

Heron Instruments Software Manual

Written for Software Version 1.0.44

Revision 0 (2021-09-21)

Contents

Contact Details	3
Introduction	3
Language Support	3
Data Protection	4
Compatibility	4
Installation and Updates	4
Installing on Windows	4
What you'll need to get started	5
Setting up your first mission	5
Downloading your data	22
Viewing and compensating your data	28
Exporting your data	40
Realtime Readings	42
Managing your data	43
Stopping and Clearing a Logger	54
Advanced Features	56
Changing your default settings	64

Contact Details

Heron Instruments Inc.
447 Moxley Rd. Dundas, Ontario, L9H 5E2, Canada
Phone: 1-800-331 2032
Email: info@heroninstruments.com
Web: heroninstruments.com

Introduction

This manual covers the basic operation and use of the Heron Instruments software used to interface with Heron Instruments manufactured products and services. This manual is not necessarily fully comprehensive of all features and capabilities. It may include features or capabilities no longer available. Heron Instruments is constantly working to improve its products and as such, feature sets and capabilities may change without notice. Features and capabilities may differ depending on region/language/settings/etc. Methods/systems/materials used or suggested may not comply with all regional regulations. It is the customers responsibility to use the software and the manual within the limits of their regional rules and regulations.

Language Support

The Heron Instruments software is developed in English. Translations are applied afterwards. We cannot guarantee the accuracy of translations and if in doubt, the English version should be consulted for clarification. Further clarification can be obtained by contacting Heron Instruments directly.

Languages currently available are:

- English
- French
- Spanish
- Portuguese
- Japanese
- Hindi
- Chinese
- Bengali
- Russian
- Indonesian

If you require a different language for your use of the software, please contact Heron Instruments to request its addition.

Data Protection

Data downloaded to the Heron Instruments software is stored in a local database. This database is managed by your operating system. If the software is uninstalled or removed, the database may also be deleted by your operating system. We strongly recommend backing up your computer regularly to protect your data. We also recommend backing up your database to protect against unforeseen incidents. Heron Instruments is not responsible for the loss of any data that may occur due to a function or a bug in the software. It is the responsibility of the user to manage their data and protect it in a way that is commensurate with the value of such data.

Compatibility

We cannot test and validate all computer configurations to ensure compatibility. We test on as wide a variety of setups as possible. To ensure you have the best chance of compatibility, we recommend always running the latest version of Windows. This software is designed to run on Windows 10 and Windows 11 (x86, x64, and ARM compatible). Your computer must have a USB type A port compatible with USB 2.0 or 3.0 protocols. The software will run on as little as 2gb of ram and 32gb of storage. We recommend a minimum of 8gb of ram and 256gb of storage for the best experience.

Installation and Updates

The software is available from the Microsoft Windows Store. It can be found at the following link: [ms-windows-store://pdp/?productid=9N2FSKW62P22](https://www.microsoft.com/store/apps/9N2FSKW62P22) or via web browser: <https://www.microsoft.com/store/apps/9N2FSKW62P22> . You can also search for the software in the store by using the search term “Heron Instruments”. Updates are handled by Microsoft and should be performed automatically depending on your settings. We recommend leaving your settings to maintain automatic updates for the software.

Installing on Windows

From the overview page on the Microsoft Store, select Install. If you are signed into a Microsoft account, your installation will happen automatically. If you are not signed into a Microsoft account, you will be presented with an option to sign in or an option to skip. If you select to skip signing in, the software will still install automatically. There is no need to sign in or sign up for a Microsoft account.

Once installation is complete, the software will be available in your Windows Start Menu.

What you'll need to get started

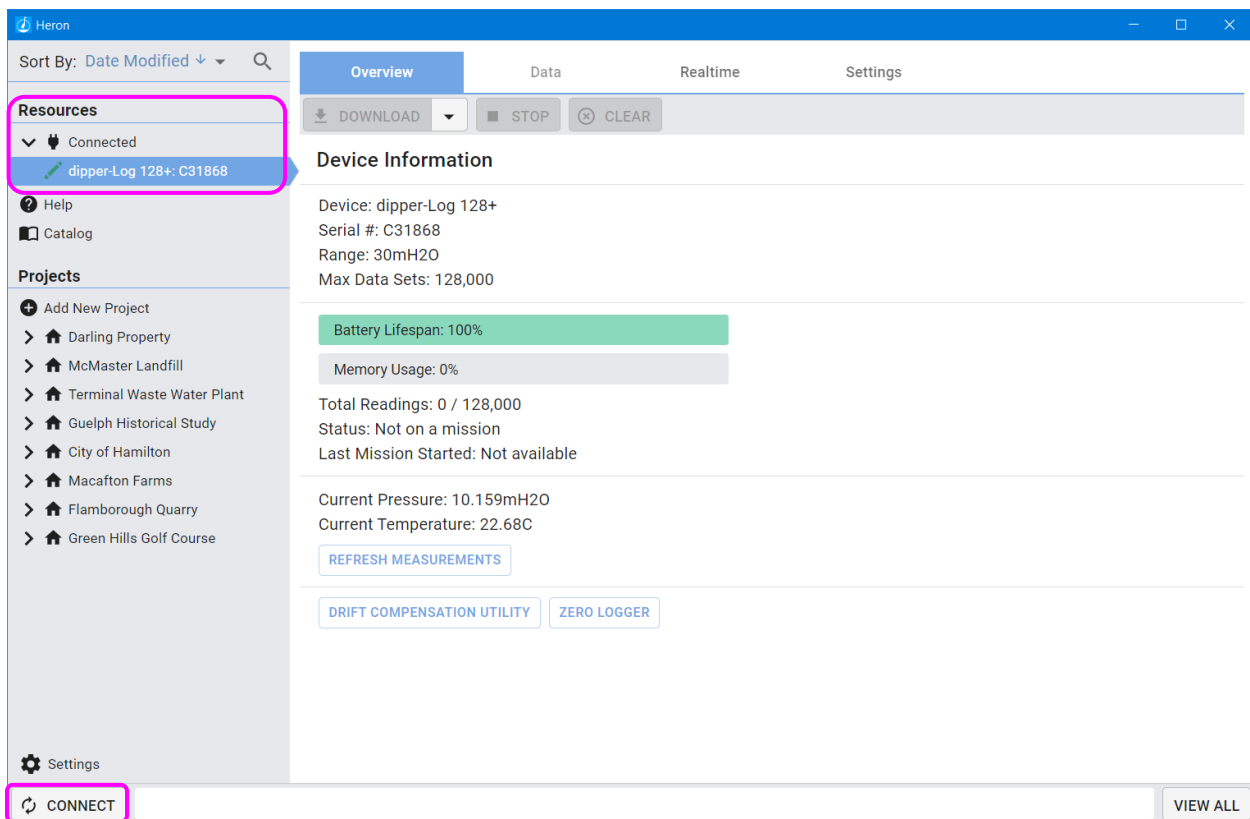
If you are connecting to a logger directly you will need the following items:

- Windows 10 or Windows 11 computer with the Heron Instruments software installed.
- A compatible dipper-Log data logger.
- A compatible pc-communication cable.

Setting up your first mission

Connect your pc-communication cable to your computer. Connect your logger to your pc-communication cable. Open the software.

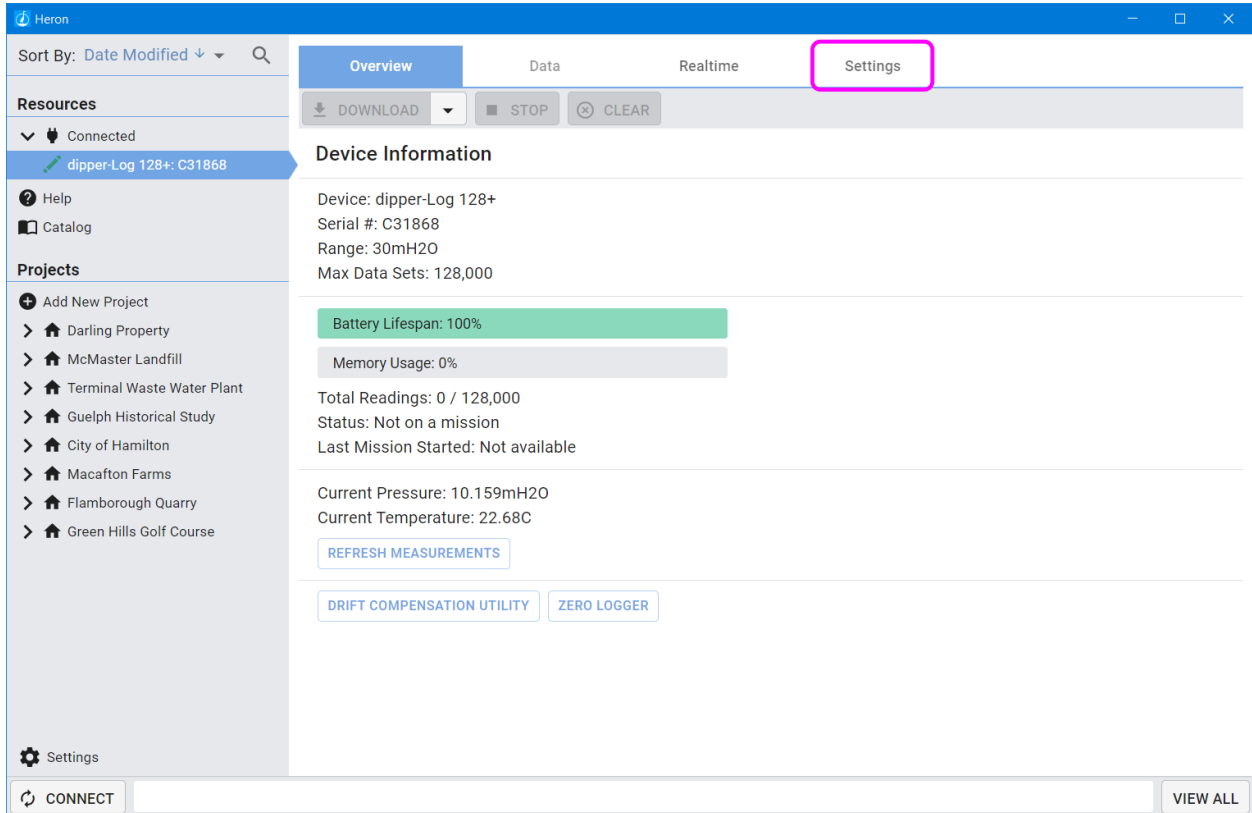
When the software opens it will display all of your connected loggers in the top left-hand side of the software in the "Connected" drop down of the "Resources" section. You can collapse or open the "Connected" items by clicking on the arrow. If your device isn't showing up yet, click "CONNECT" in the bottom left-hand corner. This will scan all of your ports for any Heron Instruments' devices.



The screenshot displays the Heron Instruments software interface. The window title is "Heron". The top navigation bar includes "Overview", "Data", "Realtime", and "Settings". Below the navigation bar, there are buttons for "DOWNLOAD", "STOP", and "CLEAR". The left sidebar contains a "Resources" section with a "Connected" dropdown menu, which is expanded to show "dipper-Log 128+: C31868". Below this are "Help", "Catalog", and "Projects" sections. The "Projects" section lists several locations: Darling Property, McMaster Landfill, Terminal Waste Water Plant, Guelph Historical Study, City of Hamilton, Macafton Farms, Flamborough Quarry, and Green Hills Golf Course. At the bottom left of the sidebar is a "Settings" gear icon and a "CONNECT" button. The main content area displays "Device Information" for the selected logger, including: Device: dipper-Log 128+, Serial #: C31868, Range: 30mH2O, Max Data Sets: 128,000. Below this are two progress bars: "Battery Lifespan: 100%" (green) and "Memory Usage: 0%" (grey). Further down, it shows "Total Readings: 0 / 128,000", "Status: Not on a mission", and "Last Mission Started: Not available". At the bottom of the main content area, there are buttons for "REFRESH MEASUREMENTS", "DRIFT COMPENSATION UTILITY", and "ZERO LOGGER". At the bottom right of the window is a "VIEW ALL" button.

You can select your device by clicking on it. If you only have one device connected at a time, the software will automatically select and display it for you. The software will now display an overview of your device and its current state.

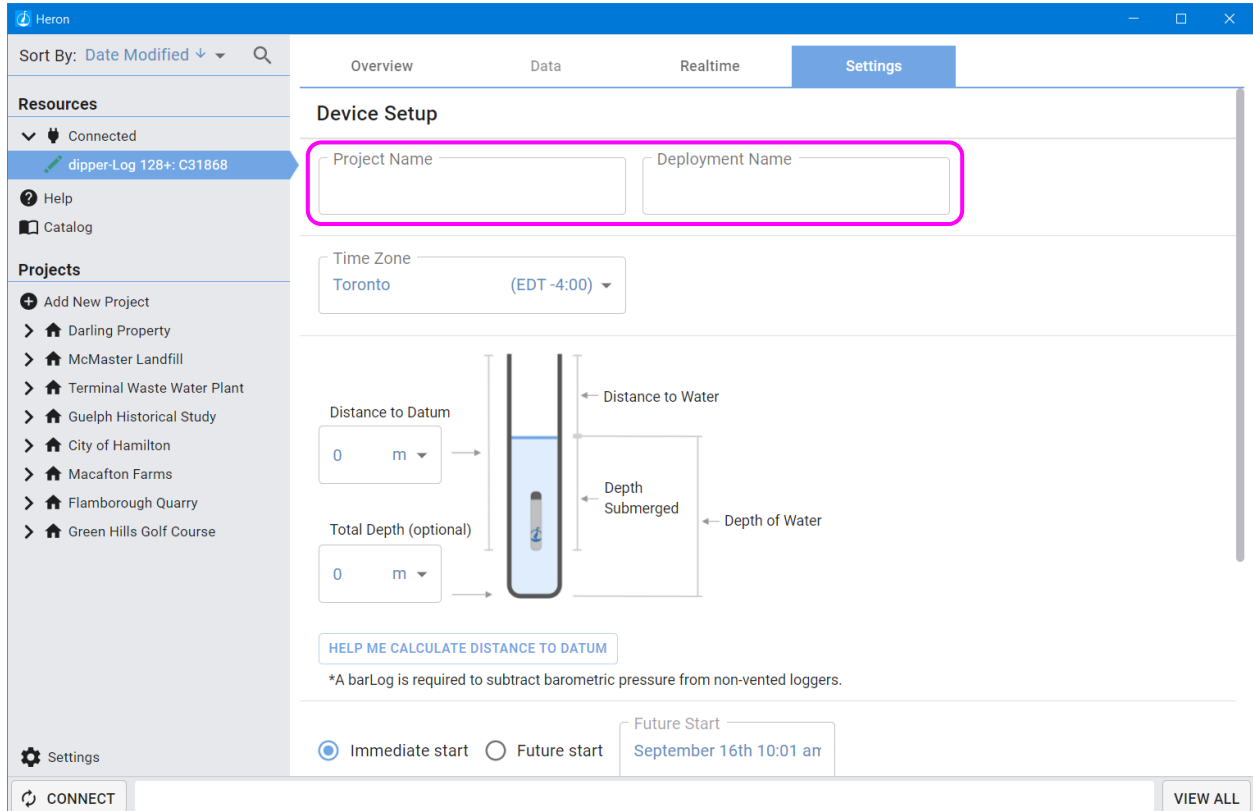
To set up your logger click on the “Settings” tab.



The screenshot shows the Heron software interface. The top navigation bar includes tabs for Overview, Data, Realtime, and Settings. The Settings tab is highlighted with a pink box. The left sidebar contains sections for Resources (Help, Catalog), Projects (Add New Project, Darling Property, McMaster Landfill, Terminal Waste Water Plant, Guelph Historical Study, City of Hamilton, Macafton Farms, Flamborough Quarry, Green Hills Golf Course), and a Settings gear icon at the bottom. The main content area displays 'Device Information' for 'dipper-Log 128+: C31868'. It includes fields for Device, Serial #, Range, and Max Data Sets. Below this are progress bars for Battery Lifespan (100%) and Memory Usage (0%). Further down, it shows Total Readings (0 / 128,000), Status (Not on a mission), and Last Mission Started (Not available). At the bottom, it displays Current Pressure (10.159mH2O) and Current Temperature (22.68C). There are buttons for REFRESH MEASUREMENTS, DRIFT COMPENSATION UTILITY, and ZERO LOGGER. At the very bottom of the interface, there is a CONNECT button on the left and a VIEW ALL button on the right.

Here, you can enter your mission settings. Not all settings are available for all loggers. Depending on your dipper-Log, you may see more or less options available.

Your Project and Deployment name will be used to organize your data in the left-hand management panel under “Projects”.

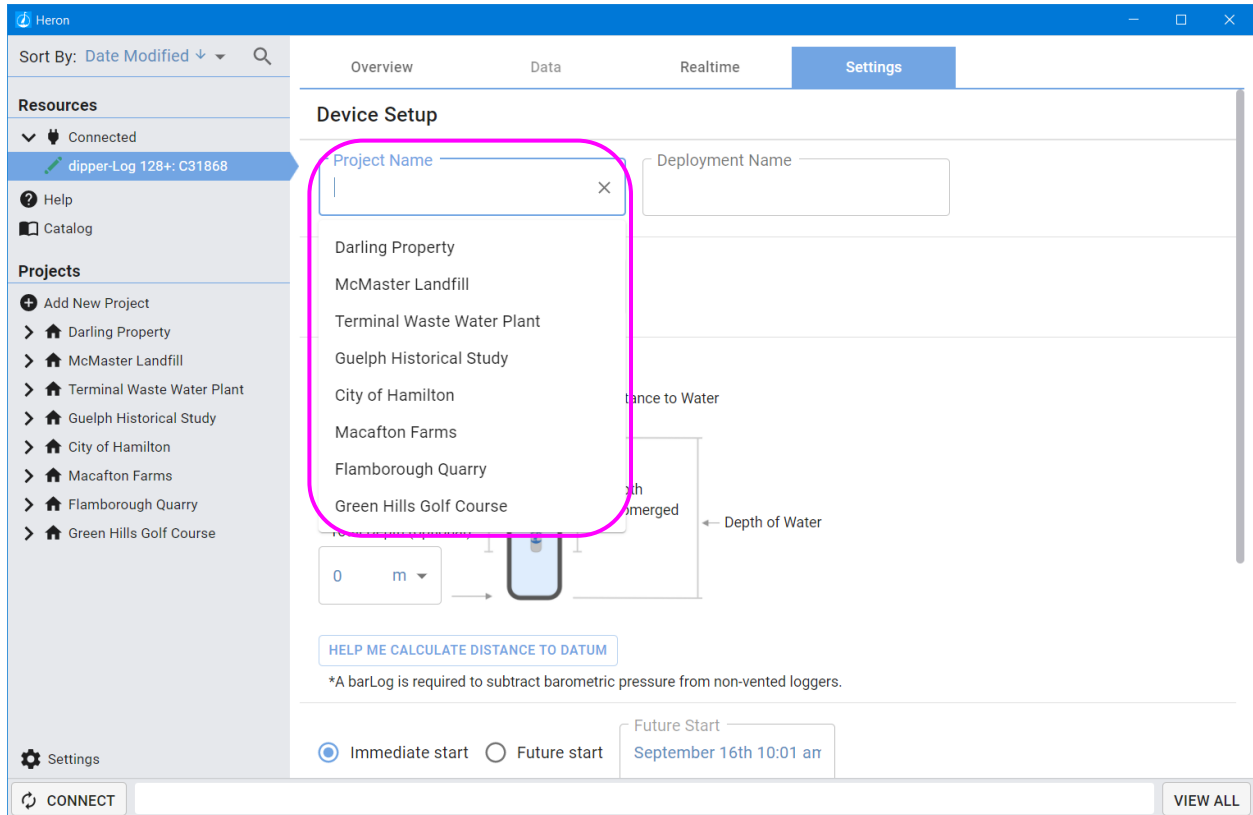


The screenshot displays the Heron software interface. The top navigation bar includes tabs for Overview, Data, Realtime, and Settings. The left sidebar shows a list of Resources (Connected devices) and Projects (Add New Project, Darling Property, McMaster Landfill, Terminal Waste Water Plant, Guelph Historical Study, City of Hamilton, Macafton Farms, Flamborough Quarry, Green Hills Golf Course). The main content area is titled "Device Setup" and contains the following fields and options:

- Project Name (highlighted with a red box)
- Deployment Name (highlighted with a red box)
- Time Zone: Toronto (EDT -4:00)
- Distance to Datum: 0 m
- Total Depth (optional): 0 m
- Distance to Water
- Depth Submerged
- Depth of Water

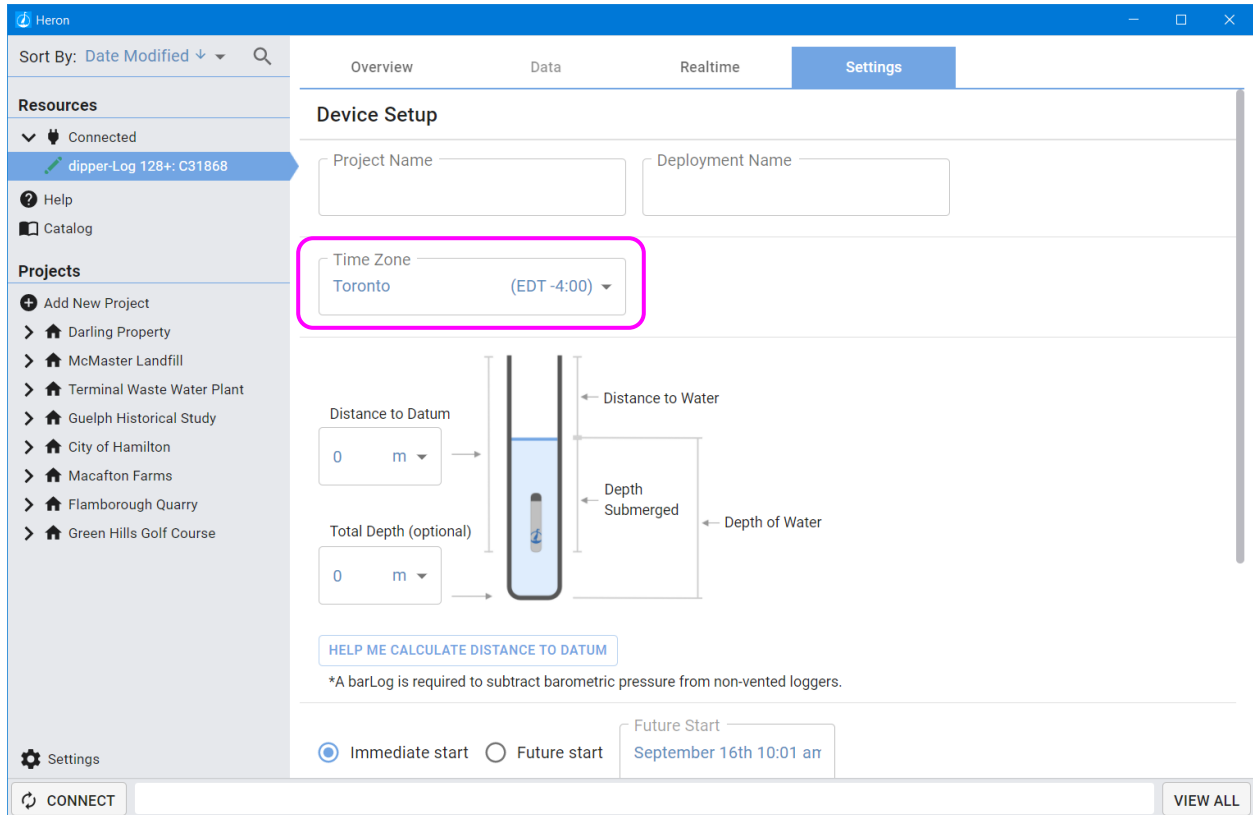
A diagram of a dipper-Log is shown, illustrating the relationship between these measurements. A button labeled "HELP ME CALCULATE DISTANCE TO DATUM" is present below the diagram. A note states: "*A barLog is required to subtract barometric pressure from non-vented loggers." At the bottom, there are radio buttons for "Immediate start" (selected) and "Future start", with a "Future Start" date field set to "September 16th 10:01 am". The bottom bar contains a "CONNECT" button and a "VIEW ALL" button.

If you are adding a device to an existing project, the project and deployment will be selectable in a drop down within the data field.



The screenshot displays the Heron software interface. On the left, there is a sidebar with 'Resources' (connected devices) and 'Projects' (a list of project names). The main area is titled 'Device Setup' and contains several input fields: 'Project Name' (highlighted with a pink circle), 'Deployment Name', and a 'Future Start' date field. Below these fields, there is a diagram of a sensor in a well with labels for 'Distance to Water' and 'Depth of Water'. A 'CONNECT' button is at the bottom left, and a 'VIEW ALL' button is at the bottom right.

Time zone is selected based on your current location. Selecting allows you to choose different time zones based on your country or region.



The screenshot displays the Heron software interface, specifically the 'Settings' tab for 'Device Setup'. The left sidebar shows 'Resources' (Connected) and 'Projects' (Add New Project, Darling Property, McMaster Landfill, Terminal Waste Water Plant, Guelph Historical Study, City of Hamilton, Macafton Farms, Flamborough Quarry, Green Hills Golf Course). The main content area includes:

- Project Name:
- Deployment Name:
- Time Zone: Toronto (EDT -4:00) (highlighted with a pink box)
- Distance to Datum: m
- Total Depth (optional): m
- Distance to Water:
- Depth Submerged:
- Depth of Water:

A diagram illustrates the relationship between these measurements. A vertical tube contains a sensor. The 'Distance to Datum' is the total height of the tube. The 'Total Depth (optional)' is the height of the water in the tube. The 'Distance to Water' is the height from the datum to the water surface. The 'Depth Submerged' is the height from the datum to the sensor. The 'Depth of Water' is the height from the water surface to the sensor.

[HELP ME CALCULATE DISTANCE TO DATUM](#)

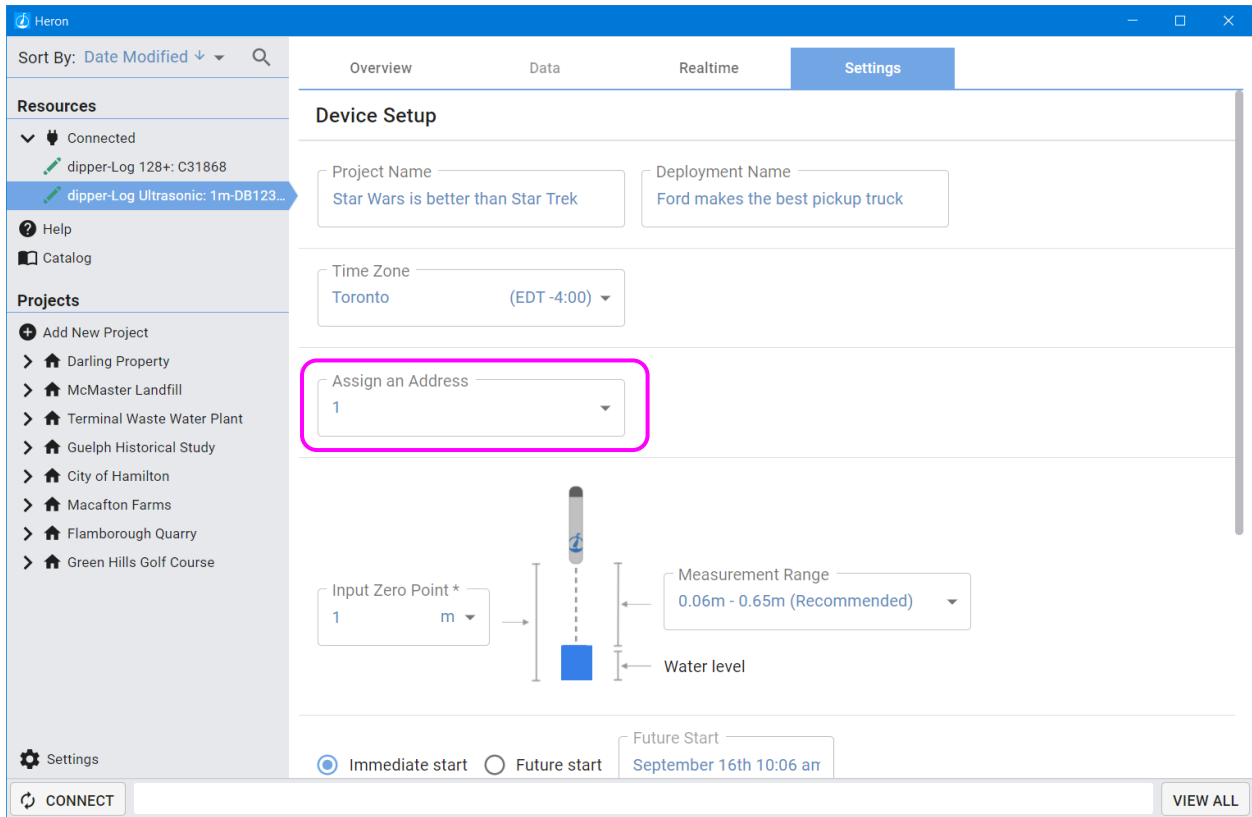
*A barLog is required to subtract barometric pressure from non-vented loggers.

Future Start:

Immediate start Future start

CONNECT VIEW ALL

Assign an Address: When you have multiple loggers on a single cable, the addresses must be set to be different for each logger. This allows the software to communicate with all of them on the same cable. If the addresses for two loggers on the same cable are the same, it will cause interference issues.

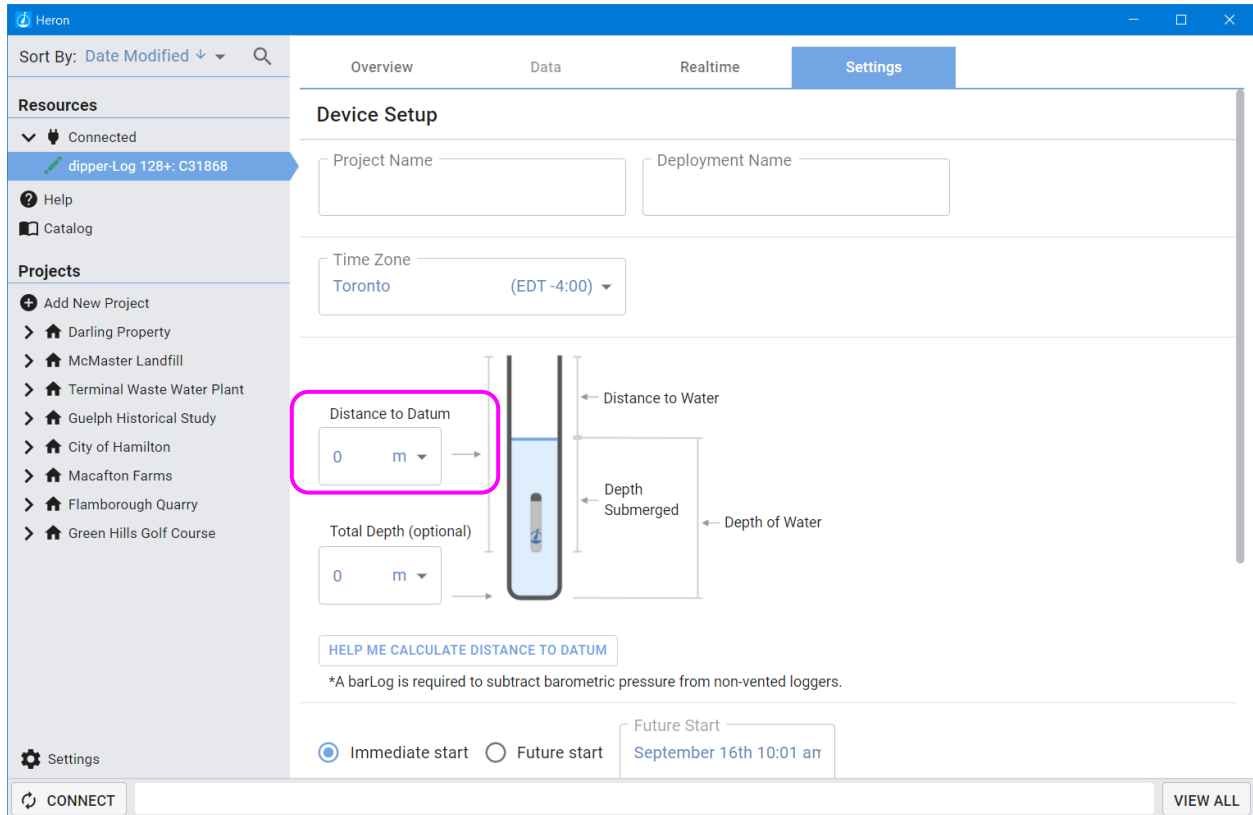


The screenshot displays the Heron software interface, specifically the 'Settings' tab for a device. The left sidebar shows a list of resources and projects, with 'dipper-Log Ultrasonic: 1m-DB123...' selected. The main content area is titled 'Device Setup' and contains several configuration fields:

- Project Name:** Star Wars is better than Star Trek
- Deployment Name:** Ford makes the best pickup truck
- Time Zone:** Toronto (EDT -4:00)
- Assign an Address:** A dropdown menu with the value '1' selected, highlighted by a pink rectangular box.
- Input Zero Point *:** 1 m
- Measurement Range:** 0.06m - 0.65m (Recommended)
- Future Start:** September 16th 10:06 am

At the bottom of the interface, there are radio buttons for 'Immediate start' (selected) and 'Future start', along with a 'CONNECT' button on the left and a 'VIEW ALL' button on the right.

Distance to Datum is how far down the device is deployed from your datum point (the point at which your measurements are taken from). This field must be filled out.



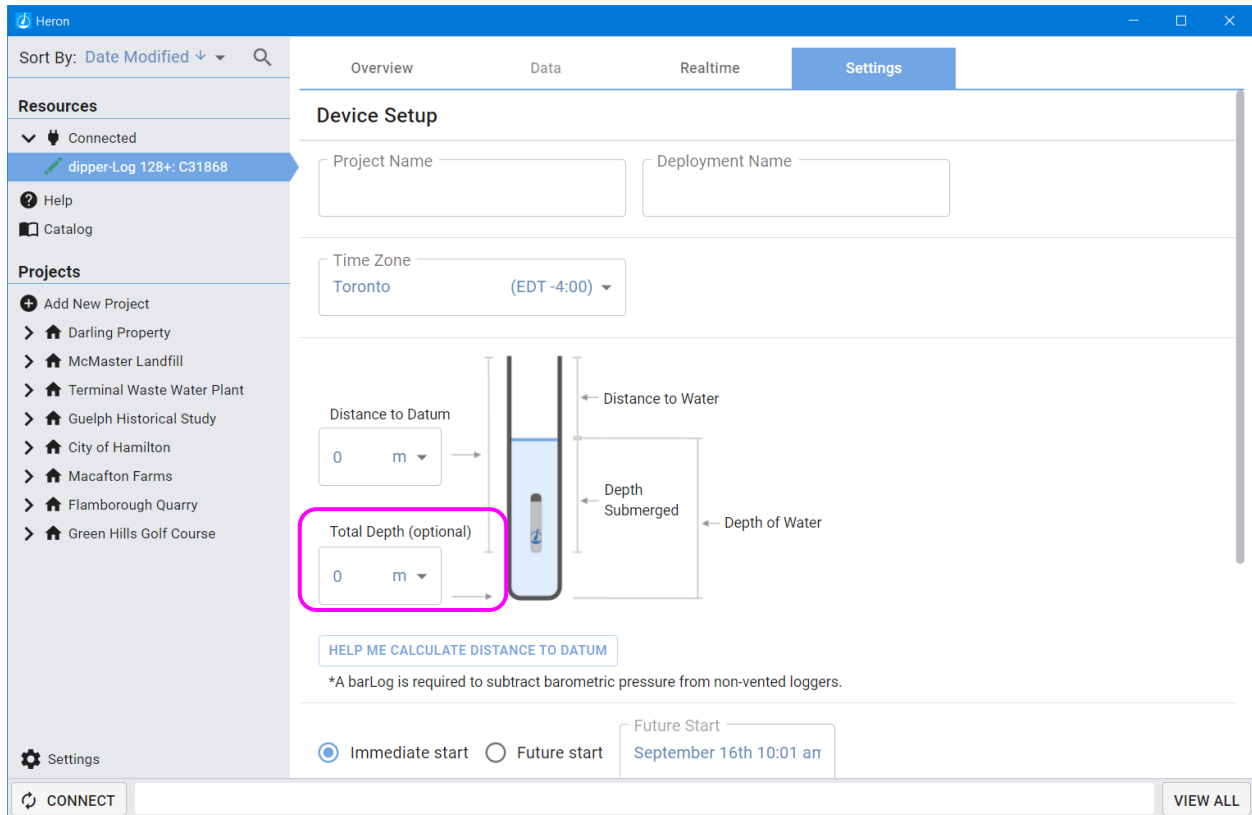
The screenshot shows the Heron software interface. The top navigation bar includes 'Overview', 'Data', 'Realtime', and 'Settings'. The left sidebar lists 'Resources' (Connected, dipper-Log 128+: C31868, Help, Catalog) and 'Projects' (Add New Project, Darling Property, McMaster Landfill, Terminal Waste Water Plant, Guelph Historical Study, City of Hamilton, Macafton Farms, Flamborough Quarry, Green Hills Golf Course). The main content area is titled 'Device Setup' and contains the following fields:

- Project Name
- Deployment Name
- Time Zone: Toronto (EDT -4:00)
- Distance to Datum: 0 m (highlighted with a pink box)
- Total Depth (optional): 0 m

A diagram illustrates the relationship between these measurements and a water level sensor. The diagram shows a vertical tube with a sensor at the bottom. The 'Distance to Datum' is the distance from the datum point to the sensor. The 'Distance to Water' is the distance from the datum point to the water surface. The 'Depth Submerged' is the distance from the sensor to the water surface. The 'Depth of Water' is the distance from the datum point to the water surface.

Below the diagram is a button labeled 'HELP ME CALCULATE DISTANCE TO DATUM' and a note: '*A barLog is required to subtract barometric pressure from non-vented loggers.' At the bottom, there are radio buttons for 'Immediate start' (selected) and 'Future start', with a 'Future Start' field set to 'September 16th 10:01 am'. A 'CONNECT' button is at the bottom left and a 'VIEW ALL' button is at the bottom right.

Total Depth is optional but recommended. It is the total depth (from the datum point of measurement) to the bottom of the well or body of water being measured. Entering this in allows the software to calculate more information for you (saving you manual work). The easiest way to get your Total Depth is by using a dipper-T with the optional well depth indicator probe. It provides accurate reliable readings from the bottom of your water column. Other methods exist for getting Total Depth, but they are not awesome, like you are.



The screenshot shows the Heron software interface in the 'Settings' tab. The 'Device Setup' section includes the following fields:

- Project Name
- Deployment Name
- Time Zone: Toronto (EDT -4:00)
- Distance to Datum: 0 m
- Total Depth (optional): 0 m** (highlighted with a pink box)

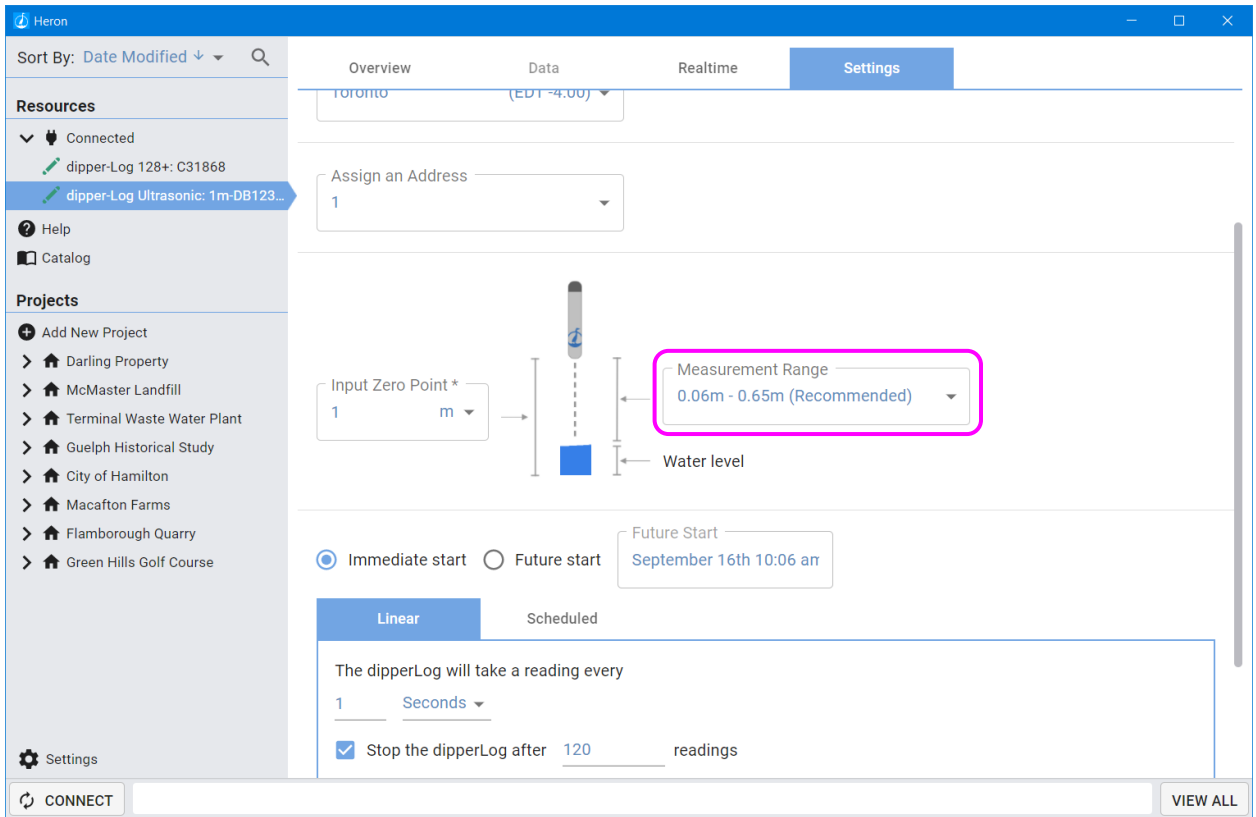
A diagram illustrates the measurement parameters:

- Distance to Datum: The vertical distance from the datum point to the top of the well.
- Distance to Water: The vertical distance from the datum point to the water surface.
- Depth Submerged: The vertical distance from the water surface to the bottom of the well.
- Depth of Water: The vertical distance from the datum point to the bottom of the well.

Additional interface elements include a 'CONNECT' button at the bottom left and a 'VIEW ALL' button at the bottom right. A note states: '*A barLog is required to subtract barometric pressure from non-vented loggers.'

For Ultrasonic loggers-

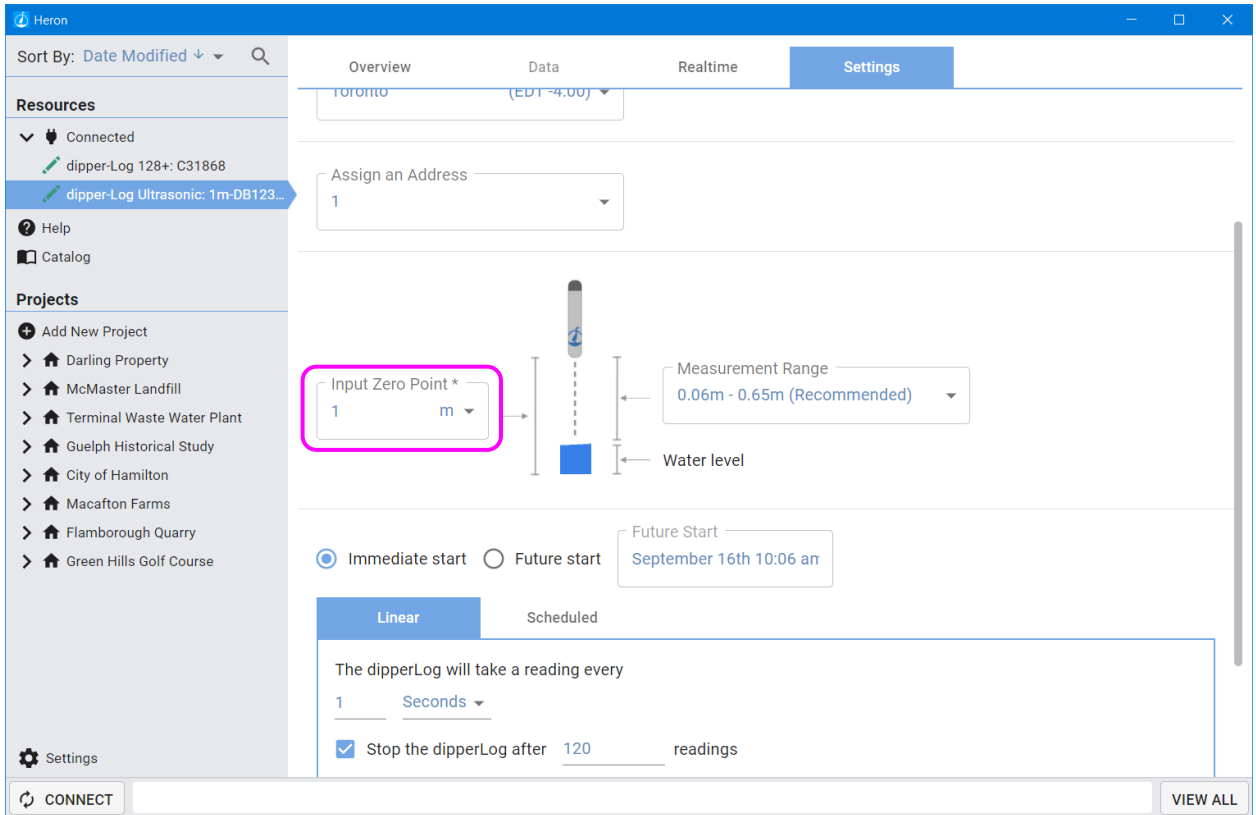
- You can choose a measurement range. The greater increases reliability, but also reduces accuracy. You can choose different options based on your application.



The screenshot displays the Heron software interface for configuring an ultrasonic logger. The interface is divided into several sections:

- Left Sidebar:** Contains navigation options such as "Resources" (with "dipper-Log Ultrasonic: 1m-DB123..." selected), "Help", "Catalog", and "Projects" (listing various sites like "Darling Property" and "McMaster Landfill").
- Top Navigation:** Includes tabs for "Overview", "Data", "Realtime", and "Settings" (which is currently active).
- Main Content Area:**
 - Location: "TORONTO (EDT-4:00)"
 - "Assign an Address" dropdown set to "1".
 - A diagram of the ultrasonic logger with a "Water level" indicator. The "Input Zero Point *" is set to "1 m".
 - The "Measurement Range" dropdown is highlighted in a pink box and set to "0.06m - 0.65m (Recommended)".
 - Start options: "Immediate start" (selected) and "Future start" (set to "September 16th 10:06 am").
 - Reading frequency: "The dipperLog will take a reading every 1 Seconds".
 - Stop condition: "Stop the dipperLog after 120 readings" (checked).
- Bottom:** A "CONNECT" button on the left and a "VIEW ALL" button on the right.

Input Zero Point is similar to Total Depth. You must however enter it for ultrasonic loggers. This allows the software to accurately calculate your Depth of Water.

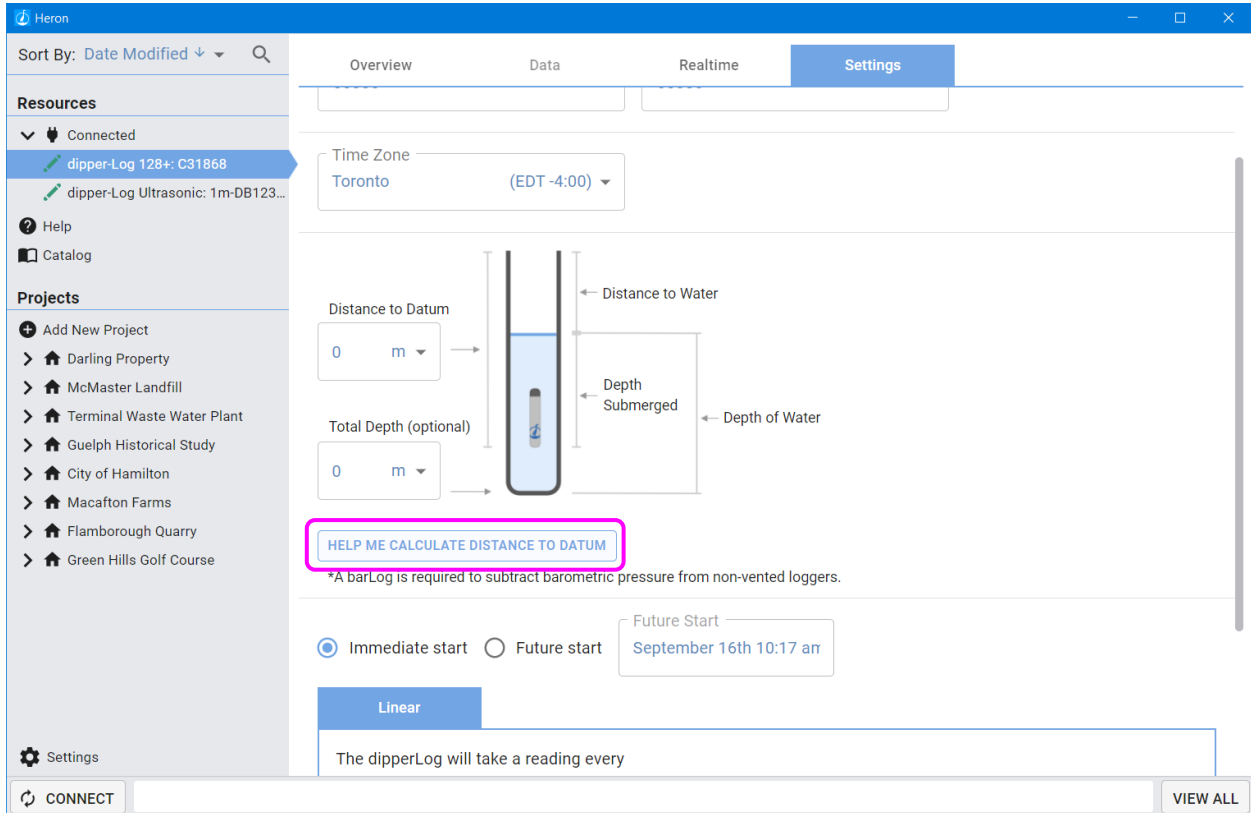


The screenshot displays the Heron software interface, specifically the Settings tab for a dipper-Log Ultrasonic logger. The interface is divided into several sections:

- Resources:** A list of connected devices, including "dipper-Log 128+: C31868" and "dipper-Log Ultrasonic: 1m-DB123...".
- Projects:** A list of projects, including "Darling Property", "McMaster Landfill", "Terminal Waste Water Plant", "Guelph Historical Study", "City of Hamilton", "Macafon Farms", "Flamborough Quarry", and "Green Hills Golf Course".
- Settings:** The main configuration area, which includes:
 - Assign an Address:** A dropdown menu with the value "1".
 - Input Zero Point *:** A text input field containing "1" and a unit dropdown menu set to "m". This field is highlighted with a pink box.
 - Measurement Range:** A dropdown menu set to "0.06m - 0.65m (Recommended)".
 - Water level:** A diagram showing a vertical probe with a blue square at the bottom representing the water level.
 - Start Options:** Radio buttons for "Immediate start" (selected) and "Future start" (with a date/time picker set to "September 16th 10:06 am").
 - Reading Frequency:** A section with tabs for "Linear" and "Scheduled". Under "Linear", it states "The dipperLog will take a reading every" followed by a dropdown menu set to "1" and "Seconds".
 - Stop Reading:** A checked checkbox labeled "Stop the dipperLog after" followed by a text input field containing "120" and the word "readings".

At the bottom of the interface, there is a "CONNECT" button on the left and a "VIEW ALL" button on the right.

Help me calculate distance to datum tool- this is a useful step by step guide for deployments on direct read cables. You will need a logger on direct read cable and a water level meter like a Heron Instruments dipper-T. Other water level meters will work. But let's be real; they're not as good as one from Heron Instruments.



Sort By: Date Modified

Resources

- Connected
- dipper-Log 128+: C31868
- dipper-Log Ultrasonic: 1m-DB123...

Projects

- Add New Project
- Darling Property
- McMaster Landfill
- Terminal Waste Water Plant
- Guelph Historical Study
- City of Hamilton
- Macafton Farms
- Flamborough Quarry
- Green Hills Golf Course

Settings

Time Zone: Toronto (EDT -4:00)

Distance to Datum: 0 m

Total Depth (optional): 0 m

Diagram labels: Distance to Datum, Distance to Water, Depth Submerged, Depth of Water

HELP ME CALCULATE DISTANCE TO DATUM

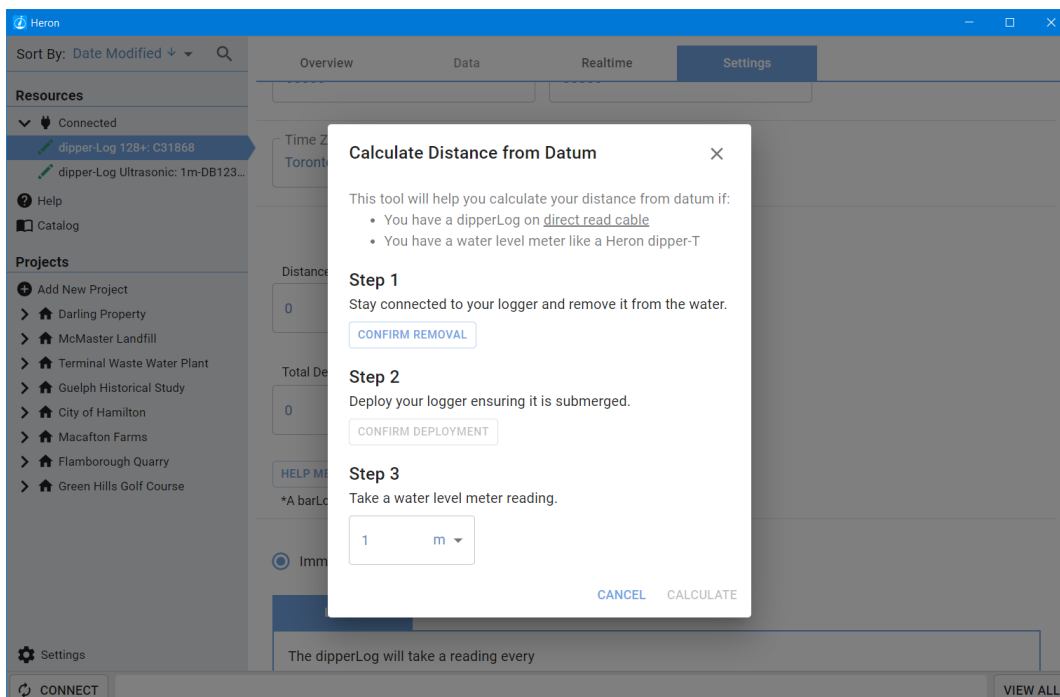
*A barLog is required to subtract barometric pressure from non-vented loggers.

Immediate start (selected) / Future start (September 16th 10:17 am)

Linear

The dipperLog will take a reading every

CONNECT VIEW ALL



Sort By: Date Modified

Resources

- Connected
- dipper-Log 128+: C31868
- dipper-Log Ultrasonic: 1m-DB123...

Projects

- Add New Project
- Darling Property
- McMaster Landfill
- Terminal Waste Water Plant
- Guelph Historical Study
- City of Hamilton
- Macafton Farms
- Flamborough Quarry
- Green Hills Golf Course

Settings

Time Zone: Toronto

Distance to Datum: 0 m

Total Depth (optional): 0 m

HELP ME CALCULATE DISTANCE TO DATUM

*A barLog is required to subtract barometric pressure from non-vented loggers.

Immediate start (selected) / Future start (September 16th 10:17 am)

Linear

The dipperLog will take a reading every

CONNECT VIEW ALL

Calculate Distance from Datum

This tool will help you calculate your distance from datum if:

- You have a dipperLog on [direct read cable](#)
- You have a water level meter like a Heron dipper-T

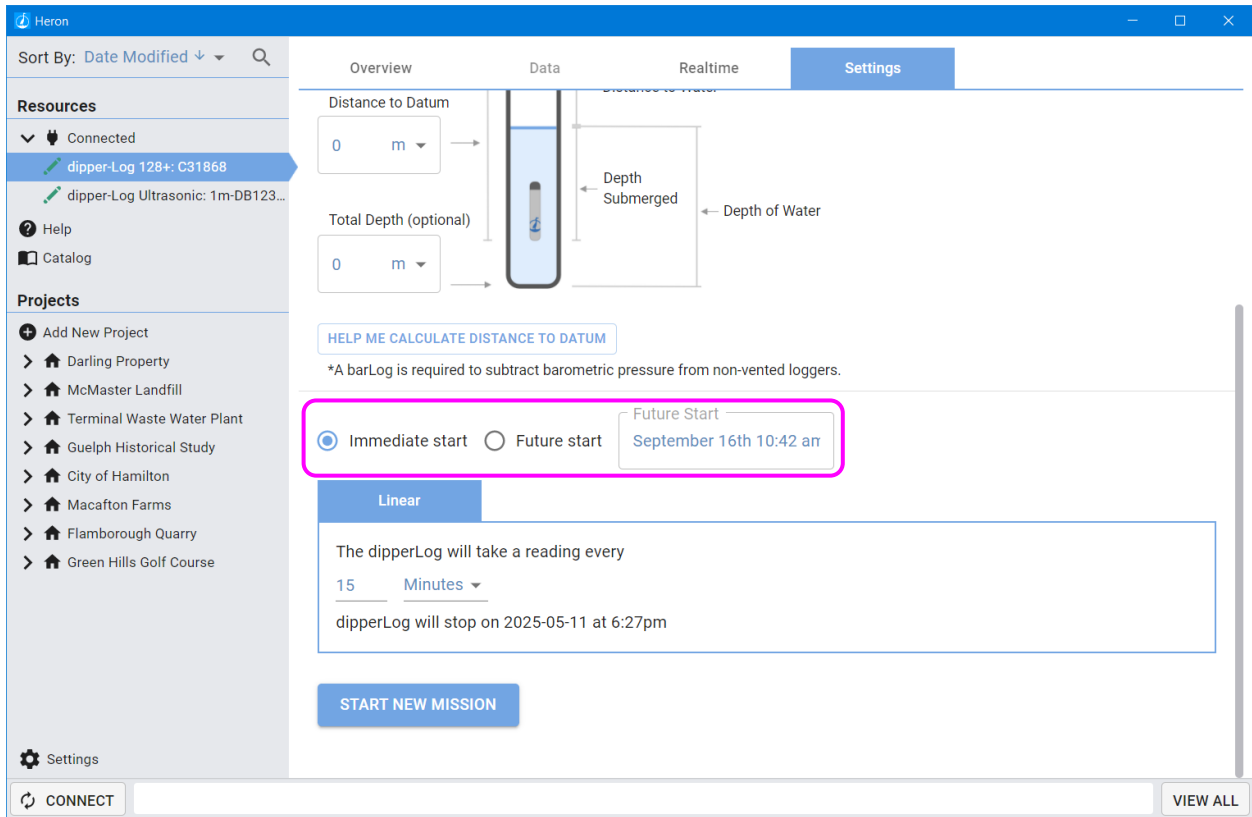
Step 1
Stay connected to your logger and remove it from the water.
CONFIRM REMOVAL

Step 2
Deploy your logger ensuring it is submerged.
CONFIRM DEPLOYMENT

Step 3
Take a water level meter reading.
1 m

CANCEL CALCULATE

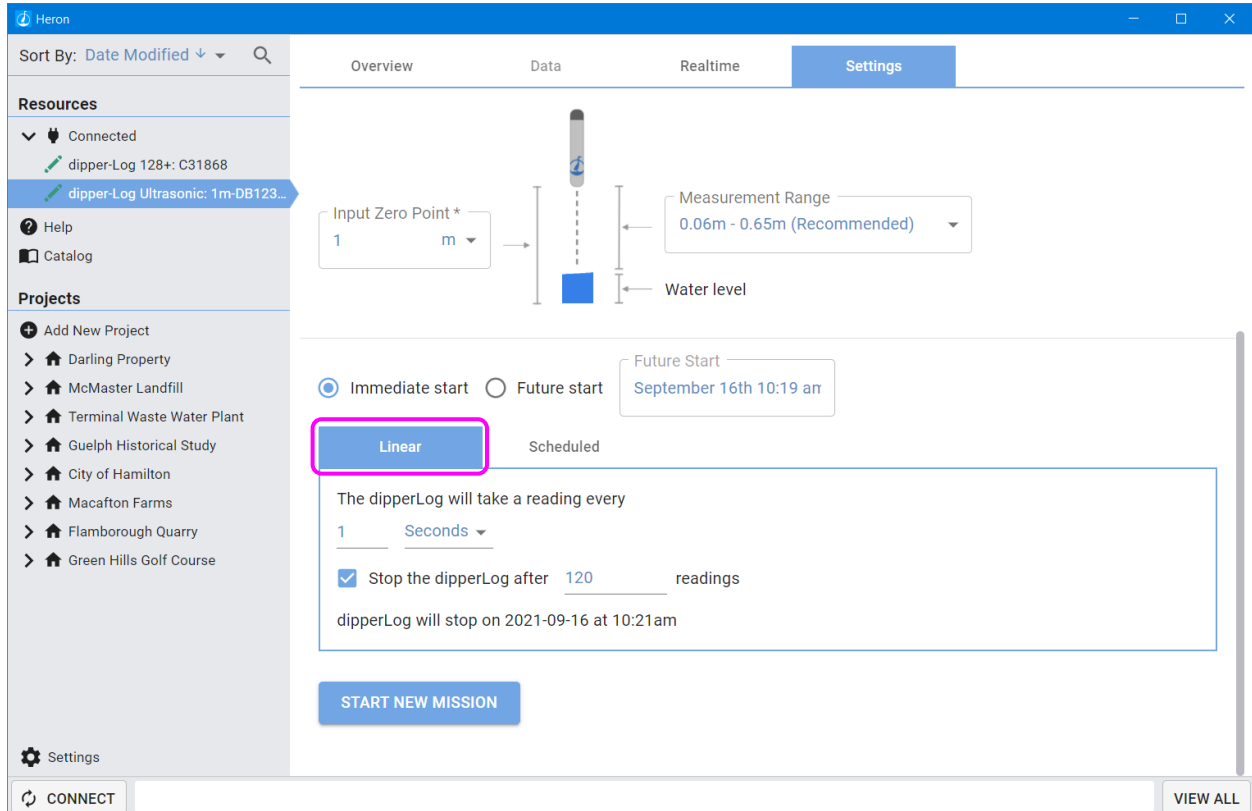
By default, the logger is set to start its mission immediately. You can change this to start at a future date by selecting “Future Start” and then clicking in the date field to edit it. Once you load your new settings your logger will now wait to start its mission until the time you selected.



The screenshot shows the Heron software interface with the Settings tab selected. The interface includes a sidebar with Resources and Projects, and a main content area with tabs for Overview, Data, Realtime, and Settings. The Settings tab is active, showing mission configuration options. A diagram of a dipperLog sensor is shown in the center, with labels for 'Distance to Datum', 'Total Depth (optional)', 'Depth Submerged', and 'Depth of Water'. Below the diagram, there are input fields for 'Distance to Datum' and 'Total Depth (optional)', both set to 0 m. A 'HELP ME CALCULATE DISTANCE TO DATUM' button is present. A note states: '*A barLog is required to subtract barometric pressure from non-vented loggers.' The 'Start' options are 'Immediate start' (selected) and 'Future start'. The 'Future start' option is highlighted with a pink box, and its date field is set to 'September 16th 10:42 am'. Below this, the 'Linear' tab is selected, showing a reading interval of '15 Minutes' and a stop time of '2025-05-11 at 6:27pm'. A 'START NEW MISSION' button is at the bottom. The bottom of the interface has a 'CONNECT' button and a 'VIEW ALL' button.

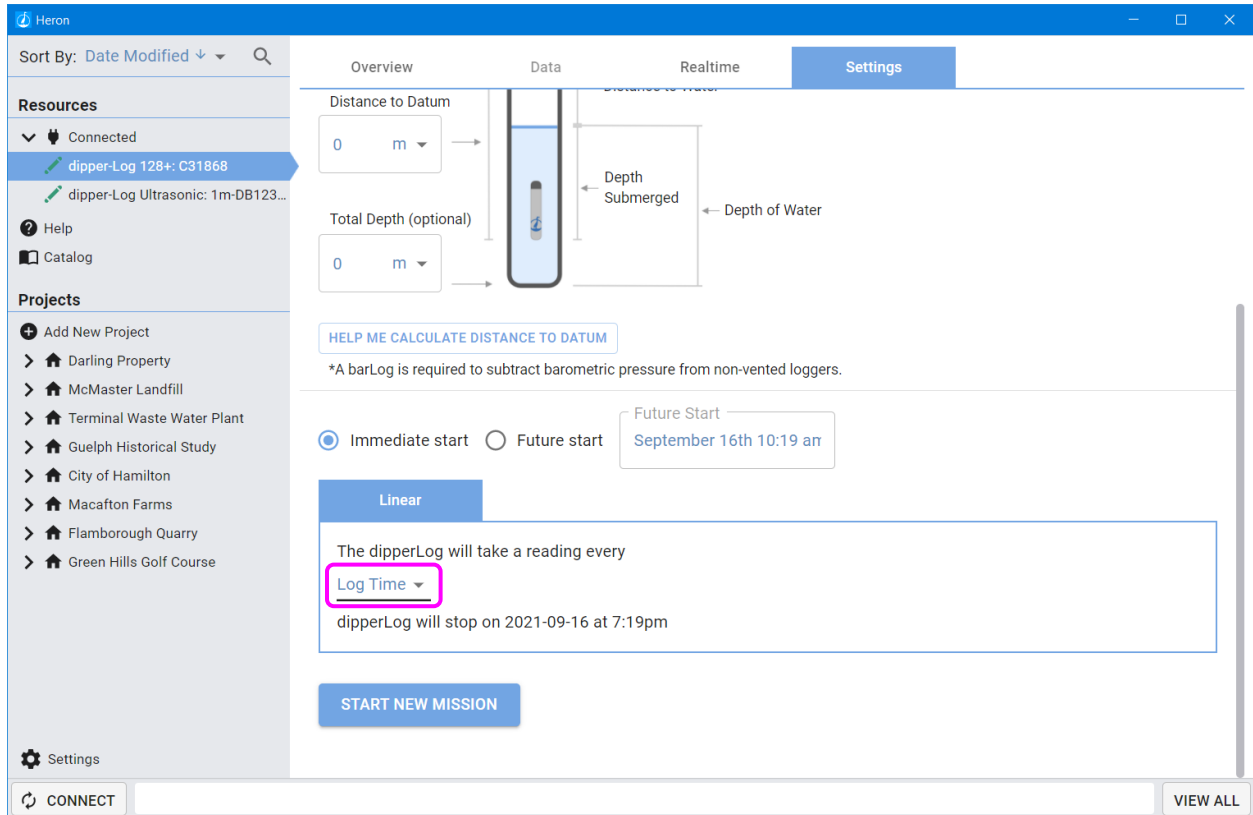
Reading intervals. Most loggers support Linear reading intervals only. Some loggers also support Scheduled intervals.

Linear allows you to set the interval of time between each reading being taken. Some loggers will allow you to select a maximum number of readings to be taken as well.



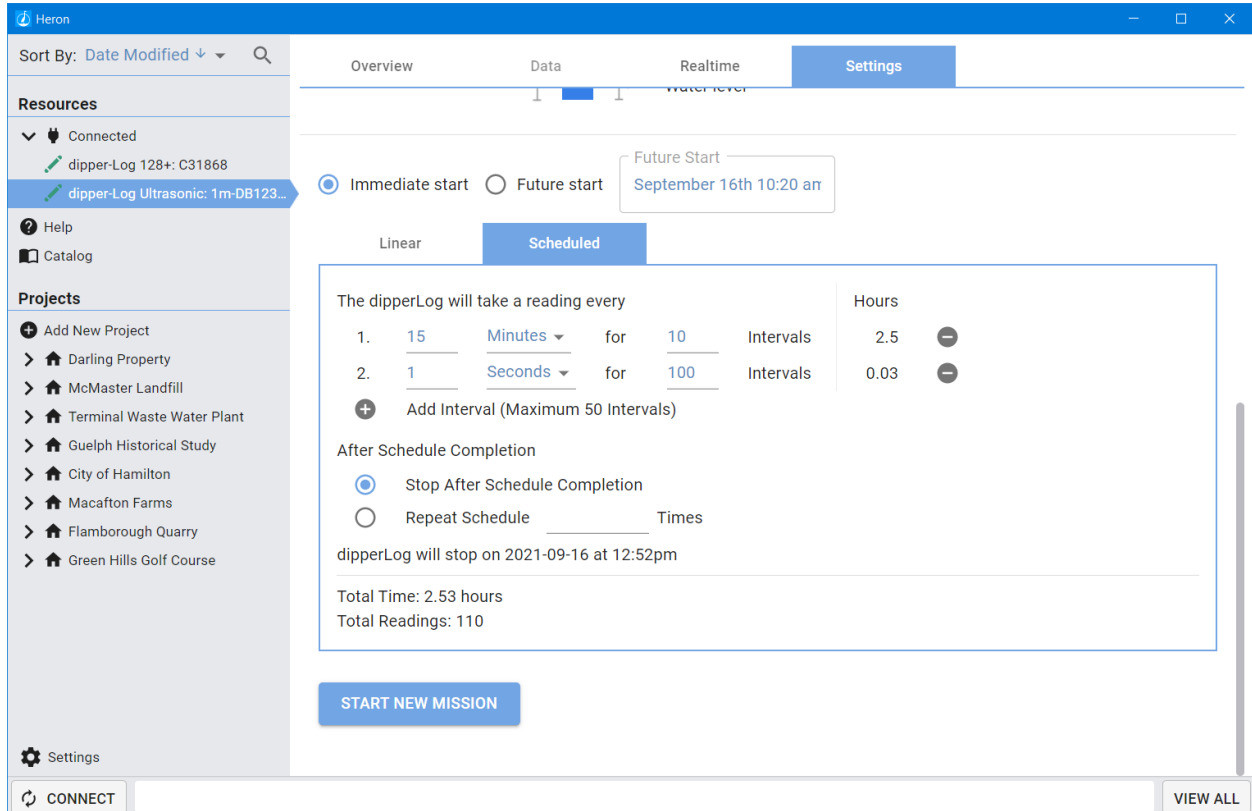
The screenshot displays the Heron software interface, specifically the Settings tab for a dipperLog. The interface includes a sidebar with 'Resources' and 'Projects' sections. The main content area shows a diagram of a dipperLog sensor and its measurement range. The 'Input Zero Point' is set to 1 m, and the 'Measurement Range' is set to 0.06m - 0.65m (Recommended). The 'Linear' option is selected for the reading interval, with a value of 1 Seconds. The 'Stop the dipperLog after 120 readings' checkbox is checked. A 'START NEW MISSION' button is located at the bottom of the settings area.

Log type measures and records the first reading at 1 second, with 1 second added to each subsequent reading interval for 255 readings. This is supported by some but not all loggers.



The screenshot displays the Heron software interface. On the left sidebar, under 'Resources', 'dipper-Log 128+: C31868' is selected. Below it, 'dipper-Log Ultrasonic: 1m-DB123...' is listed. The 'Projects' section includes 'Darling Property', 'McMaster Landfill', 'Terminal Waste Water Plant', 'Guelph Historical Study', 'City of Hamilton', 'Macafton Farms', 'Flamborough Quarry', and 'Green Hills Golf Course'. The main content area has tabs for 'Overview', 'Data', 'Realtime', and 'Settings'. The 'Settings' tab is active, showing 'Distance to Datum' and 'Total Depth (optional)' both set to '0 m'. A diagram shows a dipperLog in a tank of water, with 'Depth Submerged' and 'Depth of Water' labels. A 'HELP ME CALCULATE DISTANCE TO DATUM' button is present, with a note: '*A barLog is required to subtract barometric pressure from non-vented loggers.' Below this, 'Immediate start' is selected over 'Future start', with a 'Future Start' date of 'September 16th 10:19 am'. A 'Linear' tab is active, showing 'The dipperLog will take a reading every' followed by a 'Log Time' dropdown menu (highlighted with a pink box) and 'dipperLog will stop on 2021-09-16 at 7:19pm'. A 'START NEW MISSION' button is at the bottom. The bottom bar contains 'CONNECT' and 'VIEW ALL' buttons.

Scheduled allows you to create a logging schedule that the logger will follow. These can be as simple or as complex as you would like. Start by creating one interval and a maximum number of readings for that interval. Click the (+) button to add more intervals. Continue with up to 50 intervals. You can remove intervals by selecting the (-) button. At the completion of your intervals, you can decide to either repeat or to stop your mission.



The screenshot shows the Heron software interface with the 'Settings' tab selected. The left sidebar contains 'Resources' (dipper-Log 128+, C31868; dipper-Log Ultrasonic: 1m-DB123...) and 'Projects' (Darling Property, McMaster Landfill, Terminal Waste Water Plant, Guelph Historical Study, City of Hamilton, Macafton Farms, Flamborough Quarry, Green Hills Golf Course). The main content area shows 'Immediate start' and 'Future start' options. The 'Scheduled' section is active, displaying two intervals: 1. 15 Minutes for 10 Intervals (2.5 Hours) and 2. 1 Seconds for 100 Intervals (0.03 Hours). Below the intervals, there is an 'Add Interval (Maximum 50 Intervals)' button. The 'After Schedule Completion' section has 'Stop After Schedule Completion' selected. A 'START NEW MISSION' button is located at the bottom of the settings panel.

Note: if the logger was already on a mission the settings will be filled out for you with the current mission settings. Starting a new mission will overwrite the old one. Make sure your data is downloaded before starting a new mission. **Starting a new mission will delete the data stored on the logger.** Data downloaded to the database on your computer will not be affected.

Note for Pressure Logger Deployments: Remember that only bar-Logs set up in the same project can be used to compensate the data of your dipper-Logs. bar-Logs can be in different deployments, however, must have the same project entered in settings. If you have more than one bar-Log in a project, you can choose which one to compensate your data with.

Once all settings are entered, you can click "START NEW MISSION". This will load all of your settings into the logger. Your logger will now appear in your data management panel under the appropriate project and deployment. If you do not click "START NEW MISSION" the settings will be lost!

Heron

Sort By: Date Modified

Overview Data Realtime **Settings**

Resources

- Connected
- dipper-Log 128+: C31868
- dipper-Log Ultrasonic: 1m-DB123...

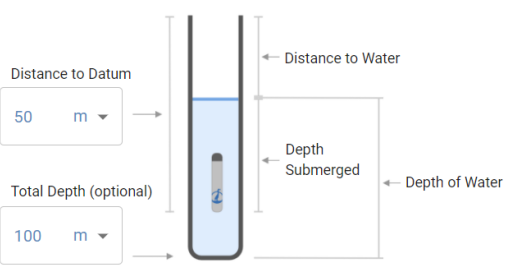
Projects

- Add New Project
- Darling Property
- McMaster Landfill
- Terminal Waste Water Plant
- Guelph Historical Study
- City of Hamilton
- Macafton Farms
- Flamborough Quarry
- Green Hills Golf Course

Device Setup

Project Name: Darling Property | Deployment Name: Darling Well 1

Time Zone: Toronto (EDT -4:00)



Distance to Datum: 50 m

Total Depth (optional): 100 m

HELP ME CALCULATE DISTANCE TO DATUM

*A barLog is required to subtract barometric pressure from non-vented loggers.

Future Start: September 16th 10:22 am

Immediate start Future start

CONNECT VIEW ALL

Heron

Sort By: Date Modified

Overview Data Realtime **Settings**

Resources

- Connected
- dipper-Log 128+: C31868
- dipper-Log Ultrasonic: 1m-DB123...

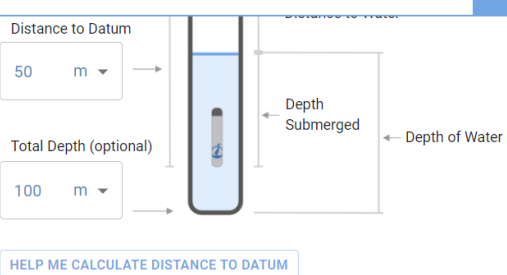
Projects

- Add New Project
- Darling Property
- McMaster Landfill
- Terminal Waste Water Plant
- Guelph Historical Study
- City of Hamilton
- Macafton Farms
- Flamborough Quarry
- Green Hills Golf Course

Device Setup

Distance to Datum: 50 m

Total Depth (optional): 100 m



HELP ME CALCULATE DISTANCE TO DATUM

*A barLog is required to subtract barometric pressure from non-vented loggers.

Future Start: September 16th 10:22 am

Immediate start Future start

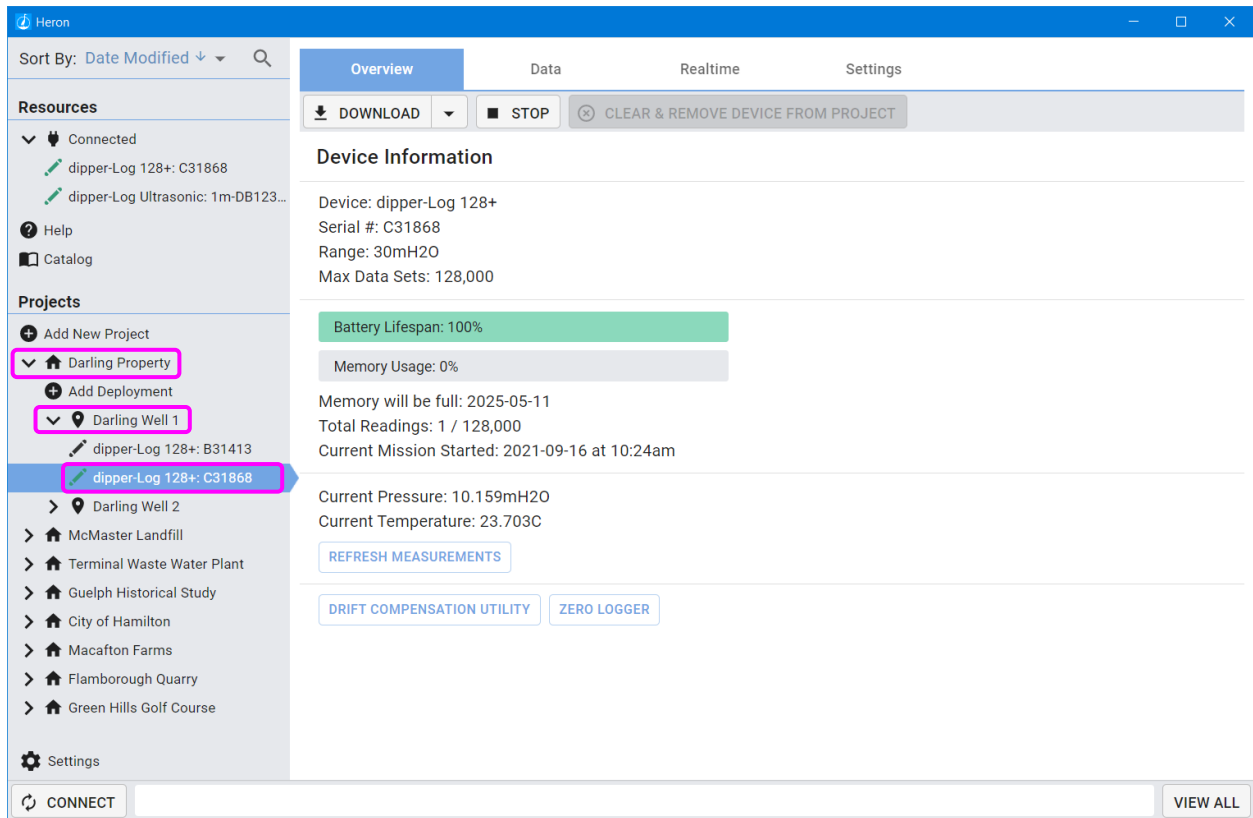
Linear

The dipperLog will take a reading every 15 Minutes

dipperLog will stop on 2025-05-11 at 6:07pm

START NEW MISSION

CONNECT VIEW ALL



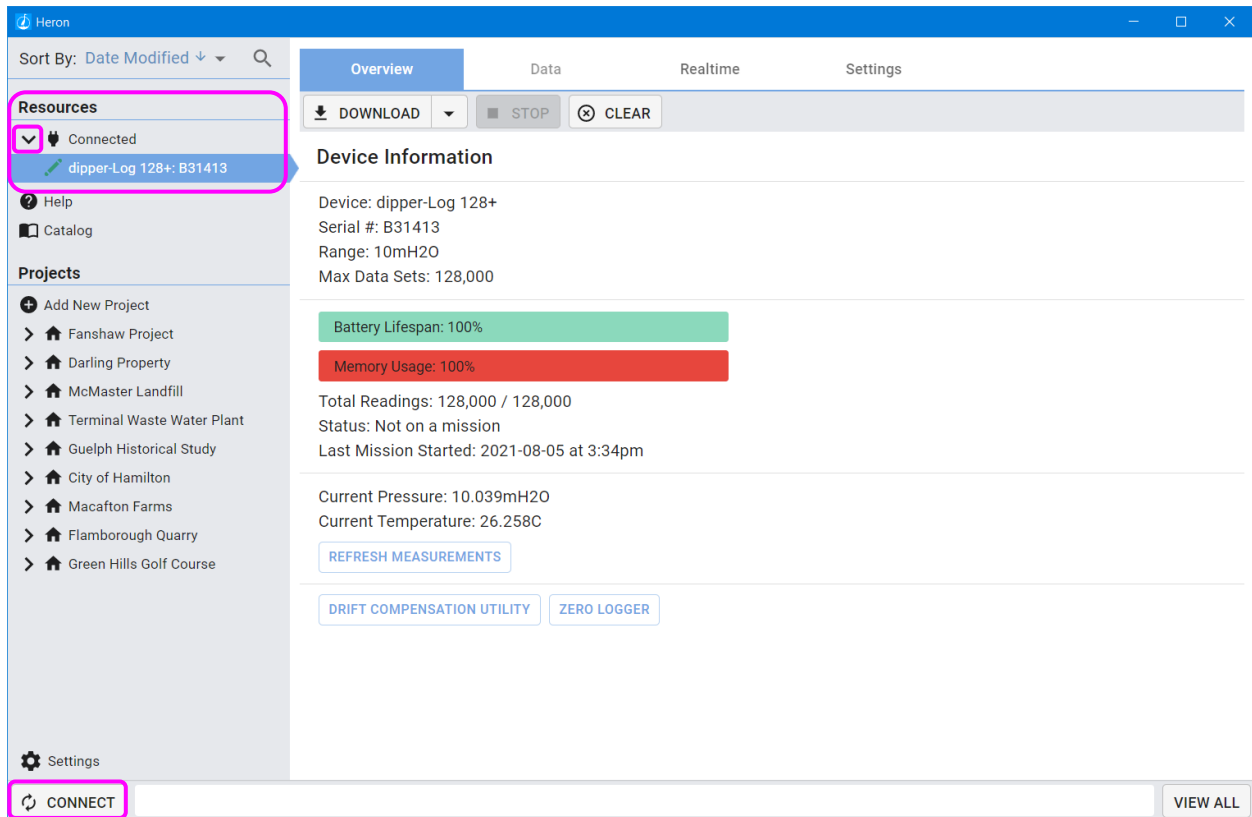
The screenshot displays the Heron software interface. On the left sidebar, under the 'Projects' section, 'Darling Property' and 'Darling Well 1' are highlighted with pink boxes. The 'Darling Well 1' project is expanded, showing a list of devices: 'dipper-Log 128+: B31413' and 'dipper-Log 128+: C31868', with the latter selected. The main panel shows the 'Overview' tab for the selected device, 'dipper-Log 128+'. It includes a 'Device Information' section with details like serial number and range. Below this, there are progress bars for 'Battery Lifespan: 100%' and 'Memory Usage: 0%'. Further down, it shows 'Memory will be full: 2025-05-11', 'Total Readings: 1 / 128,000', and 'Current Mission Started: 2021-09-16 at 10:24am'. At the bottom of the main panel, there are buttons for 'REFRESH MEASUREMENTS', 'DRIFT COMPENSATION UTILITY', and 'ZERO LOGGER'. The top of the interface has tabs for 'Overview', 'Data', 'Realtime', and 'Settings'. At the very top, there are buttons for 'DOWNLOAD', 'STOP', and 'CLEAR & REMOVE DEVICE FROM PROJECT'. At the bottom of the window, there are 'CONNECT' and 'VIEW ALL' buttons.

You can now disconnect your logger and deploy it.

Downloading your data

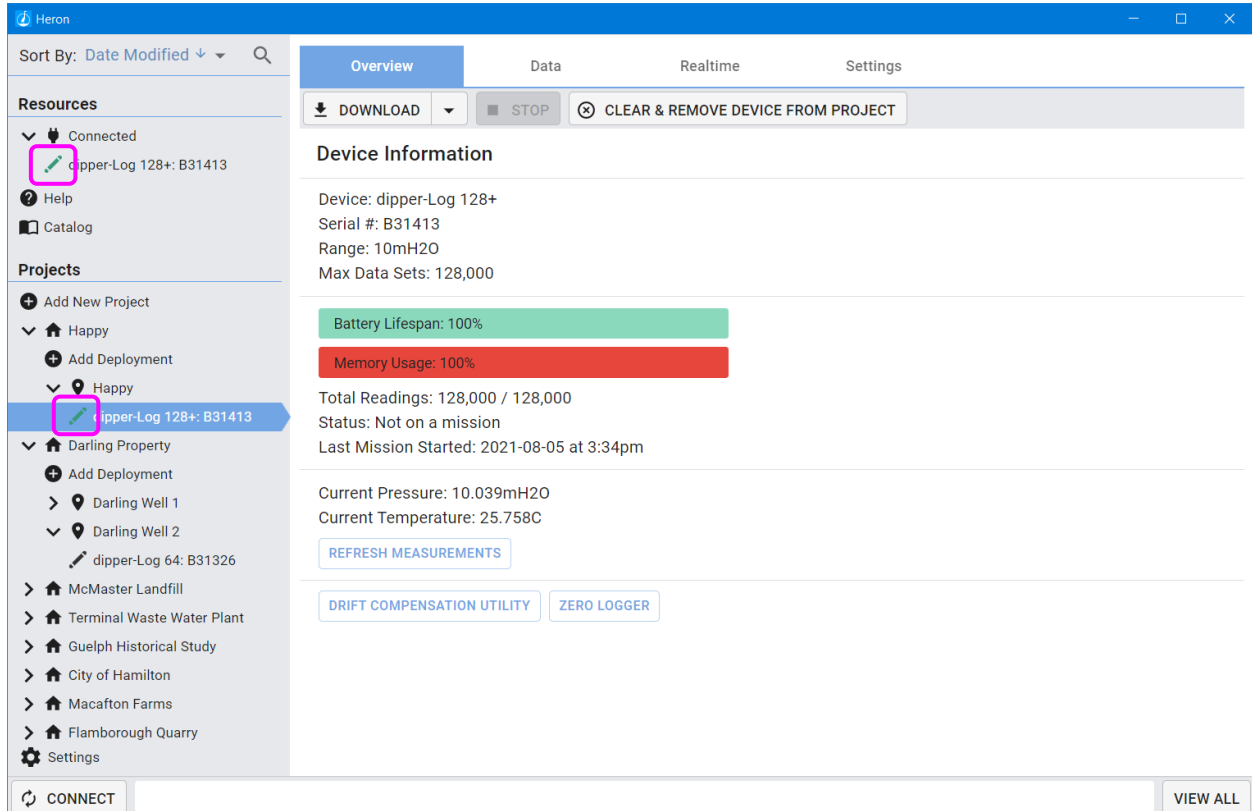
Connect your pc-communication cable to your computer. Connect your logger to your pc-communication cable. Open the software.

When the software opens it will display all of your connected loggers in the top left-hand side of the software in the “Connected” drop down of the “Resources” section. You can collapse or open the “Connected” items by clicking on the arrow. If your device isn’t showing up yet, click “CONNECT” in the bottom left-hand corner. This will scan all of your ports for any Heron Instruments’ devices.



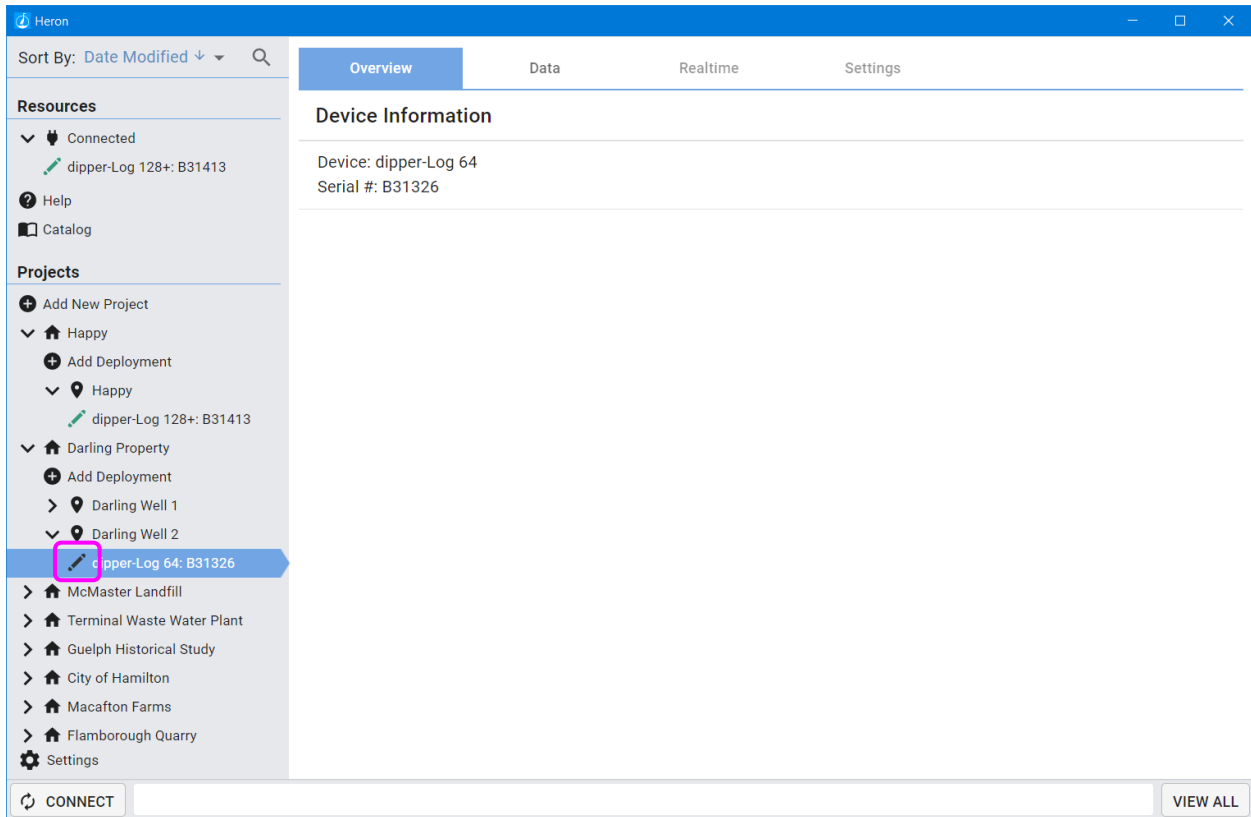
The screenshot displays the Heron Instruments software interface. On the left sidebar, the "Resources" section is highlighted with a pink box, showing a dropdown menu with "Connected" selected and "dipper-Log 128+: B31413" listed below it. Below "Resources" are sections for "Help", "Catalog", "Projects" (with a list of projects like "Fanshaw Project", "Darling Property", etc.), and "Settings". At the bottom left of the sidebar, a "CONNECT" button is highlighted with a pink box. The main content area has tabs for "Overview", "Data", "Realtime", and "Settings", with "Overview" selected. Below the tabs are buttons for "DOWNLOAD", "STOP", and "CLEAR". The "Device Information" section shows details for "dipper-Log 128+":
Device: dipper-Log 128+
Serial #: B31413
Range: 10mH2O
Max Data Sets: 128,000
Below this, there are two progress bars: "Battery Lifespan: 100%" (green) and "Memory Usage: 100%" (red). Further down, it shows "Total Readings: 128,000 / 128,000", "Status: Not on a mission", and "Last Mission Started: 2021-08-05 at 3:34pm". At the bottom of the main area, there are buttons for "REFRESH MEASUREMENTS", "DRIFT COMPENSATION UTILITY", and "ZERO LOGGER". A "VIEW ALL" button is located at the bottom right of the interface.

You can select your device by clicking on it. If you only have one device connected at a time, the software will automatically select and display it for you. The software will now display an overview of your device and its current state. The device will show up selected in your data management panel under “Projects” if it has already been downloaded. You can tell which devices are connected, by the green icon beside their name.



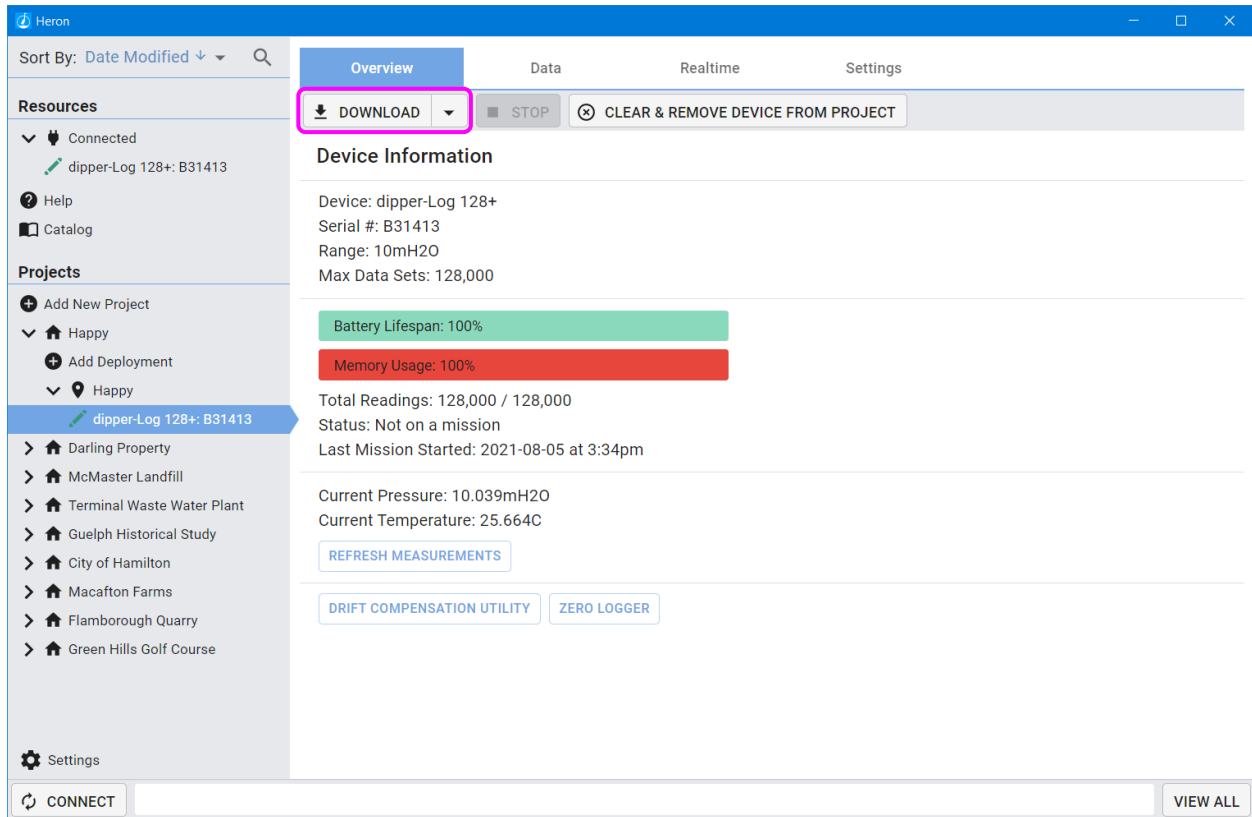
The screenshot shows the Heron software interface. On the left, a sidebar lists resources and projects. Under 'Resources', 'Connected' devices are listed, with 'dipper-Log 128+: B31413' highlighted by a green circle. Under 'Projects', the same device is also highlighted. The main panel shows the 'Overview' tab for the selected device. At the top of the main panel, there are buttons for 'DOWNLOAD', 'STOP', and 'CLEAR & REMOVE DEVICE FROM PROJECT'. Below this, the 'Device Information' section displays: Device: dipper-Log 128+, Serial #: B31413, Range: 10mH2O, and Max Data Sets: 128,000. Two progress bars are shown: 'Battery Lifespan: 100%' (green) and 'Memory Usage: 100%' (red). Further down, it shows 'Total Readings: 128,000 / 128,000', 'Status: Not on a mission', and 'Last Mission Started: 2021-08-05 at 3:34pm'. At the bottom, it displays 'Current Pressure: 10.039mH2O' and 'Current Temperature: 25.758C'. There are buttons for 'REFRESH MEASUREMENTS', 'DRIFT COMPENSATION UTILITY', and 'ZERO LOGGER'. At the very bottom of the interface, there is a 'CONNECT' button on the left and a 'VIEW ALL' button on the right.

Disconnected devices will have a black icon beside their name.



The screenshot shows the Heron software interface. On the left, there is a sidebar with a search bar and a list of resources and projects. The 'Resources' section includes a 'Connected' status and a device 'dipper-Log 128+: B31413'. The 'Projects' section lists several locations, including 'Darling Well 2' and 'dipper-Log 64: B31326', which is highlighted with a blue bar and a black icon. At the bottom of the sidebar, there is a 'CONNECT' button with a refresh icon. The main content area on the right shows 'Device Information' for 'dipper-Log 64' with serial number 'B31326'. At the bottom right of the main area, there is a 'VIEW ALL' button.

Once you have your device selected, click “DOWNLOAD” from the tool bar in the overview tab.



The screenshot displays the Heron software interface. The top navigation bar includes tabs for Overview, Data, Realtime, and Settings. The Overview tab is active, and a toolbar contains buttons for DOWNLOAD (highlighted with a pink box), STOP, and CLEAR & REMOVE DEVICE FROM PROJECT. The left sidebar lists Resources (Connected devices) and Projects (various locations). The main content area shows Device Information for 'dipper-Log 128+' with details like Serial #: B31413, Range: 10mH2O, and Max Data Sets: 128,000. It also features progress bars for Battery Lifespan (100%) and Memory Usage (100%), along with status information and measurement data.

Sort By: Date Modified

Overview | Data | Realtime | Settings

↓ DOWNLOAD | STOP | CLEAR & REMOVE DEVICE FROM PROJECT

Device Information

Device: dipper-Log 128+
Serial #: B31413
Range: 10mH2O
Max Data Sets: 128,000

Battery Lifespan: 100%
Memory Usage: 100%

Total Readings: 128,000 / 128,000
Status: Not on a mission
Last Mission Started: 2021-08-05 at 3:34pm

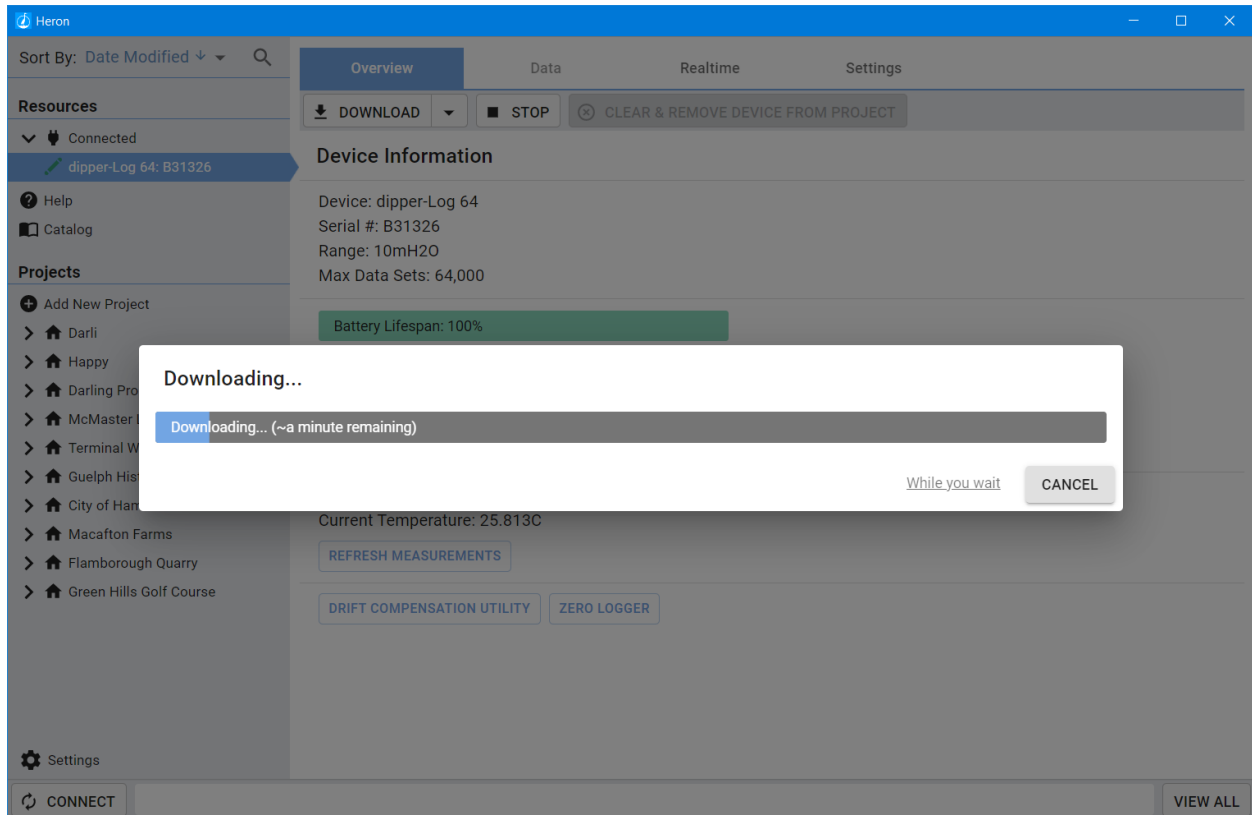
Current Pressure: 10.039mH2O
Current Temperature: 25.664C

REFRESH MEASUREMENTS

DRIFT COMPENSATION UTILITY | ZERO LOGGER

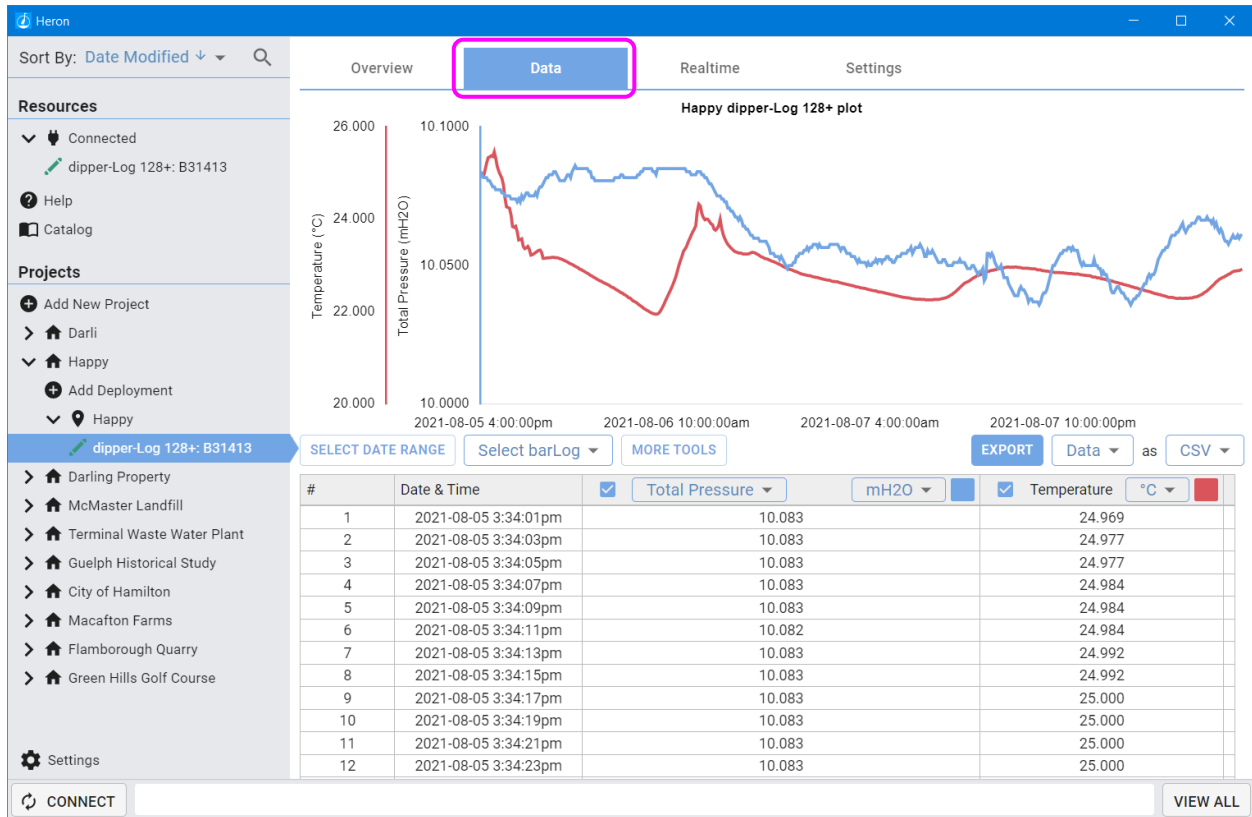
CONNECT | VIEW ALL

Your data will now begin downloading.



The screenshot shows the Heron software interface. The main window has a blue header with the Heron logo and window controls. Below the header, there are tabs for 'Overview', 'Data', 'Realtime', and 'Settings'. The 'Overview' tab is active, showing a 'Device Information' section for a device named 'dipper-Log 64' with serial number 'B31326'. The device's battery lifespan is shown as 100%. A 'Downloading...' dialog box is overlaid on the screen, indicating that data is being downloaded. The dialog box contains a progress bar and the text 'Downloading... (~a minute remaining)'. There are two buttons in the dialog: 'While you wait' and 'CANCEL'. The background interface is dimmed, showing a list of projects on the left and various utility buttons at the bottom.

Once your data has been downloaded, you can view it in the Data Tab

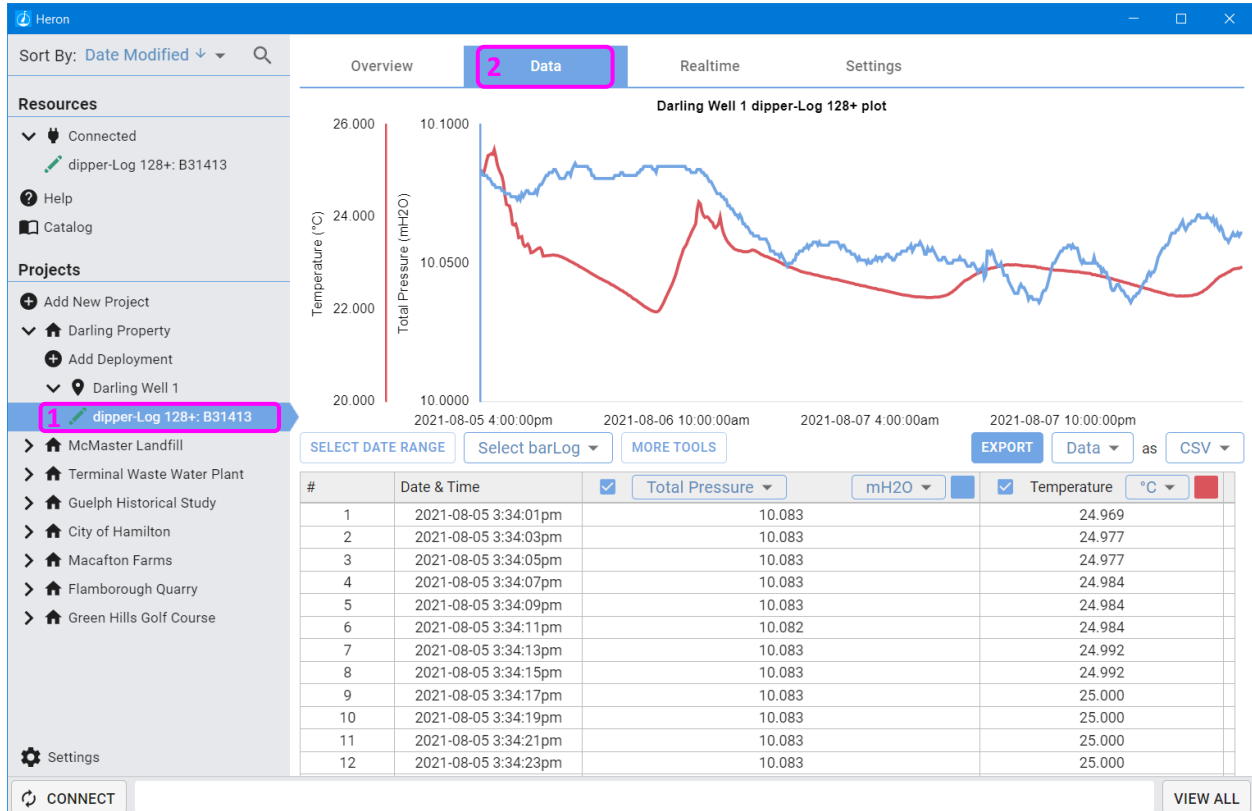


The screenshot shows the Heron software interface. The 'Data' tab is highlighted with a pink box. The main plot area displays a dual-axis line graph titled 'Happy dipper-Log 128+ plot'. The left y-axis represents Temperature (°C) ranging from 20,000 to 26,000. The right y-axis represents Total Pressure (mH2O) ranging from 10,0000 to 10,1000. The x-axis shows time from 2021-08-05 4:00:00pm to 2021-08-07 10:00:00pm. Below the plot is a data table with columns for #, Date & Time, Total Pressure (mH2O), and Temperature (°C). The table contains 12 rows of data.

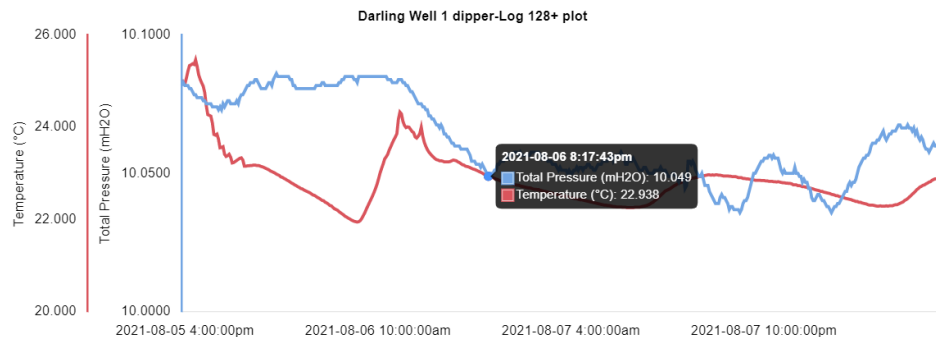
#	Date & Time	Total Pressure (mH2O)	Temperature (°C)
1	2021-08-05 3:34:01pm	10.083	24.969
2	2021-08-05 3:34:03pm	10.083	24.977
3	2021-08-05 3:34:05pm	10.083	24.977
4	2021-08-05 3:34:07pm	10.083	24.984
5	2021-08-05 3:34:09pm	10.083	24.984
6	2021-08-05 3:34:11pm	10.082	24.984
7	2021-08-05 3:34:13pm	10.083	24.992
8	2021-08-05 3:34:15pm	10.083	24.992
9	2021-08-05 3:34:17pm	10.083	25.000
10	2021-08-05 3:34:19pm	10.083	25.000
11	2021-08-05 3:34:21pm	10.083	25.000
12	2021-08-05 3:34:23pm	10.083	25.000

Viewing and compensating your data

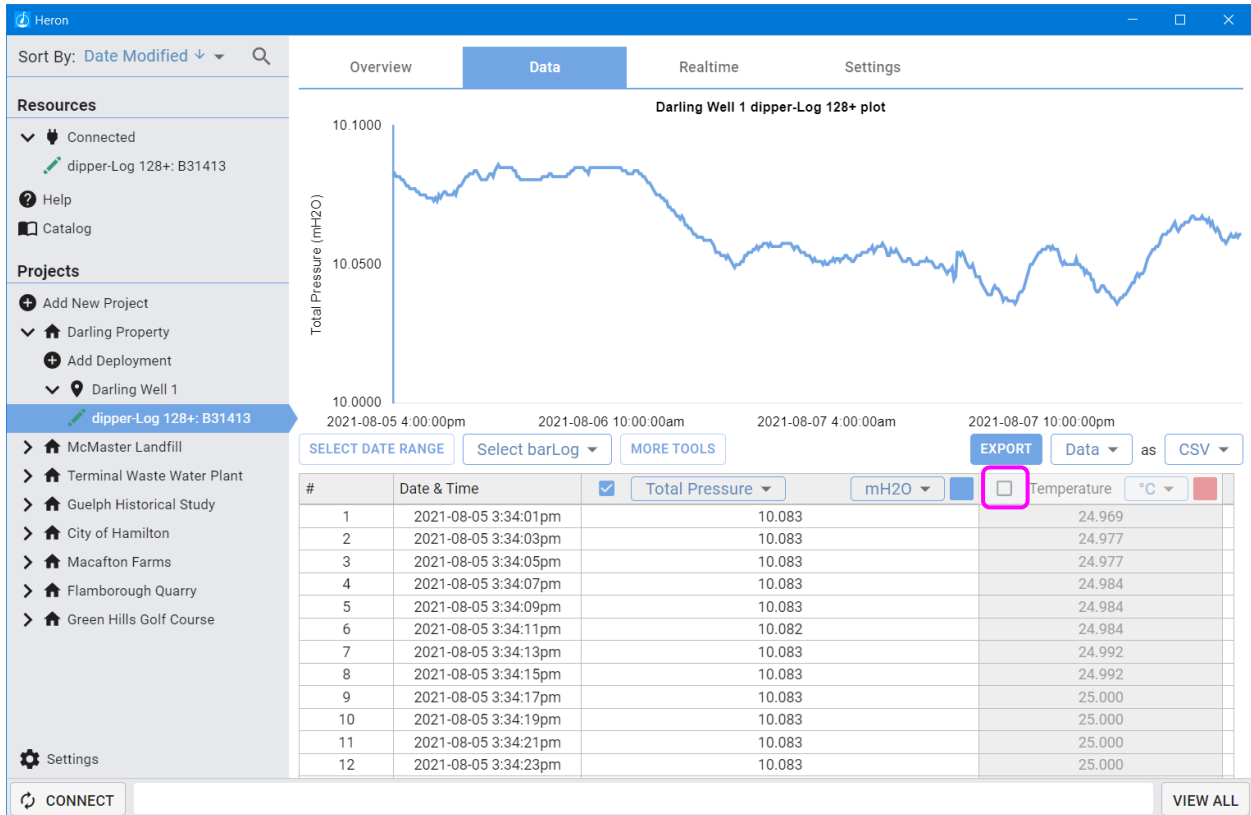
To view your downloaded data, you must navigate to where it is located, in the data management panel. Select the device that collected the data and then select the data tab. You will now be presented with a view of all of the data collected by this logger in the given deployment.



By default, all parameters will be visible on the graph. You can view more detail by hovering your mouse over the graph (or clicking and dragging across the graph on touch screen devices). The parameter and units are visible in the axis titles and the detail bubble.



You can deselect a parameter (like pressure, or temperature) by deselecting the column in the chart. This will update the graph to remove that parameter. You can re-select the parameter to bring it back.

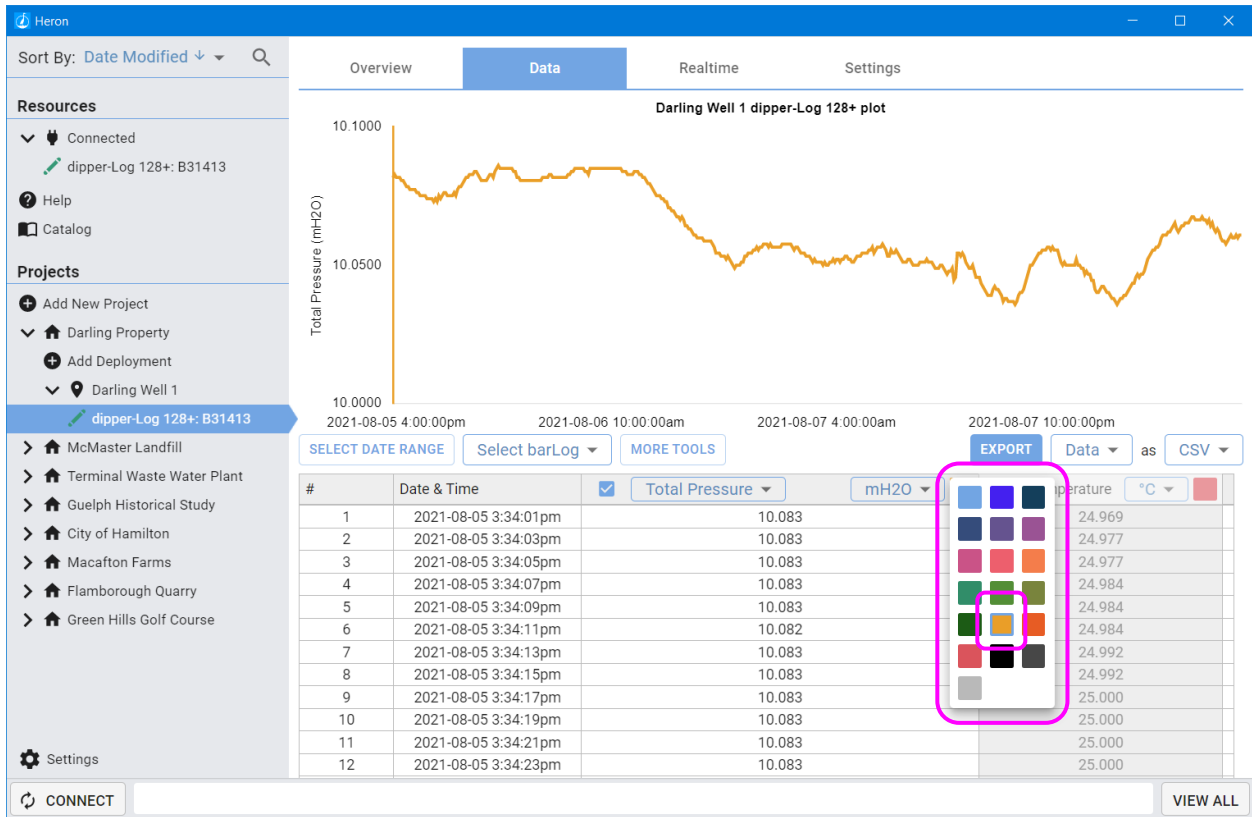


The screenshot shows the Heron software interface with the following components:

- Navigation:** Overview, Data (selected), Realtime, Settings.
- Resources:** Connected devices, including 'dipper-Log 128+: B31413'.
- Projects:** A list of projects including 'Darling Well 1'.
- Chart:** 'Darling Well 1 dipper-Log 128+ plot' showing 'Total Pressure (mH2O)' over time. The y-axis ranges from 10.0000 to 10.1000. The x-axis shows dates from 2021-08-05 to 2021-08-07.
- Table:** A data table with columns: #, Date & Time, Total Pressure (mH2O), and Temperature (°C). The 'Temperature' column header has an unchecked checkbox, highlighted with a red box.

#	Date & Time	Total Pressure (mH2O)	Temperature (°C)
1	2021-08-05 3:34:01pm	10.083	24.969
2	2021-08-05 3:34:03pm	10.083	24.977
3	2021-08-05 3:34:05pm	10.083	24.977
4	2021-08-05 3:34:07pm	10.083	24.984
5	2021-08-05 3:34:09pm	10.083	24.984
6	2021-08-05 3:34:11pm	10.082	24.984
7	2021-08-05 3:34:13pm	10.083	24.992
8	2021-08-05 3:34:15pm	10.083	24.992
9	2021-08-05 3:34:17pm	10.083	25.000
10	2021-08-05 3:34:19pm	10.083	25.000
11	2021-08-05 3:34:21pm	10.083	25.000
12	2021-08-05 3:34:23pm	10.083	25.000

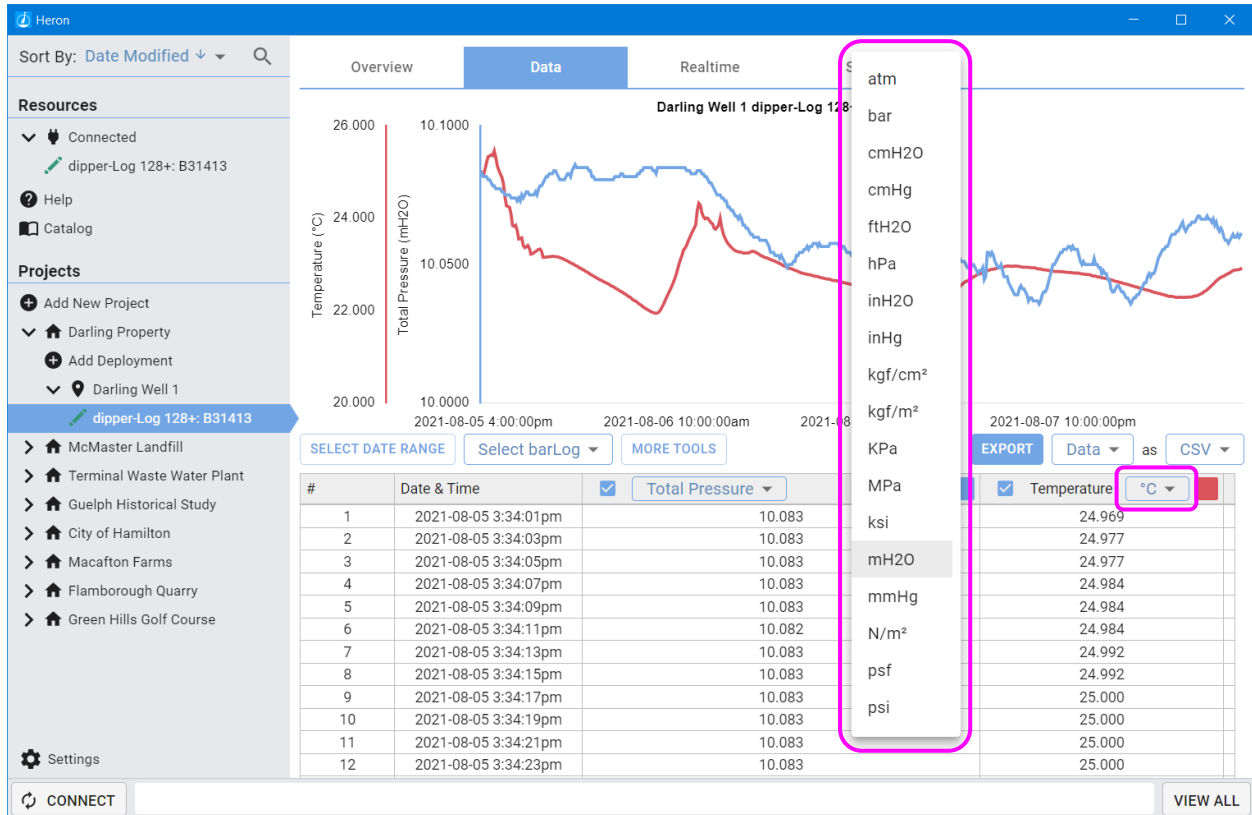
The graph colour can be changed by selecting the colour swatch on the chart title. This will update the graph to reflect your new colour choice. Have some fun, be an artist and let the graph reflect your personal style!



The screenshot shows the Heron software interface. The main window is titled "Darling Well 1 dipper-Log 128+ plot". The left sidebar contains a navigation menu with sections for Resources, Projects, and Settings. The main area displays a line graph of Total Pressure (mH2O) over time. Below the graph is a table with columns for #, Date & Time, Total Pressure, and Temperature. A color swatch menu is open over the table, with a yellow swatch highlighted.

#	Date & Time	Total Pressure	Temperature
1	2021-08-05 3:34:01pm	10.083	24.969
2	2021-08-05 3:34:03pm	10.083	24.977
3	2021-08-05 3:34:05pm	10.083	24.977
4	2021-08-05 3:34:07pm	10.083	24.984
5	2021-08-05 3:34:09pm	10.083	24.984
6	2021-08-05 3:34:11pm	10.082	24.984
7	2021-08-05 3:34:13pm	10.083	24.992
8	2021-08-05 3:34:15pm	10.083	24.992
9	2021-08-05 3:34:17pm	10.083	25.000
10	2021-08-05 3:34:19pm	10.083	25.000
11	2021-08-05 3:34:21pm	10.083	25.000
12	2021-08-05 3:34:23pm	10.083	25.000

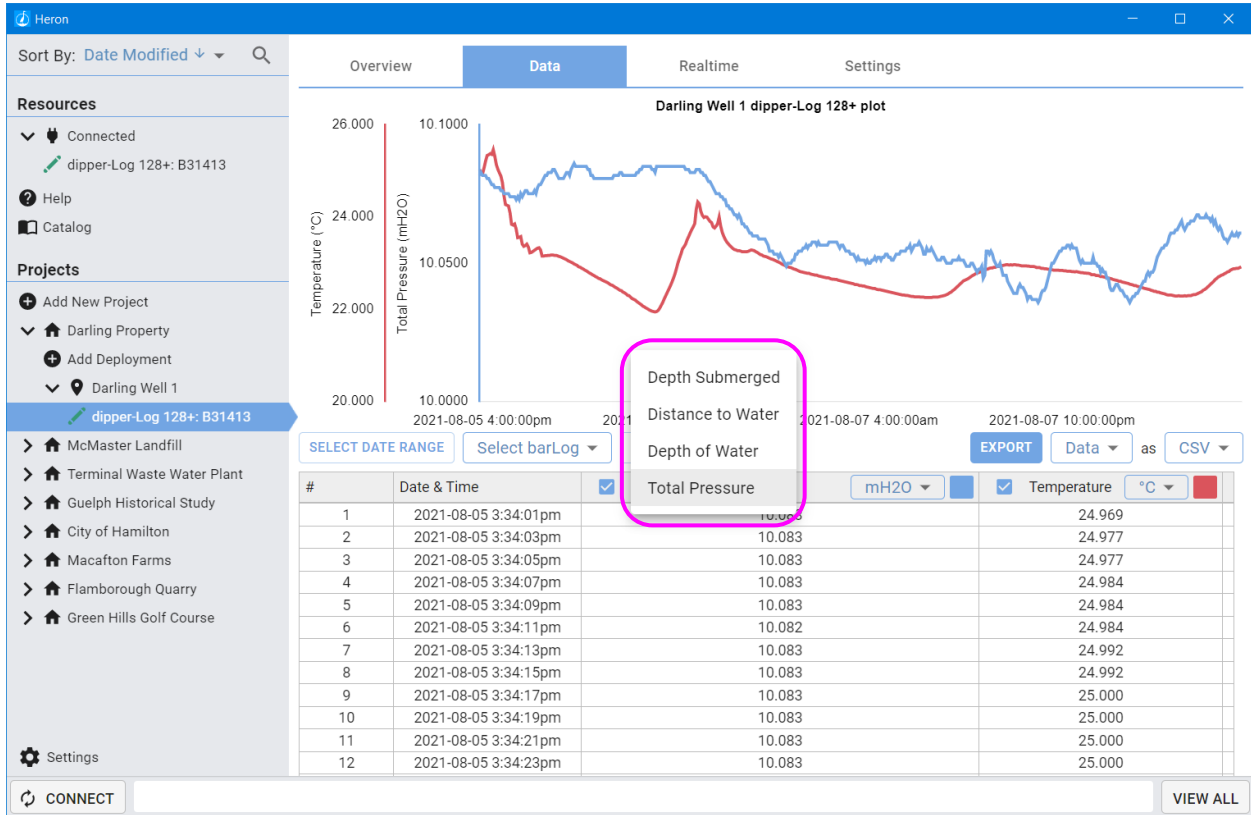
Units can be changed by selecting from the dropdown in the chart. There are many unit options to choose from. Selecting a new one automatically updates all of your data points and the graph.



The screenshot shows the Heron software interface with a data chart and a unit selection dropdown menu. The chart displays two data series: Temperature (°C) and Total Pressure (mH2O). The dropdown menu lists various units for selection, including atm, bar, cmH2O, cmHg, ftH2O, hPa, inH2O, inHg, kgf/cm², kgf/m², KPa, MPa, ksi, mH2O, mmHg, N/m², psf, and psi. The Temperature unit is currently set to °C.

#	Date & Time	Total Pressure	Temperature
1	2021-08-05 3:34:01pm	10.083	24.969
2	2021-08-05 3:34:03pm	10.083	24.977
3	2021-08-05 3:34:05pm	10.083	24.977
4	2021-08-05 3:34:07pm	10.083	24.984
5	2021-08-05 3:34:09pm	10.083	24.984
6	2021-08-05 3:34:11pm	10.082	24.984
7	2021-08-05 3:34:13pm	10.083	24.992
8	2021-08-05 3:34:15pm	10.083	24.992
9	2021-08-05 3:34:17pm	10.083	25.000
10	2021-08-05 3:34:19pm	10.083	25.000
11	2021-08-05 3:34:21pm	10.083	25.000
12	2021-08-05 3:34:23pm	10.083	25.000

When using a pressure logger, the default heading will be “Total Pressure”. This is the raw pressure data measured from the transducer. No transformations have been applied to this data. You can select alternatives from the drop down.

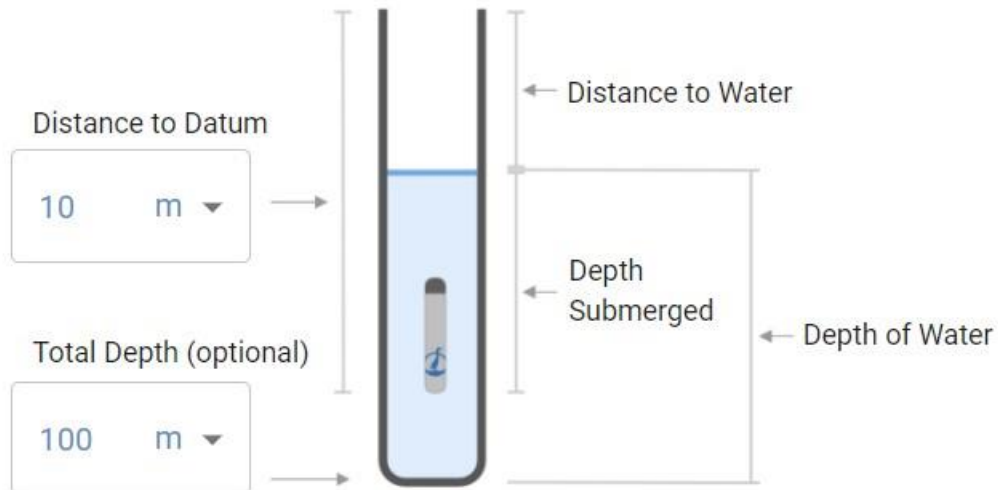


The screenshot shows the Heron software interface with the following components:

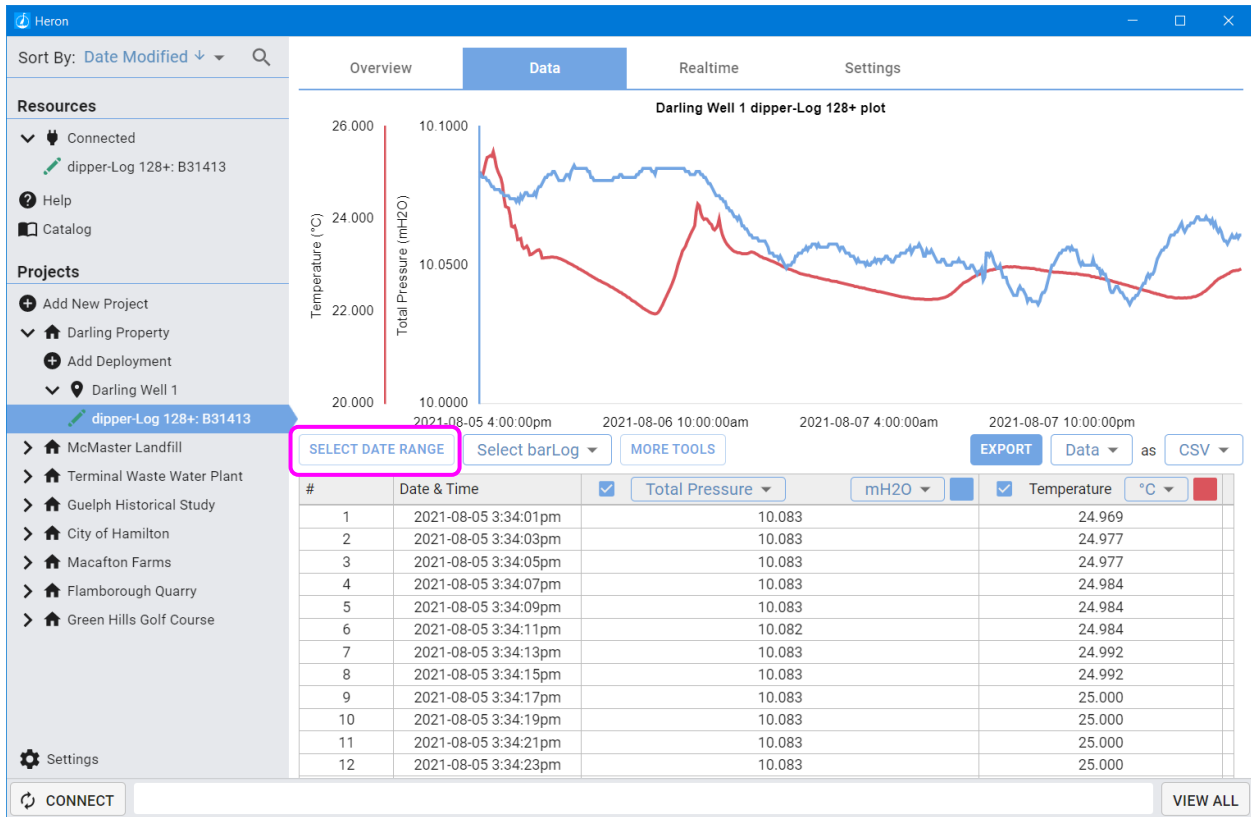
- Left Sidebar:**
 - Sort By: Date Modified
 - Resources: Connected, dipper-Log 128+: B31413, Help, Catalog
 - Projects: Add New Project, Darling Property, Add Deployment, Darling Well 1, dipper-Log 128+: B31413
 - Project Locations: McMaster Landfill, Terminal Waste Water Plant, Guelph Historical Study, City of Hamilton, Macafton Farms, Flamborough Quarry, Green Hills Golf Course
 - Settings
- Top Navigation:** Overview, Data (selected), Realtime, Settings
- Plot:** Darling Well 1 dipper-Log 128+ plot. Y-axis: Temperature (°C) and Total Pressure (mH2O). X-axis: Date and Time.
- Table:**

#	Date & Time	Total Pressure (mH2O)	Temperature (°C)
1	2021-08-05 3:34:01pm	10.083	24.969
2	2021-08-05 3:34:03pm	10.083	24.977
3	2021-08-05 3:34:05pm	10.083	24.977
4	2021-08-05 3:34:07pm	10.083	24.984
5	2021-08-05 3:34:09pm	10.083	24.984
6	2021-08-05 3:34:11pm	10.082	24.984
7	2021-08-05 3:34:13pm	10.083	24.992
8	2021-08-05 3:34:15pm	10.083	24.992
9	2021-08-05 3:34:17pm	10.083	25.000
10	2021-08-05 3:34:19pm	10.083	25.000
11	2021-08-05 3:34:21pm	10.083	25.000
12	2021-08-05 3:34:23pm	10.083	25.000
- Bottom:** CONNECT button, VIEW ALL button.

- Total Pressure is your raw unaltered pressure readings.
- Depth submerged is your raw pressure minus barometric pressure. If a bar-Log has been selected, this will be used to subtract from the Total Pressure. If no bar-Log has been selected, the software will use a single reading recorded at the start of the last mission to subtract from the rest of the data set. This is not as accurate as a bar-Log, however, provides a very good alternative (as a backup).
- Distance to Water is the distance from your datum point to the top of the water.
- Depth of Water is only available if Total Well Depth has been entered. This value will be the Total Well Depth minus the Distance to Water.

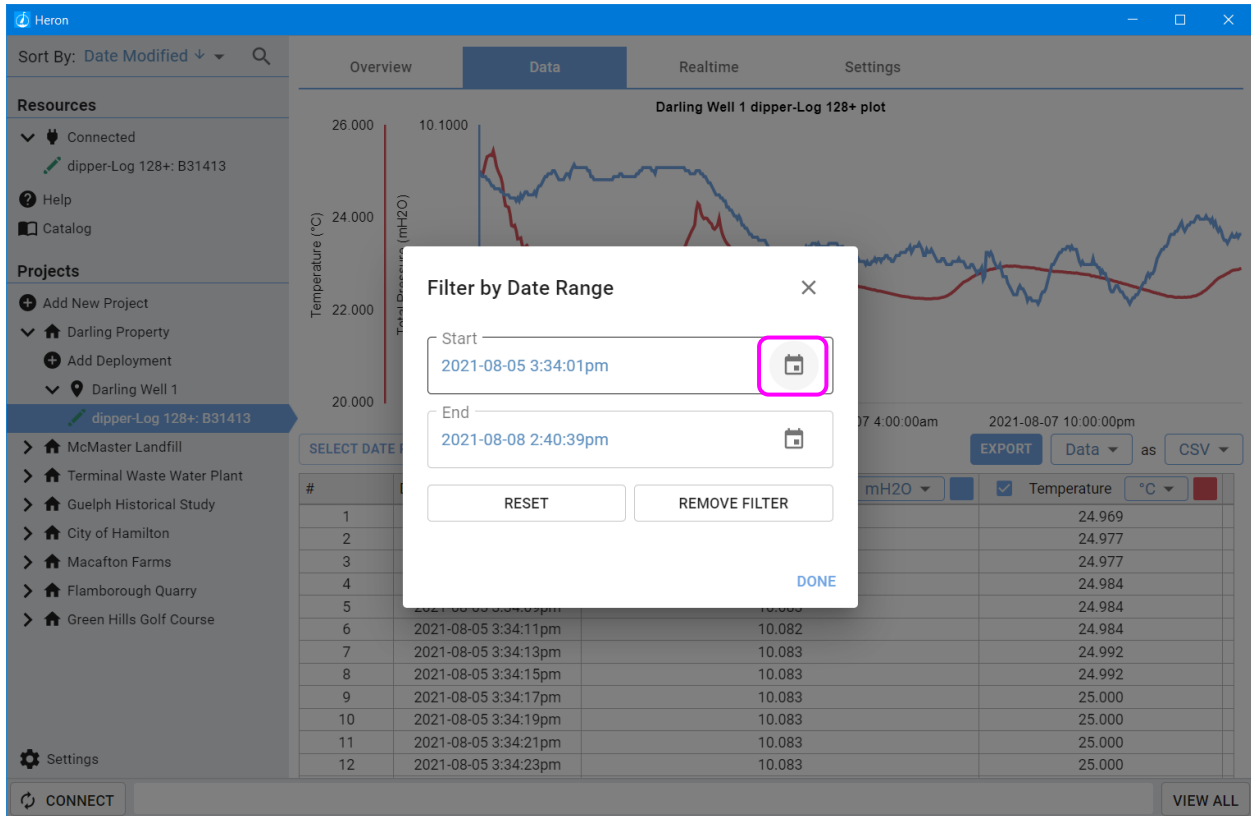


You can refine your data to a select date range by clicking on “SELECT DATE RANGE”. A new tool panel will open that presents you with the ability to narrow in your data range. Select the calendar icon to set your date range. Click done when complete.



The screenshot shows the Heron software interface. On the left is a sidebar with 'Resources' and 'Projects' sections. The main area is titled 'Darling Well 1 dipper-Log 128+ plot' and contains a line graph with two y-axes: Temperature (°C) on the left (20,000 to 26,000) and Total Pressure (mH2O) on the right (10,0000 to 10,0500). Below the graph is a table with columns for '#', 'Date & Time', 'Total Pressure', and 'Temperature'. A pink box highlights the 'SELECT DATE RANGE' button in the toolbar above the table.

#	Date & Time	Total Pressure	Temperature
1	2021-08-05 3:34:01pm	10.083	24.969
2	2021-08-05 3:34:03pm	10.083	24.977
3	2021-08-05 3:34:05pm	10.083	24.977
4	2021-08-05 3:34:07pm	10.083	24.984
5	2021-08-05 3:34:09pm	10.083	24.984
6	2021-08-05 3:34:11pm	10.082	24.984
7	2021-08-05 3:34:13pm	10.083	24.992
8	2021-08-05 3:34:15pm	10.083	24.992
9	2021-08-05 3:34:17pm	10.083	25.000
10	2021-08-05 3:34:19pm	10.083	25.000
11	2021-08-05 3:34:21pm	10.083	25.000
12	2021-08-05 3:34:23pm	10.083	25.000



Sort By: Date Modified

Resources

- Connected
- dipper-Log 128+: B31413

Projects

- Add New Project
- Darling Property
- Add Deployment
- Darling Well 1
- dipper-Log 128+: B31413
- McMaster Landfill
- Terminal Waste Water Plant
- Guelph Historical Study
- City of Hamilton
- Macafon Farms
- Flamborough Quarry
- Green Hills Golf Course

Settings

CONNECT

VIEW ALL

Overview Data Realtime Settings

Darling Well 1 dipper-Log 128+ plot

Temperature (°C)

Total Dissolved Solids (mH2O)

Filter by Date Range

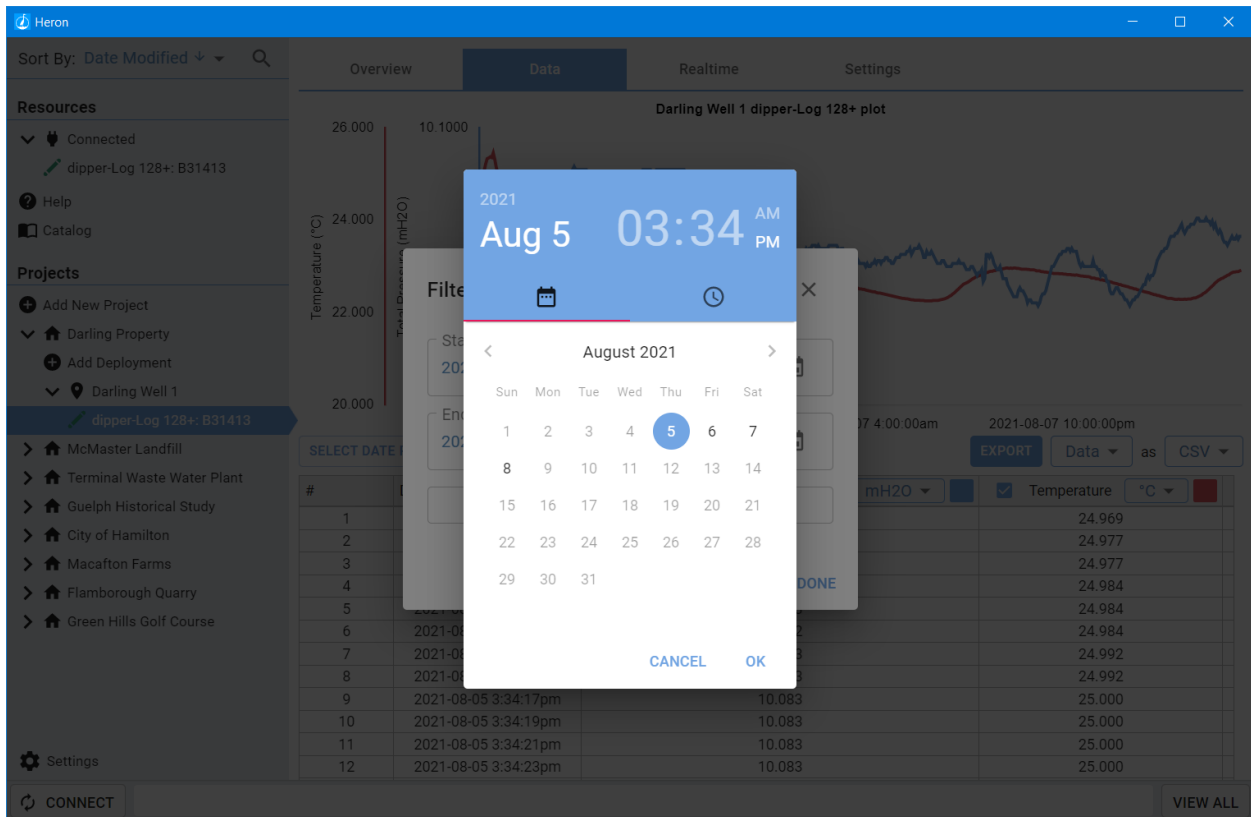
Start: 2021-08-05 3:34:01pm

End: 2021-08-08 2:40:39pm

RESET REMOVE FILTER

DONE

#	Time	mH2O	Temperature (°C)
1	2021-08-05 3:34:01pm	10.083	24.969
2	2021-08-05 3:34:13pm	10.083	24.977
3	2021-08-05 3:34:15pm	10.083	24.977
4	2021-08-05 3:34:17pm	10.083	24.984
5	2021-08-05 3:34:19pm	10.083	24.984
6	2021-08-05 3:34:21pm	10.083	24.992
7	2021-08-05 3:34:23pm	10.083	24.992
8	2021-08-05 3:34:11pm	10.082	25.000
9	2021-08-05 3:34:13pm	10.083	25.000
10	2021-08-05 3:34:15pm	10.083	25.000
11	2021-08-05 3:34:17pm	10.083	25.000
12	2021-08-05 3:34:19pm	10.083	25.000



Sort By: Date Modified

Resources

- Connected
- dipper-Log 128+: B31413

Projects

- Add New Project
- Darling Property
- Add Deployment
- Darling Well 1
- dipper-Log 128+: B31413
- McMaster Landfill
- Terminal Waste Water Plant
- Guelph Historical Study
- City of Hamilton
- Macafon Farms
- Flamborough Quarry
- Green Hills Golf Course

Settings

CONNECT

VIEW ALL

Overview Data Realtime Settings

Darling Well 1 dipper-Log 128+ plot

Temperature (°C)

Total Dissolved Solids (mH2O)

2021 Aug 5 03:34 AM PM

August 2021

Sun Mon Tue Wed Thu Fri Sat

1 2 3 4 5 6 7

8 9 10 11 12 13 14

15 16 17 18 19 20 21

22 23 24 25 26 27 28

29 30 31

CANCEL OK

#	Time	mH2O	Temperature (°C)
1	2021-08-05 3:34:01pm	10.083	24.969
2	2021-08-05 3:34:13pm	10.083	24.977
3	2021-08-05 3:34:15pm	10.083	24.977
4	2021-08-05 3:34:17pm	10.083	24.984
5	2021-08-05 3:34:19pm	10.083	24.984
6	2021-08-05 3:34:21pm	10.083	24.984
7	2021-08-05 3:34:23pm	10.083	24.992
8	2021-08-05 3:34:11pm	10.082	24.992
9	2021-08-05 3:34:13pm	10.083	25.000
10	2021-08-05 3:34:15pm	10.083	25.000
11	2021-08-05 3:34:17pm	10.083	25.000
12	2021-08-05 3:34:19pm	10.083	25.000

If you make a mistake or wish to start over, you have two options. “RESET” will set the date range to cover all data points available (the default setting) allowing you to make changes from there. “REMOVE FILTER” removes the date filter entirely.

Filter by Date Range ×

Start
2021-08-05 3:34:01pm 📅

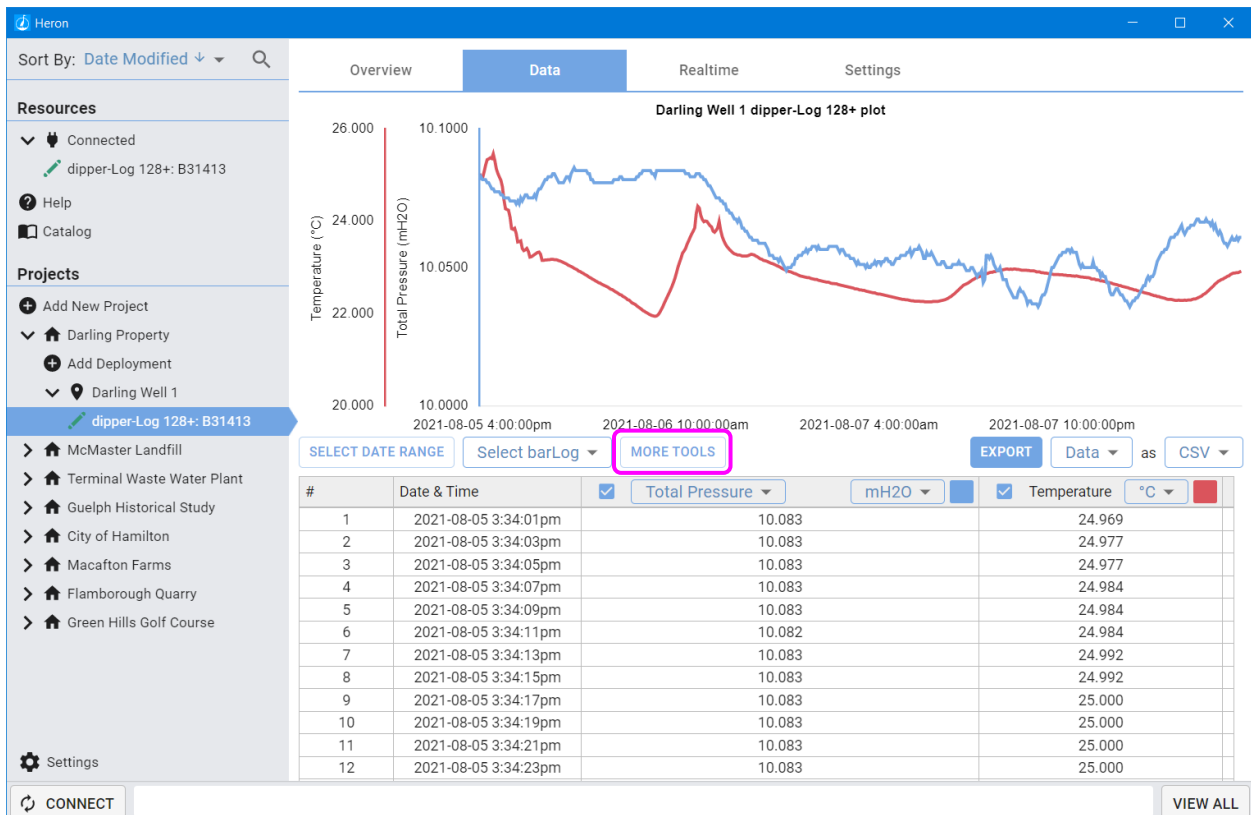
End
2021-08-08 2:40:39pm 📅

RESET

REMOVE FILTER

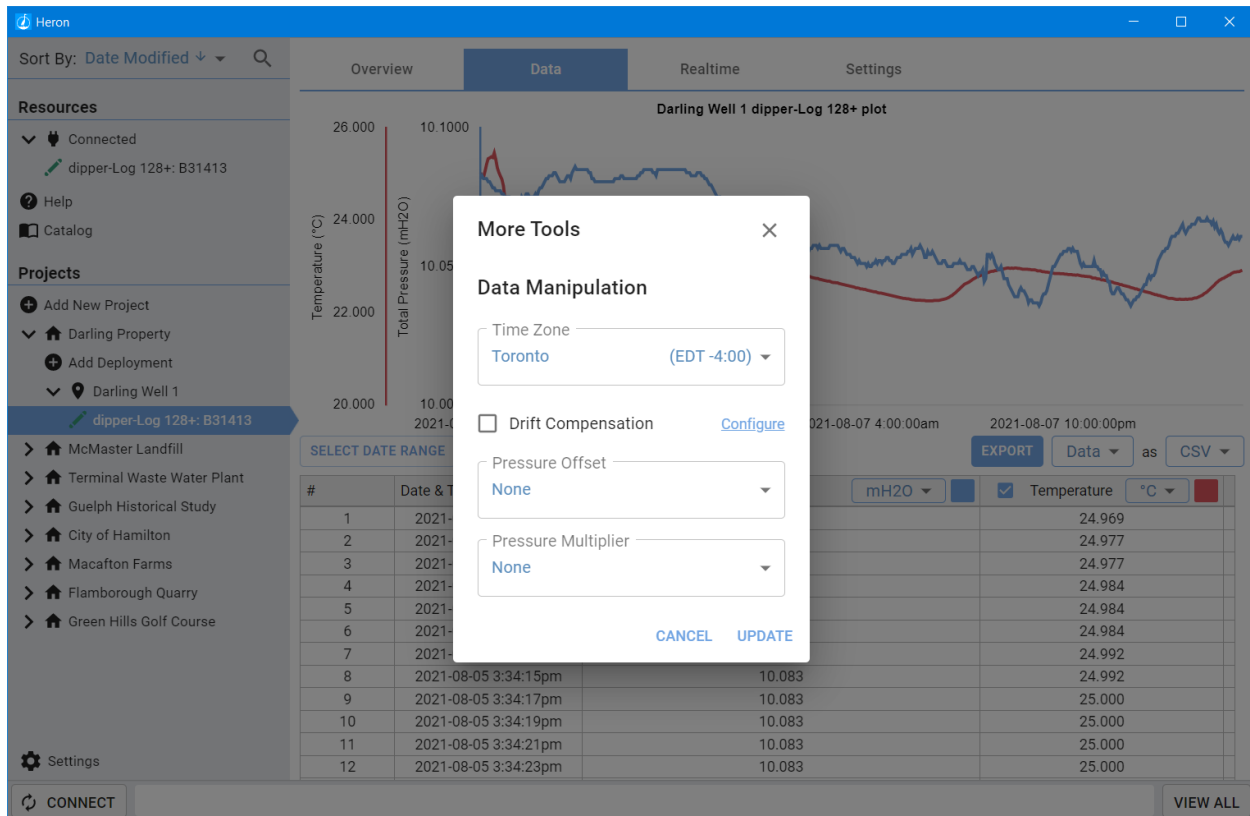
DONE

“MORE TOOLS” allows you to perform basic data manipulation tasks. These include, changing time zone, applying offsets, and applying multipliers to the data. These tools can help to make changes to your data to account for elevation and/or density. The offset tools can also be used to correct for mistakes made during setup or deployment.



The screenshot shows the Heron software interface. On the left is a sidebar with 'Resources' (Connected devices, Help, Catalog) and 'Projects' (McMaster Landfill, Terminal Waste Water Plant, Guelph Historical Study, City of Hamilton, Macafton Farms, Flamborough Quarry, Green Hills Golf Course). The main area is titled 'Darling Well 1 dipper-Log 128+ plot' and shows a dual-axis line graph of Temperature (°C) and Total Pressure (mH2O) over time. Below the graph is a table with columns for '#', 'Date & Time', 'Total Pressure', 'mH2O', and 'Temperature °C'. A 'MORE TOOLS' button is highlighted in the interface above the table.

#	Date & Time	Total Pressure	mH2O	Temperature °C
1	2021-08-05 3:34:01pm	10.083		24.969
2	2021-08-05 3:34:03pm	10.083		24.977
3	2021-08-05 3:34:05pm	10.083		24.977
4	2021-08-05 3:34:07pm	10.083		24.984
5	2021-08-05 3:34:09pm	10.083		24.984
6	2021-08-05 3:34:11pm	10.082		24.984
7	2021-08-05 3:34:13pm	10.083		24.992
8	2021-08-05 3:34:15pm	10.083		24.992
9	2021-08-05 3:34:17pm	10.083		25.000
10	2021-08-05 3:34:19pm	10.083		25.000
11	2021-08-05 3:34:21pm	10.083		25.000
12	2021-08-05 3:34:23pm	10.083		25.000



Offset:

- **First Reading:** In cases where no barLog data is available but your dipperLog was started before placement in well, this option allows you to use that first recorded barometric pressure reading to compensate all subsequent data points. This will not adjust your data for barometric influences over the time of the recordings, it will simply remove a constant value representing an approximate barometric pressure.
- **Last Reading:** This option works the same way as the “First Reading” choice with the exception of using the last recorded data point for the calculations. If your dipperLog recorded the first data point when submerged because of a delayed start, this allows you to use the last reading as an alternate barometric pressure value.
- **Programmed Value:** This selection will use the saved “barometric” value that the dipperLog stores when initially started. This is the same value that is used to calculate the Real Time reading value. This stored value will change every time the dipperLog is reprogrammed and re-started.
- **Custom Value:** When this option is selected a new field becomes available which enables the user to enter a constant value by which to offset the recorded values in memory. This could be an average barometric pressure reading from a local weather station or news channel.

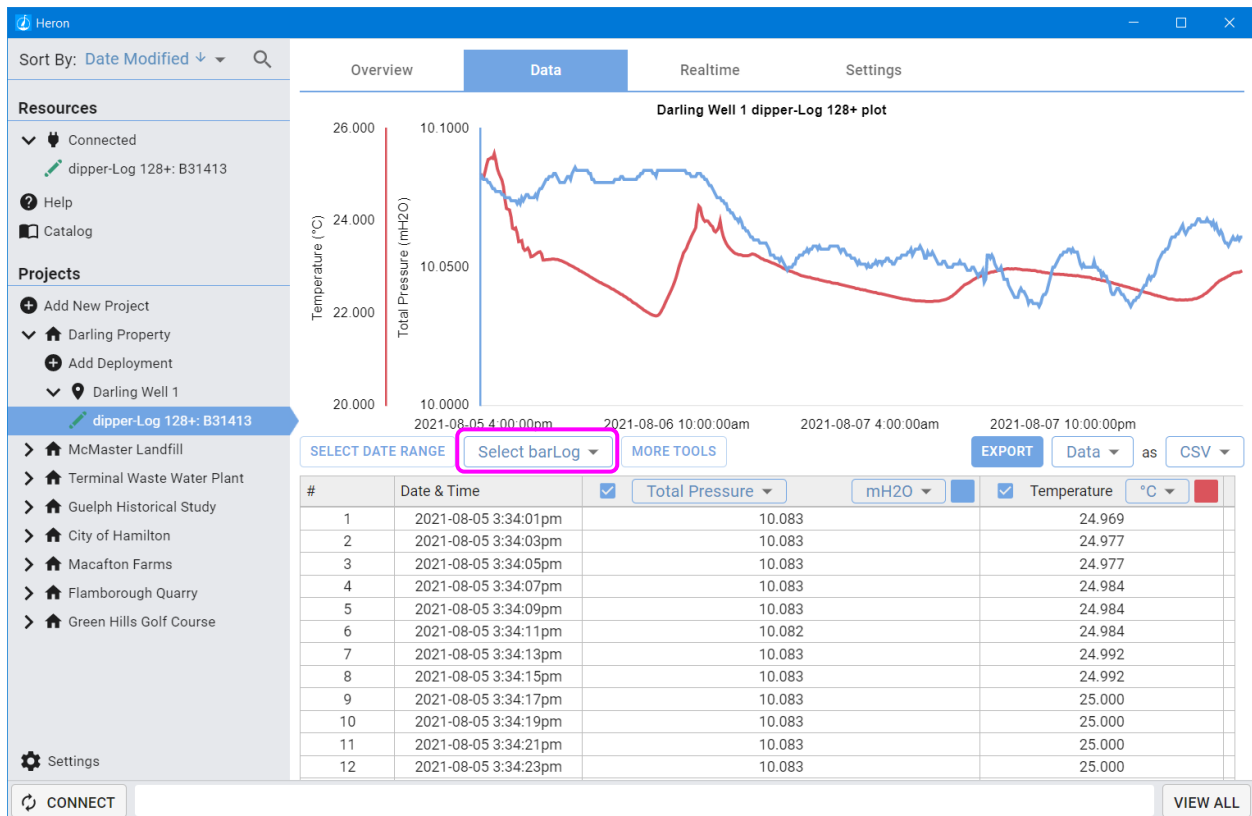
Multiplier:

- **Low Level:** This selection will multiply all downloaded readings by 0.9
- **Custom Value:** This option allows you to select a constant value by which to adjust your readings. Since 1 is the specific gravity of clean water, the software calculates the height of

water using 1 as the density. This option allows you to make the necessary adjustment when the fluid you are monitoring has a density of more or less than 1, i.e. seawater or brackish water.

- "While density of pure water at 4 degrees Celsius is equal to 1, the density of seawater ranges over somewhat higher values, which vary with proximity to shores, rivers, etc., as well as with geographic location & depth. Representative average values are 1.026– 1.028," Van Nostrand's, Scientific Encyclopedia 7th edition. Canada, 1989: 2046.
- You could also adjust your data for altitude using this option. Simply define a factor based on the height above sea level of your job site and enter it in the custom value field.

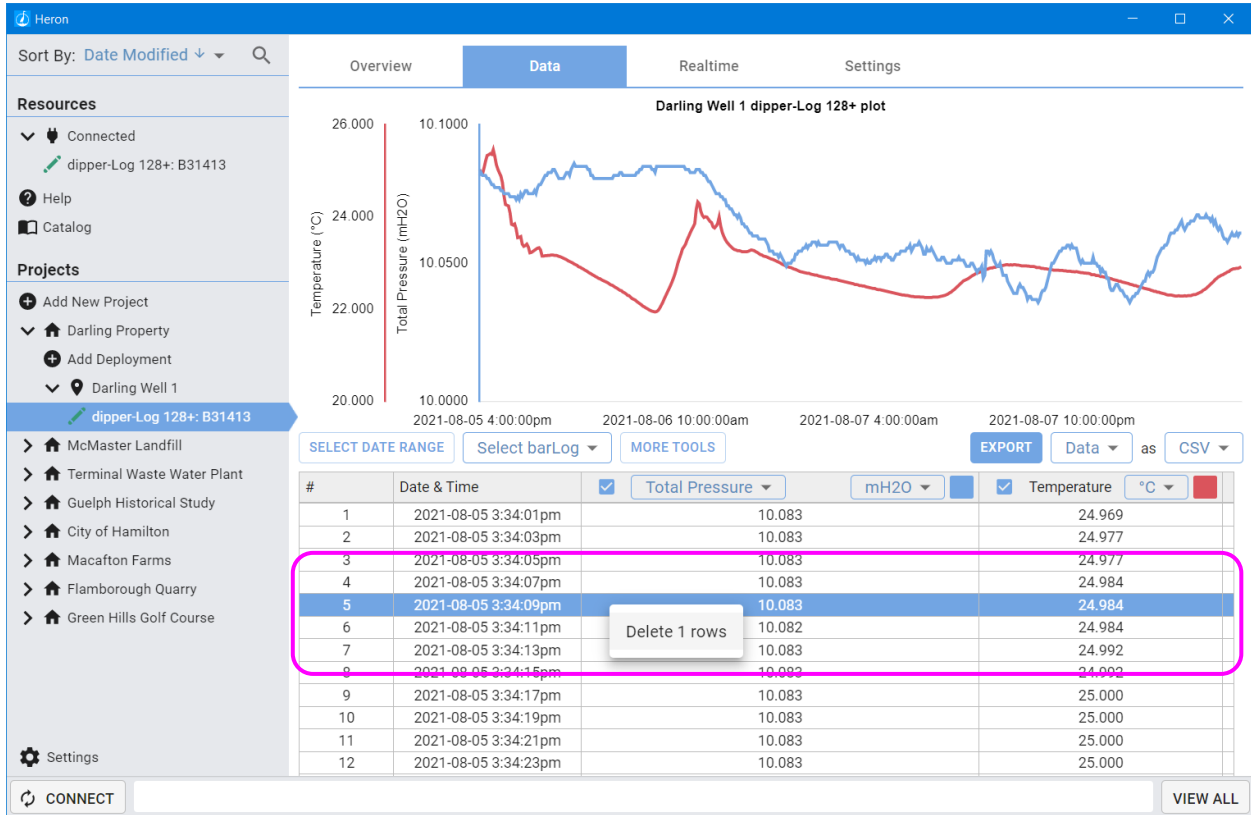
Select a bar-Log allows you to select a bar-Log from the same project to use to compensate your data. bar-Logs must be in the same project for this to work.



The screenshot displays the Heron software interface for a project named 'Darling Well 1 dipper-Log 128+ plot'. The interface includes a sidebar with 'Resources' and 'Projects' sections, a main data visualization area with a line graph, and a data table below the graph. The graph plots Temperature (°C) on the left y-axis (ranging from 20.000 to 26.000) and Total Pressure (mH2O) on the right y-axis (ranging from 10.0000 to 10.1000) against time on the x-axis (from 2021-08-05 4:00:00pm to 2021-08-07 10:00:00pm). A 'Select barLog' dropdown menu is highlighted in the interface, indicating the option to select a bar-Log for data compensation. The data table below the graph shows 12 rows of data with columns for '#', 'Date & Time', 'Total Pressure', 'mH2O', and 'Temperature °C'.

#	Date & Time	Total Pressure	mH2O	Temperature °C
1	2021-08-05 3:34:01pm	10.083		24.969
2	2021-08-05 3:34:03pm	10.083		24.977
3	2021-08-05 3:34:05pm	10.083		24.977
4	2021-08-05 3:34:07pm	10.083		24.984
5	2021-08-05 3:34:09pm	10.083		24.984
6	2021-08-05 3:34:11pm	10.082		24.984
7	2021-08-05 3:34:13pm	10.083		24.992
8	2021-08-05 3:34:15pm	10.083		24.992
9	2021-08-05 3:34:17pm	10.083		25.000
10	2021-08-05 3:34:19pm	10.083		25.000
11	2021-08-05 3:34:21pm	10.083		25.000
12	2021-08-05 3:34:23pm	10.083		25.000

If you have unwanted data points, you can delete them by selecting them and right clicking (click and hold on touch screen devices). Select to delete the rows. This action cannot be undone! We cannot recover data that has been deleted!



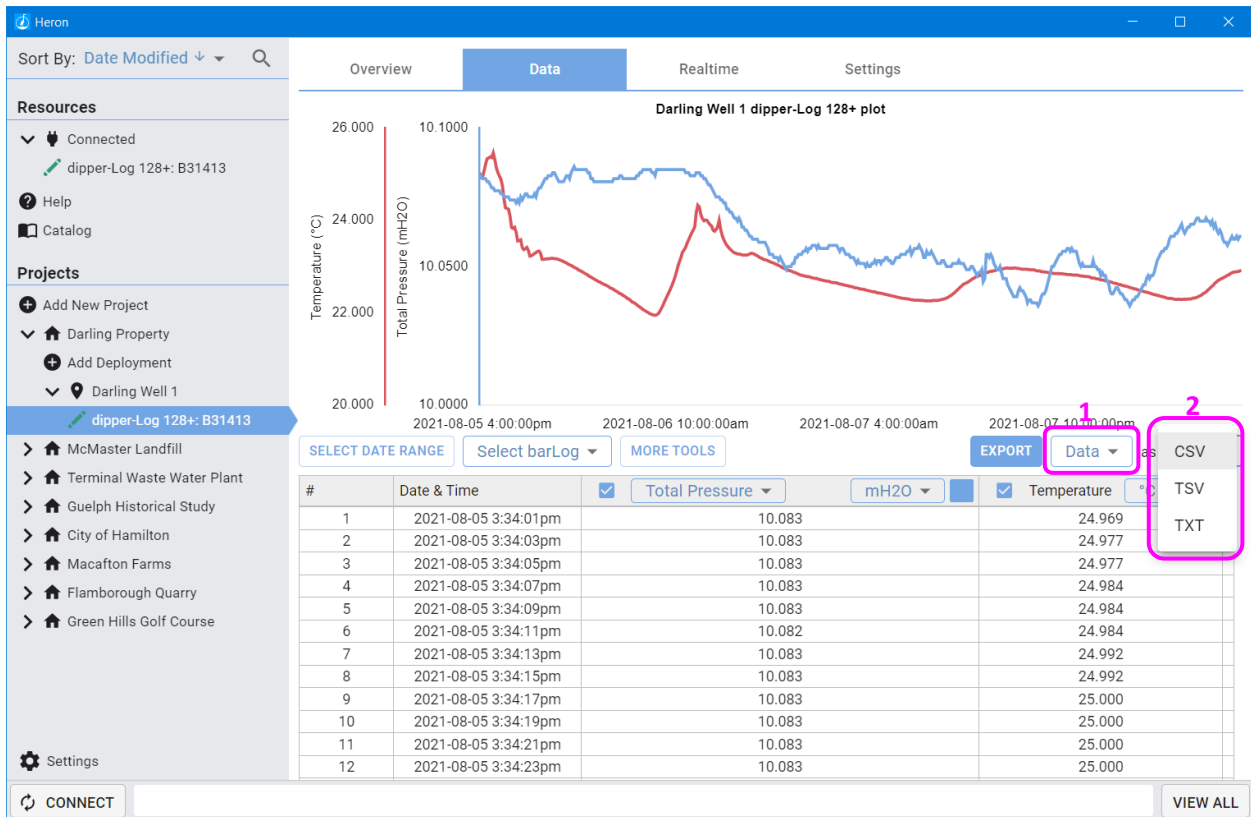
The screenshot shows the Heron software interface with the 'Data' tab selected. The main area displays a line graph titled 'Darling Well 1 dipper-Log 128+ plot' showing Temperature (°C) and Total Pressure (mH2O) over time. Below the graph is a data table with columns for #, Date & Time, Total Pressure (mH2O), and Temperature (°C). A pink box highlights rows 5 through 8, and a tooltip 'Delete 1 rows' is visible over row 6. The table data is as follows:

#	Date & Time	Total Pressure (mH2O)	Temperature (°C)
1	2021-08-05 3:34:01pm	10.083	24.969
2	2021-08-05 3:34:03pm	10.083	24.977
3	2021-08-05 3:34:05pm	10.083	24.977
4	2021-08-05 3:34:07pm	10.083	24.984
5	2021-08-05 3:34:09pm	10.083	24.984
6	2021-08-05 3:34:11pm	10.082	24.984
7	2021-08-05 3:34:13pm	10.083	24.992
8	2021-08-05 3:34:15pm	10.083	24.992
9	2021-08-05 3:34:17pm	10.083	25.000
10	2021-08-05 3:34:19pm	10.083	25.000
11	2021-08-05 3:34:21pm	10.083	25.000
12	2021-08-05 3:34:23pm	10.083	25.000

Exporting your data

From the Data tab you can export your data in the form of a chart or a graph.

To export a chart, select Data and then select the file type you wish to use. CSV is the most common for use in spreadsheet applications like Microsoft Excel or Libre Office Calc. TXT can be selected if you are facing challenges with CSV. Both formats can be opened in Excel, Calc, or a text editor like Note Pad. The exported data will reflect exactly what is shown in your chart. Any data manipulations/selections/offsets/etc. will be reflected in the exported data. Click Export to finish.

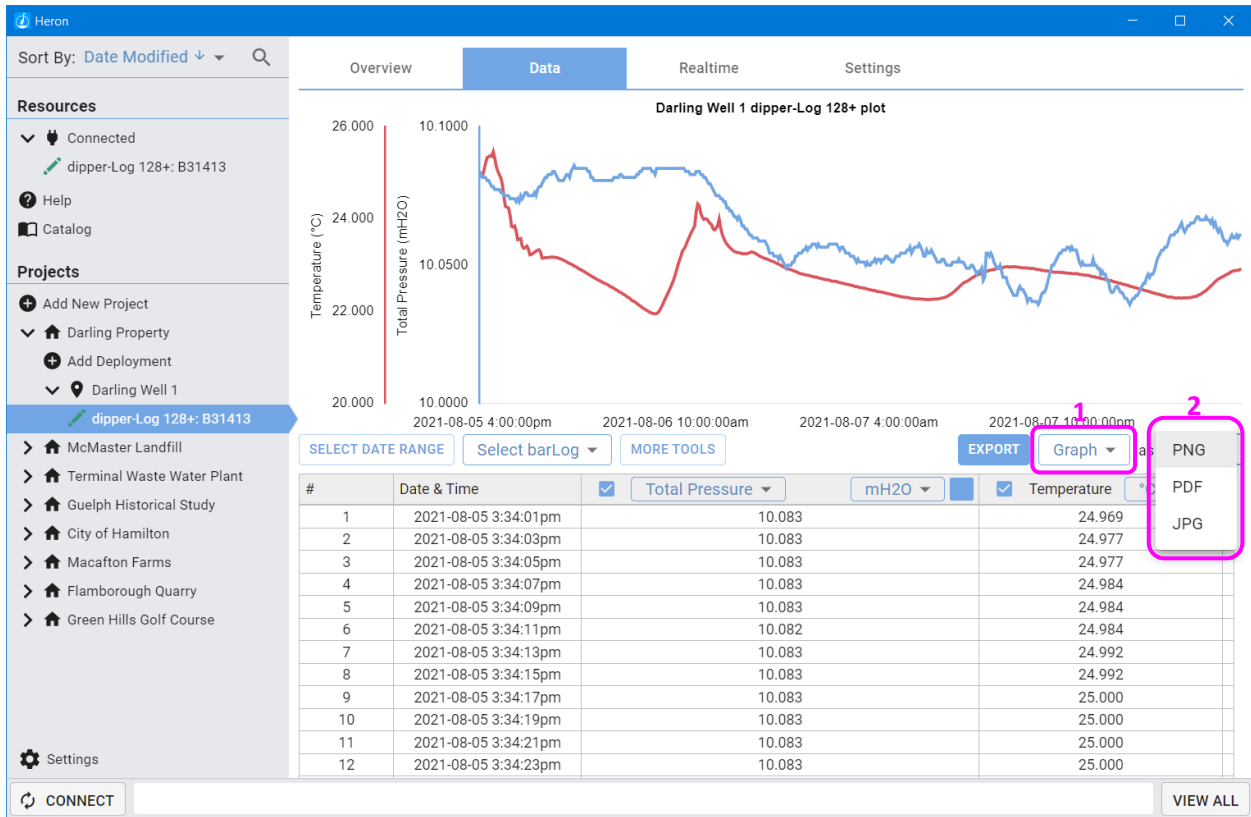


The screenshot shows the Heron software interface with the 'Data' tab selected. A line chart displays two data series: Total Pressure (mH2O) in red and Temperature (°C) in blue. Below the chart is a table with the following data:

#	Date & Time	Total Pressure (mH2O)	Temperature (°C)
1	2021-08-05 3:34:01pm	10.083	24.969
2	2021-08-05 3:34:03pm	10.083	24.977
3	2021-08-05 3:34:05pm	10.083	24.977
4	2021-08-05 3:34:07pm	10.083	24.984
5	2021-08-05 3:34:09pm	10.083	24.984
6	2021-08-05 3:34:11pm	10.082	24.984
7	2021-08-05 3:34:13pm	10.083	24.992
8	2021-08-05 3:34:15pm	10.083	24.992
9	2021-08-05 3:34:17pm	10.083	25.000
10	2021-08-05 3:34:19pm	10.083	25.000
11	2021-08-05 3:34:21pm	10.083	25.000
12	2021-08-05 3:34:23pm	10.083	25.000

The 'EXPORT' button is highlighted, and a dropdown menu is open showing 'Data' selected, with 'CSV', 'TSV', and 'TXT' options visible. Red boxes and numbers 1 and 2 highlight the 'Data' dropdown and the export format options respectively.

To export a graph, select Graph from the export dropdown. Next select the file type you wish to use. When you click export, it will export exactly what is shown in the graph. Any data manipulations/selections/offsets/etc. will be reflected in the exported graph.



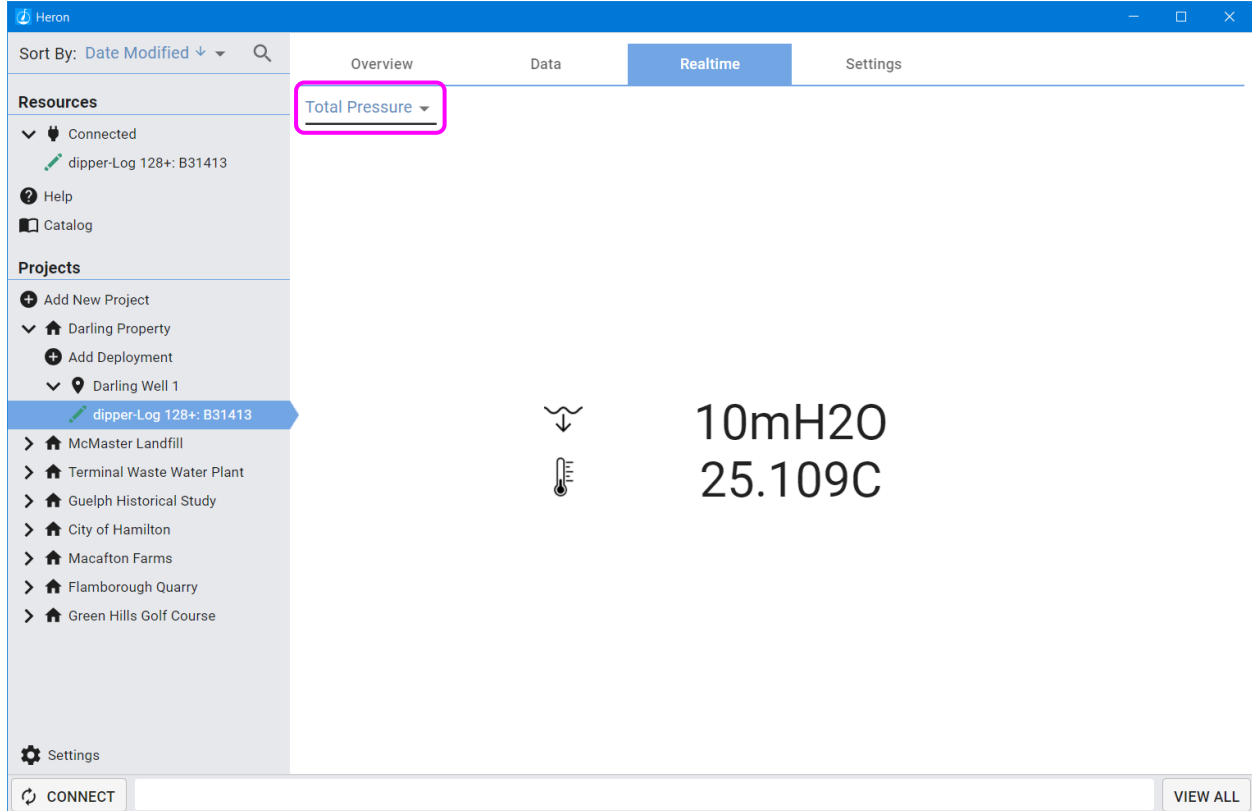
The screenshot shows the Heron software interface with the following components:

- Header:** Heron logo, window controls, and tabs for Overview, Data (selected), Realtime, and Settings.
- Left Sidebar:** Resources (Connected devices, Help, Catalog) and Projects (Add New Project, Darling Property, Darling Well 1).
- Main Plot:** "Darling Well 1 dipper-Log 128+ plot" showing Temperature (°C) and Total Pressure (mH2O) over time from 2021-08-05 to 2021-08-07.
- Export Menu:** An "EXPORT" button is highlighted with a red box labeled "1". A dropdown menu is open, showing "Graph" (highlighted with a red box labeled "2"), "PNG", "PDF", and "JPG".
- Data Table:** A table with columns for #, Date & Time, Total Pressure (mH2O), and Temperature (°C). The data points are as follows:

#	Date & Time	Total Pressure (mH2O)	Temperature (°C)
1	2021-08-05 3:34:01pm	10.083	24.969
2	2021-08-05 3:34:03pm	10.083	24.977
3	2021-08-05 3:34:05pm	10.083	24.977
4	2021-08-05 3:34:07pm	10.083	24.984
5	2021-08-05 3:34:09pm	10.083	24.984
6	2021-08-05 3:34:11pm	10.082	24.984
7	2021-08-05 3:34:13pm	10.083	24.992
8	2021-08-05 3:34:15pm	10.083	24.992
9	2021-08-05 3:34:17pm	10.083	25.000
10	2021-08-05 3:34:19pm	10.083	25.000
11	2021-08-05 3:34:21pm	10.083	25.000
12	2021-08-05 3:34:23pm	10.083	25.000

Realtime Readings

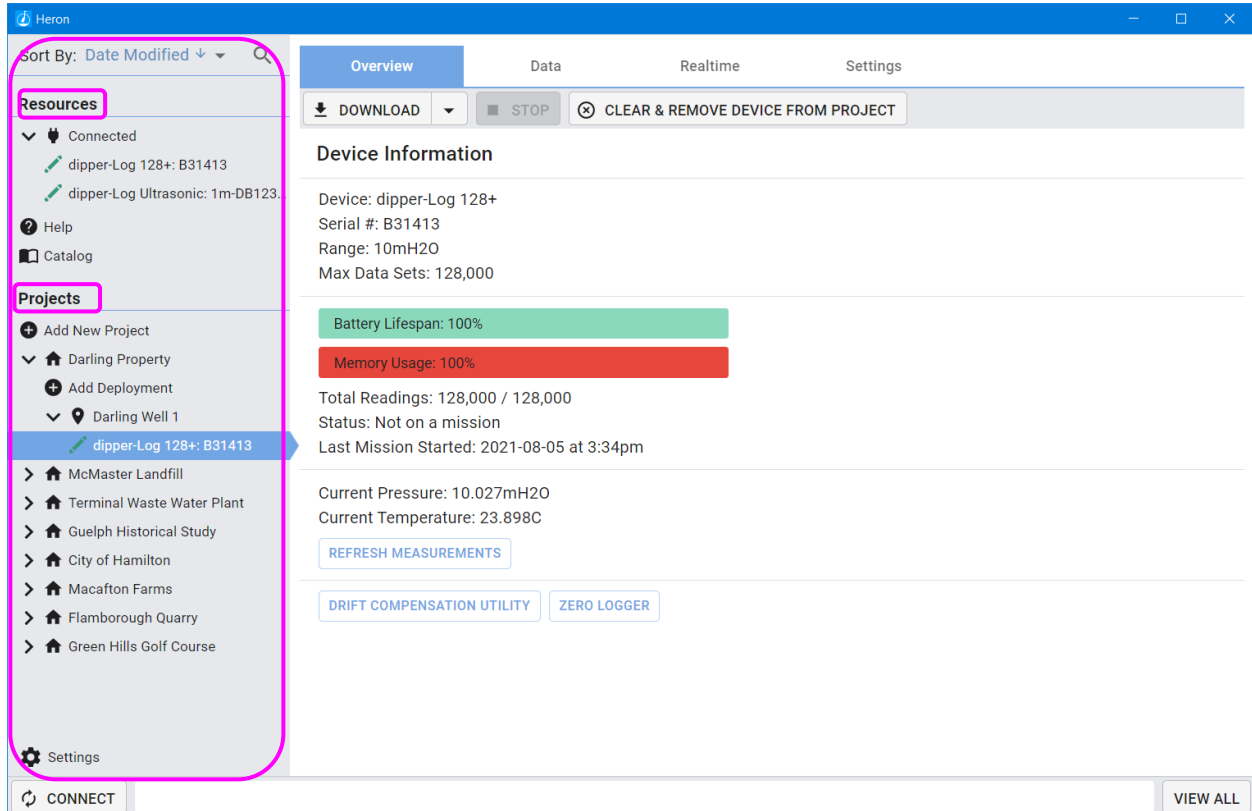
Realtime readings can be accessed in the “Realtime” tab for connected devices. This will show you the current state of the device and is updated every 1 second. In the top left-hand corner, you can select different ways to display your data.



The screenshot shows the Heron software interface. At the top, there are tabs for Overview, Data, Realtime, and Settings. The Realtime tab is selected. On the left side, there is a sidebar with a search bar and a list of resources and projects. The resource 'dipper-Log 128+: B31413' is selected. In the main area, there is a dropdown menu labeled 'Total Pressure' which is highlighted with a pink box. Below this, there are two data points: '10mH2O' with a water drop icon and '25.109C' with a thermometer icon. At the bottom, there are 'CONNECT' and 'VIEW ALL' buttons.

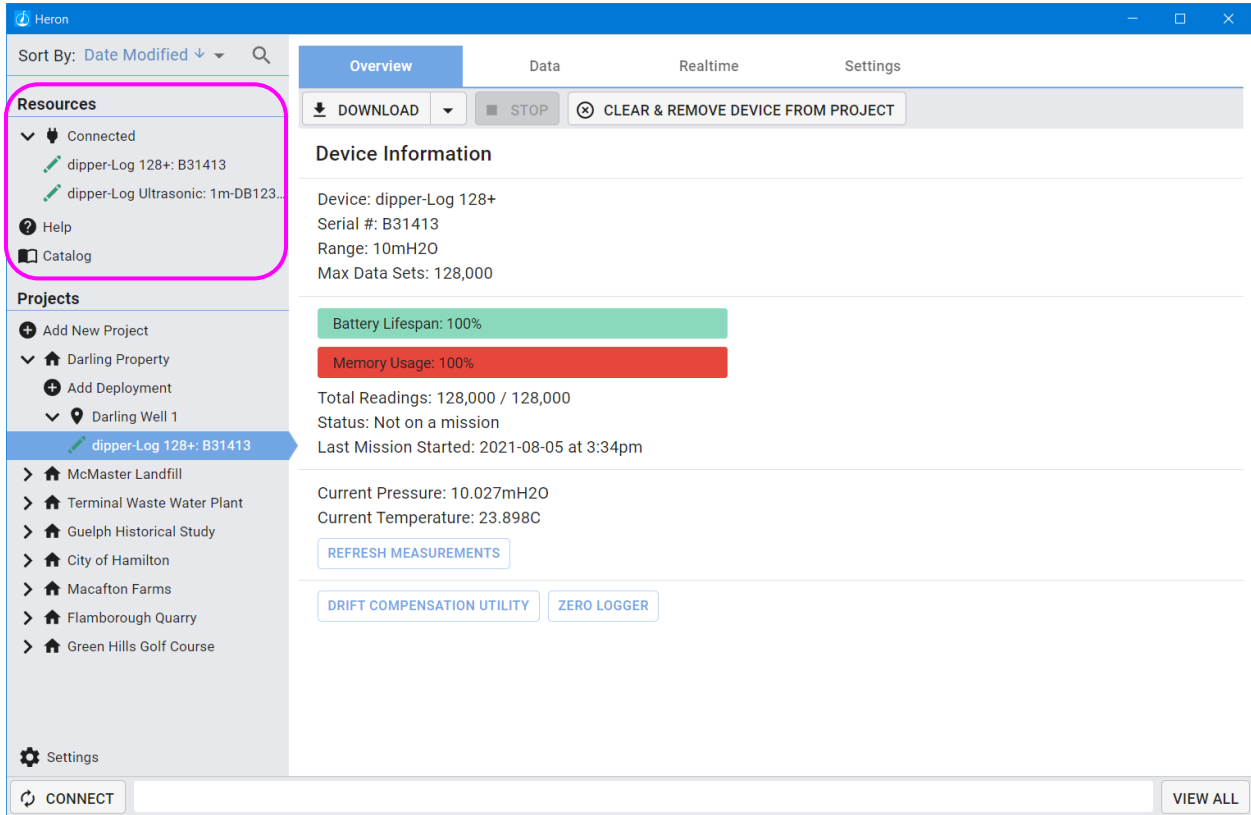
Managing your data

Data management is handled by a database. This database can be exported or imported as desired from the settings page. You navigate the database using the Data Management panel on the left hand side of the software. It is divided into two main sections: Resources, and Projects.



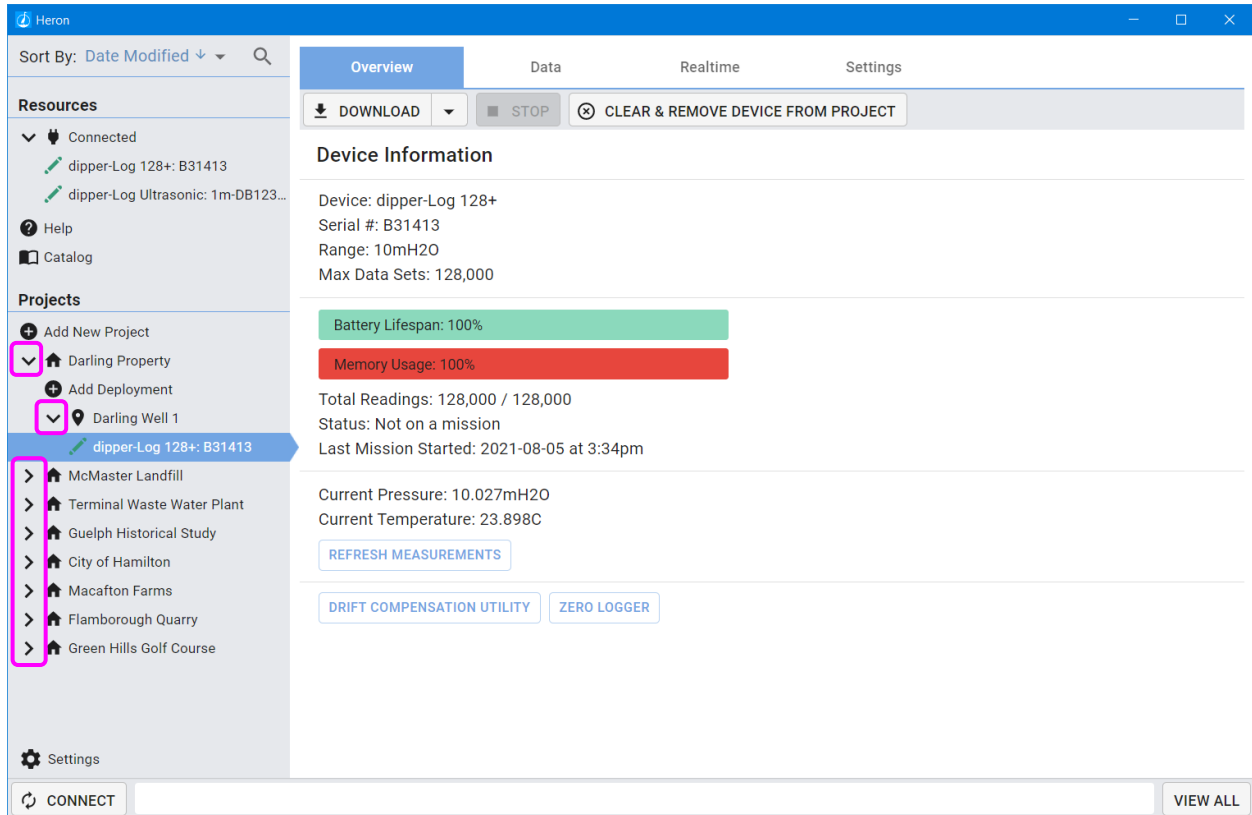
The screenshot displays the Heron software interface. On the left, the Data Management panel is visible, divided into two sections: Resources and Projects. The Resources section lists connected devices, including 'dipper-Log 128+: B31413' and 'dipper-Log Ultrasonic: 1m-DB123'. The Projects section lists various locations, including 'Darling Property', 'Darling Well 1', 'McMaster Landfill', 'Terminal Waste Water Plant', 'Guelph Historical Study', 'City of Hamilton', 'Macafton Farms', 'Flamborough Quarry', and 'Green Hills Golf Course'. The right side of the interface shows the Device Information panel for the selected device 'dipper-Log 128+'. This panel includes fields for Device, Serial #, Range, and Max Data Sets. It also features two progress bars: 'Battery Lifespan: 100%' (green) and 'Memory Usage: 100%' (red). Below these are fields for Total Readings, Status, and Last Mission Started. At the bottom, there are buttons for 'REFRESH MEASUREMENTS', 'DRIFT COMPENSATION UTILITY', and 'ZERO LOGGER'. The top of the interface has tabs for Overview, Data, Realtime, and Settings. A 'CONNECT' button is located at the bottom left, and a 'VIEW ALL' button is at the bottom right.

Resources, shows all of your connected devices under “Connected”. It also features a “Help” page with troubleshooting tips and a copy of this manual. The catalog page allows you to view the most recent catalog if you have an active internet connection.



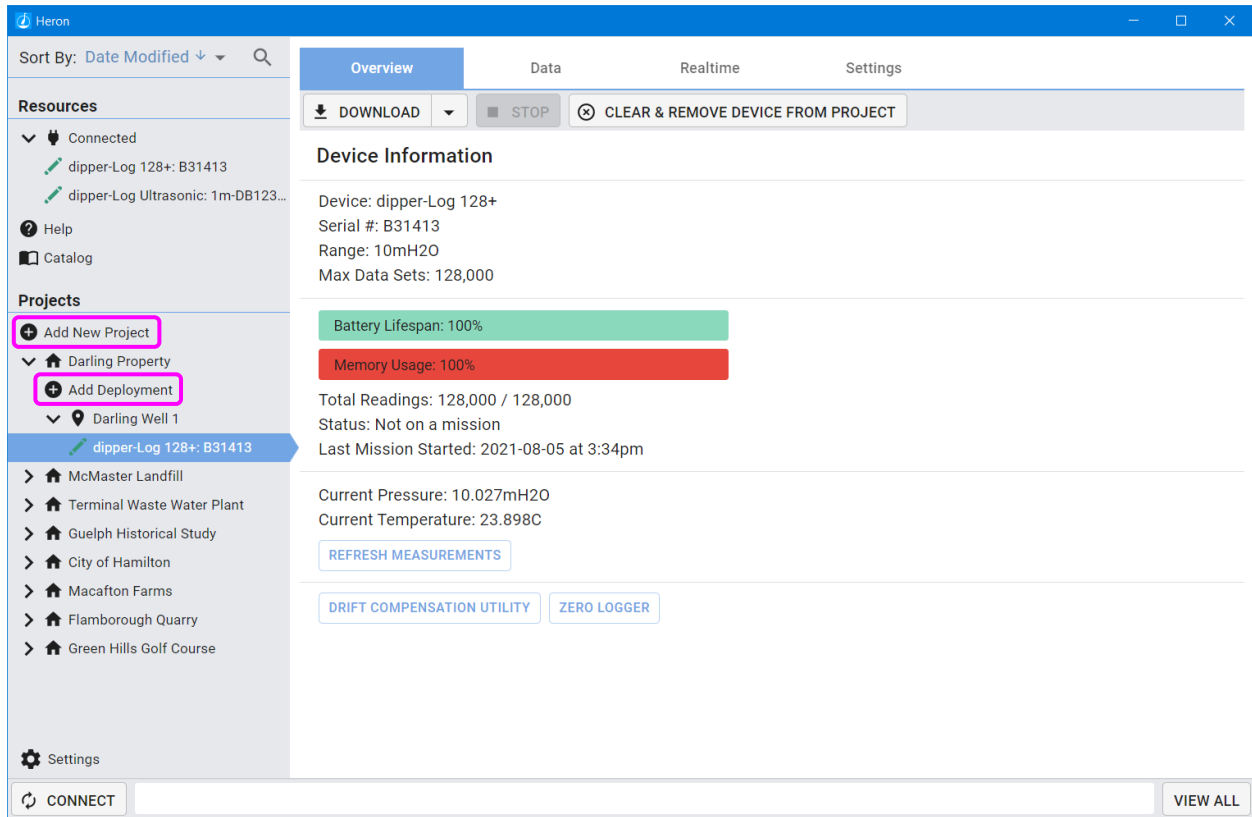
The screenshot displays the Heron software interface. On the left, a sidebar contains a 'Resources' section with a pink highlight around it, listing 'Connected' devices: 'dipper-Log 128+: B31413' and 'dipper-Log Ultrasonic: 1m-DB123...'. Below this are 'Help' and 'Catalog' options. The 'Projects' section lists various locations like 'McMaster Landfill' and 'Terminal Waste Water Plant'. At the bottom of the sidebar is a 'Settings' gear icon. The main area has tabs for 'Overview', 'Data', 'Realtime', and 'Settings'. The 'Overview' tab is active, showing 'Device Information' for 'dipper-Log 128+'. It includes fields for 'Serial #: B31413', 'Range: 10mH2O', and 'Max Data Sets: 128,000'. Below this are two progress bars: 'Battery Lifespan: 100%' (green) and 'Memory Usage: 100%' (red). Further down, it shows 'Total Readings: 128,000 / 128,000', 'Status: Not on a mission', and 'Last Mission Started: 2021-08-05 at 3:34pm'. At the bottom of the main area, it displays 'Current Pressure: 10.027mH2O' and 'Current Temperature: 23.898C'. There are buttons for 'REFRESH MEASUREMENTS', 'DRIFT COMPENSATION UTILITY', and 'ZERO LOGGER'. At the very bottom of the interface, there is a 'CONNECT' button on the left and a 'VIEW ALL' button on the right.

Projects is where all of your projects are organized. You can open and close projects and their associated deployments by selecting the drop down arrows.



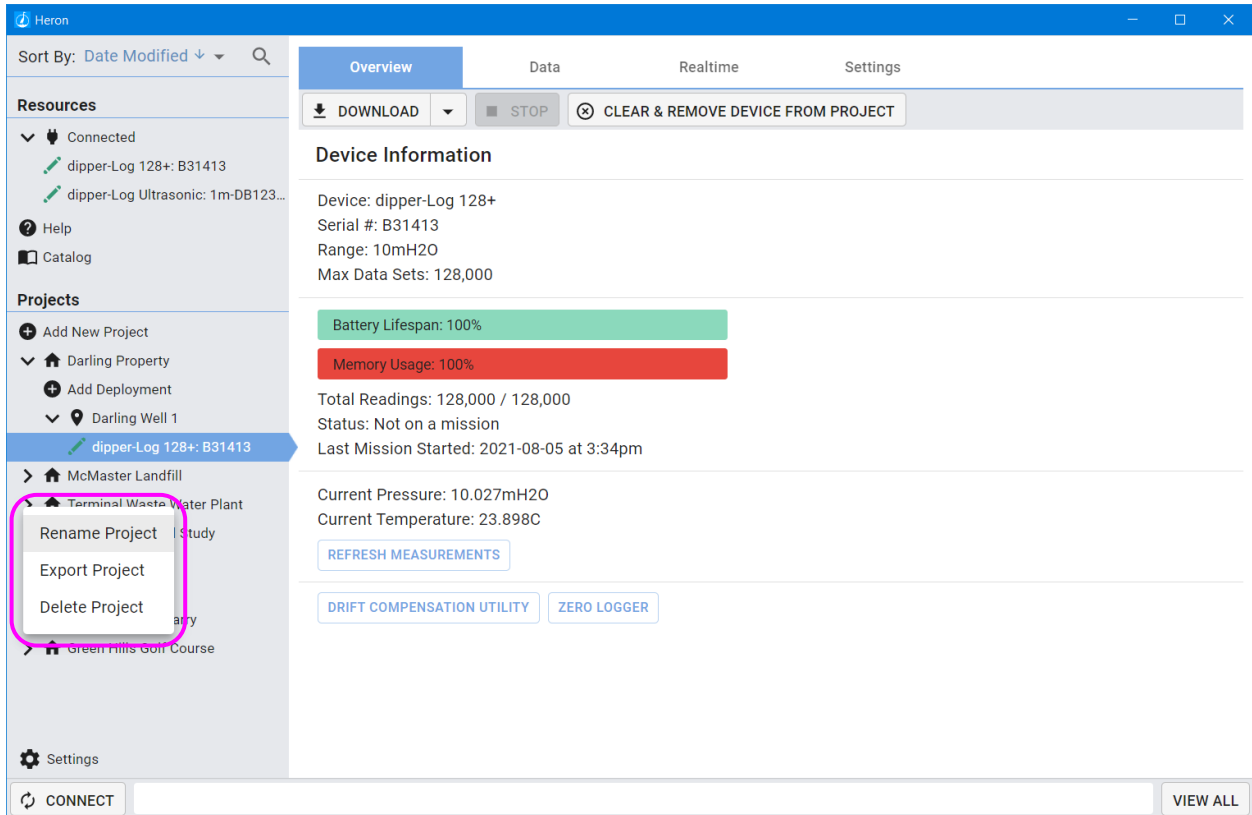
The screenshot shows the Heron software interface. On the left sidebar, under the 'Projects' section, several project entries are listed with expandable/collapsible arrows. The 'Darling Property' and 'Darling Well 1' entries have their arrows expanded, and 'Darling Well 1' is highlighted in blue. Below these are several other projects with collapsed arrows, including 'McMaster Landfill', 'Terminal Waste Water Plant', 'Guelph Historical Study', 'City of Hamilton', 'Macafon Farms', 'Flamborough Quarry', and 'Green Hills Golf Course'. The main panel displays 'Device Information' for a 'dipper-Log 128+' device. It includes fields for Serial #: B31413, Range: 10mH2O, and Max Data Sets: 128,000. There are two progress bars: 'Battery Lifespan: 100%' (green) and 'Memory Usage: 100%' (red). Other information includes Total Readings: 128,000 / 128,000, Status: Not on a mission, and Last Mission Started: 2021-08-05 at 3:34pm. At the bottom, it shows Current Pressure: 10.027mH2O and Current Temperature: 23.898C. Buttons for 'REFRESH MEASUREMENTS', 'DRIFT COMPENSATION UTILITY', and 'ZERO LOGGER' are visible. The top navigation bar has tabs for Overview, Data, Realtime, and Settings. At the bottom of the main panel, there are 'CONNECT' and 'VIEW ALL' buttons.

New projects and new deployments can also be created using the “Add New ...” buttons. This will allow you to add new sections, however devices won’t appear here unless they are later assigned to the same projects and deployments.



The screenshot displays the Heron software interface. On the left sidebar, under the 'Projects' section, the 'Add New Project' and 'Add Deployment' buttons are highlighted with pink boxes. The main panel shows the 'Overview' tab for a device named 'dipper-Log 128+'. The device information includes: Device: dipper-Log 128+, Serial #: B31413, Range: 10mH2O, and Max Data Sets: 128,000. Below this, there are two progress bars: 'Battery Lifespan: 100%' (green) and 'Memory Usage: 100%' (red). Further down, it shows 'Total Readings: 128,000 / 128,000', 'Status: Not on a mission', and 'Last Mission Started: 2021-08-05 at 3:34pm'. At the bottom of the main panel, there are buttons for 'REFRESH MEASUREMENTS', 'DRIFT COMPENSATION UTILITY', and 'ZERO LOGGER'. The bottom of the interface features a 'CONNECT' button on the left and a 'VIEW ALL' button on the right.

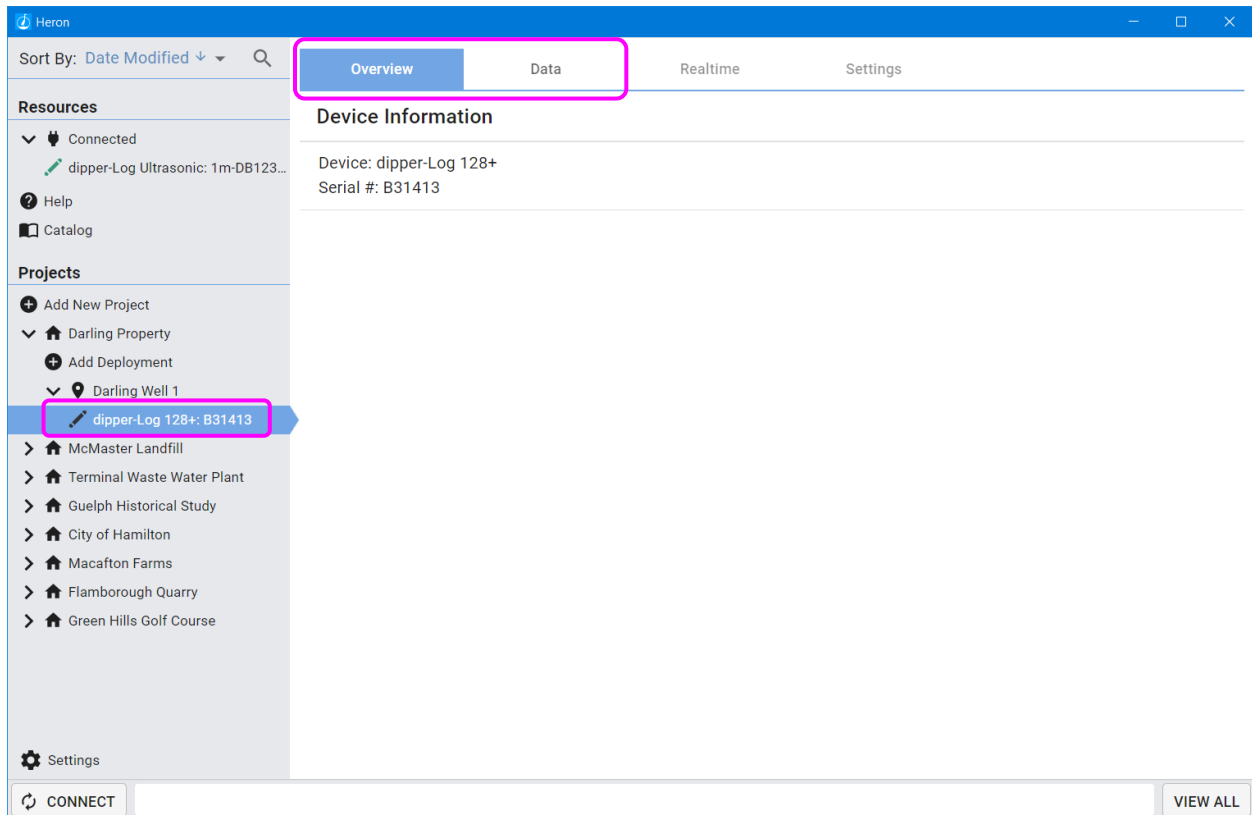
You can right click (or click and hold on touch screen devices) to Rename, Export, or Delete Projects and Deployments. To reimport you can do so from the Software Settings page.



The screenshot displays the Heron software interface. On the left sidebar, under the 'Projects' section, a context menu is open for the project 'dipper-Log 128+: B31413'. The menu items are 'Rename Project', 'Export Project', and 'Delete Project', which are highlighted with a pink rectangular box. The main panel shows the 'Overview' tab for the selected device. At the top of the main panel, there are buttons for 'DOWNLOAD', 'STOP', and 'CLEAR & REMOVE DEVICE FROM PROJECT'. Below this, the 'Device Information' section lists: Device: dipper-Log 128+, Serial #: B31413, Range: 10mH2O, and Max Data Sets: 128,000. There are two progress bars: 'Battery Lifespan: 100%' (green) and 'Memory Usage: 100%' (red). Other information includes: Total Readings: 128,000 / 128,000, Status: Not on a mission, Last Mission Started: 2021-08-05 at 3:34pm, Current Pressure: 10.027mH2O, and Current Temperature: 23.898C. At the bottom of the main panel, there are buttons for 'REFRESH MEASUREMENTS', 'DRIFT COMPENSATION UTILITY', and 'ZERO LOGGER'. The bottom of the interface features a 'CONNECT' button on the left and a 'VIEW ALL' button on the right.

Connected devices will appear within their respective Projects and Deployments with a green icon next to their names. This indicates that the device is connected, either directly or remotely and can be interfaced with for realtime readings, mission updates, data downloads, etc. Devices that are not connected, will still show up, however their icons will be black. This indicates that they are not able to be interfaced with. You can however view and manipulate data already downloaded from those devices.

Disconnected Logger. See examples below. Notice the black icon to the left of the logger's name. This is in contrast to a green icon that would be present if the device was connected.



Heron
_ □ ×

Sort By: Date Modified ▾ 🔍

Overview
Data
Realtime
Settings

Resources

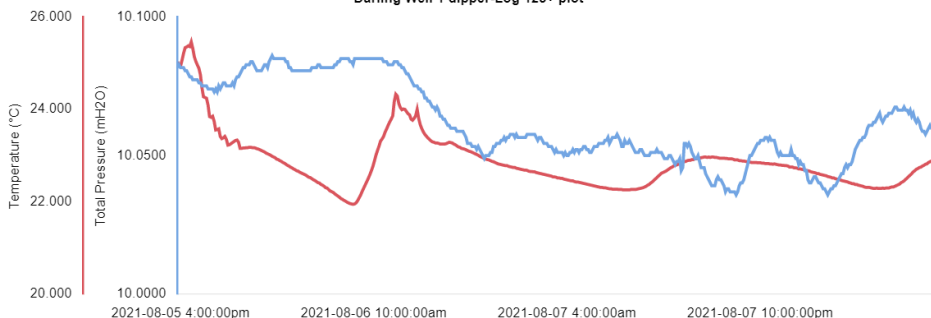
- Connected
- ✓ dipper-Log Ultrasonic: 1m-DB123...
- Help
- Catalog

Projects

- Add New Project
- ✓ Darling Property
 - ➕ Add Deployment
 - ✓ Darling Well 1
 - ✎ dipper-Log 128+: B31413
- McMaster Landfill
- Terminal Waste Water Plant
- Guelph Historical Study
- City of Hamilton
- Macafon Farms
- Flamborough Quarry
- Green Hills Golf Course

Settings

Darling Well 1 dipper-Log 128+ plot

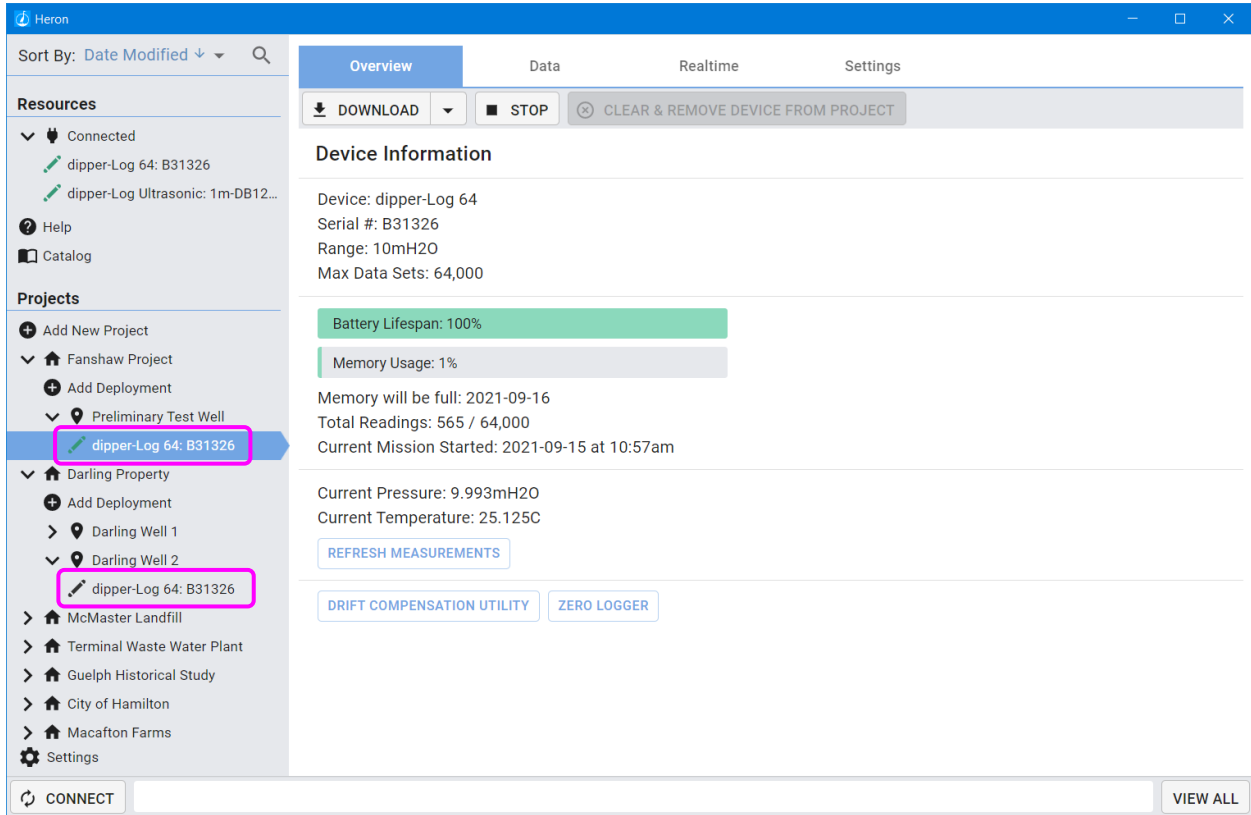


SELECT DATE RANGE
Select barLog ▾
MORE TOOLS
EXPORT
Data ▾ as CSV ▾

#	Date & Time	Total Pressure	mH2O	Temperature	°C
1	2021-08-05 3:34:01pm	10.083		24.969	
2	2021-08-05 3:34:03pm	10.083		24.977	
3	2021-08-05 3:34:05pm	10.083		24.977	
4	2021-08-05 3:34:07pm	10.083		24.984	
5	2021-08-05 3:34:09pm	10.083		24.984	
6	2021-08-05 3:34:11pm	10.082		24.984	
7	2021-08-05 3:34:13pm	10.083		24.992	
8	2021-08-05 3:34:15pm	10.083		24.992	
9	2021-08-05 3:34:17pm	10.083		25.000	
10	2021-08-05 3:34:19pm	10.083		25.000	
11	2021-08-05 3:34:21pm	10.083		25.000	
12	2021-08-05 3:34:23pm	10.083		25.000	

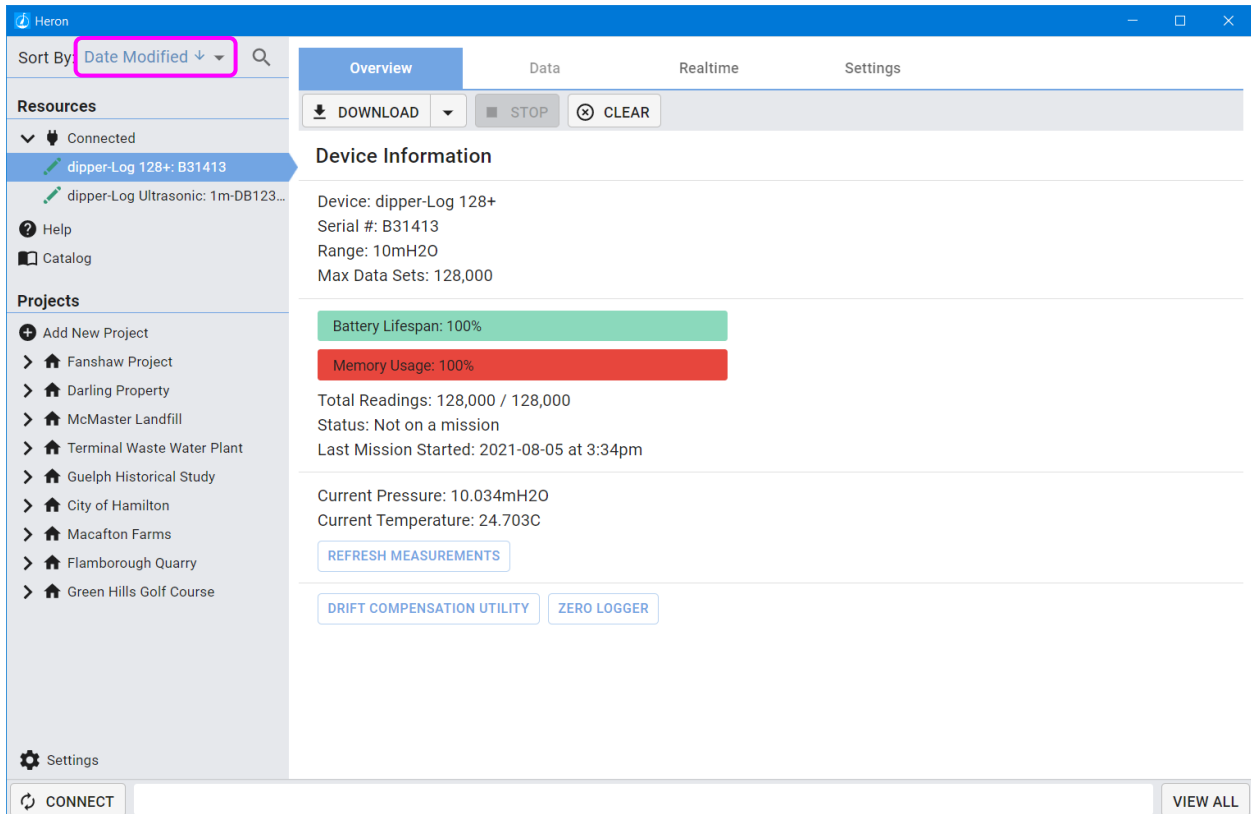
CONNECT
VIEW ALL

If a logger has been used in multiple projects, it may appear twice within your database. When you assign a logger to a new project, its data and its name from the old project will remain where it was. All new connections and data will be downloaded and available in the new project.

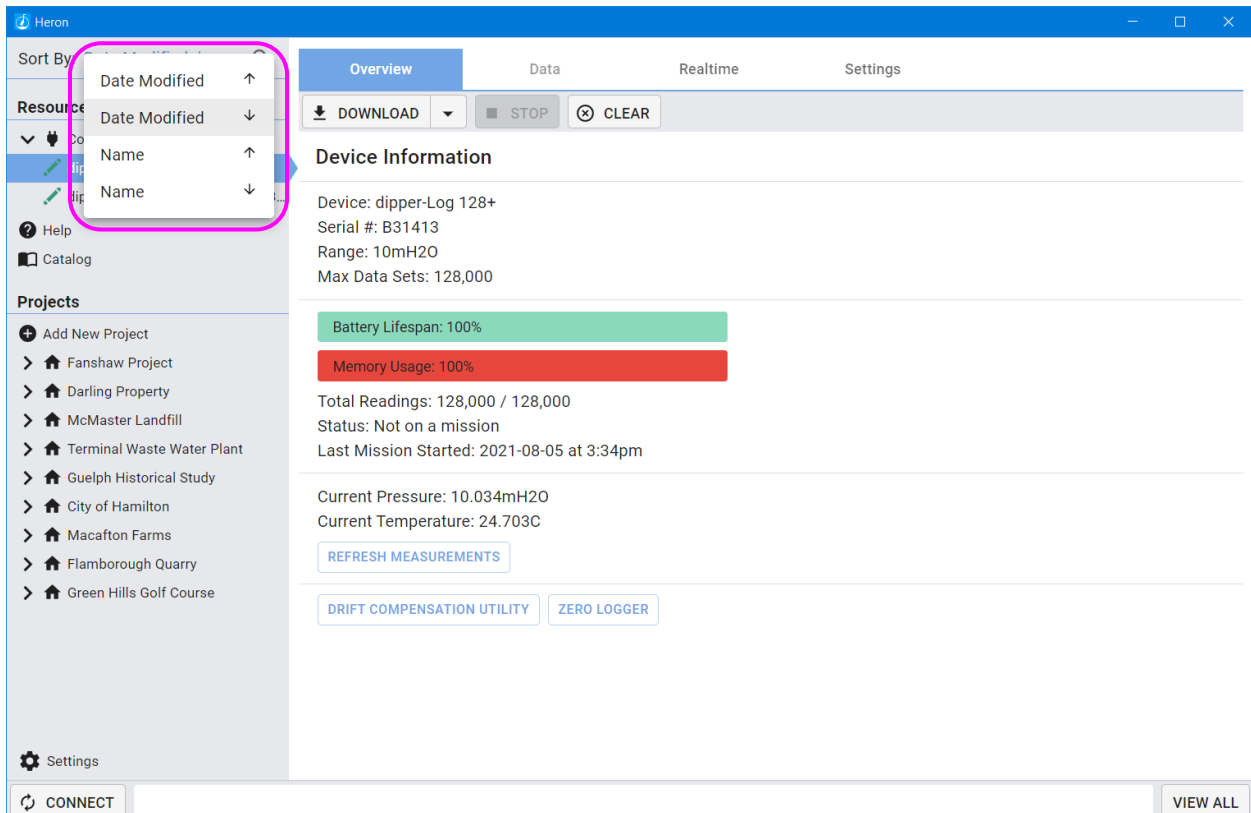


The screenshot displays the Heron software interface. On the left, a sidebar lists 'Resources' and 'Projects'. Under 'Resources', 'dipper-Log 64: B31326' and 'dipper-Log Ultrasonic: 1m-DB12...' are listed. Under 'Projects', 'Preliminary Test Well' is expanded, showing 'dipper-Log 64: B31326' highlighted with a pink box. Below it, 'Darling Property' is expanded, showing 'Darling Well 1' and 'Darling Well 2', with 'dipper-Log 64: B31326' under 'Darling Well 2' also highlighted with a pink box. The main panel shows 'Device Information' for 'dipper-Log 64' with details: Serial #: B31326, Range: 10mH2O, Max Data Sets: 64,000. It also shows 'Battery Lifespan: 100%' (green bar) and 'Memory Usage: 1%' (grey bar). Other information includes 'Memory will be full: 2021-09-16', 'Total Readings: 565 / 64,000', and 'Current Mission Started: 2021-09-15 at 10:57am'. At the bottom, 'Current Pressure: 9.993mH2O' and 'Current Temperature: 25.125C' are shown, along with buttons for 'REFRESH MEASUREMENTS', 'DRIFT COMPENSATION UTILITY', and 'ZERO LOGGER'. The interface includes a 'CONNECT' button at the bottom left and a 'VIEW ALL' button at the bottom right.

You can sort all of projects by selecting the Sort By feature in the top of the navigation pane.

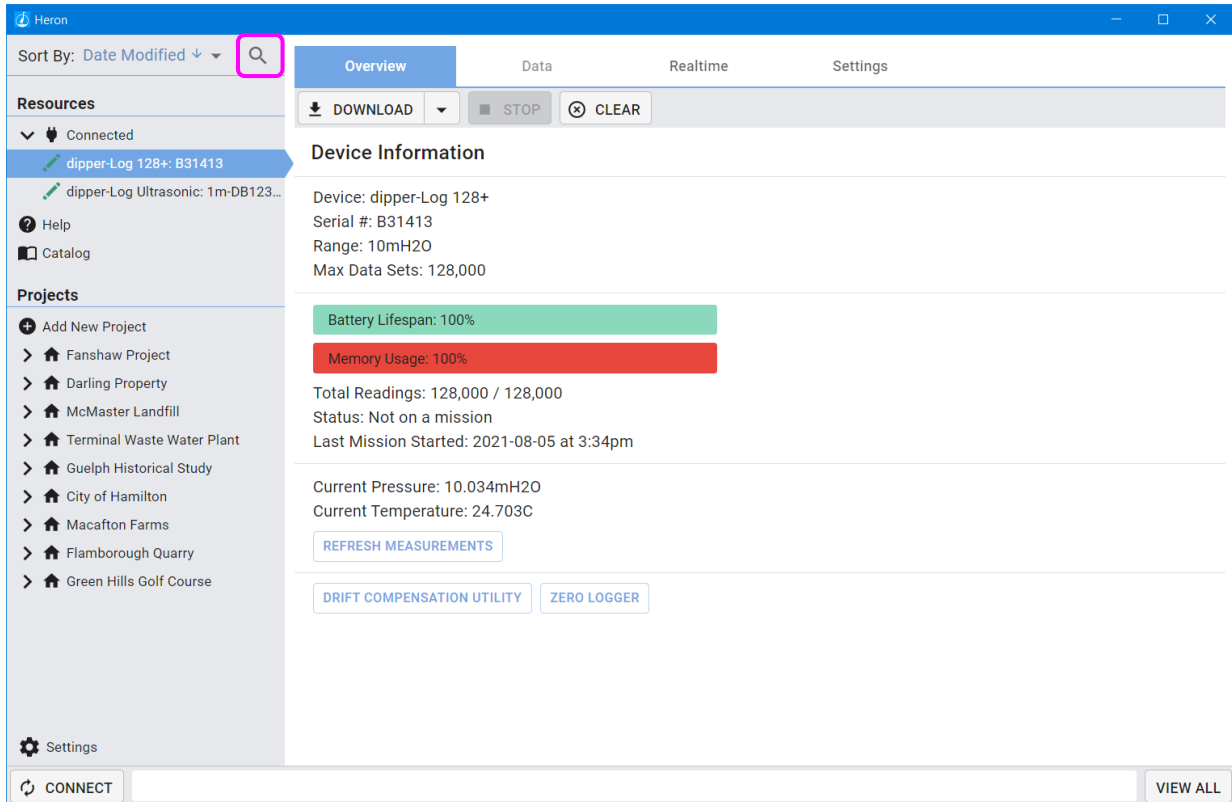


The screenshot shows the Heron software interface. At the top left, the 'Sort By' dropdown menu is highlighted with a pink box and set to 'Date Modified'. The interface is divided into a left navigation pane and a main content area. The navigation pane includes sections for 'Resources' (with 'Connected' devices like 'dipper-Log 128+: B31413' and 'dipper-Log Ultrasonic: 1m-DB123...') and 'Projects' (listing various locations like 'Fanshaw Project', 'Darling Property', etc.). The main content area shows 'Device Information' for the selected device, including details like 'Serial #: B31413', 'Range: 10mH2O', and 'Max Data Sets: 128,000'. It also features progress bars for 'Battery Lifespan: 100%' (green) and 'Memory Usage: 100%' (red), along with current readings for pressure and temperature, and buttons for 'REFRESH MEASUREMENTS', 'DRIFT COMPENSATION UTILITY', and 'ZERO LOGGER'. At the bottom, there are 'CONNECT' and 'VIEW ALL' buttons.

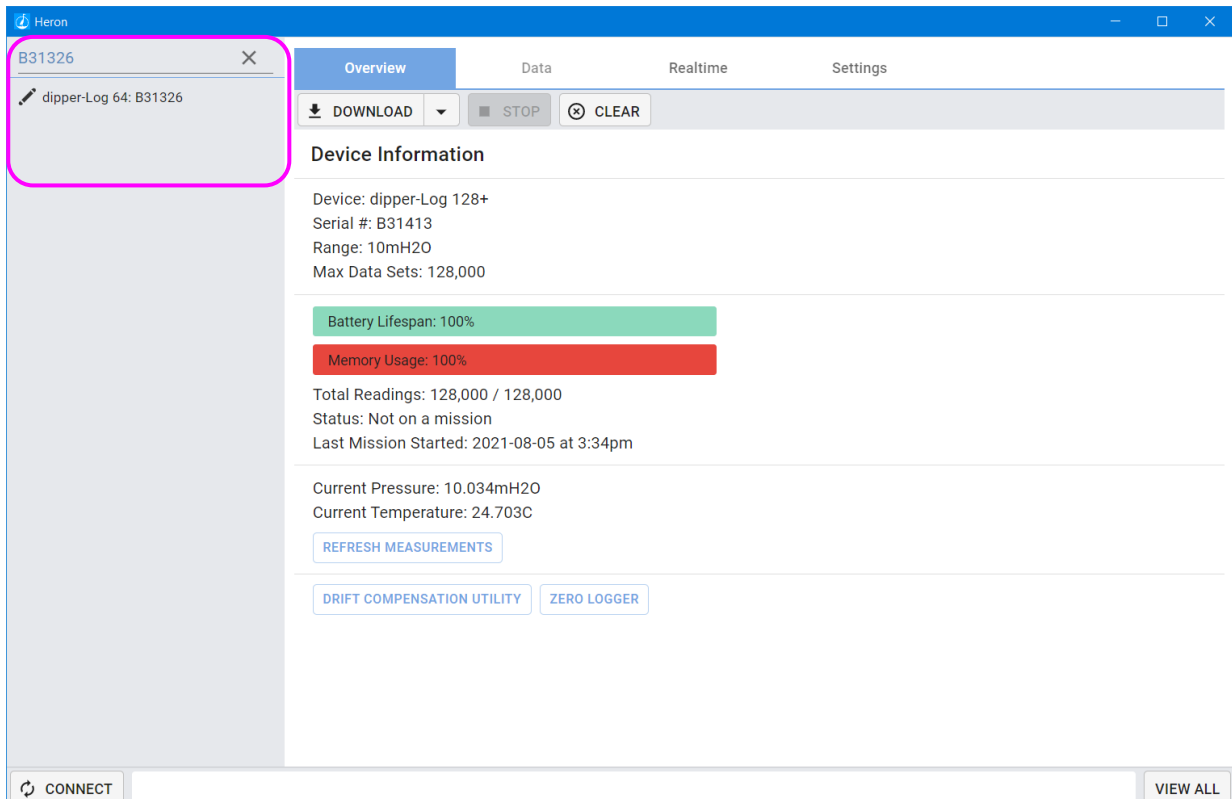


This screenshot shows the same Heron software interface, but the 'Sort By' dropdown menu is open, highlighted with a pink box. The menu lists 'Date Modified' (with up and down arrows) and 'Name' (with up and down arrows). The rest of the interface, including the navigation pane and the 'Device Information' section, remains the same as in the previous screenshot.

You can search for any device or project by using the search function (located beside the Sort By function).

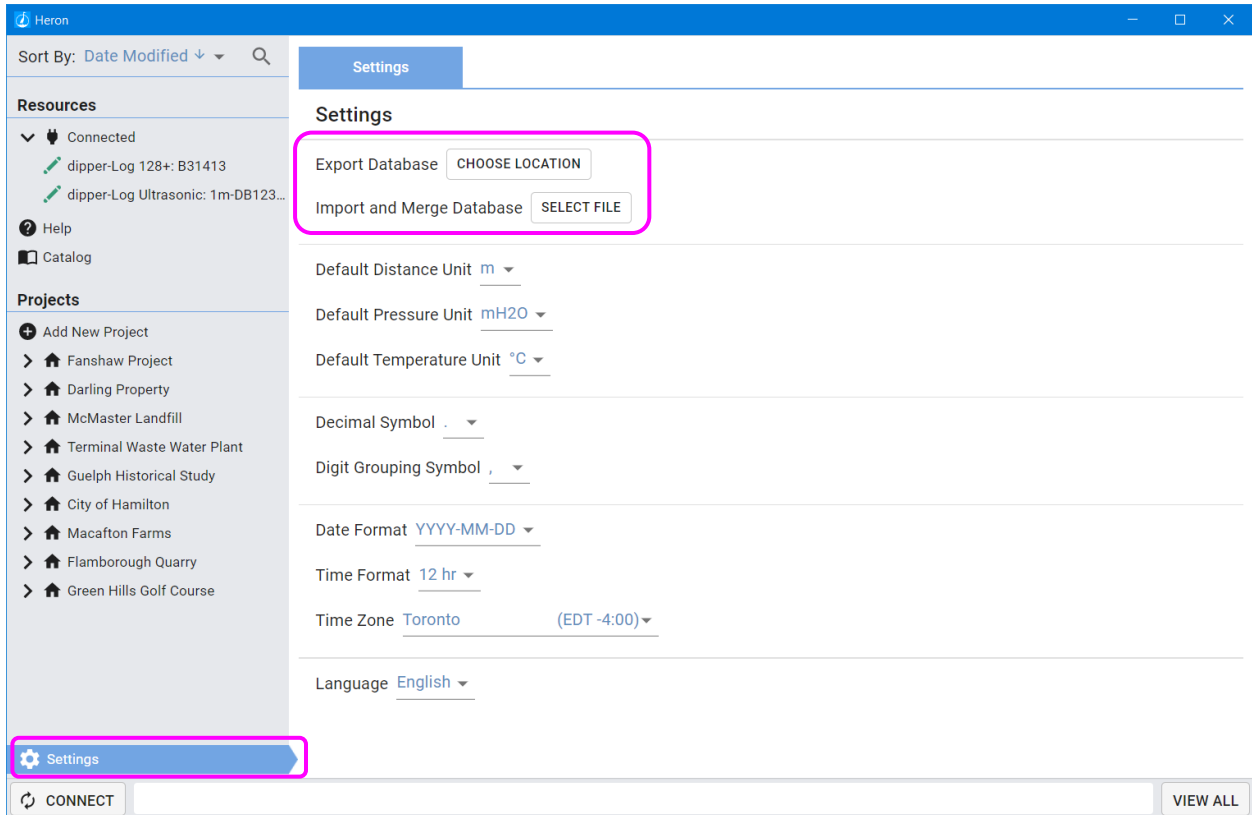


The screenshot shows the Heron software interface. At the top left, there is a 'Sort By: Date Modified' dropdown menu. To its right is a search icon (magnifying glass) enclosed in a pink square. Below the search icon is a list of resources under the 'Resources' section, including 'dipper-Log 128+: B31413' and 'dipper-Log Ultrasonic: 1m-DB123...'. The 'Overview' tab is selected, displaying device information for 'dipper-Log 128+'. The device details include: Device: dipper-Log 128+, Serial #: B31413, Range: 10mH2O, Max Data Sets: 128,000. There are two progress bars: 'Battery Lifespan: 100%' (green) and 'Memory Usage: 100%' (red). Other information includes: Total Readings: 128,000 / 128,000, Status: Not on a mission, Last Mission Started: 2021-08-05 at 3:34pm. Current Pressure: 10.034mH2O, Current Temperature: 24.703C. There are buttons for 'REFRESH MEASUREMENTS', 'DRIFT COMPENSATION UTILITY', and 'ZERO LOGGER'. At the bottom, there is a 'CONNECT' button and a 'VIEW ALL' button.



The screenshot shows the Heron software interface with the search function highlighted in a pink box. The search bar contains the text 'B31326'. Below the search bar, a list of resources is shown, including 'dipper-Log 64: B31326'. The 'Overview' tab is selected, displaying device information for 'dipper-Log 128+'. The device details include: Device: dipper-Log 128+, Serial #: B31413, Range: 10mH2O, Max Data Sets: 128,000. There are two progress bars: 'Battery Lifespan: 100%' (green) and 'Memory Usage: 100%' (red). Other information includes: Total Readings: 128,000 / 128,000, Status: Not on a mission, Last Mission Started: 2021-08-05 at 3:34pm. Current Pressure: 10.034mH2O, Current Temperature: 24.703C. There are buttons for 'REFRESH MEASUREMENTS', 'DRIFT COMPENSATION UTILITY', and 'ZERO LOGGER'. At the bottom, there is a 'CONNECT' button and a 'VIEW ALL' button.

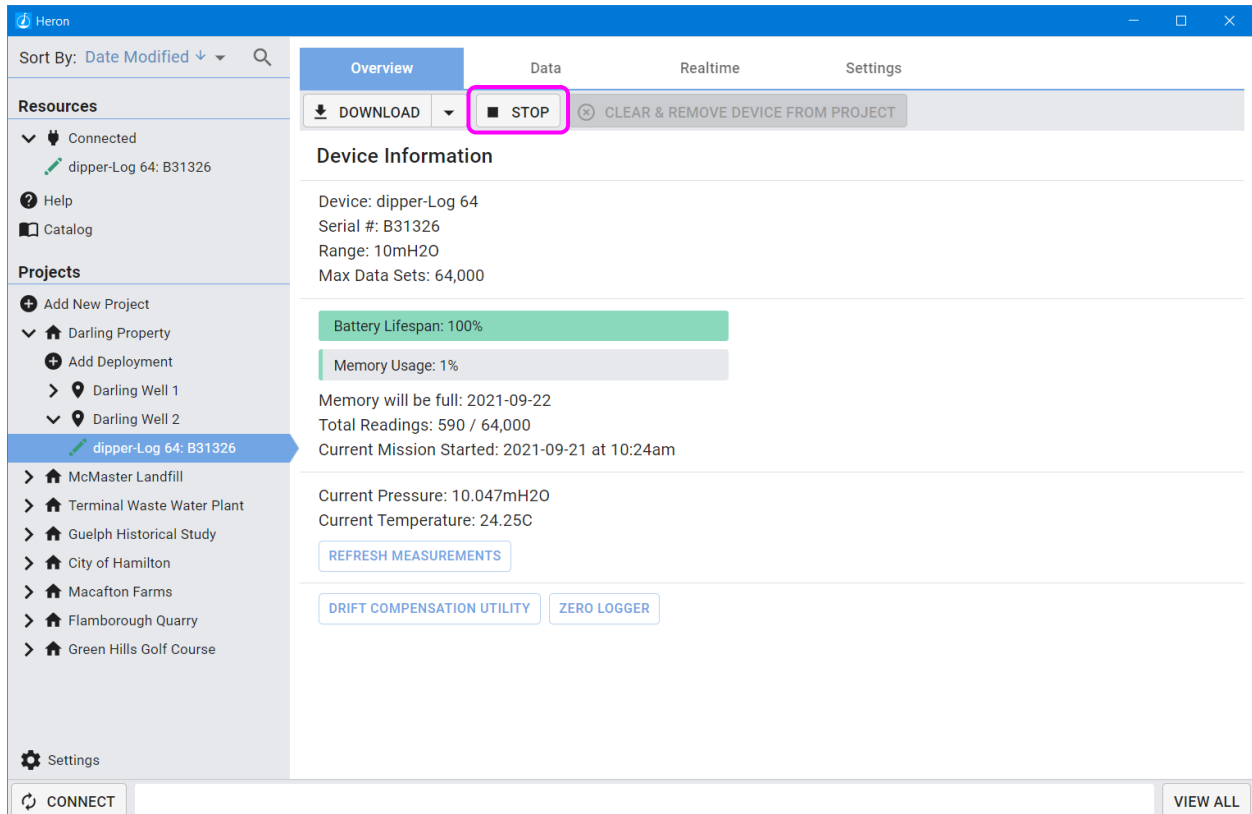
Software Settings are available at the very bottom of your navigation pane. Here you can import your exported Projects and Deployments, or export your whole Database.



The screenshot displays the Heron software interface. On the left, a navigation pane lists 'Resources' (dipper-Log 128+ and Ultrasonic) and 'Projects' (various locations). At the bottom of this pane, a 'Settings' button with a gear icon is highlighted with a pink box. The main window shows the 'Settings' page. Two options are highlighted with pink boxes: 'Export Database' with a 'CHOOSE LOCATION' button, and 'Import and Merge Database' with a 'SELECT FILE' button. Other settings include Default Distance Unit (m), Default Pressure Unit (mH2O), Default Temperature Unit (°C), Decimal Symbol, Digit Grouping Symbol, Date Format (YYYY-MM-DD), Time Format (12 hr), Time Zone (Toronto (EDT -4:00)), and Language (English). At the bottom of the window, there are 'CONNECT' and 'VIEW ALL' buttons.

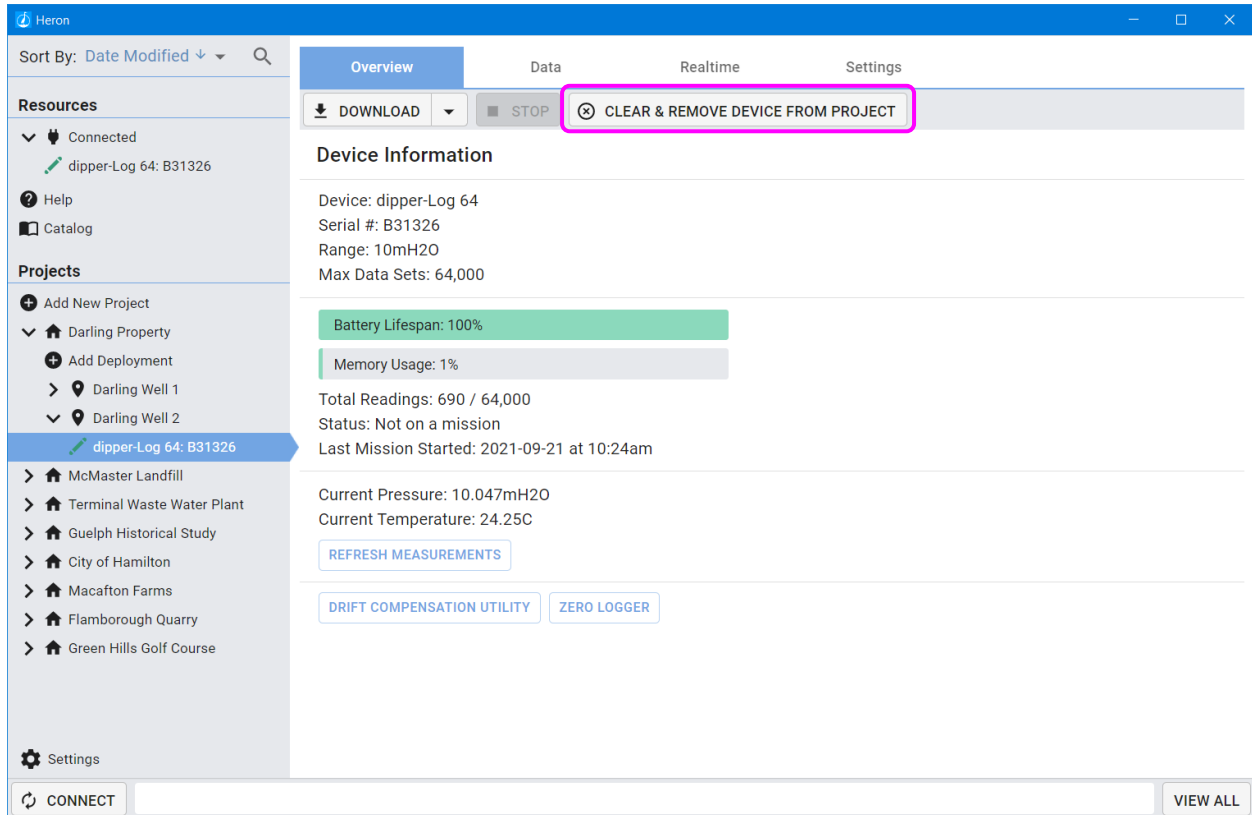
Stopping and Clearing a Logger

Stopping and clearing your logger helps the battery last longer between missions. You can do so by clicking the Stop button.



The screenshot displays the Heron software interface. On the left, a sidebar lists resources and projects, with 'dipper-Log 64: B31326' selected. The main panel shows the 'Overview' tab for this device. At the top of the main panel, there are three buttons: 'DOWNLOAD', 'STOP', and 'CLEAR & REMOVE DEVICE FROM PROJECT'. The 'STOP' button is highlighted with a pink rectangular box. Below these buttons, the 'Device Information' section lists: Device: dipper-Log 64, Serial #: B31326, Range: 10mH2O, and Max Data Sets: 64,000. Two progress bars are shown: 'Battery Lifespan: 100%' (green) and 'Memory Usage: 1%' (grey). Below the progress bars, it states 'Memory will be full: 2021-09-22' and 'Total Readings: 590 / 64,000'. The 'Current Mission Started: 2021-09-21 at 10:24am' is also displayed. At the bottom of the main panel, there are three buttons: 'REFRESH MEASUREMENTS', 'DRIFT COMPENSATION UTILITY', and 'ZERO LOGGER'. At the very bottom of the interface, there is a 'CONNECT' button on the left and a 'VIEW ALL' button on the right.

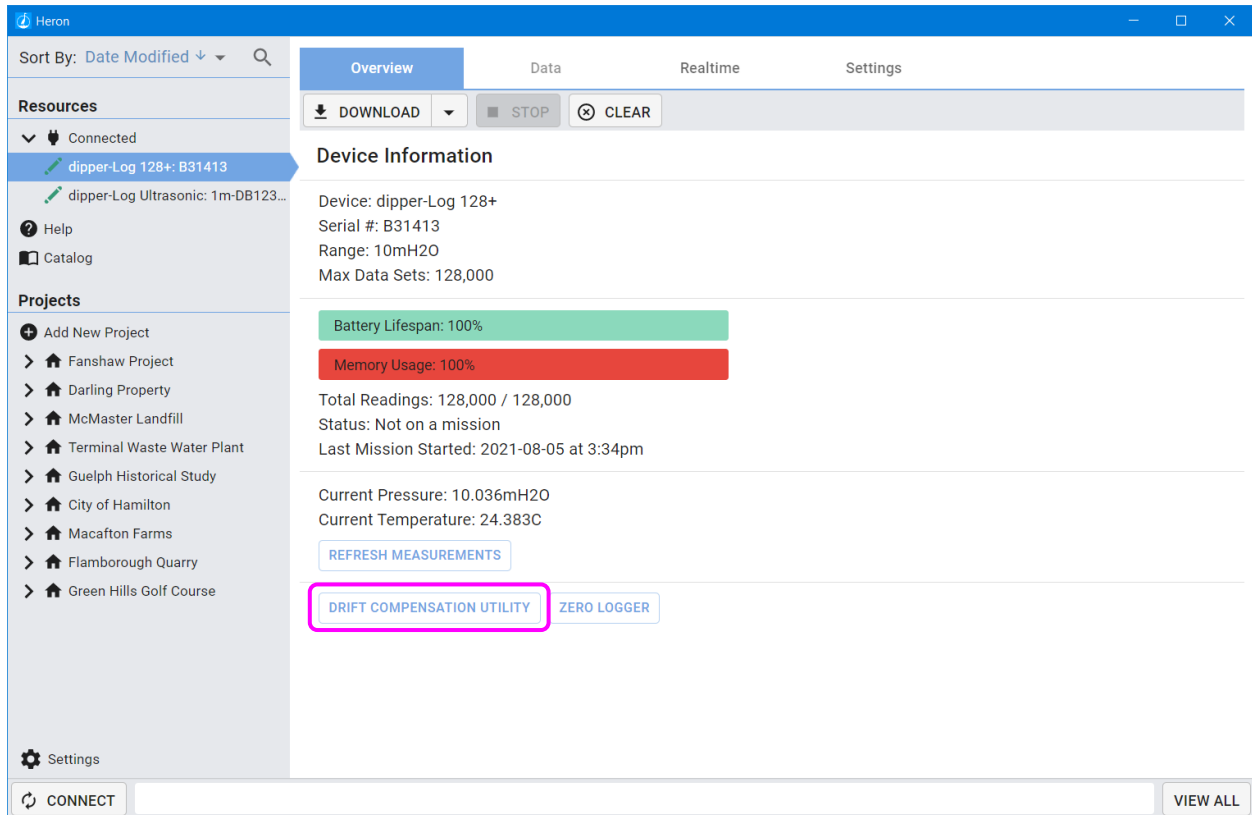
You can now click to Clear and Remove the Device from its project associations. This will set the logger to factory defaults. It is now safe to store for extended periods of time.



The screenshot shows the Heron software interface. On the left is a sidebar with 'Resources' and 'Projects' sections. The 'Resources' section shows a connected device 'dipper-Log 64: B31326'. The 'Projects' section lists several locations, with 'dipper-Log 64: B31326' selected. The main panel has tabs for 'Overview', 'Data', 'Realtime', and 'Settings'. Under the 'Overview' tab, there are buttons for 'DOWNLOAD', 'STOP', and 'CLEAR & REMOVE DEVICE FROM PROJECT', which is highlighted with a pink box. Below these buttons is the 'Device Information' section, which includes details like 'Device: dipper-Log 64', 'Serial #: B31326', 'Range: 10mH2O', and 'Max Data Sets: 64,000'. There are also progress bars for 'Battery Lifespan: 100%' and 'Memory Usage: 1%'. Other information includes 'Total Readings: 690 / 64,000', 'Status: Not on a mission', and 'Last Mission Started: 2021-09-21 at 10:24am'. At the bottom of the main panel, there are buttons for 'REFRESH MEASUREMENTS', 'DRIFT COMPENSATION UTILITY', and 'ZERO LOGGER'. The bottom of the interface has a 'CONNECT' button on the left and a 'VIEW ALL' button on the right.

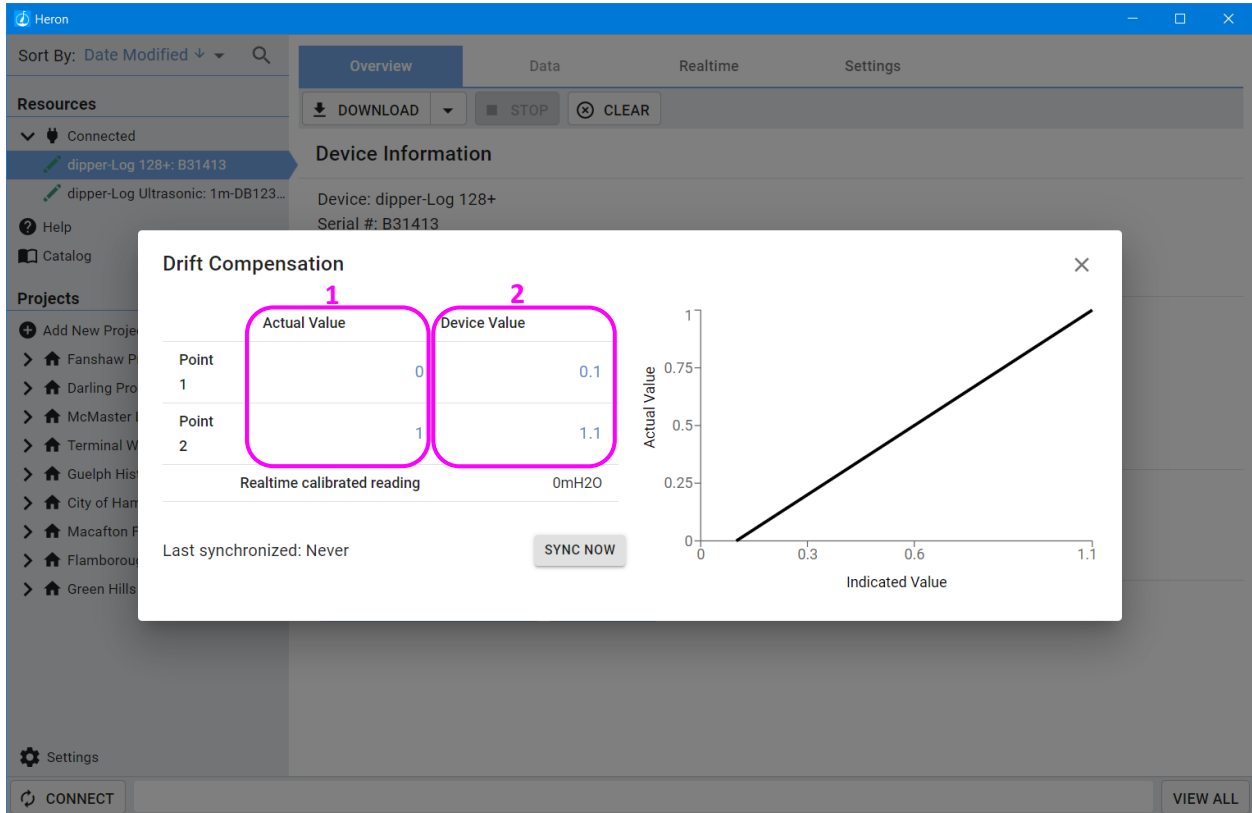
Advanced Features

Drift Compensation is a tool to provide basic correction tools for pressure transducers that may have experienced drift over time. It is also used for achieving higher accuracy in extremely low water level conditions. This utility is only available when a logger is connected. It is available on the Device Overview page.



The screenshot displays the Heron software interface. On the left, there is a sidebar with 'Resources' (Connected devices: dipper-Log 128+ B31413, dipper-Log Ultrasonic: 1m-DB123...) and 'Projects' (Add New Project, Fanshaw Project, Darling Property, McMaster Landfill, Terminal Waste Water Plant, Guelph Historical Study, City of Hamilton, Macafton Farms, Flamborough Quarry, Green Hills Golf Course). The main area shows the 'Overview' tab for the selected device. At the top, there are 'DOWNLOAD', 'STOP', and 'CLEAR' buttons. Below, the 'Device Information' section lists: Device: dipper-Log 128+, Serial #: B31413, Range: 10mH2O, Max Data Sets: 128,000. Two progress bars are shown: 'Battery Lifespan: 100%' (green) and 'Memory Usage: 100%' (red). Further down, it shows 'Total Readings: 128,000 / 128,000', 'Status: Not on a mission', and 'Last Mission Started: 2021-08-05 at 3:34pm'. The current pressure is 10.036mH2O and current temperature is 24.383C. At the bottom of the main area, there are buttons for 'REFRESH MEASUREMENTS', 'DRIFT COMPENSATION UTILITY' (highlighted with a pink box), and 'ZERO LOGGER'. A 'CONNECT' button is at the bottom left and a 'VIEW ALL' button is at the bottom right.

The first step is to decide on 2 data points that you can accurately expose your logger to while taking a realtime reading. Both values must be within the logger’s original range. You then enter in the actual values that you are expecting the logger to read. Next, enter the values the logger is giving you for those points. The graph will reflect the transformations needed to be applied. Finally, select Sync Now to lock in your changes.

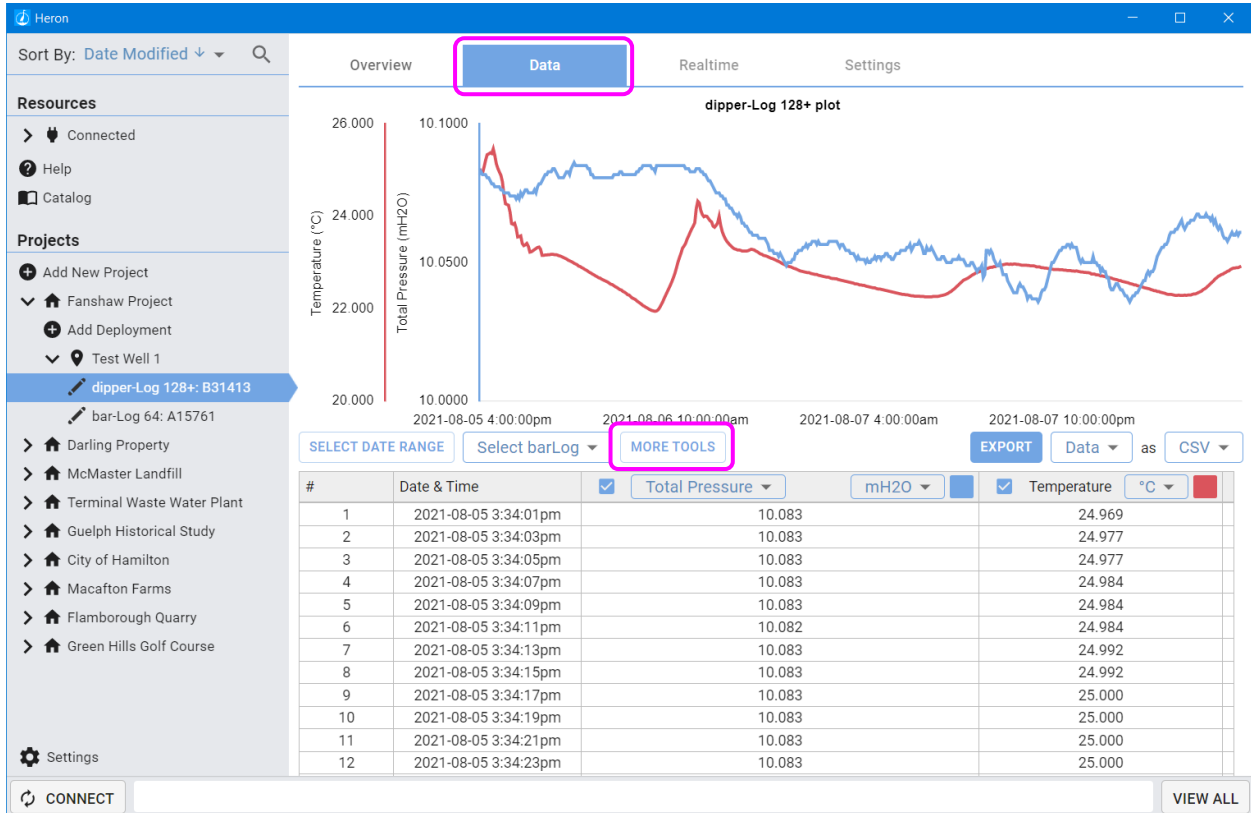


The screenshot shows the Heron software interface with a 'Drift Compensation' dialog box open. The dialog box contains a table with two columns: 'Actual Value' and 'Device Value'. Two data points are entered:

Point	Actual Value	Device Value
1	0	0.1
2	1	1.1

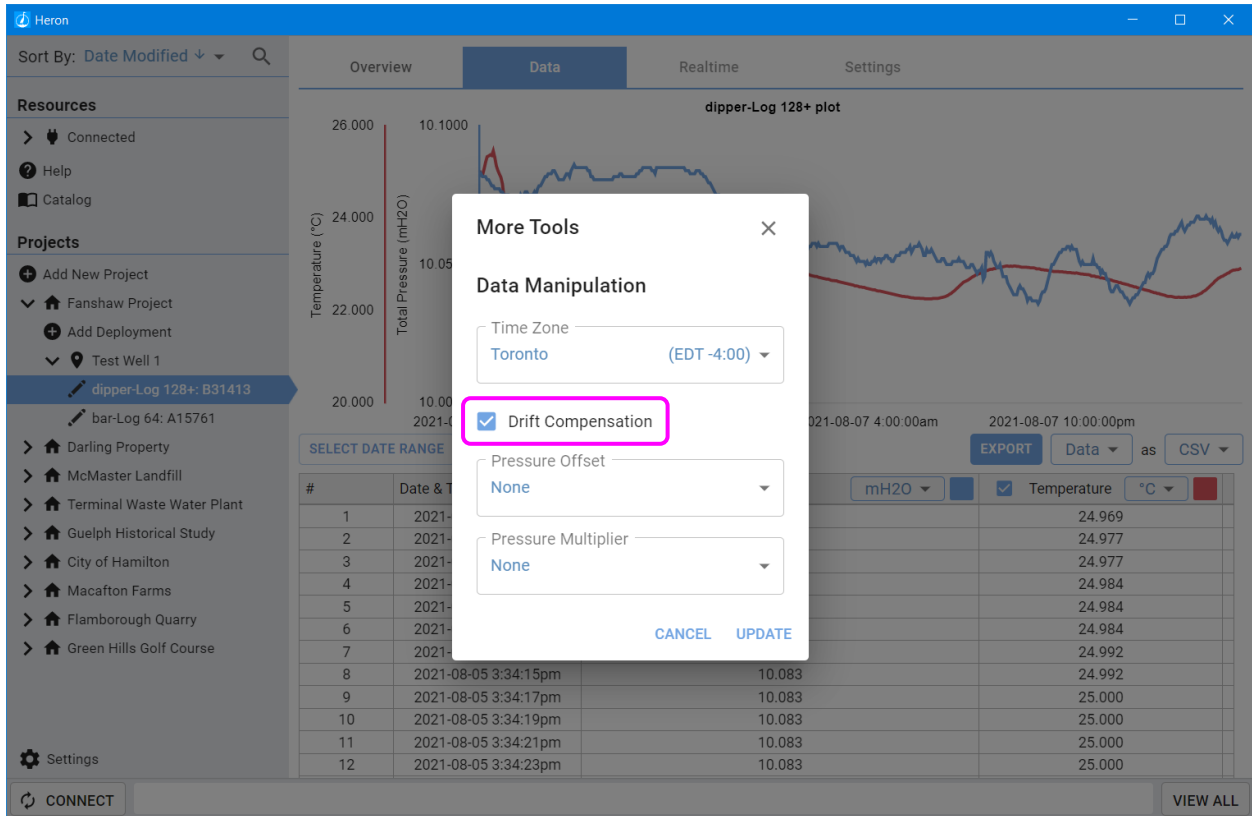
Below the table, the text 'Realtime calibrated reading' is aligned under the 'Actual Value' column, and '0mH2O' is aligned under the 'Device Value' column. A 'SYNC NOW' button is located at the bottom right of the dialog box. To the right of the table is a graph with 'Actual Value' on the y-axis and 'Indicated Value' on the x-axis. The graph shows a linear relationship between the two values, with a line passing through the origin and the point (1.1, 1.1). The x-axis has tick marks at 0, 0.3, 0.6, and 1.1. The y-axis has tick marks at 0, 0.25, 0.5, 0.75, and 1.1.

To activate the drift compensation on your data, you must navigate to the Data tab. Select “MORE TOOLS” and then select “Drift Compensation”. This will apply your compensation formula to your entire data set. You can always deselect the compensation or reconfigure it at any time the logger is connected.



The screenshot shows the Heron software interface. The 'Data' tab is selected and highlighted with a pink box. Below the tab, there is a line graph titled 'dipper-Log 128+ plot' showing Temperature (°C) and Total Pressure (mH2O) over time. The 'MORE TOOLS' button is also highlighted with a pink box. Below the graph is a data table with columns for #, Date & Time, Total Pressure (mH2O), and Temperature (°C).

#	Date & Time	Total Pressure (mH2O)	Temperature (°C)
1	2021-08-05 3:34:01pm	10.083	24.969
2	2021-08-05 3:34:03pm	10.083	24.977
3	2021-08-05 3:34:05pm	10.083	24.977
4	2021-08-05 3:34:07pm	10.083	24.984
5	2021-08-05 3:34:09pm	10.083	24.984
6	2021-08-05 3:34:11pm	10.082	24.984
7	2021-08-05 3:34:13pm	10.083	24.992
8	2021-08-05 3:34:15pm	10.083	24.992
9	2021-08-05 3:34:17pm	10.083	25.000
10	2021-08-05 3:34:19pm	10.083	25.000
11	2021-08-05 3:34:21pm	10.083	25.000
12	2021-08-05 3:34:23pm	10.083	25.000



The screenshot shows the Heron software interface with a 'More Tools' dialog box open. The dialog box has a 'Data Manipulation' section with the following options:

- Time Zone: Toronto (EDT -4:00)
- Drift Compensation
- Pressure Offset: None
- Pressure Multiplier: None

Buttons for 'CANCEL' and 'UPDATE' are at the bottom of the dialog. The background shows a plot of Temperature (°C) and Total Pressure (mH2O) over time, and a data table below it.

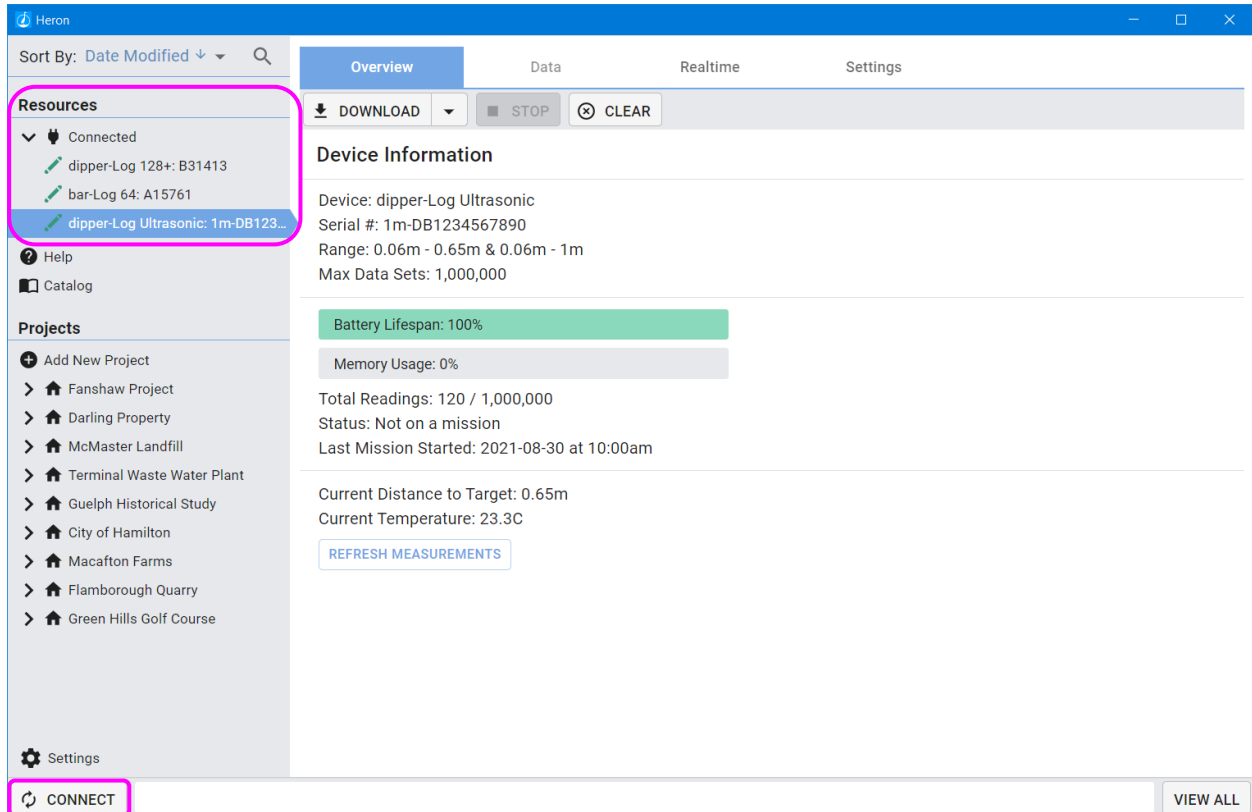
#	Date & Time	Total Pressure (mH2O)	Temperature (°C)
1	2021-08-05 3:34:15pm	10.083	24.969
2	2021-08-05 3:34:17pm	10.083	24.977
3	2021-08-05 3:34:19pm	10.083	24.977
4	2021-08-05 3:34:21pm	10.083	24.984
5	2021-08-05 3:34:23pm	10.083	24.984
6	2021-08-05 3:34:25pm	10.083	24.984
7	2021-08-05 3:34:27pm	10.083	24.992
8	2021-08-05 3:34:29pm	10.083	24.992
9	2021-08-05 3:34:31pm	10.083	25.000
10	2021-08-05 3:34:33pm	10.083	25.000
11	2021-08-05 3:34:35pm	10.083	25.000
12	2021-08-05 3:34:37pm	10.083	25.000

This tool is easiest to use for shallow deployment compensation. If you are going to use this feature regularly, we recommend purchasing a direct read cable to make it more convenient to get readings from discrete levels.

Downloading multiple devices

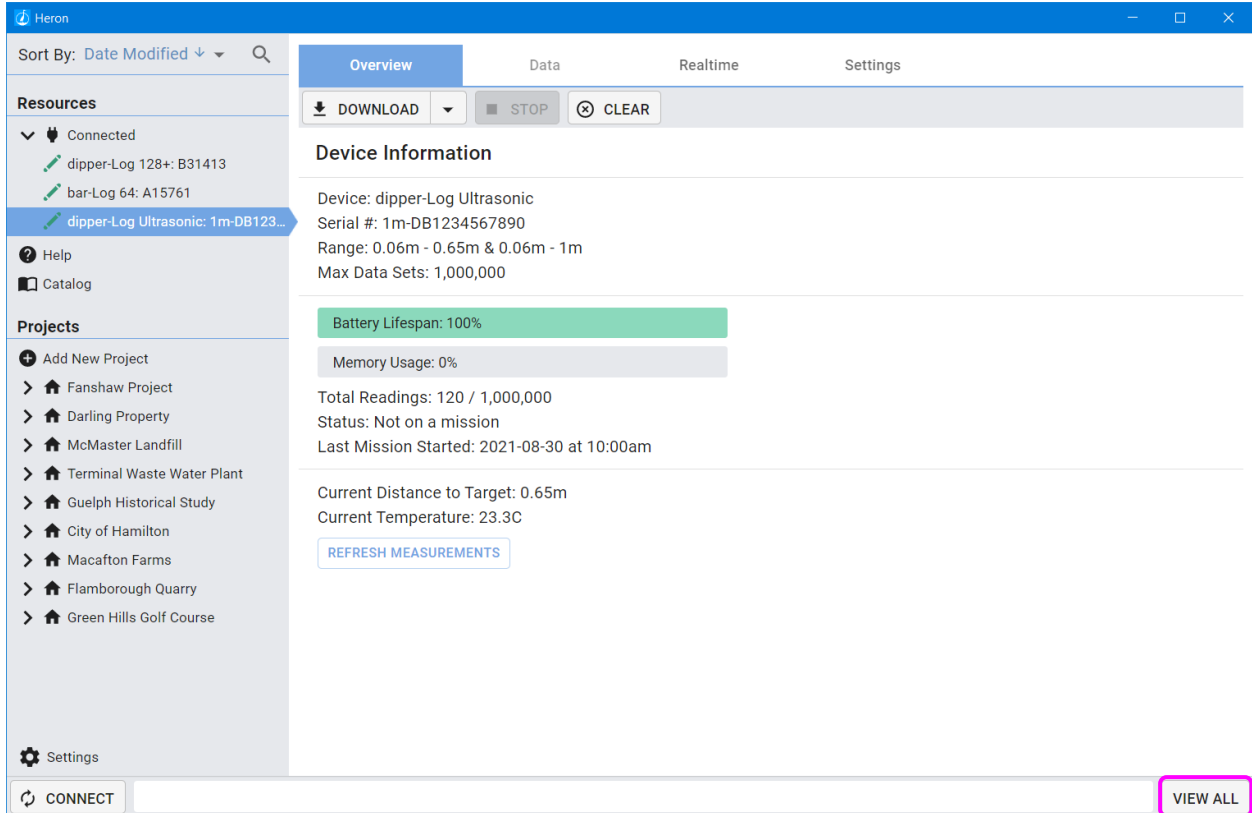
You can download multiple devices at once to help you save time. This is especially useful if you have 100+ loggers in a project. You will need a separate pc-com cable for every device. You may also need one or more USB hubs to accommodate the extra pc-com cables depending on how many USB ports your computer has.

Once all of your pc-com cables and dipper-Logs are plugged in, click the “CONNECT” button in the bottom left of the software. All of your devices should now show up in the “Connected” drop down in “Resources” of the navigation Pane.



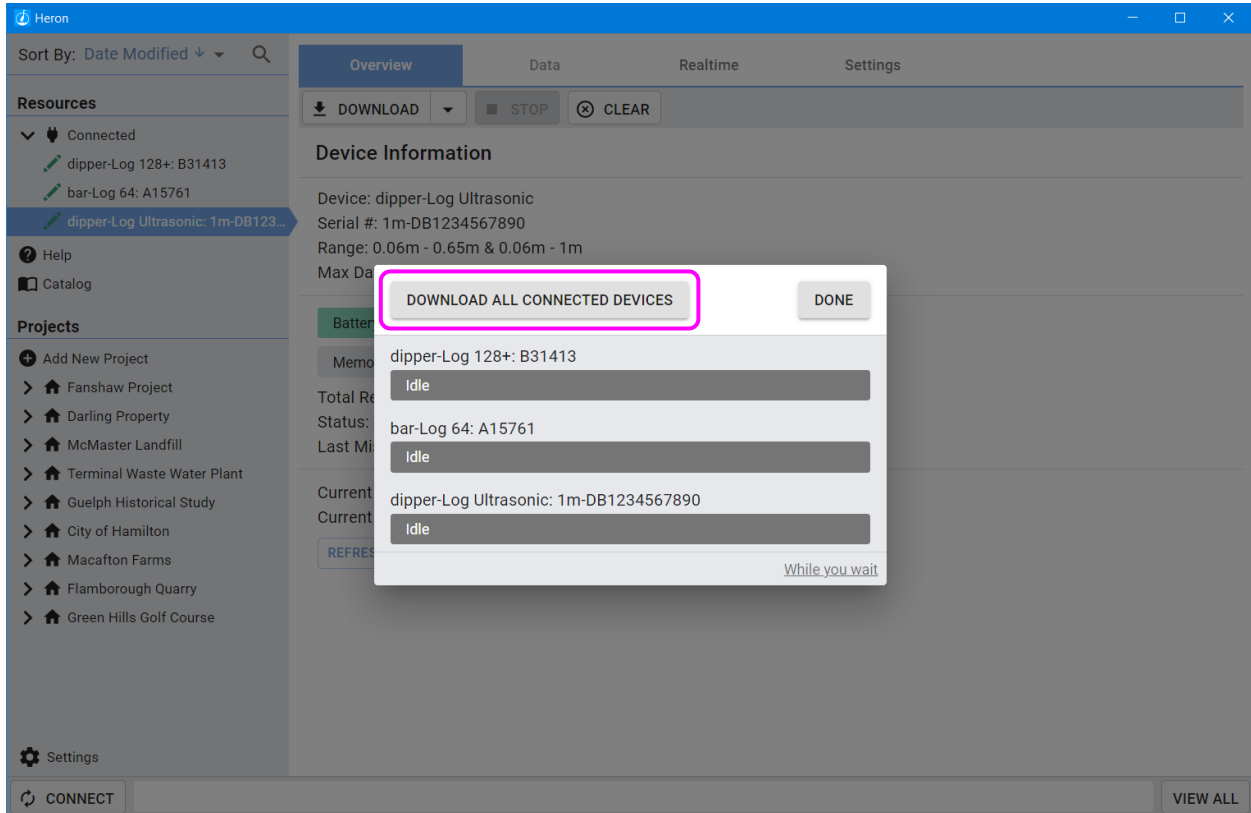
The screenshot displays the Heron software interface. On the left, the 'Resources' pane is highlighted with a pink box, showing a list of connected devices: 'dipper-Log 128+: B31413', 'bar-Log 64: A15761', and 'dipper-Log Ultrasonic: 1m-DB123...'. Below this, the 'Projects' list includes 'Fanshaw Project', 'Darling Property', 'McMaster Landfill', 'Terminal Waste Water Plant', 'Guelph Historical Study', 'City of Hamilton', 'Macafton Farms', 'Flamborough Quarry', and 'Green Hills Golf Course'. At the bottom left, a 'CONNECT' button is highlighted with a pink box. The main area shows the 'Overview' tab with 'DOWNLOAD', 'STOP', and 'CLEAR' buttons. The 'Device Information' section displays details for the selected device: 'dipper-Log Ultrasonic', Serial #: 1m-DB1234567890, Range: 0.06m - 0.65m & 0.06m - 1m, Max Data Sets: 1,000,000. It also shows 'Battery Lifespan: 100%' and 'Memory Usage: 0%'. Other metrics include 'Total Readings: 120 / 1,000,000', 'Status: Not on a mission', 'Last Mission Started: 2021-08-30 at 10:00am', 'Current Distance to Target: 0.65m', and 'Current Temperature: 23.3C'. A 'REFRESH MEASUREMENTS' button is located below these metrics. At the bottom right, a 'VIEW ALL' button is visible.

Click “VIEW ALL” in the bottom right corner of the software. This will bring up a panel with all of your loggers displayed.

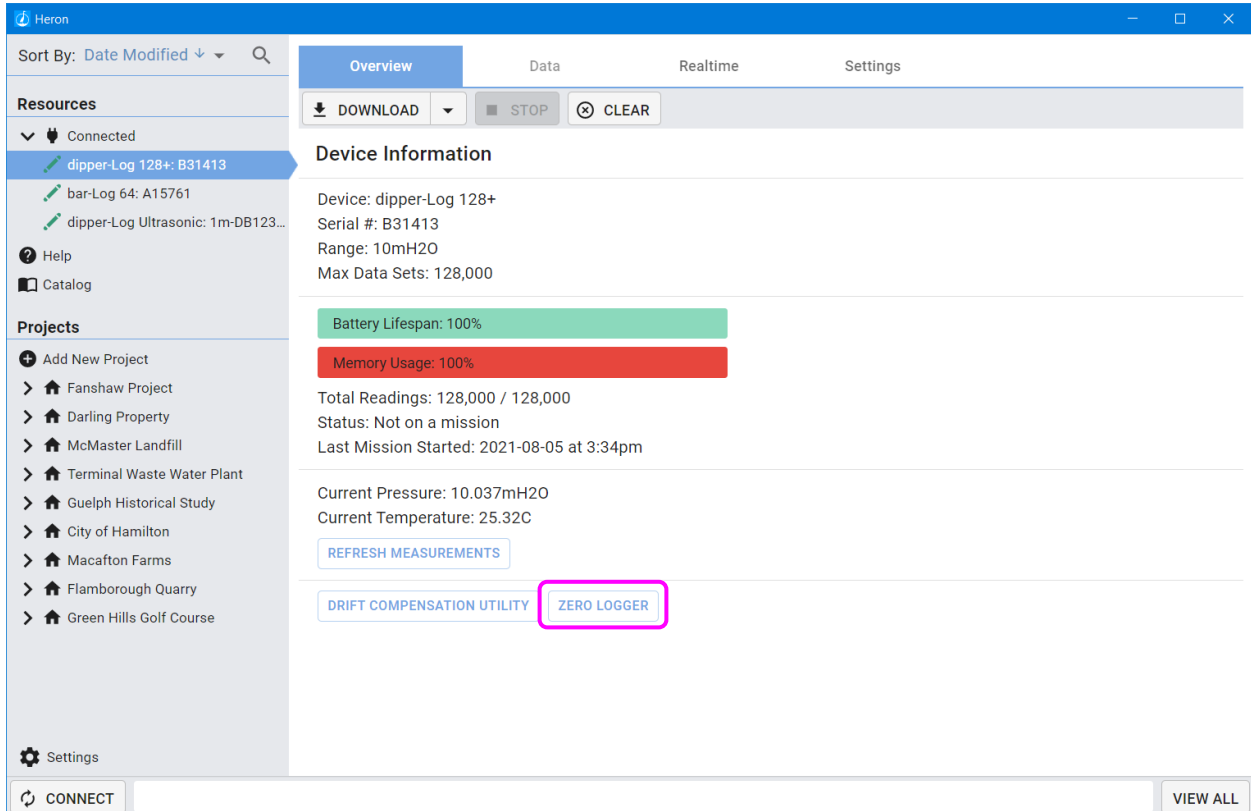


The screenshot shows the Heron software interface. On the left, there is a sidebar with 'Resources' and 'Projects' sections. The 'Resources' section lists three connected devices: 'dipper-Log 128+: B31413', 'bar-Log 64: A15761', and 'dipper-Log Ultrasonic: 1m-DB123...'. The 'Projects' section lists several projects with expandable arrows. At the bottom of the sidebar is a 'Settings' gear icon. The main area has tabs for 'Overview', 'Data', 'Realtime', and 'Settings'. Below the tabs are 'DOWNLOAD', 'STOP', and 'CLEAR' buttons. The 'Overview' tab is active, displaying 'Device Information' for the selected device: 'dipper-Log Ultrasonic', Serial #: 1m-DB1234567890, Range: 0.06m - 0.65m & 0.06m - 1m, and Max Data Sets: 1,000,000. Below this are two progress bars: 'Battery Lifespan: 100%' (green) and 'Memory Usage: 0%' (grey). Further down, it shows 'Total Readings: 120 / 1,000,000', 'Status: Not on a mission', and 'Last Mission Started: 2021-08-30 at 10:00am'. At the bottom of the main area, it displays 'Current Distance to Target: 0.65m' and 'Current Temperature: 23.3C' with a 'REFRESH MEASUREMENTS' button. At the very bottom of the window, there is a 'CONNECT' button on the left and a 'VIEW ALL' button on the right, which is highlighted with a pink border.

Select “DOWNLOAD ALL CONNECTED DEVICES”. This will download all of your connected devices at once and add them to the database. This is a huge time saver for large projects! You now have more time to do things like writing that novel you always wanted to or practicing your golf swing. The free time is all yours!



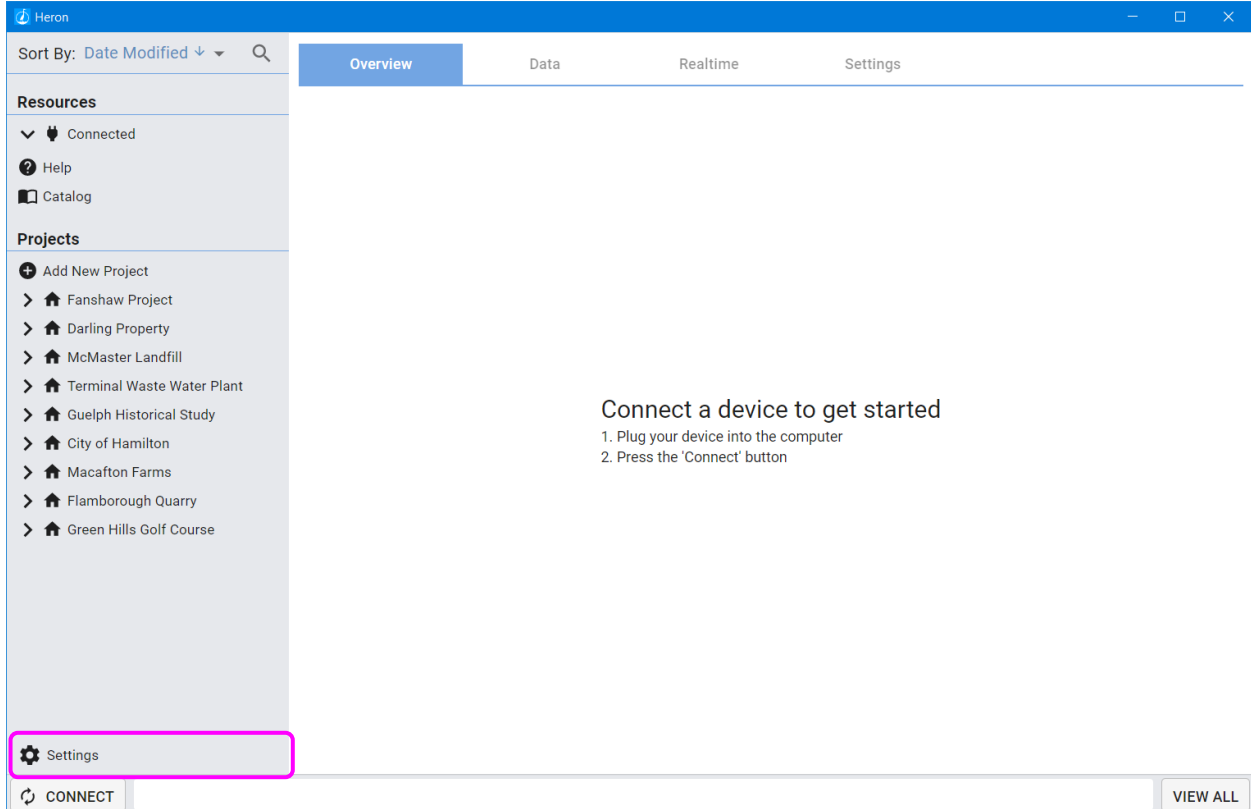
Zeroing a logger is a way to account for barometric pressure without having to worry about a bar-Log. It is not always as accurate, but it is a good idea to zero your logger as a backup. To do this, your logger cannot be submerged under water. It must be in air only. Make sure the logger is also connected to your computer. Select your logger and on the overview page, you can select “ZERO LOGGER”. This takes a barometric pressure reading and stores it to a separate section of its memory.



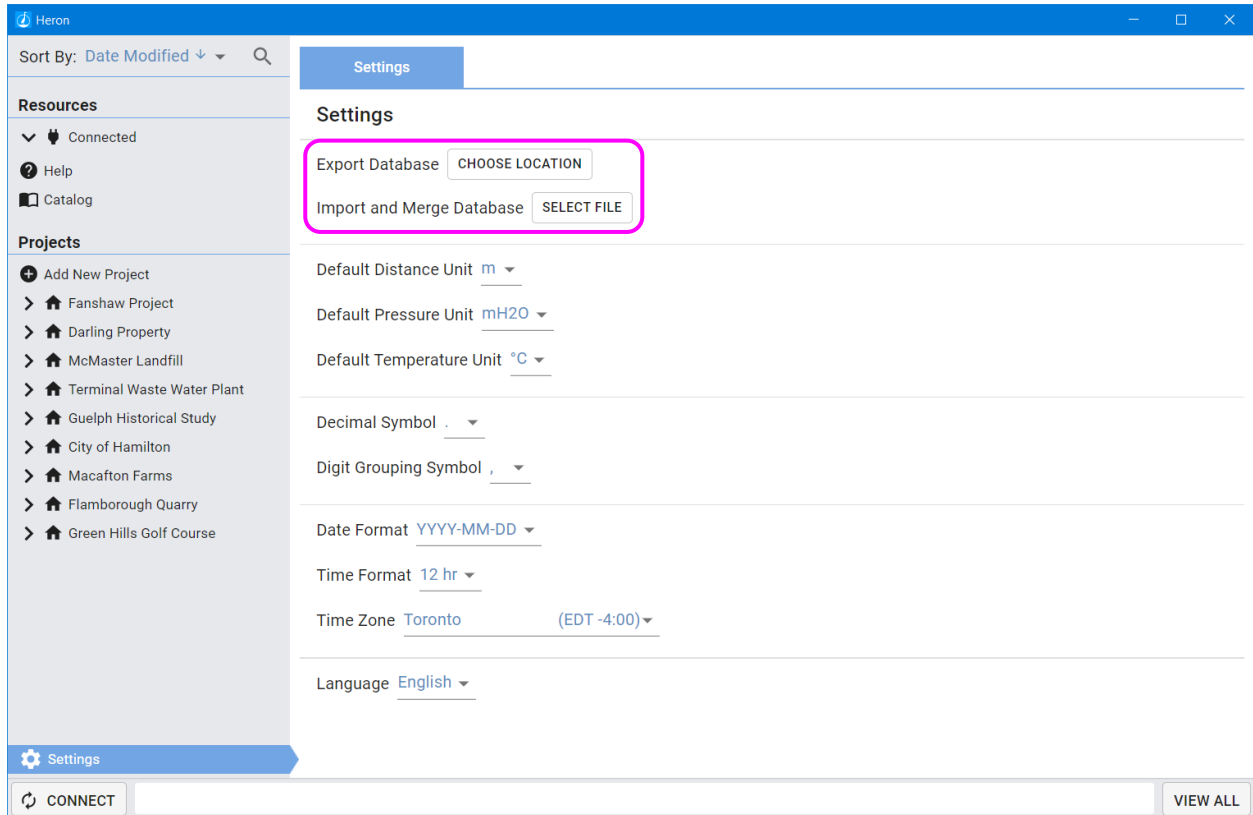
The screenshot displays the Heron software interface. On the left, there is a sidebar with 'Resources' and 'Projects' sections. The 'Resources' section shows a list of connected devices, with 'dipper-Log 128+: B31413' selected. The 'Projects' section lists various locations like 'Fanshaw Project' and 'Darling Property'. The main area is titled 'Overview' and contains several sections: 'Device Information' (Device: dipper-Log 128+, Serial #: B31413, Range: 10mH2O, Max Data Sets: 128,000), 'Battery Lifespan: 100%' (green bar), 'Memory Usage: 100%' (red bar), 'Total Readings: 128,000 / 128,000', 'Status: Not on a mission', 'Last Mission Started: 2021-08-05 at 3:34pm', 'Current Pressure: 10.037mH2O', and 'Current Temperature: 25.32C'. At the bottom of the main area, there are three buttons: 'REFRESH MEASUREMENTS', 'DRIFT COMPENSATION UTILITY', and 'ZERO LOGGER'. The 'ZERO LOGGER' button is highlighted with a pink box. At the top of the main area, there are buttons for 'DOWNLOAD', 'STOP', and 'CLEAR'. At the bottom of the interface, there is a 'CONNECT' button on the left and a 'VIEW ALL' button on the right.

Changing your default settings

The software will automatically try to read your computer settings and apply appropriate defaults the first time you open it up. However, if you would like to alter those defaults you can do so in the “Software Settings” page.

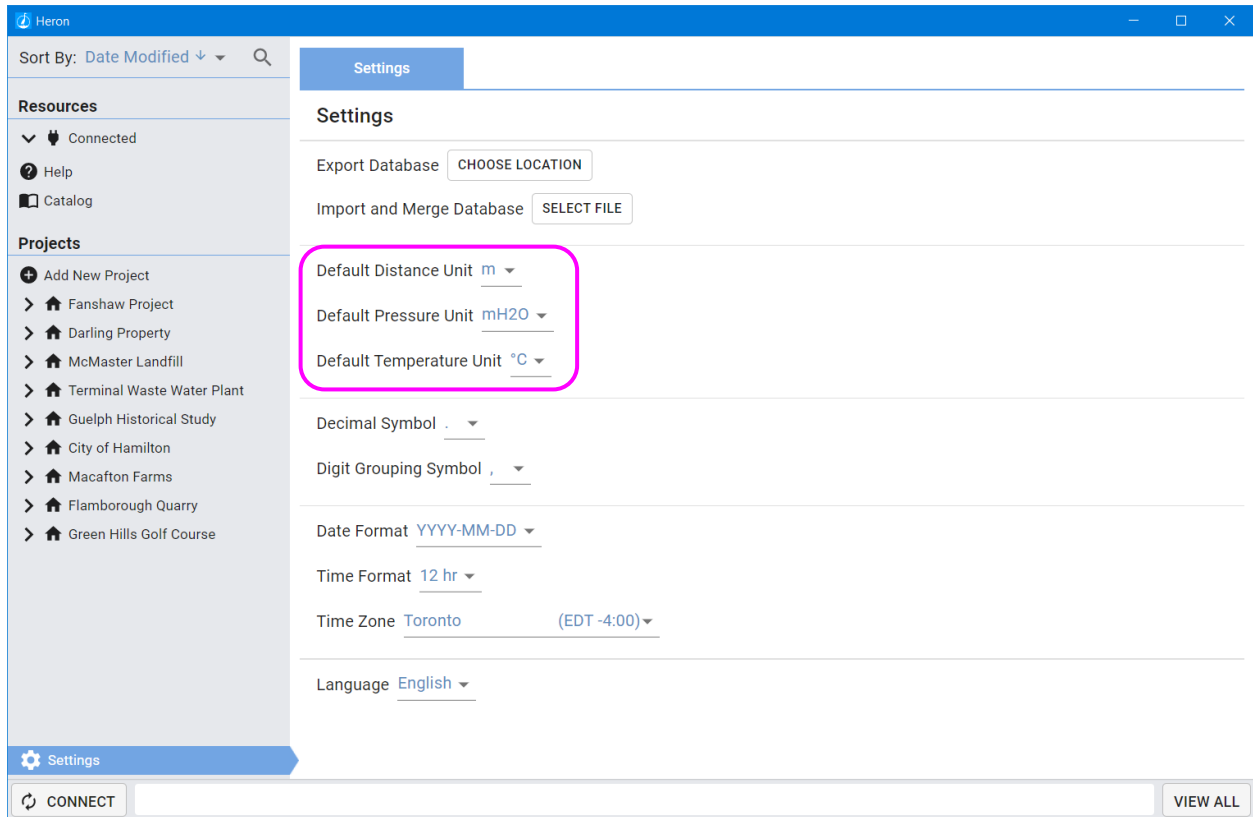


The first tools available here are your export and import database tools. This will allow you to move databases between computers, or to backup databases to avoid inadvertent data loss.



The screenshot shows the Heron application interface. On the left is a sidebar with 'Resources' (Help, Catalog) and 'Projects' (Add New Project, Fanshaw Project, Darling Property, McMaster Landfill, Terminal Waste Water Plant, Guelph Historical Study, City of Hamilton, Macafton Farms, Flamborough Quarry, Green Hills Golf Course). The main area is titled 'Settings' and contains several configuration options: 'Export Database' with a 'CHOOSE LOCATION' button, 'Import and Merge Database' with a 'SELECT FILE' button, 'Default Distance Unit' (m), 'Default Pressure Unit' (mH2O), 'Default Temperature Unit' (°C), 'Decimal Symbol' (.), 'Digit Grouping Symbol' (,), 'Date Format' (YYYY-MM-DD), 'Time Format' (12 hr), 'Time Zone' (Toronto (EDT -4:00)), and 'Language' (English). A 'CONNECT' button is at the bottom left and a 'VIEW ALL' button is at the bottom right.

Default units can be changed for Distance, Pressure, and Temperature.

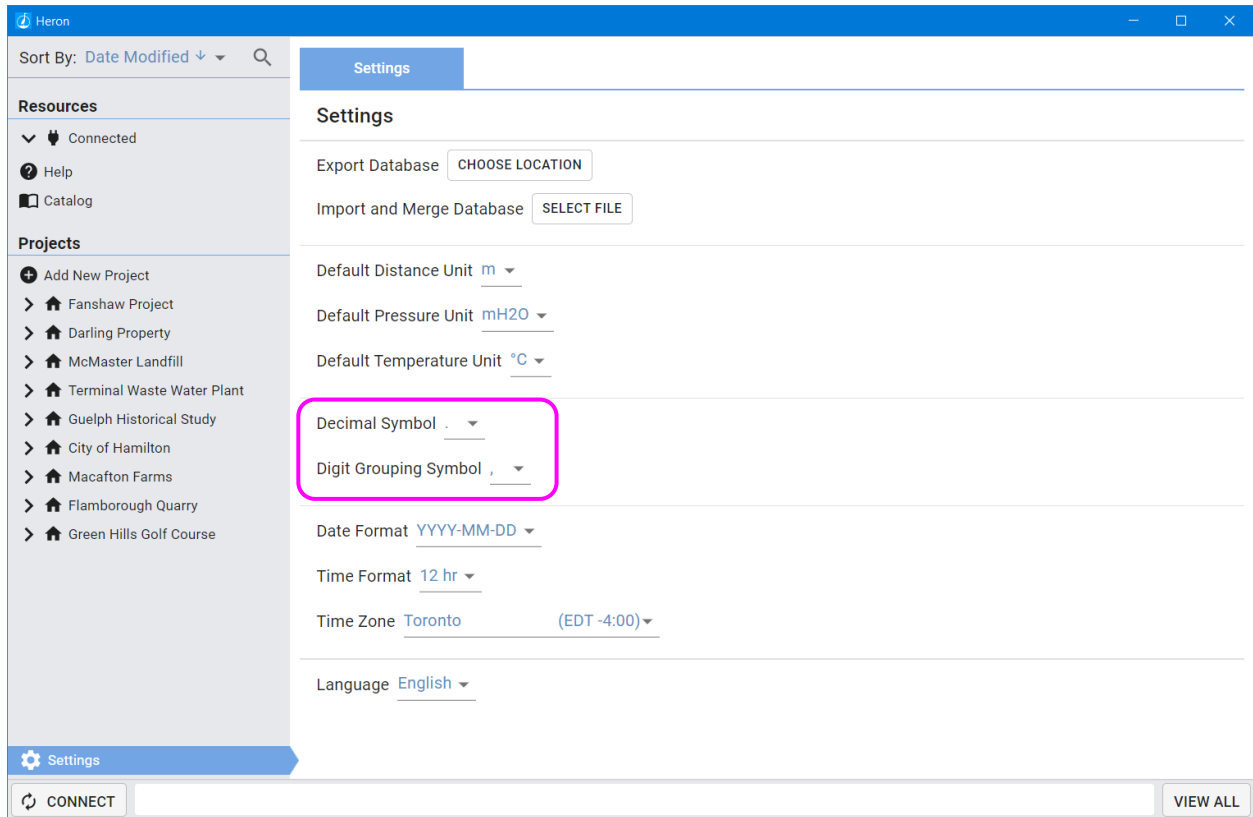


The screenshot shows the Heron software interface with the Settings window open. The left sidebar contains 'Resources' (Connected, Help, Catalog) and 'Projects' (Add New Project, Fanshaw Project, Darling Property, McMaster Landfill, Terminal Waste Water Plant, Guelph Historical Study, City of Hamilton, Macafton Farms, Flamborough Quarry, Green Hills Golf Course). The main content area is titled 'Settings' and includes the following options:

- Export Database: CHOOSE LOCATION
- Import and Merge Database: SELECT FILE
- Default Distance Unit: m
- Default Pressure Unit: mH2O
- Default Temperature Unit: °C
- Decimal Symbol: .
- Digit Grouping Symbol: ,
- Date Format: YYYY-MM-DD
- Time Format: 12 hr
- Time Zone: Toronto (EDT -4:00)
- Language: English

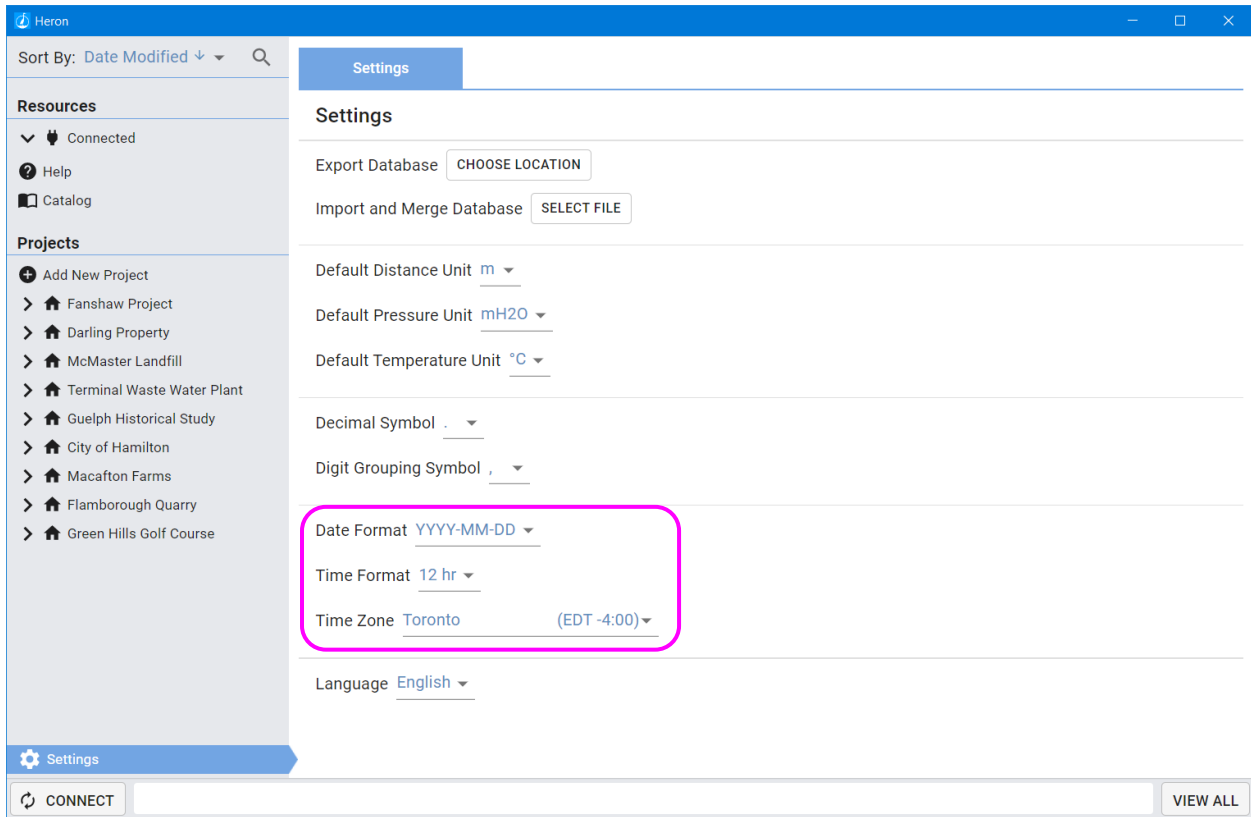
A pink box highlights the Default Distance Unit, Default Pressure Unit, and Default Temperature Unit settings.

Decimal and Digit grouping symbol can be changed to reflect your regional preference.



The screenshot shows the Heron application interface. On the left is a navigation sidebar with sections for Resources (Connected, Help, Catalog) and Projects (Add New Project, Fanshaw Project, Darling Property, McMaster Landfill, Terminal Waste Water Plant, Guelph Historical Study, City of Hamilton, Macafton Farms, Flamborough Quarry, Green Hills Golf Course). The main content area is titled 'Settings' and contains various configuration options: Export Database (CHOOSE LOCATION), Import and Merge Database (SELECT FILE), Default Distance Unit (m), Default Pressure Unit (mH2O), Default Temperature Unit (°C), Decimal Symbol (.), Digit Grouping Symbol (,), Date Format (YYYY-MM-DD), Time Format (12 hr), Time Zone (Toronto (EDT -4:00)), and Language (English). The 'Decimal Symbol' and 'Digit Grouping Symbol' dropdown menus are highlighted with a red rectangular box. At the bottom of the settings area, there is a 'CONNECT' button and a 'VIEW ALL' button.

Date and time format can be edited to your liking. Time zone selection is based on your country. If you don't see your preferred time zone, you may have to change your computers geographic settings and restart the software to view time zones from another country.



You are now an expert in Heron Instruments software. Use your powers for good, not evil.