HYDROEXCEL DEMO: INTRODUCING WATERONEFLOW METHODS

PREP

1. Install MS Office 2007.
2. Install HydroObjects.
   http://his.cuahsi.org/hydroobjects.html
3. Install HydroExcel.
   http://his.cuahsi.org/hydroexcel.html
4. Install Google Earth.
   http://earth.google.com/download-earth.html
5. Add bookmarks to
   http://lighthouse.tamucc.edu/Main/HomePage
   http://data.crwr.utexas.edu/

> You may want to access the data.crwr web pages and HydroExcel web services ahead of time to speed up the demo. The first data access within a given session is slow.

DEMO PROCEDURE

This demo shows how applications can use the WaterOneFlow web service methods. The TCOON web service is explored using HydroExcel, a free CUAHSI HIS application that uses macros to give Microsoft Excel access to WaterOneFlow web services.

1. **Introduce the TCOON project.**
   a. Navigate to http://lighthouse.tamucc.edu/Main/HomePage.
   b. Click the link for **TCOON**.

      The Texas Coastal Ocean Observation Network provides near-real time access to water conditions along the Texas coast. The data are available for download from the website, but have also been published with Texas HIS.

   c. Navigate to http://data.crwr.utexas.edu/.
   d. Click **WaterML Data Services**.

e. Click the link for **TCOON**. This page shows site locations, available variables, and the address of the web service that provides data access.

2. **Introduce HydroExcel.**
    a. Open HydroExcel_tx.xlsb. If prompted, enable macros.

        HydroExcel uses macros to talk to web services. Any of those WaterML web services at DATA.CRWR can work with HydroExcel.

    b. Show Data Source worksheet, where TCOON is entered as the data source for HydroExcel to work with.

        HydroExcel works with one web service at a time.

3. **GetVariableInfo**. On the Data Source worksheet, click Get Variables.

    When no variable codes are passed to GetVariableInfo, info for all variables is returned.

    (The first time you access the service will be slow, as HydroExcel is deciphering the WSDL.)

4. **GetSites.** On the Sites worksheet, click Get Sites.

    GetSites returns a basic list of sites and their locations. Google Earth also opens to show site locations.

5. **GetSiteInfo**. On the Sites worksheet, right click to get the Series Catalog for Packery Channel.

    GetSiteInfo returns a list of variables measured at a site.

6. **Combining GetSites and GetSiteInfo.**
    a. On the Series Catalog worksheet, choose to generate the KML file.
    b. Click Get Series Catalog.
    c. Show fields returned in Excel.
    d. Show results in Google Earth.
        i. Show detailed information for each placemark by clicking on a placemark.
        ii. Choose to not show time.
        iii. In the **Places** pane, **uncheck All Sites**, and then choose a variable to check by expanding the variables list under **Sites by Variable**.

7. **GetValues**.
    a. On the Series Catalog worksheet, right click WaterTemperature for Packery Channel, and click to populate the Time Series worksheet.
    b. Change the dates.
        i. Start Date: 5/1/2009
        ii. End Date: 5/28/2009
    c. Show results on Statistics and Charts worksheet.

      i.   For the pivot chart, uncheck DateTime, and then drag Hour of Day to the Row Labels box to show diurnal variation in temperature.

8. **Show additional services.**
   a. On the Data Source worksheet, download sites and generate KML for additional TX services.
      i. Sabine
      ii. SanAntonio
      iii. NEXRAD Austin
      iv. TXEvap
   b. Click for non-TX sources to show how the system follows a standard.
      i. LBR
      ii. COTC
      iii. FL RainDlySRWMD
   c. Finish with TRACS

Tips for working with Excel:

- Press CTRL+F1 to hide/show the ribbon. This helps save screen space.
- You can zoom in and out by holding down the CTRL key and turning the scroll wheel on the mouse.
- On the Statistics and Charts worksheet, if you don't see the pivot table field list, try clicking on the pivot table or chart to show the list.