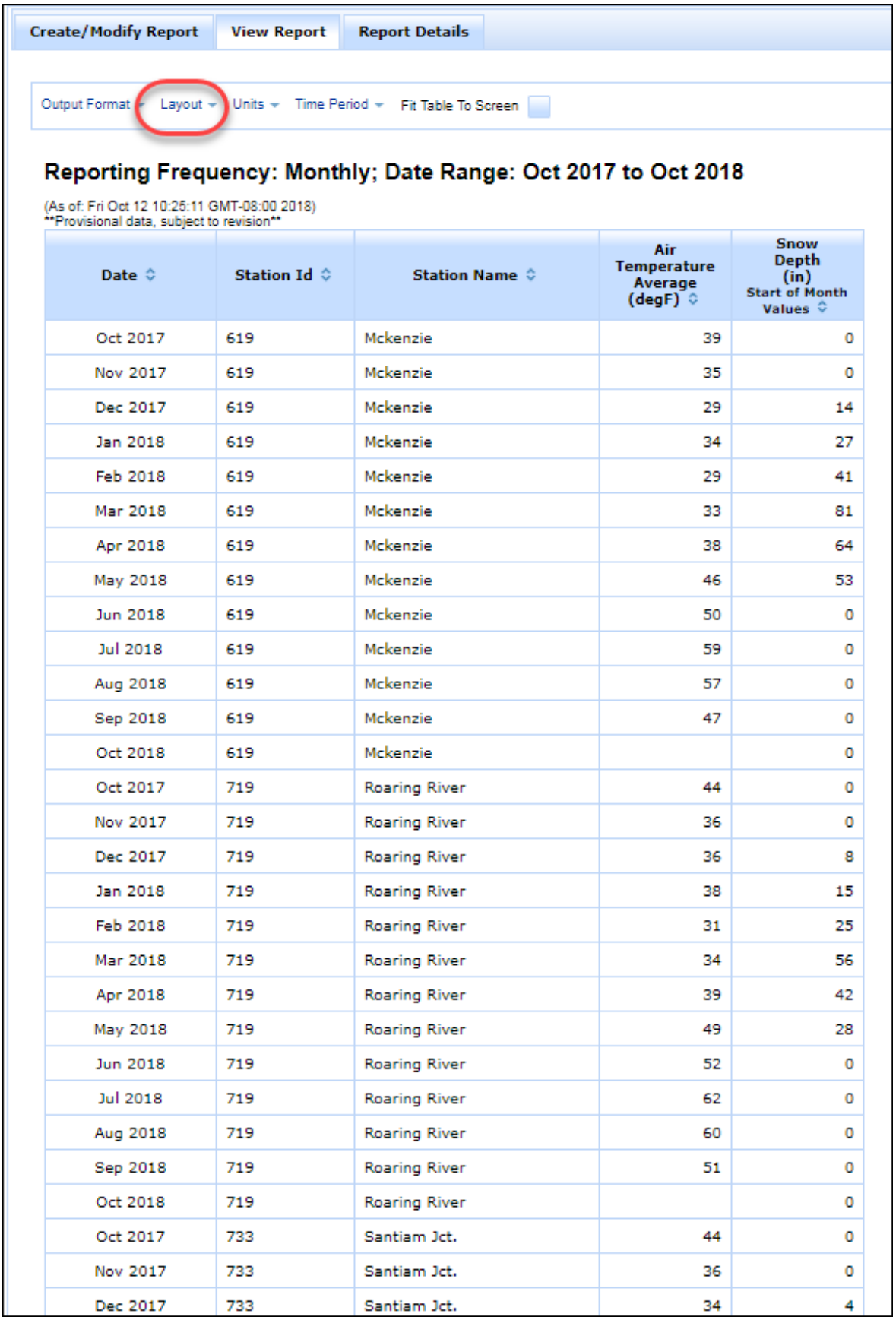


Step 4: Generate the report

Now that the stations have been identified, the data types and their order defined, and the look and feel of the final report determined, it's time to generate the report and analyze the results.

Select the button. The results of the report are displayed in the **View Report** tab.

Note that Air Temperature Average and Snow Depth data are displayed for the last 12 months for the three selected stations. Note, too, that Report Generator automatically added the Site ID and Site Name into the report.



Reporting Frequency: Monthly; Date Range: Oct 2017 to Oct 2018

(As of: Fri Oct 12 10:25:11 GMT-08:00 2018)
Provisional data, subject to revision

Date	Station Id	Station Name	Air Temperature Average (degF)	Snow Depth (in) Start of Month Values
Oct 2017	619	Mckenzie	39	0
Nov 2017	619	Mckenzie	35	0
Dec 2017	619	Mckenzie	29	14
Jan 2018	619	Mckenzie	34	27
Feb 2018	619	Mckenzie	29	41
Mar 2018	619	Mckenzie	33	81
Apr 2018	619	Mckenzie	38	64
May 2018	619	Mckenzie	46	53
Jun 2018	619	Mckenzie	50	0
Jul 2018	619	Mckenzie	59	0
Aug 2018	619	Mckenzie	57	0
Sep 2018	619	Mckenzie	47	0
Oct 2018	619	Mckenzie		0
Oct 2017	719	Roaring River	44	0
Nov 2017	719	Roaring River	36	0
Dec 2017	719	Roaring River	36	8
Jan 2018	719	Roaring River	38	15
Feb 2018	719	Roaring River	31	25
Mar 2018	719	Roaring River	34	56
Apr 2018	719	Roaring River	39	42
May 2018	719	Roaring River	49	28
Jun 2018	719	Roaring River	52	0
Jul 2018	719	Roaring River	62	0
Aug 2018	719	Roaring River	60	0
Sep 2018	719	Roaring River	51	0
Oct 2018	719	Roaring River		0
Oct 2017	733	Santiam Jct.	44	0
Nov 2017	733	Santiam Jct.	36	0
Dec 2017	733	Santiam Jct.	34	4

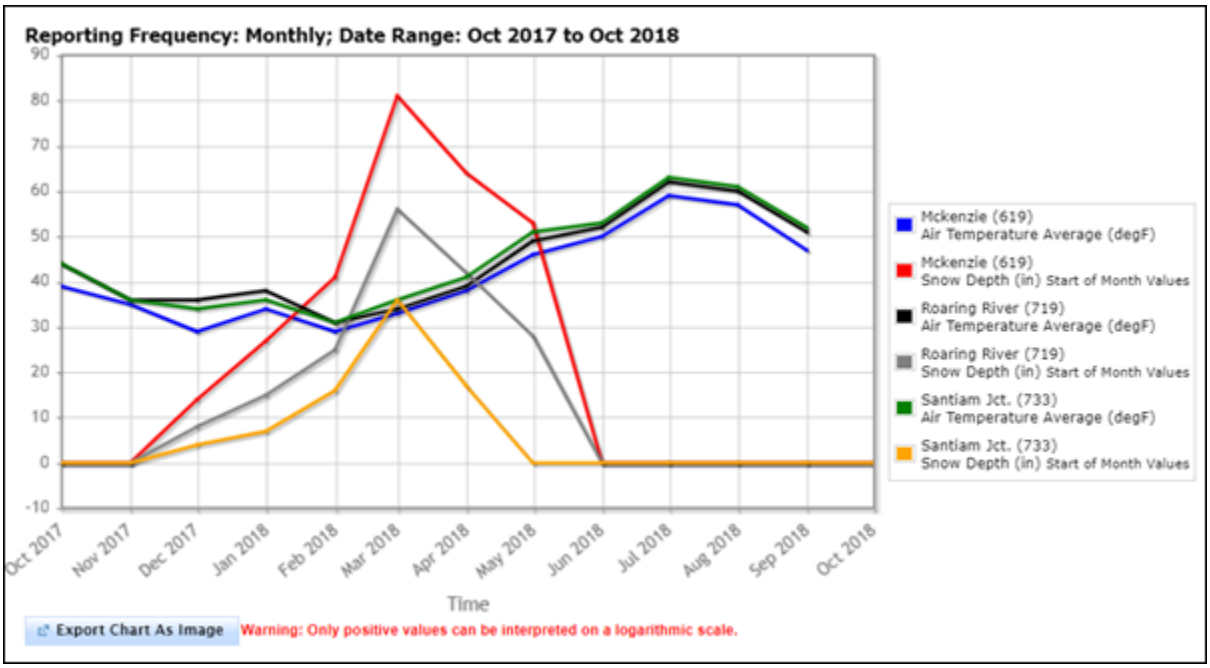
Tip: To save the results of the report, select the **Export** icon ( ). Use the **Layout**, **Units**, and **Time Period** menus to change the output of the report.

The final step in this tutorial is to create a multi-station chart.

In the **Layout** dropdown list, select **Chart**.

Select the button.

Depending on the time of year the tutorial is completed, a chart similar to the one shown displays.

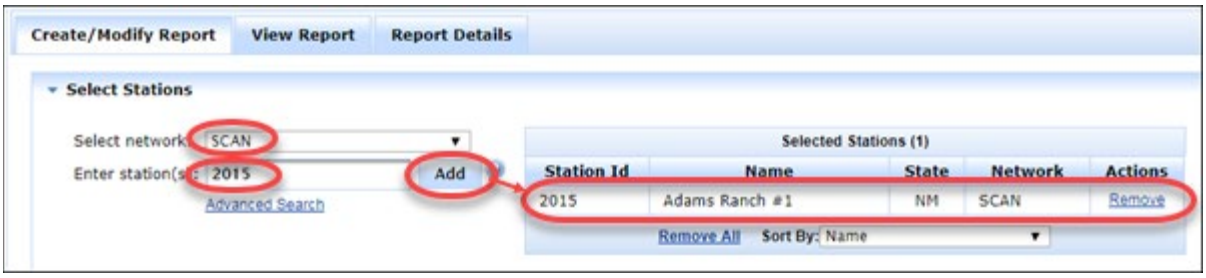


Create a Daily Soil Summary

This tutorial describes how to create a daily soil data summary for a single station in Report Generator. The example will use a Soil Climate Analysis Network (SCAN) station (Site 2015, Adams Ranch) to create a report which summarizes soil moisture and soil temperature at three depths for the last 30 days.

Step 1: Select station

1. Start Report Generator.
2. Select the **Create/Modify Report** tab.
3. Add the Adams Ranch SCAN station to the Selected Stations list. In **Select network:** select **SCAN** from the dropdown list.
4. In **Enter station(s):** enter **2015** (the station ID for Adams Ranch). Optionally, enter the first few characters of the Station Name to activate the auto-fill capability.
5. Select the **Add** button to add Station 2015 to the Selected Stations list.

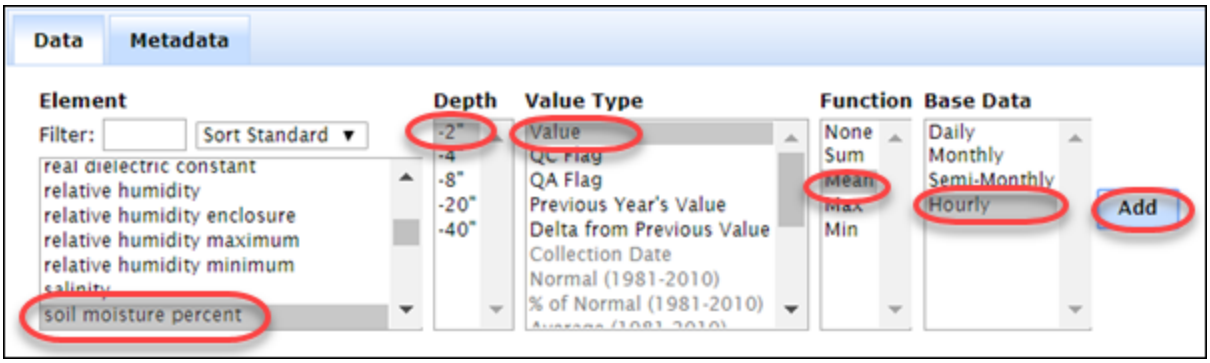


The Adams Ranch station is now the selected station for the custom report.

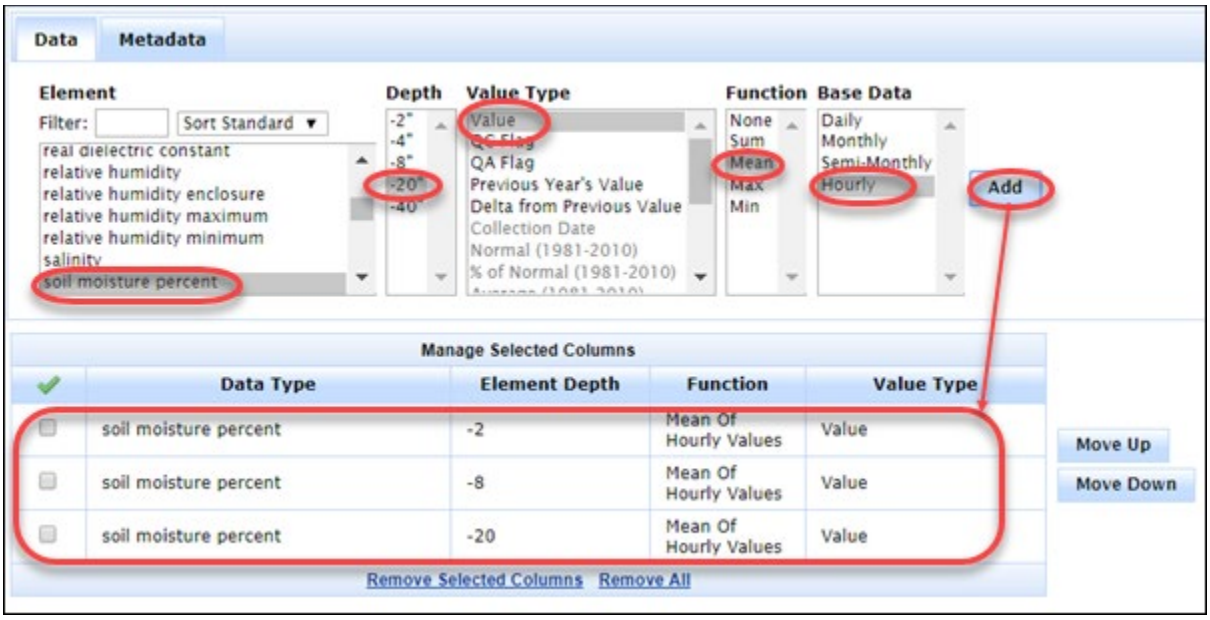
Step 2: Select columns

The next step is to determine the data columns which will be part of the single station report. For this tutorial, we will add columns to display the previous 30 day's soil moisture percentage at three depths (2', 8", and 20") for the Adams Ranch station.

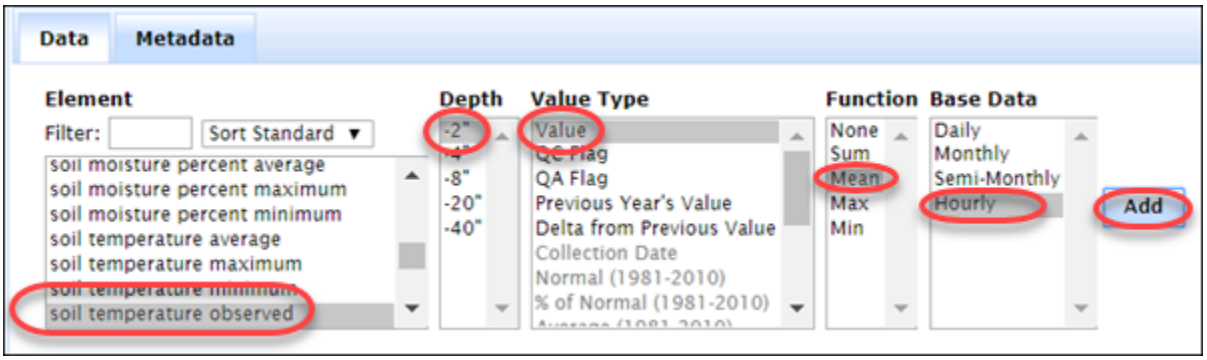
1. In the Select Columns pane, ensure the **Data** tab is selected.
2. In the **Element** area, select **soil moisture percent**.
3. Set **Depth** to -2", **Value Type** to Value, **Function** to Mean, and **Function Interval** to Hourly.
4. Select the **Add** button to add the element to the Manage Selected Columns list.



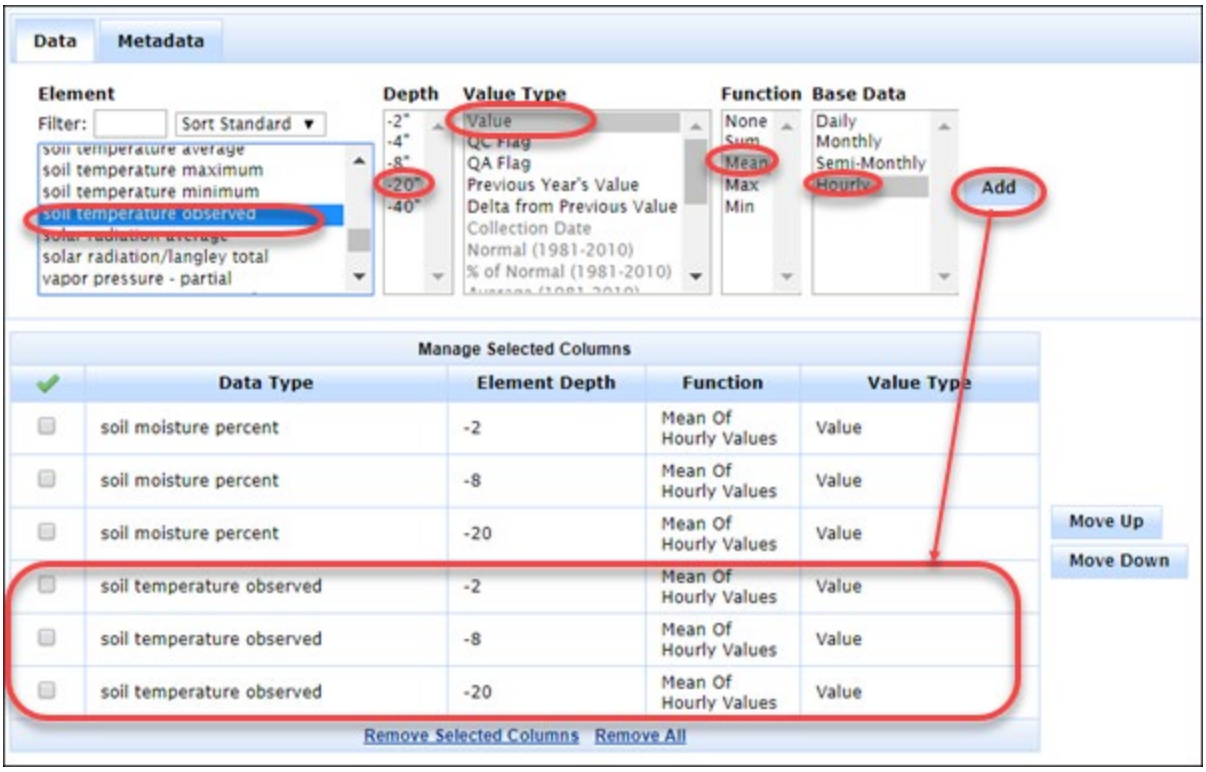
5. Repeat Steps 3 and 4, using the **Depths** -8" and -20".
6. Select the **Add** button to add each depth to the Manage Selected Columns list.



7. Next, in the **Element** area, select **soil temperature observed**.
8. Set **Depth** to -2", **Value Type** to Value, **Function** to Mean, and **Function Interval** to Hourly.
9. Select the **Add** button to add the element to the Manage Selected Columns list.



10. Repeat Steps 8 and 9, using the **Depths** -8" and -20".
11. Select the **Add** button to add each depth to the Manage Selected Columns list.



Soil moisture and soil temperature data at depths of -2", -8", and -20" will be reported on an hourly mean basis for the Adams Ranch SCAN station (2015).

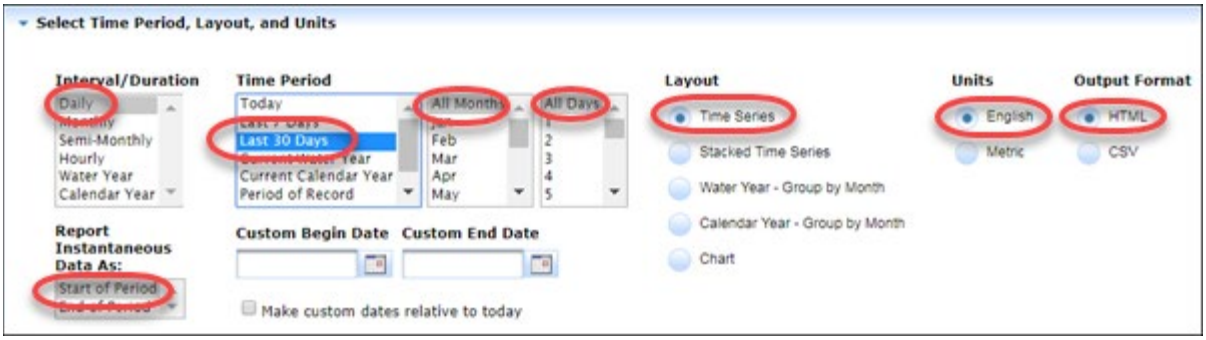
Now that the data types are selected, it's time to determine the layout of the final report.

Step 3: Determine report layout

For this example, the initial report will be generated with a frequency of monthly and Standard (non-grouped) layout.

1. In the **Select Time Period, Layout, and Units** pane, select the following:

Frequency = Daily
Report Instantaneous Data As = Start of Period
Time Period = Last 30 Days, All Months, and All Days
Layout = Time Series
Units = English
Output Format = HTML



Step 4: Generate the report

Now that the station has been identified, the data types and their order defined, and the look and feel of the final report determined, it's time to generate the report and analyze the results.

1. Select the button. The results of the report are displayed in the **View Report** tab.

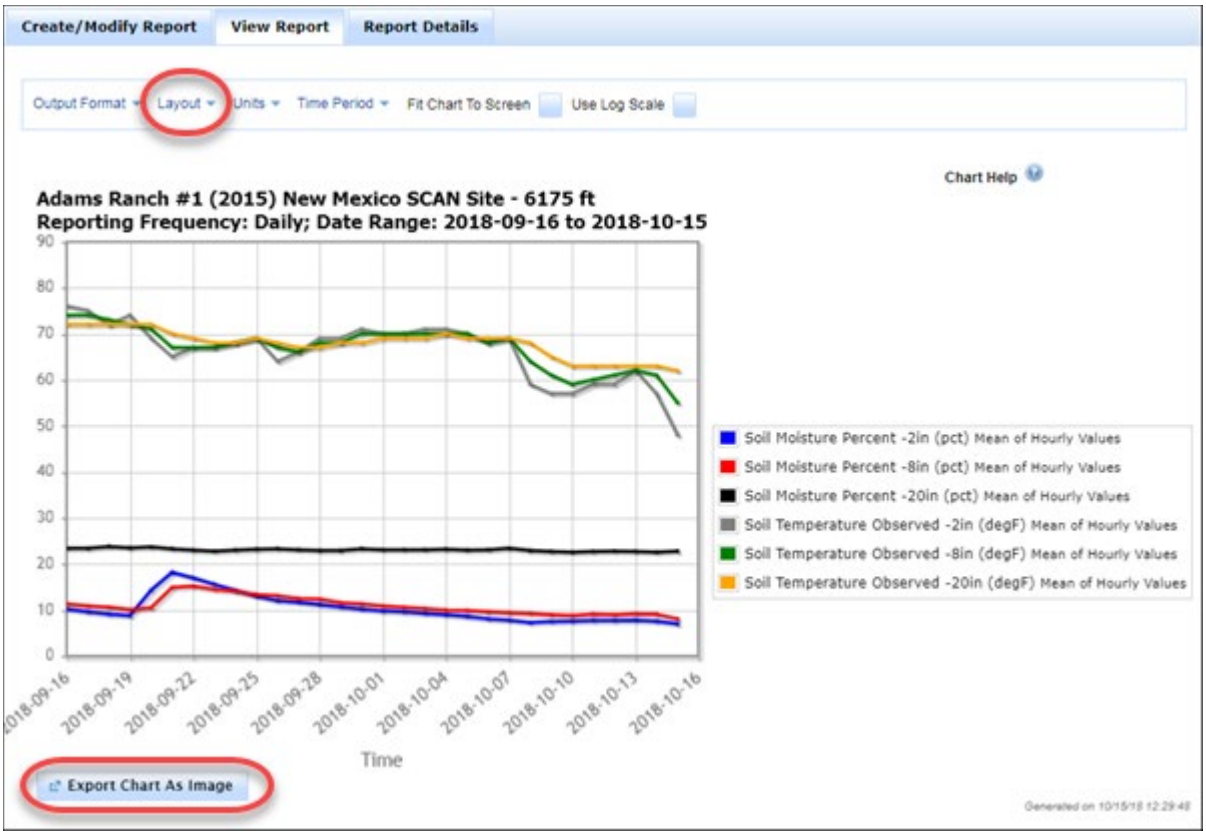
Adams Ranch #1 (2015)
New Mexico SCAN Site - 6175 ft
Reporting Frequency: Daily; Date Range: 2018-09-16 to 2018-10-15

(As of: Mon Oct 15 11:27:41 GMT-08:00 2018)
Provisional data, subject to revision

Date	Adams Ranch #1 (2015) Soil Moisture Percent -2in (pct) Mean of Hourly Values	Adams Ranch #1 (2015) Soil Moisture Percent -8in (pct) Mean of Hourly Values	Adams Ranch #1 (2015) Soil Moisture Percent -20in (pct) Mean of Hourly Values	Adams Ranch #1 (2015) Soil Temperature Observed -2in (degF) Mean of Hourly Values	Adams Ranch #1 (2015) Soil Temperature Observed -8in (degF) Mean of Hourly Values	Adams Ranch #1 (2015) Soil Temperature Observed -20in (degF) Mean of Hourly Values
2018-09-16	10.2	11.3	23.4	76	74	72
2018-09-17	9.6	10.9	23.4	75	74	72
2018-09-18	9.1	10.6	23.8	72	73	72
2018-09-19	8.8	10.1	23.5	74	72	72
2018-09-20	14.3	10.5	23.7	69	71	72
2018-09-21	18.2	14.9	23.3	65	67	70
2018-09-22	17.0	15.2	23.0	67	67	69
2018-09-23	15.6	14.5	22.8	67	67	68
2018-09-24	14.3	14.1	23.0	68	68	68
2018-09-25	13.0	13.4	23.2	69	69	69
2018-09-26	12.0	13.1	23.3	64	67	68
2018-09-27	11.7	12.5	23.1	66	66	67
2018-09-28	11.2	12.4	22.9	69	68	67
2018-09-29	10.7	11.6	22.9	69	68	68
2018-09-30	10.2	11.3	23.3	71	70	68
2018-10-01	9.8	10.9	23.1	70	70	69
2018-10-02	9.6	10.6	23.1	70	70	69

Note that mean hourly soil moisture and soil temperature data are displayed for three depths (-2", -8", and -20") for the last 30 days for the Adams Ranch station (2015).

2. To change the report from tabular to chart view, select **Chart** from the **Layout** drop-down menu.



Tip: To save the results of the report, select the **CSV** icon ( ) from the **Output Format** dropdown list. Use the **Layout**, **Units**, and **Time Period** menus to change the output of the report.

Tip: To save the chart in a graphics format, select the button. Right click the image and select **Save image as...** to save to a format such as .png or .jpg.

View Station Information Panel: Select Predefined Reports

This tutorial shows how to work with predefined reports in Report Generator. There are two types of predefined reports:

- **Data Reports.** These reports are based on several standard elements (such as precipitation or snow depth), values, and time periods.
- **Metadata Reports.** These reports are based on current and historic sensor data and site information.

Note: This tutorial uses the set of the Data Reports and Metadata Reports that are available in the current release of Report Generator. Your version of Report Generator may have additional reports available.

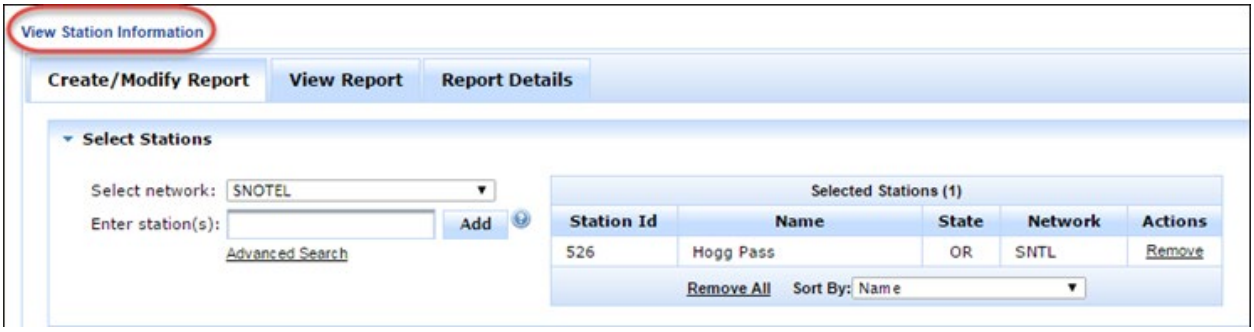
The tutorial consists of three, short lessons:

- **Lesson 1** shows how to display the different predefined Data Reports in the **View Reports** pane.

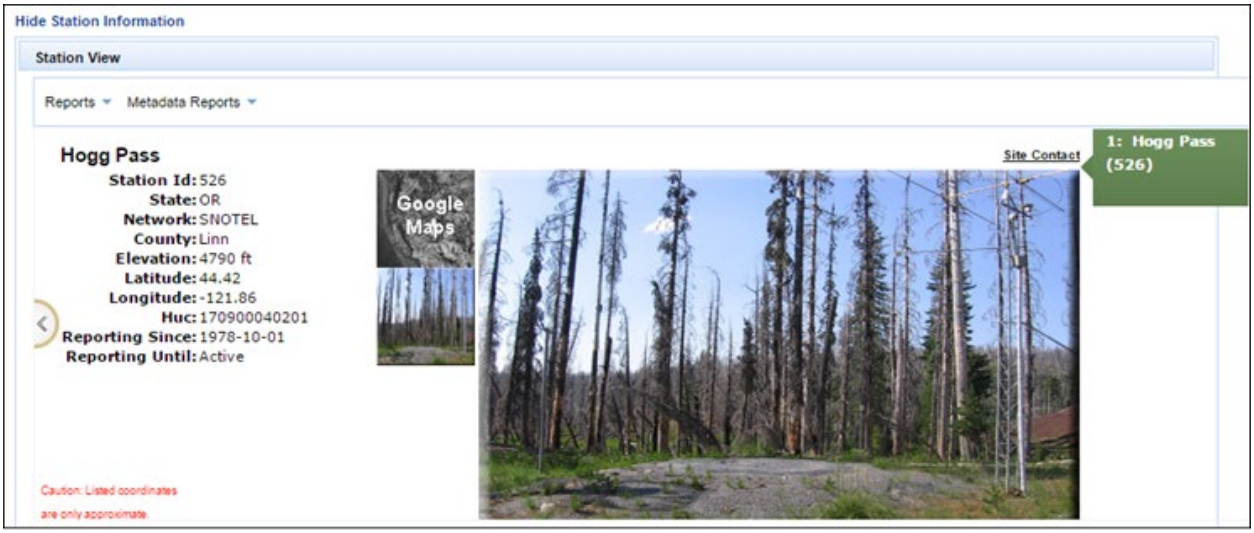
- **Lesson 2** shows how to take the results in the **View Reports** pane and save them to a .csv (comma-separated value) file for further analysis.
- **Lesson 3** shows how to quickly change the layout of a Data Report from tabular view to chart view.

Lesson 1: View Report

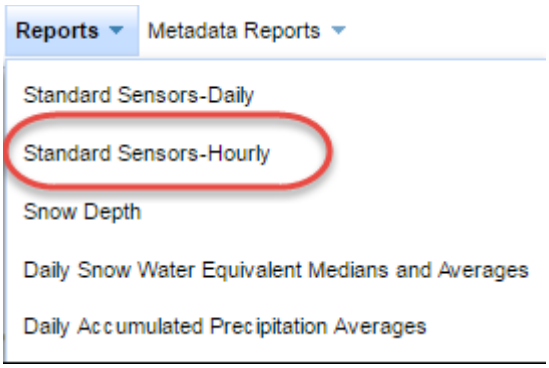
1. Start Report Generator.
2. Select the **Create/Modify Report** tab.
3. Choose the station. In the **Enter station(s)** field, enter the following station ID: 526.
4. Station 526, Hogg Pass, will be added to the Selected Stations list. When a station is added, the **View Station Information** link appears in the upper left corner of the application.



5. Select the **View Station Information** link. The Station View panel will open, displaying the station name, station metadata (such as Network, County, Elevation, Latitude, and Longitude), a site photo and a link to the site in Google Maps.



6. From the Station View pane, hover over the the **Reports** dropdown list and select **Standard Sensors-Hourly.**



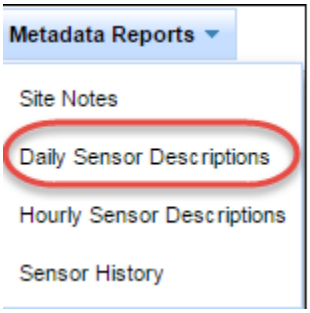
7. A report opens with hourly standard sensor data for the Hogg Pass site for the last seven days.

Hogg Pass (526)
Oregon SNOTEL Site - 4790 ft
Reporting Frequency: Hourly; Date Range: 2016-10-18 14:00 to 2016-10-25 13:00

(As of: Tue Oct 25 13:20:05 PDT 2016)
Provisional data, subject to revision

Date	Snow Water Equivalent (in)	Snow Depth (in)	Precipitation Accumulation (in)	Air Temperature Observed (degF)
2016-10-18 14:00	1.2	6		36
2016-10-18 15:00	1.2	6		36
2016-10-18 16:00	1.2	5		37
2016-10-18 17:00	1.2	5		37
2016-10-18 18:00	1.2	5		37
2016-10-18 19:00	1.1	4		37
2016-10-18 20:00	1.1	4		37

8. Next, select **Daily Sensor Descriptions** from the **Metadata Reports** dropdown list. The data changes to reflect the complete list of sensor descriptions for the Hogg Pass site.



Oregon SNTL Site Hogg Pass (526) - Daily Sensors for
2016-October-25 NRCS National Water and Climate Center
Daily sensors report a summary value for the previous day.
Hourly sensors report a summary value for the previous hour.
Instantaneous sensors report a single observation on the hour.
Instantaneous sensors are included with both Daily and Hourly sensor selections.
Instantaneous sensors for a Daily sensor selections are the midnight observation.
*The use of a particular manufacturer's instrument does not constitute an endorsement of that instrument or manufacturer.

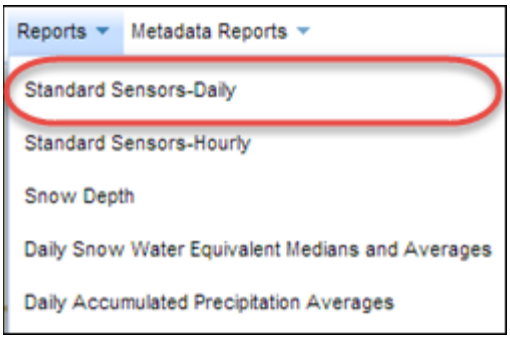
Label	Element	Unit	Instrument*	Ecode	Function Interval	Ordinal	Sensor Height
[E.I-O:H]				[E]	[I]	[O]	[H]
WTEQ.I-1	Snow Water Equivalent	In	100" Transducer - Sensotec	WTEQ	INSTANTANEOUS	1	unknown
PREC.I-1	Precipitation Accumulation	In	200" Transducer - Sensotec	PREC	INSTANTANEOUS	1	unknown
TOBS.I-1	Air Temperature Observed	Degc	Ysi Extended Range	TOBS	INSTANTANEOUS	1	unknown
TMAX.D-1	Air Temperature Maximum	Degc	Ysi Extended Range	TMAX	1 DAY	1	unknown
TMIN.D-1	Air Temperature Minimum	Degc	Ysi Extended Range	TMIN	1 DAY	1	unknown
TAVG.D-1	Air Temperature Average	Degc	Ysi Extended Range	TAVG	1 DAY	1	unknown
SNWD.I-1	Snow Depth	In	Unknown - Linear Equation	SNWD	INSTANTANEOUS	1	unknown
SNWD.I-2	Snow Depth	In	Unknown - Linear Equation	SNWD	INSTANTANEOUS	2	unknown
BATT.I-1	Battery	Volt	Unknown - Linear Equation	BATT	INSTANTANEOUS	1	unknown
BATT.I-2	Battery	Volt	Unknown - Linear Equation	BATT	INSTANTANEOUS	2	unknown
BATT.I-3	Battery	Volt	Unknown - Linear Equation	BATT	INSTANTANEOUS	3	unknown
BATT.I-4	Battery	Volt	Unknown - Linear Equation	BATT	INSTANTANEOUS	4	unknown

Try the remaining selections in the **Reports** dropdown list to see what's available. You may also want to use the Time Period dropdown to modify the frequency and time period selections for the report.

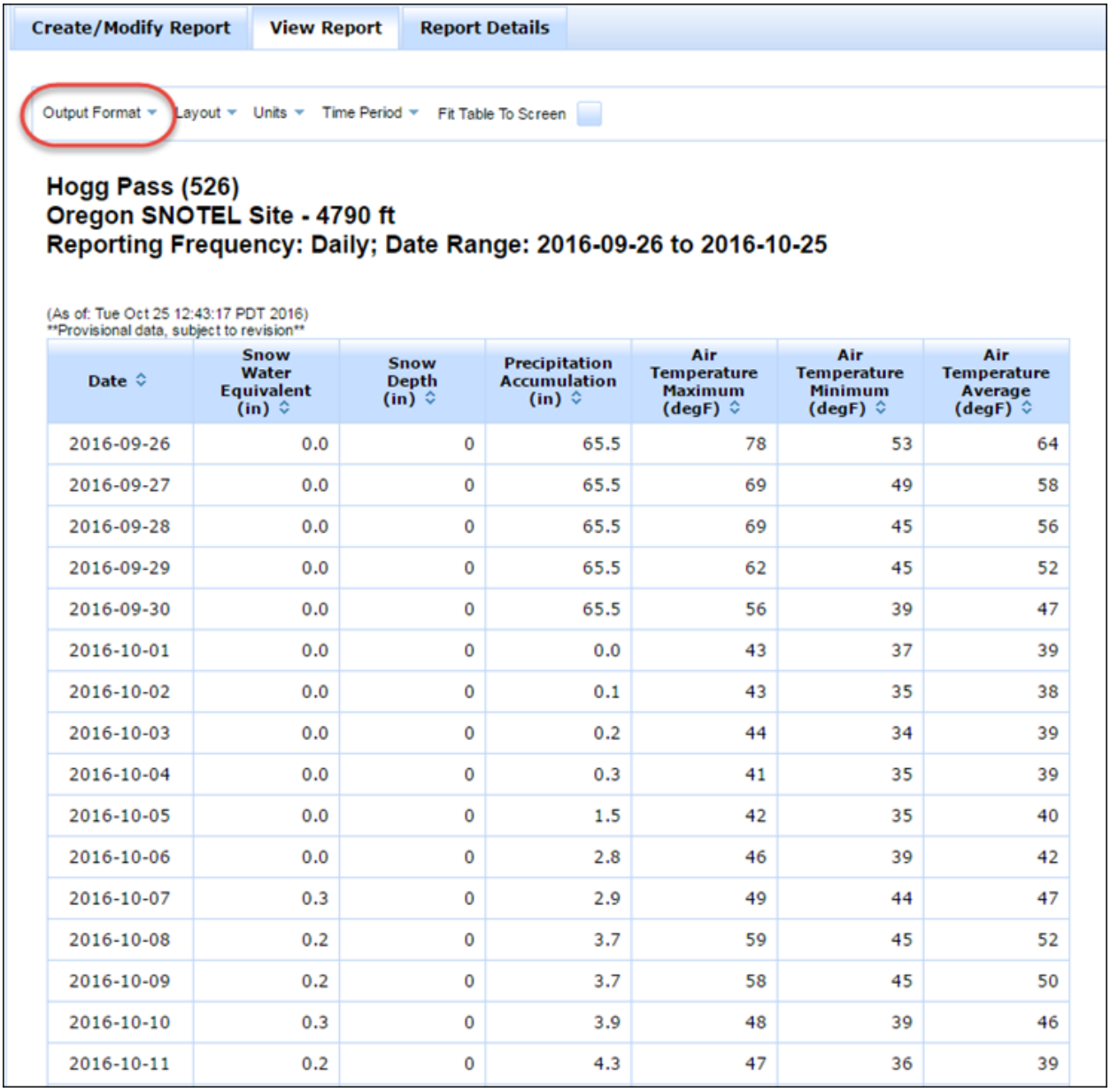
Lesson 2: Export Data

This lesson uses components in the **View Report** tab to take the data from the **Standard Sensors-Daily** report and save it to a .csv (comma-separated value) file for further analysis.

1. Go to the **Reports** dropdown list and select **Standard Sensors-Daily**. The predefined report displays.



2. In the **View Report** tab, select **CSV** from the **Output Format** dropdown menu..



Hogg Pass (526)
Oregon SNOTEL Site - 4790 ft
Reporting Frequency: Daily; Date Range: 2016-09-26 to 2016-10-25

(As of: Tue Oct 25 12:43:17 PDT 2016)
Provisional data, subject to revision

Date	Snow Water Equivalent (in)	Snow Depth (in)	Precipitation Accumulation (in)	Air Temperature Maximum (degF)	Air Temperature Minimum (degF)	Air Temperature Average (degF)
2016-09-26	0.0	0	65.5	78	53	64
2016-09-27	0.0	0	65.5	69	49	58
2016-09-28	0.0	0	65.5	69	45	56
2016-09-29	0.0	0	65.5	62	45	52
2016-09-30	0.0	0	65.5	56	39	47
2016-10-01	0.0	0	0.0	43	37	39
2016-10-02	0.0	0	0.1	43	35	38
2016-10-03	0.0	0	0.2	44	34	39
2016-10-04	0.0	0	0.3	41	35	39
2016-10-05	0.0	0	1.5	42	35	40
2016-10-06	0.0	0	2.8	46	39	42
2016-10-07	0.3	0	2.9	49	44	47
2016-10-08	0.2	0	3.7	59	45	52
2016-10-09	0.2	0	3.7	58	45	50
2016-10-10	0.3	0	3.9	48	39	46
2016-10-11	0.2	0	4.3	47	36	39

3. A web page will open with the data from the report displayed.

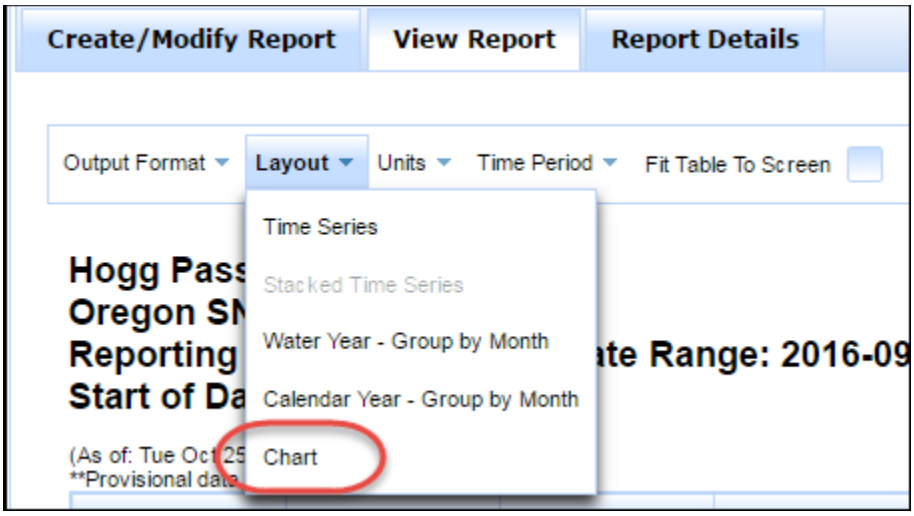
```
#---------------------------------------------- WARNING ----------------------------------------
#
# The data you have obtained from this automated Natural Resource Conservation Service
# database are subject to revision regardless of indicated Quality Assurance level.
# Data are released on condition that neither the NRCS nor the United States Government
# may be held liable for any damages resulting from its use.
#
# Help and Tutorials:  http://www.wcc.nrcs.usda.gov/report_generator/report_generator_landing.htm
#
# Support Contact: nrcsprod@midatl.service-now.com
#
#-----------------------------------------------------------------------------------------------
#
# Reporting Frequency: Daily
# Date Range: 2016-09-26 to 2016-10-25
# Report Instantaneous Data As: Start of Day
#
# Data for the following site(s) are contained in this file:
#
#       SNOTEL 526: Hogg Pass, OR
#
# Data items provided in this file:
#
# Element Name               Value Type  Function Type  Function Duration            Base Data  Measurement Units   Sensor Depth  Element Code  Description
# Snow water equivalent      Value       None           Instantaneous - Start of Day  N/A        Inches              N/A           WTEQ
# Snow depth                 Value       None           Instantaneous - Start of Day  N/A        Inches              N/A           SNWD
# Precipitation accumulation Value       None           Instantaneous - Start of Day  N/A        Inches              N/A           PREC          Precipitation accumulation
# Air temperature maximum    Value       None           Daily                         N/A        Degrees fahrenheit  N/A           TMAX          Air temperature maximum
# Air temperature minimum    Value       None           Daily                         N/A        Degrees fahrenheit  N/A           TMIN          Air temperature minimum
# Air temperature average    Value       None           Daily                         N/A        Degrees fahrenheit  N/A           TAVG          Air temperature average
#
# Quality Control flags included:
#
# Flag    Name               Description
#  V      Valid              Validated Data
#  N      No Profile         No profile for automated validation
#  E      Edit               Edit, minor adjustment for sensor noise
#  B      Back Estimate      Regression-based estimate for homogenizing collocated Snow Course and Snow Pillow data sets
#  K      Estimate           Estimate
#  X      External Estimate  External estimate
#  S      Suspect            Suspect data
#
# Quality Assurance flags included:
#
# Flag    Name               Description
#  U      Unknown            Unknown
#  R      Raw                No Human Review
#  P      Provisional        Preliminary Human Review
#  A      Approved           Processing and Final Review Completed
#
#-----------------------------------------------------------------------------------------------
#
# Hogg Pass (526)
# Oregon  SNOTEL Site - 4790 ft
# Reporting Frequency: Daily; Date Range: 2016-09-26 to 2016-10-25; Report Instantaneous Data as: Start of Day
#
# As of: Oct 25, 2016 12:44:41 PM PDT
#
Date,Snow Water Equivalent (in),Snow Depth (in),Precipitation Accumulation (in),Air Temperature Maximum (degF),Air Temperature Minimum (degF),Air Temperature Average (degF)
2016-09-26,0.0,0,65.5,78,53,64
2016-09-27,0.0,0,65.5,69,49,58
2016-09-28,0.0,0,65.5,69,45,56
2016-09-29,0.0,0,65.5,62,45,52
2016-09-30,0.0,0,65.5,56,39,47
2016-10-01,0.0,0,0.0,43,37,39
2016-10-02,0.0,0,0.1,43,35,38
2016-10-03,0.0,0,0.2,44,34,39
2016-10-04,0.0,0,0.3,41,35,39
2016-10-05,0.0,0,1.5,42,35,40
2016-10-06,0.0,0,2.8,46,39,42
2016-10-07,0.3,0,2.9,49,44,47
2016-10-08,0.2,0,3.7,59,45,52
2016-10-09,0.2,0,3.7,58,45,50
2016-10-10,0.3,0,3.9,48,39,46
2016-10-11,0.2,0,4.3,47,36,39
2016-10-12,0.2,1,4.3,58,31,46
2016-10-13,0.2,0,4.4,50,37,46
2016-10-14,0.4,1,6.6,42,35,40
2016-10-15,0.4,0,8.0,45,38,41
2016-10-16,0.4,0,9.0,41,36,38
2016-10-17,0.3,0,9.3,41,33,36
2016-10-18,1.0,4,10.7,,,
```

4. Right click on this web page and select **Save as...**
5. Save the file with a .csv extension.

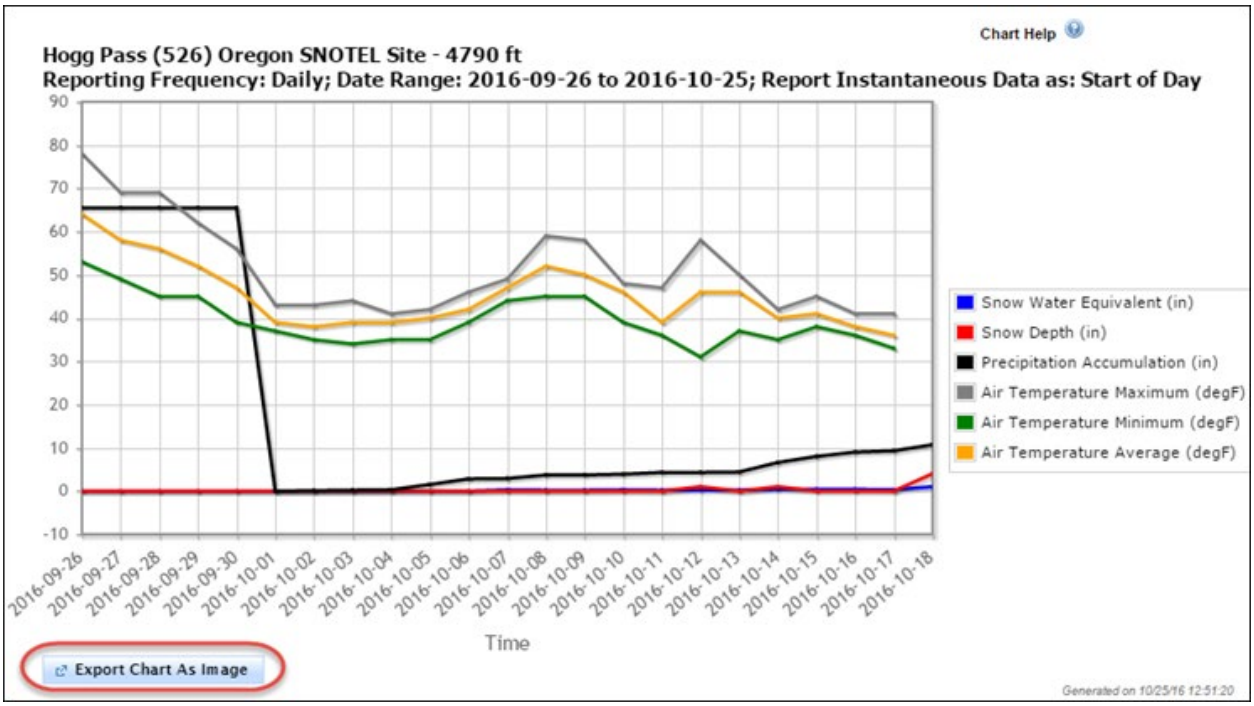
Lesson 3: Change from Standard to Chart Layout

This lesson uses the **Layout** dropdown menu in the **View Report** tab to change the display of the Standard Sensors-Daily report from tabular to line chart view.

1. If not already there, go to the **Reports** dropdown list and select **Standard Sensors-Daily**. The predefined report displays in the View Report tab.
2. In the **View Report** tab, select **Chart** from the **Layout** dropdown list.



3. The report will change to chart format.



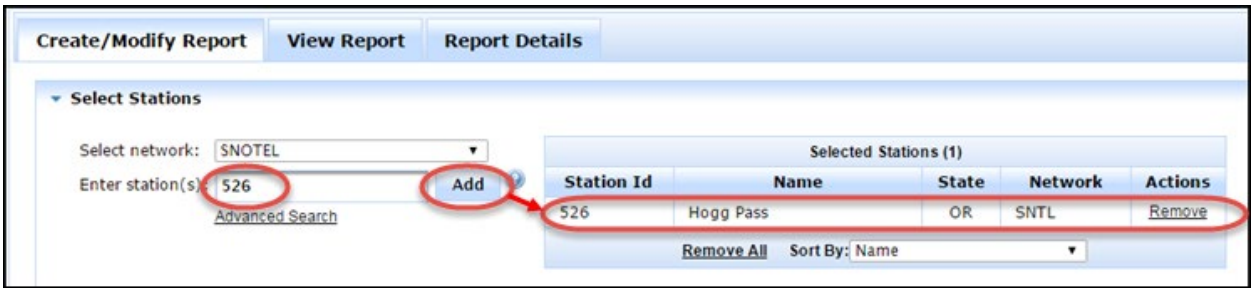
4. To save the chart, select **Export Chart as Image**.
5. Right click on the image, select **Save Image As...** and save the file to a graphics format, such as .png or .jpg.
6. To return to tabular format, select **Standard** from the **Layout** dropdown list.

Managing Stations

Add a Station

This tutorial describes how to add stations to a report in Report Generator.

1. Open Report Generator.
2. Select the **Create/Modify Report** tab.
3. Choose the network. In the **Select network:** field choose a network from the dropdown list. This tutorial uses the SNOTEL network as an example.
4. Choose the station. Stations may be selected using either the **Station Name** or the **Station ID**. This field auto-suggests entries as you type. In the **Enter station(s):** field, enter the following station ID: 526.
5. Select the **Add** button.
6. Station 526, Hogg Pass, will be added to the Selected Stations list.

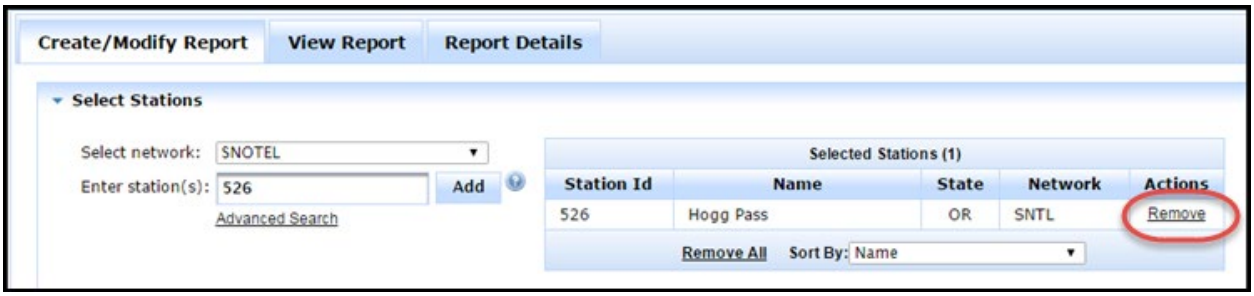


This completes the **Add a Station** tutorial. Now it's time to learn how to remove stations from a report.

Remove a Station

This tutorial describes how to remove stations from a report in Report Generator. First, we will add a station to the Selected Stations list. Then, we will remove that station from the list.

1. Open Report Generator.
2. Select the **Create/Modify Report** tab.
3. Choose the network. In the **Select network:** field choose a network from the dropdown list. This tutorial uses the SNOTEL network as an example.
4. Choose the station. Stations may be selected using either the **Station Name** or the **Station ID**. This field auto-suggests entries as you type. In the **Enter station(s):** field, enter the following station ID: 526.
5. Station 526, Hogg Pass, will be added to the Selected Stations list.
6. To remove the Hogg Pass station, simply click the Remove link at the right of the station name.



Tip: If you have many stations defined and wish to remove all of them from the Selected Stations list, select the Remove All link.

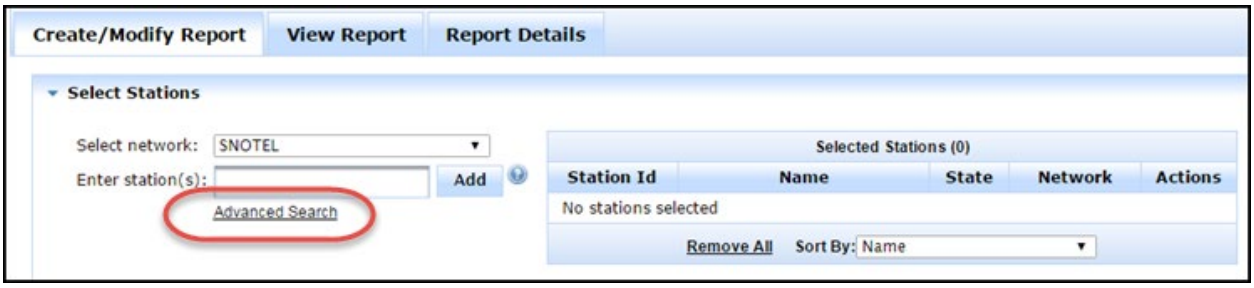
Tip: Use the **Sort By:** dropdown selection box to sort the list of stations by various criteria, such as Station ID or HUC.

This completes the **Remove a Station** tutorial. If you understand adding and removing stations, move on to the **Perform an Advanced Search** tutorial.

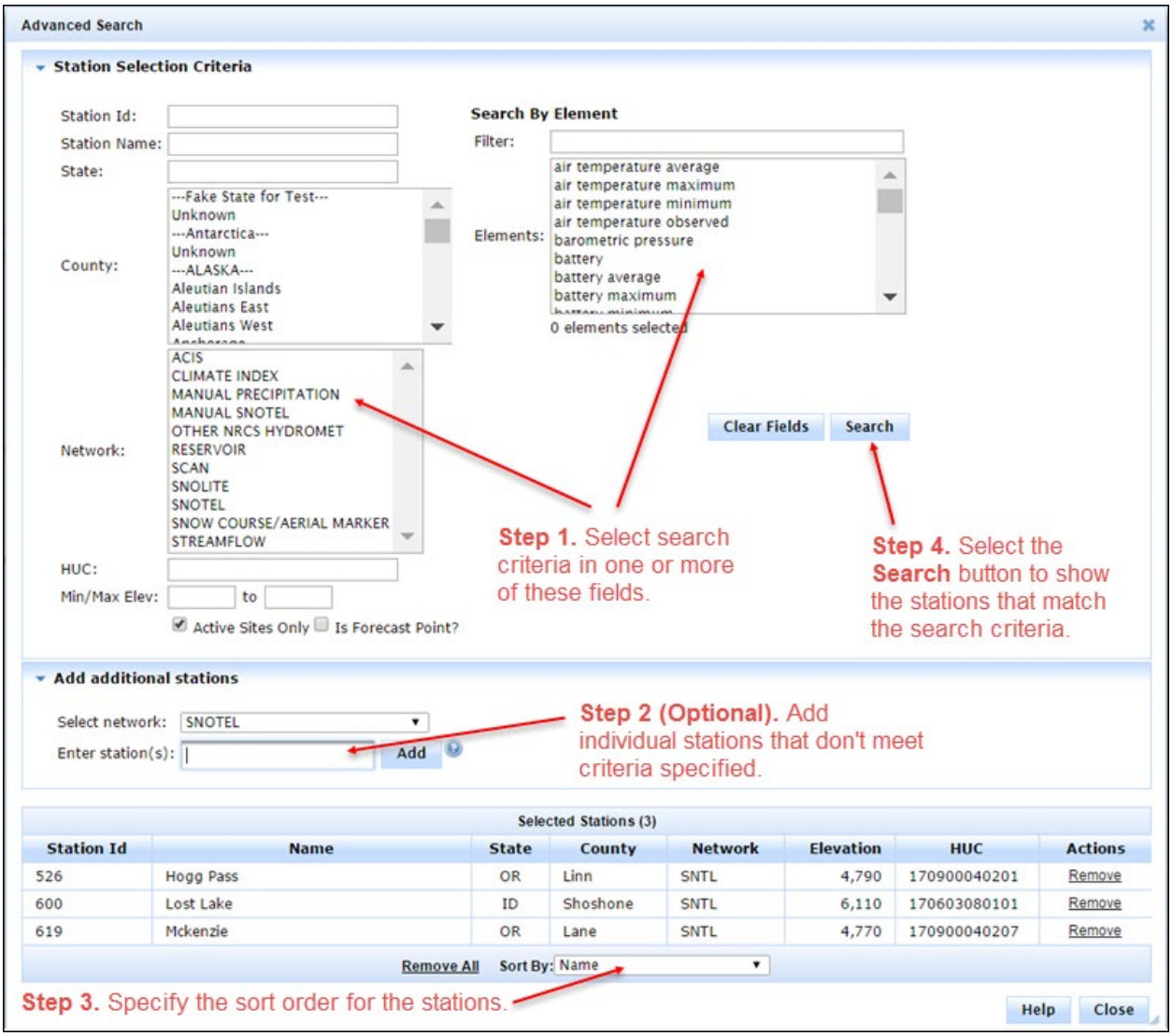
Perform an Advanced Station Search

This tutorial describes how to search for stations in Report Generator. This is an alternative to selecting stations one-by-one in the **Select Stations** list. The tutorial assumes that several stations have already been added to the **Selected Stations** list.

1. Open Report Generator.
2. Select the **Create/Modify Report** tab.
3. Select the Advanced Search link.



4. The **Advanced Search** page opens.
5. In the **Station Selection Criteria** area, select search criteria from one or more of the entry fields.
6. Select the Search button to show the stations that match the search criteria.
7. Optionally, add individual stations that don't meet the specified criteria. This works like the **Add Stations** field in the **Create/Modify Report** tab.
8. Specify the sort order for the stations in the **Sort By:** dropdown list.



Adding Additional Stations

Sometimes you'll need to add stations to your selection that do not match your selection criteria. For example, let's say you wanted all of the SNOTEL stations in Oregon, but also wanted to include one station from Washington. In this case, you would set the "State" field to "OR" and select the Network **SNOTEL,** select the **Search** button, and then add the additional station using the "Enter station(s)" input field in the **Add additional stations** section. This section works the same as the way you enter stations on the main **Create/Modify Report** page. You simple pick a network in the **Select Network** menu, and then enter the first few characters of the station id or station name to add and then click the station that you want to add. Stations that are added individually can be removed individually by clicking on the Remove link in the Actions column in the table of selected stations.

Note: Stations in the table that are a result of the station selection criteria will not have anything in the Actions column.

Close Button

Pressing the **Close** button will close the window and return you to the **Create/Modify Report** tab in Report Generator. When you return to the Create/Modify Report tab, any changes that you had made in the **Advanced Station Selection** screen will be reflected in the **Selected Stations** table.

Define Search Criteria and Filtering

There are many ways to search for the stations using the Advanced Search feature in Report Generator. In the top left quadrant of the Advanced Search page is a Station Selection Criteria section. Each of the text fields accepts a comma-separated list of wildcard patterns (only the asterisk '*' and '?' wildcard characters are understood).

The following table describes the different search criteria fields:

Search Field	Description
Station ID	The station id of the stations. This can include wildcards and can be a comma separated list of station ids. If wildcards are used, the '*' can be used to match any number of characters and the '?' can be used to match a single character.
Station Name	The name of the station. This can include wildcards and can be a comma separated list of station names or station names with wildcards.
State	The two-character state FIPS alphabetic code (such as 'OR' for Oregon or 'WA' for Washington). This can be a single state code or a comma separated list of state codes. There is also an undocumented feature that allows you to search for stations under the jurisdiction of a particular Data Collection Office (DCO) by entering the 2-character state code of the DCO followed by the letters 'DCO'. For example, if you want to search for stations in the Oregon DCO, type 'ORDCO' in the 'State' search field. You can enter more than more DCO in the same way that you enter more than one state. You can also enter a state and a DCO, but what results is the intersection of the DCO and the states entered (if you enter ORDCO and OR, you'll get only the stations that are in OR and in ORDCO)
Network	The network code of the station(s). Zero, one, or more networks can be selected. To select a single network, just click on the item. To deselect a network or to add another network to the selection hold down the CTRL key and click on the network to select or deselect.
HUC	The hydrologic unit code. You can enter one or more 2, 4, 6, or 8 digit HUCs separated by commas.
Min/Max Elev	The minimum and maximum elevation of the stations. None, one, or both of these filter fields can be specified.
Active Sites Only	If this box is checked, only stations that are still active will be returned. If this is unchecked, any station that matches the search criteria will be returned, even if the station is no longer in service.
Elements	Used to select the elements that a station should have data for. If multiple elements are selected, a station will be returned if it has at least one of the elements selected

When the filter is executed, there is an "OR" operator placed between the comma separated items in a given field and an "AND" operator placed between the various filter fields.

Following are some examples which illustrate how to use the filtering capabilities:

Example 1 - Find station 10360900

```
Station : 103060900
State :
Network :
HUC :
Min/Max Elev :
```

Example 2 - Find all stations in California or Nevada

```
Station :
State : CA, NV
Network :
HUC :
Min/Max Elev :
```

Example 3 - Find all streamflow or reservoir stations in California or Nevada where the station name begins with "LAKE"

```
Station : LAKE*
State : CA, NV
Network : USGS (STREAM), BOR (RESV)
HUC :
Min/Max Elev :
```

Example 4 - Find all SNOTEL stations whose elevation is between 1000 and 7000 feet and are in HUC 18

```
Station :
State :
Network : SNOTEL/SCAN
HUC : 18
Min/Max Elev : 1000 to 7000
```

Example 5 - Find all stations in Oregon that have incremental precipitation

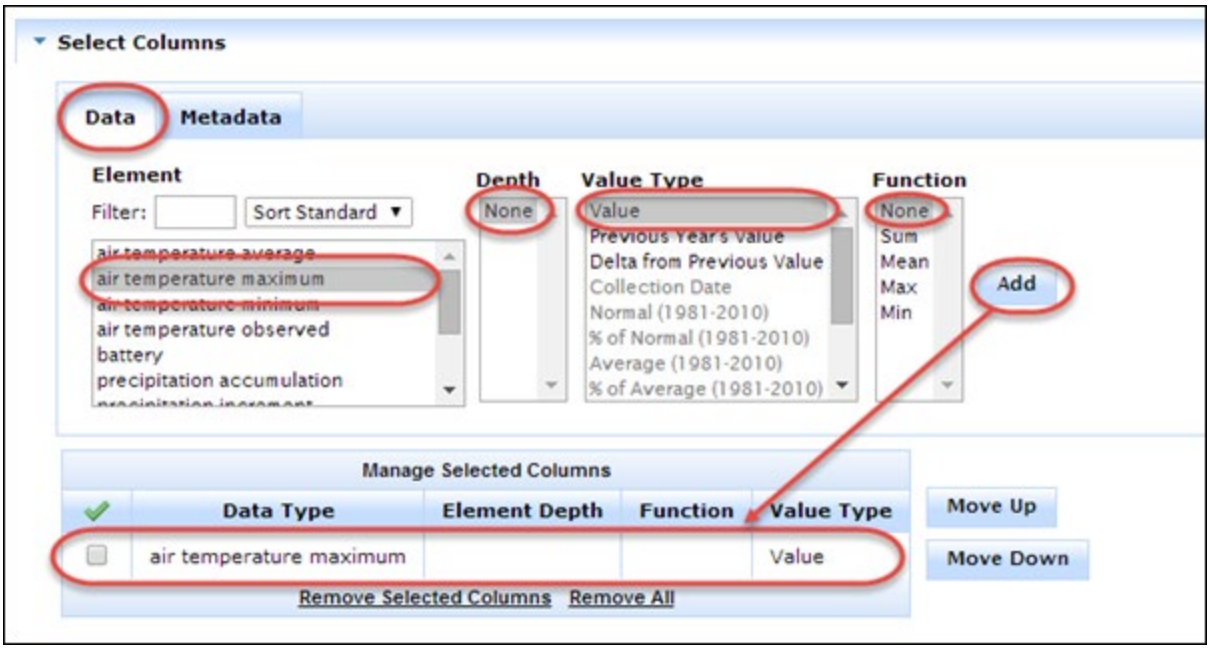
```
Station :
State : OR
Network :
HUC :
Min/Max Elev :
Elements : precipitation increment
```

Managing Columns

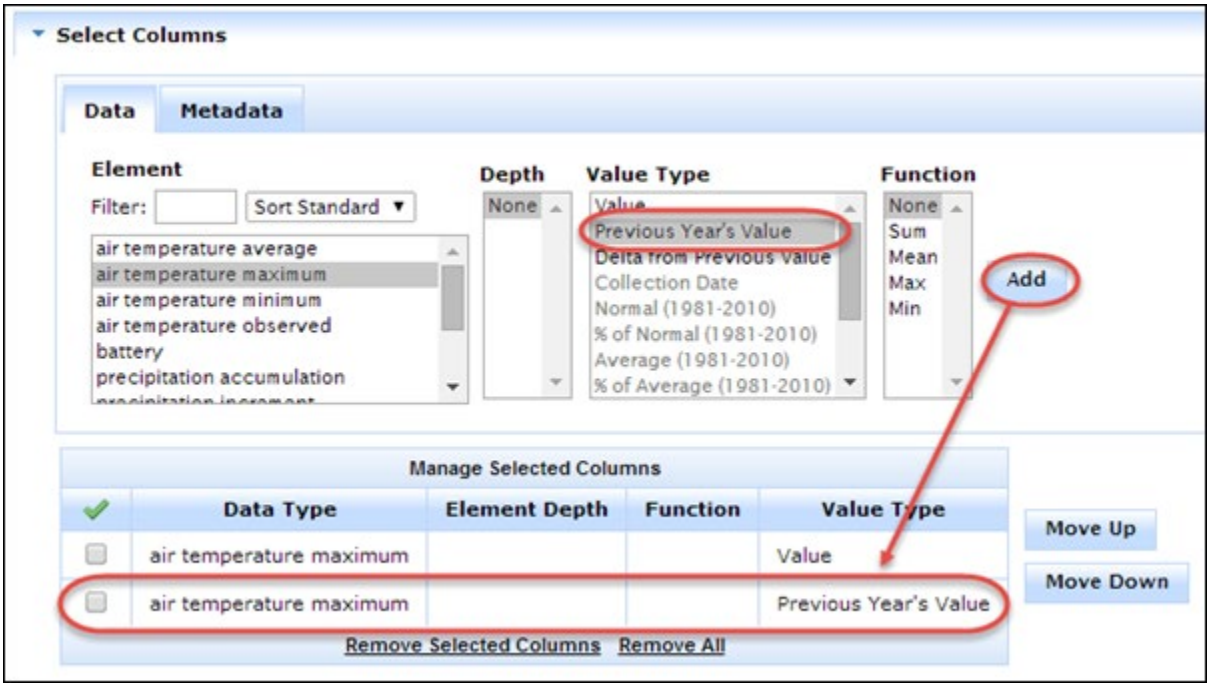
Add a Data Element Column

This tutorial describes how to add data element columns to a report in Report Generator. The example adds two columns for "air temperature maximum" using Value Types of this year's and the previous year's values.

1. Open Report Generator.
2. Select the **Create/Modify Report** tab.
3. Choose the network. In the **Select network:** field choose a networkfrom the dropdown list. This tutorial uses the SNOTEL network as an example.
4. Choose the station. Stations may be selected using either the **Station Name** or the **Station ID**. This field auto-suggests entries as you type. In the **Enter station(s):** field, enter the following station ID: 526. The Hogg Pass station displays in the Selected Stations list.
5. In the Select Columns pane, select the **Data** tab.
6. Under Element, select "air temperature maximum."
7. Under Depth, select "None."
8. For Value Type, select 'Value."
9. For Function, select "None."
10. Select the **Add** button to add the element to the Manage Selected Columns list.
11. Ensure the element "air temperature maximum" with a value type of "Value" appears at the bottom of the **Manage Selected Columns** list.



1. Under Element, ensure "air temperature maximum" is selected.
2. Under Depth, keep "None"
3. For Value Type, select "Previous Year's Value."
4. For Function, select "None."
5. Select the **Add** button to add the element to the Manage Selected Columns list.
6. Value Type, select "Previous Year's Value."
7. Ensure the element "air temperature maximum" with a value type of "Previous Year's Value" appears at the bottom of the **Manage Selected Columns** list.

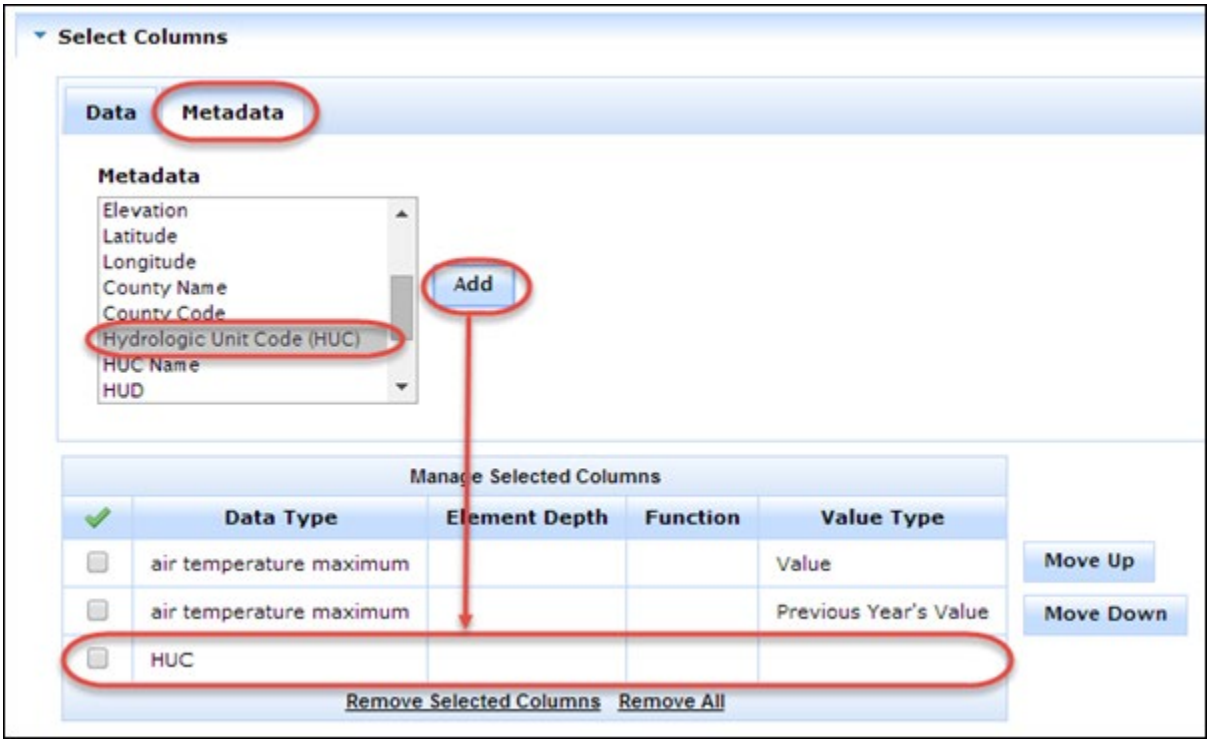


Add a Metadata Column

This tutorial shows how to add a metadata column to a report in Report Generator. The example adds a column for the **Hydrologic Unit Code** (**HUC)** metadata type to the report.

Note: If you are continuing this tutorial from the **Add a Data Element Column** tutorial, go to Step 4.

1. Start Report Generator,
2. Choose the **Create/Modify Report** tab.
3. Add a station. In the Select Stations **Enter Station(s)** field, enter 526. The Hogg Pass station is added to the Selected Stations list.
4. In the **Select Columns** pane, select the **Metadata** tab.
5. Under Metadata, select **Hydrologic Unit Code** (**HUC)**.
6. Select the **Add** button.
7. Ensure the metadata type **HUC** appears at the bottom of the **Manage Selected Columns** list.



Change Column Order

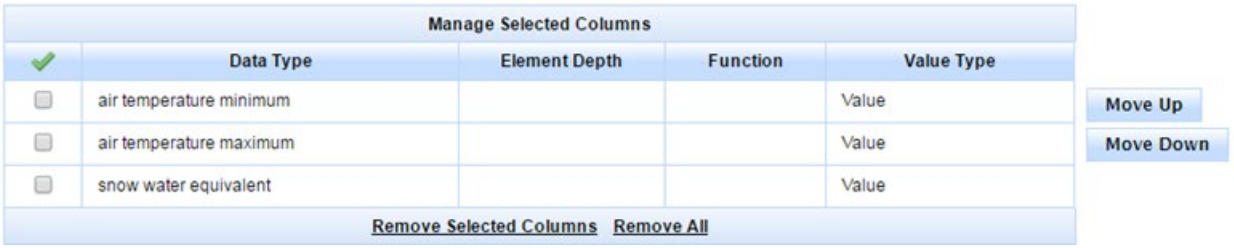
This tutorial shows how to change the order that columns appear in a report in Report Generator. It also shows how to change the sort order of a column in a report. The example moves the metadata element HUC2 (2-digit HUC) to the top of the order. The final report will therefore display the HUC as the first item in the report, followed by air temperature minimum and air temperature maximum.

Note: If you're continuing this tutorial from the Add a Metadata Column tutorial, go to **Lesson 2: Change order of data types.**

Lesson 1: Add data types

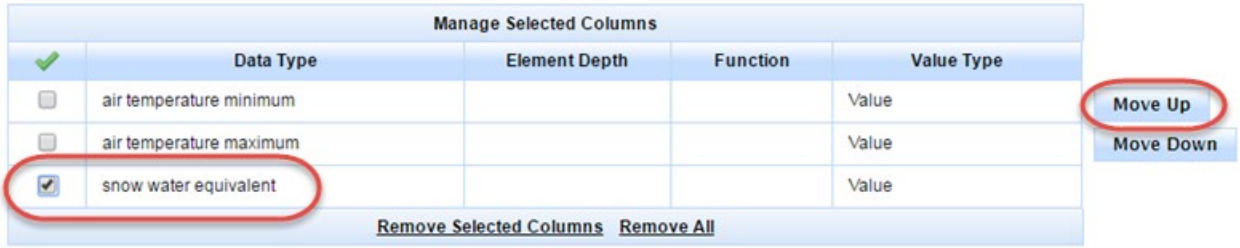
1. Start Report Generator.
2. Select the **Create/Modify Report** tab
3. Add a station. In the Select Stations **Enter station(s)** field, enter 526. The Hogg Pass station is added to the Selected Stations list.
4. Add an element. In the Select Columns pane, select the **Data** tab.
5. Under Element, select "air temperature minimum."
6. Under Depth, select "None."
7. For Value Type, select 'Value."
8. For Function, select "None."
9. Select the **Add** button to add the element to the Manage Selected Columns list.
10. Add a second element for the previous year. Under Element, ensure "air temperature maximum" is selected.
11. Under Depth, keep "None"
12. For Value Type, select "Previous Year's Value."
13. For Function, select "None."
14. Select the **Add** button to add the element to the Manage Selected Columns list.
15. Add another element. Under Element, select "snow water equivalent."
16. Select the **Add** button.

The display should look similar to the following.

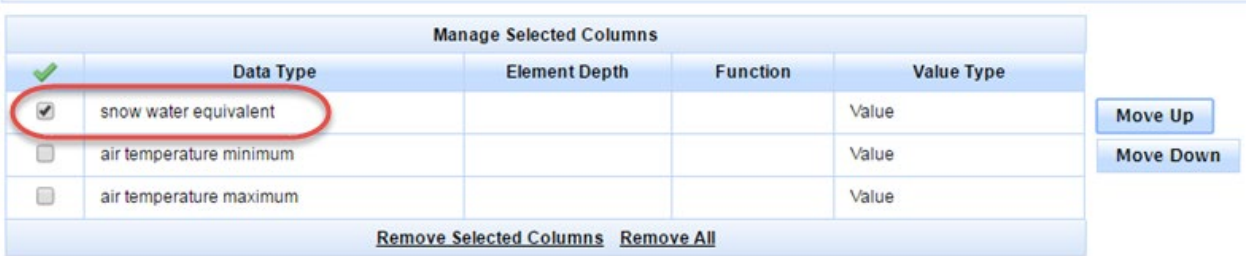


Lesson 2: Change order of data types

1. Enable the checkbox next to the snow water equivalent Data Type.



2. Select the **Move Up** button. The snow water equivalent Data Type will move up one level in order.
3. Select the **Move Up** button again. The snow water equivalent Data Type will move to the top of the list, and will therefore appear as the first column on the final report.



Lesson 3: Change sort order of columns in report

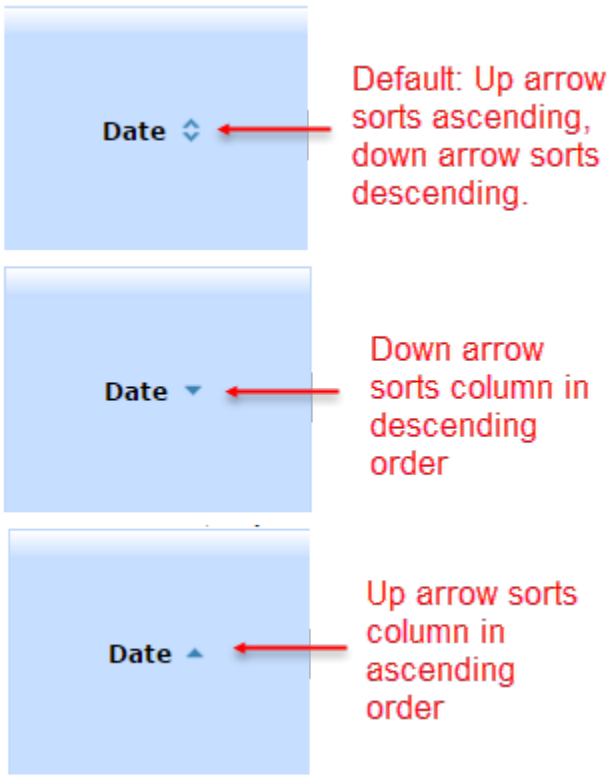
1. In the **Select Time Period, Layout, and Units** pane, select the following:
    - Interval/Duration = Daily
    - Report Instantaneous Data As = Start of Period
    - Time Period = Last 7 Days, All Months, All Days
    - Layout = Time Series
    - Units = English
    - Output Format = HTML
2. Select the **View Report** button. A report similar to the following will open

Hogg Pass (526)
Oregon SNOTEL Site - 4790 ft
Reporting Frequency: Daily; Date Range: 2016-12-08 to 2016-12-14

(As of: Wed Dec 14 11:04:16 GMT-08:00 2016)
Provisional data, subject to revision

Date	Hogg Pass (526) Snow Water Equivalent (in) Start of Day Values	Hogg Pass (526) Air Temperature Minimum (degF)	Hogg Pass (526) Air Temperature Maximum (degF)
2016-12-08	6.2	13	37
2016-12-09	7.4	32	36
2016-12-10	8.3	29	32
2016-12-11	9.4	28	30
2016-12-12	10.6	14	31
2016-12-13	11.0	18	23
2016-12-14	11.1		

Note that each column in the report has Up/Down arrows next to the column heading. The Up/Down arrows allow you to sort the columns as follows:

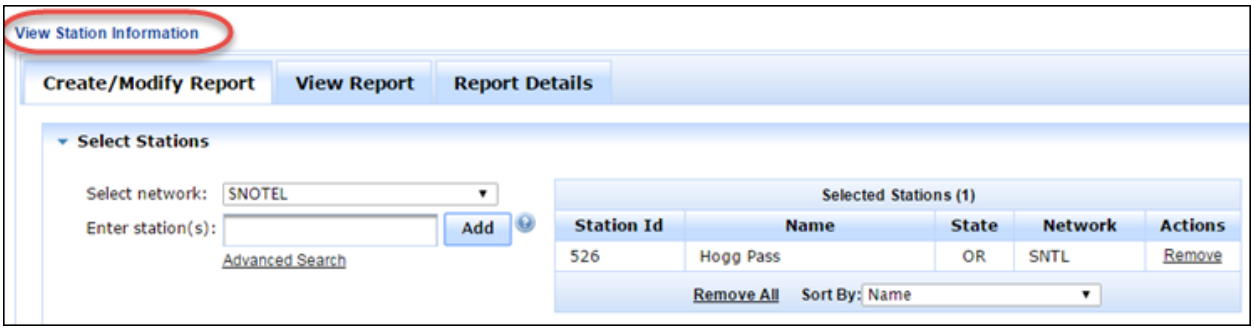


Take some time to explore how each sort option works for each column in the report.

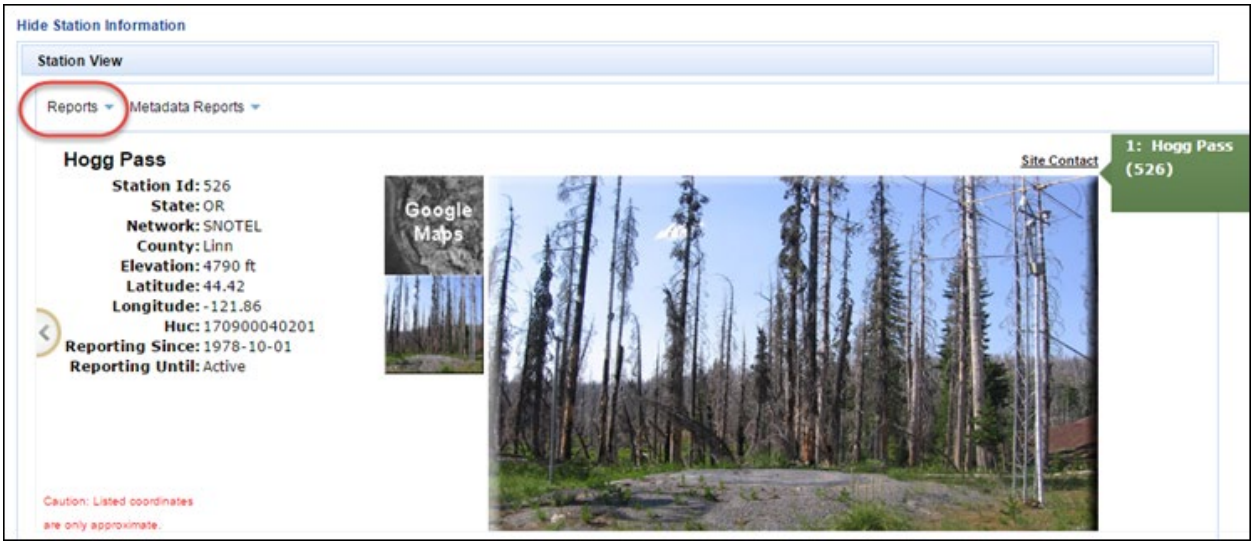
Remove Columns

This tutorial shows how to remove columns from a report in Report Generator. The first example removes a single data type from the report. The second example then removes all data types from the report.

1. Start Report Generator.
2. Select the **Create/Modify Report** tab.
3. Choose the station. In the **Enter station(s)** field, enter the following station ID: 526.
4. Station 526, Hogg Pass, will be added to the Selected Stations list. When a station is added, the **View Station Information** link appears in the upper left corner of the application.

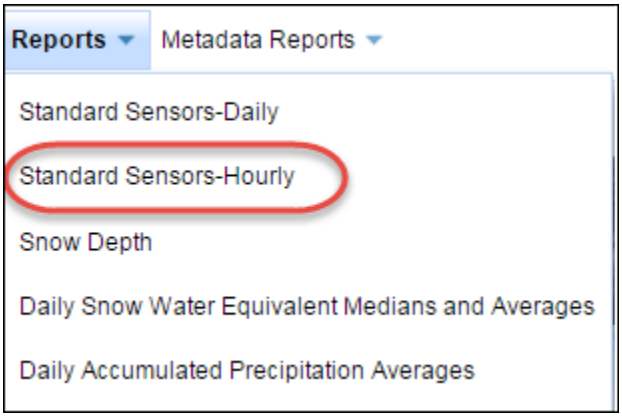


5. Select the **View Station Information** link. The Station View panel will open, displaying the station name, station metadata (such as Network, County, Elevation, Latitude, and Longitude), a site photo and a link to the site in Google Maps.

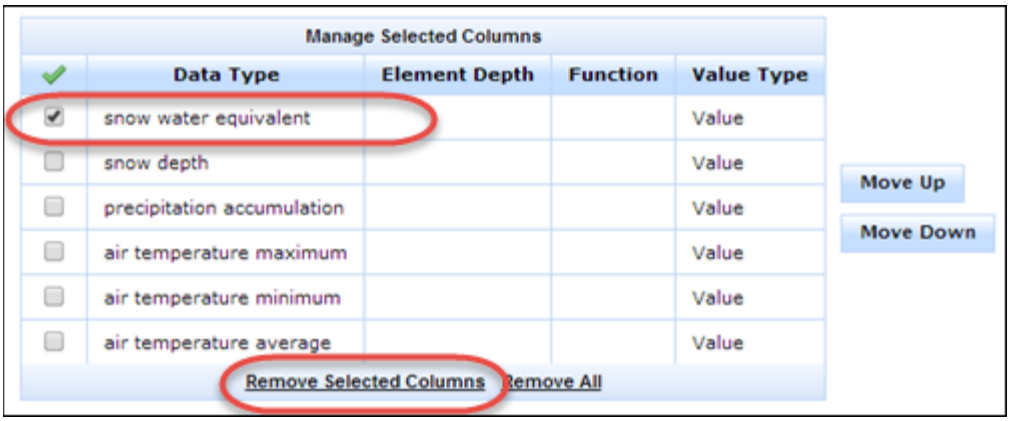


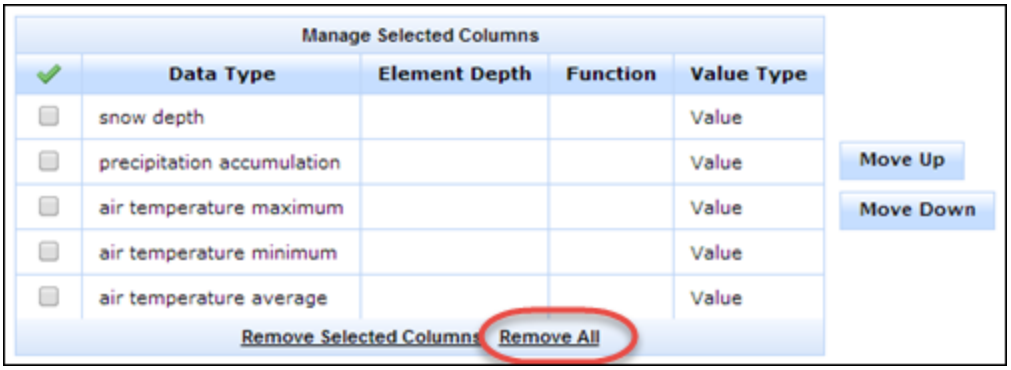
6. From the Station View pane, hover over the the **Reports** dropdown list and select **Standard Sensors-Hourly.**

   Note: The **Reports** and **Metadata Reports** dropdown lists contain pre-defined reports for commonly-used data elements.



7. Under **Manage Selected Columns,** enable the checkbox next to the **snow water equivalent** data type.
8. Select the **Remove Selected Columns** link. The data type will be deleted from the list.
9. Next, select the **Remove All** link. All the data types will be removed from the list.





Managing Report Types

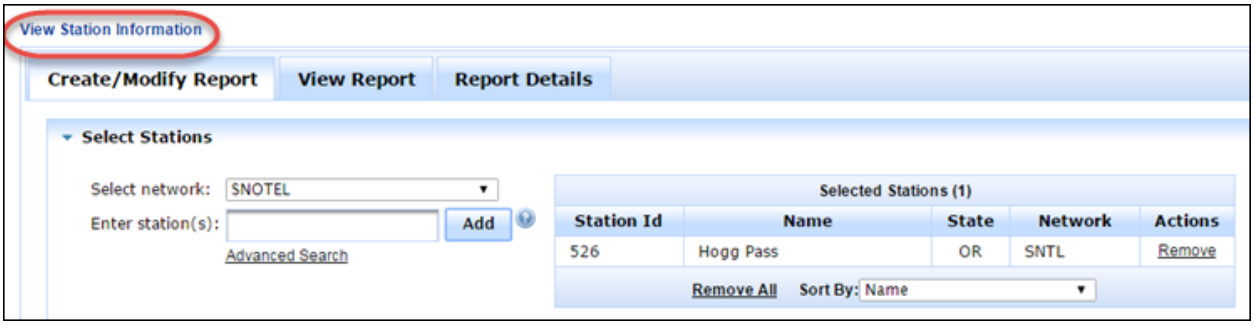
Select Frequency and Time Period

This tutorial shows how to use the **Frequency** and **Time Period** selections in Report Generator. Frequency and Time Period are interactive; options change depending on the frequency or time period selected.

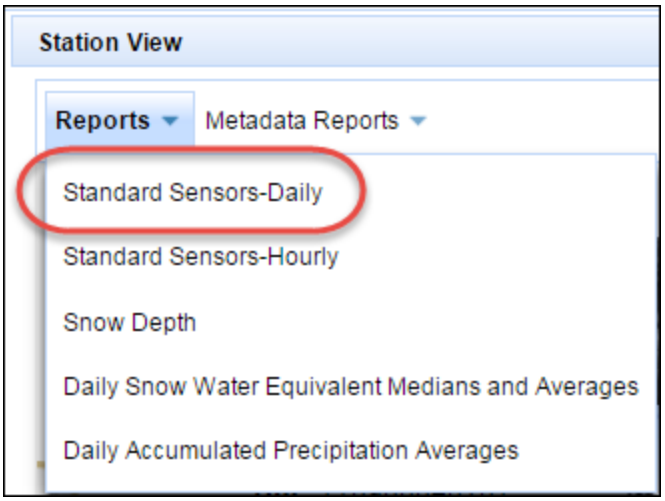
The **Frequency** selection determines how often data is supplied to a report in Report Generator. The **Time Period** selection determines the duration of the report and the number of days to include in the report.

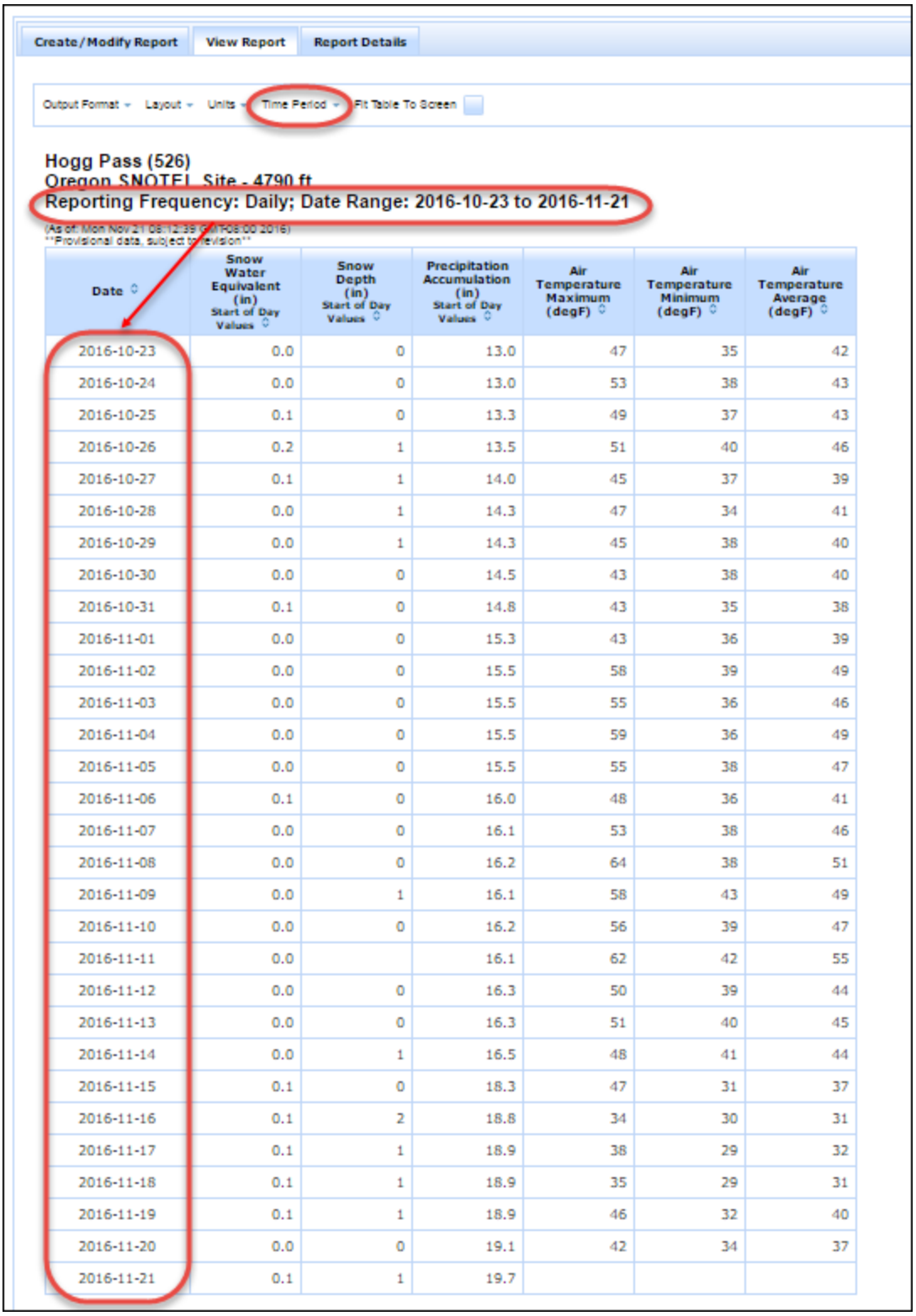
The example uses a **Standard** data report (Standard Sensors - Daily) to change the frequency and time period of data displayed in the **View Report** tab.

1. Start Report Generator.
2. Select the **Create/Modify Report** tab.
3. Choose the station. In the **Enter station(s)** field, enter the following station ID: 526.
4. Station 526, Hogg Pass, will be added to the Selected Stations list. When a station is added, the **View Station Information** link appears in the upper left corner of the application.



5. Select the **View Station Information** link. The Station View panel will open, displaying the station name, station metadata (such as Network, County, Elevation, Latitude, and Longitude), a site photo and a link to the site in Google Maps.
6. From the Station View pane, hover over the **Reports** dropdown list and select **Standard Sensors-Daily.** A tabular report will open, displaying the snow water equivalent, snow depth, precipitation, and temperature min/max/averages for the Hogg Pass site for the last 30 days.

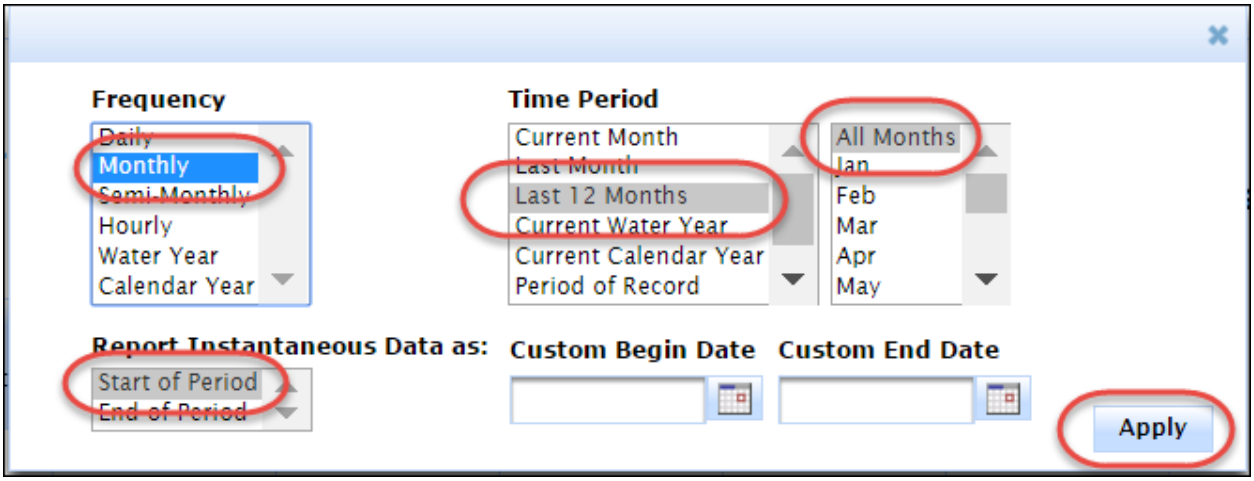


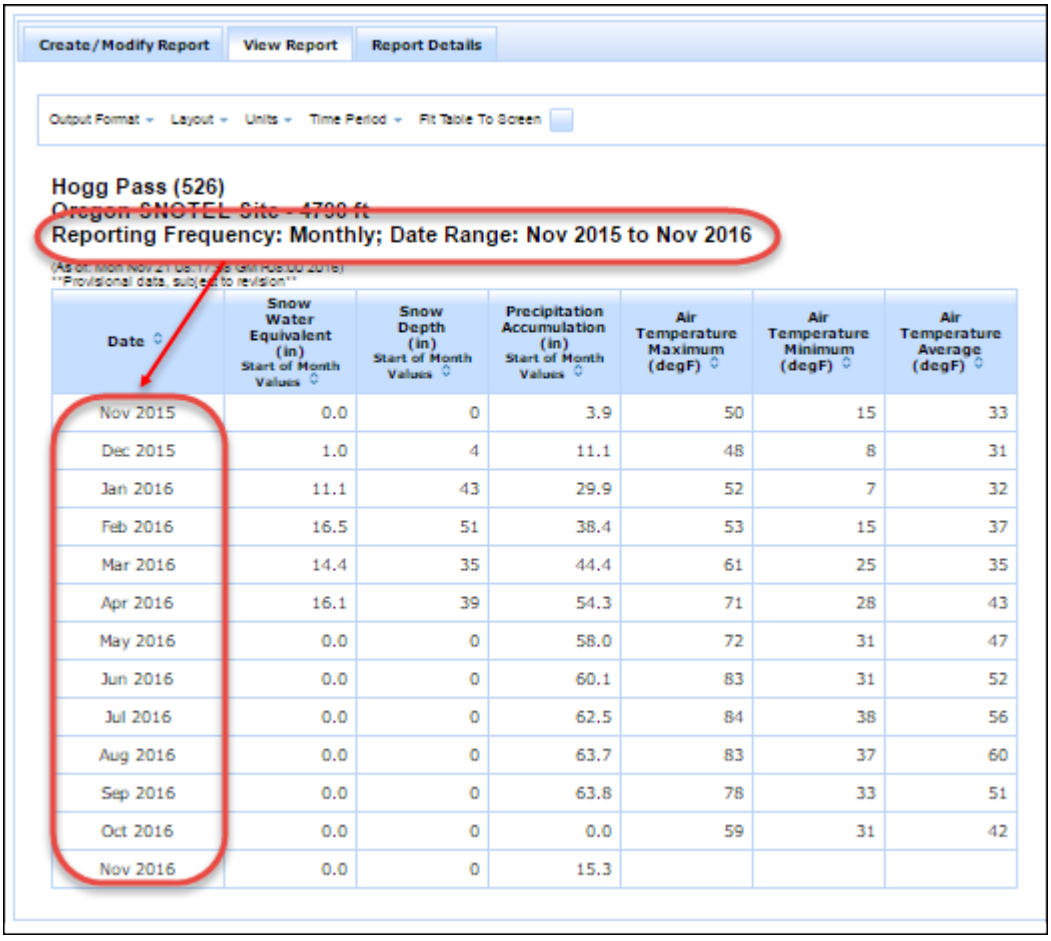


Date	Snow Water Equivalent (in) Start of Day Values	Snow Depth (in) Start of Day Values	Precipitation Accumulation (in) Start of Day Values	Air Temperature Maximum (degF)	Air Temperature Minimum (degF)	Air Temperature Average (degF)
2016-10-23	0.0	0	13.0	47	35	42
2016-10-24	0.0	0	13.0	53	38	43
2016-10-25	0.1	0	13.3	49	37	43
2016-10-26	0.2	1	13.5	51	40	46
2016-10-27	0.1	1	14.0	45	37	39
2016-10-28	0.0	1	14.3	47	34	41
2016-10-29	0.0	1	14.3	45	38	40
2016-10-30	0.0	0	14.5	43	38	40
2016-10-31	0.1	0	14.8	43	35	38
2016-11-01	0.0	0	15.3	43	36	39
2016-11-02	0.0	0	15.5	58	39	49
2016-11-03	0.0	0	15.5	55	36	46
2016-11-04	0.0	0	15.5	59	36	49
2016-11-05	0.0	0	15.5	55	38	47
2016-11-06	0.1	0	16.0	48	36	41
2016-11-07	0.0	0	16.1	53	38	46
2016-11-08	0.0	0	16.2	64	38	51
2016-11-09	0.0	1	16.1	58	43	49
2016-11-10	0.0	0	16.2	56	39	47
2016-11-11	0.0		16.1	62	42	55
2016-11-12	0.0	0	16.3	50	39	44
2016-11-13	0.0	0	16.3	51	40	45
2016-11-14	0.0	1	16.5	48	41	44
2016-11-15	0.1	0	18.3	47	31	37
2016-11-16	0.1	2	18.8	34	30	31
2016-11-17	0.1	1	18.9	38	29	32
2016-11-18	0.1	1	18.9	35	29	31
2016-11-19	0.1	1	18.9	46	32	40
2016-11-20	0.0	0	19.1	42	34	37
2016-11-21	0.1	1	19.7			

7. To change the frequency and time period for which data are reported, select the **Time Period** dropdown list on the report.
8. In the Time Period tab, change the Frequency to **Monthly,** the Report Instantaneous Data as: to **Start of Period,** and the Time Period to **Last 12 Months** and **All Months**.

9. Select **Apply**. The data in the View Reports tab change to reflect a reporting frequency of monthly and a time period of the last 12 months.





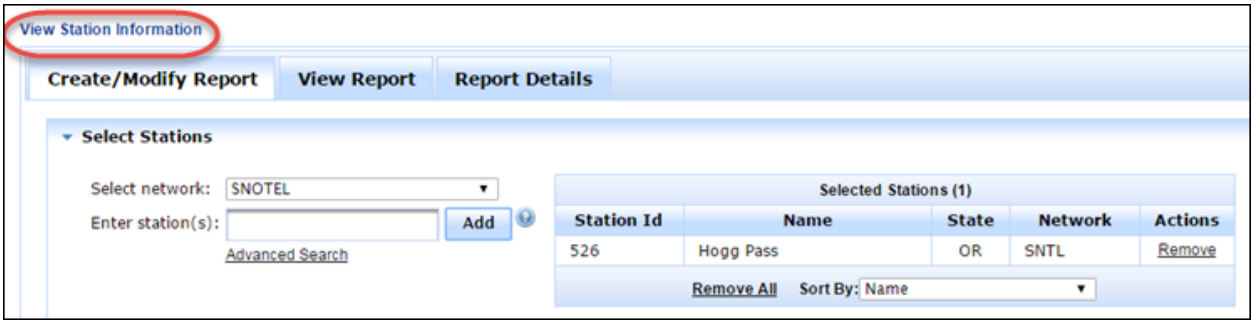
Date	Snow Water Equivalent (in) Start of Month Values	Snow Depth (in) Start of Month Values	Precipitation Accumulation (in) Start of Month Values	Air Temperature Maximum (degF)	Air Temperature Minimum (degF)	Air Temperature Average (degF)
Nov 2015	0.0	0	3.9	50	15	33
Dec 2015	1.0	4	11.1	48	8	31
Jan 2016	11.1	43	29.9	52	7	32
Feb 2016	16.5	51	38.4	53	15	37
Mar 2016	14.4	35	44.4	61	25	35
Apr 2016	16.1	39	54.3	71	28	43
May 2016	0.0	0	58.0	72	31	47
Jun 2016	0.0	0	60.1	83	31	52
Jul 2016	0.0	0	62.5	84	38	56
Aug 2016	0.0	0	63.7	83	37	60
Sep 2016	0.0	0	63.8	78	33	51
Oct 2016	0.0	0	0.0	59	31	42
Nov 2016	0.0	0	15.3			

Select Units of Measurement

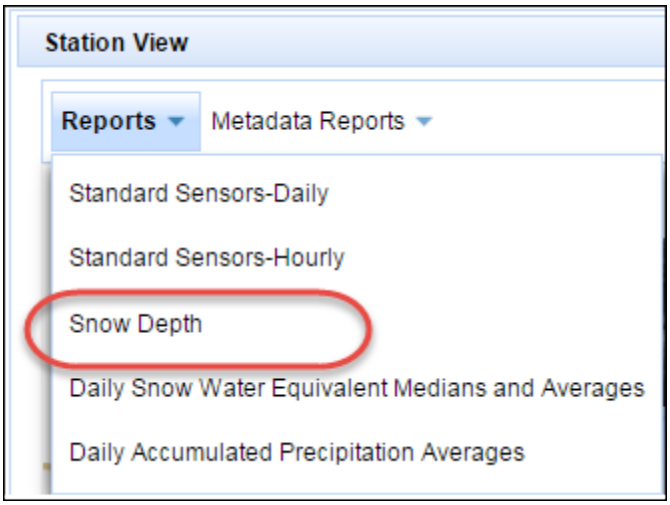
This tutorial shows how to change the **Units** selections in Report Generator. Available units of measurement are English and Metric.

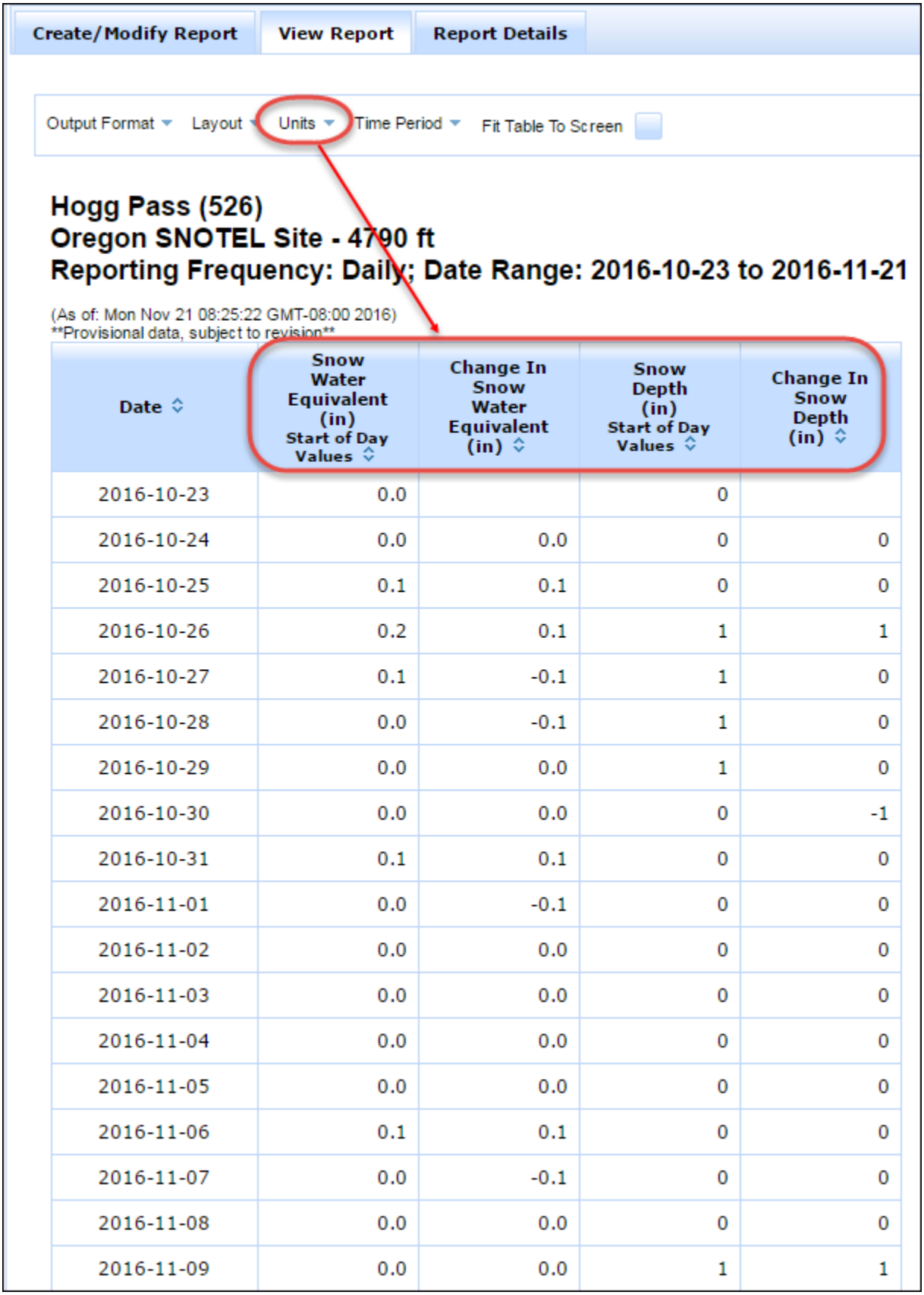
The example uses a **Standard** data report (Snow Depth) to change the unit of measurement for data displayed in the **View Report** tab.

1. Start Report Generator.
2. Select the **Create/Modify Report** tab.
3. Choose the station. In the **Enter station(s)** field, enter the following station ID: 526.
4. Station 526, Hogg Pass, will be added to the Selected Stations list. When a station is added, the **View Station Information** link appears in the upper left corner of the application.



5. Select the **View Station Information** link. The Station View panel will open, displaying the station name, station metadata (such as Network, County, Elevation, Latitude, and Longitude), a site photo and a link to the site in Google Maps.
6. From the Station View pane, hover over the **Reports** dropdown list and select **Snow Depth.** A tabular report will open, displaying the snow water equivalent, change in snow water equivalent, snow depth, and change in snow depth for the Hogg Pass site for the last 30 days in inches.



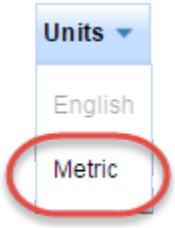


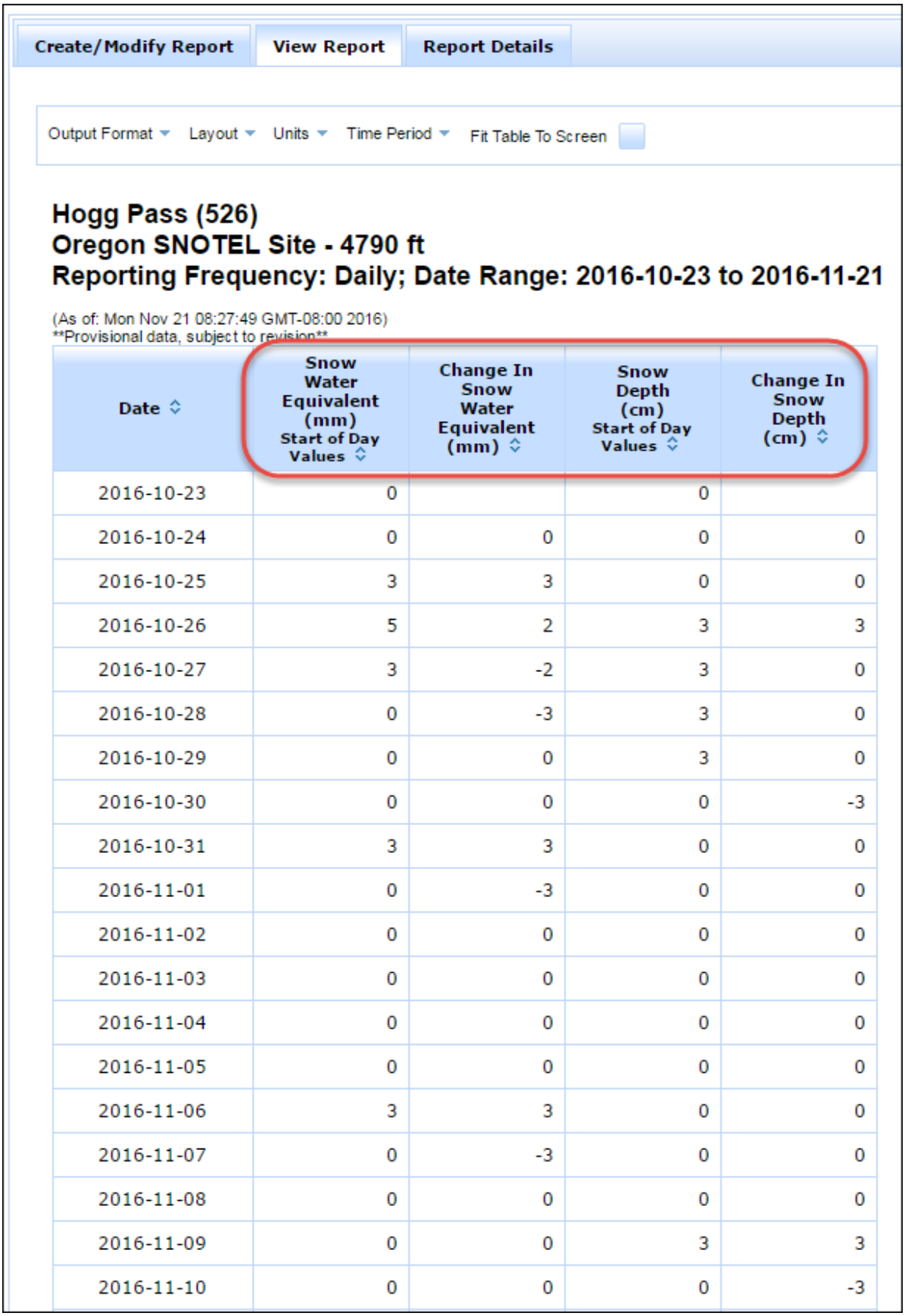
Hogg Pass (526)
Oregon SNOTEL Site - 4790 ft
Reporting Frequency: Daily; Date Range: 2016-10-23 to 2016-11-21

(As of: Mon Nov 21 08:25:22 GMT-08:00 2016)
Provisional data, subject to revision

Date	Snow Water Equivalent (in) Start of Day Values	Change In Snow Water Equivalent (in)	Snow Depth (in) Start of Day Values	Change In Snow Depth (in)
2016-10-23	0.0		0	
2016-10-24	0.0	0.0	0	0
2016-10-25	0.1	0.1	0	0
2016-10-26	0.2	0.1	1	1
2016-10-27	0.1	-0.1	1	0
2016-10-28	0.0	-0.1	1	0
2016-10-29	0.0	0.0	1	0
2016-10-30	0.0	0.0	0	-1
2016-10-31	0.1	0.1	0	0
2016-11-01	0.0	-0.1	0	0
2016-11-02	0.0	0.0	0	0
2016-11-03	0.0	0.0	0	0
2016-11-04	0.0	0.0	0	0
2016-11-05	0.0	0.0	0	0
2016-11-06	0.1	0.1	0	0
2016-11-07	0.0	-0.1	0	0
2016-11-08	0.0	0.0	0	0
2016-11-09	0.0	0.0	1	1

7. In the **View Report** tab, select **Metric** from the **Units** drop-down list. The units on the report will change from English to Metric.





Hogg Pass (526)
Oregon SNOTEL Site - 4790 ft
Reporting Frequency: Daily; Date Range: 2016-10-23 to 2016-11-21

(As of: Mon Nov 21 08:27:49 GMT-08:00 2016)
Provisional data, subject to revision

Date	Snow Water Equivalent (mm) Start of Day Values	Change In Snow Water Equivalent (mm)	Snow Depth (cm) Start of Day Values	Change In Snow Depth (cm)
2016-10-23	0		0	
2016-10-24	0	0	0	0
2016-10-25	3	3	0	0
2016-10-26	5	2	3	3
2016-10-27	3	-2	3	0
2016-10-28	0	-3	3	0
2016-10-29	0	0	3	0
2016-10-30	0	0	0	-3
2016-10-31	3	3	0	0
2016-11-01	0	-3	0	0
2016-11-02	0	0	0	0
2016-11-03	0	0	0	0
2016-11-04	0	0	0	0
2016-11-05	0	0	0	0
2016-11-06	3	3	0	0
2016-11-07	0	-3	0	0
2016-11-08	0	0	0	0
2016-11-09	0	0	3	3
2016-11-10	0	0	0	-3

Select Layout

This tutorial shows how to choose the layout (format) of the report in Report Generator. Available layout options are:

- **Time Series**. Single station or multi-station report. The report will display for all stations defined with elements listed on a per-station basis. That is, each report will include all elements for that station for the time period defined. For example:

Date	Station 1 Elem 1	Station 1 Elem 2	Station 2 Elem 1	Station 2 Elem 2
Jan 2011	xxxx	xxxx	xxxx	xxxx
Feb 2011	xxxx	xxxx	xxxx	xxxx

- **Stacked Time Series.** Multi-station report. The report will display all stations with elements listed on a per-station basis. For example:

Date	Station	Elem 1	Elem 2
Jan 2011	Station 1	xxxx	xxxx
Feb 2011	Station 1	xxxx	xxxx
Jan 2011	Station 2	xxxx	xxxx
Feb 2011	Station 2	xxxx	xxxx

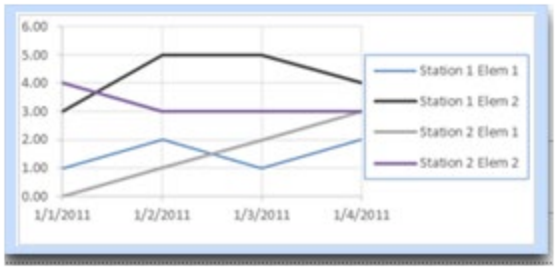
- **Water Year - Group by Month.** Single station or multi-station report. The report will display for all elements defined, grouped by month for the current water year (Oct. 1-Sept. 30). For example:

Water Year	Oct		Nov	
	Elem 1	Elem 2	Elem 1	Elem 2
2011	xxxx	xxxx	xxxx	xxxx
2012	xxxx	xxxx	xxxx	xxxx

- **Calendar Year - Group by Month.** Single station or multi-station report. The report will display for all elements defined, grouped by month for the current calendar year (Jan. 1-Dec. 31). For example:

Year	Jan		Feb	
	Elem 1	Elem 2	Elem 1	Elem 2
2011	xxxx	xxxx	xxxx	xxxx
2012	xxxx	xxxx	xxxx	xxxx

- **Chart.** Single station or multi-station chart. Report Generator will display a line chart for all elements and all the stations defined. For example:



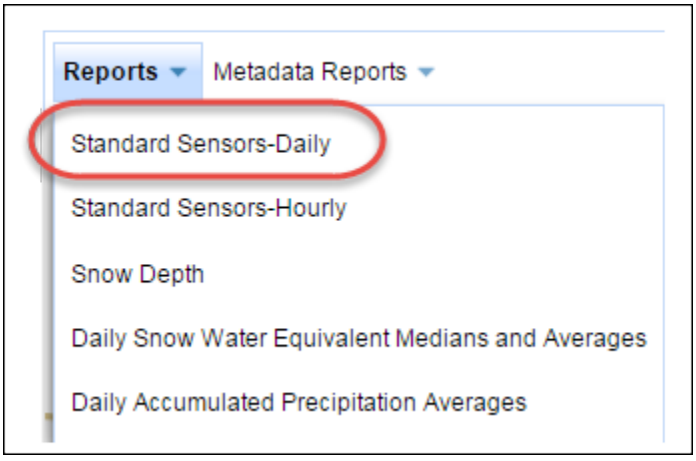
The following tutorial uses a **Standard** data report (Snow Depth) to change the layout for data displayed in the **View Report** tab from Standard to Chart.

The tutorial consists of two, quick lessons:

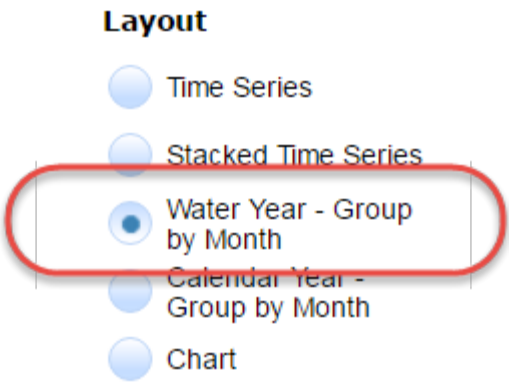
- Lesson 1: Change layout from Standard to Group Elements by Month
- Lesson 2: Change layout from Standard to Chart

Lesson 1: Change Layout from Standard to Group Elements by Month

1. Start Report Generator.
2. Select the **Create/Modify Report** tab.
3. Choose the station. In the **Enter station(s)** field, enter the following station ID: 526.
4. Station 526, Hogg Pass, will be added to the Selected Stations list. When a station is added, the **View Station Information** link appears in the upper left corner of the application.
5. Select the **View Station Information** link. The Station View panel will open, displaying the station name, station metadata (such as Network, County, Elevation, Latitude, and Longitude), a site photo and a link to the site in Google Maps.
6. From the Station View pane, hover over the **Reports** dropdown list and select **Standard Sensors-Daily.** A tabular report will open, displaying the snow water equivalent, snow depth, precipitation accumulation, and air temperature minimum, maximum and average for the Hogg Pass site for the last 30 days.



1. In the **View Report** tab, select **Water Year - Group by Month** in the **Layout** drop-down list. The report will change from elements being listed on a per-station basis to elements being listed on a per-month basis.



Create/Modify Report | View Report | Report Details

Output Format | Layout | Units | Time Period | Fit Table To Screen

Hogg Pass (526)
Oregon SNOTEL Site - 4790 ft
Reporting Frequency: Daily; Date Range: 2016-10-03 to 2016-11-01;

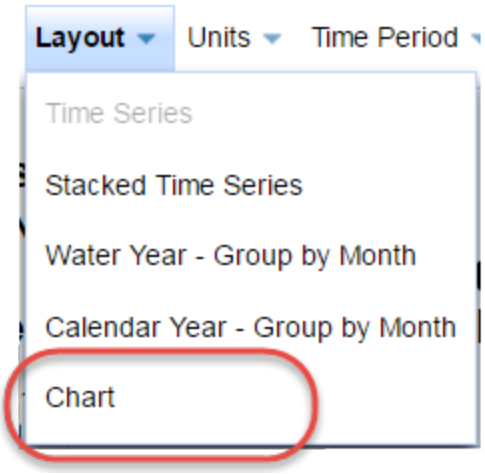
(As of: Tue Nov 01 11:07:01 PDT 2016)
"Provisional data, subject to revision"

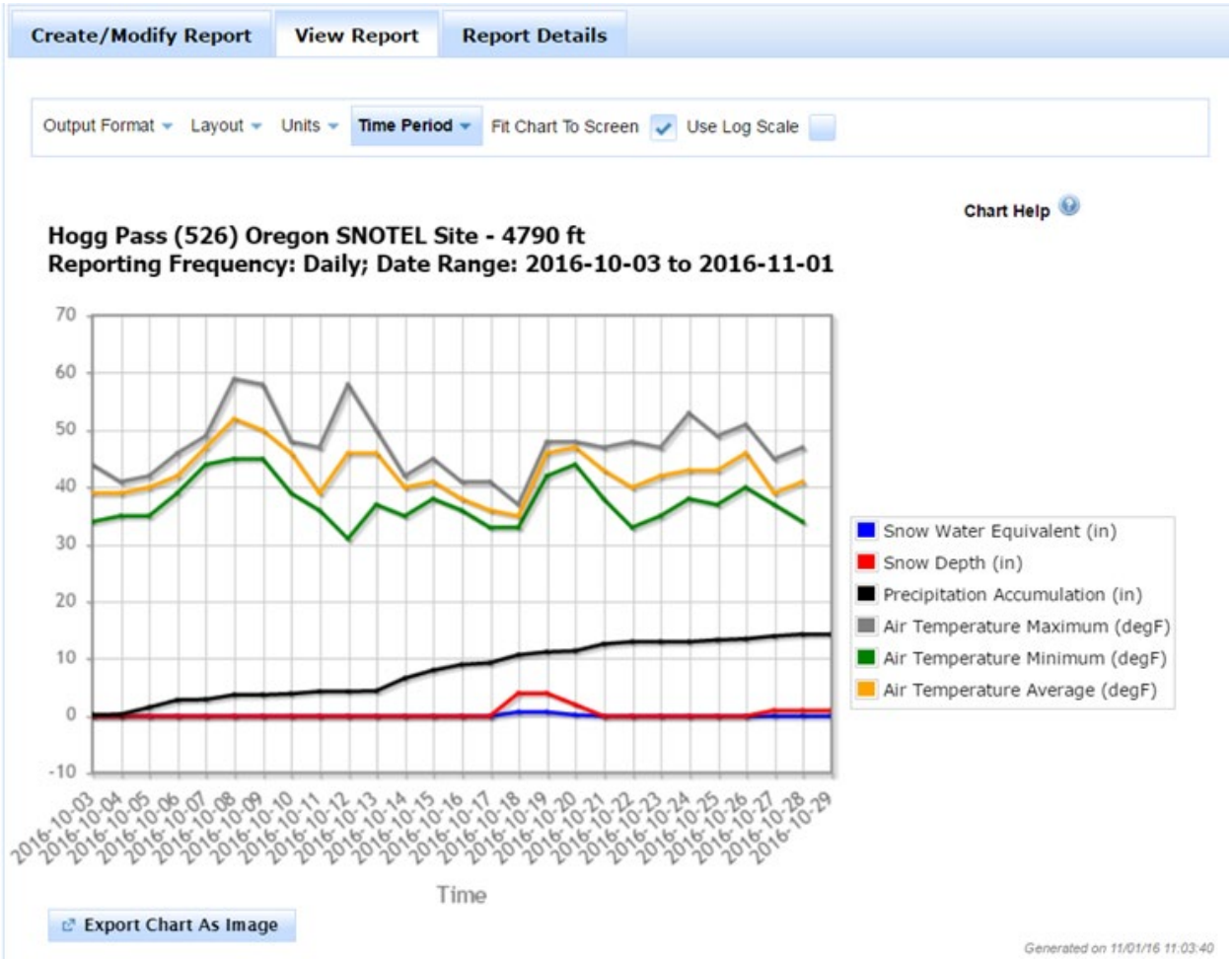
Day	Oct						
	Snow Water Equivalent (in)	Snow Depth (in)	Precipitation Accumulation (in)	Air Temperature Maximum (degF)	Air Temperature Minimum (degF)	Air Temperature Average (degF)	Snow Water Equivalent (in)
01	0.0	0	0.0	43	37	39	
02	0.0	0	0.1	43	35	38	
03	0.0	0	0.2	44	34	39	
04	0.0	0	0.3	41	35	39	
05	0.0	0	1.5	42	35	40	
06	0.0	0	2.8	46	39	42	
07	0.0	0	2.9	49	44	47	
08	0.0	0	3.7	59	45	52	
09	0.0	0	3.7	58	45	50	
10	0.0	0	3.9	48	39	46	
11	0.0	0	4.3	47	36	39	
12	0.0	0	4.3	58	31	46	
13	0.0	0	4.4	50	37	46	
14	0.0	0	6.6	42	35	40	
15	0.0	0	8.0	45	38	41	
16	0.0	0	9.0	41	36	38	
17	0.0	0	9.3	41	33	36	
18	0.7	4	10.7	37	33	35	
19	0.7	4	11.2	48	42	46	

Continue to Lesson 2: Change Layout from Standard to Chart.

Lesson 2: Change Layout from Standard to Chart

1. In the View Report tab, select **Chart** from the Layout drop-down list. The report will change from a tabular format to a line chart.





Tip: To save the results of this report:

- From the Output Format drop-down list, select the csv format icon () to save the file to a comma-separated value (.csv) format or to an Excel (.xls) spreadsheet.
- To save the chart to a graphics format such as .jpg or .png, select the **Export Chart as Image** button, then right-click on the image to save it.

Frequently-Asked Questions

Answers to questions from our users.

Report Generator Frequently-Asked Questions

Q Does Report Generator have any predefined report formats I can use?

A Report Generator has several predefined reports available. When you add a station to Report Generator, the View Station Information link to open the Station View pane.

In the Station View pane, the Reports and Metadata Reports () dropdown menus contain several predefined report templates. For example, choose from both hourly and daily standard sensor reports, snow depth, daily snow water equivalent medians and averages, and sensor metadata reports.

Q What are the sources of data Report Generator uses?

A

Report Generator uses data from the National Resources Conservation Service (NRCS) Water and Climate Information System (WCIS) databases. This includes manually-collected snow course data and information from automated Snow Telemetry (SNOTEL) and Soil Climate Analysis Network (SCAN) stations.

Report Generator also uses precipitation, streamflow, and reservoir data from the U.S. Army Corps of Engineers (USACE), the U.S. Bureau of Reclamation (BOR), the National Weather Service (NWS), the Applied Climate Information System (ACIS), the U.S. Geological Survey (USGS) and various water districts and other entities.

Q I created a tabular report in Report Generator. Is it possible to export this data for further analysis?

A Yes. In the View Report tab, select the CSV icon () from the Output Format dropdown list (). A web page will open with the data from the report displayed. Open a text editor (such as Notepad or Excel). Copy and paste lines that do not begin with a pound sign (#) into the text editor. Save the file with a .csv extension.

Q I created a chart in Report Generator. Can I save this chart to another format?

A Charts may be saved to a graphics format or exported to another format (such as .csv. or .xls).

To save the chart in a graphics format, select the Export Chart as Image button (). When the file opens, right-click the chart and select Save image as... Save the file to a graphics format, such as .png or .jpg.

To export the data to .csv or .xls format, in the View Report tab, select the CSV icon () from the Output Format dropdown list (). A web page will open with the data from the report displayed. Open a text editor (such as Notepad or Excel). Copy and paste the data from the web page into the text editor. Save the file with a .csv extension.

Q I'm using Internet Explorer as my browser. Many of the functions of Report Generator aren't working correctly.

A Report Generator 2.0 won't function properly in Internet Explorer if Compatibility View is enabled, or if the USDA.gov domain has been added to Compatibility View. To disable Compatibility View, go to Tools > Compatibility View Settings in Internet Explorer, and disable (uncheck) the Display Intranet Sites in Compatibility View checkbox. If USDA.gov is in the Websites you've added to Compatibility View list, highlight USDA.gov and select the Remove button.

Q I want to create a report for all the sites within a basin, but I don't know the site names or station IDs. Can Report Generator find those sites?

A If you know all or part of the Hydrologic Unit Code (HUC) for the basin, you can use the Advanced Search feature in Report Generator to quickly define a list of sites within the basin. Simply select the data Network, then enter the HUC for the basin (1-12 digits, wildcards are accepted), and select Search.

Q Can Report Generator be used to create multi-station charts?

A Yes. Version 2.0 of Report Generator supports multi-station charting.

Announcements and Release Notes

Contains important information associated with updates and changes to Report Generator. It also contains Release Notes describing recent enhancements and defect fixes.