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## Open-File Report (2005-1351)

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# *Preliminary integrated geologic map databases for the United States:*

**Central States: Montana, Wyoming, Colorado, New Mexico, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, Iowa, Missouri, Arkansas, and Louisiana**

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Version 1.2

Updated December 2007



Choose state

### NOTE:

This Open-File Report represents one preliminary part of a larger planned series of integrated geologic databases that will ultimately be available for the entire United States. This interim version is being released now in order to provide ready access to standardized geologic data for use in regional analyses and to meet product distribution goals. The final compilation of these state databases will allow integration of the data that are found on state-scale geologic maps, presented in a uniform database structure. This Open-File Report is similar to but will not be identical to the final version of these data.

## *Introduction*

The growth in the use of Geographic Information Systems (GIS) has highlighted the need for regional and national digital geologic maps attributed with age and lithology information. Such maps can be conveniently used to generate derivative maps for purposes including mineral-resource assessment, metallogenic studies, tectonic studies, and environmental research. This Open-File Report is a preliminary version of part of a series of integrated state geologic map databases that cover the entire United States.

The only national-scale digital geologic maps that portray most or all of the United States for the conterminous U.S. are the digital version of the King and Beikman (1974a, b) map at a scale of 1:2,500,000, as digitized by Schruben and others (1994) and the digital version of the Geologic Map of North America (Reed and others, 2005a, b) compiled at a scale of 1:5,000,000 which is currently being prepared by the U.S. Geological Survey. The present series of maps is intended to provide the next step in increased detail. State geologic maps that range in scale from 1:100,000 to 1:1,000,000 are available for most of the country, and digital versions of these state maps are the basis of this product. In a few cases, new digital compilations were prepared (e.g. OH, SC, SD) or existing paper maps were digitized (e.g. KY, TX). For Alaska and Hawaii, new regional maps are being compiled and ultimately new state maps will be produced.

The digital geologic maps are presented in standardized formats as ARC/INFO (.e00) export files and as ArcView shape (.shp) files. Accompanying these spatial databases are a set of five supplemental data tables that relate the map units to detailed lithologic and age information. The maps for the CONUS have been fitted to a common set of state boundaries based on the 1:100,000 topographic map series of the United States Geological Survey (USGS). When the individual state maps are merged, the combined attribute tables can be used directly with the merged maps to make derivative maps. No attempt has been made to reconcile differences in mapped geology across state lines.

This is the first version of this product and it will be subsequently updated to include four additional states (North Dakota, South Dakota, Nebraska, and Iowa) as shown in the map above.

## ***Procedures***

The various digital geologic maps that form the basis for this product were originally produced in a wide variety of formats. Although most of them are available as ARC/INFO export (.e00) files and/or ArcView shape files, the items and formats in the polygon (PATs) and arc (AATs) attribute tables vary dramatically. To unify these disparate maps, it was necessary to create a set of standard formats, and then to convert the state digital geologic maps to conform to these standards. The details of these standards are presented in the [documentation](#) of this report. The creation of a unique map unit name, called *unit\_link*, allows the different State maps to be merged. (Database field names are in italics). *Unit\_link* consists of the two-letter State (ST) abbreviation, concatenated with the original geologic map unit symbol, which may be slightly modified to remove special characters for age designations, followed by a semicolon, and an integer that designates geographic regions (or provinces) within the map. For those states where provincial structure is absent, this integer is "0". This variable, *unit\_link*, can then be used as a key field to relate the tables that contain age and lithologic information to the spatial database.

Compilation of a regional geologic map always requires compromises between the complexity of geologic information for a large region, and the need to keep the compiled map, and its explanation, relatively simple. Similarly, compromises are necessarily made in order to convert the large variety of formats in our source maps into the standard set of formats developed for this series.

Typically, spatial databases were modified from the source in the following general manner: The most recent data was obtained and the arcs and polygons were reattributed in the PAT according to the nomenclature adopted for this series (see [documentation](#) in this report and the metadata for individual spatial databases). When this reattribution was complete, the other attributes from the original spatial databases were deleted. Generally, if faults were not an integral part of the spatial database, arcs were retagged to make them so. Additionally, for those states where faults were mapped, fault arcs were extracted and provided as a separate .e00 or shape file (faults\_dd, faults\_lcc).

A second more detailed set of standardized attribute tables was generated by extracting information from the legends of the source maps and entering it into a set of five tables that record map unit information (STunits), lithologic information (STlith), age information (STage), and references (STref and STref-link). Some existing map legends provided an inadequate level of age or lithologic information. In these cases, we consulted the scientific literature, maps at smaller scales, and, in some cases, the original authors of the compilations or other regional experts. When we used updated information, it was recorded in the STage and STlith tables. Thus, the age and lithology information in these attribute tables may, in some cases, conflict with the information on the legends of the original source maps that may have been compiled decades ago.

In particular, the lithology table (STlith) may be much more extensive than the information in the map legends. Large regional compilations like these State maps often utilize map units that encompass a variety of lithologies. Volcanic rocks are commonly "lumped" extensively, combining tuffs, ash-flow tuffs, flows, and subvolcanic intrusions of a number of compositions, so that individual map units may contain dozens of unique lithologies. Although a dominant (most abundant) lithology has been designated for all map units, users seeking to use this information are advised to be cautious, as many map units simply have no dominant lithology.

Error correction is an ongoing process with most spatial databases. A typical state spatial database consists of tens of thousands of polygons and arcs, and errors introduced during the creation of these spatial databases are inescapable. One common type of error is data coding that does not conform to the original paper map. For example, polygons may be given the wrong map unit, or faults may be called normal faults instead of thrust faults. Some of these errors are unavoidable because, in a few cases, the original paper map cannot be read accurately.

In other cases, newer information is available that can be used to better describe the existing polygons and arcs that are based on decades-old compilations. This type of updating was done where necessary for some of the spatial databases. Any changes to the spatial data are documented (STchanges.txt where ST stands for the two-letter abbreviation for a given state.)

Spatial databases are provided in both Lambert Conformal Conic projection and decimal degrees.

Projection: Lambert Conformal  
Conic

Horizontal datum: NAD 27

Spheroid: Clarke, 1866  
 Standard parallels: 33 degrees North  
 45 degrees North  
 Central meridian: -100 degrees  
 Reference Latitude: 0 degrees  
 Horizontal units: meters  
 False easting: 0  
 False northing: 0

Supplemental attribute tables are provided in Filemaker Pro format (.fp5), in dBase format (.dbf), and comma-separated value (.csv) text. Some of the fields in this database contain large amounts of information, and this may result in some complications. The dbf format restricts each field to a maximum width of 255 characters and therefore fields are truncated beyond 255 characters. The csv format has no such size restriction, but most GIS software will not display fields beyond 255 characters.

ArcView files can be viewed with the free viewer, ArcExplorer, which can be downloaded from <http://www.esri.com/software/arcexplorer/>.

## References

King, P.B., and Beikman, H.M., 1974a, Geologic map of the United States: U.S. Geological Survey, scale 1: 2,500,000.

King, P.B., and Beikman, H.M., 1974b, Explanatory text to accompany the geologic map of the United States: U.S. Geological Survey Professional Paper 901, 40 p.

Reed, J.C. and Bush, C.A., 2004, Generalized Geologic Map of the Conterminous United States, U.S. Geological Survey, scale 1:7,500,000. (URL <http://pubs.usgs.gov/atlas/geologic/>)

Reed, J.C., Jr., Wheeler, J.O., and Tucholke, B.E., 2005a, Geologic map of North America: Geological Survey of America, Decade of North American Geology, 3 sheets, scale 1:5,000,000.

Reed, J.C., Jr., Wheeler, J.O., and Tucholke, B.E., 2005b, Geologic map of North America – Perspectives and explanation: Geological Survey of America, Decade of North American Geology, 28 p.

Schruben, P.G., Arndt, R.E., and Bawiec, W.J., 1994, Geology of the Conterminous United States at 1:2,500,000 Scale — A Digital Representation of the 1974 P.B. King and H.M. Beikman Map, U.S. Geological Survey Digital Data Series 11, release 2. (URL <http://pubs.usgs.gov/dds/dds11/>)

## Montana

The paper map of Montana (Ross, Andres, and Witkind, 1955) is at a scale of 1:500,000. It was compiled as a cooperative venture between the U.S. Geological Survey and the Montana Bureau of Mines and Geology. This map is currently out of print. A digital representation of this map (Raines and Johnson, 1995) is available from the USGS at <http://pubs.usgs.gov/of/1995/ofr-95-0691>.

## Data Modifications

The original coverage boundary was replaced with the standardized common state boundary. The paper and the digital map were both released as two sheets. The two digital halves were stitched together with the overlap removed to create one database. The Montana digital source data was not changed in any additional way. No additional polygons were created from the use of the standardized state border. The only arc changes were to close polygons or delete overshoots.

METADATA / TEXT		
<a href="#">MTmetadata.txt</a> <a href="#">MTmetadata.doc</a> <a href="#">MTmetadata.htm</a>	Text file(s) containing FGDC-compliant metadata for Montana files.	60 Kb 142 Kb 155 Kb

SPATIAL DATA Arc Export (.e00) files	
Lambert Conformal Conic projection	Geographic coordinates

<a href="#">MTgeol_lcc.e00</a>	file size: 25.0 Mb	<a href="#">MTgeol_dd.e00</a>	file size: 25.0 Mb
<a href="#">MTfaults_lcc.e00</a>	file size: 1.80 Mb	<a href="#">MTfaults_dd.e00</a>	file size: 1.80 Mb
<a href="#">MTdikes_lcc.e00</a>	file size: 526 Kb	<a href="#">MTdikes_dd.e00</a>	file size: 526 Kb
<a href="#">MTfeature_lcc.e00</a>	file size: 112 Kb	<a href="#">MTfeature_dd.e00</a>	file size: 112 Kb
<b>ArcView shapefiles (.shp)</b>			
<a href="#">MTgeol_lcc.zip</a>	file size: 7.90 Mb	<a href="#">MTgeol_dd.zip</a>	file size: 13.4 Mb
<a href="#">MTfaults_lcc.zip</a>	file size: 309 Kb	<a href="#">MTfaults_dd.zip</a>	file size: 296 Kb
<a href="#">MTdikes_lcc.zip</a>	file size: 74.0 Kb	<a href="#">MTdikes_dd.zip</a>	file size: 71.0 Kb
<a href="#">MTfeature_lcc.zip</a>	file size: 22.0 Kb	<a href="#">MTfeature_dd.zip</a>	file size: 21.0 Kb

<b>ATTRIBUTE TABLES FOR MONTANA (.zip files)</b>	
<a href="#">Montana FileMaker directory</a>	file size: 134 Kb
<a href="#">Montana Comma-separated directory</a>	file size: 35.0 Kb
<a href="#">Montana dbf files</a>	file size: 36.0 Kb

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## Wyoming

The paper map of Wyoming (Love and Christiansen, 1985) is a scale of 1:500,000 and is available from the U.S. Geological Survey. A digital version of this map (Green and Drouillard, 1994) is available from the USGS at <http://pubs.usgs.gov/of/1994/ofr-94-0425>.

### Data Modifications

The original coverage boundary was replaced with the standardized common state boundary. The Wyoming digital source data was not changed in any additional way. No additional polygons were created from the use of the standardized state border. The only arc changes were to close polygons or delete overshoots.

<b>METADATA / TEXT</b>		
<a href="#">WYmetadata.txt</a> <a href="#">WYmetadata.doc</a> <a href="#">WYmetadata.htm</a>	Text file(s) containing FGDC-compliant metadata for Wyoming files.	95.0 Kb 181 Kb 238 Kb

<b>SPATIAL DATA</b> <b>Arc Export (.e00) files</b>	
<b>Lambert Conformal Conic projection</b>	<b>Geographic coordinates</b>

<a href="#">WYgeol_lcc.e00</a>	file size: 41.7 Mb	<a href="#">WYgeol_dd.e00</a>	file size: 41.7 Mb
<a href="#">WYfaults_lcc.e00</a>	file size: 5.70 Mb	<a href="#">WYfaults_dd.e00</a>	file size: 5.70 Mb
<a href="#">WYdikes_lcc.e00</a>	file size: 1.10 Mb	<a href="#">WYdikes_dd.e00</a>	file size: 1.10 Mb
<a href="#">WYfeature_lcc.e00</a>	file size: 153 Kb	<a href="#">WYfeature_dd.e00</a>	file size: 153 Kb
<a href="#">WYpoints_lcc.e00</a>	file size: 7.00 Kb	<a href="#">WYpoints_dd.e00</a>	file size: 7.00 Kb
<b>ArcView shapefiles (.shp)</b>			
<a href="#">WYgeol_lcc.zip</a>	file size: 12.1 Mb	<a href="#">WYgeol_dd.zip</a>	file size: 20.3 Mb
<a href="#">WYfaults_lcc.zip</a>	file size: 913 Kb	<a href="#">WYfaults_dd.zip</a>	file size: 882 Kb
<a href="#">WYdikes_lcc.zip</a>	file size: 133 Kb	<a href="#">WYdikes_dd.zip</a>	file size: 130 Kb
<a href="#">WYfeature_lcc.zip</a>	file size: 23.0 Kb	<a href="#">WYfeature_dd.zip</a>	file size: 22.0 Kb
<a href="#">WYpoints_lcc.zip</a>	file size: 3.00 Kb	<a href="#">WYpoints_dd.zip</a>	file size: 3.00 Kb

<b>ATTRIBUTE TABLES FOR WYOMING (.zip files)</b>	
<a href="#">Wyoming FileMaker directory</a>	file size: 153 Kb
<a href="#">Wyoming Comma-separated directory</a>	file size: 29.0 Kb
<a href="#">Wyoming dbf files</a>	file size: 33.0 Kb

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## Colorado

The paper map of Colorado (Tweto, 1979) is at a scale of 1:500,000. This map is usually available from the U.S. Geological Survey. A digital version of this map (Green, 1992) is available from the USGS at <http://pubs.usgs.gov/of/1992/ofr-92-0507>.

### Data Modifications

The original coverage boundary was replaced with the standardized common state boundary. The Colorado digital source data was not changed in any additional way. No additional polygons were created from the use of the standardized state border. The only arc changes were to close polygons or delete overshoots.

<b>METADATA / TEXT</b>		
<a href="#">COMetadata.txt</a> <a href="#">COMetadata.doc</a> <a href="#">COMetadata.htm</a>	Text file(s) containing FGDC-compliant metadata for Colorado files.	82.0 Kb 159 Kb 206 Kb

### SPATIAL DATA Arc Export (.e00) files

Lambert Conformal Conic projection		Geographic coordinates	
<a href="#">COgeol_lcc.e00</a>	file size: 19.6 Mb	<a href="#">COgeol_dd.e00</a>	file size: 19.6 Mb
<a href="#">COfaults_lcc.e00</a>	file size: 4.50 Mb	<a href="#">COfaults_dd.e00</a>	file size: 4.50 Mb
<a href="#">COdikes_lcc.e00</a>	file size: 568 Kb	<a href="#">COdikes_dd.e00</a>	file size: 568 Kb
<a href="#">COfeature_lcc.e00</a>	file size: 443 Kb	<a href="#">COfeature_dd.e00</a>	file size: 443 Kb
<a href="#">COpoints_lcc.e00</a>	file size: 30.0 Kb	<a href="#">COpoints_dd.e00</a>	file size: 30.0 Kb
ArcView shapefiles (.shp)			
<a href="#">COgeol_lcc.zip</a>	file size: 10.3 Mb	<a href="#">COgeol_dd.zip</a>	file size: 9.70 Mb
<a href="#">COfaults_lcc.zip</a>	file size: 817 Kb	<a href="#">COfaults_dd.zip</a>	file size: 805 Kb
<a href="#">COdikes_lcc.zip</a>	file size: 79.0 Kb	<a href="#">COdikes_dd.zip</a>	file size: 77.0 Kb
<a href="#">COfeature_lcc.zip</a>	file size: 74.0 Kb	<a href="#">COfeature_dd.zip</a>	file size: 71.0 Kb
<a href="#">COpoints_lcc.zip</a>	file size: 4.00 Kb	<a href="#">COpoints_dd.zip</a>	file size: 3.00 Kb

ATTRIBUTE TABLES FOR COLORADO (.zip files)	
<a href="#">Colorado FileMaker directory</a>	file size: 127 Kb
<a href="#">Colorado Comma-separated directory</a>	file size: 17.0 Kb
<a href="#">Colorado dbf files</a>	file size: 24.0 Kb

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## New Mexico

The paper Geologic map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2003) is at a scale of 1:500,000. The paper map is based on The Digital Geologic Map of New Mexico in Arc/Info Format (Green and Jones, 1997). This digital map was based upon the earlier digital Geologic Map of New Mexico (Anderson and Jones, 1994).

The paper version is available from the New Mexico Bureau of Geology and Mineral Resources and the U.S. Geological Survey. The 1997 digital version is available at <http://pubs.usgs.gov/of/1997/ofr-97-0052/>.

The 1994 digital version is available from the New Mexico Bureau of Geology and Mineral Resources.

## Data Modifications

The original coverage boundary was replaced with the standardized common state boundary. The New Mexico digital source data was not changed in any additional way. No additional polygons were created from the use of the standardized state border. The only arc changes were to close polygons or delete overshoots.

## METADATA / TEXT

<a href="#">NMmetadata.txt</a> <a href="#">NMmetadata.doc</a> <a href="#">NMmetadata.htm</a>	Text file(s) containing FGDC-compliant metadata for New Mexico files.	81.0 Kb 158 Kb 202 Kb
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<b>SPATIAL DATA Arc Export (.e00) files</b>			
<b>Lambert Conformal Conic projection</b>		<b>Geographic coordinates</b>	
<a href="#">NMgeol_lcc.e00</a>	file size: 36.8 Mb	<a href="#">NMgeol_dd.e00</a>	file size: 36.8 Mb
<a href="#">NMfaults_lcc.e00</a>	file size: 4.60 Mb	<a href="#">NMfaults_dd.e00</a>	file size: 4.60 Mb
<a href="#">NMdikes_lcc.e00</a>	file size: 679 Kb	<a href="#">NMdikes_dd.e00</a>	file size: 679 Kb
<a href="#">NMpoints_lcc.e00</a>	file size: 170 Kb	<a href="#">NMpoints_dd.e00</a>	file size: 170 Kb
<b>ArcView shapefiles (.shp)</b>			
<a href="#">NMgeol_lcc.zip</a>	file size: 12.6 Mb	<a href="#">NMgeol_dd.zip</a>	file size: 22.4 Mb
<a href="#">NMfaults_lcc.zip</a>	file size: 747 Kb	<a href="#">NMfaults_dd.zip</a>	file size: 713 Kb
<a href="#">NMdikes_lcc.zip</a>	file size: 101 Kb	<a href="#">NMdikes_dd.zip</a>	file size: 93.0 Kb
<a href="#">NMpoints_lcc.zip</a>	file size: 20.0 Kb	<a href="#">NMpoints_dd.zip</a>	file size: 20.0 Kb

<b>ATTRIBUTE TABLES FOR NEW MEXICO (.zip files)</b>	
<a href="#">New Mexico FileMaker directory</a>	file size: 131 Kb
<a href="#">New Mexico Comma-separated directory</a>	file size: 24.0 Kb
<a href="#">New Mexico dbf files</a>	file size: 29.0 Kb

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## North Dakota

The paper map of North Dakota (Clayton, 1980) is at a scale of 1:500,000. A digital representation of this map (Waldkirch, 1997) is available from the North Dakota at [http://gis1.state.nd.us/500k/geology/nd\\_bedrock.zip](http://gis1.state.nd.us/500k/geology/nd_bedrock.zip)

## Data Modifications

The original coverage boundary was replaced with the standardized common state boundary. Two polygon labels were changed to match the paper 1980 geologic map. These two polygons now have a source equal to ND002 (in the "source" field of the Polygon Attribute Table, PAT). The North Dakota digital source data was not changed in any additional way. No additional polygons were created from the use of the standardized state border. The only arc changes were to close polygons or delete overshoots.

<b>METADATA / TEXT</b>
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<a href="#">NDmetadata.txt</a> <a href="#">NDmetadata.doc</a> <a href="#">NDmetadata.htm</a>	Text file(s) containing FGDC-compliant metadata for North Dakota files.	41.0 Kb 90.0 Kb 111 Kb
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<b>SPATIAL DATA Arc Export (.e00) files</b>			
Lambert Conformal Conic projection		Geographic coordinates	
<a href="#">NDgeol_lcc.e00</a>	file size: 9.80 Mb	<a href="#">NDgeol_dd.e00</a>	file size: 9.80 Mb
<a href="#">NDfeature_lcc.e00</a>	file size: 6.40 Mb	<a href="#">NDfeature_dd.e00</a>	file size: 6.40 Mb
<b>ArcView shapefiles (.shp)</b>			
<a href="#">NDgeol_lcc.zip</a>	file size: 5.50 Mb	<a href="#">NDgeol_dd.zip</a>	file size: 5.50 Mb
<a href="#">NDfeature_lcc.zip</a>	file size: 1.30 Mb	<a href="#">NDfeature_dd.zip</a>	file size: 1.20 Mb

<b>ATTRIBUTE TABLES FOR NORTH DAKOTA (.zip files)</b>	
<a href="#">North_Dakota_FileMaker_directory</a>	file size: 85.0 Kb
<a href="#">North_Dakota_Comma-separated_directory</a>	file size: 12.0 Kb
<a href="#">North_Dakota_dbf_files</a>	file size: 14.0 Kb

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## South Dakota

The Geologic Map of South Dakota (Martin, Sawyer, Fahrenbach, Tomhave, and Schulz, 2004) was released as an Adobe Acrobat PDF formatted digital graphic as General Map 10 (at the South Dakota Geological Survey web site, <http://www.sdgs.usd.edu/digitalpubmaps/general.html>). This map is at a scale of 1:500,000. The data base for this publication is also available from the same web site in shapefile format.

### Data Modifications

The original coverage boundary was replaced with the standardized common state boundary. No additional polygons were created from the use of the standardized state border. The only arc changes were to close polygons or delete overshoots. In order to create a topologically structured Arc/Info coverage from the shapefiles, minor editing was required. Overlapping contacts, especially along shorelines, were deleted. The PDF geologic map clearly show fault traces, however these faults are not included with the South Dakota web site shapefile dataset. As part of cooperative work in preparing the new South Dakota state map these faults were originally digitized by the U.S. Geological Survey (Nancy Shock, USGS, personal communications, 2004). The authors edited this pre-release fault map layer to match the published PDF graphic. This fault layer is included here as SDfaults\_lcc and SDfaults\_dd in both export and shapefile formats.

<b>METADATA / TEXT</b>		
<a href="#">SDmetadata.txt</a> <a href="#">SDmetadata.doc</a> <a href="#">SDmetadata.htm</a>	Text file(s) containing FGDC-compliant metadata for South Dakota files.	61.0 Kb 126 Kb 222 Kb



<b>SPATIAL DATA Arc Export (.e00) files</b>			
<b>Lambert Conformal Conic projection</b>		<b>Geographic coordinates</b>	
<a href="#">SDgeol_lcc.e00</a>	file size: 44.9 Mb	<a href="#">SDgeol_dd.e00</a>	file size: 44.9 Mb
<a href="#">SDfaults_lcc.e00</a>	file size: 148 Kb	<a href="#">SDfaults_dd.e00</a>	file size: 148 Kb
<a href="#">SDdikes_lcc.e00</a>	file size: 42.0 Kb	<a href="#">SDdikes_dd.e00</a>	file size: 44.0 Kb
<a href="#">SDfeature_lcc.e00</a>	file size: 166 Kb	<a href="#">SDfeature_dd.e00</a>	file size: 196 Kb
<b>ArcView shapefiles (.shp)</b>			
<a href="#">SDgeol_lcc.zip</a>	file size: 16.6 Mb	<a href="#">SDgeol_dd.zip</a>	file size: 29.9 Mb
<a href="#">SDfaults_lcc.zip</a>	file size: 28.0 Kb	<a href="#">SDfaults_dd.zip</a>	file size: 27.0 Kb
<a href="#">SDdikes_lcc.e00</a>	file size: 8.00 Kb	<a href="#">SDdikes_dd.e00</a>	file size: 8.00 Kb
<a href="#">SDfeature_lcc.e00</a>	file size: 36.0 Kb	<a href="#">SDfeature_dd.e00</a>	file size: 34.0 Kb

<b>ATTRIBUTE TABLES FOR SOUTH DAKOTA (.zip files)</b>	
<a href="#">South Dakota FileMaker directory</a>	file size: 108 Kb
<a href="#">South Dakota Comma-separated directory</a>	file size: 18.0 Kb
<a href="#">South Dakota dbf files</a>	file size: 20.0 Kb

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## Nebraska

The paper map of Geologic Bedrock Map of Nebraska (Burchett, 1986) is at a scale of 1:1,000,000. This map is available from the Nebraska Geological Survey, Conservation and Survey Division, University of Nebraska-Lincoln at <http://snr.unl.edu/productcart/pc/viewPrd.asp?idcategory=0&idproduct=5982>. A digital version of this map is available on line (Nebraska Geological Survey, 1996) at <http://csd.unl.edu/csd-esic/gisdata/bedrock.e00>.

### Data Modifications

The original coverage boundary was replaced with the standardized common state boundary. The Nebraska digital source data was not changed in any additional way. No additional polygons were created from the use of the standardized state border. The only arc changes were to close polygons or delete overshoots.

<b>METADATA / TEXT</b>		
<a href="#">NEmetadata.txt</a> <a href="#">NEmetadata.doc</a> <a href="#">NEmetadata.htm</a>	Text file(s) containing FGDC-compliant metadata for Nebraska files.	35.0 Kb 80.0 Kb 98.0 Kb

SPATIAL DATA Arc Export (.e00) files			
Lambert Conformal Conic projection		Geographic coordinates	
<a href="#">NEgeol_lcc.e00</a>	file size: 4.00 Mb	<a href="#">NEgeol_dd.e00</a>	file size: 4.00 Mb
ArcView shapefiles (.shp)			
<a href="#">NEgeol_lcc.zip</a>	file size: 1.60 Mb	<a href="#">NEgeol_dd.zip</a>	file size: 2.90 Mb

ATTRIBUTE TABLES FOR NEBRASKA (.zip files)	
<a href="#">Nebraska FileMaker directory</a>	file size: 82.0 Kb
<a href="#">Nebraska Comma-separated directory</a>	file size: 13.0 Kb
<a href="#">Nebraska dbf files</a>	file size: 14.0 Kb

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## Kansas

The paper map of Kansas (Ross, 1991) is a scale of 1:500,000 and is available from the Kansas Geological Survey. A digital version of this map (Ross, 1992) is available from the KGS at <http://gisdasc.kgs.ku.edu/>.

### Data Modifications

The original coverage boundary was replaced with the standardized common state boundary. The Kansas source data was released as 105 separate county covers. These were stitched together to recreate the state map. Two arcs were coded as contacts and 340 arcs were coded as shoreline. No additional polygons were created. The only arc topology changes were to close polygons or delete overshoots. The digital geologic map was released with a marker bed feature layer. Unfortunately, the marker or formation base layer for Crawford County is not available. These data were digitized from a paper library copy of the Kansas geologic map and added to the feature layer. The Cretaceous age symbol K was added to the Cretaceous igneous rock labels for logical consistency. In the Kansas geology polygon coverage and Filemaker Pro attribute table, the symbol for Kimberlite is now KK, the Rose Dome Lamproite is KRd, and the Silver City Dome Lamproite is KSC.

METADATA / TEXT		
<a href="#">KSmetadata.txt</a> <a href="#">KSmetadata.doc</a> <a href="#">KSmetadata.htm</a>	Text file(s) containing FGDC-compliant metadata for Kansas files.	40.0 Kb 89.0 Kb 105 Kb

SPATIAL DATA Arc Export (.e00) files	
Lambert Conformal Conic projection	Geographic coordinates

<a href="#">KSgeol_lcc.e00</a>	file size: 23.3 Mb	<a href="#">KSgeol_dd.e00</a>	file size: 23.3 Mb
<a href="#">KSfeature_lcc.e00</a>	file size: 6.10 Mb	<a href="#">KSfeature_dd.e00</a>	file size: 6.10 Mb
<b>ArcView shapefiles (.shp)</b>			
<a href="#">KSgeol_lcc.zip</a>	file size: 18.6 Mb	<a href="#">KSgeol_dd.zip</a>	file size: 12.3 Mb
<a href="#">KSfeature_lcc.zip</a>	file size: 1.70 Mb	<a href="#">KSfeature_dd.zip</a>	file size: 1.50 Mb

<b>ATTRIBUTE TABLES FOR KANSAS (.zip files)</b>	
<a href="#">Kansas FileMaker directory</a>	file size: 86.0 Kb
<a href="#">Kansas Comma-separated directory</a>	file size: 8.00 Kb
<a href="#">Kansas dbf files</a>	file size: 8.00 Kb

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## Oklahoma

The digital geologic map of Oklahoma (Heran, Green, and Stoesser, 2003) is a compilation of nine 1:250,000 scale geologic quadrangle maps and three 1:125,000 scale county maps. This dataset was developed to provide a digital geologic map database for Oklahoma since no such database was publicly available. This database is freely available from the USGS at <http://pubs.usgs.gov/of/2003/ofr-03-247/>.

### Data Modifications

The original coverage boundary was replaced with the standardized common state boundary. The Oklahoma digital source data was not changed in any additional way. No additional polygons were created from the use of the standardized state border. The only arc changes were to close polygons or delete overshoots.

<b>METADATA / TEXT</b>		
<a href="#">OKmetadata.txt</a> <a href="#">OKmetadata.doc</a> <a href="#">OKmetadata.htm</a>	Text file(s) containing FGDC-compliant metadata for Oklahoma files.	75.0 Kb 174 Kb 187 Kb

<b>SPATIAL DATA</b> <b>Arc Export (.e00) files</b>			
<b>Lambert Conformal Conic projection</b>		<b>Geographic coordinates</b>	
<a href="#">OKgeol_lcc.e00</a>	file size: 38.6 Mb	<a href="#">OKgeol_dd.e00</a>	file size: 38.6 Mb
<a href="#">OKfaults_lcc.e00</a>	file size: 2.40 Mb	<a href="#">OKfaults_dd.e00</a>	file size: 2.40 Mb
<a href="#">OKfeature_lcc.e00</a>	file size: 380 Kb	<a href="#">OKfeature_dd.e00</a>	file size: 380 Kb
<b>ArcView shapefiles (.shp)</b>			

<a href="#">OKgeol_lcc.zip</a>	file size: 13.6 Mb	<a href="#">OKgeol_dd.zip</a>	file size: 24.0 Mb
<a href="#">OKfaults_lcc.zip</a>	file size: 412 Kb	<a href="#">OKfaults_dd.zip</a>	file size: 377 Kb
<a href="#">OKfeature_lcc.zip</a>	file size: 78.0 Kb	<a href="#">OKfeature_dd.zip</a>	file size: 66.0 Kb

ATTRIBUTE TABLES FOR OKLAHOMA (.zip files)	
<a href="#">Oklahoma FileMaker directory</a>	file size: 169 Kb
<a href="#">Oklahoma Comma-separated directory</a>	file size: 47.0 Kb
<a href="#">Oklahoma dbf files</a>	file size: 35.0 Kb

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## Texas

The paper map of Texas (Barnes, 1992) is a scale of 1:500,000 and is available from the Bureau of Economic Geology, The University of Texas at Austin, Texas. A digital version of this map (Stoeser, Shock, Green, Dumonceaux, and Heran, in press) will be available from the USGS at <http://pubs.usgs.gov/> in the Data Series directories.

### Data Modifications

The original coverage boundary was replaced with the standardized common state boundary. The Texas digital source data was not changed in any additional way. No additional polygons were created from the use of the standardized state border. The only arc changes were to close polygons or delete overshoots.

METADATA / TEXT		
<a href="#">TXmetadata.txt</a> <a href="#">TXmetadata.doc</a> <a href="#">TXmetadata.htm</a>	Text file(s) containing FGDC-compliant metadata for Texas files.	131 Kb 241 Kb 323 Kb

SPATIAL DATA Arc Export (.e00) files			
Lambert Conformal Conic projection		Geographic coordinates	
<a href="#">TXgeol_lcc.e00</a>	file size: 128 Mb	<a href="#">TXgeol_dd.e00</a>	file size: 128 Mb
<a href="#">TXfaults_lcc.e00</a>	file size: 2.10 Mb	<a href="#">TXfaults_dd.e00</a>	file size: 2.10 Mb
ArcView shapefiles (.shp)			
<a href="#">TXgeol_lcc.zip</a>	file size: 41.0 Mb	<a href="#">TXgeol_dd.zip</a>	file size: 79.5 Mb
<a href="#">TXfaults_lcc.zip</a>	file size: 365 Kb	<a href="#">TXfaults_dd.zip</a>	file size: 356 Kb

ATTRIBUTE TABLES FOR TEXAS (.zip files)	
<a href="#">Texas FileMaker directory</a>	file size: 297 Kb
<a href="#">Texas Comma-separated directory</a>	file size: 95.0 Kb
<a href="#">Texas dbf files</a>	file size: 89.0 Kb

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## Iowa

The paper Geologic map of Iowa (Iowa Geological Survey, 1969) is at scale of 1:500,000. The paper map was available from the Iowa Geological Survey but it is now out of print. A digital version (Hoyer, 1989) is available from the Iowa Geological Survey at [ftp://ftp.igsb.uiowa.edu/gis\\_library/IA\\_state/Geologic/Bedrock/Bedrock\\_geology.zip](ftp://ftp.igsb.uiowa.edu/gis_library/IA_state/Geologic/Bedrock/Bedrock_geology.zip).

### Data Modifications

The original coverage boundary was replaced with the standardized common state boundary. The Iowa digital source data was not changed in any additional way. No additional polygons were created from the use of the standardized state border. The only arc changes were to close polygons or delete overshoots.

METADATA / TEXT		
<a href="#">IAmetadata.txt</a> <a href="#">IAmetadata.doc</a> <a href="#">IAmetadata.htm</a>	Text file(s) containing FGDC-compliant metadata for Iowa files.	40.0 Kb 89.0 Kb 154 Kb

SPATIAL DATA Arc Export (.e00) files			
Lambert Conformal Conic projection		Geographic coordinates	
<a href="#">IAgeol_1cc.e00</a>	file size: 2.60 Mb	<a href="#">IAgeol_dd.e00</a>	file size: 2.60 Mb
ArcView shapefiles (.shp)			
<a href="#">IAgeol_1cc.zip</a>	file size: 1.00 Mb	<a href="#">IAgeol_dd.zip</a>	file size: 1.00 Mb

ATTRIBUTE TABLES FOR IOWA (.zip files)	
<a href="#">Iowa FileMaker directory</a>	file size: 87.0 Kb
<a href="#">Iowa Comma-separated directory</a>	file size: 14.0 Kb
<a href="#">Iowa dbf files</a>	file size: 15.0 Kb

## Missouri

The paper Geologic map of Missouri (Middendorf, 2003) is at a scale of 1:500,000 and is available from the Missouri Department of Natural Resources. A digital version of this map (Missouri Department of Natural Resources, 2005) is available from at <http://msdisweb.missouri.edu/datasearch/ThemeList.jsp>.

### Data Modifications

The original coverage boundary was replaced with the standardized common state boundary. No additional polygons were created from the use of the standardized state border. One arc was added and coded as a contact to resolve a topology problem. Arcs were extended and overshoots deleted in order to use the standardized state border. The paper map has point features. Unfortunately, the digital version did not. These data were digitized from a paper library copy of the Missouri geologic map and added to a point layer.

#### METADATA / TEXT

<a href="#">MOMETADATA.TXT</a> <a href="#">MOMETADATA.DOC</a> <a href="#">MOMETADATA.HTM</a>	Text file(s) containing FGDC-compliant metadata for Missouri files.	41.0 Kb 90.0 Kb 106 Kb
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#### SPATIAL DATA Arc Export (.e00) files

Lambert Conformal Conic projection		Geographic coordinates	
<a href="#">MOgeol_lcc.e00</a>	file size: 83.9 Mb	<a href="#">MOgeol_dd.e00</a>	file size: 83.9 Mb
<a href="#">MOfaults_lcc.e00</a>	file size: 4.20 Mb	<a href="#">MOfaults_dd.e00</a>	file size: 4.20 Mb
<a href="#">MOpoints_lcc.e00</a>	file size: 53.0 Kb	<a href="#">MOpoints_dd.e00</a>	file size: 53.0 Kb
ArcView shapefiles (.shp)			
<a href="#">MOgeol_lcc.zip</a>	file size: 63.3 Mb	<a href="#">MOgeol_dd.zip</a>	file size: 29.8 Mb
<a href="#">MOfaults_lcc.zip</a>	file size: 750 Kb	<a href="#">MOfaults_dd.zip</a>	file size: 707 Kb
<a href="#">MOpoints_lcc.zip</a>	file size: 5.00 Kb	<a href="#">MOpoints_dd.zip</a>	file size: 5.00 Kb

#### ATTRIBUTE TABLES FOR MISSOURI (.zip files)

<a href="#">Missouri FileMaker directory</a>	file size: 92.0 Kb
<a href="#">Missouri Comma-separated directory</a>	file size: 11.0 Kb
<a href="#">Missouri dbf files</a>	file size: 11.0 Kb

## Arkansas

The paper Geologic map of Arkansas (Haley and others, 1993) is at a scale of 1:500,000 and is available from the U.S. Geological Survey. A digital version of this map (United States Geological Survey, 2000) is available from <http://pubs.usgs.gov/sm/arkansas/download/finished/>.

### Data Modifications

The original coverage boundary was replaced with the standardized common state boundary. No additional polygons were created from the use of the standardized state border. Arcs were extended and overshoots deleted in order to use the standardized state border. Contacts that were in fact shorelines were recoded as such.

METADATA / TEXT		
<a href="#">ARmetadata.txt</a> <a href="#">ARmetadata.doc</a> <a href="#">ARmetadata.htm</a>	Text file(s) containing FGDC-compliant metadata for Arkansas files.	54.0 Kb 139 Kb 139 Kb

SPATIAL DATA Arc Export (.e00) files			
Lambert Conformal Conic projection		Geographic coordinates	
<a href="#">ARgeol_lcc.e00</a>	file size: 10.8 Mb	<a href="#">ARgeol_dd.e00</a>	file size: 10.8 Mb
<a href="#">ARfaults_lcc.e00</a>	file size: 1.90 Mb	<a href="#">ARfaults_dd.e00</a>	file size: 1.90 Mb
<a href="#">ARDikes_lcc.e00</a>	file size: 56.0 Kb	<a href="#">ARDikes_dd.e00</a>	file size: 59.0 Kb
ArcView shapefiles (.shp)			
<a href="#">ARgeol_lcc.zip</a>	file size: 3.10 Mb	<a href="#">ARgeol_dd.zip</a>	file size: 2.80 Mb
<a href="#">ARfaults_lcc.zip</a>	file size: 300 Kb	<a href="#">ARfaults_dd.zip</a>	file size: 291 Kb
<a href="#">ARDikes_lcc.zip</a>	file size: 12.0 Kb	<a href="#">ARDikes_dd.zip</a>	file size: 9.00 Kb

ATTRIBUTE TABLES FOR ARKANSAS (.zip files)	
<a href="#">Arkansas FileMaker directory</a>	file size: 96.0 Kb
<a href="#">Arkansas Comma-separated directory</a>	file size: 11.0 Kb
<a href="#">Arkansas dbf files</a>	file size: 13.0 Kb

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## Louisiana

The paper map of Louisiana (Snead and McCulloh, 1984) is a scale of 1:500,000 and is available from the Louisiana Geological Survey. A digital version of this map (United States Geological Survey, Biological Research Division's, National Wetlands Research Center, 1998) is available at

<http://www.nwrc.usgs.gov/>.

## Data Modifications

The original coverage boundary was replaced with the standardized common state boundary. The Louisiana digital source data was not changed in any additional way. No additional polygons were created from the use of the standardized state border. The only arc changes were to close polygons or delete overshoots. The original paper geologic map had geologic faults clearly shown. Unfortunately, the digital version did not. These data were digitized from a paper library copy of the Louisiana geologic map and added to a fault layer.

METADATA / TEXT		
<a href="#">LAmetadata.txt</a> <a href="#">LAmetadata.doc</a> <a href="#">LAmetadata.htm</a>	Text file(s) containing FGDC-compliant metadata for Louisiana files.	39.0 Kb 89.0 Kb 64.0 Kb

SPATIAL DATA Arc Export (.e00) files			
Lambert Conformal Conic projection		Geographic coordinates	
<a href="#">LAgeol_1cc.e00</a>	file size: 16.1 Mb	<a href="#">LAgeol_dd.e00</a>	file size: 16.1 Mb
<a href="#">LAFaults_1cc.e00</a>	file size: 175 Kb	<a href="#">LAFaults_dd.e00</a>	file size: 175 Kb
ArcView shapefiles (.shp)			
<a href="#">LAgeol_1cc.zip</a>	file size: 5.80 Mb	<a href="#">LAgeol_dd.zip</a>	file size: 10.1 Mb
<a href="#">LAFaults_1cc.zip</a>	file size: 29.0 Kb	<a href="#">LAFaults_dd.zip</a>	file size: 28.0 Kb

ATTRIBUTE TABLES FOR LOUISIANA (.zip files)	
<a href="#">Louisiana FileMaker directory</a>	file size: 84.0 Kb
<a href="#">Louisiana Comma-separated directory</a>	file size: 6.00 Kb
<a href="#">Louisiana dbf files</a>	file size: 7.00 Kb

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