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# Exercises: Organizing, Loading, and Managing Point Observations Using HydroServer

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Support  
EAR 0622374



# In this Exercise

- **GOAL: Organize and load observational data for a continuous water quality monitoring site in the Little Bear River**
- Training Machine Software
  - Microsoft SQL Server 2008 R2 Express
  - CUAHSI HIS ODM Data Loader
  - CUAHSI HIS ODM Streaming Data Loader
  - CUAHSI HIS ODM Tools

# The Data You Will be Using

- 7 water quality and streamflow monitoring sites
  - Temperature
  - Dissolved Oxygen
  - pH
  - Specific Conductance
  - Turbidity
  - Water level/discharge
- 2 weather stations
  - Temperature
  - Relative Humidity
  - Solar radiation
  - Precipitation
  - Barometric Pressure
  - Wind speed and direction
- Spread spectrum radio telemetry network



# Steps

1. Create an ODM database
  - a. Load site, variable, method, and source information using the ODM Data Loader
  - b. Load observations using the ODM Streaming Data Loader
2. Visualize and explore the data using ODM Tools

# ODM Data Loader

- Loading data to any table in ODM – e.g., Sites, Variables, Methods, etc.
- Loading Data Values in serial format
  - Multiple sites and variables in one file
  - All data values in a single column

Site	Variable	Date	Value
1	Temperature	8/2/2007 14:00	12.4
1	Temperature	8/2/2007 14:30	12.7
1	Temperature	8/2/2007 15:00	13.1
...	...	...	...
1	Dissolved Oxygen	8/2/2007 14:00	9.78
1	Dissolved Oxygen	8/2/2007 14:30	9.70
1	Dissolved Oxygen	8/2/2007 15:00	9.56
...	...	...	...
2	Specific Conductance	8/2/2007 14:00	351.7
2	Specific Conductance	8/2/2007 14:30	350
2	Specific Conductance	8/2/2007 15:00	351.2

# ODM Streaming Data Loader

- Focused on loading data values
- Crosstab data
  - Single site, multiple variables
  - Date in one column, each variable in one column
  - Datalogger files from field sensors

Date	Variable_1	Variable_2	...	Variable_n
8/2/2007 14:00	13.01298	1.155137	...	9.391667
8/2/2007 14:30	13.222	1.15333	...	9.586666
8/2/2007 15:00	13.19934	1.153291	...	9.75
8/2/2007 15:30	13.19094	1.153561	...	9.78
8/2/2007 16:00	13.17751	1.16075	...	9.703334
...	...	...	...	...



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# Questions?

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