

OVERVIEW

There is a growing awareness and interest in the use of geologic, geochemical, and geophysical data in a geographic information system (GIS). The collection of digital data on this CD-ROM is a start toward organizing such data for the Great Basin. The geographic extent of the data is shown in figure 1. Although we attempted to compile as complete a collection of data on the Great Basin as possible, not every data set covers all of the Great Basin. Because this CD-ROM is only a beginning, no attempt has been made to integrate data sets. For example, a single geologic map could be made by combining the state geologic maps, but such a map has not yet been constructed.

Data from many sources and many different scales has been assembled. Because of this lack of integration, the user is reminded that the source scale indicates the quality of the data, that is, the information content, resolution, and positional accuracy. The user needs to consider whether the data are appropriate for the intended application. In general, these data are intended for regional analyses. Use of these data at scales larger than the source scale should be considered a misrepresentation of the data. Specifically, the resolution and positional accuracy will not be equal to what the user expects at these larger scales.

The CD-ROM serves as the archive for these digital coverages. On the CD-ROM, the data are provided in three formats, a prototype Federal Data Exchange standard format, the ESRI PC ARCVIEW1 format for viewing the data, and the ESRI ARC/INFO export format. For the user intending to use these data in a GIS, use the ARC/INFO or Federal Data Exchange formats as the source.

The following data are provided. A group of coverages is provided that come primarily from 1:2,000,000-scale National Atlas data and can be assembled for use as base maps. These data include public and administrative boundaries, roads, streams, water bodies, and various forms of topographic information. Geologic maps for the whole of the Great Basin are provided from the 1:2,500,000-scale Geologic Map of the United States and 1:500,000-scale geologic maps of Nevada, Oregon, and Utah.

Geochemical data from the National Uranium Resource Evaluation (NURE) program are provided for most of the Great Basin. In these geochemical data, chemical analyses for all elements were not made at every site; consequently the data distribution varies for each element.

Geophysical data are provided for most of the Great Basin. The majority of these data sets are derived from gridded data with a spacing of 1 km. These geophysical data sets provide one of many possible representations of the geophysical measurements and are most useful for regional analyses. The geophysical data sets include aeromagnetics, gravity, radiometric data, and several derivative products.

The thematic data sets include geochronology, calderas, pluvial lakes, tectonic extension domains, distribution of pre-Cenozoic terranes, limonite anomalies, and mineral-sites. The mineral-site data sets contain locations and descriptions of current and past mining or mineral exploration. These include mine and prospect sites (USGS Mineral Resource Data System, MRDS)

and BLM exploration and mining permits. The information in the permits data sets dates from 1991 to 1993 and is not complete for all areas.

The Great Basin data sets are archived on the Great Basin Geoscience Data Base CD-ROM. The directory structure for the CD-ROM set is shown in Figure 2, and the export file names are listed in Table 1.

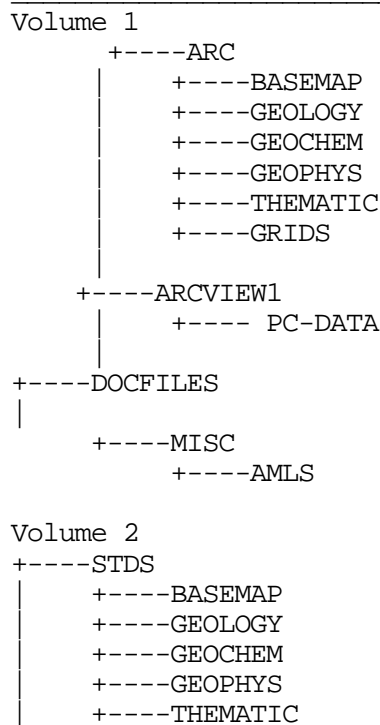


Figure 2: Diagram of the directory structure on the Great Basin Geoscience Data Base CD-ROM set.

Table 1: Summary of coverages archived on Great Basin Geoscience Data Base CD-ROM. The export formats are indicated in the format column. ARC means the data are available in the ESRI, ARC export format. SDTS means the data are available in the ESRI prototype of the Federal Data Exchange Standard. Currently this software does not support line coverages. AV indicates that the coverage is available as an ESRI PC ARCVIEW1 format, which may also be readable by ESRI, PC ARC/INFO. Note that some distortion of the the data or item names may have occurred in these ARCVIEW1 files.

Coverage	Name	Formats	Arcview
Base Maps			
1:100k quadrangles	quad100	ARC, SDTS, AV	quad100.av
1:250k USquadrangles	quad250	ARC, SDTS, AV	quad250.av
Admin. boundaries	gb_ab	ARC, SDTS, AV	basemap.av

BLM Resource Areas	blm_ra	ARC, SDTS, AV	basemap.av
BLM Resource Areas US	wus_blm	ARC, SDTS, AV	wus_blm.av
BLM-administered land	blmland	ARC, SDTS, AV	blmland.av
California PLS	ca_pls	ARC, SDTS, AV	ca_pls.av
Geographic names	gnis	ARC, SDTS, AV	gnis.av
Great Basin outline	gbbound	ARC, SDTS, AV	basemap.av
Idaho PLS	id_pls	ARC, SDTS, AV	id_pls.av
Nevada PLS	nv_pls	ARC, SDTS, AV	nv_pls.av
Oregon PLS	or_pls	ARC, SDTS, AV	or_pls.av
Public boundaries	gb_pb	ARC, SDTS, AV	basemap.av
Roads	gb_roads	ARC, AV	basemap.av
Streams	gb_str	ARC, AV	basemap.av
Topo contours	gb_topo	ARC, AV	gb_topo.av
Water bodies	gb_wb	ARC, SDTS, AV	basemap.av
Geology			
Cenozoic faults	yngflts	ARC, AV	faults.av
Faults from states	gbfaults	ARC, AV	faults.av
Great Basin legend	kblegend	ARC, AV	kblegend.av
Great Basin faults	kbfault	ARC, AV	kbgeol.av
Great Basin lithology	kbgeol	ARC, SDTS, AV	kbgeol.av
Nevada legend	nvlegend	ARC, AV	nvlegend.av
Nevada faults ver. 2	nvfault1	ARC, AV	nvgeol2.av
Nevada faults ver. 3	nvfault3	ARC, AV	nvgeol3.av
Nevada geology ver. 2	nvgeol	ARC, SDTS, AV	nvgeol2.av
Nevada geology ver. 3	nvgeol3	ARC, SDTS, AV	nvgeol3.av
Oregon faults ver. 1	orfault1	ARC, AV	orgeol1.av
Oregon faults ver. 2	orfault2	ARC, AV	orgeol2.av
Oregon legend	orlegend	ARC, AV	orlegend.av
Oregon geology	orgeol	ARC, SDTS, AV	orgeol1.av
Utah geology	utgeol	ARC, SDTS, AV	utgeol.av
Geophysics (polygons)			
Aeromagnetics	aeromagp	ARC, SDTS	see grids
Basement gravity anomaly	bsmtgravp	ARC,	
SDTS	see grids		
Bouguer gravity	bouguerp	ARC, SDTS	see grids
Depth to basement	dpthbsmt	ARC, SDTS	see grids
Extent of plutons	pluton20	ARC, SDTS, AV	pluton20.av
Extent of plutons legend	plut-leg	ARC, AV	
plut_leg.av			
NURE radiometrics			
Potassium	potasp	ARC, SDTS	see grids
Uranium	uraniump	ARC, SDTS	see grids
Thorium	thoriump	ARC, SDTS	see grids
Shallow magnetic sources	ncmd		ARC, SDTS, AV
shallmag.av			
Shallow magnetic sources	scmd		ARC, SDTS, AV
shallmag.av			
Geochemistry			
NURE stream sediment			
mix	mixall	ARC, SDTS, AV	geochem.av
oes	oesall	ARC, SDTS, AV	geochem.av
naa	naaall	ARC, SDTS, AV	geochem.av

NURE spring water	springs	ARC, SDTS, AV	geochem.av
Thematic			
BLM permits and plans	permits	ARC, SDTS, AV	permits.av
Calderas 34-43	cal3443	ARC, SDTS, AV	calderas.av
Calderas 17-34 ma	cal1734	ARC, SDTS, AV	calderas.av
Calderas 6-17 ma	cal0617	ARC, SDTS, AV	calderas.av
Cinder cones 17-34 ma	cin1734	ARC, SDTS, AV	calderas.av
Cinder cones 6-17 ma	cin0617	ARC, SDTS, AV	calderas.av
Cinder cones 0-6 ma	cin0006	ARC, SDTS, AV	calderas.av
DOGAMI MILOC sites	miloc93	ARC, SDTS, AV	minesite.av
Extension terranes			
34-43 ma	ext43trn	ARC, SDTS, AV	extend.av
6-17 ma	ext17trn	ARC, SDTS, AV	extend.av
17-34 ma	ext34trn	ARC, SDTS, AV	extend.av
0-6 ma	ext06trn	ARC, SDTS, AV	extend.av
Idaho linear featur	idaholf	ARC, AV	
linear.av			
Limonite anomalies	limonite	ARC, SDTS	see grids
Lithotectonic terranes	lithot	ARC, SDTS, AV	lithotrn.av
MRDS sites	gbmrds93	ARC, SDTS, AV	minesite.av
Pluvial lakes	pluvial	ARC, SDTS, AV	pluvial.av
Radiometric ages	rad_age	ARC, SDTS, AV	rad_age.av
SE Oregon linear features	seorlf		ARC, AV linear.av
Western linear features	wus_lfs	ARC, AV	linear.av
Grids			
Aeromagnetics	aeromagm	ARC, AV	aeromag.av
Basement gravity anomaly	bsmtgrav		ARC, AV
bsmtgrav.av			
Bouguer gravity	bouguerm	ARC, AV	bouguer.av
Depth to basement	dpthbsmt	ARC, AV	dpthbsmt.av
Limonite anomalies	limaltn	ARC, AV	limonite.av
NURE radiometrics			
Uranium	uraniumm	ARC, AV	uranium.av
Thorium	thoriumm	ARC, AV	thorium.av
Potassium	potasm	ARC, AV	potas.av
Shaded relief	hillshd	ARC, AV	hillshd.av
western US topography	topo_grd	ARC, AV	topo_grd.av