

Identification_Information:

Description:

Abstract: This map shows the surficial geology of New Castle County, Delaware, at a scale of 1:100,000. Maps at this scale are useful for viewing general geologic framework on a county-wide basis, determining the geology of watersheds, and recognizing the relationship of geology to regional or county-wide environmental or land-use issues. The map was compiled from topographic and geologic maps, aerial photographs, geologists' and drillers' logs, geophysical logs, soils maps, and sample descriptions. Samples from drill holes and outcrops were examined for comparison with previous descriptions. Other than the Old College (Ramsey, 2005) and Bridgeton Formations (Owens, 1999; Owens et al., 1970), all geologic units were previously mapped or described in Delaware. Descriptions of geologic units, unless otherwise referenced, were generated by the author after examination of cores, outcrops, and samples from the Delaware Geological Survey Core and Sample Repository.

Purpose: This map, when combined with subsurface geologic information, provides a basis for locating water supplies, mapping ground-water recharge areas, and protecting ground and surface water. Geologic maps are also used to identify geologic hazards such as sinkholes and flood prone areas, to identify sand and gravel resources, and for supporting state, county, and local land-use and planning decisions.

Supplemental_Information:

Owens, J.P., 1999, Cretaceous and Tertiary, in Shultz, C.H., editor, The Geology of Pennsylvania: Pennsylvania Geological Survey Special Publication No. 1, p. 219-223.

Owens, J.P., Minard, J.P., Sohl, N.F., and Mello, J.F., 1970, Stratigraphy of the outcropping post-Magothy Upper Cretaceous Formations in Southern New Jersey and Northern Delmarva Peninsula, Delaware and Maryland: U.S. Geological Survey Professional Paper 674, 60 p.

Ramsey, K.W., 2005, Geology of the Old College Formation along the Fall Zone of Delaware: Delaware Geological Survey Report of Investigations No. 69, 15 p.

Citation:

Citation_Information:

Originator: Delaware Geological Survey, University of Delaware

Publication_Date: 2005

Title: Digital Geology Layer for DGS Geologic Map No. 13 (Geologic Map of New Castle County, Delaware)

Geospatial_Data_Presentation_Form: vector digital data

Publication_Information:

Publisher: Delaware Geological Survey, University of Delaware

Publication_Place: Newark, Delaware

Online_Linkage: <http://www.dgs.udel.edu/data>

Time_Period_of_Content:

Currentness_Reference: Publication Date

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Status:

Progress: complete

Maintenance_and_Update_Frequency: none planned

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -75.789974

East_Bounding_Coordinate: -75.422990

North_Bounding_Coordinate: 39.839585

South_Bounding_Coordinate: 39.289963

Keywords:

Theme:

Theme_Keyword_Thesaurus: none

Theme_Keyword: geoscientificInformation

Theme_Keyword: geology

Theme_Keyword: coastal plain

Theme_Keyword: Piedmont

Place:

Place_Keyword_Thesaurus: USGS GNIS

Place_Keyword: Delaware

Place_Keyword: New Castle County

Place_Keyword: Arden

Place_Keyword: Ardencroft

Place_Keyword: Arden

Place_Keyword: Bellefonte

Place_Keyword: Delaware City

Place_Keyword: Elsmere

Place_Keyword: Middletown

Place_Keyword: Newark

Place_Keyword: New Castle

Place_Keyword: Newport

Place_Keyword: Odessa

Place_Keyword: Townsend

Place_Keyword: Wilmington

Access_Constraints: None -Please give proper credit to the Delaware Geological Survey. Please reference as follows: Ramsey, K. W., 2005, Geologic Map of New Castle County, Delaware: Delaware Geological Survey Geologic Map Series No. 13.

Use_Constraints: The Delaware Geological Survey (DGS) is constantly gathering data from multiple sources, interpreting the data, and reflecting its interpretations on maps. DGS's interpretations of multiple data sources are reflected in these polygons for Geologic Map No.13. Reasonable efforts have been made by DGS to verify that this map and the digital data provided hereon accurately interpret the source data used in its preparation; however, this map may contain omissions and errors in scale, resolution, rectification, positional accuracy, development methodology, interpretations of source data and other circumstances. This map is also date specific and as additional data become available and as verification of source data continues, this map may be reinterpreted and updated by DGS without notification. This map was prepared for a scale of 1:100,000 and should not be used at larger scales for denotation of rock unit boundaries. This map should not be used for navigational, engineering, legal, or any other site-specific use. Nothing contained herein shall be deemed an expressed or implied waiver of the sovereign immunity of the State of Delaware or its duly authorized representatives, agents, or employees.

Point_of_Contact:

Contact_Information:
 Contact_Address:
 Address_Type: mailing and physical address
 City: Newark
 State_or_Province: Delaware
 Postal_Code: 19716-7501
 Country: USA
 Address: Delaware Geological Survey, University of Delaware
 Address: 257 Academy Street
 Contact_Voice_Telephone: 302-831-2833
 Contact_Organization_Primary:
 Contact_Organization: Delaware Geological Survey
 Contact_Person: Digital Data Coordinator
 Contact_Position: Digital Data Coordinator
 Contact_Facsimile_Telephone: 302-831-3579
 Contact_Electronic_Mail_Address: DelGeoSurvey@udel.edu
 Hours_of_Service: Mon - Fri; 8:00am to 4:30pm EST
 Native_Data_Set_Environment: Microsoft Windows XP Version 5.1 (Build 2600) Service Pack 2; ESRI ArcCatalog 9.2.4.1420
Metadata_Reference_Information:
 Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata
 Metadata_Standard_Version: FGDC-STD-001-1998
 Metadata_Time_Convention: local time
 Metadata_Contact:
 Contact_Information:
 Contact_Organization_Primary:
 Contact_Person: Digital Data Coordinator
 Contact_Organization: Delaware Geological Survey, University of Delaware
 Contact_Address:
 Address_Type: mailing and physical address
 City: Newark
 State_or_Province: Delaware
 Postal_Code: 19716-7501
 Country: USA
 Address: Delaware Geological Survey, University of Delaware
 Address: University of Delaware
 Contact_Voice_Telephone: 302-831-2833
 Contact_Position: Digital Data Coordinator
 Contact_Facsimile_Telephone: 302-831-3579
 Contact_Electronic_Mail_Address: DelGeoSurvey@udel.edu
 Hours_of_Service: Mon - Fri; 8:00am to 4:30pm EST
 Metadata_Date: 20080611
 Metadata_Extensions:
 Online_Linkage: <http://www.esri.com/metadata/esriprof80.html>
 Profile_Name: ESRI Metadata Profile
Distribution_Information:
 Resource_Description: Downloadable Data
 Standard_Order_Process:
 Digital_Form:
 Digital_Transfer_Information:
 Transfer_Size: 3.104
 Distributor:

Contact_Information:
Contact_Address:
Address_Type: mailing and physical address
City: Newark
State_or_Province: Delaware
Postal_Code: 19716-7501
Country: USA
Address: Delaware Geological Survey, University of Delaware
Address: University of Delaware
Contact_Voice_Telephone: 302-831-2833
Contact_Organization_Primary:
Contact_Organization: Delaware Geological Survey, University of Delaware

Contact_Person: Digital Data Coordinator
Contact_Position: Digital Data Coordinator
Contact_Facsimile_Telephone: 302-831-3579
Contact_Electronic_Mail_Address: DelGeoSurvey@udel.edu
Hours_of_Service: Mon - Fri; 8:00am to 4:30pm EST

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: G-polygon
Point_and_Vector_Object_Count: 885

Entity_and_Attribute_Information:
Detailed_Description:
Entity_Type:
Entity_Type_Label: geomap13
Attribute:
Attribute_Label: Shape
Attribute_Definition: Feature geometry.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Coordinates defining the features.

Attribute:
Attribute_Label: FID
Attribute_Definition: Internal feature number.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:
Attribute_Label: GEO_UNIT_S
Attribute_Definition: Geologic Unit Symbol. The Geologic Unit Symbol for Delaware geologic units. Symbols are documented in DGS Stratigraphy web page.

Attribute:
Attribute_Label: GEO_UNIT_N
Attribute_Definition: Geologic Unit Name. The Geologic Unit Name for Delaware geologic units. Geologic Unit Names are documented in DGS Stratigraphic web page.

Attribute:
Attribute_Label: GEO_UNIT_A

Attribute_Definition: Geologic Unit Age. The ages have been assigned to each geologic unit based on a variety of geologic interpretations including: stratigraphic position and relationship; macro and microfossil content, and radiogenic analyses.

Data_Quality_Information:

Lineage:

Process_Step:

Process_Description: Dataset copied.

Source_Used_Citation_Abbreviation: D\ARCHIVE\GEOMAP13\geomap13.mdb

Time_of_Day: 09034100

Process_Step:

Process_Description: Dataset copied.

Source_Used_Citation_Abbreviation:

C:\00\ai\kwr\statemap\ncc_distribute\geology_ncc

Time_of_Day: 15041600

Process_Step:

Process_Description: Dataset copied.

Source_Used_Citation_Abbreviation:

C:\00\data\geology\geomap_pubs\geomap13

Time_of_Day: 15570400

Process_Step:

Process_Description: Dataset copied.

Source_Used_Citation_Abbreviation: T:\lil\geomap13

Time_of_Day: 09154300

Process_Step:

Process_Description: Dataset copied.

Source_Used_Citation_Abbreviation:

Time_of_Day: 10141500

Process_Step:

Process_Description: Dataset moved.

Source_Used_Citation_Abbreviation: C:\Temp\geomap13

Time_of_Day: 14421400

Process_Step:

Process_Description: Dataset copied.

Source_Used_Citation_Abbreviation:

Time_of_Day: 15253100

Process_Step:

Process_Description: Dataset copied.

Source_Used_Citation_Abbreviation: C:\Temp\shape\geomap13

Time_of_Day: 15311000

Positional_Accuracy:

Vertical_Positional_Accuracy:

Quantitative_Vertical_Positional_Accuracy_Assessment:

Vertical_Positional_Accuracy_Value: N/A

Vertical_Positional_Accuracy_Explanation: These are geologic unit polygons and have no vertical accuracy associated with these data.

Horizontal_Positional_Accuracy:

Quantitative_Horizontal_Positional_Accuracy_Assessment:

Horizontal_Positional_Accuracy_Value: +/- 166 feet

Horizontal_Positional_Accuracy_Explanation: This map was produced at a scale of 1:100,000 and meets the National Map Accuracy Standards for small scale mapping. Please see Use Constraints for further details pertaining to the correct usage of these data.

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Planar:

Planar_Coordinate_Information:

Planar_Coordinate_Encoding_Method: coordinate pair

Planar_Distance_Units: meters

Coordinate_Representation:

Abscissa_Resolution: 0.000000

Ordinate_Resolution: 0.000000

Map_Projection:

Map_Projection_Name: Transverse Mercator

Transverse_Mercator:

Scale_Factor_at_Central_Meridian: 0.999995

Longitude_of_Central_Meridian: -75.416667

Latitude_of_Projection_Origin: 38.000000

False_Easting: 200000.000000

False_Northing: 0.000000

Geodetic_Model:

Horizontal_Datum_Name: D_North_American_1983_HARN

Ellipsoid_Name: Geodetic Reference System 80

Semi-major_Axis: 6378137.000000

Denominator_of_Flattening_Ratio: 298.257222