Illinois State Geological Survey
Geologic Map Data Dictionary (GIS) - Version 20090212
General Description of Feature Datasets, Feature Classes and Standalone Tables
D. Nelson, J. Domier, J. Carrell
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Name Geo_Unit

Parent Geodatabase

Data Class Geologic Unit

Object Type Feature dataset

Description Geologic units and contacts

Use This feature dataset contains feature classes that store the shape and location of geologic units and contacts. Geologic contacts are stored as lines. Geologic units are primarily stored as polygons but may also be stored as lines (e.g. red clay unit or till border.) The attributes for geologic units are stored in a separate table (Geo_Unit_Legend_Tb) to avoid redundancy because a single unit description in the legend may apply to several polygons or lines. The only attributes stored in the geologic unit feature classes are those that are feature-specific: the map label, the unique ID (for ArcSDE use), and the abbreviation (a temporary foreign key to the legend table during data compilation.)

Name	Geo_Unit_Py
Parent	Geo_Unit
Data Class	Geologic Unit
Object Type	Feature class
Description	Geologic units in polygon form, also water, disturbed ground
Use	This feature class contains geologic units in polygon form. The only attributes stored in the feature class are those that are polygon-specific: a label, the unique ID (for ArcSDE use), and the abbreviation (a temporary foreign key to the legend table during data compilation.) All other related attributes are stored in the Geo_Unit_Legend_Tb table.

Name	Geo_Unit_Ln
Parent	Geo_Unit
Data Class	Geologic Unit
Object Type	Feature class
Description	Geologic units shown on the map as lines, e.g. coal subcrops, clay and soil horizons
Use	This feature class contains geologic units in line form. The only attributes stored in the feature class are those that are line-specific: a label, the unique ID (for ArcSDE use), the abbreviation (a temporary foreign key to the legend table during data compilation), and the line symbol. All other related attributes are stored in the Geo_Unit_Legend_Tb table.

Name	Geo_Unit_Contact_Ln
Parent	Geo_Unit
Data Class	Geologic Unit
Object Type	Feature class
Description	Geologic unit contacts in line form and other boundaries of geologic units such as quadrangle boundaries and shorelines
Use	This feature class contains geologic contacts in line form. The attributes include contact type, symbolization ID and source publication. This feature class may also contain lines that are not geologic contacts but are included for cartographic or topologic reasons, or for ease of data compilation (e.g. quadrangle boundary.)

Name	Geo_Unit_Legend_Tb
Parent	Geodatabase
Data Class	Geologic Unit
Object Type	Standalone table
Description	Table describing the geologic units that appear on the map, i.e. the legend information
Use	This standalone table contains legend information about the geologic units on a map. A single entry in this table may relate to several polygons or lines on a given map. During the map compilation process this table will contain legend entries for a single map. In the enterprise database, however, this table will contain all legend entries for all maps entered into the database. Thus geologic units are uniquely identifed by how they are described on a given map, e.g. Henry Formation as described on IGQElginSG is one table entry and Henry Formation as described on IGQYorkvilleSG is another. The table accommodates both surficial and bedrock maps. It is designed to allow mappers full freedom in assigning unit designations, to ease map compilation for the cartographer, and to provide some uniformity for ease of database management. Some attributes may appear to be redundant, but are purposely so to accommodate subtle variations in how a unit may be named, abbreviated, labeled, symbolized, and queried. Not all attributes are required. Attributes include unit abbreviation, unit name, material description, interpretation, geologic age, unit thickness, publication ID, unique ID, and symbolization ID.

Name	Geo_Structure
Parent	Geodatabase
Data Class	Structure
Object Type	Feature dataset
Description	Geologic structure and attitude
Use	This feature dataset contains feature classes that store information about geologic structures. The data fall into three categories: the structures themselves, attitude measurements on structures, and contours that define structural or bedding surfaces. They are segregated into these categories because each has a distinct set of attributes. A structure has a location that may be portrayed as a point, line or polygon, is a physical feature in a geologic setting, is of a certain type, and may have a name (e.g. Sandwich Fault.) An attitude measurement (e.g. strike and dip) has a location, but is not itself a physical object. There may be multiple attitude measurements on a single structure. Structure contours in line form define a structural or bedding surface and have associated elevation values.

Name	Geo_Structure_Py
Parent	Geo_Structure
Data Class	Structure
Object Type	Feature class
Description	Geologic structure in polygon form, e.g. fault zones, basins, domes, reefs
Use	This feature class contains geologic structures in polygon form. The structure is a physical feature in a geologic setting, is of a certain type (e.g. fault zone, dome), and may have a name (e.g. Hick's Dome.)

Name	Geo_Structure_Ln
Parent	Geo_Structure
Data Class	Structure
Object Type	Feature class
Description	Geologic structure in line form, e.g. faults, folds
Use	This feature class contains geologic structures in line form. The structure is a physical feature in a geologic setting, is of a certain type (e.g. fault, fold), and may have a name (e.g. Sandwich Fault.)

Name	Geo_Structure_Pt
Parent	Geo_Structure
Data Class	Structure
Object Type	Feature class
Description	Geologic structure in point form, e.g. joints, small domes, impact structures
Use	This feature class contains geologic structures in point form. The structure is a physical feature in a geologic setting, is of a certain type (e.g. impact structure, crypto-explosion), and may have a name (e.g. DesPlaines Disturbance.) This feature class does not contain structural attitude measurements.

Name	Structure_Attitude_Pt
Parent	Geo_Structure
Data Class	Structure
Object Type	Feature class
Description	Point locations of structural attitude indicators, e.g. strikes and dips, joints, horizontal bedding
Use	This feature class contains structure attitude measurements or indicators (e.g. strike and dip, horizontal bedding), but does not contain actual physical structures. Attitude measurements are not stored in the same feature class as point structures because each has a distinct set of attributes.

Name	Structure_Contour_Ln
Parent	Geo_Structure
Data Class	Structure
Object Type	Feature class
Description	Contours in line form delineating structural or bedding surfaces
Use	This feature class contains elevation contours in line form that define a structural or bedding surface. The contours have associated elevation values and an indication of the surface to which they apply.

Name	Landform
Parent	Geodatabase
Data Class	Landform
Object Type	Feature dataset
Description	Geologic phenomena expressed as landform features
Use	This feature dataset contains feature classes that store landforms. Landforms are loosely defined as geologic features that are not classified by geologic unit or material, but rather by factors such as shape, morphology, genesis, or locale. Examples are moraine, scarp and sinkhole. Landforms can be stored as points, lines or polygons.

Name	Landform_Py
Parent	Landform
Data Class	Landform
Object Type	Feature class
Description	Landforms in polygon form, e.g. dunes, kettles, moraines, kames
Use	This feature class contains landforms in polygon form, such as moraine and sinkhole. Attributes include legend description, label, symbolization ID, unique ID, and publication ID.

Name	Landform_Ln
Parent	Landform
Data Class	Landform
Object Type	Feature class
Description	Landforms in line form, e.g. glacial limits, dune crests, scarps, moraine boundaries
Use	This feature class contains landforms in line form, such as ice margin and scarp. Attributes include legend description, label, symbolization ID, unique ID, and publication ID.

Name	Landform_Pt
Parent	Landform
Data Class	Landform
Object Type	Feature class
Description	Landforms in point form, e.g. dunes, kettles, mounds
Use	This feature class contains landforms in point form, such as kettle and sinkhole. Attributes include legend description, label, symbolization ID, unique ID, and publication ID.

Name	Loess_Thickness
Parent	Geodatabase
Data Class	Loess Thickness
Object Type	Feature dataset
Description	Loess thickness contours
Use	This feature dataset contains feature classes that store loess thickness. Thickness can be shown as contour lines with associated thickness values, or as polygons having a range of thickness values.

Name	Loess_Thickness_Ln
Parent	Loess_Thickness
Data Class	Loess Thickness
Object Type	Feature class
Description	Loess thickness contours in line form
Use	This feature class contains loess thickness in contour line form. Attributes include thickness, thickness units, symbolization ID, and publication ID.

Name	Loess_Thickness_Py
Parent	Loess_Thickness
Data Class	Loess Thickness
Object Type	Feature class
Description	Loess thickness in polygon form
Use	This feature class contains loess thickness in polygon form. Attributes include maximum and minimum thickness, thickness units, symbolization ID, and publication ID.

Name	Mine
Parent	Geodatabase
Data Class	Mine
Object Type	Feature dataset
Description	Mines
Use	This feature dataset contains feature classes that store information about mines. Attributes include legend description, label, mapper's ID, unique ID, publication ID, symbolization ID, and symbol rotation. Examples are drift mine, slope mine, gravel pit, quarry, and mine boundary.

Name	Mine_Py
Parent	Mine
Data Class	Mine
Object Type	Feature class
Description	Mines in polygon form, e.g. quarries, pits, undermined areas
Use	This feature class contains mines in polygon form. Attributes include legend description, label, mapper's ID, unique ID, publication ID, and symbolization ID. Examples are gravel pit, quarry and mine boundary.

Name	Mine_Ln
Parent	Mine
Data Class	Mine
Object Type	Feature class
Description	Mines in line form, e.g. mine outlines, strip mines, mined slopes
Use	This feature class contains mines in line form. Attributes include legend description, label, mapper's ID, unique ID, publication ID, symbolization ID, and symbol rotation. Examples are strip mine and mine boundary.

Name	Mine_Pt
Parent	Mine
Data Class	Mine
Object Type	Feature class
Description	Mines in point form, e.g. quarries, pits, entrances
Use	This feature class contains mines in point form. Attributes include legend description, label, mapper's ID, unique ID, publication ID, symbolization ID, and symbol rotation. Examples are drift mine, slope mine, gravel pit, quarry.

Name	Outcrop
Parent	Geodatabase
Data Class	Outcrop
Object Type	Feature dataset
Description	Outcrops
Use	This feature dataset contains feature classes that store information about outcrops. Attributes include mapper's ID, unique ID, publication ID, symbolization ID, legend description, and labels.

Name	Outcrop_Py
Parent	Outcrop
Data Class	Outcrop
Object Type	Feature class
Description	Outcrop locations in polygon form, outcrops of special note, type sections
Use	This feature class contains outcrop locations in polygon form. Attributes include mapper's ID, unique ID, publication ID, symbolization ID, legend description, and labels.

Name	Outcrop_Ln
Parent	Outcrop
Data Class	Outcrop
Object Type	Feature class
Description	Outcrop locations in line form, outcrops of special note, type sections
Use	This feature class contains outcrop locations in line form. Attributes include mapper's ID, unique ID, publication ID, symbolization ID, legend description, and labels.

Name	Outcrop_Pt
Parent	Outcrop
Data Class	Outcrop
Object Type	Feature class
Description	Outcrop locations in point form, outcrops of special note, type sections
Use	This feature class contains outcrop locations in point form. Attributes include mapper's ID, unique ID, publication ID, symbolization ID, legend description, and labels.

Name	Cross_Section_Ln
Parent	Geodatabase
Data Class	Cross-section
Object Type	Feature class
Description	Cross-section lines
Use	This feature class contains cross-section lines. Attributes include label, trend, unique ID, publication ID, and symbolization ID.

Name	Field_Note_Pt
Parent	Geodatabase
Data Class	Field Note
Object Type	Feature class
Description	Field note locations in point form
Use	This feature class contains field note locations in point form. Attributes include mapper's ID, unique ID, publication ID, symbolization ID, legend description, and labels.

Name	Geophys_Profile_Ln
Parent	Geodatabase
Data Class	Geophysical
Object Type	Feature class
Description	Geophysical profile lines
Use	This feature class contains geophysical profile transects in line form. Attributes include label, trend, unique ID, publication ID, and symbolization ID.

Name	Well_Boring_Pt
Parent	Geodatabase
Data Class	Wells and Borings
Object Type	Feature class
Description	Wells and borings in point form, e.g. water, oil, gas, coal borings, injection, engineering borings
Use	This feature class contains wells and borings points. Attributes include mapper's ID, unique ID, publication ID, symbolization ID, legend description, and labels, and may include other description information such as type, depth, location accuracy, penetration to bedrock, and available samples, logs and cores.

Illinois State Geological Survey
Institute of Natural Resource Sustainability
University of Illinois
615 East Peabody Drive
Champaign, Illinois 61820
217-333-4747
www.isgs.illinois.edu