

# COLORADO GEOLOGICAL SURVEY

## Map Series MS-45

### Interpretive Geothermal Heat Flow Map of Colorado

## INTRODUCTION

The Interpretive Geothermal Heat Flow Map of Colorado depicts the movement of heat from the Earth's interior to its surface in Colorado. The geographic distribution of heat flow is one of several indicators of the location of potential geothermal resources in Colorado. Heat flow data are merely one of several types of data that indicate the quality of geothermal resources in an area. Other data types also useful in assessing geothermal resources are geothermal gradient, geothermometry, geophysical data (electrical, magnetic, magnetotelluric, gravity, remote sensing), shallow-depth ground temperature measurements, and others.

This map compiles the most recently available data regarding heat flow in Colorado by using geothermal databases from Southern Methodist University, University of North Dakota, and University of Michigan. In addition, the Colorado Geological Survey calculated 40 additional heat flow values from borehole temperature-depth logs and other published gradient data. This information is useful for geothermal resource exploration, especially when used in conjunction with other types of geological, geophysical, and hydrogeological data.

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## HOW TO USE THIS ZIP FILE

To open the compressed (.zip) file that you downloaded, double-click on the file. Inside the folder labeled **MS-45**, there are a number of files and folders. Some files are stored in Adobe Portable Document (.pdf) format, others in Microsoft Access (.mdb, .ldb) format. Geographic Information Systems (GIS) data are also included. These data are in ESRI's Shapefile and Geodatabase format.

## HOW TO IDENTIFY AND READ FILES

### REPORT DOCUMENTS

- **MS-45-Read\_Me.pdf**  
*This file*
- **MS-45 Plate 1 - Interpretive Geothermal Heat Flow Map of Colorado.pdf**  
*Includes*
- **MS-45 Plate 2 - Interpretive Geothermal Heat Flow Map of Colorado with Land Status.pdf**
- **MS-45 Colorado Heat Flow Database.xls**
- **MS-45 Description of Colorado Heat Flow Database.pdf**

- **MS-45 Colorado Heat Flow Database References.pdf**
- **GIS\_Data folder**  
*Contains Geodatabase, Shape, Layer, Raster,*

### **To view .pdf files**

If you don't already have Adobe Reader installed on your device, visit <https://get.adobe.com/reader/> to download a free version of the software. Then, start Adobe Reader and choose "File," "Open," and locate the .pdf files where you downloaded them, they will open in Adobe Reader.

### **To view GIS files**

GIS files may be viewed using Geographic Information Systems software packages such as ESRI's ArcGIS platform. Alternatively, these files may be viewed using QGIS, a free and open-source GIS software package, available for download at <https://qgis.com>. Shapefiles are located in the GIS\_Data folder and can be viewed with most GIS software packages. Metadata is associated with the Shapefiles and is best viewed using the Metadata tab in ESRI's ArcCatalog.

For further information or assistance visit or call the Colorado Geological Survey at:

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