

Please Mute Mics!



Remember to Start Recording!



Cyberinfrastructure Tools for iUTAH RFA1: *GAMUT Data Access and Beyond*



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and the rest of the iUTAH CI team

Overview

- Access to GAMUT Data
 - Site and Watershed Pages: <http://gamut.iutahepscor.org>
 - Web Visualization: <http://data.iutahepscor.org>
 - Web Services:
<http://data.iutahepscor.org/LoganRiverWOF/>
 - File-Based Archival: <http://repository.iutahepscor.org>
- Data Publication
 - Data Collection Plans
 - Metadata Submission
 - Data Submission
- QA/QC Support & Software
- Future Steps/Input



Access to GAMUT Data

Dynamic site pages for each GAMUT site at <http://gamut.iutahepscor.org> with previews and links to data.

**Modeling and Data Federation**
Innovative Urban Transitions and Aridregion Hydro-sustainability

Home Development **Data** About

Logan River

The Logan River watershed is located in the heart of the Bear River range with headwaters near the Utah-Idaho border. The river flows southwest through Logan Canyon - a landscape dominated by formerly glaciated peaks, limestone cliffs, and the occasional sinkhole. The underlying bedrock has numerous caves that create natural springs that contribute to the river's year-round discharge. Near the canyon's mouth, the river is dammed in three locations (First, Second, and Third dams) for hydroelectric generation. After exiting the mountains, the river flows west through Cache Valley and is impacted by a mixture of agricultural and urban environments. The Logan River converges with the Little Bear River in central Cache Valley before flowing north to the main stem of the Bear River and Cutler Reservoir.



Multiple instruments are used to collect data.



Visualize Logan River data

Monitoring Sites: Click on a site code to visualize and download data

The data presented here are provisional and subject to revision

Site Code	Site Name	Site Type
LR_Mendon_AA	Logan River at Mendon Road (600 South) Aquatic	Aquatic
LR_WaterLab_AA	Logan River at the USU Water Lab Aquatic	Aquatic
LR_MainStreet_BA	Logan River at the Main Street Bridge Aquatic	Aquatic
LR_GC_C	Golf Course Climate	Climate
LR_TWDEF_C	Experimental Forest Climate	Climate
LR_FB_C	Franklin Basin Climate	Climate
LR_TG_C	Tony Grove Climate	Climate
LR_TG_BA	Logan River near Tony Grove Aquatic	Aquatic
LR_Wilkins_R	Wilkins Repeater	Climate



This project is funded through EPS - 1208732. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

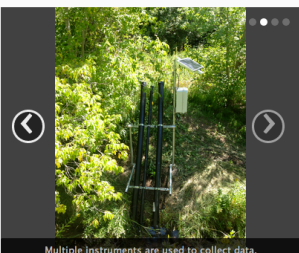


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Logan River at the Utah Water Research Laboratory west bridge

Site Code	LR_WaterLab_AA		
Latitude	41.739034	Local Projection	None
Longitude	-111.795742	State	Utah
Lat/Long Datum	WGS84	County	Cache
Elevation	1414.0	Comments	
Local X	None	Watershed	Logan
Local Y	None	Site Type	Stream



Multiple instruments are used to collect data.

Most Recent Instantaneous Measurements

Data update time: 2014-06-25 11:45:00, past 24 hours shown.

The data presented here are provisional and subject to revision

Temperature WaterTemp_EX0 10.620 degC	Specific Conductance SpCond 318.300 uS/cm	pH pH 8.460 pH
Oxygen, dissolved DOO 9.830 mg/L	Oxygen, dissolved percent of saturation DOO_Sat 88.500 % Sat	Turbidity Turbid 1.490 NTU
Blue-green algae (cyanobacteria), phycocyanin PCA -0.030 RFU	Chlorophyll Fluorescence Chlorophyll -0.090 RFU	Colored Dissolved Organic Matter CDOM 0.940 QSU
Gage height Sage 55.280 cm		

WARNING: These data may be provisional and subject to revision. The data are released on the condition that neither iUTAH, Utah State University, Brigham Young University, nor the University of Utah may be held liable for any damages resulting from their use.

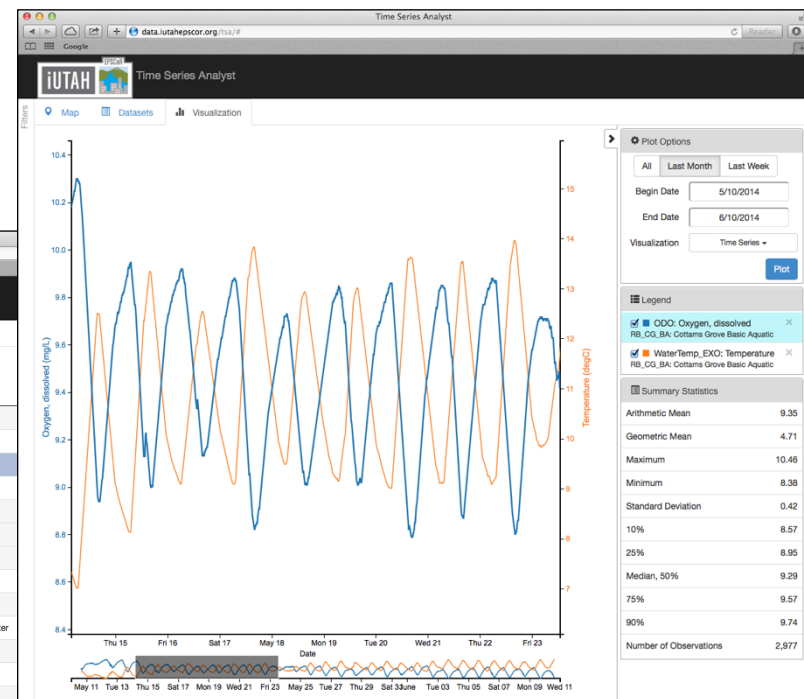
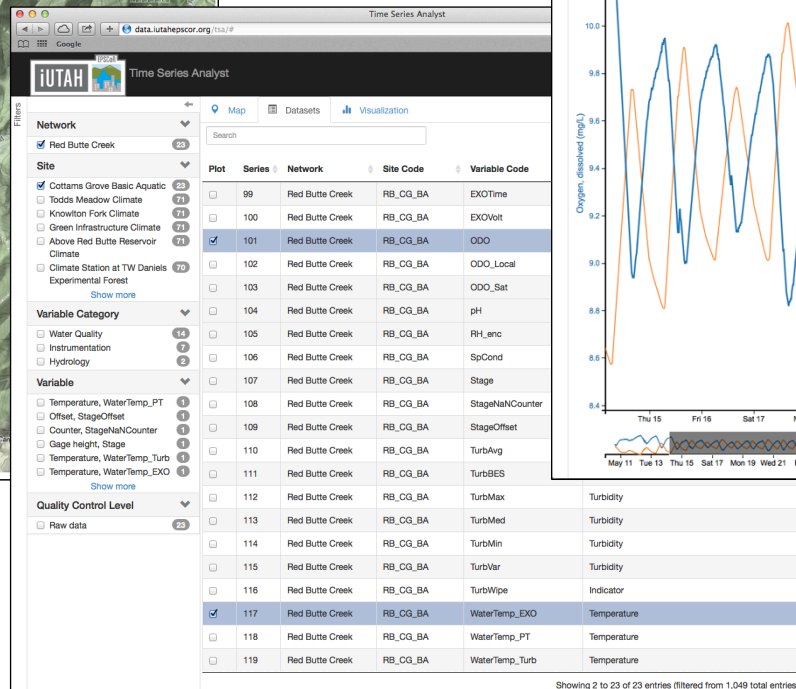
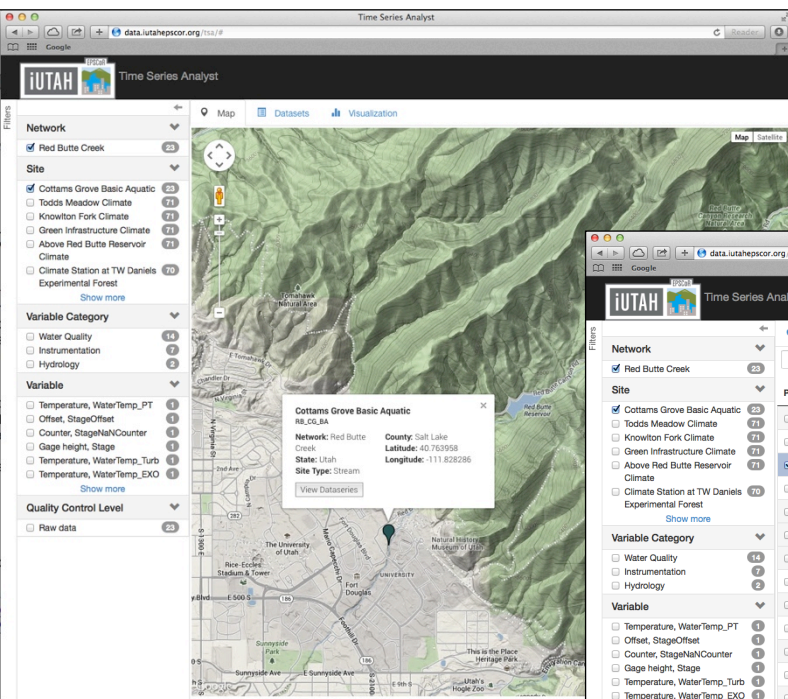


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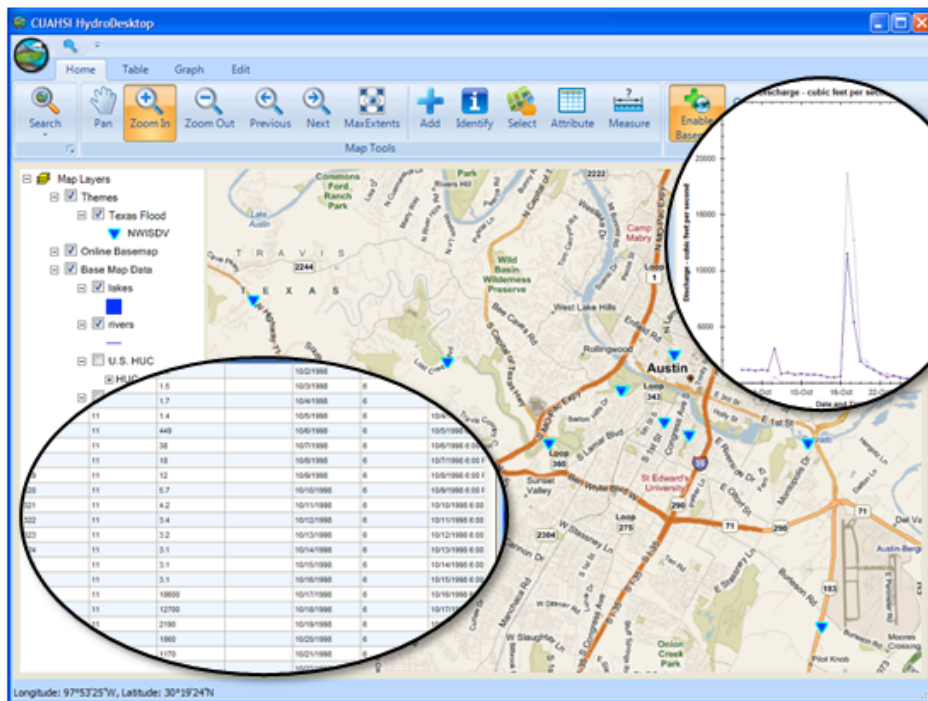
Access to GAMUT Data

- Time Series Analyst: Enhanced web access and visualization of time series data at <http://data.iutahepscor.org/tsa>
- Features map-based interface, faceted searching, and multiple plot types



Access to GAMUT Data

- CUAHSI WaterOneFlow web services deployed
 - <http://data.iutahepscor.org/LoganRiverWOF/>
 - <http://data.iutahepscor.org/RedButteCreekWOF/>
 - <http://data.iutahepscor.org/ProvoRiverWOF/>
- Permit programmatic access- xml files
- Are we ready to register with CUAHSI Water Data Center?



data.iutahepscor.org/LoganRiverWOF/WaterML_1_0.aspx

CUAHSI WATERML WEB SERVICES FOR ODM v1_1 DATABASES

Home WaterML 1.0 WaterML 1.1 WaterML 2.0 DataCert WFS Admin [Log In]

WaterML is delivered over a SOAP API, called "WaterOneFlow". In this version, the API is updated to include a REST endpoint

There are two methods in these services:

- REST
- SOAP API

Test the Rest Interface

Site: Variable: Begin Date: End Date: Generate [VariableURL] [Site + Series URL] [Values URL] [A] Generated URL: [Run the Generated URL] [Reset]

WaterML is delivered over a SOAP API, called "WaterOneFlow". In this version, the API is updated to include a REST endpoint

There are two methods in these services:

SITES

[UtahLR,WaterLab_AA] Logan River at the Utah Water Research Laboratory west bridge
[UtahLR,Mendon_AA] Logan River at Mendon Road
[UtahLR,MainStreet_BA] Logan River at Main Street
[UtahLR,TWDEF_Q] Climate Station at TW Defeat Rd
[UtahLR,GC_Q] Climate Station at Logan River Golf Course

VARIABLES

[UtahLRTemp,Avg] Temperature
[UtahLRRelHumid,Avg] Relative Humidity
[UtahLRDevPL,Avg] Temperature, dew point
[UtahLRVaporPress,Avg] Vapor pressure
[UtahLRBP,Avg] Barometric pressure
[UtahLRWindSp,Avg] Wind speed
[UtahLRWindDir,Avg] Wind direction
[UtahLRWindDir_Shd] Wind direction
[UtahLRPrecip,Freq] Precipitation
[UtahLRJuddDepth,Avg] Snow depth
[UtahLRJuddTemp,Avg] Temperature
[UtahLRSWin_NR01_Avg] Radiation, incoming shortwave
[UtahLRSWOut_NR01_Avg] Radiation, outgoing shortwave
[UtahLRWn_Cor_NR01_Avg] Radiation, incoming longwave
[UtahLRWOut_Cor_NR01_Avg] Radiation, outgoing longwave

VALUES/TIMESERIES

[UtahLR,WaterLab_AA] [UtahLR,BattVolt] Logan River at the Utah Water Research Laboratory west bridge
[UtahLR,WaterLab_AA] [UtahLR,RH_ene] Logan River at the Utah Water Research Laboratory west bridge
[UtahLR,WaterLab_AA] [UtahLR,Temp_EXO] Logan River at the Utah Water Research Laboratory west bridge
[UtahLR,WaterLab_AA] [UtahLR,SpCond] Logan River at the Utah Water Research Laboratory west bridge
[UtahLR,WaterLab_AA] [UtahLR,pH] Logan River at the Utah Water Research Laboratory west bridge
[UtahLR,WaterLab_AA] [UtahLR,ODO] Logan River at the Utah Water Research Laboratory west bridge
[UtahLR,WaterLab_AA] [UtahLR,ODO_Sel] Logan River at the Utah Water Research Laboratory west bridge
[UtahLR,WaterLab_AA] [UtahLR,ODO_Local] Logan River at the Utah Water Research Laboratory west bridge
[UtahLR,WaterLab_AA] [UtahLR,EXOTime] Logan River at the Utah Water Research Laboratory west bridge
[UtahLR,WaterLab_AA] [UtahLR,EXOVolt] Logan River at the Utah Water Research Laboratory west bridge

Access to GAMUT Data

- File-based archival of raw data: <http://repository.iutahepscor.org>
- Files contain all of the variables measured at each site.
- Partitioned by year
- Updated daily

Raw Data for Calendar year 2014

Grid Graph Map 1000 records 0 - 100 Search data ... Go Filters

LocalDat...	UTCOffset	DateTim...	BattVolt	Door_Tot	EXOTime	EXOVolt	ODO	ODO_Lo...	ODO_Sat	RH_enc	S
2014-06-...	-7.0	2014-06-...	12.94	2.0	200104.0	12.84	9.8	97.2	81.8	23.22	2i
2014-06-...	-7.0	2014-06-...	13.09	5.0	200104.0	12.84	9.8	97.2	81.8	13.71	7i
2014-06-...	-7.0	2014-06-...	13.49	5.0	203130.0	13.37	9.73	97.0	81.7	16.55	2i
2014-06-...	-7.0	2014-06-...	13.6	0.0	204630.0	13.51	9.71	97.0	81.7	13.91	2i
2014-06-...	-7.0	2014-06-...	13.76	0.0	210130.0	13.57	9.7	96.9	81.6	14.01	2i
2014-06-...	-7.0	2014-06-...	13.49	0.0	211630.0	13.4	9.67	96.4	81.2	15.94	2i
2014-06-...	-7.0	2014-06-...	13.83	0.0	213130.0	13.51	9.71	96.7	81.4	16.18	2i
2014-06-...	-7.0	2014-06-...	13.75	0.0	214630.0	13.63	9.71	96.5	81.3	17.73	2i
2014-06-...	-7.0	2014-06-...	14.03	0.0	220130.0	13.93	9.72	96.8	81.5	17.83	2i
2014-06-...	-7.0	2014-06-...	13.67	0.0	221630.0	13.56	9.67	96.3	81.0	18.04	2i
2014-06-...	-7.0	2014-06-...	13.66	0.0	223130.0	13.56	9.67	96.2	81.0	18.88	2i
2014-06-...	-7.0	2014-06-...	13.56	0.0	224630.0	13.44	9.66	96.0	80.9	20.0	2i
2014-06-...	-7.0	2014-06-...	13.44	0.0	230130.0	13.32	9.61	95.6	80.5	22.27	2i
2014-06-...	-7.0	2014-06-...	13.4	0.0	231630.0	13.29	9.61	95.4	80.3	23.9	2i
2014-06-...	-7.0	2014-06-...	13.37	0.0	233130.0	13.26	9.6	95.2	80.2	25.02	2i
2014-06-...	-7.0	2014-06-...	13.35	0.0	234630.0	13.24	9.6	95.1	80.1	25.46	2i
2014-06-...	-7.0	2014-06-...	13.33	0.0	130.0	13.22	9.62	95.0	80.0	25.6	2i
2014-06-...	-7.0	2014-06-...	13.31	0.0	1630.0	13.2	9.62	94.8	79.83	25.7	2i
2014-06-...	-7.0	2014-06-...	13.3	0.0	3130.0	13.19	9.64	94.7	79.71	25.8	2i
2014-06-...	-7.0	2014-06-...	13.27	0.0	4630.0	13.16	9.64	94.4	79.5	26.28	2i
2014-06-...	-7.0	2014-06-...	13.27	0.0	10130.0	13.16	9.66	94.4	79.44	26.68	2i
2014-06-...	-7.0	2014-06-...	13.26	0.0	11630.0	13.15	9.68	94.2	79.32	27.09	2i
2014-06-...	-7.0	2014-06-...	13.25	0.0	13130.0	13.14	9.7	94.1	79.25	27.97	2i

/ Organizations / iUTAH Datasets Organizations Groups

iUTAH EPSCoR

iUTAH, innovative Urban Transitions and Aridregion Hydro-sustainability, is a statewide effort dedicated to maintaining and improving water sustainability in Utah. Funded by the...

Followers 0 Members 0 Datasets 31

Follow

organization Clear All

iUTAH (40)

Show More organization

Groups Clear All

There are no Groups that match this search

Tags Clear All

time series (32)

raw data (32)

GAMUT (32)

climate (19)

water quality (17)

soil (17)

40 datasets found. However, only the datasets that you have access to are listed.

Order by: Name Ascending

iUTAH GAMUT Network Raw Data at Tony Grove Climate Site (LR_TG_C)

This dataset contains raw data for all of the variables measured for the iUTAH GAMUT Network climate site near Tony Grove (LR_TG_C). Each file contains a calendar year of data....

CSV

iUTAH GAMUT Network Raw Data at Logan River near Franklin Basin Basic Aquatic...

This dataset contains raw data for all of the variables measured for the iUTAH GAMUT Network aquatic site on the Logan River near Franklin Basin (LR_FB_BA). Each file contains a...

CSV

iUTAH GAMUT Network Raw Data at Franklin Basin Climate Site (LR_FB_C)

This dataset contains raw data for all of the variables measured for the iUTAH GAMUT Network climate site near Franklin Basin (LR_FB_C). Each file contains a calendar year of...

CSV

iUTAH GAMUT Network Raw Data at Golf Course Climate Site (LR_GC_C)

This dataset contains raw data for all of the variables measured for the iUTAH GAMUT Network climate site near the Logan River Golf Course (LR_GC_C). Each file contains a...

CSV

iUTAH GAMUT Network Raw Data at Logan River near Main Street Basic Aquatic Si...

This dataset contains raw data for all of the variables measured for the iUTAH GAMUT Network aquatic site on the Logan River at the Main Street Highway 89/91 bridge...

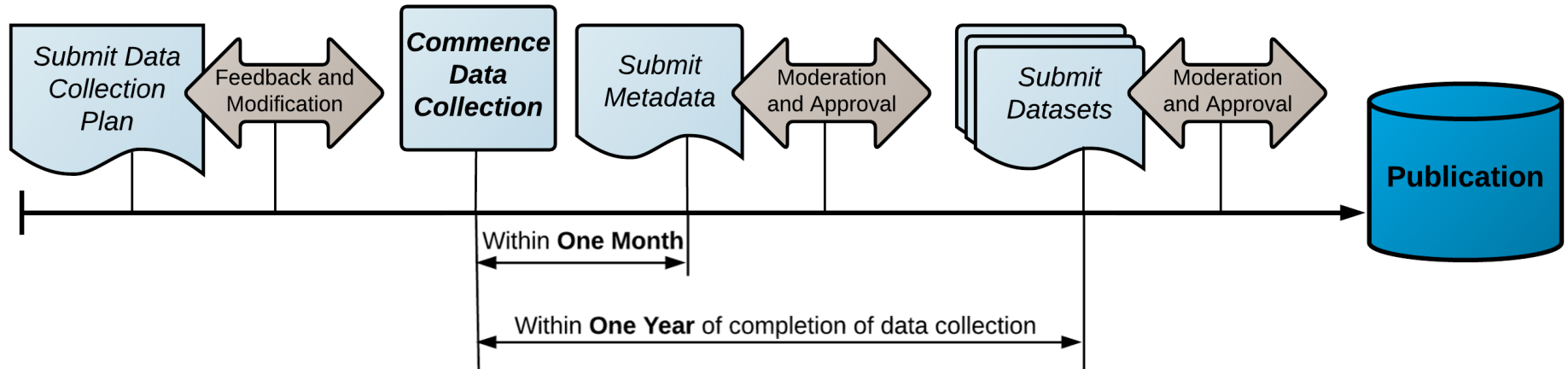
CSV

iUTAH GAMUT Network Raw Data at Logan River near Mendon Road Advanced Aquatic...

This dataset contains raw data for all of the variables measured for the iUTAH GAMUT Network aquatic site on the Logan River at Mendon Road/600 South (LR_Mendon_AA). Each file...

CSV

Data Publication: Process



Publication:

- Assigns a citation and a url
- Data and metadata are discoverable
- Datasets are archived and curated

Data Publication: Data Collection Plans

- **ALL** data creation efforts with **ANY** funding from iUTAH (salary, travel, sampling, equipment, etc.) **MUST** submit a brief plan to the Data Policy Committee **PRIOR** to funding.
- Plan should include:
 1. Identification of types of data to be collected/created
 2. Brief description of methods, data formats, and data products
 3. Timeline for data generation and expected publication
 4. Identification of who will have access to preliminary data during collection
 5. Identification of limits to access
 6. Information on collaborators/co-authors of data products or publications

Data Publication: Data Collection Plans

- Template should be used:
http://iutahepscor.org/data_modeling/data_management_Policy.shtml
- Submit to amber.jones@usu.edu

[illegible]

Data Publication: Repository System

<http://repository.iutahepscor.org>

- Web-based system for iUTAH researchers to submit and publish data and models.
- System supports **curation** of datasets.
- **Integrates** the submission and presentation of data and metadata.
- Supports **discovery and access** of datasets to a wide audience.
- Supports **storage and archival**.
- Datasets are private until **approved** by a moderator.

The screenshot shows the 'Create Dataset' form in the iUTAH Modeling and Data Federation system. The form is divided into several sections:

- What are datasets?**: A sidebar note explaining that datasets are used to group related pieces of data and can be found under a single URL with a description and licensing information.
- Create dataset**: The main form area with the following fields:
 - Title**: eg. Red Butte Creek GAMUT Water Temperature Data.
 - URL**: iutah-ckan-stage.uwrl.usu.edu/dataset/<dataset> (with an 'Edit' button).
 - Description**: A text area for a short description or abstract, with a note that Markdown formatting is allowed.
 - Keywords**: eg. water quality, temperature, Red Butte Creek, time series.
 - Organization**: A dropdown menu set to 'iutah'.
 - Visibility**: A dropdown menu set to 'Private', with a link to 'Why is my dataset private?'.
 - Language**: A dropdown menu set to 'en'.
 - Access Information**: A text area for access restrictions, with a note that Markdown formatting is allowed.
 - Type**: A dropdown menu set to 'collection'.
- Optional Metadata**: A section with the following fields:
 - Purpose**: eg. Educational, Research, Regulatory.
 - Required Software**: eg. ArcGIS, R, specific model application.
 - Research Focus Area**: A dropdown menu.
- Spatial Metadata**: A section with the following fields:
 - Spatial Coverage**: eg. Salt Lake County.
 - iUTah Study Area**: A dropdown menu.

Data Publication: Repository System

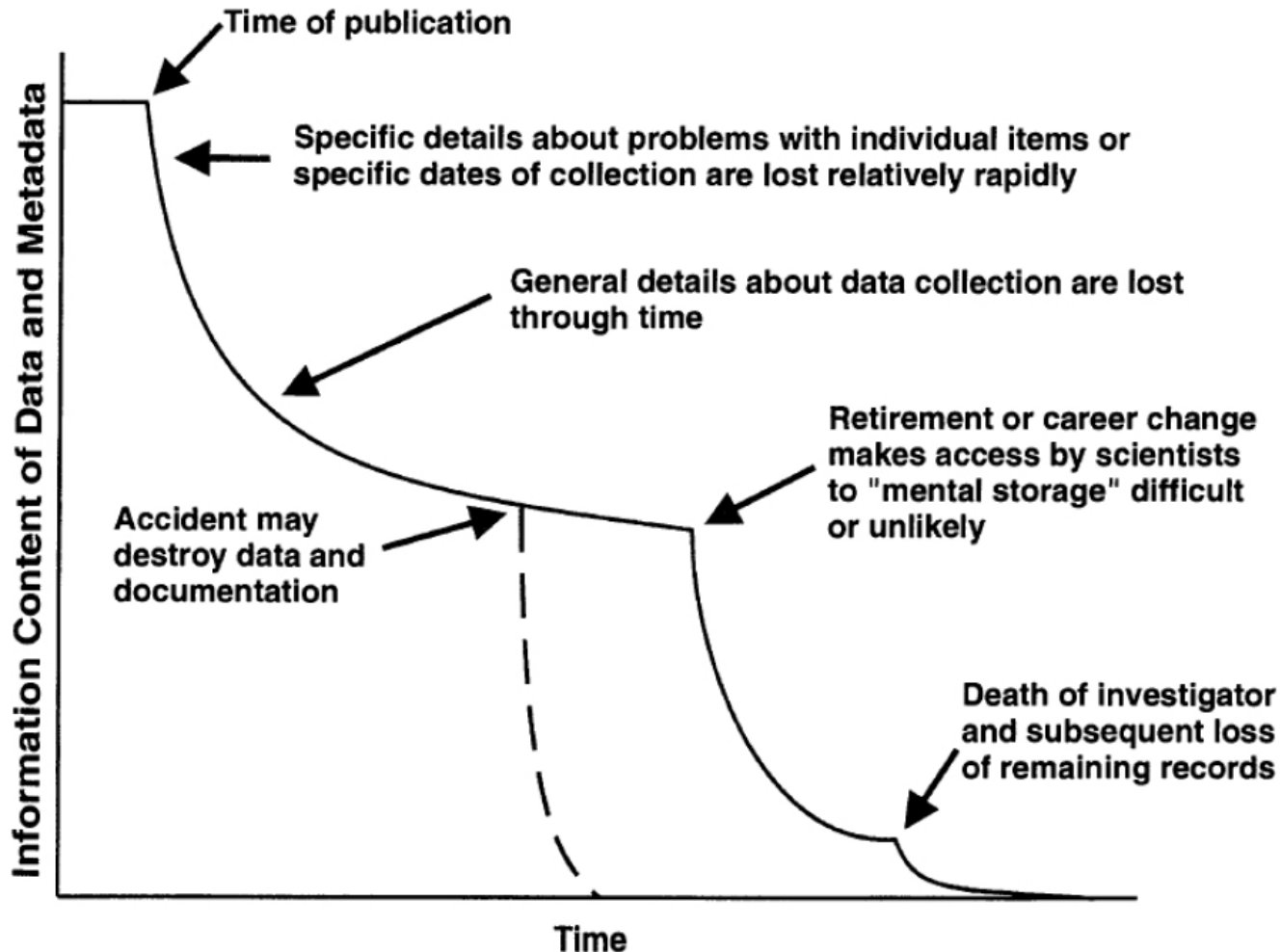
<http://repository.iutahepscor.org>

- Organized into **datasets**. Each dataset consists of multiple resources.
- Supports submission of **metadata-only** record.
- **General level metadata**. More specific metadata may be submitted as a resource.
- Metadata records submitted to **provide insight** into what work iUTAH participants are conducting.

The screenshot shows the 'Create Dataset' form in the iUTAH Modeling and Data Federation system. The form is divided into several sections:

- What are datasets?**: A sidebar note explaining that datasets are used to group related pieces of data and can be found under a single URL with a description and licensing information.
- Create dataset**: The main form area, which includes:
 - Title**: A text field with the example 'eg. Red Butte Creek GAMUT Water Temperature Data.' and an 'Edit' button.
 - URL**: A text field with the example 'URL: iutah-ckan-stage.uwrl.usu.edu/dataset/<dataset>' and an 'Edit' button.
 - Description**: A text area with the example 'eg. A short description (or abstract) for the dataset.' and a note 'You can use Markdown formatting here'.
 - Keywords**: A text field with the example 'eg. water quality, temperature, Red Butte Creek, time series'.
 - Organization**: A dropdown menu with 'iutah' selected.
 - Visibility**: A dropdown menu with 'Private' selected, and a link 'Why is my dataset private?'.
 - Language**: A text field with the example 'e.g., en, es, fr'.
 - Access Information**: A text area with the example 'e.g., limited to iUTAH participants, limited to IRB researchers' and a note 'You can use Markdown formatting here'.
 - Type**: A dropdown menu with 'collection' selected.
- Optional Metadata**: A section with fields for:
 - Purpose**: A text field with the example 'e.g., Educational, Research, Regulatory'.
 - Required Software**: A text field with the example 'e.g., ArcGIS, R, specific model application'.
 - Research Focus Area**: A dropdown menu.
- Spatial Metadata**: A section with fields for:
 - Spatial Coverage**: A text field with the example 'e.g., Salt Lake County'.
 - iUtah Study Area**: A dropdown menu.

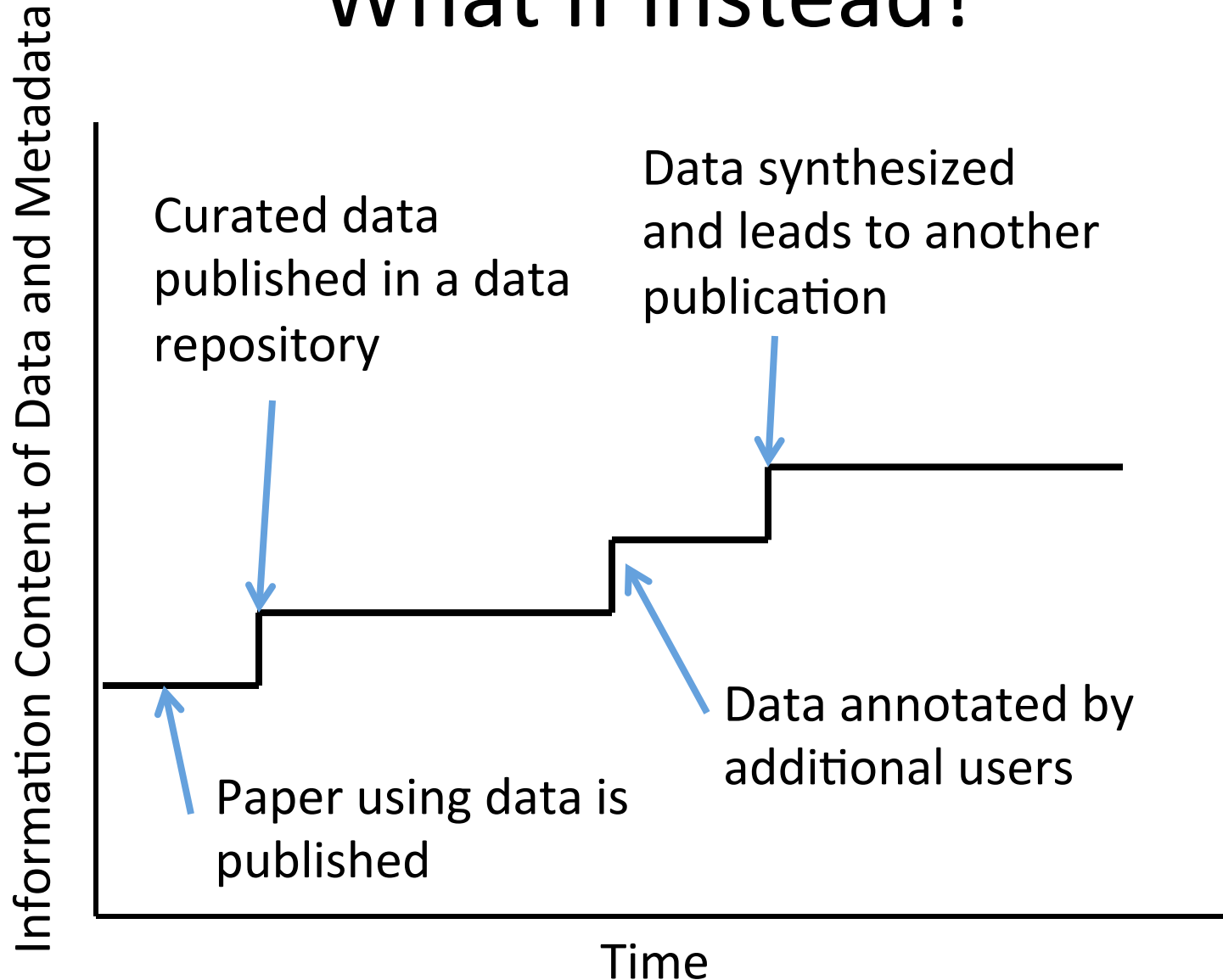
Information Entropy



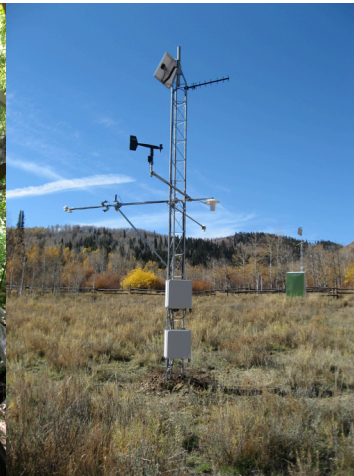
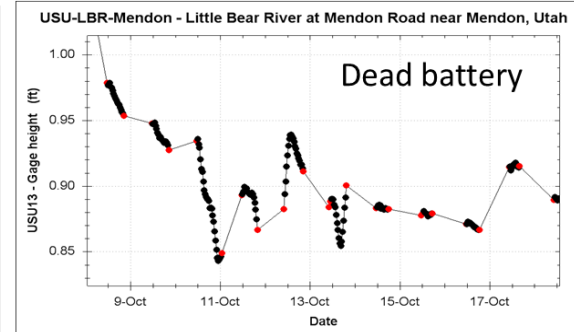
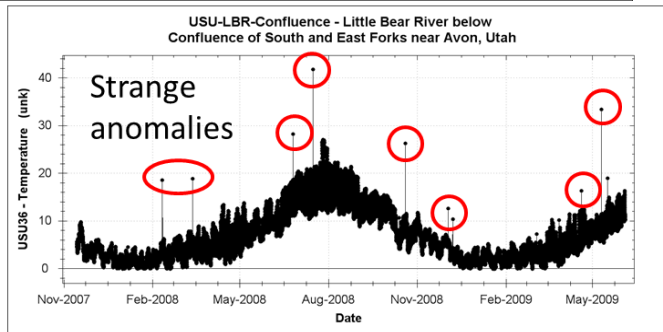
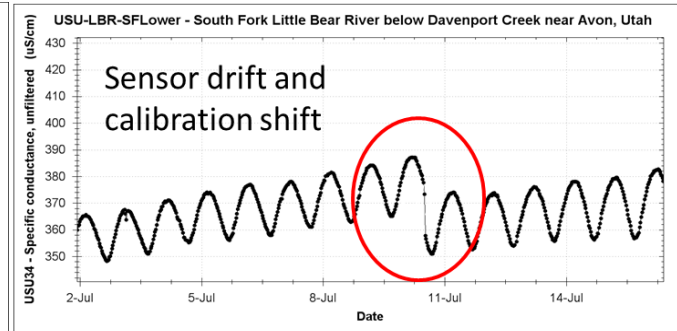
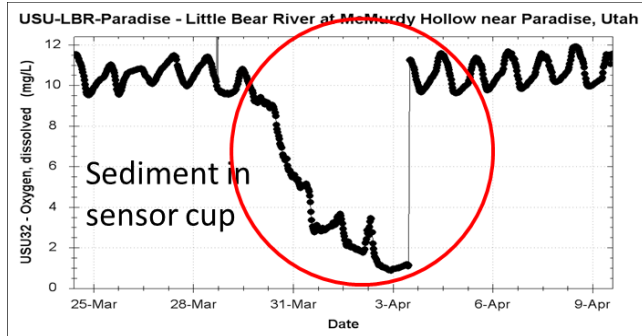
Example of the normal degradation in information content associated with data and metadata over time ("information entropy").

Michener, W.K. (2006). Meta-information concepts for ecological data management, *Ecological Informatics*, 1(1), 3-7, <http://dx.doi.org/10.1016/j.ecoinf.2005.08.004>.

What if instead?



QA/QC Support

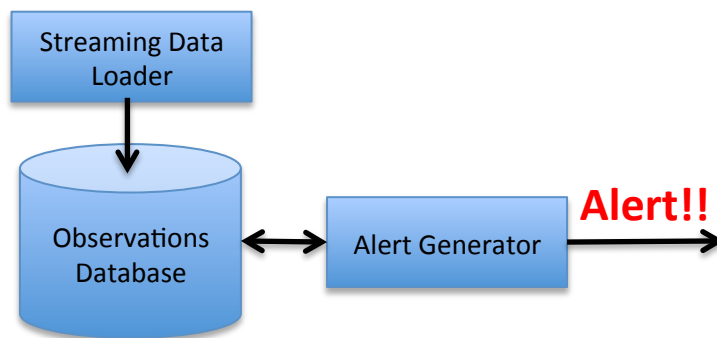


QA/QC Support: Automated Alerts

Technicians receive email alerts daily

1. Power: batter voltage < 12 volts
2. Persistence: value of a variable is unchanging
3. Updates: data are not being reported
4. NaNs: sensor is reporting “NaN” values

Additional alerts can be implemented as needed (e.g., variable-specific range checks, internal consistency, spatial consistency).

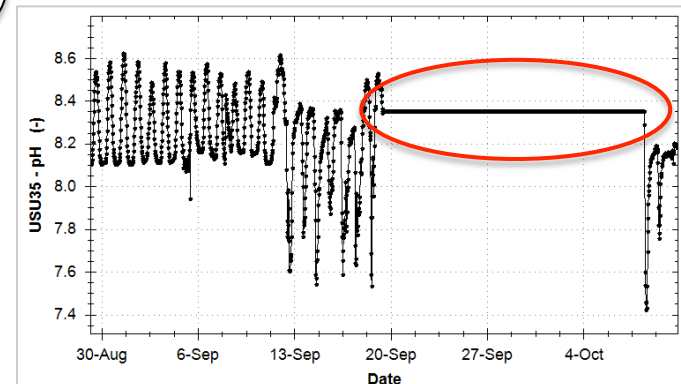
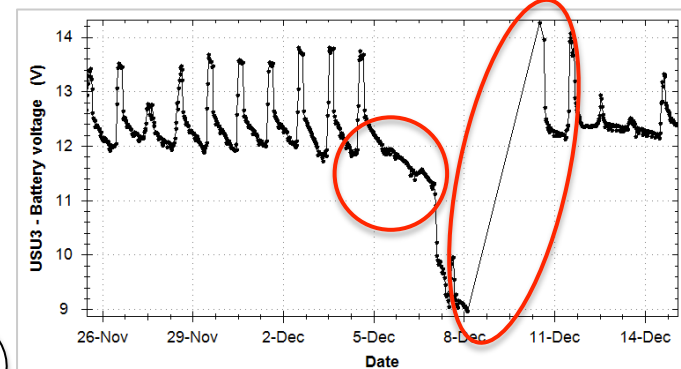


IUTAH Data Alerts <data.alerts@usu.edu>
to chris.cox, amber.jones

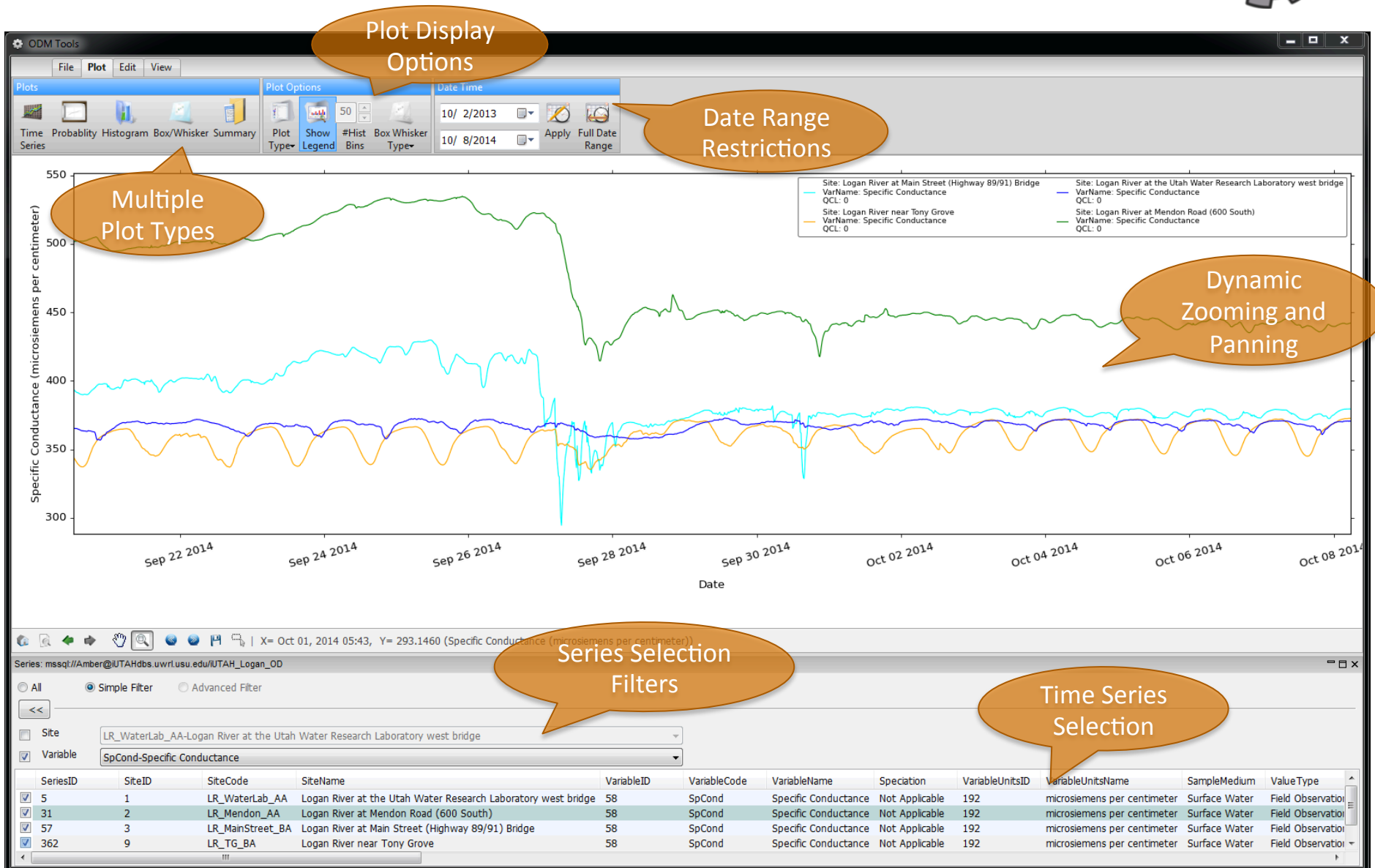
The following results are have repeated values in the past day.

SiteID	SiteCode	VariableID	VariableCode	DataValue	Start	End	ValueCount
3	LR_MainStree	61	ODO_Sat	84.90	2014-02-17 21:15	2014-02-18 01:15	17
4	LR_TWDEF_C	9	Precip_Tot	9.74	2014-02-17 18:00	2014-02-18 00:45	28
4	LR_TWDEF_C	13	SWIn_NR01_Avg	-4.88	2014-02-17 20:30	2014-02-18 00:30	17
4	LR_TWDEF_C	14	SWOut_NR01_Avg	.00	2014-02-17 18:30	2014-02-18 04:00	39
4	LR_TWDEF_C	24	PARIn_Avg	.00	2014-02-17 18:45	2014-02-18 04:00	38
4	LR_TWDEF_C	25	PAROut_Avg	.00	2014-02-17 18:45	2014-02-18 04:00	38
4	LR_TWDEF_C	41	SoilCond_20cm_Avg	.00	2014-02-17 06:15	2014-02-18 04:00	88
4	LR_TWDEF_C	45	SoilCond_50cm_Avg	.00	2014-02-17 06:15	2014-02-18 04:00	88
4	LR_TWDEF_C	48	SoilTemp_100cm_Avg	-2.06	2014-02-17 09:15	2014-02-17 13:15	17
4	LR_TWDEF_C	49	SoilCond_100cm_Avg	.00	2014-02-17 06:15	2014-02-18 04:00	88
4	LR_TWDEF_C	91	Precip_HrDiff	.00	2014-02-17 19:00	2014-02-18 01:00	25
5	LR_GC_C	5	BP_Avg	86.00	2014-02-17 21:45	2014-02-18 01:45	17
5	LR_GC_C	9	Precip_Tot	-9999.00	2014-02-17 06:15	2014-02-18 04:45	91
5	LR_GC_C	45	SoilCond_50cm_Avg	.00	2014-02-17 06:15	2014-02-18 04:45	91
5	LR_GC_C	91	Precip_HrDiff	.00	2014-02-17 06:15	2014-02-18 04:45	91

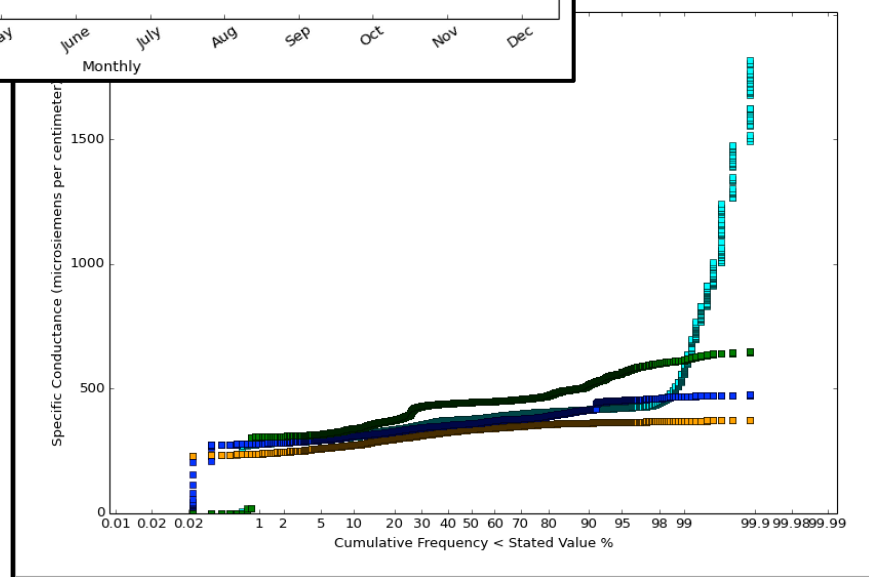
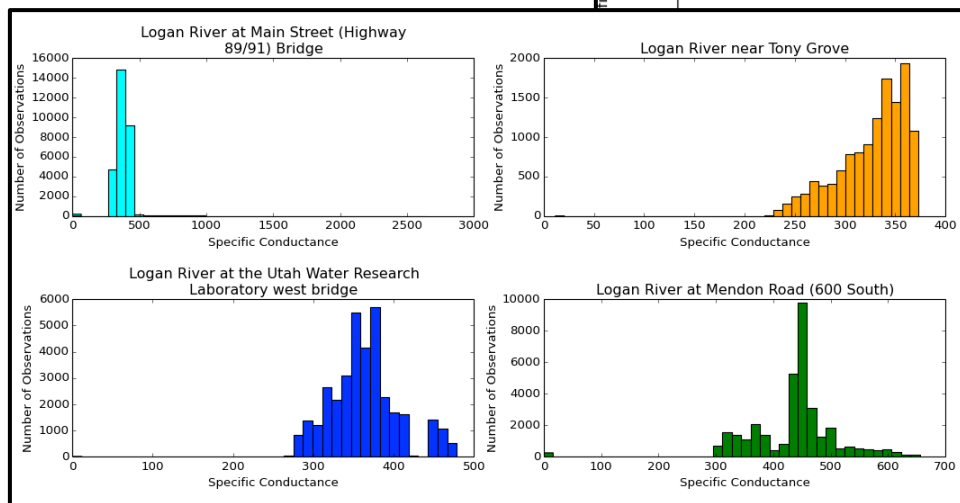
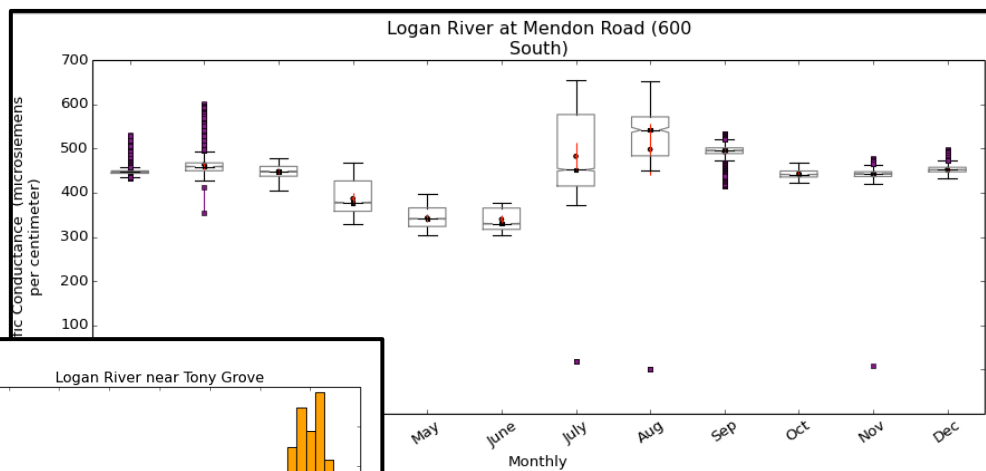
(15 rows affected)



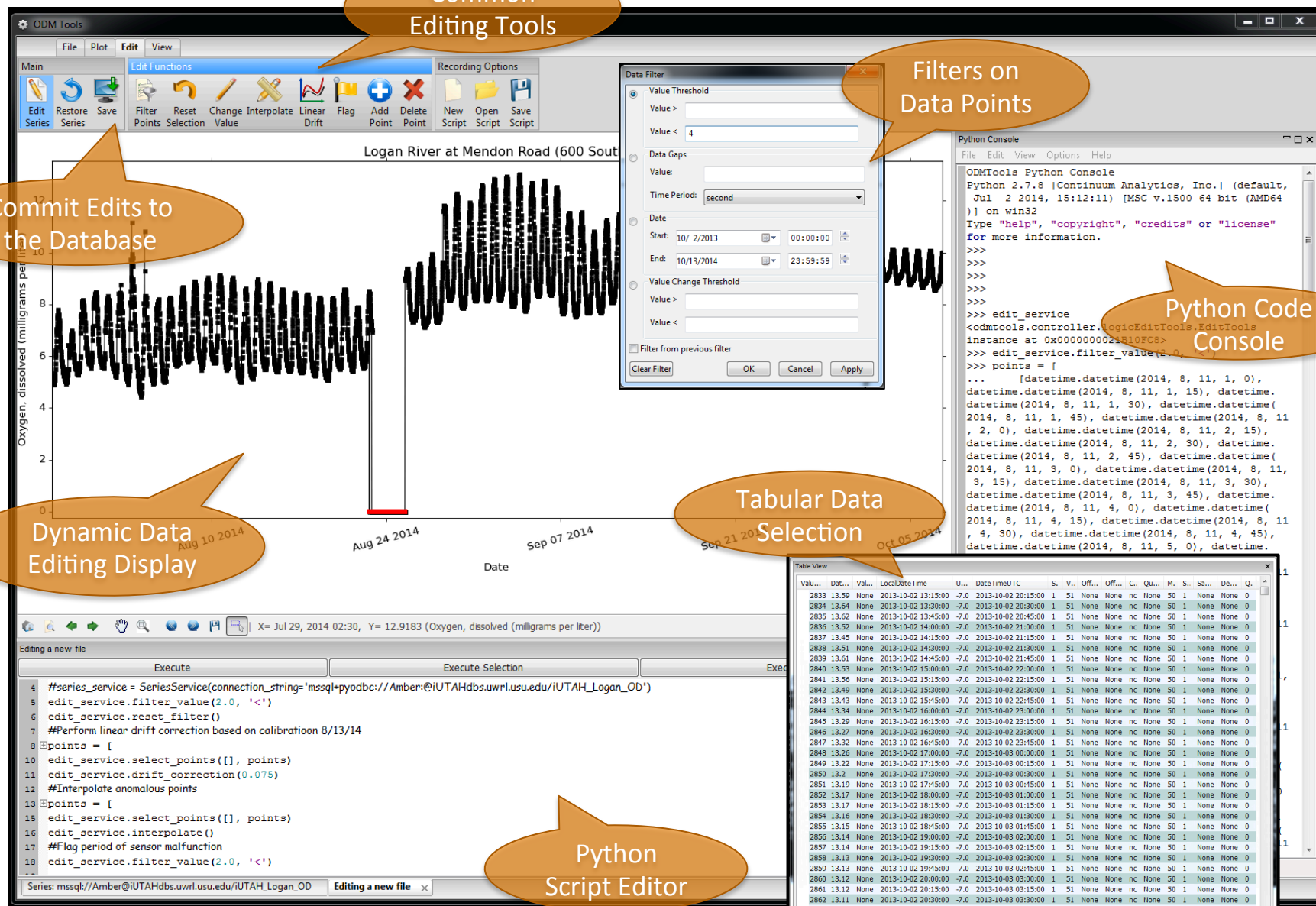
QA/QC Support: Desktop Software



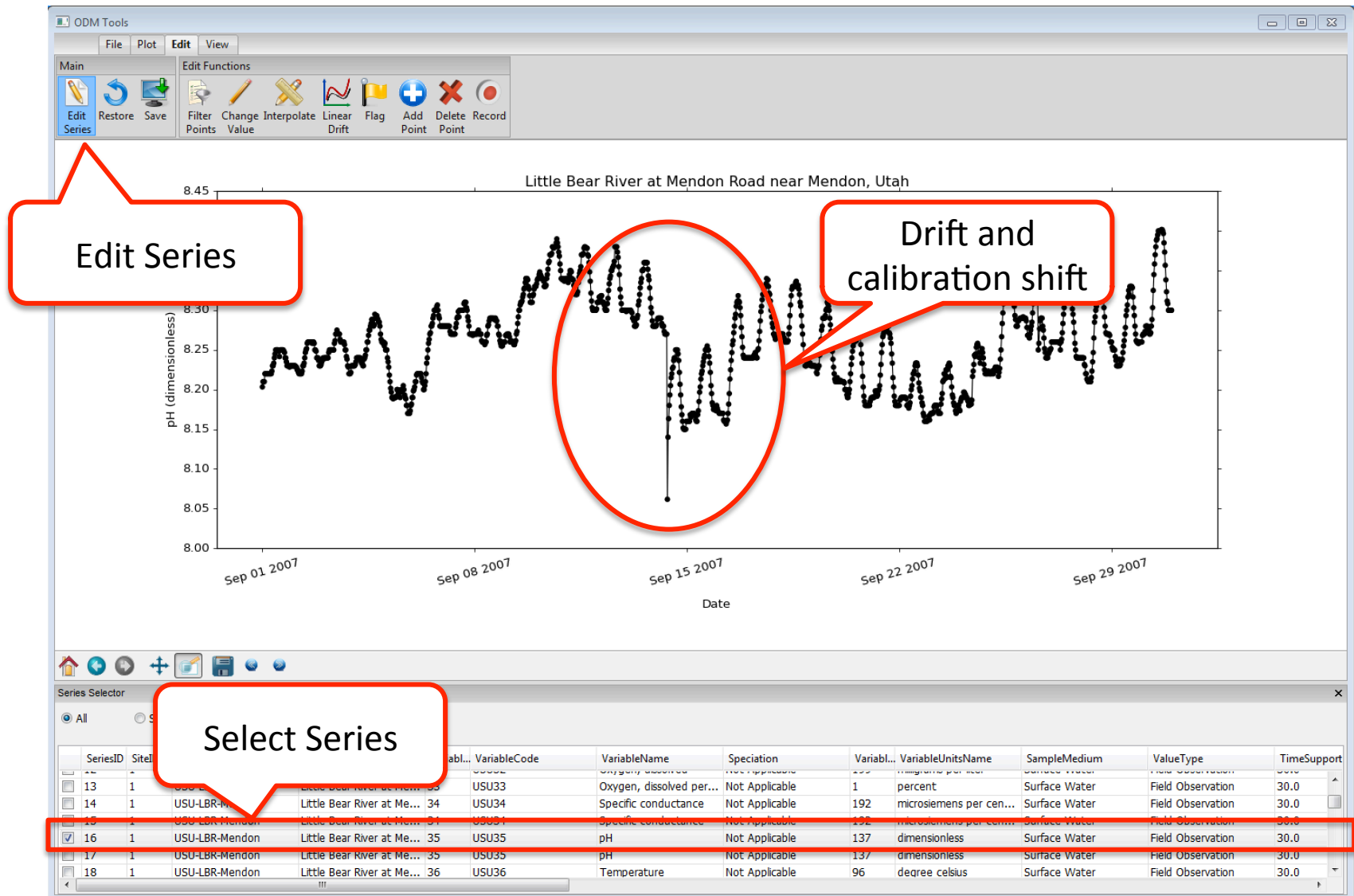
QA/QC Support: Desktop Software



QA/QC Support: Desktop Software



Step 1: Select a Time Series for Editing



Step 2: Select Data to Edit

The screenshot displays the ODM Tools application interface. The main window shows a plot titled "Little Bear River at Mendon Road near Mendon, Utah" with pH (dimensionless) on the y-axis (ranging from 8.00 to 8.45) and dates on the x-axis (Sep 01 2007 to Sep 22 2007). The plot shows two data series: a red line with dots and a black line with dots. A red circle highlights the "Filter" button in the "Edit Functions" toolbar. A red arrow points from this circle to the "Data Filter" dialog box, which is open on the right side of the screen.

The "Data Filter" dialog box has the following options:

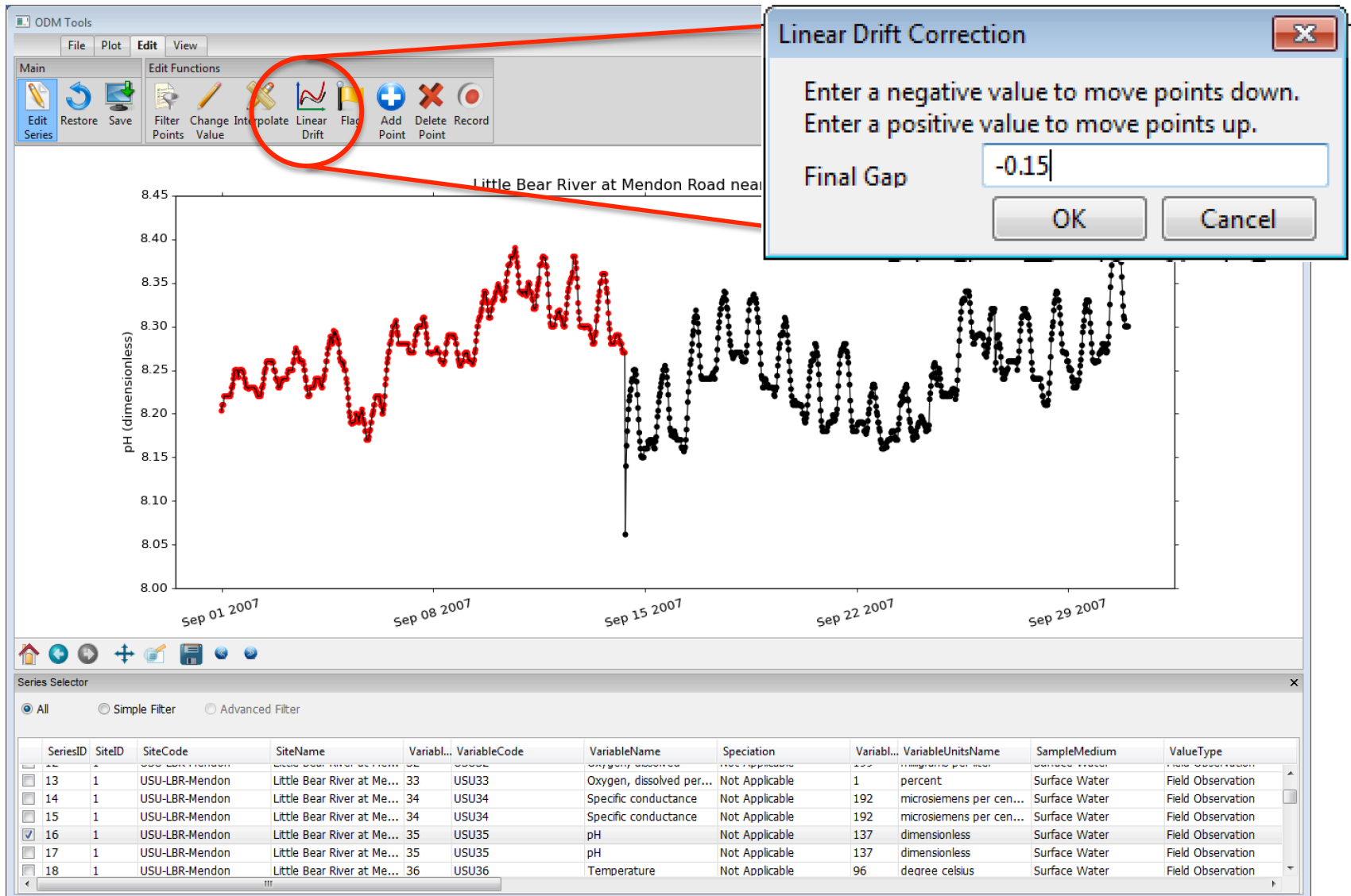
- ☒ **Value Threshold**
 - Value >
 - Value <
- ☐ **Data Gaps**
 - Value:
 - Time Period:
- ☐ **Date**
 - Before:
 - After:
- ☐ **Value Change Threshold**
- ☐ Filter from previous filter

Buttons at the bottom: Clear Filter, OK, Cancel, Apply.

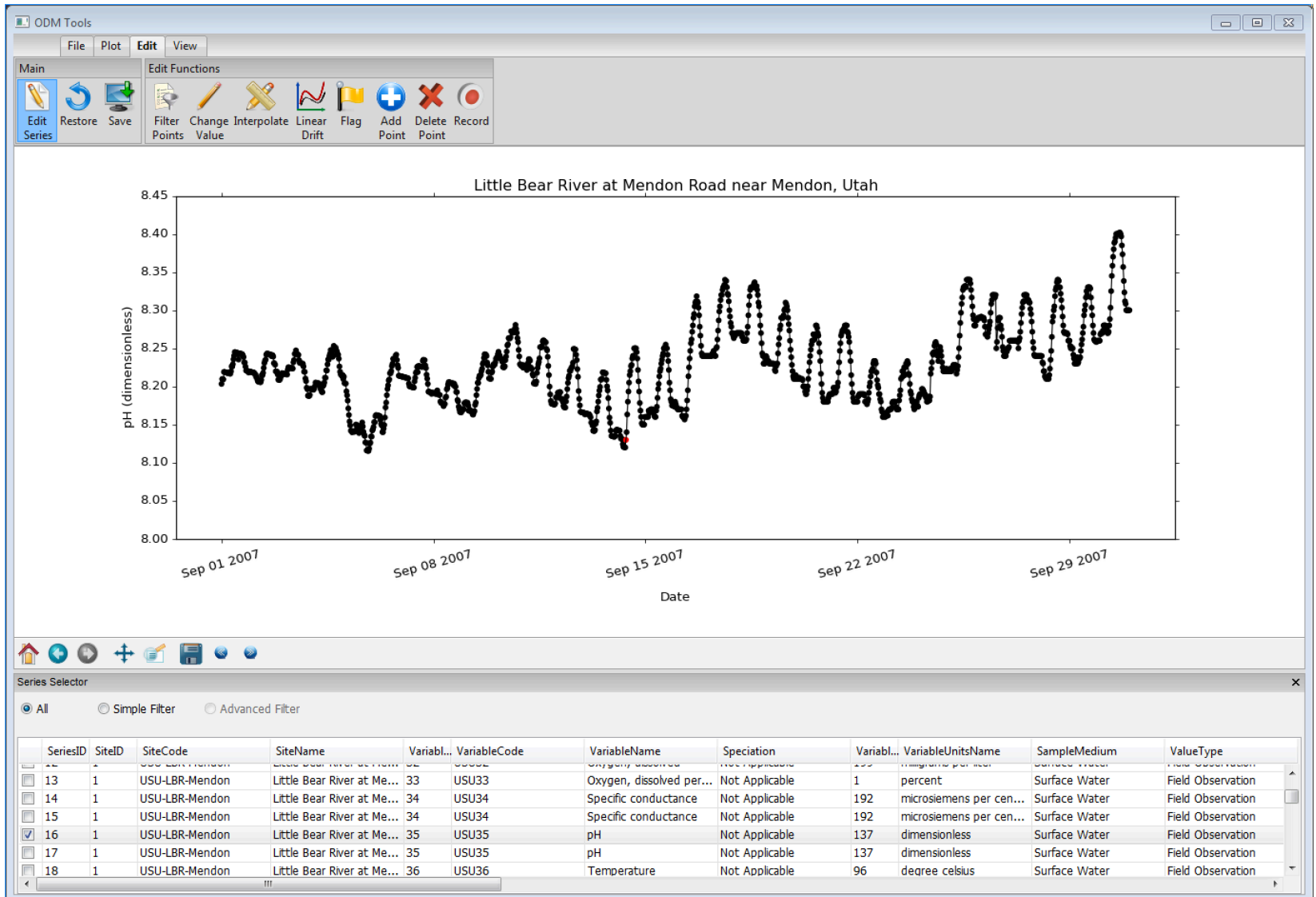
At the bottom of the ODM Tools window, there is a "Series Selector" table with the following data:

SeriesID	SiteID	SiteCode	SiteName	VariableCode	VariableName	Speciation	VariableCode	VariableName	Speciation	VariableCode	VariableName	Speciation
13	1	USU-LBR-Mendon	Little Bear River at Me...	33	USU33	Oxygen, dissolved per...	Not Applicable	1	percent	Surface Water	Field Observation	
14	1	USU-LBR-Mendon	Little Bear River at Me...	34	USU34	Specific conductance	Not Applicable	192	microsiemens per cen...	Surface Water	Field Observation	
15	1	USU-LBR-Mendon	Little Bear River at Me...	34	USU34	Specific conductance	Not Applicable	192	microsiemens per cen...	Surface Water	Field Observation	
16	1	USU-LBR-Mendon	Little Bear River at Me...	35	USU35	pH	Not Applicable	137	dimensionless	Surface Water	Field Observation	
17	1	USU-LBR-Mendon	Little Bear River at Me...	35	USU35	pH	Not Applicable	137	dimensionless	Surface Water	Field Observation	
18	1	USU-LBR-Mendon	Little Bear River at Me...	36	USU36	Temperature	Not Applicable	96	degree celsius	Surface Water	Field Observation	

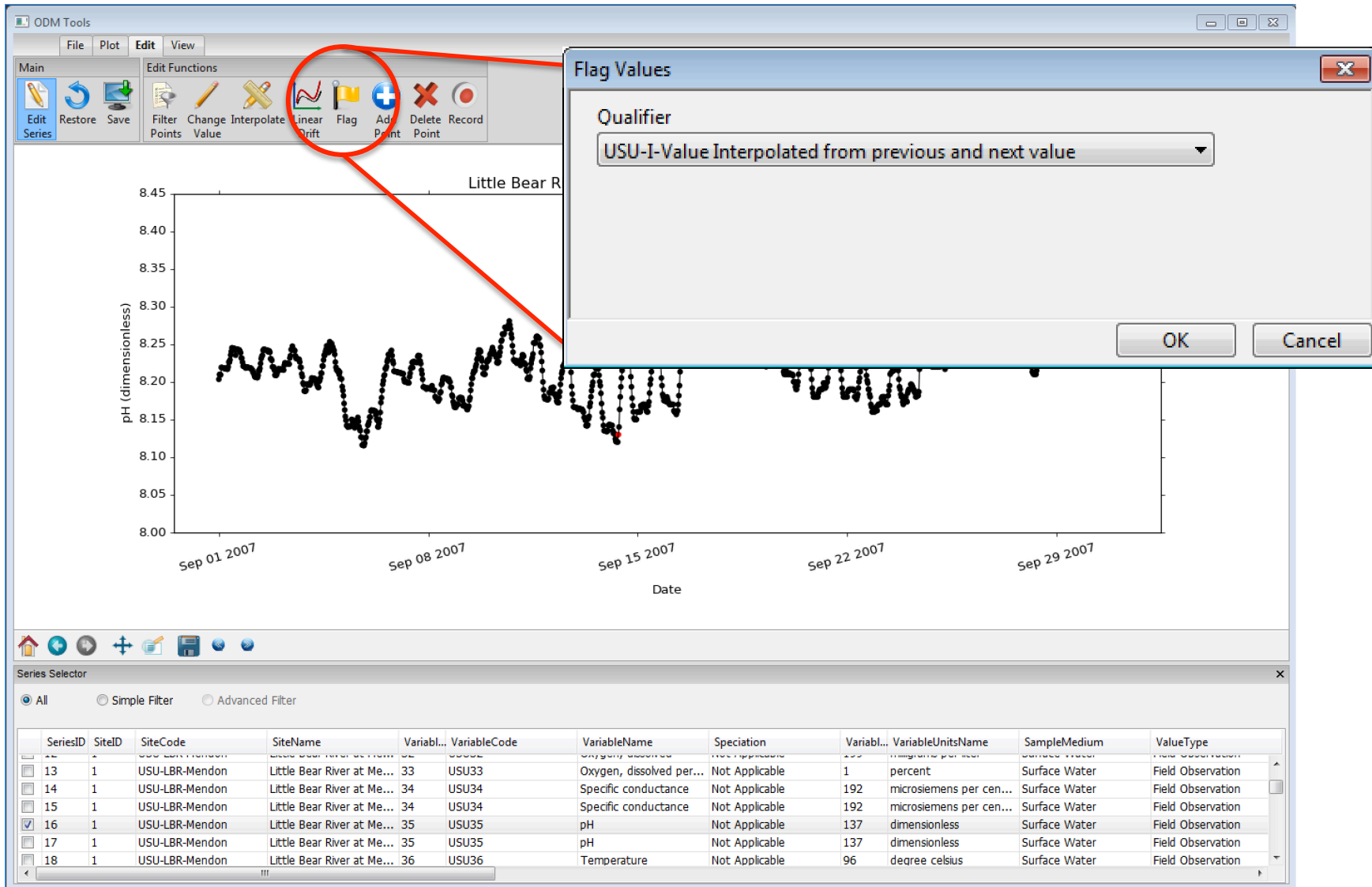
Step 3: Linear Drift Correction



Step 4: Interpolate



Step 5: Flag



Step 6: Save Modified Data Series

Save...

How would you like to save this data series?

☐ Save as new data series

☒ Save as modified data series

Save...

☒ Automatically generate a new method

☐ Select an existing Method

Description

Water temperature measured in the river

Turbidity measured in the river

Water level measured in the river

Battery voltage measured in the river

Air temperature measured in the river

Relative humidity measured in the river

Precipitation measured in the river

☐ Create a new Method

Method Description

Save...

☒ Select an existing Method

Code	Definition
-9999	Unknown
0	Raw data
1	Quality control
2	Derived data
3	Intermediate data
4	Known data

☐ Create Quality Control

Code:

Definition:

Explanation:

Save...

☒ Use Current Variable

☐ Select an existing Variable

Code	Name
USU3	Battery voltage
USU4	Turbidity
USU5	Turbidity
USU6	Turbidity
USU7	Turbidity
USU8	Turbidity

☐ Create New Variable

Save...

Summary

Site

Code: USU-LBR-Mendon

Name: Little Bear River at Mendon Road near Mendon, Utah

Variable

Code: USU35

Name: pH

Units: dimensionless

Sample Medium: Surface Water

Value Type: Field Observation

Time Support: 30.0

Time Units: minute

Data Type: Average

General Category: Water Quality

Method

Description: Values derived from ODM Tools Python

Source

Organization: Utah State University Utah Water Research Laboratory

Description: Continuous water quality monitoring by Utah State University

Citation: Continuous water quality monitoring by Jeff Horsburgh, David Ste...

< Back

Finish

Cancel

Recording Edits

The screenshot displays the ODM Tools interface. The main window shows a plot titled "Little Bear River at Mendon Road near Mendon, Utah" with pH (dimensionless) on the y-axis (ranging from 8.00 to 8.45) and Date on the x-axis (ranging from Aug 30 2007 to Sep 27 2007). The plot shows a fluctuating line with data points. A red circle highlights the "Record" button in the "Edit Functions" toolbar.

Below the plot is the "Series Selector" window, which lists various data series. The series "USU-LBR-Mendon" is selected, and the variable "pH" is highlighted.

On the right side, a window titled "Editing a new file" shows a Python code editor. The code is as follows:

```
1 from odmservices import EditService
2 from odmservices import SeriesService
3 edit_service = EditService(series_id=16, connection_string='mssql+pyodbc://sa:nlcd34GI:
4 series_service = SeriesService(connection_string='mssql+pyodbc://sa:nlcd34GI:
5 ## To run commands from the python console uncomment and run the following c
6 #edit_service = Tools
7 edit_service.select_points([datetime.datetime(2007, 9, 1, 0, 0), datetime.da
8 edit_service.drift_correction(-0.15)
9 edit_service.select_points([datetime.datetime(2007, 9, 14, 8, 30)])
10 edit_service.interpolate()
11
```

A red callout bubble points to the code editor with the text: "Automatically generated Python code with each editing step".

SeriesID	SiteID	SiteCode	SiteName	Variabl...	VariableCode	VariableName	Speciation
14	1	USU-LBR-Mendon	Little Bear River at Me...	34	USU34	Specific conductance	Not Applicable
15	1	USU-LBR-Mendon	Little Bear River at Me...	34	USU34	Specific conductance	Not Applicable
16	1	USU-LBR-Mendon	Little Bear River at Me...	35	USU35	pH	Not Applicable
17	1	USU-LBR-Mendon	Little Bear River at Me...	35	USU35	pH	Not Applicable
18	1	USU-LBR-Mendon	Little Bear River at Me...	36	USU36	Temperature	Not Applicable
19	1	USU-LBR-Mendon	Little Bear River at Me...	36	USU36	Temperature	Not Applicable
20	1	USU-LBR-Mendon	Little Bear River at Me...	37	USU37	Turbidity	Not Applicable
21	1	USU-LBR-Mendon	Little Bear River at Me...	39	USU39	Phosphorus, total	P

Future Steps and Input

- Samples data:
 - Synoptic effort: soon to be imported into GAMUT databases
 - Biweekly effort: will be regularly imported into GAMUT databases
- New sites coming online:
 - Several recent Provo River sites
 - Red Butte Creek storm drain
 - Additional storm drain sites on the way
- How to display/distinguish storm drain sites online?
- Register web services with CUAHSI Water Data Center?
- Quality Control of GAMUT data:
 - technicians working on
 - Publication: what granularity?





Questions?

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