DI-04: GEOLOGIC DATA FOR THE PHOENIX NORTH 30' x 60' QUADRANGLE

Arizona Geological Survey Digital Information 4 (DI-04) version 2.0

System Requirements: **Windows 95/98/2000, Windows NT4.0 or Windows XP**
Adobe® Acrobat Reader (version 8.10 included on this cd-rom)

Optional: **Web browser to view HTML files**

Content

This product contains geologic data for the Phoenix North 30 by 60 minute quadrangle at 1:100,000 scale. The geologic data contained here represent a digitized version of Reynolds and Grubensky, 1993 (OFR93-17). Data are provided in a standard NGMDB (National Geologic Map Database) format geodatabase, as well as a series of shapefiles. The geodatabase and shapefiles are projected in the NAD83 UTM zone 12 coordinate system. Browse graphics in JPG and Adobe® PDF format are included to provide an easy view of the contained data. These browse graphics are generated using mostly automated cartographic procedures provided by GIS software, and are not complete, edited geologic maps. An ArcMap project (.mxd) and an ArcReader published map (.pmf) provide starting points for accessing the data. For users who do not have ESRI ArcGIS licenses, free data viewing software (ArcReader) is included. Please note that all shapefiles, layer files, and ESRI map documents were created using ArcGIS 9.2, and may not function properly with older versions of the software.

Required Installation

True type fonts must be installed in order for cartographic symbols to be displayed correctly in Adobe® PDF files and ESRI ArcMap projects files. A batch file (InstallFontsOnly.bat) which installs these fonts is included.

Optional Installation

For users who wish to interact with the NGMDB geodatabase, a class extension (NGMDBClassExtension.dll) is available to automatically generate unique primary key Globally Unique Identifier (GUID) strings when data are added. The extension also populates the NGMDB maintenance fields in the database. To use the class extension, the .dll must be registered with the operating system (MS Windows only) and in the proper ESRI component category. A batch file (InstallForArcGIS9.bat) which installs both the fonts mentioned above and the class extension is included.
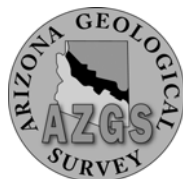

PRODUCT OVERVIEW

Database – Folder containing the ESRI personal geodatabase, which is a Microsoft Access .mdb file, and related documents. These are copies of Arizona Geological Survey databases that are used for compilation and archiving of geologic information. The data structure is a relational implementation of an object model, and will require some study to utilize. The databases are included for advanced users interested in a more content rich geologic database implementation. Contact AZGS for more information.

- PhoenixN100_DI4.mdb: ESRI personal geodatabase implemented using NGMDB model. Shapefiles in shapefile directory are generated from this database.

- FrontEnd_NGMDB.mdb: Microsoft Access database, front end application contains queries, forms, reposts and visual basic code to assist with using geologic geodatabases implemented using NGMDB model. This collection of software tools is constantly under development and debugging, and is presented for advanced users to provide some indication of how the geologic geodatabase might be used.

- dbDocumentation: directory containing Microsoft word and power point documents describing the NGMDB standard format. These are works in progress to varying degrees.

  - DesignOverview.ppt – Microsoft Power point presentation outlining the major design considerations for the NGMDB database implementation

  - ERDiagramDescriptions.pdf – documentation for some of the relationships between tables in the database implementation

  - NGMDB_DatabaseSchemaCurrent.pdf – description of database design and all tables and fields in the geodatabase. Most complete documentation of database structure.

  - NGMDB_GeodatabaseFeatureClasses.pdf– description of geodatabase feature model implemented in geologic geodatabase. Focuses of consideration specific to representation of spatial data using ESRI geodatabase.

  - FrontEndHELP.zip – draft html files documenting use of the front end database, emphasizing field data entry.

Shapefiles – Folder containing shapefiles extracted from Feature Classes in the Geodatabase. These files provide a simple way of accessing the geologic data for users with access to ESRI ArcGIS software.

- ConcealedBoundaryTrace: This line shapefile displays bedrock contacts and faults concealed beneath surficial deposits.

- DikeVeinMarkerTrace: This line shapefile displays dikes, veins and marker horizons.

- OutcropBoundaryTrace: This line shapefile displays exposed geologic contacts and faults.
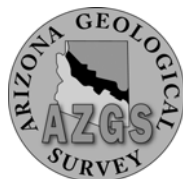
- GeologicUnitOutcrop: This polygon shapefile displays the outcrop areas of geologic units.

- MapAnnotationPoint: This point shapefile displays symbols indicating the strike and dip of oriented structures, including bedding, foliation and faults.

Layers – Folder containing layer files, which can be used to correctly symbolize the data contained in the above shapefiles. These layer files can be directly added to an ESRI ArcMap document, or used to symbolize feature classes from the geodatabase. Symbology for all layers is based on the CartoObjID field. For more information, see the support section below.

Graphics – Folder containing browse graphics for the geologic data provided. These graphics are provided as JPG images (High Resolution: 300 dpi, Low Resolution: 72 dpi) and a high resolution Adobe® PDF file.

Projects – Folder containing ESRI map products for viewing the data.

- PhxN100k.mxd: ESRI ArcMap document for users with ArcGIS software. Allows the user full access and manipulation of the data contained in the shapefiles described above.

- PhxN100k.pmf: ESRI published map document for users without ArcGIS software. This file can be viewed using ArcReader, free ESRI software which is included on this CD. Allows users to view the data contained in the shapefiles, however the data cannot be manipulated.

Metadata – Folder containing metadata for the database in ArcMap XML as well as HTML and text FGDC compliant formats.

Topos – Folder containing georeferenced USGS topographic maps pertaining to the extent of the geologic data.

- PhxN100k.tif: The USGS 1:100,000 scale Phoenix North topographic map. The source map was originally produced using the NAD27 datum, and has been reprojected into NAD83.

Text – Folder containing this document in HTML and Adobe® PDF formats.

Support – Folder containing supplemental software and files.

- ArcReader: This folder contains documentation as well as the files necessary to install ArcReader, which is free ESRI software for viewing published map files (.pmf). To install ArcReader, make sure you have administrative privileges and double-click the "Setup.msi" file.

- Batch files described above (InstallFontsOnly.bat and InstallForArcGIS9.bat) perform installations required to view map symbols properly as well as interact with the NGMDB geodatabase.

- Symbology: Three Adobe® PDF files describe how CartoObjID numbers are used to symbolize point, line and polygon data.

CONTACT INFORMATION

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