

DataNET TUTORIAL 1:

Introduction to the Platform Environment

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This tutorial introduces the DataNET mapping and visualization environment. High-level summaries of the various options / buttons / tools are provided. Subsequent tutorials cover the different capabilities in further detail.

This tutorial assumes that the user has created a MAGNET account, which is required to perform some data analytics and data transfer from DataNET to other MAGNET4WATER modeling platforms.

Navigate to Datanet

- <https://www.magnet4water.net/> -> Global Water Data (header menu) -> Go To Platform (Quick Access menu)

DataNET Map Display and Interface Environment

Once the datanet page is loaded, enter your MAGNET user credentials (or create a new account).

The figure below shows the 'home screen' of DataNET after logging in. A global Map Display occupies most of the screen. A Title Bar of tools and submenu is available at the top.

More details of each component:

A. Map Zoom in / Zoom out button

B. Background Map toggle button

Several Base Maps are available as general background images of the Map Display. The default Base Map is the default OpenStreetMap (map view). Click the  icon to show the list of other available options:

- OSM, default (OpenStreetMap)
- Satellite (OpenStreetMap)
- Water color (Open StreetMap)
- usgs Topo (land surface topography from US Geological Survey)
- usgsImagery (satellite imagery from US Geological Survey with street layer and other labels)
- usgsImagery (satellite imagery from US Geological Survey without street layer and other labels)
- ArcMap (street map)

C. Full screen toggle button

D. Show Layers

Clicking this opens the Layers TreeView. Big Datasets from numerous government agencies (and other organizations) from different around the world are intelligently organized into a global hierarchical “Data Tree”, where layers are arranged by region and scale (global, continental, national, statewide/provincial, countywide/district-wide) and by environmental category (climate, soil, groundwater, land use, etc.). Within the global Data Tree, users can search and query data layers, create and save custom “workspaces” of collections of layers of interest, and view layer metadata (abstracts, legends, resolution, units, etc.).

E. WMTS-HSA

There are a number of global layers prepared by Hydrosimulatics that are serviced as Web Map Tile Service (WMTS) or as traditional vector (WFS) or raster (WCS) layers. This button is a “short-cut” to these global layers.

F. 3D Cesium View toggle

Toggle to switch between traditional plan view map display and 3D geospatial view powered by 3D Cesium.

G. Screen Capture

This tool allows user to perform a screen capture of a defined screen area within the Map Display. The resulting image is sent to one of the MAGNET4WATER modeling platforms (AquaNET, SwaNET, etc.)

H. Data Manipulation

Clicking this gives access to several different tools:

- VTK-based 3D Visualization of DataNET data layers and textures (elevation surfaces)
- Transfer of DataNET data layers (WMS, WFS, WCS) to MAGNET4WATER modeling platforms
- Collection/Explorer tool for accessing outside web data services via known URL service calls (administrators only)

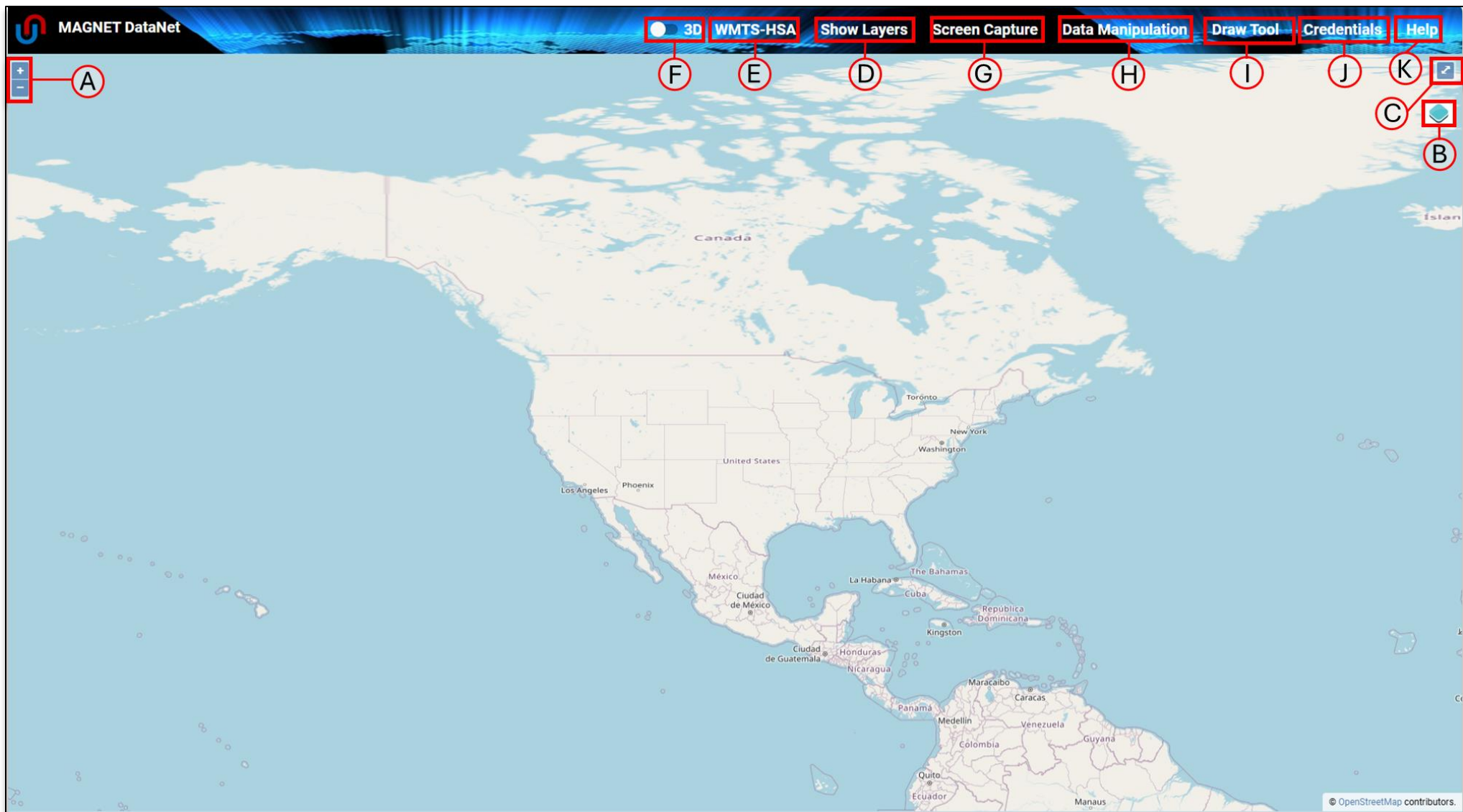
I. Draw Tool

For some tools in DataNET, a bounding box (bbox) or defined screen area is required to identify the area of interest for the next action (e.g., 3D visualization, transfer of data to a DataNET modeling platform, or screen capture). Users can define an 'Irregular' bbox or 'Regular' (rectangular) bbox.

J. Credentials (MAGNET account access)

K. Help

General comments and descriptions of the DataNET environment.



DataNET Platform Environment (<https://www.magnet4water.net/datanet>)