

Introducing HydroPad and HydroServer Lite: Two New Ways to Manage CUAHSI HIS Data

Tifani White, Idaho State University; Daniel P. Ames, Idaho State University

Researchers at Idaho State University are developing two new applications to facilitate simpler discovery, management and visualization of data in the CUAHSI Hydrologic Information System (HIS) network. These applications provide easier access for two separate use cases. HydroPad, an iPad (iOS) and (s*Android (Java) mobile application, is being developed for users that prefer more mobile data management options. HydroPad replicates many of the core functions of HydroDesktop, including map-based data search/discovery and data visualization through graphical displays. Users have the capability to search for and monitor data with the option to export data as an email attachment for outside analysis. Additionally, HydroPad will allow for simplified database management of a user's HydroServer, giving users the ability to add new sites, variables and methods as well as the ability to upload data using authentication. HydroPad is currently in the design and early prototyping stages.

Users that lack the hardware and software requirements and/or a technical background to implement a traditional HIS HydroServer can take advantage of HydroServer Lite, a lightweight version of the CUAHSI HydroServer written in PHP. HydroServer Lite can be deployed as a standalone package on any free or commercial web hosting provider that provides PHP internet web hosting services, like GoDaddy or BlueHost, and is fully compatible with the CUAHSI HIS. HydroServer Lite includes intuitive web-based tools for database management, data entry, data discovery and visualization. It also contains a user management system with different levels of authorization for database editing. Database management tools include forms for adding new sites, sources, methods and variables. Data entry includes forms for entering single data points, multiple data points, and uploading a text file of data to support multiple data entry needs. Data visualization includes map-based variable discovery, which leads to detail windows that include graphs and tables of data that can be exported or saved to a local computer. HydroServer Lite version 1.0 has been successfully deployed at the [McCall Outdoor Science School](#) and is currently undergoing testing with their K-12 field science programs.

For more information or to follow the development of HydroPad or HydroServer Lite, visit the projects' CodePlex pages (<http://hydroserverlite.codeplex.com/> or <http://hydropad.codeplex.com/>) or contact Tifani White at whittifa@isu.edu.

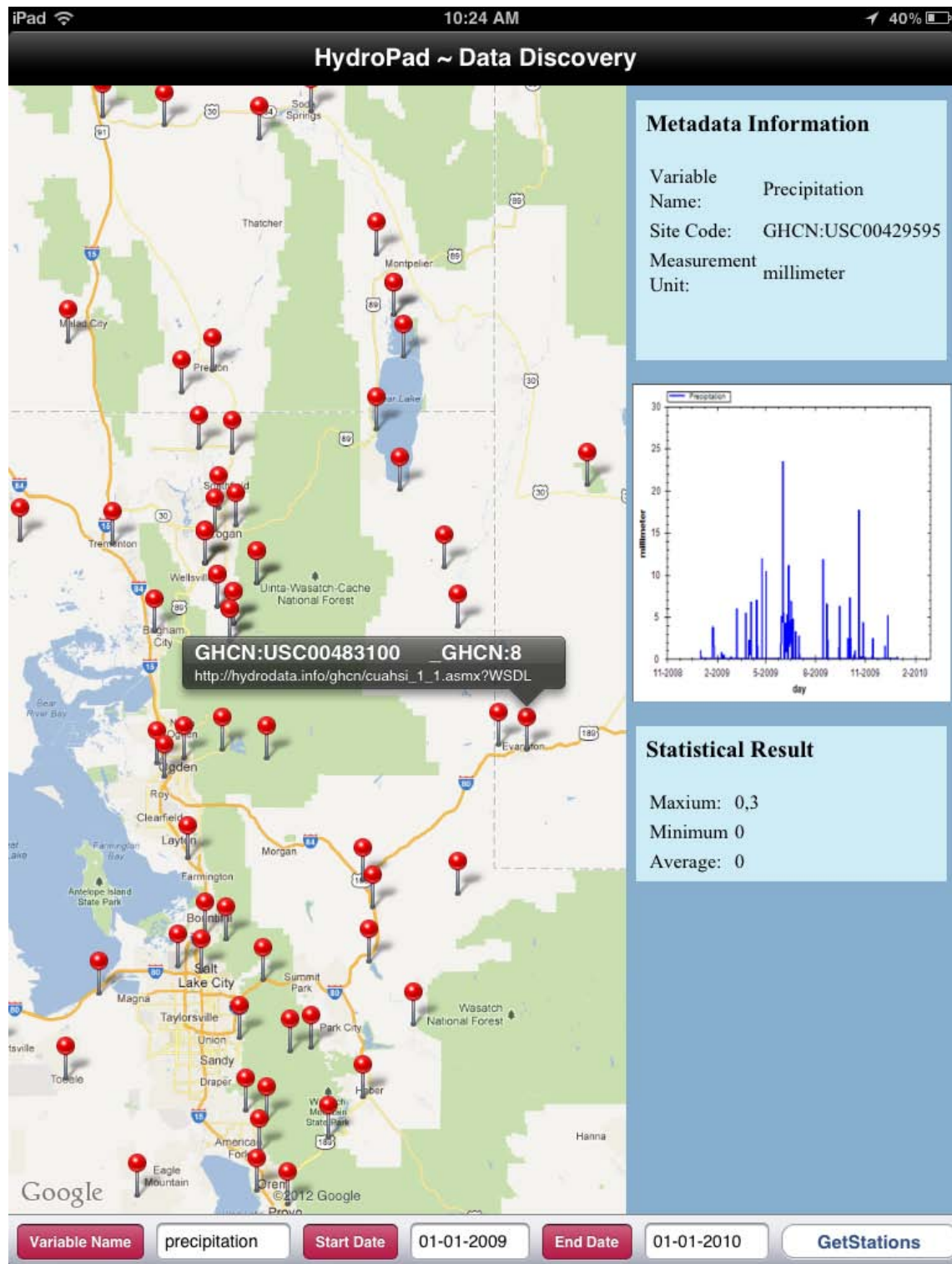


Figure 1: Screenshot of HydroPad

Administrator Navigation

Database Management

Add a new Source

Add a new Site

Users

Add a new user

Change user's password

Change user's authority

Remove existing user

Add Data

Add a single value

Add multiple values

Enter multiple values manually

Please enter the data in the below table. Don't see enough number of rows? Don't worry! Start entering the values and see the magic happen.

Source: McCall Outdoor Science School

Site: Duck Bay

Type:	Method:	Date:**	Time:**	Value:**
Turbidity(Average)	Turbidity Tube	2012-06-27	11:10	50.4
pH(Sporadic)	pHydron pH Strips (1-14)	2012-06-27	11:05	6.8
Temperature(Sporadic)	UEi PDT550 Digital Thermo			

Submit Your Data

****Formatting Notes:**
Date should be formatted like this "2012-06-04" for 4 May 2012.
Time should be formatted like this "13:45" for 1:45 pm.
Value must be a number, and no commas are allowed.

Administrator Navigation

Database Management

Add a new Source

Add a new Site

Users

Add a new user

Change user's password

Change user's authority

Remove existing user

Add Data

Add a single value

Add multiple values

View/Modify Data

Search data

Help Center

Logout

Add a new Site to the database

Source: McCall Outdoor Science School

Site Name: (Ex: Boulder Creek at Jug Mountain Ranch)

Site Code: (You may adjust this if needed)

Site Type:

You may either enter the latitude/longitude manually or simply double click the location on the map. Once the marker is placed on the map, you may then click and drag it to the exact location you desire to adjust the results to be more accurate.

Latitude: Longitude:

Elevation: meter

Your selected location according to us is: 995 University Blvd, Idaho Falls, ID 83401, USA. Please select the state and county accordingly.

State:

County:

Vertical Datum:

Spatial Reference:

Comments: (Optional)

Submit Your Site

Figure 2: Screenshots of HydroServer Lite