# Montana Bureau of Mines and Geology
# Digital Map 1

## Background and Information

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MBMG first published a statewide 1:500,000-scale geologic map in 2007 as Geologic Map 62 (GM 62). This publication, titled the Geologic Map of Montana, was compiled from over 100 source maps published between 1982 and 2006, most of which were mapped by Montana Bureau of Mines and Geology (MBMG) geologists through the U.S. Geological Survey (USGS) STATEMAP program. GM 62 included only paper and pdf cartographic products and an information booklet. A seamless database of GM 62 was produced in 2012, which underwent subsequent edits, then was informally made available on the MBMG website in 2017. From 2021 to 2025, MBMG geologists and staff incorporated new mapping, updated geologic interpretations, and converted the digital data to conform to the USGS GeMS database standard. This updated statewide seamless 1:500,000-scale geologic map is available as two related publications and digital databases, Digital Map 1 (DM 1; continuously updated with preliminary changes) and GM 105 (periodically updated and published as a versioned publication (GM 105-2, GM105-3, etc.) with major, scientifically reviewed changes).

**Digital Map 1 (DM 1): Interactive Geologic Map of Montana**

View the DM 1 dataset as part of the interactive Geologic Map of Montana web application on the MBMG GIS Data Hub.

The DM 1 dataset can also be downloaded as part of the GIS Data Bundle from the publication webpage. The DM 1 GIS Data Bundle contains everything needed to view and symbolize the data in GIS, including an ESRI file geodatabase (.gdb), an ArcGIS Pro project file (.aprx), layer files (.lyrx), font files (.ttf), ESRI style files (.stylx), and metadata (.xml).

The dataset that is downloaded from this page as part of DM 1 will always match the dataset that is shown in the interactive webmap on the GIS Data Hub.

DM 1 will be periodically updated to address errors or include minor to major changes, which are considered preliminary until published as part of the Geologic Map (GM) series. All changes will be automatically reflected in the dataset that is downloaded as part of the DM 1 GIS Data Bundle and shown in the Geologic Maps of Montana web application on the GIS Data Hub. When changes to the DM 1 dataset are made, the publication number (DM 1) and citation will not change.

DM 1 (Interactive Geologic Map of Montana) is closely related to Geologic Map 105 (GM 105), which is a versioned, reviewed geologic map digital database publication. The following section provides information about the GM 105 versions.

**Geologic Map 105**

Major, scientifically reviewed changes (such as the addition of new 1:100,000-scale mapping and edge matching) will be included in new GM 105 versions. Additionally, any minor or major changes that were made to DM 1 since the last GM version was published will be reviewed and incorporated into the new GM version. A brief description of changes made since the last GM version (including any that were made to DM 1) will be included with each new GM version. The most recent GM version will supersede earlier versions and be identified by a versioned publication number (GM 105-2, GM 105-3, etc.). Each version will have a unique citation and publication page. When a new version of GM 105 is published, the older versions will still be available for download through the publication catalog.

The GM 105 versions will also include a simple cartographic map product and a brief report outlining project history, purpose, recent updates, FAQ, and general information. See the GM 105 publication catalog webpage for more details.

As of their publication in 2025, DM 1 and GM 105-1 are identical datasets. Each time a new version of GM 105 is published, the DM 1 dataset will be identical to the GM 105 dataset until preliminary changes are made to the DM 1 dataset.