

# HIS WORKSHOP: SESSION 1A DEMO

## INTRODUCTION

HydroExcel is an Excel spreadsheet programmed with macros and HydroObjects so that it can communicate with WaterOneFlow web services. To give the audience an idea of how web services can be used, the presenter will download data from web services using HydroExcel.

### Links:

HydroObjects

<http://his.cuahsi.org/hydroobjects.html>

HydroExcel

<http://his.cuahsi.org/hydroexcel.html>

### Procedure:

In the demo, the user downloads site, variable, and time series data for a few academic observation networks. Then the user downloads precipitation data from the Daymet meteorological model.

1. Open HydroExcel. Briefly show that Introduction worksheet gives instructions.
2. Switch to Data Source worksheet. Show that national and academic investigator data sources are provided. **Ask data managers to introduce themselves.**
3. Click Get Capabilities.
4. Click Open Web Service Page.
5. Click the page for more information.
6. Click **Get Variables**.
7. Switch to **Sites worksheet**. Click Get Sites to get sites for the Little Bear River.
8. Click around Google Earth. Show simple site information for each placemark.
9. Turn off network in Google Earth.
10. Switch to **Site Info worksheet**. Use LittleBearRiver:USU-LBR-Mendon. Click Get Site Info.
11. Switch to **Site Catalog worksheet**.
12. Set to get site list from worksheet, and to show result in Google Earth.
13. Click Get Site Catalog.
14. Make sure Excel is active, and show site catalog.
15. Switch to Google Earth, and show extended site information for placemarks.
16. Show sites by Temperature variable. Turn time off to show all Temperature sites.
17. Switch to **Site Summary worksheet**. Filter sites by Temperature. Show that USU-LBR-Mendon has lots of Temperature data.
18. Switch to **Time Series worksheet**. Click Get Values for USU-LBR-Mendon.
19. Switch to **Statistics and Charts worksheet**. Show chart with **Hour of Day**. Switch back to **DateTime**.

20. Switch to **Data Source worksheet**. Change source to **COTCsnow**.
21. Click Get Sites.
22. Switch to **Data Source worksheet**. Change source to **CC Bay**.
23. Click Get Sites.
24. Switch to **Data Source worksheet**. Change source to **NWIS Unit Values**.
25. Switch to **Time Series worksheet**. Set parameters as:
  - nwis:08158000
  - nwis:00060
  - 7/1/2008
  - 7/17/2008
26. Click Get Values.
27. Switch to **Statistics and Charts worksheet**. Show chart with **DateTime** and **Hour of Day**.
28. Switch to **Data Source worksheet**. Change source to **Daymet**.
29. Click Get Capabilities.
30. Click Get Variables.
31. Switch to **Time Series worksheet**. Set parameters as:
  - GEOM:POINT(-106.5 43.2)
  - DAYMET:4
  - 8/01/2000
  - 11/30/2007
32. Click Get Values.
33. Switch to **Statistics and Charts worksheet**. Show chart with **DateTime**.