

S21_Paleozoic METADATA

Map name: **Bedrock Geologic Map of Minnesota, Minnesota Geological Survey State Map Series S-21**

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Layer name: **Paleozoic Bedrock**

Layer authors: John H. Mossler and Anthony C. Runkel

Publishing organization: Minnesota Geological Survey

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Date of data: Compiled October 2007-October 2010 from data acquired and prior geologic maps published from 1960's through 2010.

Map key words:

Bedrock, geology, Minnesota, Phanerozoic, Paleozoic, Cambrian, Ordovician, Devonian, Hollandale Embayment, Twin Cities Basin

Horizontal accuracy:

Final map scale 1:500,000.

Coordinate system: UTM, NAD83, zone 15

BOUNDING RECTANGLE

WEST LONGITUDE -97.241792

EAST LONGITUDE -91.027427

NORTH LATITUDE 49.077960

SOUTH LATITUDE 43.435423

EXTENT IN THE ITEM'S COORDINATE REFERENCE

BOUNDING RECTANGLE

WEST LONGITUDE 189783.552684

EAST LONGITUDE 644098.437529

NORTH LATITUDE 5436122.263498

SOUTH LATITUDE 4816309.330035

Map area:

Minnesota, including the Minnesota portion of Lake Superior

GIS files associated with map: ESRI shapefile: Pz_pg.shp

MAP LABELS= Dmu, Dm, Ou, Omu, Ol, Cu, Cmu

DESCRIPTN (Period or division of period and typical rock types)

Erosional Window=unit absent within larger unit polygon

Dmu=Devonian-middle and upper; dolostone, limestone, shale

Dm=Devonian-middle; dolostone, limestone, shale

Ou=Ordovician-upper; limestone, dolostone

Omu=Ordovician-middle and upper; shale, limestone, sandstone

Ol=Ordovician-lower; dolostone, sandstone

Cu=Cambrian-upper; sandstone, siltstone, shale, dolostone

Cmu=Cambrian-middle and upper; sandstone, siltstone, shale

TERRANE (brief names of formations and groups that comprise each unit)

Dmu=Lithograph City, Coralville, part of Little Cedar

Dm=Part of Little Cedar, Pinicon Ridge, Spillville

Ou=Galena, Winnipeg, Red River

Omu=Decorah, Plattville, Glenwood, St. Peter

Ol=Prairie du Chien Group

Cu=Jordan, St. Lawrence, Tunnel City

Cmu=Wonewoc, Eau Claire, Mt. Simon

ERA = Paleozoic, all

SUBDIV (Period)

Dmu=Devonian

Dm=Devonian

Ou=Ordovician

Omu=Ordovician

Ol=Ordovician

Cu=Cambrian

Cmu=Cambrian

Description:

Multiple polygons showing distribution of Paleozoic strata in southeastern and northwestern Minnesota

Map scale:

1:500,000

Accuracy of Map units:

Much of the compilation of existing maps and new geologic depiction is taken from maps and data plotted at scales of 1:24,000 to 1:100,000, in particular from County Geologic Atlases published or in progress at MGS. Geology in the northwestern corner of Minnesota is modified slightly from MGS Miscellaneous Map M-93 at 1:250,000 scale, which was based on very scant drill hole data.

Summary of procedures for compiling data used to make map:

Most of the data for southeastern Minnesota, the Twin Cities metropolitan area, and north central Minnesota was compiled from existing 1:100,000 County Geological Atlases and 1:24,000 State Maps except for a band through Isanti, Kanabec, Sherburne, and northern Anoka Counties that was compiled by A. C. Runkel. Contacts of formations between existing maps throughout this region were reconciled on the CRT screen and minor revisions from new data were done in the same way.

Considerable amounts of new mapping was required for west-central Minnesota, in the region covered by the Fairmont, Glencoe, New Ulm, Litchfield, and Albert Lea 1:100,000 scale topographic maps.. Some compilation was already underway or recently completed through mapping for MGS County Geologic Atlases (McLeod, Sibley, Nicollet, and Blue Earth Counties), and for the Karst 319 project (MGS files). Where there was no recent mapping, bedrock topography maps were compiled on Mylar overlays on 1:100,000 scale base maps using water well and test hole data (and outcrop information) plotted on the maps. Where there is substantial thickness of Cretaceous rocks, the pre-Cretaceous bedrock topography was contoured on separate Mylars. Other Mylar overlays were overlain on these bedrock topography Mylar maps and bedrock geological contacts were drawn based on the geological information on the paper base.

The final compilations were scanned, vectorized, and merged by GIS personnel.

Contact for GIS data:

Richard Lively, Tim Wahl, and the authors.

Contact at MGS to obtain map:

Map Sales Department of the Minnesota Geological Survey, 2642 University Avenue, St. Paul, Minnesota, 55114-1057; phone 612-627-4782 (fax 612-627-4778).

Other comments: