

# Setting up an Instance of HydroServer Lite on the World Water Project at BYU

Prepared by Stephen Bolster, November 21, 2013

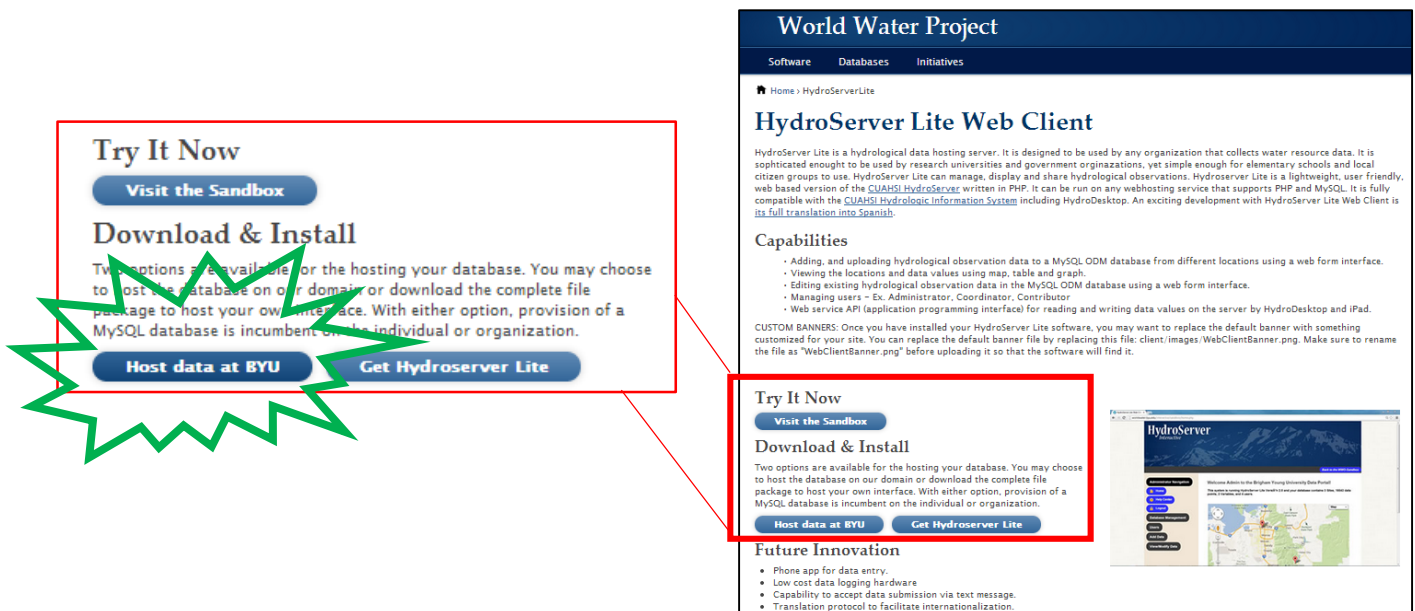
This document outlines the procedures for creating an instance of HydroServe Lite at [worldwater.byu.edu](http://worldwater.byu.edu).

## Where to Setup

From [worldwater.byu.edu](http://worldwater.byu.edu) enter the software tab and click on **“HydroServer Lite”**



From this page select the **“Host data at BYU”** option.



## Installation

Now you are at the installation welcome page, please click the button that says “**Begin Installation.**”

**Welcome to Installation**

This setup script will guide you to install Hydroserver Lite on your web server. Please make sure you have the database details ready before you proceed.

[Begin Installation](#)

## Password for his\_admin

Enter a new password. Please take note of this password as it will be needed to enter and manage your database.

**HydroServer Lite: Editing your site's main configuration file**

**Welcome, Administrator!**

Please take a few minutes to change all of the fields below to setup your application with the correct default settings needed for it to run properly. If you have any questions during the process, please click the information icon next to the field or refer to the example provided.

**Current username:**

**New Password:**  (Must be entered now.)

## Database and Language Setup

The next option asks “**Use WorldWater Database?**” Select “**Yes**” from the dropdown list. After doing so the next three textboxes should be displayed.

**Please enter your default settings below...**

**Configuration settings for MySql Database**

Use WorldWater Database?  ▼

Database Name:  ⓘ

Directory

Language Code ('en','es')

Add a name for your database (a name you create, unique to your organization). It is recommended this name be lowercase without spaces, for example *water\_group\_pawnee\_parks*. You can use the same name for your directory, where key information about your database will be stored.

Select the language you want your HydroServer Lite to be setup in. As of November 2013 only English and Spanish are available, use “**en**” and “**es**” respectively as your **Language Code**. Translation is underway for Italian, Malay, Mandarin Portuguese, and Russian and will be available at a future date.

## Website Information Setup

Next enter configuration inputs for your site. Please note that if the profile version is unknown enter “Unknown.” The **Website’s Domain** field is used for security, please use “**worldwater.byu.edu**”.

**Configuration settings for website’s look and functionality**

Organization’s Name:  (Ex: McCall Outdoor Science School)

Parent Website’s Name:  (Ex: MOSS blog)

Parent Website:  (Ex: adventurelearningat.com)

Software Version:  (Ex: Version 2.0)

**Configuration settings for security purposes**

Website’s Domain:  (Ex: adventurelearningat.com)

**Configuration settings for adding a new Source**

Profile Version:  ⓘ

## Sites Setup

For Site configuration if the **Local X, Local Y, Local Projection ID, and PosAccuracy\_m** are unknown then “Null” is an acceptable entry. For the *Vertical Datum* Controlled Vocabulary and *Spatial Reference* Controlled Vocabulary fields, please use controlled vocabulary from the *Entering Data to HydroServer Lite*

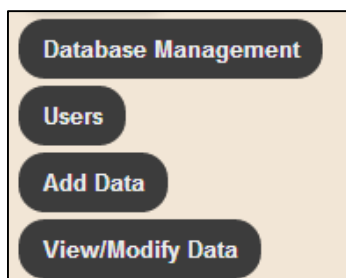
This section will help to enter data into your HydroServer Lite.

## Login

On the main page of your HydroServer Lite login with the default username, **his\_admin**, and the password you established during the setup of the *Password for his\_admin*.

## Sidebar Navigation

Navigation to different parts of your HydroServer Lite is accomplished through the sidebar. This separates HydroServer Lite into 4 main areas: *Database Management, Users, Add Data, and View/ Modify Data*.



## Database Mangement

From the database mangement tab you can access all the pages that can add, change, or remove *Source*, *Site*, *Variable*, and *Method* metadata. It is recommended that you add a source first as the sites are source dependent.

## Source

The information entered here provides the metadata for your database.

### Add a New Source

<b>Organization:</b>	<input type="text"/>	* (Ex: McCall Outdoor Science School)
<b>Description:</b>	<input type="text"/>	* (Ex: The mission of the MOSS is...)
<b>Link to Org:</b>	<input type="text"/>	(Optional, Ex: <a href="http://www.mossidaho.org">http://www.mossidaho.org</a> )
<b>Contact Name:</b>	<input type="text"/>	* (Full Name)
<b>Phone:</b>	<input type="text"/>	* (Ex: XXX-XXX-XXXX)
<b>Email:</b>	<input type="text"/>	* (Ex: <a href="mailto:info@moss.org">info@moss.org</a> )
<b>Address:</b>	<input type="text"/>	*
<b>City:</b>	<input type="text"/>	*
<b>State:</b>	<input type="text" value="Select..."/>	*
<b>Zip Code:</b>	<input type="text"/>	*
<b>Citation:</b>	<input type="text"/>	(Optional, Ex: Data collected by MOSS scientists and citizen scie...)
<b>MetadataID:</b>	<input type="text" value=""/>	(This will be auto-generated for you upon submission.)
<b>Topic Category:</b>	<input type="text" value="Select..."/>	*
<b>Title:</b>	<input type="text"/>	* (Ex: Twin Falls High School)
<b>Abstract:</b>	<input type="text"/>	* (Ex: High school students/citizen scientists collecting...)
<b>Metadata Link:</b>	<input type="text"/>	(Optional)

## Site

To add a new site, select a source and enter in the remaining fields. A picture maybe added that depicts your site and will be displayed with the site's data.

### Add a New Site

Source:

Site Name:  \* (Ex: Boulder Creek at Jug Mountain Ranch) Apostrophes are not permitted

Site Code: S-  \* (You may adjust this if needed)

Site Type:  \*

Site Photo:  No file chosen  
(Photo must be in .JPG format; File will be uploaded upon submit below.)

You can manually enter in the information of the Longitude, Latitidue, and Elevation or you can use the map to select the location of your site.

Latitude:  \* Longitude:  \*

Elevation:  \* Meters

State:  \*

County: Select state first...

Vertical Datum:  \*

Spatial Reference:  \*

Comments:  (Optional)

## Variable

Please select the information for your new variable. Wherever there is a blue box, select from the dropdown list. If you can not find the information that represents your variable select “**Other/New**” from the bottom of the list and enter in the information in the new textboxes. The box at the end of the page allows you to link this varialbe to methods of collection, if the method is unknown please select “**No method specified.**”

## Method

Add the name of the method(s) that describes how your data is collected. You can select all variables that use this particular method, as seen below.

Please select the Variable(s) below used by this method:  
(Select all that apply by holding the Ctrl key down and selecting multiple options):

Select....\*

Phosphorus, total (Continuous)

Precipitation (Incremental)

**Streamflow (Continuous)**

Temperature (Average)

## Users

From the users tab you can add new users, change passwords, change user's authority (level of access), and remove users. In general, you can only affect users with lower level of access than yours

## Add Data

There are three ways to add data into HydroServer Lite, adding a single value, adding multiple values, and importing a data file.

To import a data file the data must be formatted as follows:

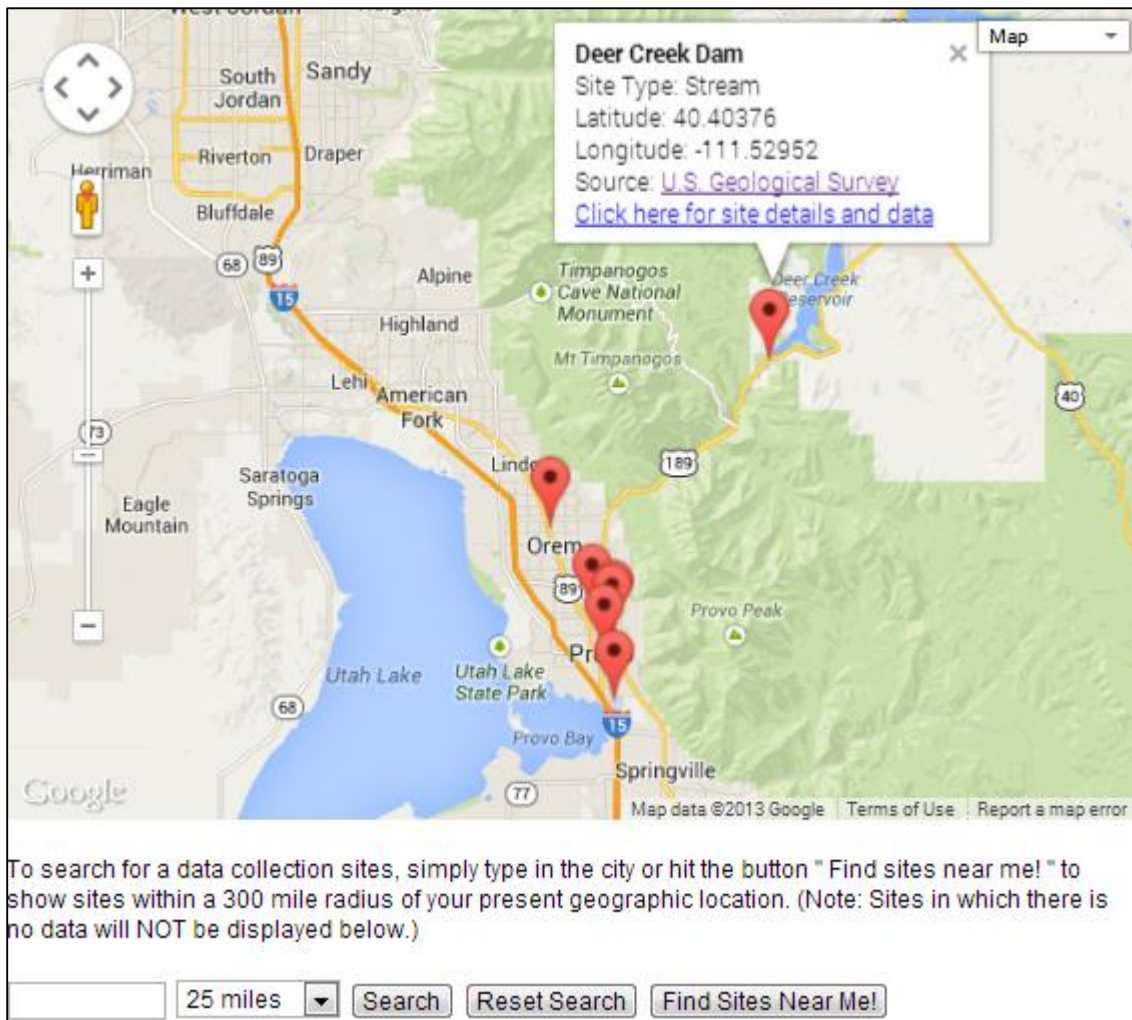
- The file must be a comma separated value (CSV) file
- The first row (or line) must contain the words-
  - **"LocalDateTime"** in column one
  - **"DataValue"** in column two
- The date must be formatted as 2012-05-31 00:00:00 (year-month-day hour:minute:second)
- There should be no extra rows (lines) in the file without data

Dates can be formatted easily by selecting the date cells, right clicking and going to Format Cells | Number Tab | Category: Custom and typing into the Type: “**yyyy-mm-dd hh:mm:ss**”

If you run into errors with uploading a data file double check the last few rows (lines) of the file to make sure there is no erroneous text. Do this by opening your .CSV file in a text editor such as Notepad, Notepad++, or Wordpad.

### View/ Modify Data

From this tab you see a map with your stations and graphs and tables of your data. Hover over sites to bring up some of the site information and click to enter to view more details.



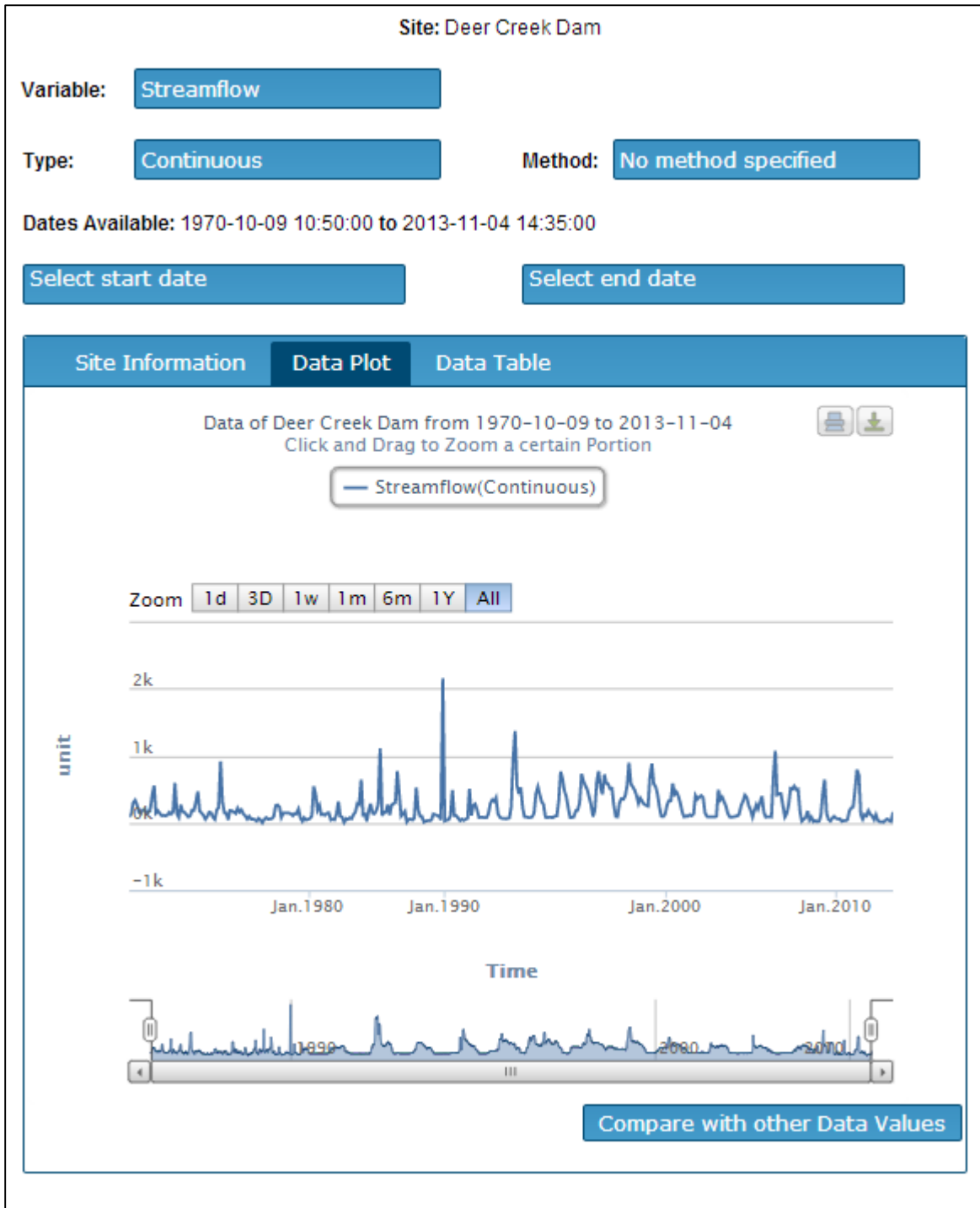
**Deer Creek Dam**  
Site Type: Stream  
Latitude: 40.40376  
Longitude: -111.52952  
Source: [U.S. Geological Survey](#)  
[Click here for site details and data](#)

To search for a data collection sites, simply type in the city or hit the button " Find sites near me! " to show sites within a 300 mile radius of your present geographic location. (Note: Sites in which there is no data will NOT be displayed below.)

25 miles



From this page you select variables, types, methods, start and end dates. You can also switch between Site Information, a Data Plot, and a Data Table where data within the selected start and end date can be downloaded.



Appendix or enter **“Unknown.”**

**Configuration settings for adding Sites**

Source:	<input type="text"/>	<i>(Ex: McCall Outdoor Science School)</i>
Local X:	<input type="text"/>	
Local Y:	<input type="text"/>	
Local Projection ID:	<input type="text"/>	
PosAccuracy_m:	<input type="text"/>	
Vertical Datum:	<input type="text"/>	
Spatial Reference:	<input type="text"/>	

## Variable Setup

The **Variable Code** is arbitrary for your organization, a recommended entry would be an acronym that represents your organization. If your organization uses a specific data system, enter the acronym that represents that system; for instance “**IDCS-**” for the International Data Collection System.

The **Time Support** is a numerical value that indicates the temporal footprint of the data values. 0 indicates instantaneous samples (samples taken at random or irregular intervals). Other values indicate the time over which data values are aggregated. For example, the value was collected every 10 minutes.

**Configuration settings for adding a new Variable**

Variable Code:	<input type="text"/>	
Time Support:	<input type="text"/>	










## Data Value Setup

The **UTCOffset** represents the time off set from Coordinated Universal Time (UTC); for example Mountain Standard Time is “-7”. **UTCOffset 2** is the exact opposite of the **UTCOffset**, for example Mountain Standard Time is “7.”

All other fields can be left as filled in for a basic installation.

Click “**Save Setting**” and your database and HydroServer Lite instance will be created, it may take a few seconds to setup database tables in foreign languages.

**Configuration settings for adding Data Values**

UTCOffset:	<input type="text"/>	
UTCOffset 2:	<input type="text"/>	
Censor Code:	<input type="text" value="nc"/>	
Quality Control Level:	<input type="text" value="0"/>	
Value Accuracy:	<input type="text" value="NULL"/>	
Offset Type ID:	<input type="text" value="NULL"/>	
Qualifier ID:	<input type="text" value="1"/>	
Sample ID:	<input type="text" value="NULL"/>	
Derived From ID:	<input type="text" value="NULL"/>	

Save SettingsCancel

## Setup of Your World Water Landing Page

Edit these settings that will give the description of your HydroServer Lite as seen by other World Water at BYU users. You can upload a banner to customize your site. Banners will be shrunk down to 960 x 90 pixels, please format your banner relative to this size to avoid distortion of the banner.

### HydroServer Lite: Changing your Landing Page

**Welcome, Administrator!**

Please take a few minutes to change all of the fields below to edit your Landing Page for the installation.

**Username:**

**Password:**

**Landing page details :**

Database Title

Name of the group collecting the data

Description about your group

**Citation settings:**

Author 1 First Name

Author 1 Last Name

Author 2 First Name

Author 2 Last Name

Author 3 First Name

Author 3 Last Name

Year

Et al?

**Custom top banner:**

[Click here to restore default banner](#)

Select the banner to upload

Add files  No file chosen

## Entering Data to HydroServer Lite

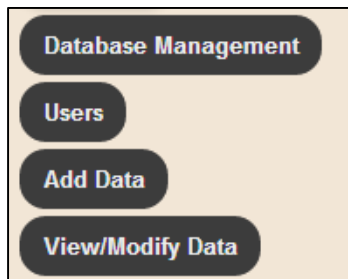
This section will help to enter data into your HydroServer Lite.

### Login

On the main page of your HydroServer Lite login with the default username, **his\_admin**, and the password you established during the setup of the *Password for his\_admin*.

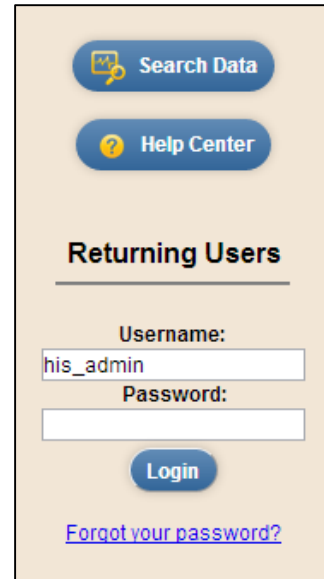
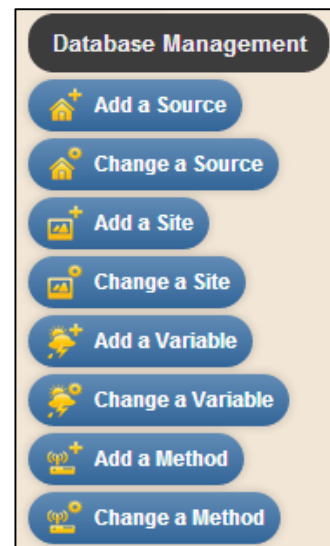
### Sidebar Navigation

Navigation to different parts of your HydroServer Lite is accomplished through the sidebar. This separates HydroServer Lite into 4 main areas: *Database Management*, *Users*, *Add Data*, and *View/Modify Data*.



### Database Management

From the database management tab you can access all the pages that can add, change, or remove *Source*, *Site*, *Variable*, and *Method* metadata. It is recommended that you add a source first as the sites are source dependent.

A login page with a light beige background. At the top, there are two dark blue buttons: "Search Data" with a magnifying glass icon and "Help Center" with a question mark icon. Below these is a section titled "Returning Users" with a horizontal line underneath. Under the line, there are two labels: "Username:" and "Password:". The "Username:" label is followed by a white text input field containing the text "his\_admin". The "Password:" label is followed by an empty white text input field. Below the input fields is a dark blue "Login" button. At the bottom, there is a blue hyperlink that says "Forgot your password?".

## Source

The information entered here provides the metadata for your database.

### Add a New Source

<b>Organization:</b>	<input type="text"/>	* (Ex: McCall Outdoor Science School)
<b>Description:</b>	<input type="text"/>	* (Ex: The mission of the MOSS is...)
<b>Link to Org:</b>	<input type="text"/>	(Optional, Ex: <a href="http://www.mossidaho.org">http://www.mossidaho.org</a> )
<b>Contact Name:</b>	<input type="text"/>	* (Full Name)
<b>Phone:</b>	<input type="text"/>	* (Ex: XXX-XXX-XXXX)
<b>Email:</b>	<input type="text"/>	* (Ex: <a href="mailto:info@moss.org">info@moss.org</a> )
<b>Address:</b>	<input type="text"/>	*
<b>City:</b>	<input type="text"/>	*
<b>State:</b>	<input type="text" value="Select..."/>	*
<b>Zip Code:</b>	<input type="text"/>	*
<b>Citation:</b>	<input type="text"/>	(Optional, Ex: Data collected by MOSS scientists and citizen scie...)
<b>MetadataID:</b>	<input type="text" value=""/>	(This will be auto-generated for you upon submission.)
<b>Topic Category:</b>	<input type="text" value="Select..."/>	*
<b>Title:</b>	<input type="text"/>	* (Ex: Twin Falls High School)
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Site Code: S-  \* (You may adjust this if needed)

Site Type:  \*

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(Photo must be in .JPG format; File will be uploaded upon submit below.)

You can manually enter in the information of the Longitude, Latitidue, and Elevation or you can use the map to select the location of your site.

Latitude:  \* Longitude:  \*

Elevation:  \* Meters

State:  \*

County: Select state first...

Vertical Datum:  \*

Spatial Reference:  \*

Comments:  (Optional)

## Variable

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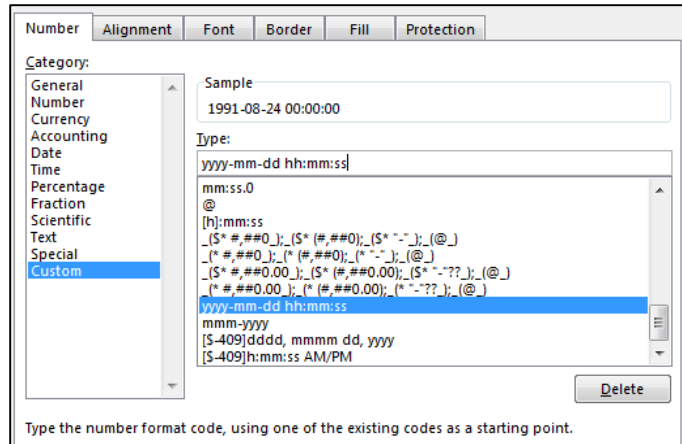
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Dates can be formatted easily by selecting the date cells, right clicking and going to Format Cells|Number Tab|Category: Custom and typing into the Type: “yyyy-mm-dd hh:mm:ss”

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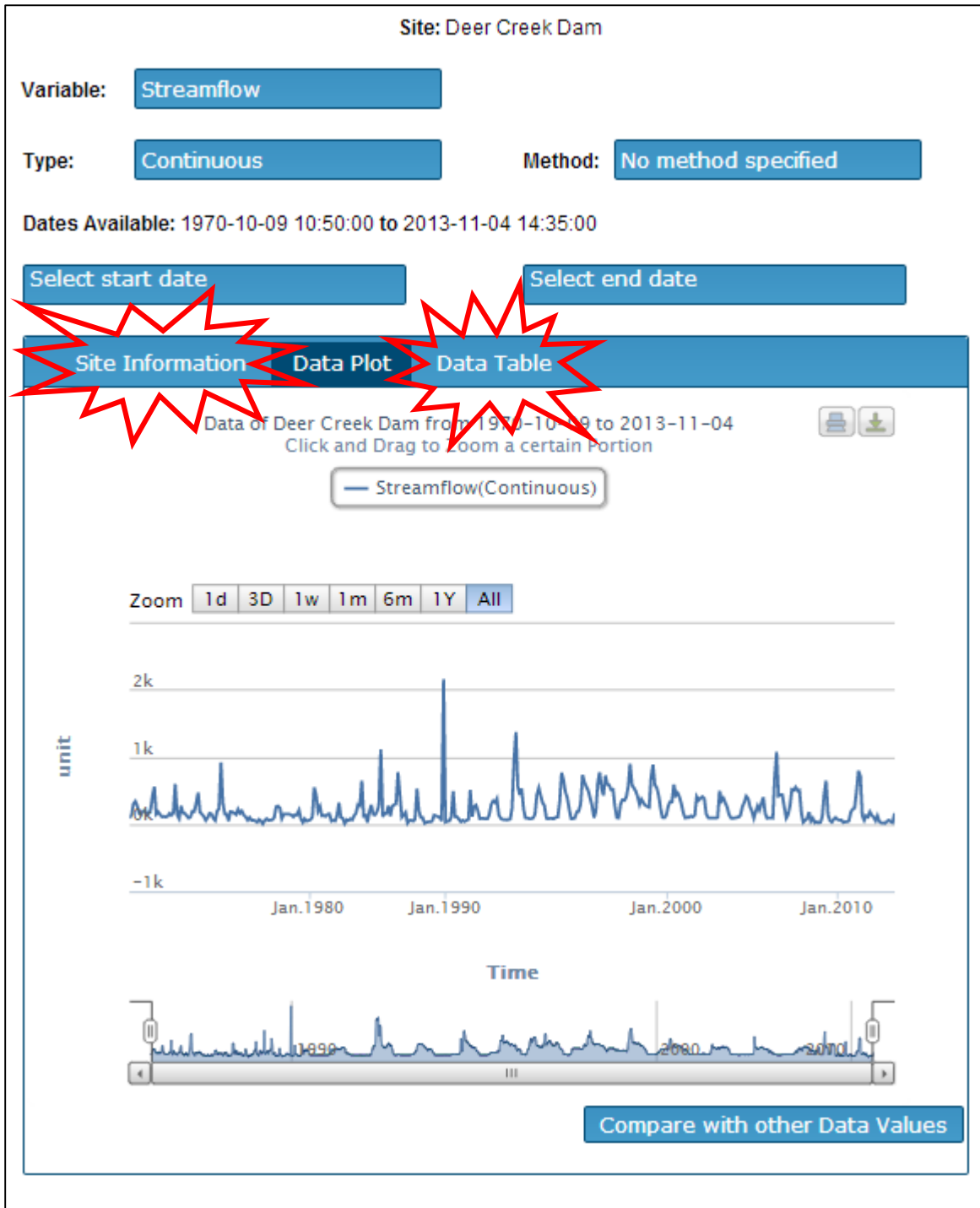
### View/ Modify Data

From this tab you see a map with your stations and graphs and tables of your data. Hover over sites to bring up some of the site information and click to enter to view more details.

The image shows a Google Map of the Orem, Utah area. Several red location pins are placed on the map. A pop-up window for 'Deer Creek Dam' is open, showing the following information: Site Type: Stream, Latitude: 40.40376, Longitude: -111.52952, and Source: U.S. Geological Survey. Below the map is a search bar with a 'Find Sites Near Me!' button. The search bar also includes a distance dropdown set to '25 miles' and buttons for 'Search', 'Reset Search', and 'Find Sites Near Me!'.

To search for a data collection sites, simply type in the city or hit the button " Find sites near me! " to show sites within a 300 mile radius of your present geographic location. (Note: Sites in which there is no data will NOT be displayed below.)

From this page you select variables, types, methods, start and end dates. You can also switch between Site Information, a Data Plot, and a Data Table where data within the selected start and end date can be downloaded.



## Appendix

### Vertical Datum Controlled Vocabulary

Spatial Reference	Definition
MSL	Mean Sea Level
NAVD88	North American Vertical Datum of 1988
NGVD29	National Geodetic Vertical Datum of 1929
Unknown	The vertical datum is unknown

### Spatial Reference Controlled Vocabulary

Unknown	NAD27 / Maine East	NAD83 / Idaho East
NAD27	NAD27 / Maine West	NAD83 / Idaho Central
NAD83	NAD27 / Maryland	NAD83 / Idaho West
WGS84	NAD27 / Massachusetts Mainland	NAD83 / Illinois East
NAD27 / UTM zone 3N	NAD27 / Massachusetts Island	NAD83 / Illinois West
NAD27 / UTM zone 4N	NAD27 / Minnesota North	NAD83 / Indiana East
NAD27 / UTM zone 5N	NAD27 / Minnesota Central	NAD83 / Indiana West
NAD27 / UTM zone 6N	NAD27 / Minnesota South	NAD83 / Iowa North
NAD27 / UTM zone 7N	NAD27 / Mississippi East	NAD83 / Iowa South
NAD27 / UTM zone 8N	NAD27 / Mississippi West	NAD83 / Kansas North
NAD27 / UTM zone 9N	NAD27 / Missouri East	NAD83 / Kansas South
NAD27 / UTM zone 10N	NAD27 / Missouri Central	NAD83 / Kentucky North
NAD27 / UTM zone 11N	NAD27 / Missouri West	NAD83 / Kentucky South
NAD27 / UTM zone 12N	NAD Michigan / Michigan East	NAD83 / Louisiana North
NAD27 / UTM zone 13N	NAD Michigan / Michigan Old Central	NAD83 / Louisiana South
NAD27 / UTM zone 14N	NAD Michigan / Michigan West	NAD83 / Maine East

NAD27 / UTM zone 15N	NAD Michigan / Michigan North	NAD83 / Maine West
NAD27 / UTM zone 16N	NAD Michigan / Michigan Central	NAD83 / Maryland
NAD27 / UTM zone 17N	NAD Michigan / Michigan South	NAD83 / Massachusetts Mainland
NAD27 / UTM zone 18N	NAD83 / UTM zone 3N	NAD83 / Massachusetts Island
NAD27 / UTM zone 19N	NAD83 / UTM zone 4N	NAD83 / Michigan North
NAD27 / UTM zone 20N	NAD83 / UTM zone 5N	NAD83 / Michigan Central
NAD27 / UTM zone 21N	NAD83 / UTM zone 6N	NAD83 / Michigan South
NAD27 / UTM zone 22N	NAD83 / UTM zone 7N	NAD83 / Minnesota North
NAD27 / Alabama East	NAD83 / UTM zone 8N	NAD83 / Minnesota Central
NAD27 / Alabama West	NAD83 / UTM zone 9N	NAD83 / Minnesota South
NAD27 / Alaska zone 2	NAD83 / UTM zone 10N	NAD83 / Mississippi East
NAD27 / Alaska zone 3	NAD83 / UTM zone 11N	NAD83 / Mississippi West
NAD27 / Alaska zone 4	NAD83 / UTM zone 12N	NAD83 / Missouri East
NAD27 / Alaska zone 5	NAD83 / UTM zone 13N	NAD83 / Missouri Central
NAD27 / Alaska zone 6	NAD83 / UTM zone 14N	NAD83 / Missouri West
NAD27 / Alaska zone 7	NAD83 / UTM zone 15N	Australian Antarctic
NAD27 / Alaska zone 8	NAD83 / UTM zone 16N	AGD84
NAD27 / Alaska zone 9	NAD83 / UTM zone 17N	GDA94
NAD27 / Alaska zone 10	NAD83 / UTM zone 18N	Australian Height Datum
NAD27 / California zone I	NAD83 / UTM zone 19N	Australian Height Datum (Tasmania)
NAD27 / California zone II	NAD83 / UTM zone 20N	Mean Sea Level Height
NAD27 / California zone III	NAD83 / UTM zone 21N	Mean Sea Level Depth
NAD27 / California zone IV	NAD83 / UTM zone 22N	AGD84 / AMG zone 48
NAD27 / California zone V	NAD83 / UTM zone 23N	AGD84 / AMG zone 49
NAD27 / California zone VI	NAD83 / Alabama East	AGD84 / AMG zone 50

NAD27 / California zone VII	NAD83 / Alabama West	AGD84 / AMG zone 51
NAD27 / Arizona East	NAD83 / Alaska zone 2	AGD84 / AMG zone 52
NAD27 / Arizona Central	NAD83 / Alaska zone 3	AGD84 / AMG zone 53
NAD27 / Arizona West	NAD83 / Alaska zone 4	AGD84 / AMG zone 54
NAD27 / Arkansas North	NAD83 / Alaska zone 5	AGD84 / AMG zone 55
NAD27 / Arkansas South	NAD83 / Alaska zone 6	AGD84 / AMG zone 56
NAD27 / Colorado North	NAD83 / Alaska zone 7	AGD84 / AMG zone 57
NAD27 / Colorado Central	NAD83 / Alaska zone 8	AGD84 / AMG zone 58
NAD27 / Colorado South	NAD83 / Alaska zone 9	GDA94 / MGA zone 48
NAD27 / Connecticut	NAD83 / Alaska zone 10	GDA94 / MGA zone 49
NAD27 / Delaware	NAD83 / California zone 1	GDA94 / MGA zone 50
NAD27 / Florida East	NAD83 / California zone 2	GDA94 / MGA zone 51
NAD27 / Florida West	NAD83 / California zone 3	GDA94 / MGA zone 52
NAD27 / Florida North	NAD83 / California zone 4	GDA94 / MGA zone 53
NAD27 / Hawaii zone 1	NAD83 / California zone 5	GDA94 / MGA zone 54
NAD27 / Hawaii zone 2	NAD83 / California zone 6	GDA94 / MGA zone 55
NAD27 / Hawaii zone 3	NAD83 / Arizona East	GDA94 / MGA zone 56
NAD27 / Hawaii zone 4	NAD83 / Arizona Central	GDA94 / MGA zone 57
NAD27 / Hawaii zone 5	NAD83 / Arizona West	GDA94 / MGA zone 58
NAD27 / Georgia East	NAD83 / Arkansas North	WGS 84 / UTM zone 48S
NAD27 / Georgia West	NAD83 / Arkansas South	WGS 84 / UTM zone 49S
NAD27 / Idaho East	NAD83 / Colorado North	WGS 84 / UTM zone 50S
NAD27 / Idaho Central	NAD83 / Colorado Central	WGS 84 / UTM zone 51S
NAD27 / Idaho West	NAD83 / Colorado South	WGS 84 / UTM zone 52S
NAD27 / Illinois East	NAD83 / Connecticut	WGS 84 / UTM zone 53S

NAD27 / Illinois West	NAD83 / Delaware	WGS 84 / UTM zone 54S
NAD27 / Indiana East	NAD83 / Florida East	WGS 84 / UTM zone 55S
NAD27 / Indiana West	NAD83 / Florida West	WGS 84 / UTM zone 56S
NAD27 / Iowa North	NAD83 / Florida North	WGS 84 / UTM zone 57S
NAD27 / Iowa South	NAD83 / Hawaii zone 1	WGS 84 / UTM zone 58S
NAD27 / Kansas North	NAD83 / Hawaii zone 2	GDA94 / NSW Lambert
NAD27 / Kansas South	NAD83 / Hawaii zone 3	NAD_1983_HARN_StatePlane_ Oregon_South_FIPS_3602_Feet_Intl
NAD27 / Kentucky North	NAD83 / Hawaii zone 4	NAD83 / Texas North Central (ftUS)
NAD27 / Kentucky South	NAD83 / Hawaii zone 5	HRAP Grid Coordinate System
NAD27 / Louisiana North	NAD83 / Georgia East	
NAD27 / Louisiana South	NAD83 / Georgia West	