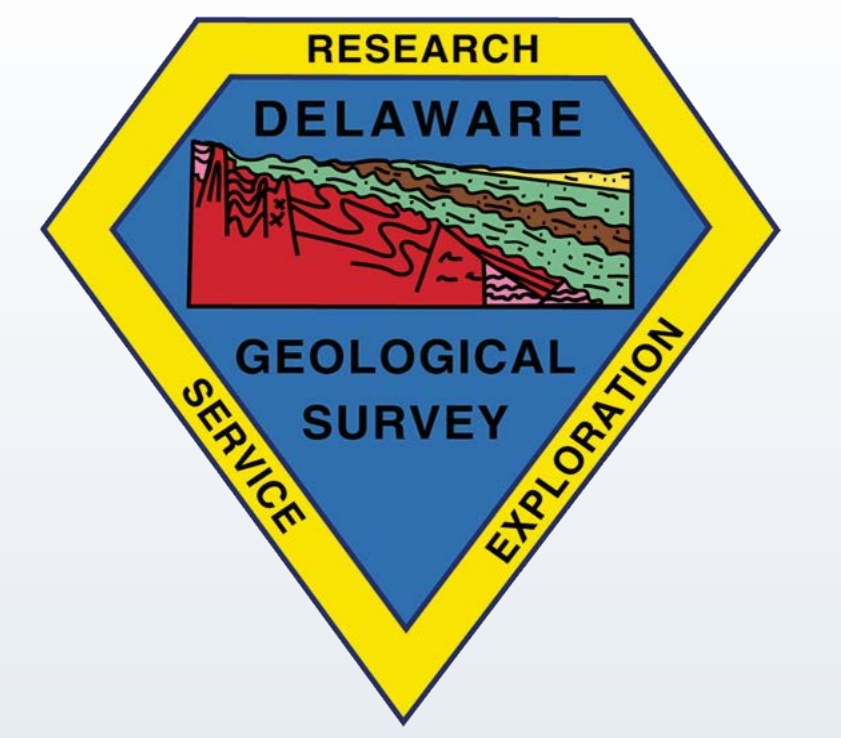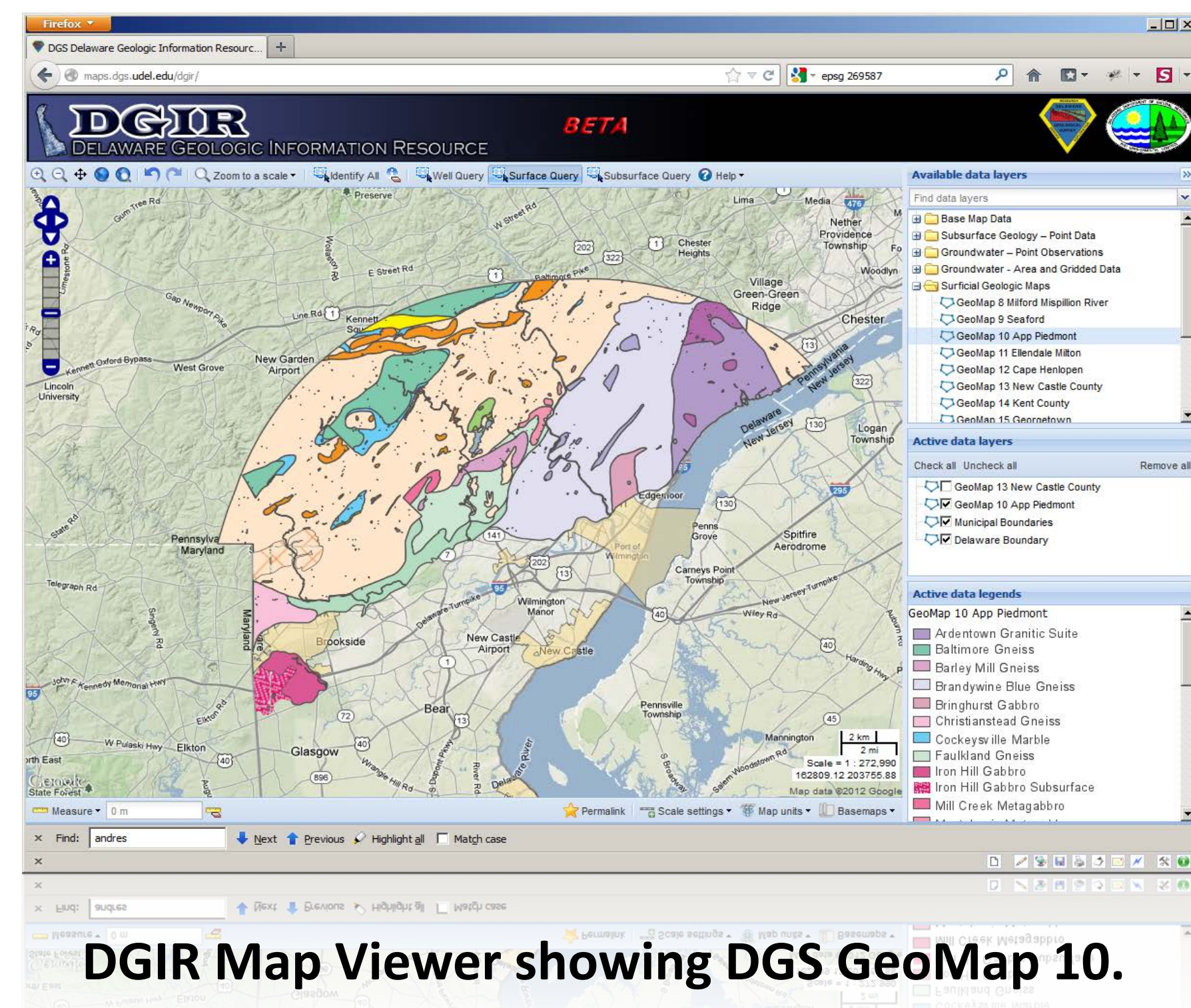# Delaware Geologic Information Resource (DGIR)

John A. Callahan, William "Sandy" Schenck, David R. Wunsch

Delaware Geological Survey

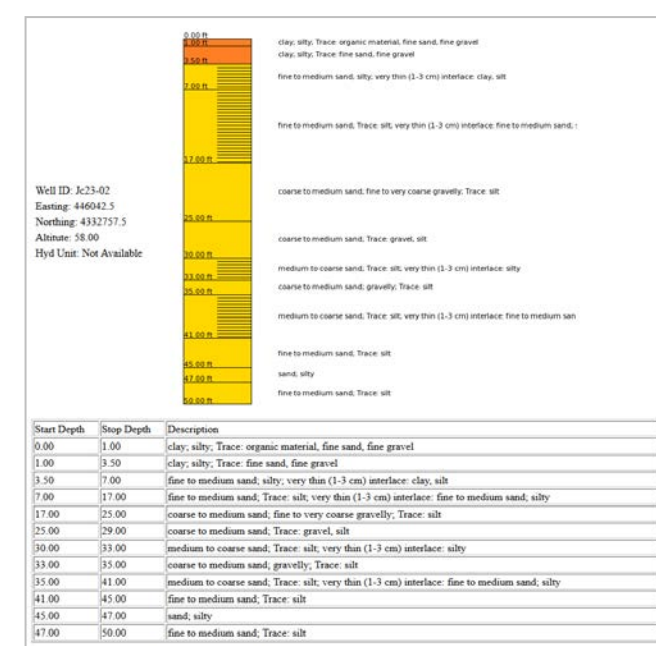University of Delaware, Newark, DE 19716

DGIR Map Viewer

The Delaware Geologic Information Resource (DGIR) Map Viewer is an online data display tool and map client for a variety of geologic, hydrologic and basemap information for Delaware. Currently, more then 40 layers are included in the map viewer, each one powered by a map service with links to metadata and published resources.

The map viewer interface includes basic GIS functionality, such as pan/zoom, identify, measure tool, layer transparency, legends, hide/show layers, and background layers from Google Maps.
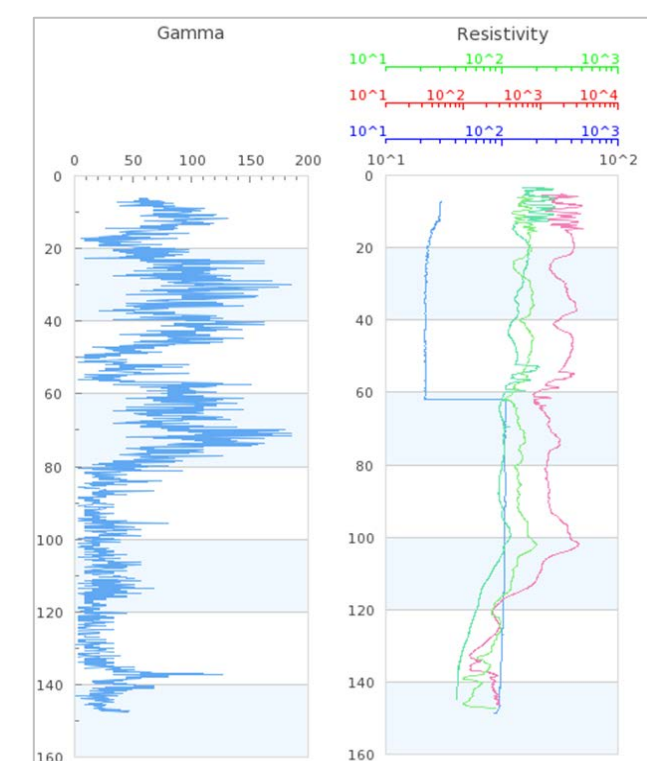

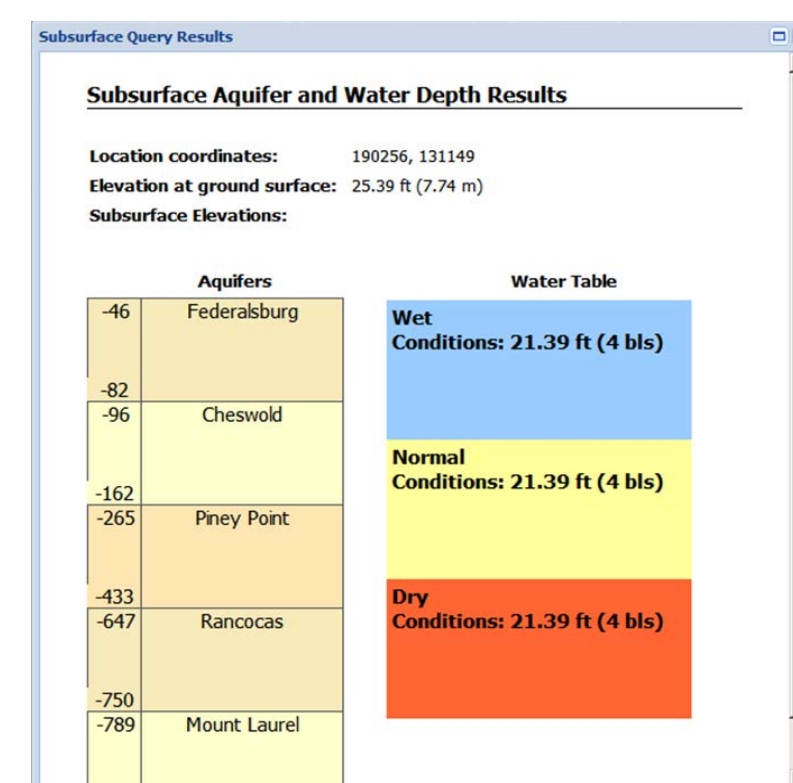**DGIR Map Viewer showing DGS GeoMap 10.**

In addition, users can access underlying data through the point-and-click map interface. Three tools are available: Well Query Tool, Surface Query Tool, and the Subsurface Query Tool. Example output includes:
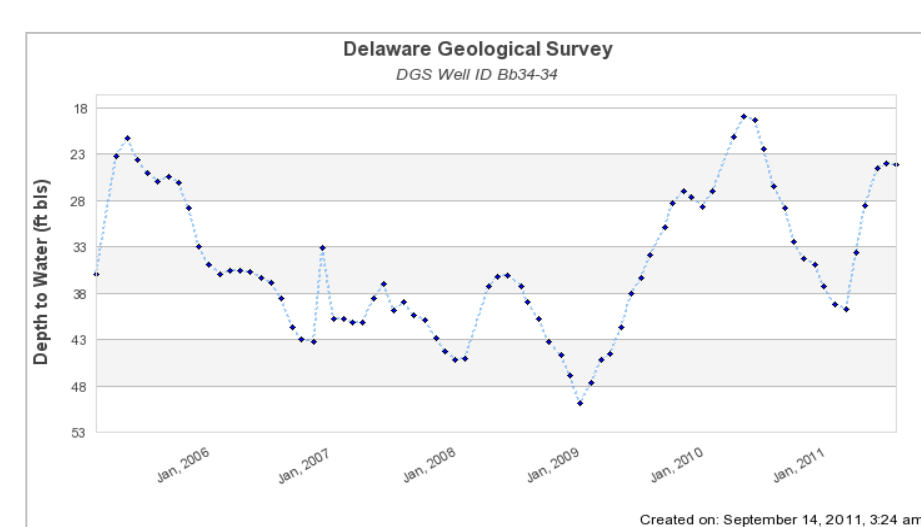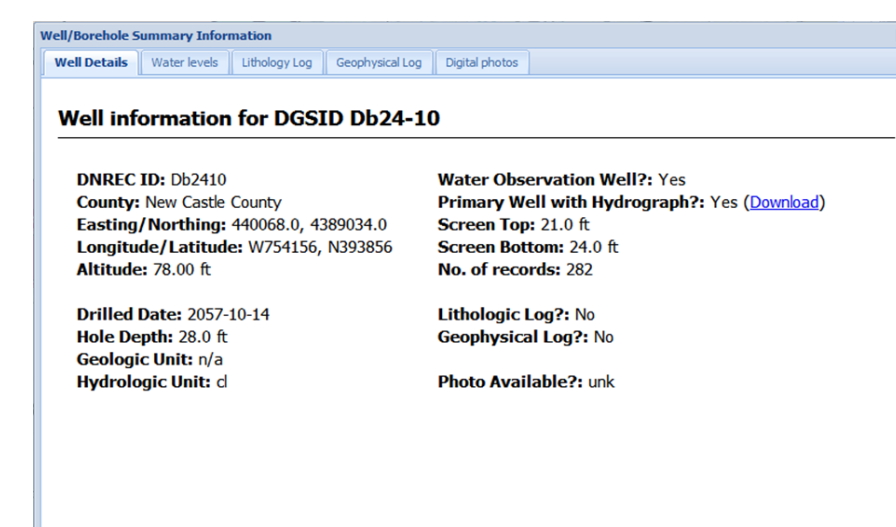

Lithologic Diagrams   **Geophysical Logs**   **Subsurface Queries**

Groundwater Hydrographs   **Well Metadata**

DGIR Map Viewer was initially developed through support from the Water Supply Section, Delaware Department of Natural Resources and Environmental Control (DNREC).
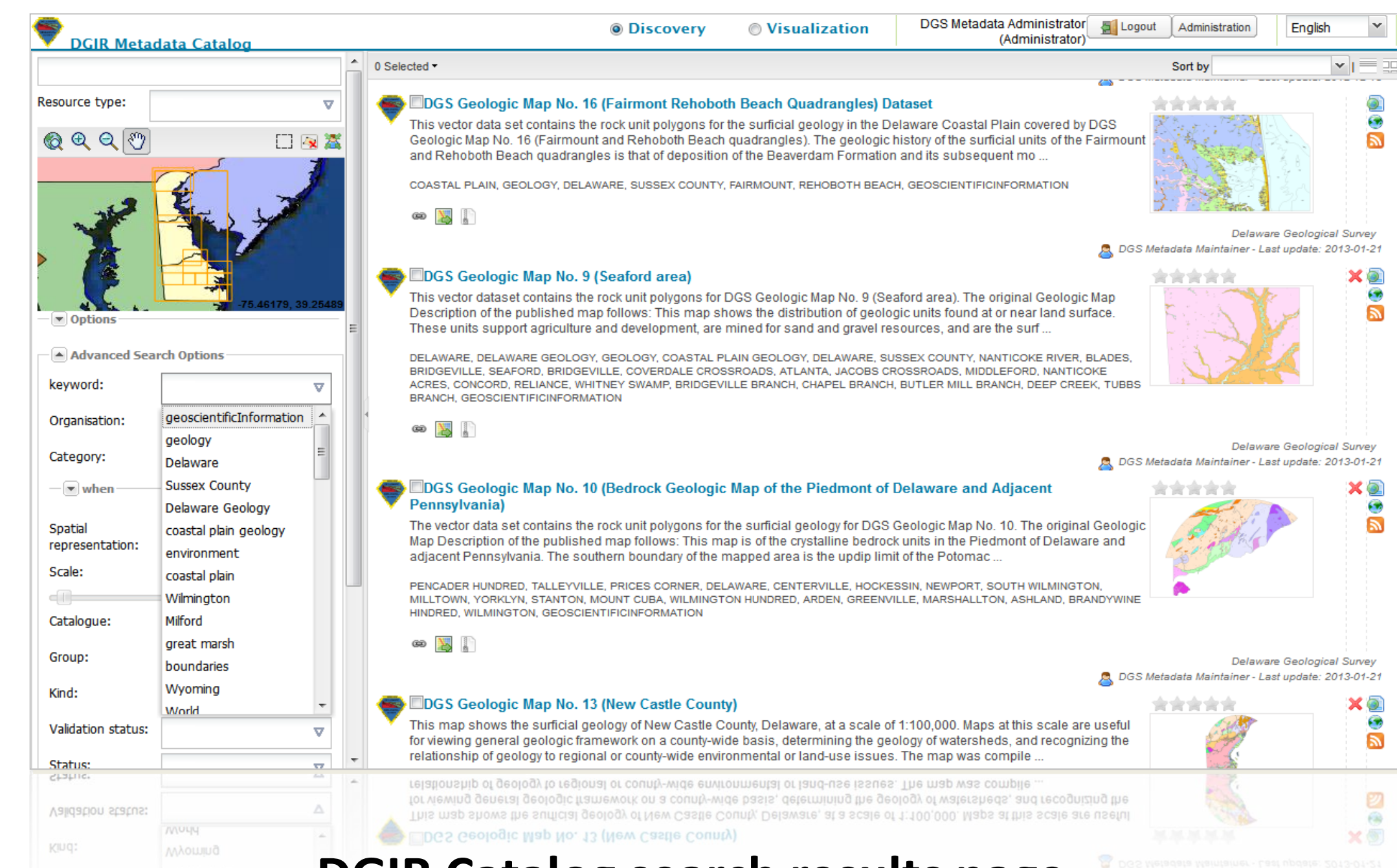
DGIR Catalog

The DGIR Catalog is a metadata repository for DGS published datasets and services. Metadata records comply with the ISO 19139 standard, many of them with the USGIN profile of ISO 19139.

Metadata Catalog — contains → Metadata — describing → Data

The web interface allows for both spatial and textual search, such as through full-text searches or via keywords or categories. WMS map services can be displayed directly in the embedded viewer.
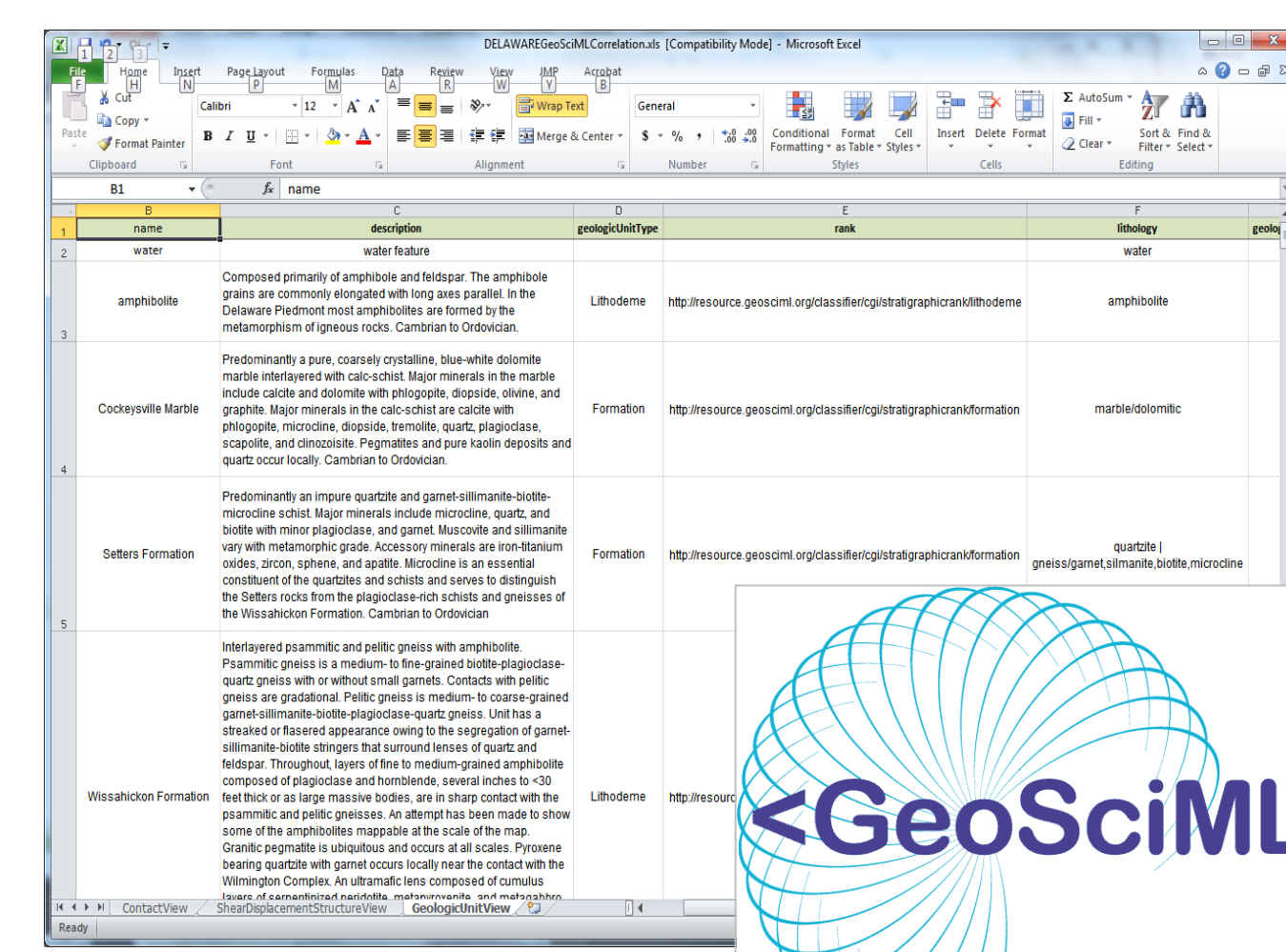

DGIR Catalog search results page

US Geoscience Information Network (USGIN)

USGIN facilitates access to publicly available geoscience data from state, federal and private sources. It provides specifications and a central harvesting mechanism for participants , or USGIN "nodes", to contribute their data.
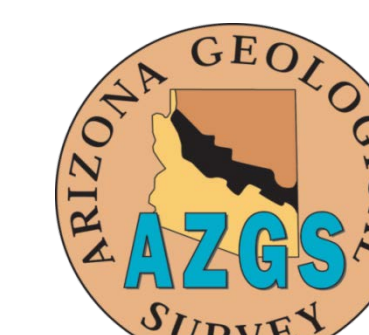
DGS hosts the Delaware USGIN node!

Find ↔ Access ↔ Analyze

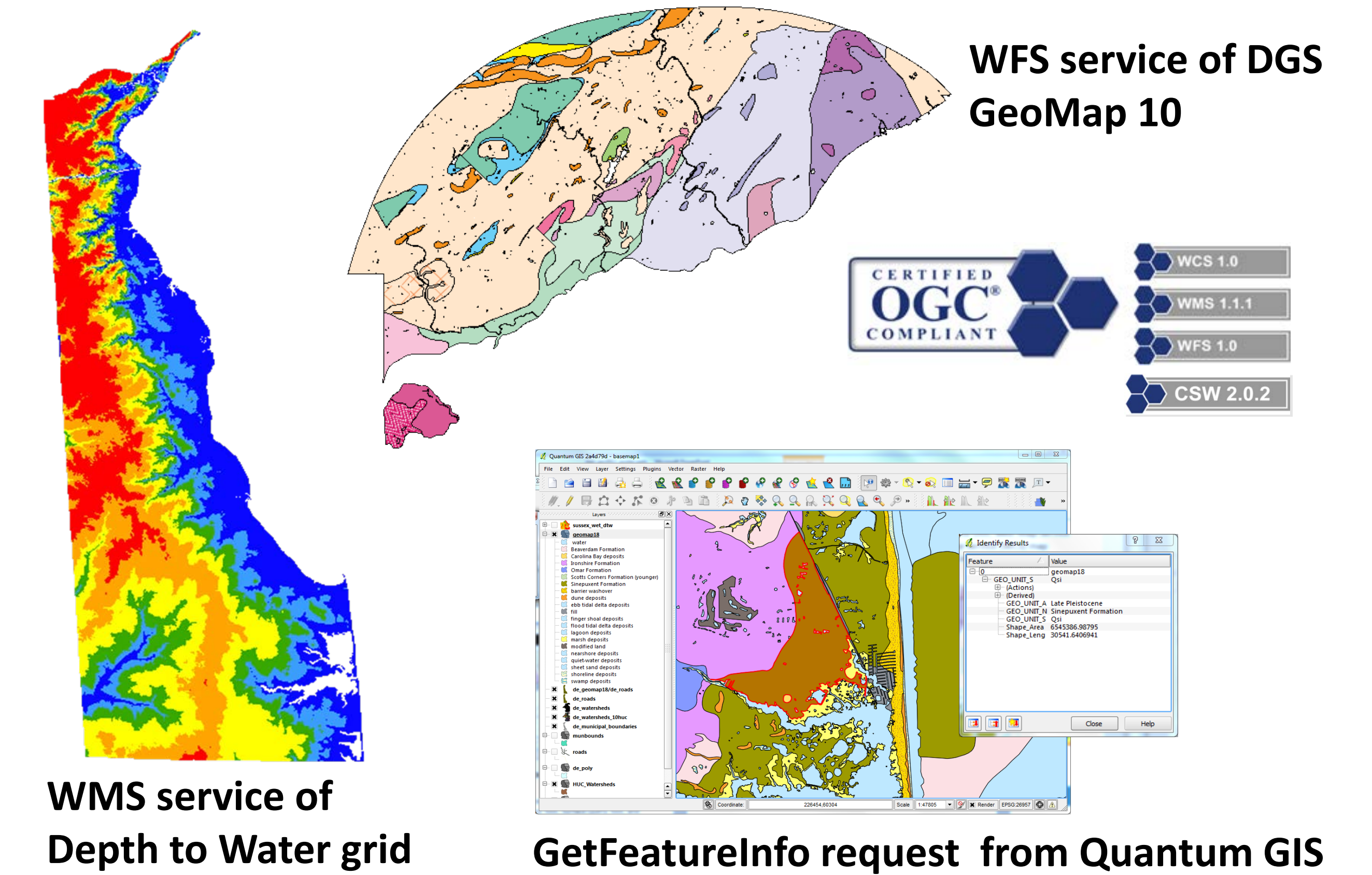Map services in USGIN comply with **GeoSciML-Portrayal:**

- Simple, flat-file view
- Controlled vocabularies
- Free-text attributes
- Intermediate step to GeoSciML
- Standard for map display and search interoperability for USGIN and OneGeology

<GeoSciML/>

DGIR Catalog was initially developed through support from the Arizona Geological Survey as part of the NSF USGIN initiative.

DGIR Services

The back end of DGIR is powered by several web services. All of the DGS published geologic and hydrologic maps included in the DGIR Map Viewer and DGIR Catalog are served as both digital GIS data files and OGC Web Map Service (WMS), Web Feature Service (WFS), and Web Coverage Service (WCS) map services. The DGIR Catalog supports harvesting and Catalog Service for the Web (CSW), OAI-PMH, and Z39.50 search protocols.

WFS service of DGS GeoMap 10

CERTIFIED OGC COMPLIANT
WCS 1.0
WMS 1.1.1
WFS 1.0
CSW 2.0.2
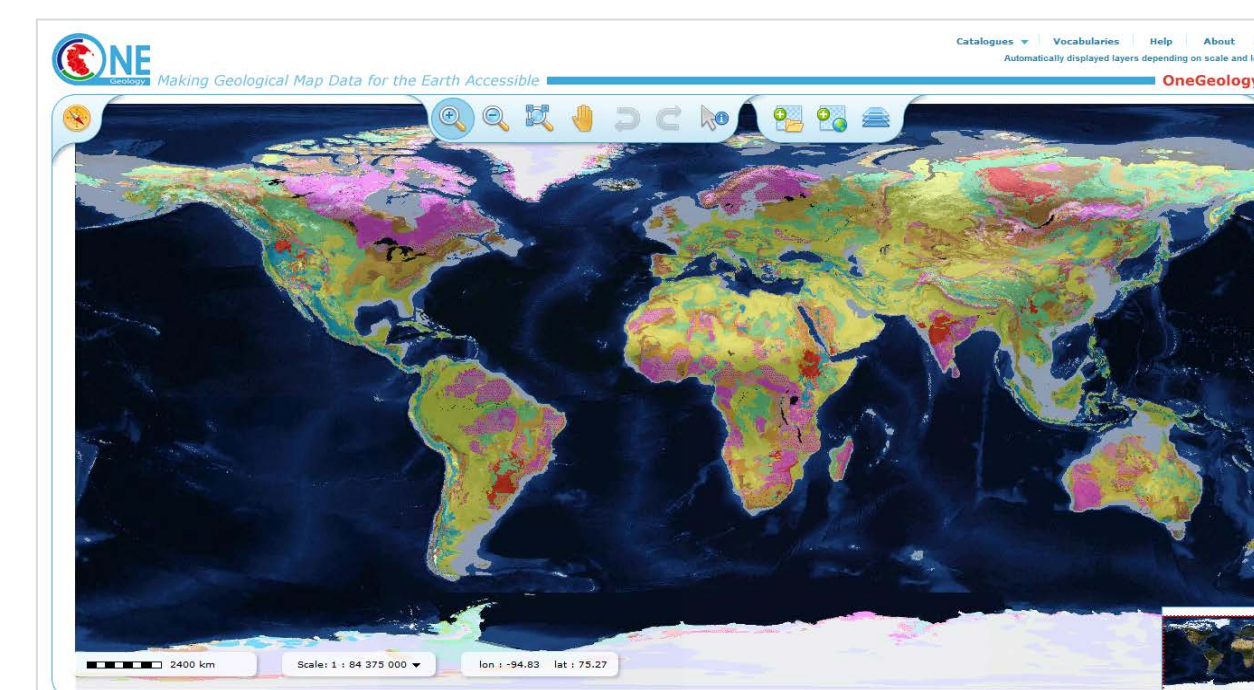
WMS service of Depth to Water grid

GetFeatureInfo request from Quantum GIS

OneGeology

Launched in 2007, OneGeology is an initiative of international geological surveys to create a current, dynamic and seamless geological map of the world.

"Making Geological Map Data for the Earth Accessible"

Delaware Geological Survey participates in OneGeology through OGC web services of statewide surface geological maps.

The OneGeology Portal is your gateway to data and services.

Built on Free and Open Source Software!

GeoServer   GeoNetwork Opensource   OpenLayers™

PostGIS Spatial PostgreSQL   APACHE HTTP SERVER   GeoExt

GDAL   python™   php   Java