DATE	PUBLICATION TITLE	
June 20, 2012	Surficial Geologic Map of the Gates of the Arctic National Park and Preserve, Alaska	
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FILE FORMAT AND SOFTWARE NOTE

The data for this map were compiled using ESRI Arc/INFO Workstation (command-line interface) GIS software, so the data were stored in Arc/INFO coverage format. To display the map, the coverages, plus some additional labeling information stored in an ESRI File Geodatabase, were linked to an Arc Desktop ArcMap session, and the display characteristics stored in an ".MXD" (ArcMap project) file.

PROJECT FILES

Folder name	File name	File/Folder type	Comments
GAR_GIS_Web	gaar_meta.txt	Text file	Metadata describing the GIS datasets in the geologic_data folder.
	gar_sim3125.mxd	ArcMap job	ArcMap project file & layout for the geologic map..
	gaarSIM.style	ArcGIS style file	Used to symbolize lines, points, and overprint symbols
	wpgcmykg.style	ArcGIS style file	Used to symbolize solid fill colors for polygons
	GAR2col_LUT.dbf	dBase IV	LUT (look-up table) joined to gaar_geo poly layer to symbolize color fill
			.
	gaar_geo	GIS coverage	Geologic arcs and polygons
	gaar_arrow	GIS coverage	Line coverage for arrows showing glacier movements
	gaar_pnt	GIS coverage	Point coverage of pingo, spring, and U-shaped pass locations
			.
	gaar_buf	GIS coverage	Outside boundary of map area.
	gaarnp_bnd	GIS coverage	Boundary line of Gates of the Arctic National Park and Preserve.
	gaar_250k	GIS coverage	Boundary lines of 1:250,000 scale USGS quadrangles.
	roads	GIS coverage	Line coverage for the Dalton Highway.
	gaartopo2.tif	GIS geotiff	Raster topographic base map (in gar_topo_base)
	gaartopo2.tfw	GIS geotiff world file	World (geographic reference) file for base map TIFF image gaartopo2.tif
File geodatabase gar_2_Web.gdb (in GAR_Web)	anno_UID	GIS file geodatabase	ArcGIS 9.3 file geodatabase containing geologic unit label annotation
	gaar_arc_leaders	GIS file geodatabase	Leader lines for geologic unit labels
	gaar_anno_places	GIS file geodatabase	Annotation for names of geographic features, towns, water features
			.

ARCMAP MXD TABLE OF CONTENTS ENTRIES			
DATA FRAME – GAAR SIM			
Reference scale: 1:300,000	**Data frame angle:** 0	**Data frame projection:** Alaska Albers projection **Datum:** NAD27	**Project on-the-fly:** No

ArcMap table of contents entries are listed below in the order they appear in the ".MXD" file, which is the correct order of superposition for proper display of the data layers.

Group name	Layer name	Data source	Feature type	Symbol field(s)	Definition query
	anno_UID	anno_UID	Annotation	*text*	
	gaar_arc_leaders	gaar_arc_leaders	Lines	*Single symbol*	
	gaar_anno-Place Names	gaar_anno_places	Annotation	*text*	
	Neatline gaar_buf arc	gaar_buf	Lines	*Single symbol*	
	Point symbols	gaar_pnt	Points	DESCRIPTION	No definition query. Rotation arithmetic based on $ANGLE
Directional symbols	gaar_arrow arc 1	gaar_arrow	Lines	LTYPE	"LTYPE" = 'Direction of glacier flow across topographic divide'
	gaar_arrow arc 2	gaar_arrow	Lines	LTYPE; LENGTH	"LTYPE" = 'Direction of ice movement or meltwater drainage across ice-scoured bedrock'
	gaar_arrow arc 3	gaar_arrow	Lines	LTYPE	"LTYPE" = 'Direction of glacier flow across topographic divide'
	gaar_arrow arc 4	gaar_arrow	Lines	*Single symbol*	"LTYPE" = 'Multitailed arrows'
	GAAR boundary	gaarnp_bnd	Lines	*Single symbol*	
	Quadrangle boundaries	gaar_250k	Lines	*Single symbol*	
	Dalton Highway	roads	Lines	*Single symbol*	
Moraines	Moraines, Long (gaar_geo_arc)	gaar_geo	Lines	LTYPE	"ARC-CODE" = 19 AND "LENGTH" >1500 OR "LENGTH" < 500
	Moraines, Short (gaar_geo_arc)	gaar_geo	Lines	LTYPE	"ARC-CODE" = 19 AND "LENGTH" <1500 AND "LENGTH" > 500
	Geologic linework	gaar_geo	Lines	LTYPE	"ARC-CODE" <> 9 AND "ARC-CODE" <> 19
	Overprints-other	gaar_geo	Polygons	MODIFIER	
	Overprints-SSL	gaar_geo	Polygons	MODIFIER	
	gaartopo2.tif	gaartopo2.tif	Raster	*None*	
	Arrigetch symbols	gaar_geo	Polygons	MODIFIER	
	gaar_geo polygon color	gaar_geo	Polygons	SYMBOL	

JOINS

Layer name	Table name	Join field – Layer	Join field – Table	Comments
gaar_geo polygon color	GAR2col_LUT.dbf	CLASS	CLASS	Use symbol numbers from look-up table "GAR2col_LUT.dbf" to color polygon fills using shades from "wpgcmykg style".

DATASET STRUCTURE

Characteristics of the arc features in coverage gaar_geo are coded in gaar_geo.aat, the arc attribute table (.aat). The .aat contains the following items (fields): ARC-CODE and LTYPE. ARC-CODE is a positive integer value item (format: 3 3 I). Values range nonsequentially from 0 to 101. ARC-CODE contains positive integer values which identify a stratigraphic boundary, fault, or other linear feature. The ARC-CODE have a 1:1 correspondence with feature type descriptive text in item LTYPE.

Characteristics of the polygon features in coverage gaar_geo are coded in the gaar_geo.pat, the polygon attribute table. Table gaar_geo.pat includes the following items: CLASS, UNITTYPE (deposit type), UNITLABEL (geologic map unit label), UNITNAME (geologic unit name), and MODIFIER. CLASS is a positive integer value (4 5 B) item in the polygon attribute table. Values range nonsequentially from 1 to 1006. Every unit listed in the description of map units has a unique CLASS value. Units that are queried, whose label is displayed in parentheses, or which are the overlying component of a compound unit; are attributed with the same class value as the listed unit. Units are queried where uncertain. Map units shown in parentheses indicate thin and generally discontinuous deposits above near-surface bedrock. Unit labels containing a slash indicate compound units where one unit is stratigraphically above another. Each CLASS value listed below is defined by the information from the UNITTYPE (100 100 c) item and the UNITLABEL (10 10 c) item which contains the geologic unit label if one was assigned. A different range of class values are assigned for each UNITYPE listed in the descriptions. MODIFIER describes additional surface characteristics of a unit, if known. The same MODIFIER attribute can be assigned to multiple units. MODIFIER is also used to place overprint patterns or symbols on the map.

Characteristic of point features in coverage gaar_pnt are coded in gaar_pnt.pat, the point attribute table. The .pat includes the following items: DESCRIPTION and CODE. CODE is a positive integer value (3 3 I) item. Every unique type of point has a unique CODE value. Each CODE value listed below is described and then defined by the information from the DESCRIPTION (80 80 c) item.

Characteristics of arc features in coverage gaar_arrow are coded in gaar_arrow.aat, the arc attribute table. The .aat includes the following items: ARC-CODE and LTYPE. ARC-CODE is a positive integer value (3 3 I) item. Every unique type of arc has a unique ARC-CODE value. Each ARC-CODE value is described and then defined by the information from the LTYPE (80 80 c) item.