

SGMC Geodatabase References for the State Geologic Maps

AL – Alabama – scale 1:250,000

Paper: Szabo, M.W., Osborne, E.W., Copeland, C.W. Jr., and Neathery, T.L., 1988, Geologic Map of Alabama, Geological Survey of Alabama Special Map 220, scale 1:250,000.

http://ngmdb.usgs.gov/Prodesc/proddesc_55859.htm

Digital: Geological Survey of Alabama, 2006, GSA Special Map Series 220A.

http://www.gsa.state.al.us/gsa/gis_data.aspx

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1323/>

AZ – Arizona – scale 1:1 million

Paper: Richard, S.M., Reynolds, S.J., Spencer, J.E., and Pearthree, P.A., 2000, Geologic Map of Arizona: Arizona Geological Survey Map 35, 1 sheet, scale 1:1,000,000.

http://ngmdb.usgs.gov/Prodesc/proddesc_34746.htm

Digital: Arizona Geological Survey, DI-8 Geologic Map of Arizona, Digital Spatial data for the Geologic Map of Arizona, v. 3.0, edited by S.M. Richard and S.M. Kneale, 2002, 10 p., 2 DOS HD disks. Arc/INFO export file (.e00) format.

http://www.azgs.az.gov/services_azgeomap.shtml

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1305/>

AR – Arkansas – scale 1:500,000

Paper: Haley, B.R., Glick, E.E., Bush, W.V., Clardy, B.F., Stone, C.G., Woodward, M.B., and Zachry, D.L., 1993, Geologic map of Arkansas: U.S. Geological Survey, scale 1:500,000.

http://ngmdb.usgs.gov/Prodesc/proddesc_16308.htm

Digital: Haley, B.R., Queen, J.E., and Green, G.N., United States Geological Survey Special Publication, 2000, The Geologic map of Arkansas. <http://pubs.usgs.gov/sm/arkansas/download/>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1351/>

CA – California – scale 1:750,000

Paper: Jennings, C.W., Strand, R.G., Rogers, T.H., Boylan, R.T., Moar, R.R., and Switzer, R.A., 1977, Geologic map of California: California Division of Mines and Geology, Geologic Data Map 2, scale 1:750,000. http://ngmdb.usgs.gov/Prodesc/proddesc_16320.htm

Digital: Saucedo, G.J., Bedford, D.R., Raines, G.L., Miller, R.J., and Wentworth, C.M., 2000, GIS Data for the Geologic Map of California, California Department of Conservation, Division of Mines and Geology, CD-ROM 2000-07, scale 1:750,000.

http://www.consrv.ca.gov/cgs/information/publications/pub_index/Pages/statewide_references.aspx#statewide

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1305/>

CO – Colorado – scale 1:500,000

Paper: Tweto, Ogden, 1979, Geologic Map of Colorado: U.S. Geological Survey Special Geologic Map, scale 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_68589.htm

Digital: Green, G.N., 1992, The Digital Geologic Map of Colorado in ARC/INFO Format: U.S. Geological Survey Open-File Report 92-0507, 9 p.; <http://pubs.usgs.gov/of/1992/ofr-92-0507>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1351/>

CT – Connecticut – scale 1:50,000

Paper: Rodgers, John, compiler, 1985, Bedrock Geological Map of Connecticut: Connecticut Geological and Natural History Survey, Hartford, Connecticut, 2 sheets, scale 1:125,000. http://ngmdb.usgs.gov/Prodesc/proddesc_54245.htm

Digital: Connecticut Geological and Natural History Survey, Department of Environmental Protection, in cooperation with the U.S. Geological Survey, 2000, Bedrock Geology of Connecticut, Scale 1:50,000.

http://www.ct.gov/dep/cwp/view.asp?a=2698&q=322898&depNav_GID=1707&depNav=

Original SGMC publication: <http://pubs.usgs.gov/of/2006/1272/>

DE – Delaware – scale 1:300,000

Paper: Spoljaric, Nenad and Jordan, Robert R., 1966, Generalized Geologic Map of Delaware SP4, State of Delaware, Delaware Geological Survey, scale ca. 1:300,000.

http://ngmdb.usgs.gov/Prodesc/proddesc_86696.htm

Digital: The Water Resources Division of the U.S. Geological Survey digitized the 1966 geologic map of Delaware in the mid-1990's.

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1325/>

FL – Florida – scale 1:750,000

Paper and digital: Scott, T.M., Campbell, K.M., Rupert, F.R., Arthur, J.D., Missimer, T.M., Lloyd, J.M., Yon, J.W., and Duncan, J.G., 2001, Geologic Map of the State of Florida, Florida Geological Survey & Florida Department of Environmental Protection, Map Series 146. Scale 1:750,000. http://www.dep.state.fl.us/geology/gisdatamaps/state_geo_map.htm

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1323/>

GA – Georgia – scale 1:500,000

Paper: Lawton, D.E., Moye, F.J., Murray, J.B., O'Connor, B.J., Penley, H.M., Sandrock, G.S., Marsalis, W.E., Friddell, M.S., Hetrick, J.H., Huddlestun, P.F., Hunter, R.E., Mann, W.R., Martin, B.F., Pickering, S.M., Schneeberger, F.J., and Wilson, J.D., 1976, Geologic Map of Georgia, Georgia Dept. of Natural Resources, Geologic and Water Resources Division, Georgia Geological Survey. Scale 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_16532.htm

Digital: Georgia Geological Survey, a branch of the Environmental Protection Division of the Georgia Department of Natural Resources, 1999 (updated Oct, 2000), Digital Geologic Map of Georgia (ver 2). <https://www.georgiaspatial.org/>

Structure: Alhadeff, S.J., Musser, J.W., Sandercock, A.C, and Dyar, T.R., 2001 (version 2), Digital Environmental Atlas of Georgia, Atlanta: Georgia Dept. of Natural Resources, Environmental Protection Division, Georgia Geologic Survey and U.S. Geological Survey, 2 CD-ROMs.

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1323/>

ID – Idaho – scale 1:500,000

Paper and digital: Lewis, Reed S., Link, Paul K., Stanford, Loudon R., and Long, Sean P., Geologic Map of Idaho, 2012, Idaho Geological Survey, Geologic Map 9 (M-9); Scale 1:500,000.

http://www.idahogeology.org/Products/reverselook.asp?switch=title&value=Geologic_Map_of_Idaho

This is a new addition of the state geologic map and thus does not exist in any original SGMC publication.

IL – Illinois – scale 1:500,000

Paper: Willman, H.B., and others, (compilers), 1967, Geologic Map of Illinois: Illinois State Geological Survey, scale = 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_10333.htm

Digital: Kolata, D.R., comp., 2005, Bedrock Geology of Illinois: Champaign, Ill., Illinois State Geological Survey, Illinois Map Series 14, scale 1:500,000. Stated purpose on website: This data set was compiled to replace/update the existing feature dataset (IL_Bedrock_Geology_500K_1967), based on the 1967 Willman et al. Geologic Map of Illinois. <https://www.isgs.illinois.edu/content/bedrock-geology-map-illinois>

This is a new addition of the state geologic map and thus does not exist in any original SGMC publication.

IN – Indiana – scale 1:500,000

Paper: Gray, Henry H., Ault, Curtis, H., and Keller, Stanley, J., 1987, Bedrock geologic map of Indiana: Dept. of Natural Resources, Indiana Geological Survey, Miscellaneous Map 48, scale = 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_16538.htm

Digital: Indiana Geological Survey, 1995 (latest update 2011), Bedrock Geology of Indiana, BEDROCK_GEOL_MM48_IN, scale 1:500,000.
<http://maps.indiana.edu/layerGallery.html?category=Bedrock>

Original SGMC publication: <http://pubs.usgs.gov/of/2004/1355/>

IA – Iowa – scale 1:250,000

Paper and Digital: Witzke, Brian J., Anderson, Raymond R., and Pope, John P., 2010, Iowa Geological and Water Survey, DNR, Bedrock Geologic Map of Iowa, OFM-2010-1. Scale 1:250,000. <http://www.igsb.uiowa.edu/nrgislibx/>

This is a new addition of the state geologic map and thus does not exist in any original SGMC publication.

KS – Kansas – scale 1:500,000

Paper: Ross, Jorgina. A., 1991, Geologic Map of Kansas: Kansas Geological Survey, Univ. of Kansas Map M-23, scale 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_16542.htm

Digital: Ross, Jorgina A., 1992, A digital representation of the Geological map of Kansas: Kansas Geological Survey, Map M-23, scale 1:500,000. <http://www.kansasgis.org/index.cfm>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1351/>

KY – Kentucky – scale 1:500,000

Paper: Noger, M.C., compiler, 1988, Geologic map of Kentucky: Sesquicentennial edition of the Kentucky Geological Survey: U.S. Geological Survey and the Kentucky Geological Survey, scale 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_16355.htm

Digital: In 2002, the 1:500,000 scale geologic map (including a separate fault file) was digitized by the Kentucky Geological Survey and made available to the public through the website <http://www.uky.edu/KGS/gis/geology.htm>. In 2004 the USGS re-digitized the existing paper 1:500,000-scale state geologic map of Kentucky (Noger, 1988), embedding faults in the polygon coverage. This updated version is provided here.

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1324/>

LA – Louisiana – scale 1:500,000

Paper: Snead, J.I., and McCulloh, R.P., 1984, Geologic Map of Louisiana: Louisiana Geological Survey. Scale 1: 500K. http://ngmdb.usgs.gov/Prodesc/proddesc_39755.htm

Digital: United States Geological Survey, 1998, Digital Overlay of the Geologic Map of Louisiana: U.S. Geological Survey, Biological Resources Division, National Wetlands Research Center, Product Id USGS-NWRC 1984-02-0001. http://sabdata.cr.usgs.gov/sabnet_pub/pub_sab_app.aspx?prodid=14035

Faults – heads up digitizing from the printed map by USGS, 2004.

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1351/>

ME – Maine – scale 1:500,000

Paper: Osberg, P.H., Hussey, A.M., and Boone, G.M., 1985, Bedrock geologic map of Maine: Maine Geological Survey, Dept. of Conserv., scale 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_16547.htm

Digital: Digital bedrock data downloaded from Maine Office of GIS in September 2005. Bedrock units table (publication date 11/15/2002) downloaded from same site. Permission to redistribute these data granted by Dr. Robert Marvinney, State Geologist of Maine, in September 2006. <http://www.maine.gov/dacf/mgs/pubs/digital/bed500.htm>

Original SGMC publication: <http://pubs.usgs.gov/of/2006/1272/>

MD – Maryland – scale 1:250,000

Paper: Cleaves, E.T., Edwards, J., Jr., and Glaser, J.D., 1968, Geologic Map of Maryland: Maryland Geological Survey, Baltimore, Maryland, scale 1:250,000. http://ngmdb.usgs.gov/Prodesc/proddesc_16548.htm

Digital: In 1995 the Water Resources Division of the U.S. Geological Survey digitized the geologic map of Maryland from the 1968 paper map. Information about products from the Maryland Geological Survey can be found at <http://www.mgs.md.gov/>.

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1325/>

MA – Massachusetts – scale 1:250,000

Paper: Zen, E-An (ed.), Goldsmith, R. (comp.), Ratcliffe, N.M. (comp.), Robinson, P. (comp.), Stanley, R.S. (comp.), Hatch, N.L., Jr., Shride, A.F., Weed, E.G.A., and Wones, D.R., 1983, Bedrock Geologic Map of Massachusetts: U.S. Geological Survey, Reston, VA, scale 1: 250,000. http://ngmdb.usgs.gov/Prodesc/proddesc_16357.htm

Digital: Unpublished Digital Geologic Map of Massachusetts received from Rudi Hon at Boston College in 1998. In the late 1990s, the USGS contracted with Dr. Rudi Hon of Boston College to create a digital version from a paper copy of the map (the original mylars had been lost some years earlier). During that process the projection discrepancy came to light. An attempt was made at Boston College to resolve the registration problems by identifying about 1200 individual

points, comparing them to the topographic and geographic base, and then adjusting the geologic linework incrementally to create a better match between geology and geography. The corrected map was delivered to the USGS in 1998.

Original SGMC publication: <http://pubs.usgs.gov/of/2006/1272/>

MI – Michigan – scale 1:500,000

Paper: Milstein, Randall L. (compiler), 1987, Bedrock Geology of Southern Michigan: Geological Survey Division, Michigan Dept. of Natural Resources, scale 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_71887.htm

Paper: Reed, Robert C., and Daniels, Jennifer (compilers), 1987, Bedrock Geology of Northern Michigan: Geological Survey Division, Michigan Dept. of Natural Resources, scale 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_71888.htm

Paper: Sims, P.K., 1992, Geologic map of Precambrian rocks, southern Lake Superior region, Wisconsin and northern Michigan: U.S. Geological Survey Miscellaneous Investigations Map I-2185, scale: 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_10177.htm

Digital: The digital bedrock map of Michigan was produced by the USGS by digitizing recent published regional compilations (Milstein, 1987; Reed and Daniels, 1987; Sims, 1992), ranging in scale from 1:500,000 to 1:1,000,000. Some minor modifications and generalizations have been made from the published maps based on recent detailed fieldwork, particularly in northern Michigan. The digital bedrock geology of Michigan used in this Open-File Report is derived from the three-state compilation that was published in 1997 by the U.S. Geological Survey as Open-File Report 97-455 (Cannon, W.F., Kress, T.H., Sutphin, D.M., Morey, G.B., Meints, Joyce, and Barber-Delach, Robert, 1997, Digital Geologic Map and mineral deposits of the Lake Superior Region, Minnesota, Wisconsin, Michigan: USGS Open-File Report 97-455 (version 3, Nov. 1999). The data can be downloaded freely from: <http://pubs.usgs.gov/of/of97-455/>. Display of this map at significantly larger scales may produce small errors in locations of contacts or faults relative to features contained in other data sets.

Original SGMC publication: <http://pubs.usgs.gov/of/2004/1355/>

MN – Minnesota – scale 1:500,000

Paper and digital: Jirsa, Mark A., Boerboom, Terrence J., Chandler, Val W., Mossler, John H., Runkel, Anthony C., and Setterholm, Dale R., 2011, S-21 Geologic Map of Minnesota-Bedrock Geology; Minnesota Geological Survey, State Map Series S-21. Scale 1:500,000. <http://conservancy.umn.edu/handle/11299/101466>

This is a new addition of the state geologic map and thus does not exist in any original SGMC publication.

MS – Mississippi – scale 1:500,000

Paper: Moore, William Halsell, 1969, reprinted 1985, Geologic Map of Mississippi, Compiled by Bicker, A. R., Jr., 1: 500,000. A revision of the geologic map published by the MS

Geological Survey in 1945 in cooperation with the USGS, revised from data submitted by Dr. E. E. Russell of MS State University from published reports of the MS Geological Survey and from field revisions, Mercury Maps Inc., Jackson, MS.

http://ngmdb.usgs.gov/Prodesc/proddesc_16555.htm

Digital: The digital bedrock map of Mississippi was digitized by the Center for Spatial Data Research and Applications, Jackson State University, based on the 1985 version of the 1969 Geologic Map of Mississippi (Moore, 1969; reprinted in 1985).

<http://www.maris.state.ms.us/HTM/DownloadData/Statewide.html>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1323/>

MO – Missouri – scale 1:500,000

Paper: Middendorf, M.A., and others, 2003, Geologic Map of Missouri: Missouri Department of Natural Resources, Division of Geology and Land Survey, Missouri State Geologic Maps SGM-2003, scale 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_81881.htm

Digital: Missouri Department of Natural Resources, Geological Survey and Resource Assessment Division, 2005, Bedrock geology, State of Missouri: Missouri Department of Natural Resources.; <http://msdis.missouri.edu>

Points – heads up digitizing from the paper map by USGS, 2005.

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1351/>

MT – Montana – scale 1:500,000

Paper: Vuke, S.M., Porter, K.W., Lonn, J.D., and Lopez, D.A., 2007, Geologic Map of Montana - Compact Disc: Montana Bureau of Mines and Geology: Geologic Map 62-C, 73 p., 2 sheets, scale 1:500,000.

http://www.mbm.mtech.edu/mbmgcat/public/ListCitation.asp?pub_id=30080&

Digital: This map was digitized in 2012 as a result of a contract between the U.S. Geological Survey and the Montana Bureau of Mines and Geology.

This is a new addition of the state geologic map and thus does not exist in any original SGMC publication.

NE – Nebraska – scale 1:1 million

Paper: Burchett, R.R., 1986, Geologic Bedrock Map of Nebraska: Nebraska Geological Survey. Scale 1:1 Million. http://ngmdb.usgs.gov/Prodesc/proddesc_39227.htm

Digital: Conservation and Survey Division, University of Nebraska-Lincoln (CSD), 1996, bedrock.e00: Nebraska Geological Survey, Conservation and Survey Division, University of

Nebraska-Lincoln, Lincoln, Nebraska, scale 1:1,000,000.

<http://snr.unl.edu/csd/surveyareas/geology.asp>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1351/>

NV – Nevada – scale 1:250,000

Paper and digital: Crafford, A.E.J., 2007, Geologic Map of Nevada: U.S. Geological Survey Data Series 249, 1 CD-ROM, 46 p., 1 plate; Scale 1:250,000.

<http://pubs.usgs.gov/ds/2007/249/>

This is a new addition of the state geologic map and thus does not exist in any original SGMC publication.

NH – New Hampshire – scale 1:250,000

Paper: Lyons, J.B., Bothner, W.A., Moench, R.H., and Thompson, J.B., Jr., 1997, Bedrock Geologic Map of New Hampshire: Reston, VA, U.S. Geological Survey Special Map, 2 sheets. Scale 1:250,000. http://ngmdb.usgs.gov/Prodesc/proddesc_37338.htm

Digital: Bennett, D.S., Wittkop, C.A., and Dicken, C.L., 2006, Bedrock Geologic Map of New Hampshire - A Digital Representation of the Lyons and others 1997 map and ancillary files: U.S. Geological Survey Data Series 215, CD-ROM. Scale 1:250,000.

<http://pubs.usgs.gov/ds/215/>

Note that the new geologic map of Vermont (Ratcliff, et al, 2011) overlaps with portions of New York and New Hampshire and the newer Vermont data is used in these areas (structure and geology).

Original SGMC publication: <http://pubs.usgs.gov/of/2006/1272/>

NJ – New Jersey – scale 1:100,000

Paper: Drake, Avery A. Jr., Volkert, Richard, A., Monteverde, Donald H., Herman, Gregory C., Houghton, Hugh F., Parker, Ronald A., and Dalton, Richard F., 1996, Bedrock Geology of Northern New Jersey: U.S. Geological Survey, Map Investigations, I-2540-A, two sheets, map scale 1:100,000. http://ngmdb.usgs.gov/Prodesc/proddesc_13025.htm

Paper: Owens, James P., Sugarman, Peter J., Sohl, Norman F., Parker, Ronald A., Houghton, Hugh F., Volkert, Richard A., Drake, Avery A., Jr., and Orndorff, Randall C., 1998, Bedrock Geologic Map of Central and Southern New Jersey: U.S. Geological Survey, Map Investigations, I-2540-B, 4 sheets, scale 1:100,000. http://ngmdb.usgs.gov/Prodesc/proddesc_19458.htm

Digital: Dalton, R.F., Herman, G.C., Monteverde, D.H., Pristas, R.S., Sugarman, P.J., and Volkert, R.A., 1999, New Jersey Department of Environmental Protection, Bedrock Geology and Topographic Base Maps of New Jersey: New Jersey Geological Survey CD Series CD 00-1, Scale 1:100,000. <http://www.state.nj.us/dep/njgs/geodata/dgs04-6.htm>

Original SGMC publication: <http://pubs.usgs.gov/of/2006/1272/>

NM – New Mexico – scale 1:500,000

Paper and digital: Green, G.N., Jones, G.E., and Anderson, O.J., 1997, The Digital Geologic Map of New Mexico in ARC/INFO Format: U.S. Geological Survey Open-File Report 97-0052, 9 p., scale 1:500,000. <http://pubs.usgs.gov/of/1992/ofr-92-0052>

Paper and digital updated: New Mexico Bureau of Geology and Mineral Resources, 2003, Geologic Map of New Mexico, Scale 1:500,000. Includes some new polygons, faults, and attributes - heads up digitizing and new attribution by John Horton in 2012.

<https://geoinfo.nmt.edu/publications/maps/geologic/state/home.cfm>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1351/>

NY – New York – scale 1:250,000

Paper: Fisher, D.W., Isachsen, Y.W., and Rickard, L.V., 1970, Geologic Map of New York State, consisting of 5 sheets: Niagara, Finger Lakes, Hudson-Mohawk, Adirondack, and Lower Hudson, New York State Museum and Science Service, Map and Chart Series No. 15, scale 1:250,000. http://ngmdb.usgs.gov/Prodesc/proddesc_90881.htm

Digital: NYS Museum, NYS Geological Survey, NYS Museum Technology Center, 1999, 1:250,000 Bedrock geology of NYS, data is distributed in ARC/INFO or EXPORT format (with '.e00' extension) in 5 separate files based on printed map sheets.

<http://www.nysm.nysed.gov/gis/>

Note that the new geologic map of Vermont (Ratcliff, et al, 2011) overlaps with portions of New York and New Hampshire and the newer Vermont data is used in these areas (structure and geology).

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1325/>

NC – North Carolina – scale 1:250,000

Paper: Rhodes, Thomas S., and Conrad, Stephen G., 1985, Geologic Map of North Carolina: Department of Natural Resources and Community Development, Division of Land Resources, and the NC Geological Survey, 1:500,000-scale, compiled by Brown, Philip M., et al, and Parker, John M. III, and in association with the State Geologic Map Advisory Committee.

http://ngmdb.usgs.gov/Prodesc/proddesc_55091.htm

Digital: The North Carolina Dept. of Environment, Health, and Natural Resources, Division of Land Resources, NC Geological Survey, in cooperation with the NC Center for Geographic Information and Analysis, 1998 (updated 2007), Geology - North Carolina (1:250,000), coverage data file geol250. The data represents the digital equivalent of the official State Geology map (1:500,000 scale), but was digitized from (1:250,000 scale) base maps.

<http://data.nconemap.com/geoportal/> (type in search 'geology').

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1323/>

ND – North Dakota – scale 1:670,000

Paper: Bluemle, John P., 1983, Geologic and Topographic Bedrock Map of North Dakota, NDGS Miscellaneous Map 25, 1:670,000 scale.

http://ngmdb.usgs.gov/Prodesc/proddesc_16522.htm

Digital: North Dakota Geological Survey, 2001, Geologic Bedrock Map of North Dakota based on Bluemle, John P., 1983, Geologic and Topographic Bedrock Map of North Dakota, NDGS Miscellaneous Map 25, 1:670,000 scale.

<http://web.apps.state.nd.us/hubdataportal/srv/en/main.home>

Structure: North Dakota Geological Survey, linear features based on the Geology Map of North Dakota by Lee Clayton, S.R. Moran, J.P. Bluemle, and C.G. Carlson, 1980, scale 1:500,000.

<http://web.apps.state.nd.us/hubdataportal/srv/en/main.home>

This is a new addition of the state geologic map and thus does not exist in any original SGMC publication.

OH – Ohio – scale 1:500,000

Paper and digital: Digital Ohio map from CD produced as a result of a contract between the U.S. Geological Survey and the Ohio Geological Survey. Released with permission of the Ohio Geological Survey, June 2005. Official State CD Release: Slucher, E.R., (principal compiler), Swinford, E.M., Larsen, G.E., and others, with GIS production and cartography by Powers, D.M., 2006, Bedrock geologic map of Ohio: Ohio Division of Geological Survey Map BG-1, version 6.0, scale 1:500,000. <http://geosurvey.ohiodnr.gov/major-topics/bedrock-geology>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1324/>

OK – Oklahoma – scale 1:250,000

Paper: Based on nine 1:250,000-scale Hydrologic Atlases published by the Oklahoma Geological Survey and three panhandle 1:125,000-scale Hydrologic Information Atlases published by the USGS. See digital reference below for specific paper map references.

Digital: Heran, W.D., Green, G. and Stoesser, D.B., 2003, A Digital Geologic Map Database of Oklahoma: U. S. G. S. Open File Report 03-247. Scale 1:250,000 (composite of 12 quadrangles).

<http://pubs.usgs.gov/of/2003/ofr-03-247/>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1351/>

OR – Oregon – scale 1:500,000

Paper: Walker, G.W. and MacLeod, N.S., 1991, Geologic map of Oregon: U.S. Geological Survey, scale 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_16259.htm

Digital: Miller, R.J., Raines, G.L., and Connors, K.A., 2002, Spatial digital database for the geologic map of Oregon: Geology compiled by G.W. Walker and N.S. MacLeod, USGS Open-File Report 03-67. <http://pubs.usgs.gov/of/2003/of03-067/>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1305/>

PA – Pennsylvania – scale 1:250,000

Paper: Berg, T.M., Edmunds, W.E., Geyer, A.R., and others, compilers, 1980, Geologic map of Pennsylvania: Pennsylvania Geological Survey, 4th ser., Map 1, 2nd ed., 3 sheets, scale 1:250,000. http://ngmdb.usgs.gov/Prodesc/proddesc_34341.htm

Digital: Pennsylvania Bureau of Topographic and Geologic Survey, Department of Conservation and Natural Resources, Miles, C.E., and Whitfield, T.G., compilers, 2001, Bedrock geology of Pennsylvania: Pennsylvania Geological Survey, edition: 1.0, digital map, scale 1:250,000. <http://www.dcnr.state.pa.us/topogeo/publications/pgspub/map/map1/index.htm>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1325/>

RI – Rhode Island – scale 1:100,000

Paper and digital: Hermes, O.D., Gromet, L.P., Murray, D.P., and Hamidzada, N.A., 1994, Geologic Map of Rhode Island, Geological Survey of Rhode Island, Rhode Island Map Series No. 1, Kingston, RI, scale 1:100,000.

http://ngmdb.usgs.gov/Prodesc/proddesc_19719.htm

<http://www.edc.uri.edu/rigis/data/data.aspx?ISO=geoscientificInformation>

Original SGMC publication: <http://pubs.usgs.gov/of/2006/1272/>

SC – South Carolina – scale 1:500,000

Paper: No official state geologic paper map exists (other than very generalized 1:1 million geology).

Digital (created by combining these two datasets): Horton, J.Wright, and Dicken, Connie L., 2001, Preliminary Geologic Map of the Appalachian Piedmont and Blue Ridge, South Carolina Segment: U.S. Geological Survey, Open-File Report 01-298, CD. Scale 1:500,000.

<http://pubs.usgs.gov/of/2001/of01-298/>

Digital: Newell, Wayne L., Prowell, David (retired), Krantz, David, Powars, David, Mixon, Robert (retired), Stone, Byron, and Willard, Debra, in review, Surficial Geology and Geomorphology of the Atlantic Coastal Plain: USGS Open File Report, in press.

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1323/>

SD – South Dakota – scale 1:500,000

Western half of state - Paper and Digital: Martin, J.E., Sawyer, J.F., Fahrenbach, M.D., Tomhave, D.W., and Schulz, L.D., 2004, Geologic Map of South Dakota: South Dakota

Geological Survey, GM 10. Scale 1:500,000.

<http://www.sdgs.usd.edu/publications/downloads.html>

Eastern half of state (new addition not in the original SGMC data) - Paper and Digital: Tomhave, D.W., and Schulz, L.D., 2004, Bedrock Geologic Map Showing Configuration of the Bedrock Surface in South Dakota East of the Missouri River, South Dakota Geological Survey, GM 9, scale 1:500,000.

<http://www.sdgs.usd.edu/publications/downloads.html>

Faults only - heads-up digitizing of lines from the original printed geologic map by Nancy Shock (USGS), August 28, 2002.

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1351/>

TN – Tennessee – scale 1:250,000

Paper: Hardeman, W.D., Miller, R.A., and Swingle, G.D., 1966, Geologic Map of Tennessee: Division of Geology, Tennessee Department of Environment and Conservation, 4 sheets, scale 1:250,000. http://ngmdb.usgs.gov/Prodesc/proddesc_91768.htm

Digital: Greene, D.C., and Wolfe, W.J., 2000, Superfund GIS – 1:250,000 Geology of Tennessee, USGS. (geo250k). <http://water.usgs.gov/GIS/metadata/usgswrd/XML/geo250k.xml>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1324/>

TX – Texas – scale 1:500,000

Paper: Bureau of Economic Geology, 1992, Geologic Map of Texas: University of Texas at Austin, Virgil E. Barnes, project supervisor, Hartmann, B.M. and Scranton, D.F., cartography, scale 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_68390.htm

Digital: Stoeser, Douglas B., Shock, Nancy, Green, Gregory N., Dumonceaux, Gayle M., and Heran, William D., 2005, Geologic Map Database of Texas, USGS, DS 170, scale 1:500,000. <http://pubs.usgs.gov/ds/2005/170/>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1351/>

UT – Utah – scale 1:500,000

Paper and digital: Hintze, L.F., Willis, G.C., Laes, D.Y.M., Sprinkel, D.A., and Brown, K.D., 2000, Digital Geologic Map of Utah: Utah Geological Survey, Map 179DM, scale 1:500,000. <http://geology.utah.gov/maps/geomap/statemap/index.htm>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1305/>

VT – Vermont – scale 1:100,000

Paper and Digital: Ratcliffe, N.M., Stanley, R.S., Gale, M.H., Thompson, P.J., and Walsh, G.J., 2011, Bedrock geologic map of Vermont: U.S. Geological Survey Scientific Investigations Map 3184, 3 sheets, scale 1:100,000. <http://www.anr.state.vt.us/dec/geo/StateBedrockMap2012.htm>

This is a new addition of the state geologic map and thus does not exist in any original SGMC publication.

VA - Virginia – scale 1:500,000

Paper: Virginia Division of Mineral Resources, 1993, Geologic map of Virginia: Virginia Division of Mineral Resources, scale 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_34878.htm

Digital: Digital Representation of the 1993 Geologic Map of Virginia (Publication 174), Virginia Division of Mineral Resources, 2003, CD ROM (ISO-9660) contains image file, expanded explanation in pdf, and ESRI shapefiles, viewing software not included. This is a digital version of 'Geologic Map of Virginia' published in 1993. Scale 1:500,000. <https://www.dmme.virginia.gov/commerce/ProductDetails.aspx?ProductID=1286>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1325/>

WA – Washington – scale 1:500,000

Paper: Huntting, M.T., Bennett, W.A.G., Livingston, V.E.Jr., and Moen, W.S., 1961, Geologic Map of Washington: Washington Division of Mines and Geology, scale 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_30777.htm

Digital: Raines, Gary L., and Johnson, Bruce R., 1996, Digital Representation of the Washington State Geologic Map: A Contribution to the Interior Columbia River Basin Ecosystem Management Project. U.S. Geological Survey Open-File Report 95-684, 20 p., plus digital files. <http://pubs.usgs.gov/of/1995/of95-684/>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1305/>

WV – West Virginia – scale 1:250,000

Paper: Cardwell, D.H., Erwin, R.B., and Woodward, H.P., 1968 (slightly revised 1986), Geologic Map of West Virginia: West Virginia Geological and Economic Survey, Map 1, East Sheet, scale 1:250,000. http://ngmdb.usgs.gov/Prodesc/proddesc_13205.htm

Digital: The digital bedrock map of West Virginia was digitized by the West Virginia Division of Environmental Protection in 1998 under a contract with USGS Water Resources Division Office in West Virginia. Several attributes were subsequently updated by the U.S. Geological Survey. <http://wvgis.wvu.edu/data/dataset.php?action=search&ID=43>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1324/>

WI – Wisconsin – scale 1:500,000

Paper: Mudrey, M.G., Jr., Brown, B.A., and Greenberg, J.K., 1982, Bedrock Geologic Map of Wisconsin: University of Wisconsin-Extension, Geological and Natural History Survey, scale= 1:1,000,000. http://ngmdb.usgs.gov/Prodesc/proddesc_49339.htm

Paper: Sims, P.K., 1992, Geologic map of Precambrian rocks, southern Lake Superior region, Wisconsin and northern Michigan: U.S. Geological Survey Miscellaneous Investigations Map I-2185, scale: 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_10177.htm

Digital: Cannon, William F., Kress, Thomas H., Sutphin, David M., Morey, G.B., Meints, Joyce, and Barber-Delach, Robert, 1997 (updated 1999), Deposits of the Lake Superior region: U.S. Geological Survey Open-File Report 97-455. Scale 1:500,000. <http://pubs.usgs.gov/of/1997/of97-455/>

Original SGMC publication: <http://pubs.usgs.gov/of/2004/1355/>

WY – Wyoming – scale 1:500,000

Paper: Love, J.D. and Christiansen, A.C., 1985, Geologic Map of Wyoming: U.S. Geological Survey. Scale 1:500,000. http://ngmdb.usgs.gov/Prodesc/proddesc_16366.htm

Digital: Green, Gregory N., and Drouillard, Patricia H., 1994, The Digital Geologic Map of Wyoming in ARC/INFO Format: U.S. Geological Survey Open-File Report 94-0425. Scale: 1:500,000. <http://pubs.usgs.gov/of/1994/ofr-94-0425/>

Original SGMC publication: <http://pubs.usgs.gov/of/2005/1351/>