NRE Tasmania Water Information Web Portal
Getting Started Guide

Tasmanian
Government

Contents

1.Introduction and first-time use

The NRE Tasmania Water Information Web Portal (the portal) uses the AQUARIUS Web Portal product to deliver real-time and historical time series information. Data available from the portal includes a range of site health (e.g. battery voltage), surface water, ground water, and water quality parameters. It is a browser-based system integrating data collection, storage, reporting, computation, management and display.

This getting started guide is intended to assist new users to quickly familiarise themselves with the portal and become productive with it. Use the interactive Table of Contents to navigate to the section you are interested in.

Please see the **User Manual** for more comprehensive information on any section of the portal, found by selecting the 🔵 symbol.

When you navigate in your browser to the NRE Tasmania Water Information Web Portal you will see the Map view. Over this will appear a Welcome Panel outlining the terms and conditions under which the data available through the portal can be used will appear. The user must select the "Accept" button acknowledging these terms and conditions before they can proceed to the portal. Note that this only needs to be done once as a new user, the disclaimer does not automatically show when opening the portal after this first time. The Welcome Panel can be accessed at any time by selecting "Dashboards / 1. WebPortal Main Dashboard" from the Tabbed Navigation list on the left-hand side of the portal (Figure 1). The disclaimers from each data provider are located at the bottom of the Welcome Panel.
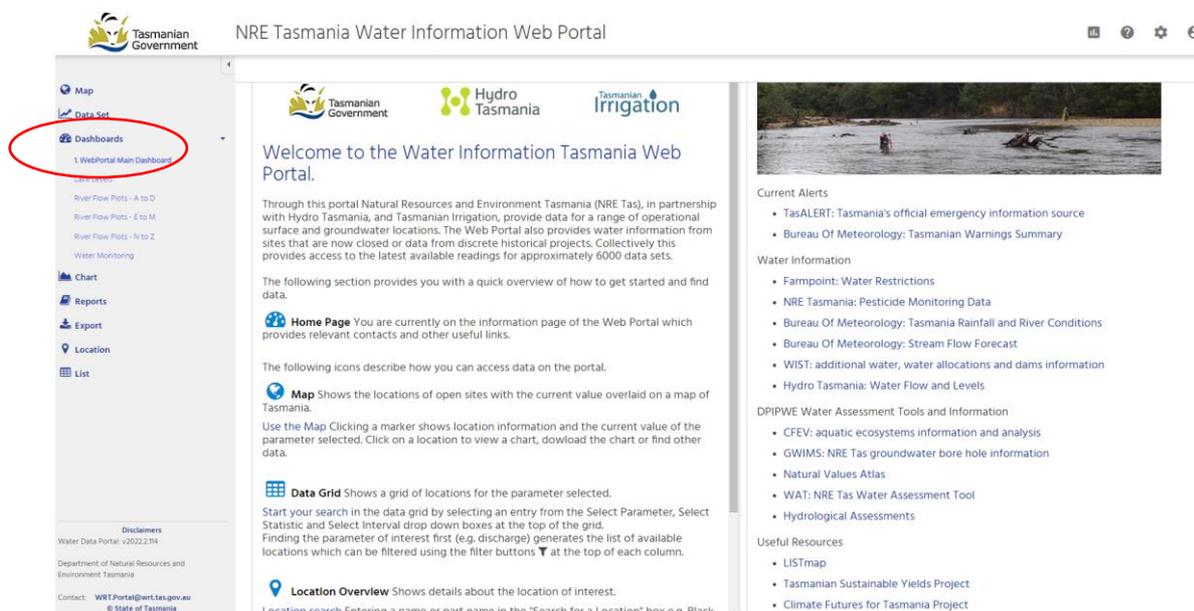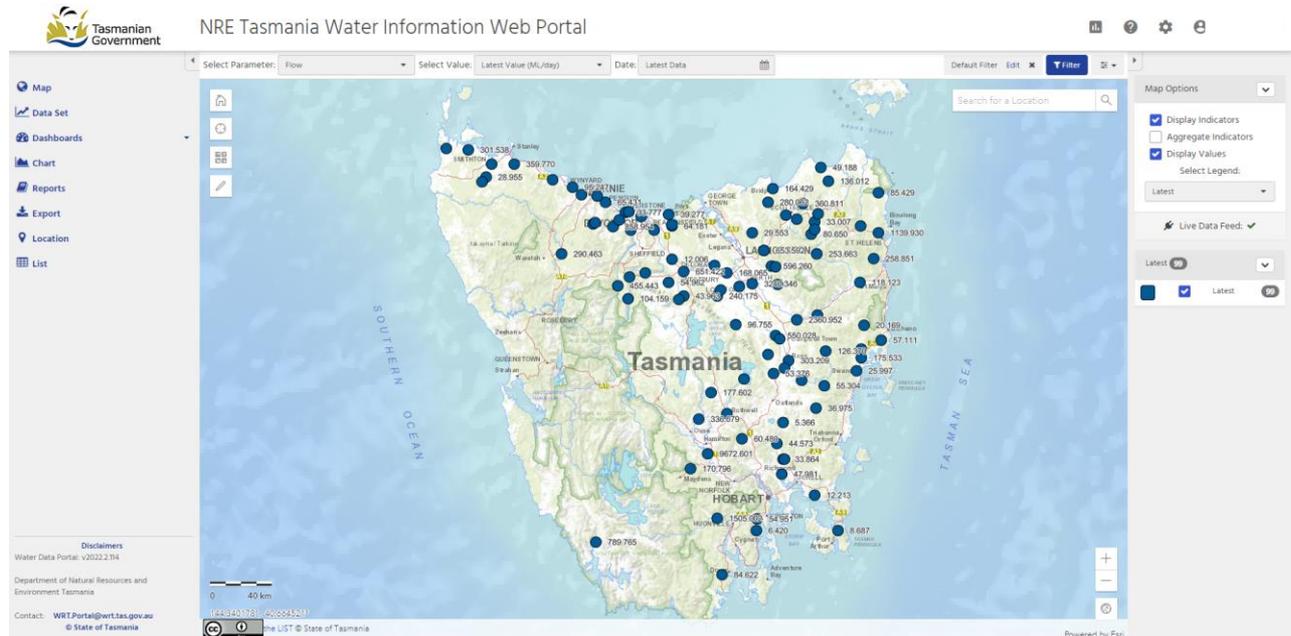

Figure 1: WebPortal Main Dashboard including disclaimer

The main view of the NRE Tasmania Water Information Web Portal is the Map tab (Figure 2). The map shows circular indicators of locations where data is recorded. By default in the portal, these represent locations where flow is recorded and the latest values of flow (in ML/day) are shown at each of the circles.

Figure 2: Map View – default view of the portal

Most of the data available on the portal is available to any user including the general public. To view all of the available data stored on the portal, an account login is required, including a username and password. This will need to be organised through the NRE Tas Water Resources System Administrator (Email: WRT.Portal@wrt.tas.gov.au).

2. How Do I? - View a map of latest values or recent statistics

When you enter the portal you will be presented with the Map tab. Each circular indicator on the map represents a location, with the number displayed inside the indicator showing the latest value. By default, the map displays Latest Flow in ML/day. (Figure 2).

You can use the data context selectors at the top of the page to choose from a range of options including "Select Parameter:", "Select Value:", and "Date:". To view a map of the latest data for another parameter of interest, choose "Select Parameter:".

Note that the "Latest Data" statistic refers to the most recently recorded data point, if no data has been collected in the previous 96 hours, no value will be displayed on the map for that Location. Selecting a circular Location indicator will display a pop-up window which displays information about the Location as well as the statistic (Figure 3). Within the pop-up window, the "Last Updated" shows the date and time of the latest recorded value.
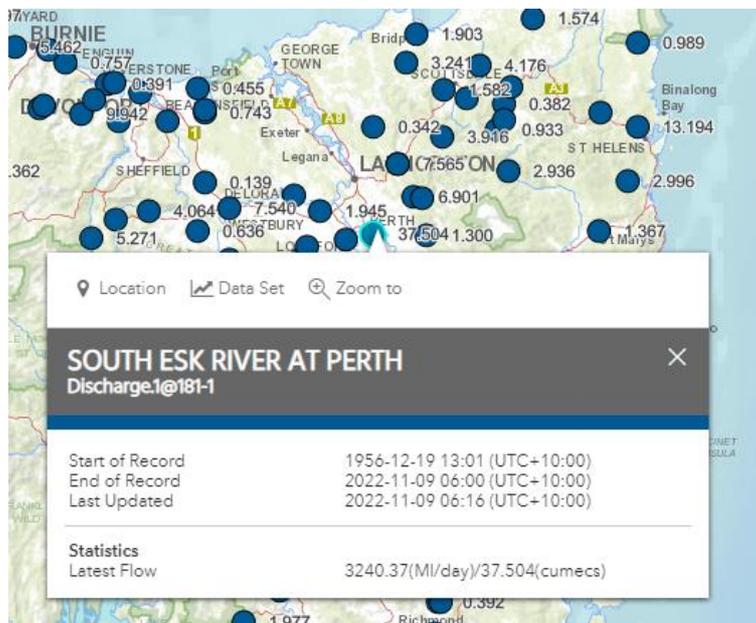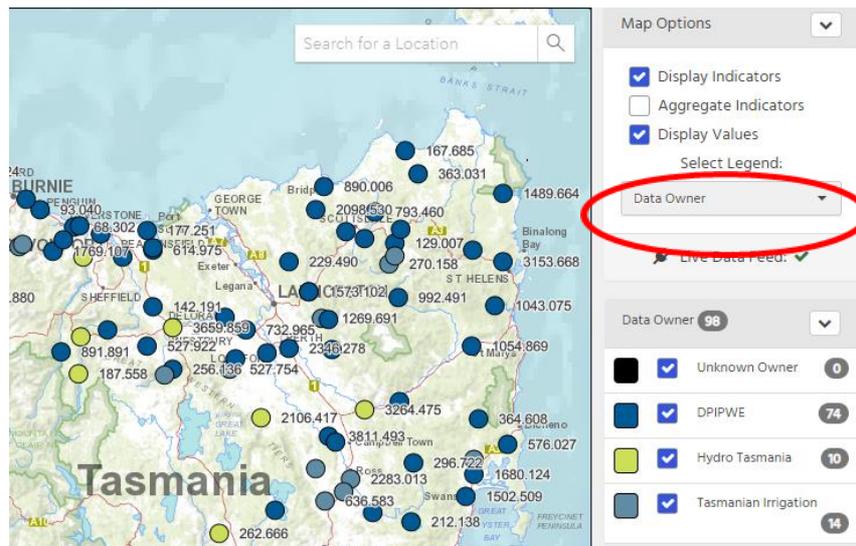

Figure 3: Map View showing pop-up window

Different Legends can be selected from the "Map Options" panel on the right-hand side of the portal. For example for Flow there is an option to select a legend which identifies the owner of the Location, each indicator is coloured according to the owner (Figure 4).

Figure 4: Selecting a Legend

In addition to the Latest Value, some parameters have other statistics available which can be shown by using the "Select Value" list from the data context selectors at the top of the page. Additional statistics are being included in the portal on a regular basis.

To the top left-hand side of the Map View, there are four icons, two are very useful and offer the following:

 returns to the full extent of the Tasmania.

 provides alternative basemaps including open street map, and satellite imagery. All basemaps display quickly when zooming in and out.

The map page can be accessed at any time by selecting the icon from the Tabbed Navigation list on the left-hand side of the portal.

3. How Do I? - View a chart or table (grid) of data at a specific Location of interest

There are two ways to access a chart or table at your Location of interest.

Firstly, you can select a site icon in the Map View, which will open the pop-up window. This process is outlined in Section 2, and the pop-up window is shown in Figure 3. The "Data Set" icon will be displayed at either the top or bottom of the popup window.

Alternatively, the [Data Set] icon can be selected from the Tabbed Navigation list on the left-hand side of the portal. Select the "Search for a Location:" list from the data context selectors at the top of the page, and type in the Location details. It is an interactive search function and will begin to display Locations as soon as you start typing. Select the location of interest, then choose the "Select a Data Set:" list from the data context selectors at the top of the page. Note that the available data sets are listed in alphabetic order.

Viewing a Data Set automatically opens up the "Chart" tab, showing the last 7 days of data (Figure 5). Note that the right-hand side of the portal provides some metadata for the dataset, and allows you to edit certain features of the chart. For information on how to edit, use and configure this chart further please see the User Manual. Note that only registered users can save charts for future use.
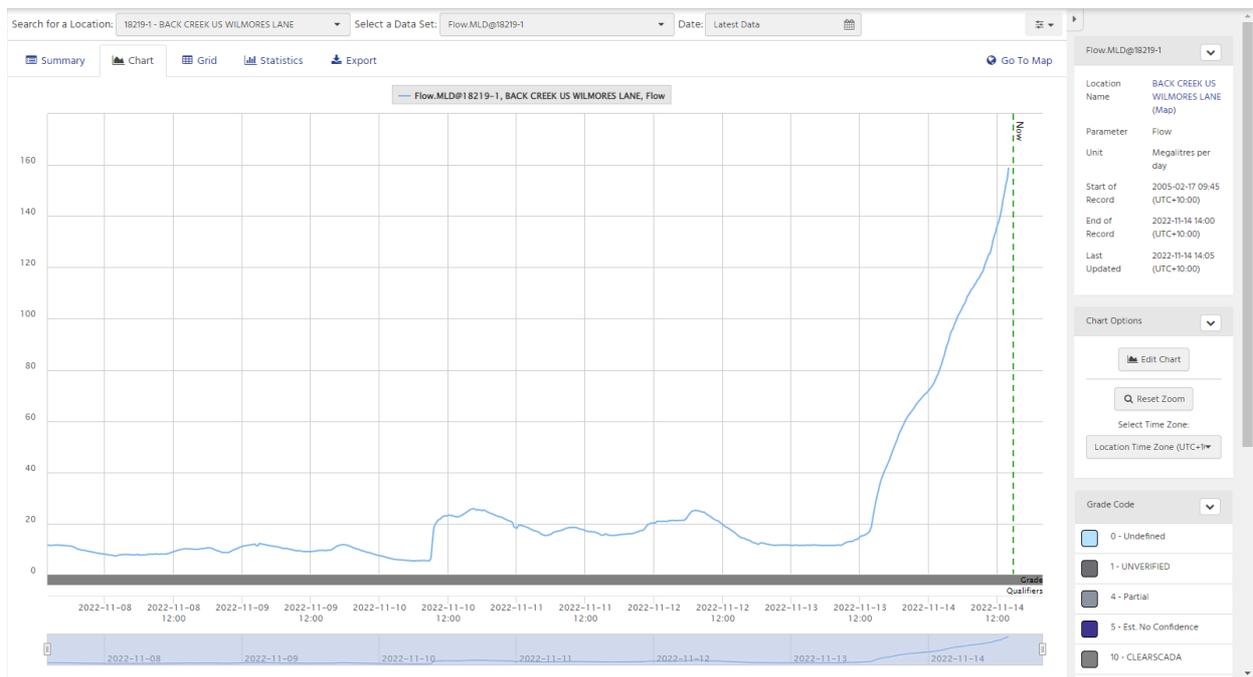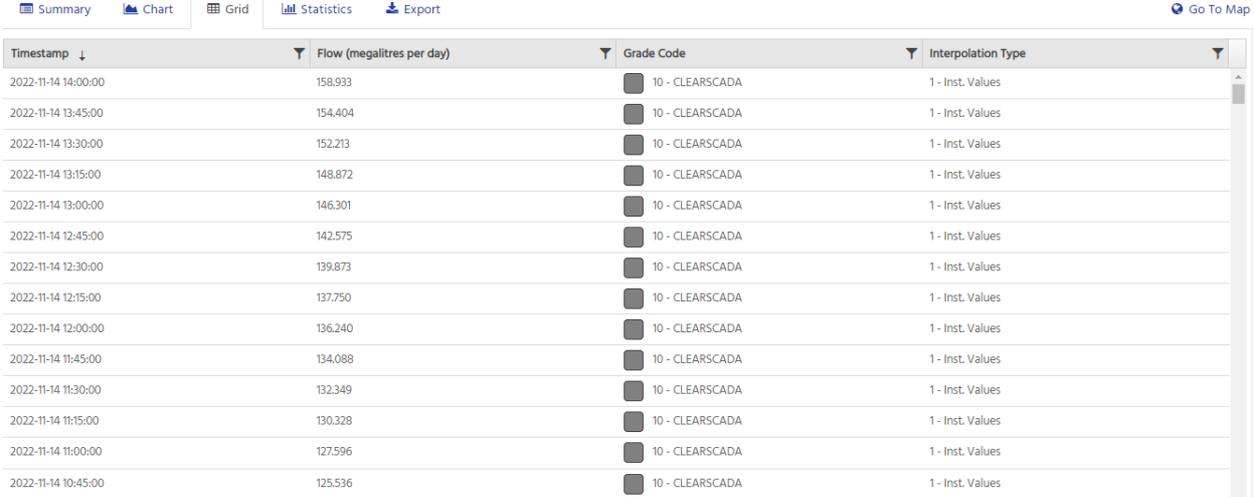


Figure 5: Default Chart display

To view a table of points, select the ⊞ Grid tab located just above the chart (Figure 6). As a default, this displays the last 7 days of data.

Timestamp ↓	Flow (megalitres per day)	Grade Code	Interpolation Type
2022-11-14 14:00:00	158.933	10 - CLEARSCADA	1 - Inst. Values
2022-11-14 13:45:00	154.404	10 - CLEARSCADA	1 - Inst. Values
2022-11-14 13:30:00	152.213	10 - CLEARSCADA	1 - Inst. Values
2022-11-14 13:15:00	148.872	10 - CLEARSCADA	1 - Inst. Values
2022-11-14 13:00:00	146.301	10 - CLEARSCADA	1 - Inst. Values
2022-11-14 12:45:00	142.575	10 - CLEARSCADA	1 - Inst. Values
2022-11-14 12:30:00	139.873	10 - CLEARSCADA	1 - Inst. Values
2022-11-14 12:15:00	137.750	10 - CLEARSCADA	1 - Inst. Values
2022-11-14 12:00:00	136.240	10 - CLEARSCADA	1 - Inst. Values
2022-11-14 11:45:00	134.088	10 - CLEARSCADA	1 - Inst. Values
2022-11-14 11:30:00	132.349	10 - CLEARSCADA	1 - Inst. Values
2022-11-14 11:15:00	130.328	10 - CLEARSCADA	1 - Inst. Values
2022-11-14 11:00:00	127.596	10 - CLEARSCADA	1 - Inst. Values
2022-11-14 10:45:00	125.536	10 - CLEARSCADA	1 - Inst. Values

Figure 6: Grid display (tabulated data)

To view a different date range either in "Chart" or "Grid", select the "Date:" list from the data context selectors at the top of the page (Figure 7, note that the Date options are available within the "Data Set" View, not in the "Map View").
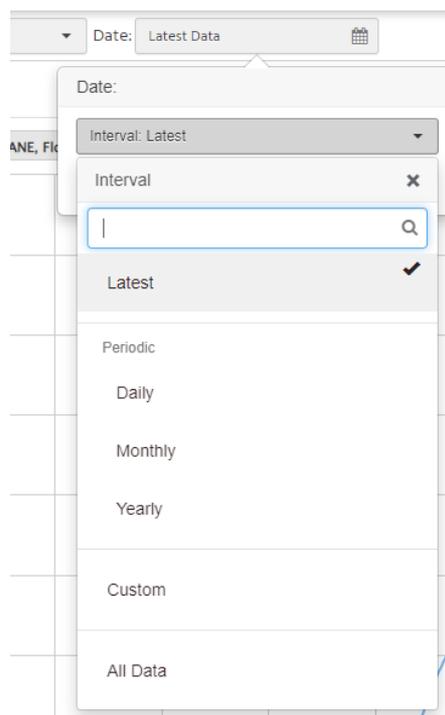
Figure 7: Date adjustment options

A few options are available for selecting the date range:

- The "Daily", "Monthly", and "Yearly" options will display fixed periods of the stated length of time, which can be chosen after selecting the fixed period. Note that for "Daily" and "Monthly", only the period between the start and end of the chosen day or month will be displayed.
- "All Data" will display the entire record. Note that there will be more load time to display a large period of record rather than the shorter time periods in the default views.
- "Custom" allows you to define your specific period of interest. Click in the date period and use the calendar form to enter the start and end dates (Figure 8). Make sure that a start and end date are appropriately selected (the portal requires the start date to be selected with one mouse click, then the end date to be selected with a second mouse click). You should see the start and finish day highlighted blue, and the date period defined at the bottom of the form. Click "Apply". Note that the calendar provides a full date range that will be outside of the period of available data (from 1922 – 2122).

Figure 8: Enter a custom date range, check the date range at the bottom of the form

4. How Do I? - Find and view water quality data at a specific Location of interest

Water quality data for a range of parameters are recorded continuously at a number of locations. See the Appendix at the end of the User Manual for a list of locations and their associated Parameters. An indicative list of reported water quality parameters is provided below.

Water Quality parameter	Water Quality parameter
Dissolved Oxygen (O_2)	Ammonia
Turbidity	Phosphorous
Conductivity	Nitrate
Water Temperature	River Health Score
pH	

Select the 📈 Data Set icon from the Tabbed Navigation list on the left-hand side of the portal. From here use the data context selectors to select the Location and Parameter you are interested in. This process is described in more detail in Section 3, note that at present there are no statistics set up for water quality parameters and therefore they are not available on the Map View.

The standard default "Chart" view will appear showing data over the last 7 days only. As some of these water quality parameters are not continuously recorded (i.e. spot samples from field visits), there may not be data available within the last 7 days so the chart will be empty. Apply a different date range to show more data ("All Data", or a "Custom" period is the best place to start).

The metadata located in the top right panel of this view (see Figure 5), provides information on the period of record, which can assist in defining the Date range of the data to view.

To view a table (grid) of data points, select ⊞ Grid from the icons located just above the chart, as shown in Figure 6.

Note that in Chart view, the default size of data points is quite small, This can be changed via the Edit Chart button (located on the right hand side of the Chart view in the portal, Figure 5 – refer to User Manual for more detail). Also note that if you mouse over the display the dots are joined linearly.
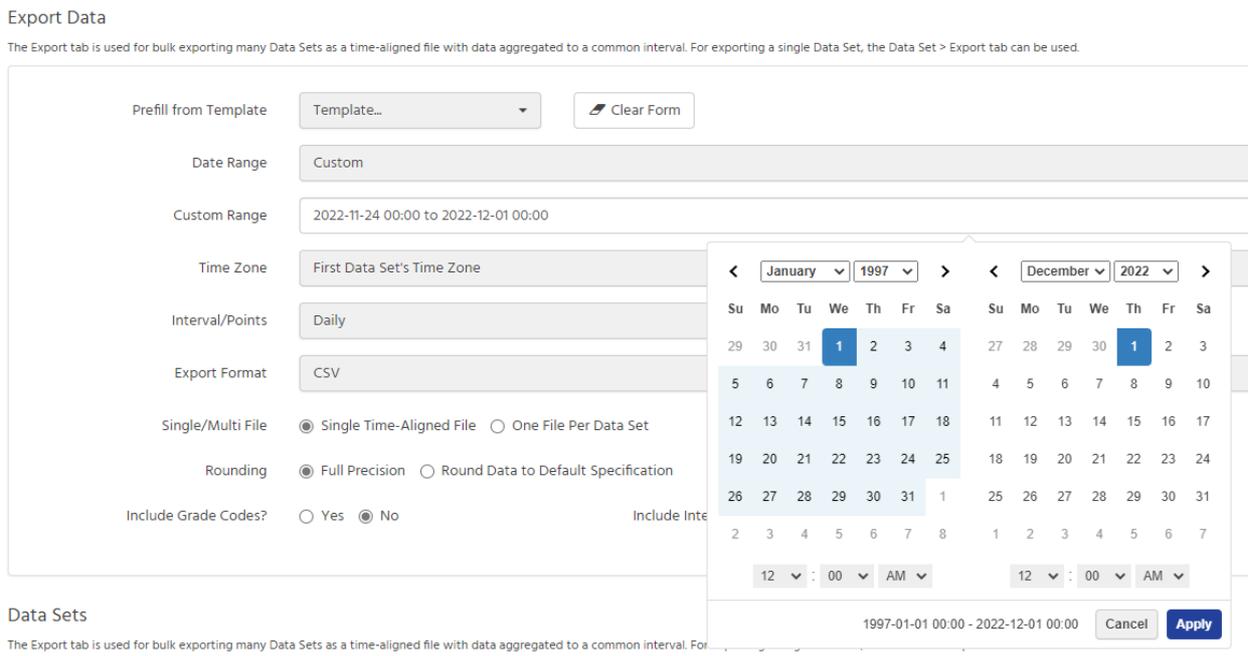
5. How Do I? - Export data

Data can be exported when you are in the **Data Set** view using the export tab, however using the **Export** button in the Tabbed Navigation list on the left-hand side of the portal provides the best functionality for exporting data because it:

- o provides the most amount of export options in one form,
- o allows for the transfer of multiple datasets, and
- o produces a user friendly output file.

Figure 9 shows the Export Data options. Templates are only available to registered users. 'csv' is the default export format and allows for easy use in other external applications including Excel.

Figure 10 shows the different "Date Range" options that are available to define the period of exported data. Many pre-defined date ranges are available including the Entire Period of Record. When applying a custom date range, the calendar form must be used to define the dates, they cannot be entered manually. Make sure the period you want is selected, as shown at the bottom of the calendar form (Figure 9), and select Apply. Note that the calendar form is a bit sensitive and requires that the "start date" is selected first, followed by the "end date".


Figure 9: Export data settings including calendar view for date selection
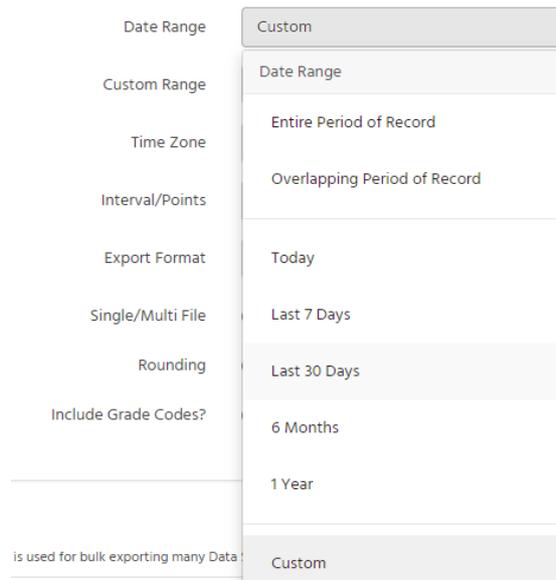
**Figure 10: Export data settings showing other date range options**

If you wish to obtain all data points within the timerange selected, you can choose 'Points as recorded' in the "Interval/Points" option (Figure 11) or a timestep how you wish data to be aggregated. For example if you are after weekly data you would choose Daily and then in the "Points every" option that appears enter 7.
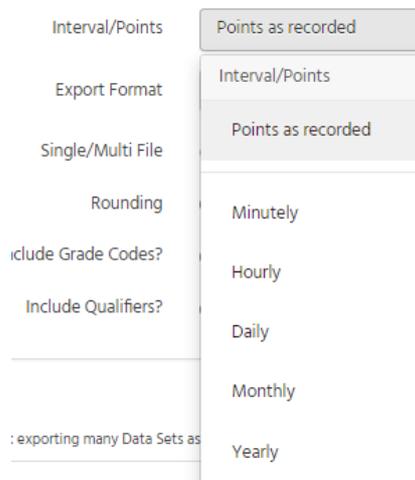
Figure 11: Export data settings showing options for time series intervals

Multiple datasets can be set up for a single export to one output file, which produces the output data in a convenient format (see Figure 12). Note that the Location field has predictive text search, and locations can be found by entering the location ID or any part of the location name.
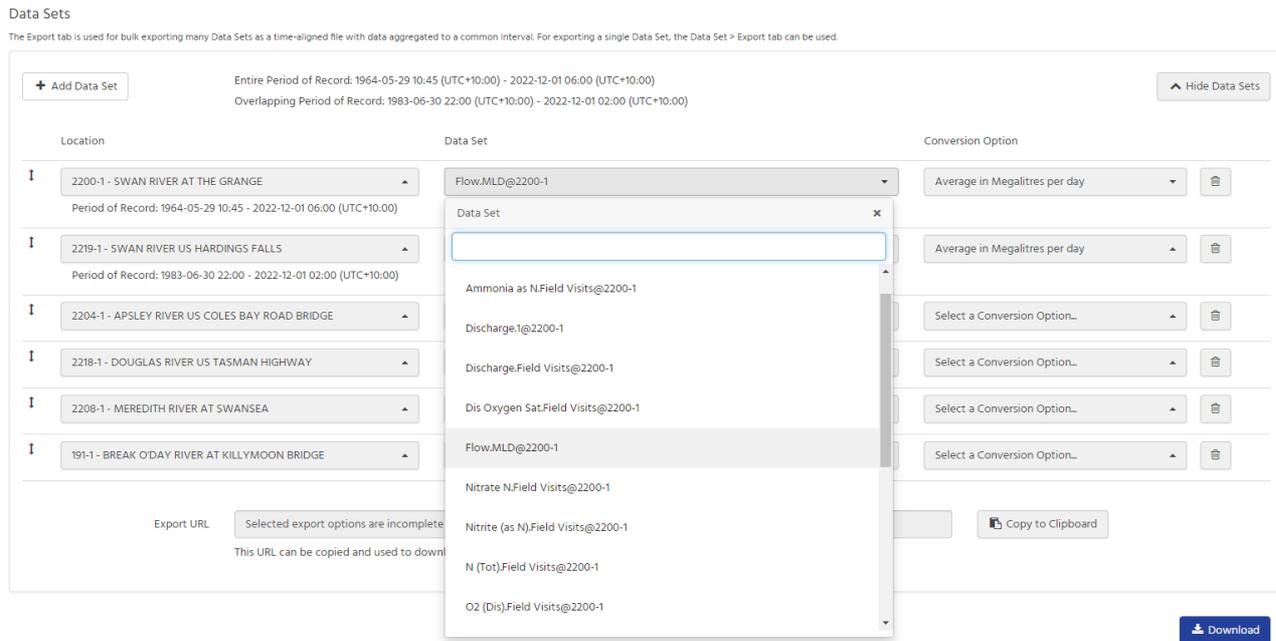
Figure 12: Setting multiple data sets for export

An Export URL (seen in the bottom left of Figure 12) can be saved and used in the future to execute an export with all the same conditions. Paste the URL into the browser, press enter, and the export will be created, this functionality to automate a routine data export with the same inputs.

Note that the time to download the data will increase as the list of sites increases or the date period becomes longer.

The output file will automatically write to the Downloads folder on the computer's hard drive and have an automatic name.
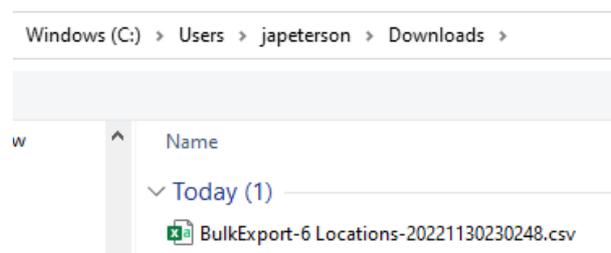
Figure 13: Example bulk export output file

Inside the output file, the data is well aligned for future processing (Figure 14). Note that the any missing data is displayed as "NaN" rather than a gap (empty cell).

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	A	B	C	D	E	F	G	H
1	#Bulk Export - Points every 1 day(s)							
2	The							
3			2200-1	2219-1	2204-1	2218-1	2208-1	191-1
4			SWAN RIVER A	SWAN RIVER L	APSLEY RIVER	DOUGLAS RIVI	MEREDITH RIV	BREAK O'DAY RIVEI
5			Flow.MLD	Flow.MLD	Flow.MLD	Discharge.1	Flow.MLD	Flow.MLD
6	Start of Interval (	End of Interval (I	Average (Ml/c	Average (Ml/c	Average (Ml/c	Average (Ml/c	Average (Ml/c	Average (Ml/d)
7	1/01/1997 0:00	2/01/1997 0:00	7.229385496	2.482667138	NaN	NaN	0.681535559	8.623328701
8	2/01/1997 0:00	3/01/1997 0:00	6.98143961	2.337985333	NaN	NaN	0.681535559	9.56757066
9	3/01/1997 0:00	4/01/1997 0:00	6.821595357	2.262710332	NaN	NaN	0.681535559	10.36836258
10	4/01/1997 0:00	5/01/1997 0:00	6.506060345	2.161440894	NaN	NaN	0.681535559	10.21437857
11	5/01/1997 0:00	6/01/1997 0:00	5.671113646	2.001812429	NaN	NaN	0.681535559	9.448050555
12	6/01/1997 0:00	7/01/1997 0:00	4.556103282	1.835589713	NaN	NaN	0.681535559	8.183816046
13	7/01/1997 0:00	8/01/1997 0:00	4.140054753	1.871494492	NaN	NaN	0.681535559	7.418781704
14	8/01/1997 0:00	9/01/1997 0:00	3.268723873	1.816036522	NaN	NaN	0.681535559	6.763500343
15	9/01/1997 0:00	10/01/1997 0:00	3.368544119	1.849222776	NaN	NaN	0.681535559	6.186563601
16	10/01/1997 0:00	11/01/1997 0:00	3.072514747	2.053915158	NaN	NaN	0.681535559	6.018975779
17	11/01/1997 0:00	12/01/1997 0:00	3.798176331	2.018665205	NaN	NaN	0.685836153	5.982636231
18	12/01/1997 0:00	13/01/1997 0:00	4.029389694	1.926553309	NaN	NaN	0.666266908	5.641560122
19	13/01/1997 0:00	14/01/1997 0:00	3.343645913	1.851380898	NaN	NaN	0.659973338	5.327889655
20	14/01/1997 0:00	15/01/1997 0:00	2.932559511	1.729828992	NaN	NaN	0.644918424	5.123317107
21	15/01/1997 0:00	16/01/1997 0:00	3.095784653	1.680086702	NaN	NaN	0.644918424	5.429255418
22	16/01/1997 0:00	17/01/1997 0:00	3.606113211	1.86479598	NaN	NaN	0.644918424	5.641560122
23	17/01/1997 0:00	18/01/1997 0:00	4.003587136	1.649870074	NaN	NaN	0.644918424	5.327889655
24	18/01/1997 0:00	19/01/1997 0:00	3.911026612	1.635020498	NaN	NaN	0.644918424	5.173597562

Figure 14: Example bulk export output file data

6. How Do I? - View details of a location

From the [Map], find the Location of interest, click on the Location icon to see the pop-up window (Figure 15). Select the Location icon at the top left of the pop-up window.
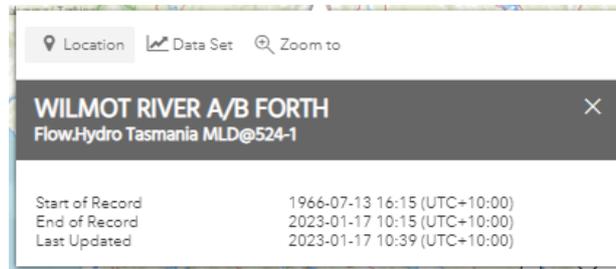

Figure 15: Map pop-up

Alternately, choose the [Location] button in the Tabbed Navigation list on the left-hand side of the portal and then select the Location you are interested in from the Data Context Selectors at the top of the page.

The Location View is split into two sections, with the top section containing the metadata about the location including coordinates, elevation, catchment area, period of record. The bottom section contains a grid of data sets for that location available through the portal (Figure 16).

Figure 16: Location overview

7. How Do I? - View and download pre-defined charts

Pre-defined charts have been developed to provide more information than the default chart display, which shows a single data set only. They can include multiple data sets on the same plot, or a customised plot window (e.g. show colour bands that provide an indication of the data quality or grading).

Select the [Chart] button in the Tabbed Navigation list on the left-hand side of the portal and choose from the list of available charts from the Select Chart tab at the top left of the form

The list is in alphabetic order based on the chart name. A default time period is set for each custom chart, but by selecting the Date tab, a range of periodic or custom date ranges can be chosen.

Charts and their underlying data can be exported by selecting the export icon located in the top right of the plot display as shown in Figure 17. Export options include either image formats, or csv/Excel data for the timeseries data sets in the plot.
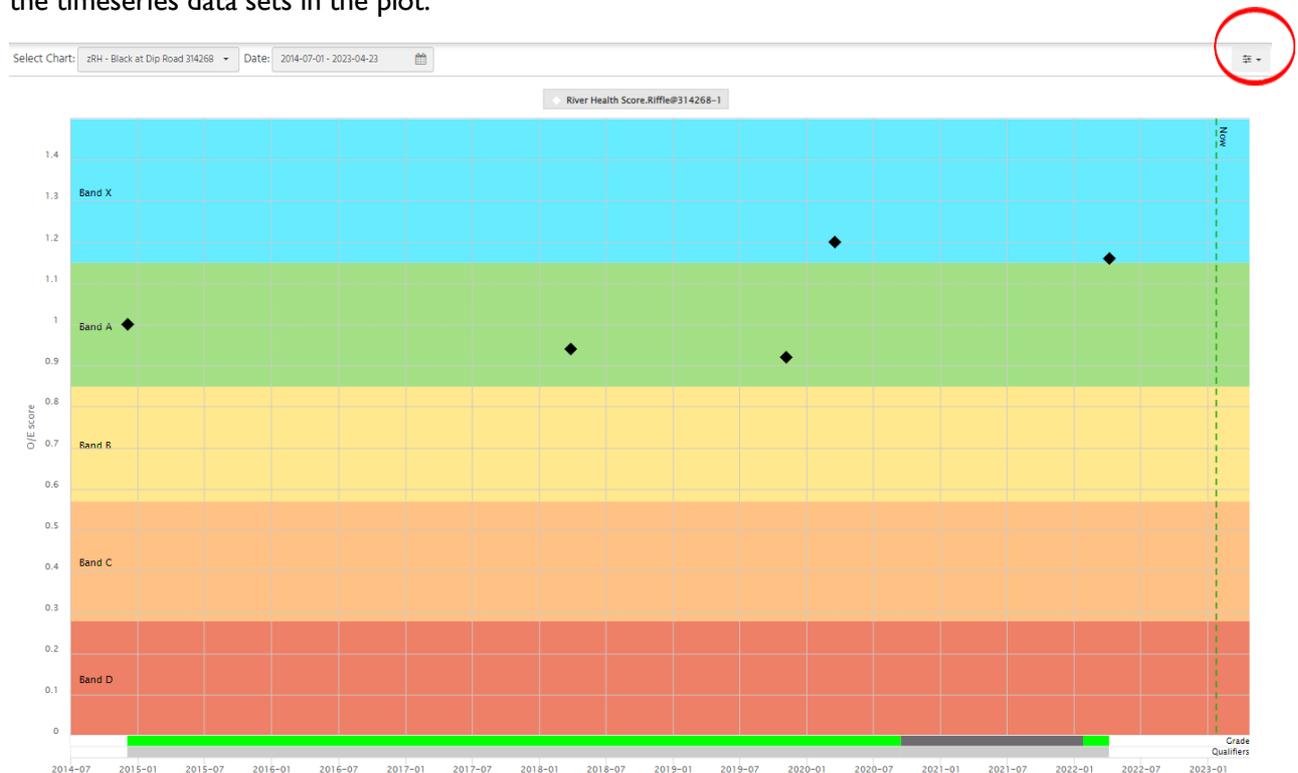

Figure 17: Custom charts view showing location of chart export button

8. How do I? - View Dashboards

Dashboards provide a workspace where multiple charts, tables, statistical values, and other information can be displayed on the same page. To access select the button in the Tabbed Navigation list on the left-hand side of the portal and choose from the list of available dashboards that appear in the drop down list. Note that the dashboards can not be exported and the properties of each component (e.g. date range) cannot be changed.
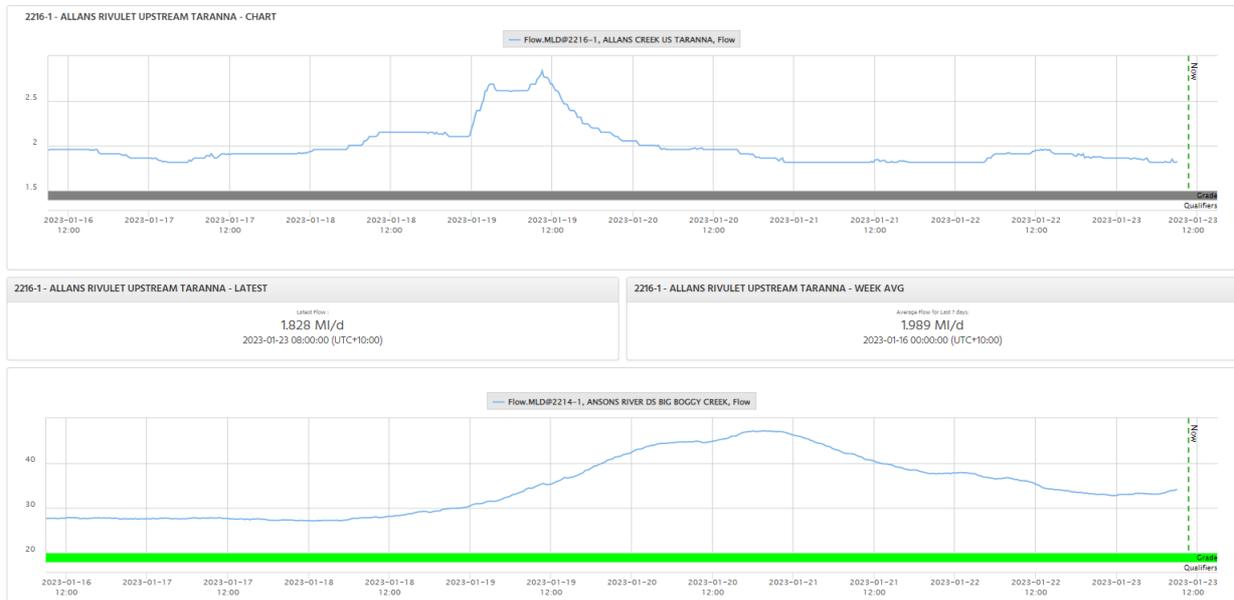

Figure 18: Example of a dashboard with multiple charts and statistical values

9. How Do I? – Quickly download whole of record for NRE Tas Locations

Whole of record reports for Flow in ML/day (.csv format) are available for all DPIPWE Locations including historical ones.

These reports are updated on a monthly basis for open Locations.

To download these reports, select the [Reports] button in the Tabbed Navigation list on the left-hand side of the portal. All sites are listed for active and closed sites and are grouped into separate folders for each catchment (Figure 19).

Figure 19: Reports view for downloading whole of record flow data sets

Figure 20: Format of downloaded data from Reports view

The file format is shown above in Figure 20. Note that the date and data value are displayed for each point only, no grade codes or interpolation types are shown.

For more information on how to export data from the portal refer to Section 5, or please see the User Manual.

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10. How Do I? – Use the portal with a mobile device

The portal can be accessed via portable devices such as tablets or phones. This is very useful when at site or at times where there is no computer available. Note that the mobile device must be connected to the internet to access the portal.

Although much of the functionality is available when using a mobile device. It must be noted that:

- Due to the small screen size of a phone, and the size of the headers of the portal page, it is best to work with the portal in a portrait view (depending on the size of the phone/tablet, portrait view might be the only way to see the data and option buttons).
- The screen is interactive and most tabs and icons that are activated via a mouse on the computer can be activated and accessed by touching the screen. Other touch screen functionality including panning and zooming can be done effectively using your fingers.
- Although the Map view and the site icons are still interactive, the small screen size means that it is best to use the menu icon located at the top left of the display (Figure 21a.). This opens the Tabbed Navigation list allowing you to access Data Sets, Dashboards, Charts and Export functionality.
- The top of the display also provides user-friendly tabs for selecting your data set (Figure 21b.).
- Charts and grids will need to be viewed in portrait. The display is interactive and touching the trace on a chart will show the data value.
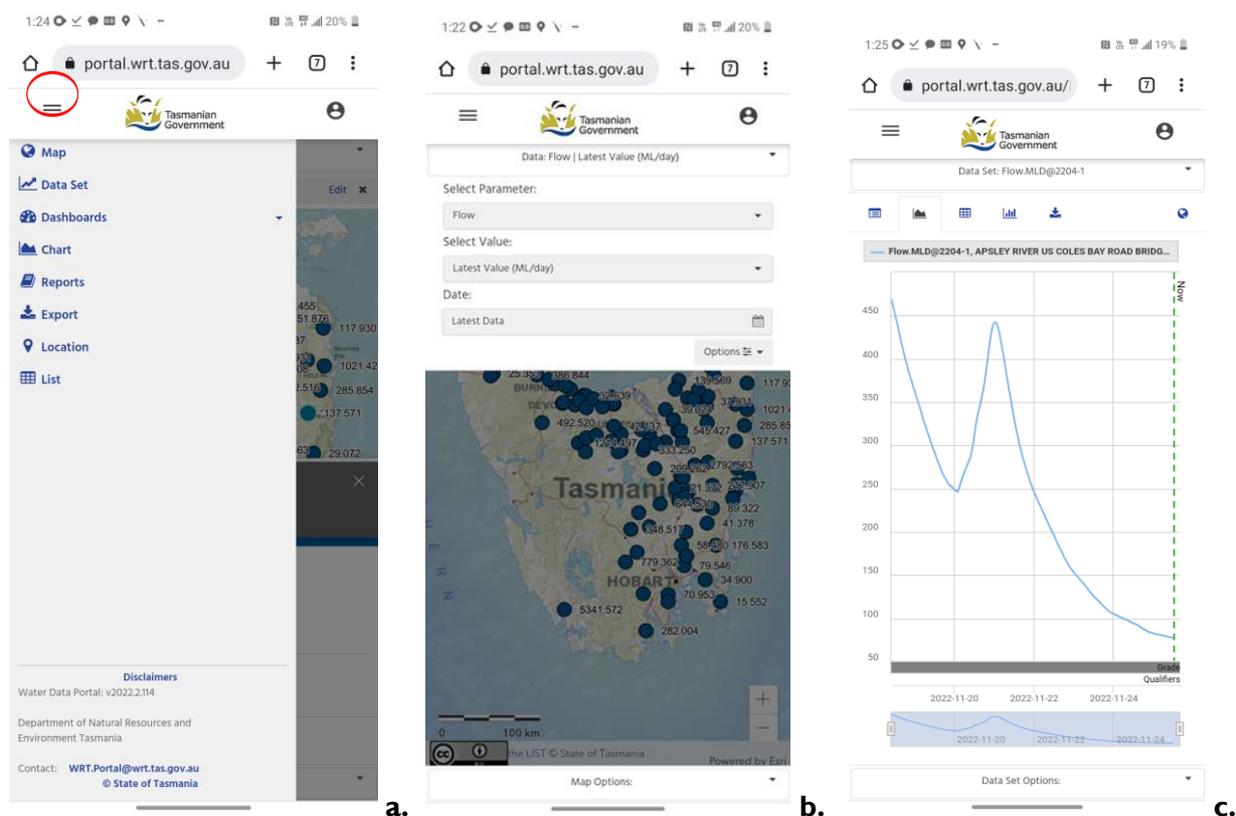- The export functionality produces chart images in a landscape format.

a.   b.   c.

Figure 21: Example screen shots of the portal displayed from a mobile phone

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