Maine Geologic Facts and Localities
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Online Map Resources for Maine

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Introduction

Digital maps are everywhere these days. With the internet invading all corners of daily life, the use of digital online maps has grown remarkably in recent years. We use maps on our smartphones and in our cars to get us where we are going. Online maps analyze our elections, protect us during natural disasters and show us where not to build to conserve rare habitats, plants and animals. These online maps and the data behind them allow us to share gobs of complex information quickly and succinctly. They turn data into pictures which, as we know, are worth at least a thousand words.

**Figure 1. Online map examples**
Every year more spatial data is being made available online in map viewers and as spatial datasets. Data related to the geography and geology of Maine is available from a number of different sources and in a number of different formats. It is no longer necessary to be a mapping professional with expensive geographic information system software in order to view this data and learn about our state.

We’ll quickly highlight some of the current and emerging data sources and tools available to anyone with an interest in technology, maps and the natural environment.

- USGS Topographic Maps from topoView
- Maine Office of Geographic Information Systems (MEGIS) Online Map Viewers
- MEGIS Data in Google Earth
- Maine Geological Survey embedded web maps
- Maine Geological Survey digital geology data
- Mobile applications
The new **topoView** online map from USGS displays the extent of all topographic maps produced at all scales from 1880 to present. The maps can be viewed and downloaded in geoPDF format by clicking on the desired location.

**Figure 2.** The 1:24,000 quadrangles available from USGS topoView.
**topoView Search**

Clicking on the map and selecting ‘Pubs Here’ will load a web page with all the topographic quadrangles in that area by scale and year. The quadrangles can be viewed online by clicking on the ‘Browse’ icon or downloaded by clicking on the ‘GeoPDF’ icon.

*Figure 3.* All quadrangles for the Augusta area from USGS topoView.
MEGIS Online Maps

The [MEGIS Online Maps and Services](#) web site provides links to online map viewers that share data maintained by state agencies for general purposes, like viewing statewide orthoimagery and specific regulatory or advisory projects like parcel maps or zoning maps.

![MEGIS Online Maps](image)

*Figure 4. MEGIS Online maps listing, LUPC Zoning and Parcel Viewer and Geoparcel Viewer.*
MEGIS Digital Data

The [MEGIS Data Catalog](https://www.megis.org/) provides a topical listing of all the data layers that are available from state government agencies for public use. Each layer can be downloaded as a shapefile or web mapping service and used in GIS software to make custom maps. However, if you don’t have GIS, many of the layers can also be displayed in Google Earth which is free for download. This allows for a quick, low-cost means of viewing the data layer(s) you are interested in.

![MEGIS Data Catalog](image_url)

**Figure 5.** MEGIS Data Catalog.
MEGIS Digital Data in Google Earth

Clicking on the blue Google Earth icon next to a layer in the MEGIS Data Catalog will open the layer in Google Earth if it is installed on your computer. Multiple layers can be loaded this way which can then be used in simple analysis and measurement in Google Earth. This is a great, low-cost method for doing simple spatial analysis like checking the proximity to features.

Figure 6. Aquifer polygons loaded into Google Earth.
Maine Geological Survey Online Maps

The Maine Geological Survey is starting to deliver data using online maps embedded in the web site. These maps are interactive so users can pan around, zoom in and click on features to identify them. The Maine Field Localities map shows locations where geologists have written up tours of unique geology. Clicking on a map point provides a link to the downloadable tour PDF.

Figure 7. MGS embedded web map showing Field Localities.
Maine Geological Survey Online Data

The Maine Geological Survey also makes much of the data it produces in its mapping programs available in GIS format and read-only PDF files from the Maps, Publications and Online Data web page. Over time much of this data will also be available in online mapping tools so it can be reviewed before downloading and available for use by anyone who wants to make their own online map.

Figure 8. MGS Data web page.
Smartphone Map Applications

Platforms for online mapping like Esri’s ArcGIS Online are making it easy to publish maps to smartphones and tablets. Download the app and search on ‘Maine Geology’ to view the maps from Maine Geological Survey. Savvy developers are also making custom applications to share the data on mobile devices. One great geology example is the British Geological Survey’s iGeology app. Many organizations are using these tools to empower their constituents in making better decisions and to also collect information from the public.

Figure 9a. Esri’s ArcGIS Online app.

Figure 9b. BGS’s iGeology app.