

MASTER LIST OF GEOLOGIC-MAP DATA-BASE QUERIES, V. 1.0

Science Language Technical Team

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This document archives geologic-map data base queries submitted by Science Language Technical Team participants as of 5 May, 2000. The queries are archived just as they were submitted, with no modification. A companion document ("20_queries_master_html_1") organizes the cumulative query list into categories.

display units where basic igneous rocks dominate

display units with ultrabasic rocks as a component

display alluvial deposits more than 10 meters thick

display units with shear zones

display units with shear zones and silicic plutonic rocks

display units with sedimentary rocks that dip more than 25 degrees

display units with high-calcium limestone

display units with joints or fractures with less than 2-meter spacing

display units with less than 2 meters of unconsolidated surficial material

display units with more than 5 meters of unconsolidated surficial material

display units underlain by Tye Sandstone

display units where the Tye Sandstone is dipping west

display Holocene landslide deposits

display Holocene lahars

display Holocene eolian silt deposits

display Holocene bog or peat deposits

display inner-gorges (geomorphology)

display units with Mesozoic sedimentary rocks at the surface

display units underlain by the Tertiary White River Group

display units with high acid-rock-drainage potential

Show me all polygons containing rocks with acid neutralizing capacity, even if a minor lithology in the unit.

Show me all Early Proterozoic bimodal volcanic rocks deposited in a backarc basin environment.

Show me all Precambrian rocks

Show me all Proterozoic rocks

Show me all Early Proterozoic rocks

Show me all rocks of the Marquette Range Supergroup

Show me all rocks of the Baraga Group.

Show me all rocks of the Michigamme Formation.

Show me all volcanic rocks of the Michigamme Formation

Show me all mafic volcanic rocks of the Michigamme Formation.

Show me all volcanic rocks of Michigamme Formation that were deposited during continental breakup.

Show me all Early Proterozoic volcanic rocks and locate the massive sulfide deposits in them.

Show me the thrust faults of the Penokean orogen.

Show me the thrust faults of the Penokean orogeny that were reactivated during the Mid-continent rift.

Show me the location of outwash deposits of the Chippewa lobe.

Find all units composed of clayey lodgement till.

Find all sandy glacial deposits.

Where is the terminal moraine of the Miller Creek Formation

Show me the ice flow directions within the Green Bay lobe.

Show me where there is less than 50 feet of glacial deposits on Middle Proterozoic mafic intrusive rocks.

show all bedrock geologic units

show all surficial geologic units

show slope-failure deposits that consist of earthflows

show slope-failure deposits that consist of slump blocks

show all slope-failure deposits of late Holocene age, irrespective of origin

show all geologic-map units that have middle Devonian limestone deposited in platform-margin environments

show Cretaceous sandstone-mudrock sequences deposited in foreland high-sinuosity river plains

show all marine mudrock deposits that accumulated in oxygen-deficient environments

show all basaltic units, irrespective of their specific petrologic classification based on modal analysis

show polygons of nonmarine sedimentary deposits where pebbly conglomeratic sandstone constitutes more than 50% of the map unit

show polygons in which the XYZ shale dips northwestward greater than 25 degrees on slopes steeper than 10 degrees

show all orthogneisses that have mylonitic fabrics and are intruded by alkalic plutonic and hypabyssal rocks of Triassic age

show all gneissose rock, whether metamorphic or plutonic in origin

show low-angle faults that are extensional in origin

show polygons of unit XYZ where sedimentary bedding is overturned beneath thrust faults of mid-Tertiary age

show surficial deposits having fractures that are partly closed by caliche

show surficial deposits that have clast populations dominated by carbonate rock, whether dolostone or limestone

show surficial deposits that have well-developed surface armor

show Tertiary nonmarine deposits of lacustrine origin that have gypsum or anhydrite greater than 5% by volume

show all hanging-wall rock units where Mesozoic 2-mica granites intrude metacarbonate rock

show all sand-and-gravel units that have greater than 7% silt

show all Cretaceous sandstone deposits that have information about primary porosities

show all polygons of unit X where the map-unit identification was made on the basis of outcrop identification

show all polygons of unit X where the map-unit identification was made on the basis of extrapolation, and tell me the basis for the identification (binoculars, aerial photos, TM imagery, etc.)

show all polygons of unit X where the map-unit identification is based on compiled sources, and identify the source

show all polygons of unit X where the map-unit identification is little more than a guess

show surficial deposits having average standard-penetration values less than N=20

show surficial deposits younger than 250,000 years that are cut by thrust faults

show all Tertiary deposits, marine or nonmarine, that consist mainly of sandstone, and re-select for those deposits dominated by well-sorted, clean sandstone

show marine deposits that formed in strand-plain or barrier-bar environments

select Tertiary alluvial-fan deposits dominated by debris-flow depositional processes

select pull-apart basin deposits that accumulated within the San Andreas transform-fault system

show me surficial deposits having open fractures striking between 045 degrees and 090 degrees, with fracture spacing denser than 1 fracture per meter

show me all intrusive contacts of late Cretaceous age

show me all landslide contacts

show me all depositional contacts that overlie angular unconformities

show me all polygons where smectite-bearing mudrock dips steeper than 15 degrees

select Tertiary nonmarine deposits where the mudrock:grainrock ratio is greater than 2:1

show volcanic deposits that are highly weathered and easily excavatable

show all granitoid rocks that are stained brownish-red, whether or not the stain is understood in terms of its mineralogy or its geochemistry

Where can I find nonmarine Cretaceous rocks in South Carolina? Or shallow marine, etc.?

If I specify groupings (e.g., sand + moldic limestone + gravel vs. clay + siltstone), will you draw a map of my groupings?

What is under my house (or vacation property)? E.g., Rock type? Faults? Anything susceptible to landslides?

How deep do I have to drill my well?

all occurrences of unit Tvb.

all occurrences of Quaternary units.

names of all Eocene units.

all deep-seated landslides within a separately specified perimeter, such as a city boundary.

all hard rocks with close fracture spacing.

all turbidite units exhibiting groove casts.

all units containing arkosic wackes.

all units with sandstone containing more than trace amounts of glauconite.

surficial deposits with a shear-wave velocity less than 200 meters per second.

kinds of planar point features.

upright bedding attitudes with dips greater than 45 degrees

stations at which multiple structural orientations are recorded.

foliation within non-metamorphic units.

fossil localities that conflict with age assignments of units.

contacts separating non-intrusive bedrock units that are not in stratigraphic order.

all unconformable contacts.

maximum areal limits within which the surface trace of a specified fault could lie.

90% confidence limits on the location of a specified fault.

bedrock geology after stripping off Quaternary cover.

where I should not buy a house.

show me all rock units denser than 2.67 g/cc;

show me outcrops that correspond to magnetic anomalies with amplitudes of 100 nT and greater;

show me outcrops of turbidites that correspond to magnetic anomalies with amplitudes of 100 nT and greater;

show me all faults that dip 60 degrees or greater;

show me all listric faults;

show me all intrusive rocks that are ilmenite-bearing;

show me locations of geochemical analyses of intrusive rocks that are ilmenite-bearing;

show me all intrusive units that are inferred to be ilmenite-bearing;

show me thrust faults that are reactivated Miocene normal faults;

show me the unconformity separating Jurassic/Cretaceous from the Miocene units;

show me where well data indicate alluvial thicknesses of 500 ft and greater;

show me all inferred faults within Quaternary alluvium based on analysis of water levels

show me right-lateral strike-slip faults with 1 km or greater offset;

show me right-lateral strike-slip faults with unknown amount of offset;

show me all cataclastic rocks;

show me all reversely-magnetized basalt flows that are younger than 10 Ma;

show me all intrusive contacts with evidence of shearing and/or cataclasis;

show me all faults with evidence of movement during the Holocene;

show me all faults that coincide with alignments of seismicity

show me all Paleozoic sedimentary units that are predominantly composed of dolomite

show me all blind thrust faults that will produce a magnitude 6 or greater earthquake in the next 30 years

show me the rock units in the map set, generalized at stratigraphic Group level or equivalent

show me the distribution of formation x, including all its members

show me the distribution of Paleozoic and older rocks

show me the felsic intrusive rocks younger than 65 Ma

show me the distribution of Formation Y and all its stratigraphic equivalents

show me the distribution of glauconite-bearing rocks

show me the distribution of eskers greater than 2 km in length
show me all the areas of lodgement till, both at surface and below other surficial cover
show me all the rock units that include the Oxfordian Stage
show me all the intrusive contacts
show me all catastrophic flood deposits;
show me all Cambrian units that contain limestone;
show me all units that contain fine-grained quartzite;
show me all the rhyolite dikes;
show me all hornblende-bearing plutonic rocks;
show me all location of the Hayden Lake stock;
show me all porphyritic plutonic rocks;
show me all basalt that has pillows;
show me all deposits related to glacial activity;
show me all intrusive rocks that are foliated;
show me all subvolcanic intrusive rocks;
show me all flood basalt;
show me all lacustrine deposits;
show me all syenitic rocks;
show me all andesitic and basaltic volcanic rocks;
show me all units that contain arkose;
show me all unconsolidated deposits that contain sand;
show me all terraces;
show me all granitic rocks that have more K₂O than Na₂O;
show me all units with radiometric age data;
Where are there carbonate rocks metamorphosed to amphibolite facies
Where are there contacts between Laramide plutons and Mississippian
Limestone
Where are faults younger than 28 Ma
Where are Devonian rocks
Where are granites
Where are white rocks
Where are mines in Miocene silicic volcanic rocks
Where are gold mines in Jurassic rocks

Is this site within 50 km of a Quaternary fault

Where does coarse sandstone underlie basalt lava flows of Miocene age

What map units contain gravel in their upper part.

What rock bodies (map units) overlie a particular angular unconformity.

What rock in a particular region contains the most biotite

Where are there rocks metamorphosed to at least greenschist facies between 125 and 140 Ma.

What rocks in a give area are similar to a particular rock

How many different rock types are present in a given area

Who mapped this contact

What is the definition of this map unit

What kind of fault rocks occur along this fault

Exactly how is the contact between the Escabrosa Limestone and Horquilla Limestone defined on this map

Where does the Cambrian sections contain more than 50% carbonate rock

Where is fracture density of surface rocks great enough to significantly enhance hydraulic conductivity?

In what surficial materials is silt >5% and eolian sand <5%?

What is the transport direction of eolian sand?

What faults were active during the middle Pleistocene?

How much field investigation was focused in this particular fault intersection?

Which faults may perturb shallow groundwater flow enough to enhance vegetation? To form springs?

What surficial materials have weak Av horizons?

In what areas will I likely find a debris-flow deposit within 2 m of the surface?

What is the percent gravel in all surficial materials, incremented by 10%, between 25% and 75%?

In what units are chert and shale combined?

Where are limestone units adjacent to plutons?

How does the result of Q #11 compare to locations of skarn deposits?

What playa deposits lie within 50 km of Cenozoic epithermal gold systems?

What orientations are caves likely to have in carbonate deposits of XYZ mountains?

Where are biota dependent on serpentine soils likely to and with what probability?

Where should I target surface materials for federal highway-grade concrete aggregate?

What potential rip-rap sources lie within 20 km of a railroad?

Where are soils likely to exhibit shrink-swell?

Where will I likely encounter caliche within 1.5 m of the surface? 6 m?

Which questions should be asked of all geologic map databases and which are specific to individual databases?

From what sources was this map element compiled?

show all units containing sulfide mineralization.

show all units containing Ordovician fossil localities.

show parts of the map compiled from the original mapping of Smith (1946).

generalize the map so that it shows undivided Supergroups or Groups, but break out as a separate unit the felsic volcanic breccia in the Bimodal Member of the Volcano Formation of the Volcandseds Group.

show all units of black shale whose known or suspected age coincides with some part of the *Nemagraptus gracilis* graptolite zone.

show all the bedding measurements for which tops are known.

show all foliation and lineation measurements that were measured together as pairs on a single foliation surface.

show all the polygons of the Right Formation and the Wrong Formation, where the two formations are in stratigraphic contact with each other.

show all strike-slip faults that have known sinistral movement between 450 and 423 Ma.

show all occurrences of coexisting kyanite and sillimanite.

show the locations of all samples dated by the U/Pb method using the mineral titanite and returning an age between 1345 and 1326 Ma.

show U/Pb age determinations performed at the Royal Ontario Museum geochronology lab.

show all occurrences of the trilobite, *Paradoxides davidis*.

show all faunal assemblages of Celtic faunal provinciality.

show all hypersolvus granites.

show the allochthonous rocks in the area.

show bedrock units where nickel in lake sediments is between 60 and 75 ppm.

show areas of plutonic intrusions, divided into mafic, felsic and intermediate.

show areas of the granulite facies metamorphic terrane that have been affected by greenschist facies retrogressive metamorphism.

show all occurrences of superimposed glacial striae.

What is the geologic description of this unit?

Show the type section of the ____ unit?

What stratigraphic units have been metamorphosed?

What is the geochemical signature of this unit?

How can I geochemically differentiate these two terranes?

Where is the best place to find fossils that I can get to?

Where are fossil locations (or radiometric ages) in "this" unit (and only this unit)?

How was the age of this unit determined?

Who did the ages on the ____ pluton and are they any good?

How extensive is the hydrothermal alteration near ____?

Where are the oldest glacial deposits?

Were there Pleistocene lakes in the area and where? Through which route did they drain?

I define the "Wasted" terrane as having these characteristics, show me where these criteria are met in this map area.

Who put these lines on the map? Are they reliable and at what scale?

What is the reliability and or data density in various parts of the map area?

How interpretive is this map, relative to "ground truth"?

Is there redundancy in the data and why?

What is the statistical error in the data and how is it calculated?

At what scale is the data valid?

What is the useable scale range of the data?

Is the data sufficient to provide a user geographic reference to locate themselves?

Show me all faults of regional extent that have gold occurrences reasonably close and show the occurrences.

Which faults have known or suspected Holocene and Pleistocene movement?

What areas are likely to have poor conditions for building?

Is radon gas a problem in this area?

Permafrost is a problem here, how do I know where the safest place to put my pipeline would be?

I'm a recreational gold panner, where can I go and be successful (and legal)?

Show me all limestone and marble units, as well as mapped sinkholes.

Show me all units and subdivisions of one or more named stratigraphic units (such as the Newark Supergroup, Great Smoky Group, or Ashe Metamorphic Suite).

Show me all charnockites and granulite-facies metamorphic rocks.

Show me all Mesoproterozoic rocks (or rocks having any given age range such as Triassic and Jurassic, Cretaceous and younger, or Quaternary).

Show me all Paleozoic intrusive rocks grouped according to age, as well as symbols distinguishing magmatic flow foliation and regional foliations.

Show me all units assigned to a given regional geologic "province," "belt," "zone," or "terrane" (such as Atlantic Coastal Plain Province, Kiokee belts, Carolina terrane, Avalon zone), adding symbols for mineral elongation and stretching lineations.

Show me all Mesozoic igneous rocks (or all members of a similar broad age/rock class such as all Mesoproterozoic metasedimentary rocks).

Show me all Cretaceous and Cenozoic faults, classified according to relative movement (low-angle thrust, steep normal or reverse, sinistral or dextral strike-slip, etc.).

Show me all faults, shear zones, and rock units characterized by mylonitic fabrics.

Show me all rock units in and adjacent to the Brevard and Mountain Run fault zones (or other named fault zones), or all faults of the Stafford fault system (or other named fault system).

Show me all Paleozoic thrust faults (or other faults of specified age and type).

Show me all normal and reverse faults in contact with stratified units of Triassic or Jurassic age; or all faults that offset Cretaceous and younger units.

Show me separate "bedrock" and "surficial" geologic maps, plus a "complete" (combined bedrock + surficial) geologic map.

Show me a "lithologic map" by applying a standard or customized lithologic classification.

Show me a "lithogeochemical map" (showing general lithologic and hydrogeochemical characteristics) by applying a standard or customized reclassification of rock units as in <http://water.usgs.gov/pubs/wri/wri994000>

Show me a "surface materials map," reclassifying surficial deposits (glacial, fluvial, etc.) and bedrock units where surficial deposits are thin or absent, according to material properties (as recently done for Connecticut).

Show me a "generalized geologic map" applying a standard or customized grouping of units.

Show me all granites and granodiorites of Mississippian, Pennsylvanian, and Permian age, showing sample locations and references for U-Pb zircon dates by ion microprobe (from national geochronological database).

Show me all geologic units known to contain past or present sources of crushed stone (from mineral resource database) plus other units having similar characteristics.

Show me all greenschist-facies mafic volcanic rocks known to contain abandoned copper mines (from mineral resource database).

Show me all granitic units that contain traces of molybdenite or molybdenite prospects (from mineral resource database).

Show shale that lies stratigraphically above Pennsylvanian limestone

Show evaporite deposits adjacent to modern rivers or lakes

Show phosphate deposits located upstream from cities greater than 50,000 population.

Show limestone units in areas that receive more than 20 inches annual precip.

Show granites that contain more than 50 ppm whole-rock uranium

Show unconsolidated sand and gravel deposits that overlie granitic rock

Show unconsolidated sand and gravel deposits located within 20 miles of cities greater than 50,000

Show Neogene basalt units adjacent to rivers

Show locations of shale where bedding dips greater than 30 degrees in the downhill direction

Show thrust faults that overlie Mesozoic shale

Show Franciscan Formation where slope exceeds 20% and annual precipitation exceeds 25 inches

Show granitic intrusions into limestone

Show organic-rich peat deposits in areas other than permafrost locations

Show Neogene lacustrine deposits located east of the Sierra Nevada

Show Late Pliocene volcanic rocks (or sources), Late Pliocene lacustrine beds, and Late Pliocene terrace deposits

Show loess deposits that are greater than 2 m thick

Show units containing coal seams thicker than one meter located on tribal lands

Show reversely polarized early Pleistocene basalt

Show reverse faults that cut Neogene deposits

Show areas underlain by shale where 30-m DEM data define a surface roughness value in excess of (some threshold value).

Show me the location of all glacial bog deposits greater than 10 feet thick in Franklin County, Ohio.

Show me the location of all sand deposits greater than 15 feet thick within 10 feet of the surface in Hamilton County, Ohio.

Show me the distribution of all Upper Freeport coal greater than 36 inches thick in Noble County, Ohio.

Show me the outcrop pattern of the Olentangy Shale in Delaware County, Ohio.

Show me the distribution and thickness of colluvium derived from Pennsylvanian red claystones in Athens County, Ohio.

Show me the bedrock topography of Williams County, Ohio.

Show me the distribution of unconsolidated, high-level Pliocene sediments flanking the Scioto River Valley from Columbus to Portsmouth in Ohio.

Show me the distribution of Quaternary alluvium greater than 20 feet thick in Adams County, Ohio.

Show me the distribution of the Kope Formation in Butler and Hamilton Counties, Ohio.

Show me the distribution of the Black Hand Sandstone in Hocking County, Ohio.

Show me the location of all Pleistocene lacustrine deposits in Muskingum County, Ohio.

Show me the location of all abandoned underground coal mines beneath the Interstate Route 70 corridor from Newark to St. Clairsville in Ohio.

Show me the location of all probable karst areas of western Ohio.

Show me the location of all buried valleys in Shelby County that are filled with Pleistocene sand and gravel.

Show me the location of all gravel deposits greater than 15 feet thick that are more than 100 feet from the high water mark of the Great Miami River in Ohio.

Show me the location and orientation of all mapped bedrock fractures in Summit County, Ohio.

Show me the location of all Columbus Limestone in Ohio that has 25 feet or less of glacial cover.

Show me the location of all abandoned Berea Sandstone quarries in Cuyahoga County, Ohio.

Show me the location of all till bluffs over 15 feet high along the Lake Erie coastline.

Show me the location of all economic crushed-sandstone aggregate resources in Wayne National Forest in Ohio.

Show me all polygons mapped as open water.

Show me all polygons mapped as (each map unit symbol in turn).

Show me all map units that are mapped as lines only (for example, dikes).

Show me all map units that are mapped as both lines and polygons.

Show me (named fault or fold).

Show me map units in the area of (name of geographic feature).

Show me map units in the (northeast or other area of the map).

(Obviously the last kinds of queries would require additional attributing of map units over and above what is commonly done.)

Show me all areas of altered rock.

Show me all areas of fault breccia.

Show me all faults (or folds) of nth generation.

Show me all attitude symbols of nth generation.

Show me all (upright, overturned) (synclines, anticlines).

Show me all (certain, approximate, inferred, concealed, or gradational) contacts.

Show me all (certain, approximate, inferred, or concealed) (folds, faults).

Show me all (sample localities, mines, etc.).

Show me all (certain, approximate, or concealed) (caldera boundaries, landslide scarps, etc.).

Show me all formations in the _____ Group.

Show me all members in the _____ Formation.

Show me all map units that consist of two or more units mapped undivided.

Show me all (Quaternary, Pleistocene, Archean, etc.) map units.

all the fault scarps buried by < 3m of material.

all the debris flows with north aspects.

the thickness of alluvium in the Red River reach from point A to point B (assuming these points could be digitally located).

all the locations where caliche (indurated carbonate or calcrete -here's an example of needing a common term) is within 3 m of the surface.

all faults having a NW-SE trend.

all gravel deposits larger than 0.5 ha.

a cross section along the line A-A'.

the locations of all sites with mineralogic data in section 8, T12N, R3E.

the location of all terraces > 3m above the flood plain

which stratigraphic units have analytical data

all the areas whose patterns resemble dunes along major east-west rivers of the High Plains

all the sinkholes in section 12 and calculate the mean, median and mode of their diameters

all the playas in Hale Co., Texas and fit them to a drainage pattern.

all the landslides in Clearwater Co., Idaho and separate by originating parent rock type.

the Wisconsin moraines in Iowa and fit to a soil moisture map of Iowa.

all the abandoned surface mining sites in Pike Co., Kentucky.

all mine tailings within 3 m of a stream

all drainage patterns and fit to regional lineaments (or regional structural trends)

all locations where the water table is within 20m

all soils (and/or surficial sediments) with carbon contents > 3% in

the upper 10 cm.

Show me all sedimentary rocks

Show me all metamorphic rocks

Show me all igneous rocks

Show me all faults (by type)

Show me all folds (by type)

Show me all strike & dips and other geologic symbols

Show me all sandstones, etc. (make a list of primary rock types)

Show me all limestones, etc.

Show me all coal beds

Show me all oil &/or gas wells

Show me all oil seeps

Show me all mines

Show me all intrusives/extrusives

Show me all oil, gas or coal fields

Show me all wetlands

Show me all references

Show me all rock types in a list

Show me all outcrops

Show me all areas with steep terrain

Show me all bedrock vs alluvium

Show me all cross section index

Identify all polygons that contain sample points with TOC (total organic carbon) attribute values in excess of 1%.

Identify all polygons that contain sample points with apatite fission track cooling age values between X and Y Ma.

Identify all sample pairs for which the distance between samples is less than 1 km and for which paleontological analysis has yielded Oxfordian for one of the samples and Kimmeridgian for the other of the samples.

Identify all thrust faults whose strike is between 80 and 110 degrees and whose vergence is south.

Identify all formation polygons whose contact with immediately younger formation polygons defines a closed line segment.

Identify stream segments that cross polygons containing sample points with sulfur attribute values in excess of X%.

Create a 1 km buffer around strike/dip symbols characterized by dips greater than 45 degrees.

Identify pairs of strike/dip symbols for which the distance between symbols is less than 1 km and for which minimum difference in dip directions is at least 120 degrees.

Identify lines (including contacts and faults) that separate formation polygons that are not directly adjacent to one another in the map legend.

Identify stream segments that (a) cross formation polygons containing sample points with "oil-stained rock" attribute and (b) are within 0.5 km of topographic relief of at least 100 m.

What is the bulk mean density of map unit A? (bulk mean density could be replaced by any physical property).

Produce a file of all gravity measurements from map unit A in the given region. This file must contain x,y,z information as well as metadata.

Display contours of the Bouguer gravity anomaly map over this region of the geologic map.

Display all faults and contacts that separate bedrock from basin fill.

Remove all Cenozoic basin fill units, in their place display depth to basement (contours or color).

Remove all Cenozoic basin fill units, in their place display depth estimates and trends based on magnetic and/or gravity analysis.

Superimpose all mapped faults, including dip information, in region where Cenozoic basin fill geology has been removed.

Display all aeromagnetic survey flight lines over the geologic map of this region. Code line colors according to survey altitude and/or survey date (or ID).

Display aeromagnetic data of selected flight line centered on its flight line superimposed on the geologic map.

Display ground based magnetic survey location information. Display data projected to a straight line between selected endpoints. Calculate textural properties (fractal dimension) in the region overlain by map unit A.

Generate a map where wavelet (A) displays a correlation of 0.75 or greater with the magnetic anomaly map. Overlay mapped faults. Overlay mapped intrusives, dikes, and sills with a magnetic susceptibility greater than 0.005.

Display all cryptogamic soils in this region.

Display all surficial material with particle size distributions of more than 20% sand.

Display all locations where map unit A has an aspect of 135-270 degrees and a slope of 10-60 degrees.

Display all locations where the composition of surficial unit A (or all surficial units) is > 50% quartz.

Display all contacts and faults in white on top of this geophysical grid.

Find all water wells that are found at the surface in "sequence A" of basin fill material.

Find all water wells that may intersect "sequence A" at 100m depth" What is the spatial variation (semi-variance?) in particle size distribution, cementation, (and possibly) porosity, and permeability of basin fill unit A?

What is the volume of basin fill unit A in this region?

show all historically active faults

show all outcrops with measured sections and age dates

show geologic units older than Mississippian

show provenances of sand sources of the Arkansas River

show Quaternary units with active sand and gravel quarries

show sandstone outcrops with permeabilities over 1 md in aquifer recharge areas

show northeast-oriented fractures without calcite fill

show wells that penetrate to the Precambrian and the type of rock

show liquefiable soils within the 100-year flood plain

show the maximum extent of ejecta blankets associated with buried meteor impacts

show desert tortoise habitat and bedrock sand grain size

show forest fire severity and bedrock moisture content

show where the geothermal gradient exceeds 4.0 degrees C when it intersects Pennsylvanian shales

show roads that overlie units with greater than 5% gypsum that are within 150 feet of the surface

show channels on alluvial fans active in the last 12,000 years

show areas underlain by mined-out coal deposits greater than 4 feet in thickness

show all paleostress indicators within 20 degrees of east-west orientation

show overturned beds

show the maximum seaward extent of lower shoreface units in the Ferron sandstone

show trailer parks in karst deposits

What is the material investigated (rock type, mineral, liquid, gas)?

Where is the material from (lat. long.; range township, section, location map)? Is the age of the material known?

Were data generated in more than one laboratory (chemical lab, isotope lab, wet chemistry, dry chemistry, etc.)

What is the element(s) investigated?

What kind of isotope(s) is reported (radiogenic, stable)?

What techniques were used to determine elemental abundances?

What techniques were used to determine isotopic abundances or ratios?

Were initial isotopic ratios calculated for radiogenic isotopes?

How was age of material determined?

Are age determination available from different techniques and/or isotope systems?

Are ages by different techniques the same or different?

If different, is it known why (geologic factors, analytical factors)?

What are the precisions of the measurements?

What are the accuracy's of the measurements?

When were initial radiogenic isotope ratios calculated (decay constants and isotopic abundances used)?

Who and/or what are the sources of data (references, written communication, rumor, guess, plagiarized)?

Are there other chemical or isotopic data elsewhere for materials in data base?

Where are additional data available (library, internet, internal memo, rumor, etc)

Why was the work done (is there a problem)?

Where can I find nonmarine Cretaceous rocks in South Carolina? Or shallow marine, etc.?

If I specify groupings (e.g., sand + moldic limestone + gravel vs. clay + siltstone), will you draw a map of my groupings?

What is under my house (or vacation property)? E.g., Rock type? Faults? Anything susceptible to landslides?

How deep do I have to drill my well?

Show me where there is peat in Florida.

Show me where there is peat in contact with Pleistocene limestone in Florida.

Show me some outcrops of the Gosport Sand in Alabama.

Show me anywhere faults seem to have a circular pattern (or where clustered faults seem to have a lack of preferred orientation).

Show me the gravel pits in southeastern Virginia and tell me the formation that is being mined.

Who has ever done geologic mapping in North Carolina?

Who has ever done paleontological studies in North Carolina?

Can you print out the paleontological data for specific sites used in making a map?

Where is the Ashley Formation of shallow marine origin?

What percent of the Ashley is shallow marine?

Can you draw a marine/nonmarine map for a particular time slice or series of time slices (or limestone/sandstone map, etc.)

Anything to help overcome edge effects/state line faults. (Show me all the nonmarine sand of late Paleocene age in Georgia and South Carolina, and when you do, tell the the various formation names.)

Expand queries such as the one above (Ok, now show me early Eocene nonmarine sand, and any undated nonmarine sand, too).

Anything to help the user look for patterns in the data (do joints in one part of the map trend one way and in another part of the map trend a different way).

In maps where there is both surficial and bedrock coverage (or any maps where there is more than one coverage), anything to help look for similarities/differences that are related.

Where can I find gold?

Show me all units for which a drainage line also acts as one of the unit's contacts.

Show me all units for which faults act as unit boundaries.

Show me all map units that change rank term (for example, from Formation to Member) within the map area.

Show me where the transition mentioned in #3 above occurs.

Show me the type section locality for the Anakeesta Formation.

Show me all conodont localities in the Conococheague Limestone..

Show me all drill holes in the map area and link to their logs (so I can check a cross section).

Show me all units that should have scratch boundaries shown for all or part of the unit.

Show me all units that are described as stacked (for example, silt oversand over gravel).

Show me all features related to the Acadian orogeny.

Show me all contacts that are mapped as unconformities.

Show me planar symbols that intersect with other planar symbols.

Show me linear symbols that intersect with planar symbols.

Show me the location of slope-movement scarps on southwest-facing, treeless slopes.

Show me the location of slope-movement scarps in the Reedsville Shale with dips greater than 25 percent.

Show me all residual soil developed on southeast-facing slopes.

Show me all slope-movement scarps only on the soil found in #16 above.

Show me all slope-movement scarps only in residual soil or colluvium developed over limestone.

Show me all recent slope movements that occurred in areas mapped as ancient debris-fan deposits.

Show me all slope movements in the Potomac River drainage basin.

show me all the landslide deposits.

show me all the marine clay

show me all the glacial striae and glacially streamlined landforms

show me all the glacial lake and raised marine shorelines

show me the map polygons that are till

show me all the eskers

show me all the organic terrane that is within the zone of discontinuous permafrost

show me the all-time glacial limit in northwestern North America

show me all areas of thick till

show me placer gold deposits

show me location of all known kimberlites

show me all sites with more than one set of glacial striae

show me all eolian deposits

show me all clay-rich till

show me all iceberg scours on the continental shelf and on the bed of Glacial Lake Agassiz

show me all end moraines and large recessional moraines.

show me all the calcareous till

show me all the aggregate deposits within 100km of a deepwater port

show me all crosscutting relationships in streamlined glacial landforms

show me all the rock outcrops that are too small to show as polygons.

all glacial deposits

all till deposits

all outwash deposits

all drift deposits

all stream deposits

all fluvial deposits

all lacustrine deposits

all lake deposits

all flood deposits

all gravel deposits

all sand deposits

all clay deposits

all debris flow deposits

all moraine deposits

all levee deposits

all volcanic deposits

all pumice deposits

all pyroclastic flow deposits

all lava flow deposits

all lahar deposits

all dome deposits

all landslide deposits

all debris avalanche deposits

all tsunami deposits

Show me all sedimentary units that are less than 10,000 yrs old.

Show me all sedimentary units with shear strengths (phi values) less than 35.

Show me all sedimentary units with cohesive strengths less than 500lb/square ft.

Show me all sedimentary units with bedding thickness less than 6 inches.

Show me all sedimentary units for which the dominant lithology (> 50%) is sand.

Show me all sedimentary units with more than 15% clay.

Show me the attitude data for all sedimentary units that have a bed thickness less than 1 foot.

Show me all polygons mapped as landslides in the Simi Valley East 7.5 minute quadrangle prior to the 1994 Northridge earthquake.

Show me all polygons mapped as landslides in the Simi Valley East 7.5 minute quadrangle that were triggered by the 1994 Northridge earthquake.

Show me the location of all mapped faults with Holocene displacement.

Show me all metamorphic rocks that contain prograde hornblende.

Show me all metamorphic rocks that contain prograde muscovite.

Show me all metamorphic rocks that contain prograde garnet.

Show me all intrusive igneous rock units.

Show me all intrusive igneous rock units with published U-Pb zircon ages.

Show me all intrusive igneous rock units with U-Pb zircon ages published after 1990.

Show me all intrusive igneous rock units that contain magmatic hornblende.

Show me all intrusive igneous rock units that contain magmatic muscovite.

Show me all extrusive igneous rock units that contain sanidine.

Show me all extrusive igneous rock units with sanidine $40\text{Ar}/39\text{Ar}$ ages published after 1985.

show me all NPS units in Utah containing Pennsylvanian rocks

show me all NPS units in Utah containing Pennsylvanian rocks with fossils

show me all NPS units in Utah containing Pennsylvanian rocks with fossil clams

show me a stratigraphic relationship of all the units exposed in the Grand Canyon and their textual descriptions

show me a picture of an outcrop of the shaly facies of the Brushy Basin Member of the Morrison Formation at Capitol Reef NP

show me all national parks in the US containing exposures of Cambrian rocks

show me all sand deposits in California NPS units

show all oil well locations in Big Southfork NP

show all abandoned mines in Mojave NP awaiting reclamation

show me an index map listing all the geologic quadrangles at Glen Canyon NRA at 1:24,000 scale

show me all references and map notes that were cited to compile the geology of a certain park

show me all contact metamorphosed zones containing marble or talc in Death Valley NP

Show me a map listing geologic hazard potential in all canyons of Zion NP

show me a geologic cross section across the Black Canyon of the Gunnison River

show me economic mineral potential locations of the commodity selenite in Capitol Reef NP

show me all active mines and/or wells in Nevada

show me all bentonite susceptible units that cross major roadways in National Parks (ie. Mancos Shale !!!)

show me recent shorelines to show dune migrations and beach erosion at North Carolina's Outer Banks

show me rockfall potential in relation to specific map units

show me all recent volcanic eruptions and flows (< 2000 years ago)

Display areas of sausseritic alteration

Display areas of sericitic alteration

Display areas of propylitic alteration

Display areas of greissinization

Display rock units in which coal beds are interlayered with sandstone and organic mudrock beds

Display rock units containing petroliferous blebs and (or) stringers

Display rock units containing elevated rare-earth element abundances

Display rock units with Sr(initial) ratios greater than .706

Where are slightly consolidated surficial deposits? Moderately consolidated? Well consolidated?

Display late Pleistocene shorelines of Lake Bonneville

Display spatial patterns of crestlines for Holocene barchan dunes

Display spatial patterns of crests of Pleistocene terminal moraines

Display spatial patterns of crests of Pleistocene lateral moraines

Display rock units that have exfoliating structure

Display Paleozoic rock units that contain fossils having Appalachian provincial affinities

Display Paleozoic rock units that contain fossils having Hercynian provincial affinities

Display Tertiary rock units that contain fossils having Tethyan provincial affinities

Display rock units containing trilobite faunas of the XYZ trilobite biotope of Palmer

Display marine sedimentary rocks containing benthic foraminiferal faunas of the Mohnian Stage

Display all equigranular plutonic rocks of tonalitic composition

Display all rapakivi-textured hypabyssal and plutonic rocks

Display all rapakivi-textured plutonic rocks

Display all porphyritic plutonic rocks where K-spar is the phenocryst

Display granitic intrusions into limestone that are associated with skarn occurrences

Display slickenside lineations

Display lineations created by crushing and streaking of mineral grains

Display stretching lineations

Identify all contacts that meet the map-accuracy standard

Identify all sedimentary contacts

Identify all sedimentary contacts that overlap the XYZ granite

Display all intrusive rocks with plagioclase composition An₃₀-An₄₀

Display all Proterozoic rock units that are part of a mangerite-jotunite complex

Display plutonic rock units that weather into tors

Display all intrusive rocks that have schlieren

Display granodiorite that contains inclusions of any kind

Display granodiorite that contains equidimensional inclusions

Display granodiorite that contains flattened and aligned inclusions

Display all volcanic rocks having ophitic texture

Display all intrusive rocks that are flow-lineated

Display volcanic rocks formed in island-arc settings

Display plutonic rocks formed in anorogenic continental-interior settings

Display calc-alkaline igneous rocks

Display synorogenic plutonic rocks

Display synorogenic plutonic rocks of Andean-margin type

Display synorogenic volcanic rocks in the upper plate of Tertiary detachment faults

Display synorogenic volcanic rocks in Miocene extensional nonmarine basins

Display all greenschist-facies rocks metamorphosed in late Cretaceous-early Paleogene time

Display all rocks metamorphosed in late Proterozoic time

Display rocks having two prograde metamorphic ages

Display rocks having mid-Proterozoic prograde upper amphibolite metamorphism followed by late Proterozoic retrograde metamorphism to greenschist facies

Identify all contacts where the geologist is not certain whether the linear feature is a contact or a fault

Identify all contacts where the geologist is not certain whether the linear feature is a contact or a fault

Identify all contacts whose location meets the stated map-accuracy standard

Identify all faults whose location meets the stated map-accuracy standard

Identify all sedimentary contacts formed during the Kaskaskia onlap sequence

Identify all igneous contacts formed during the late Cretaceous part of the Laramide Orogeny

Display slickenside lineations trending between 045 and 115

Display slickenside lineations on low-angle normal dip-slip faults

Display paleocurrent lineations between 115 and 180

Display sole-mark lineations between 115 and 180

Display all low-angle faults, whether contractional or extensional

Display thrust faults that have been folded

Display Cretaceous thrust faults that were reactivated in Eocene time

Display segments of the Vincent-Orocopia-Chocolate Mountain thrust system that were re-activated by Oligocene-Miocene extension

Select all symbols for overturned syncline

Select all symbols for upright anticline

Select all double-arrow symbols for right-lateral strike-slip faults

Select all bar-and-ball fault symbols

Select line-symbols for "contact, meets the map accuracy standard"

Display fold-axial planes overturned to the SW

Select all symbols for subsurface-boring locations

Display ground fissures

Display crown scarps for landslides

Select marble that originally was chert-rich limestone

Select marble that originally was "pure" high-calcium limestone

Select marble that originally was high-magnesium dolostone

Select metaquartzite that originally was medium to coarse grained high-silica shore-face dune sand

Select biotite schist that is coarse grained

Select chlorite schist that is fine to medium grained

Select quartzose hornfels that contains <5% biotite

Select actinolite-chlorite schist interlayered with muscovitic quartzofeldspathic schist

Select schist and gneiss containing porphyroblasts of cordierite

Select Mesozoic orthogneiss containing porphyroclasts of potassium feldspar

Select rock units that have deformational fabrics transitional between brittle and ductile

Select rock units that have cataclastic deformational fabrics and are cut by low-angle listric faults

Select rock units that display S-C indicators

Select rock units that have mylonitic deformational fabrics and display S-C indicators

Select rock units that have mylonitic deformational fabrics and have mullion structures

- Select orthogneiss units that preserve porphyritic fabric
- Select greenschist-facies metasedimentary rocks that contain original sedimentary structures
- Select metasedimentary terranes metamorphosed to blueschist conditions in subduction zones
- Select orthogneisses that originated as monzogranitic high-level plutons
- Select metagraywacke that originated as turbidite sands
- Select argillite that originated as basin-plain siliceous mudrock
- Select metachert
- Select greenstone that originated as basalt flows
- Select areas where the XYZ orthogneiss cross-cuts the XRAY schist
- Select areas where the XRAY schist and the PQR greenstone appear to be positionally stacked rather than structurally stacked
- Where are rocks metamorphosed to upper greenschist facies and higher?
- Select gneiss units that have sedimentary protoliths
- Select metasedimentary rocks metamorphosed adjacent to plutonic intrusions
- Select metamorphic rocks formed in continental-collision zones
- Where do metamorphic rocks occur beneath the XYZ thrust plate?
- Select surficial deposits that have depositional morphology preserved
- Select surficial deposits that have no depositional morphology preserved
- Select alluvial deposits that have buried soils
- Select alluvial deposits having well developed argillic horizons
- Select alluvial deposits having moderately developed K horizons
- Select alluvial deposits having a strong K-IV horizon within 3 m of the surface
- Select all alluvial deposits except for alluvial-fan deposits
- Select all hillslope materials and colluvium except those formed by sheet-wash processes
- Select colluvial materials but not those formed by sheet-wash processes
- Select sand and gravel units where the gravel:sand ratio exceeds 2:1
- Select sand and gravel units where the average clast size is <5 cm
- Select sand and gravel units where the gravel:sand ratio exceeds 2:1 and where the average clast size is <5 cm
- Select sand and gravel units where the clasts consist of unweathered metavolcanics

Select sand and gravel units where the clasts are highly weathered granitic and metamorphic rocks

Select alluvial-fan deposits where debris-flow deposition dominates over stream-flow deposition

Select lacustrine near-shore and bar deposits

Distinguish deposits of alpine glaciers from those of continental glaciers

Distinguish outwash-plain deposits from morainal deposits

Distinguish proximal alluvial-fan deposits from distal alluvial-fan deposits

Distinguish alluvial-valley deposits from alluvial-fan deposits

Distinguish braided-stream deposits from meander-belt deposits

Distinguish pro-delta deposits from delta-front deposits

What units have combined ledge-forming and slope-forming weathering profiles?

What crop out as recessive slope-formers?

What units crop out as prominent hogbacks?

What units crop out as resistant ledge- or cliff-forming units?

What units form badlands geomorphology?

Select all white, coarsely crystalline limestone

Select thick-bedded sandstone that is reddish colored

Select map units consisting mainly of ironstone

Select all white, coarsely crystalline limestone

Select thick-bedded sandstone that is reddish colored

Select units of thinly laminated to thin-bedded limestone interlayered with lenses of fissil shale

Select units consisting homogeneously of lenticular thick- to very thick-bedded sandstone and pebbly sandstone

Select units containing varved mudrock

Select sandstones classified according to Folk (1968)

Selected sandstones classified according to Pettijohn ()

Select sandstones classified according to McBride ()

Select sandstones classified according to Friedman ()

Select carbonate rocks classified according to Dunham (1962)

Select carbonate rocks classified according to Bathurst

Select carbonate rocks classified according to Friedman

Select carbonate rocks classified according to Folk (1968)

Select sedimentary rocks classified according to Folk (1968)

Select sedimentary rocks classified according to Pettijohn ()

Select all Paleozoic sedimentary units that are predominantly composed of dolostone

Select units consisting mainly of bioclastic limestone

Select map units consisting of turbidite deposits

Select map units containing limestones dominated by mud-supported depositional fabrics

Select map units containing limestones dominated by grain-supported depositional fabrics

Select map units containing sandstones having eolian cross bedding

Select map units containing sandstones having graded bedding

Select map units containing sandstones having graded bedding and dominated by base-truncated Bouma BCD intervals

Select map units dominated by matrix-supported pebbly conglomerate and sandstones having graded bedding and Bouma AB intervals

Select map units containing sandstones having sole marks

Select map units containing conglomerate having matrix-supported depositional framework

Select map units containing sandstones having cross-laminations classified according to Allen ()

Select map units containing mudrock and fine sandstone displaying mudcracks

Select map units containing sedimentary fining-upward cycles

Select map units containing sedimentary coarsening-upward cycles

Select formation-rank map units in which coarse-sandstone dominated facies pass laterally into sandstone-and-mudrock facies without changing formation name

Select map units having containing conglomeratic sandstone containing mud chips

Select map units dominated by sandstone having between-grain argillaceous "matrix"

Select rock units in which the prevailing sandstone-body geometry is shoe-string sands

Select rock units in which the prevailing sandstone-body geometry is sheet sands

Select Miocene submarine-fan deposits of Tertiary marine basins in the California Coast Ranges

Select Miocene submarine-fan deposits of Tertiary marine basins in the California Coast Ranges, but restrict the search to proximal-fan facies

Select Miocene submarine-fan deposits of Tertiary marine basins in the California Coast Ranges, but restrict the search to mid-fan facies

Select Mesozoic forearc nonmarine sedimentary deposits

Select Mesozoic forearc marine sedimentary deposits

Select Mesozoic back-arc deposits containing gravity-slide blocks

all terrace alluvium with calcrete soil > stage IV

all terrace alluvium deposits with upper surface between 10 and 20 m above stream level.

all high-angle faults within 2 km of the Wasatch Mountain front that have a rake of 45 to 60 degrees

all faults that offset only the youngest alluvium

all eolian deposits more than 1 m thick that lack significant soil development

all marine terraces 20 to 80 m above sealevel that have reliable U-series dates < 130 ka

all areas that have impermeable deposits within 2 m of the surface and slopes less than 3%

areas where younger alluvial fans slope more steeply than older ones

areas where basaltic cobbles have been observed in the conglomerates of the Muddy Creek Formation

areas where steeply dipping sedimentary rocks are buried beneath less than 3 m of unconsolidated sediments

all faults that truncate or offset faults of late Pliocene or younger origin.

all faults with damage zone wider than 2 m where the damage zone is not plugged

all areas that are within 2 km of and lower than landslide deposits with documented movement within the last 100 years

all gradational contacts separating marine and terrestrial sediments

all areas where reversal of dip direction within pliocene sandstones occurs within 1 km

all lacustrine beds that contain Lava Creek B tephra

areas where diamictons less than 2 m thick overlie well bedded, well sorted deposits

fault scarps that slope 15 to 25 degrees in playa deposits

20 to 30 Ma lacustrine limestones that have orthogonal joint sets

Areas where 12 to 17 Ma old welded ashflow tuffs contain chloritized conglomeratic clastic dikes

show me all plutonic felsic rocks that have porphyritic textures with a fine-grained groundmass

show me all plutonic felsic rocks with 2 micas

show me all plutonic felsic plutons that are polyphase or zoned

show me all Phanerozoic mafic to ultramafic plutonic igneous rocks associated with calc-alkalic convergent margin magmatism that have cumulate textures

show me all Archean and Proterozoic mafic to ultramafic plutonic igneous rocks that have cumulus layering, particularly cyclic units or macrorhythmic layering

show me all tectonized harzburgites that are part of an ophiolite assemblage

show me all pillow lavas associated with the Coast Range ophiolite

show me all calderas in the western United States

show me all tuffs associated with the Thunder Mountain caldera in Idaho, distinguishing those that are intracaldera from those lying outside the caldera margin

show me all occurrences of obsidian that are not devitrified

show me all fine-grained siliciclastic sedimentary rocks that are organic-rich

show me all sedimentary rocks which contain abundant, well preserved trilobite fossils

show me all sedimentary rocks deposited in intertidal depositional environments

show me all sedimentary rocks that are made up of turbidites

show me all sedimentary rocks that show evidence for syndepositional deformation

show me all sedimentary rocks that form massive, cliff forming units

show me all sedimentary rocks that are porous and permeable

show me all metamorphic rocks derived from felsic, igneous plutonic protoliths

show me all metamorphic rocks that have relict sedimentary structures

show me all sedimentary rocks that contain garnet