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Geospatial Initiatives at the J. Willard Marriott Library

April Love
Librarian
Research and Information Services

Anne Morrow
Digital Initiatives Librarian
Digital Ventures

Donald Williams
IR Facilitator
Institutional Repository

Ken Rockwell
Cataloging and Metadata Librarian
Cataloging and Metadata Services

Lisa Chaufty
IR Manager
Institutional Repository

Justin Sorensen
Geospatial Information Specialist
Digital Scholarship Lab

With the assistance of Amy Brunvand and David Morrison

Geospatial Initiatives Committee

- A Clickable county map of our digital assets
- Hidden Water unveils surface water systems on the east side of the Salt Lake Valley
- A collaboration with Utah Geological Survey to digitize and provide access to our Geology thesis maps
- Western Soundscapes offers thousands of recordings of Western animal species and their environments
- An historical GIS project with a faculty member in the Geography Department

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Mapping Marriott Library's Digital Collections

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Digital Asset Mapping

SINGLE OBJECTS

- Tied to a specific location
- Thumbnail images link into collections
- KML's will need to be consistently updated to reflect new content
- Ideal: dynamic link between digital library content and map

GROUPS OF OBJECTS

- Sharing a geographic relationship
- Area links to a set of query results
- Dynamic results
- But, sometimes muddied results
- Ideal: relevance hierarchy

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Software Dependencies

- Google Earth
- Google Maps
- Earthpoint
- Firefox, IE, Chrome, Safari

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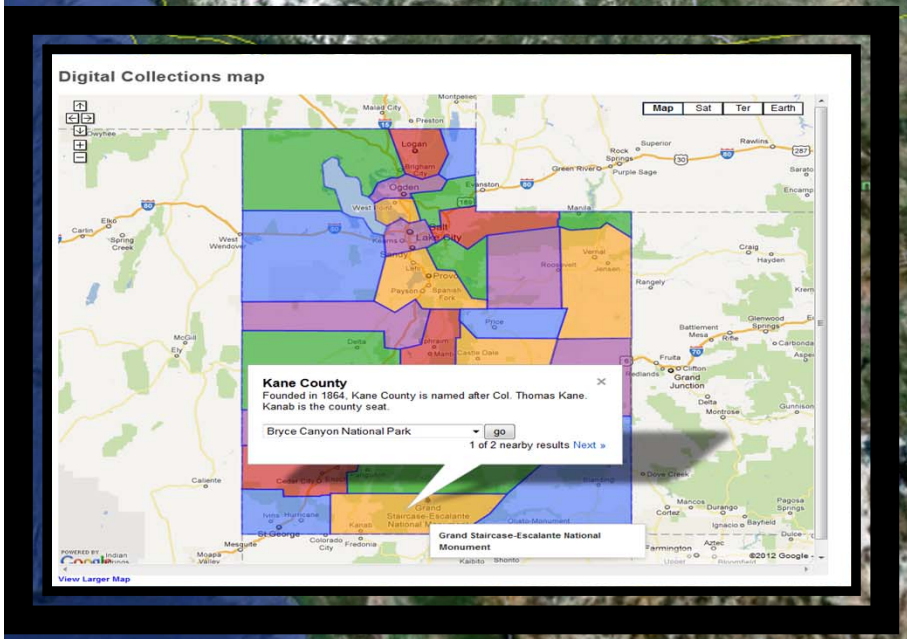


Geology Theses and Georeferenced Maps Project

- Marriott Library's Geospatial Initiatives Committee
- Project Goal: Upload georeferenced versions of theses and maps to USpace allowing world-wide access to materials formerly hard to retrieve
- Began with an examination of the library catalog, special collections, map collections and holdings of the thesis library in the Department of Geology and Geophysics
- An Excel spreadsheet with information spanning 25 years (1950-1975) was created
- Utah Geological Survey

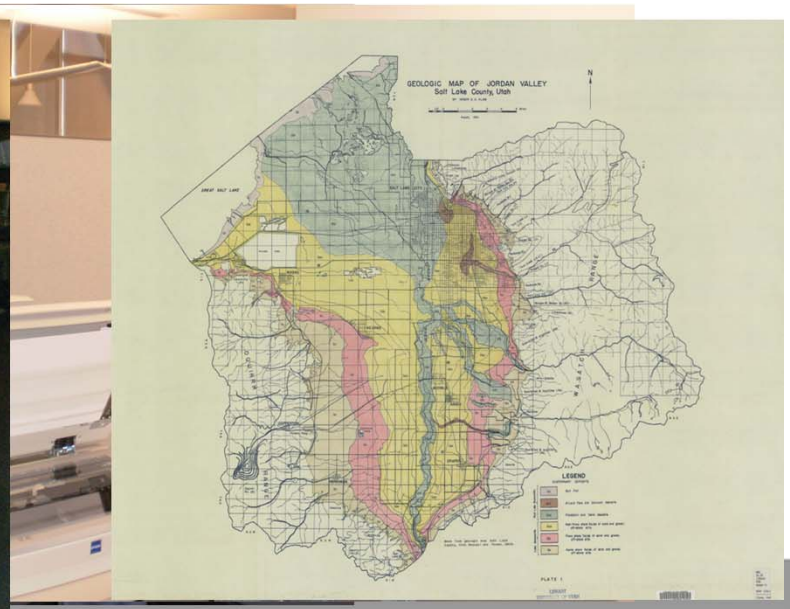
USpace Institutional Repository

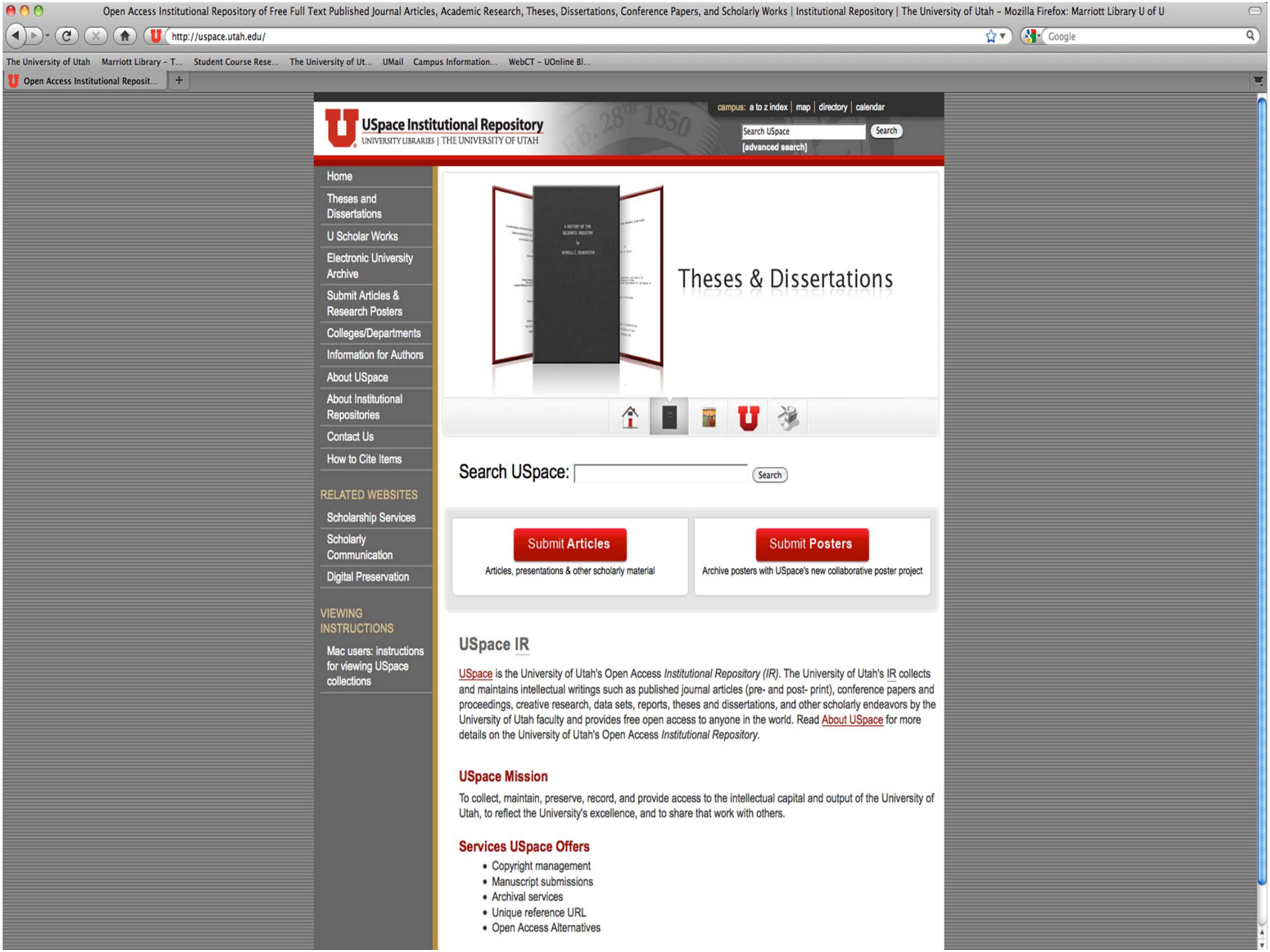
- Long-term digital archive of scholarly works produced by faculty, researchers, and students of the University of Utah community

- USpace functions to collect and maintain intellectual products
  - published journal articles
  - conference papers and proceedings
  - creative research
  - datasets
  - theses and dissertations
  - other scholarly endeavors

USpace Process/Pre-Georeferencing

- Geology theses digitized by IR Staff
- Maps accompanying each thesis were collected and sent to Digital Technologies to be scanned into TIFF format
- Theses and maps uploaded into USpace

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Articles, presentations & other scholarly material
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Archive posters with USpace's new collaborative poster project
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CONTENTdm Collection : Search R...

Search results for **Maurer** search again

Refine your search

Try advanced search

results **1-1** of **1** item(s) page 1 of 1 : (<< 1 >>) :: previous : next

select all : clear all : add to favorites

	Image:	Title:	Creator:	Description:
1.		Geology of the Cedar Mountains,Tooele County, Utah	Maurer, Robert Eugene	The Cedar Mountains are in northwestern Utah in the northeastern part of the Basin and Range Province. The area mapped is about 60 miles west of Salt Lake City, Utah and includes an area of about 550 square

Geology of the Cedar Mountains,Tooele County, Utah

select all : clear all : add to favorites

results **1-1** of **1** item(s) page 1 of 1 : (<< 1 >>) :: previous : next

Firefox File Edit View History Bookmarks Tools Window Help
H.5.5 Tue 8:52:39 AM
Geology of the Cedar Mountains,Tooele County, Utah - Mozilla Firefox: Marriott Library U of U
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menu off
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View: document description go
previous page : next page
Geology of the Cedar Mountains,Tooele County, Utah
- Geology of the Cedar Mountains Tooele County, Utah Part1
- Geology of the Cedar Mountains Tooele County, Utah Part2
- Plate Ia Geologic map of the Northern Cedar Mountains Tooele County, Utah
- Plate Ib Geologic map of the Southern Cedar Mountains Tooele County, Utah
- Plate II Structure cross-sections of the Cedar Mountains, Tooele County, Utah
- Plate III Columnar section of part of the Humbug Formation north of Wide Willow
- Plate IV Columnar section of part of the Great Blue Formation east of Cochran Spring
- Figure 5 Diagram showing ages indicated by brachiopod and fusulinid collections from the Oquirrh Formation
- Plate V Columnar section of the Oquirrh Formation west of Cochran Spring
- Plate VI Columnar section of the Oquirrh Formation units 4 and 5 (incomplete) near Hastings Peak
- Plate VII Correlation of the Oquirrh Formation in part of Northwestern Utah
- Plate VIII Columnar section of the permian unnamed formation exposed between Rydalch Pass and US Coast and geodetic survey Cedar Triangulation Station
- Plate IX Columnar section of parts of the Park City, Phosphoria, and Gerster formations west of Sulfur Spring
- Figure 17 Generalized map of

GEOLOGY OF THE CEDAR MOUNTAINS

TOOELE COUNTY, UTAH

By

Robert Eugene Maurer

A thesis submitted to the faculty of the University of Utah in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

Department of Geological and Geophysical Sciences

University of Utah

June, 1970

This Thesis for the Doctor of Philosophy Degree

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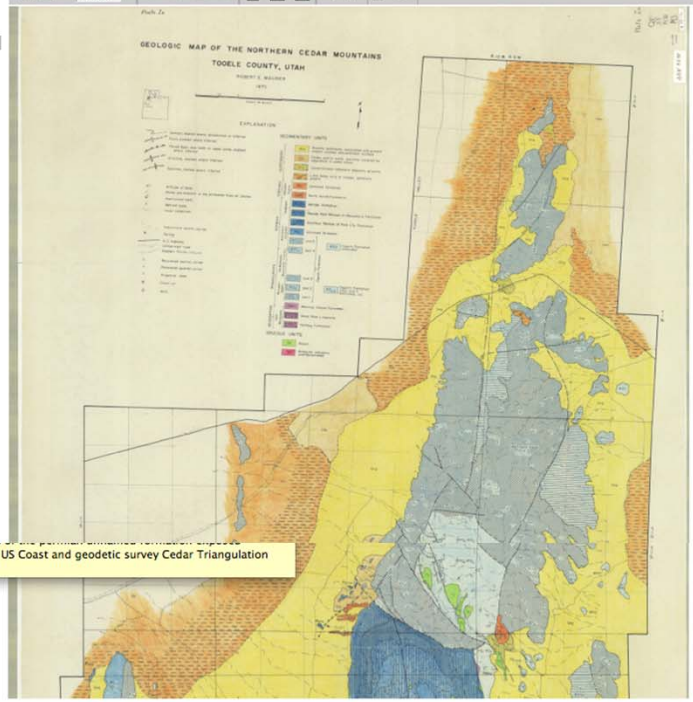

Title	Geology of the Cedar Mountains,Tooele County, Utah
Author	Maurer, Robert Eugene
Subject.Keyword	Geology -- Utah -- Tooele County; Geology -- Utah -- Cedar Mountains
Description	The Cedar Mountains are in northwestern Utah in the northeastern part of the Basin and Range Province. The area mapped is about 60 miles west of Salt Lake City, Utah and includes an area of about 550 square miles. Sedimentary strata exposed in the Cedar Mountains range in age from Late Mississippian to Recent. No Mesozoic beds outcrop in the Cedar Mountains. The sedimentary rocks have been divided into 10 different formations with a total thickness in excess of 20,775 feet. The Paleozoic strata have a thickness of about 19,700 feet distributed among the systems as follows: Mississippian 5790+, Pennsylvanian 5695, Permian 8190+. Thickness, in feet, of the series of Permo-Pennsylvanian age are: Guadalupian, 652+; Leonardian, 4772; Wolfcampian, 2772; Virgilian, 2390; Missourian (?) 487; Des Moinesian, 1473; Morrowan- Atokan, 1345. Quartzose sandstone, medium and dark gray limestone, black shale, and quartzite are typical of the Mississippian strata. Overlying beds of the Oquirrh and "Permian unnamed formation" are composed of sandy, cherty, and bioclastic limestones, sandstones and quartzites. Mas¬sive limestone, dark gray, thin-and medium-bedded dolostone, chert and phosphate beds succeeded upward by yellow-brown and pink limestone constitute the highest units of the Paleozoic succession. A basal red conglomerate and a sandy, tuffaceous form¬ation constitute the early Tertiary sedimentary rocks and have an estimated minimum thickness of 1,100 feet. Unconsolidated deposits of alluvial gravel, lacustrine clay and sand and gravel, and eolian sand comprise the latest Tertiary and Quaternary materials. Folds, domal uplifts, thrust faults, high-angle reverse faults, strike-slip faults, transverse faults and block-faults constitute the more important structures recog¬nized in the Cedar Mountains. Folds, thrust faults, high- angle reverse faults and a strike-slip fault developed dur¬ing the Laramide Orogeny. Domal uplifts are probably relat¬ ed to intrusive activity and can only be dated as younger than folding of Early Laramide age. Transverse and block faults are features younger than early Tertiary basaltic andesite extrusives. Rhyolites, of probable intrusive origin, a basaltic andesite series and basalt comprise the igneous rocks of the Cedar Mountains. The rhyolite and the basaltic andesite series are considered to be of early Tertiary age while the basalt is probably of Miocene or Pliocene age. Probable source areas for part or all of the extrusive rocks are located within the area of the investigation. Vein deposits of aragonite, sand and gravel, and ground water have been of economic importance in the Cedar Mountains. Thin beds of phosphate rock in the west-central Cedar Mountains will not be of economic importance in the foreseeable future.
Publisher	University of Utah
Defense Date	1970-06
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Format.Medium	application/pdf (portable document); image/jpeg (visual file)
Digitization Specifications	Text: Original scanned on Epson GT-30000/Epson Expression 836XL as 400 dpi to pdf using ABBYY FineReader 9.0 Professional Edition. Image: Original Scanned on Colortrac SmartIf GxT42 and saved as 300dpi tiff. Final display image generated by CONTENTdm.
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Degree	Doctor of Philosophy
Department	Geology & Geophysics
School / College	College of Mines & Earth Sciences
Degree Granting Institution	University of Utah
Publication Type	thesis

What is Georeferencing?

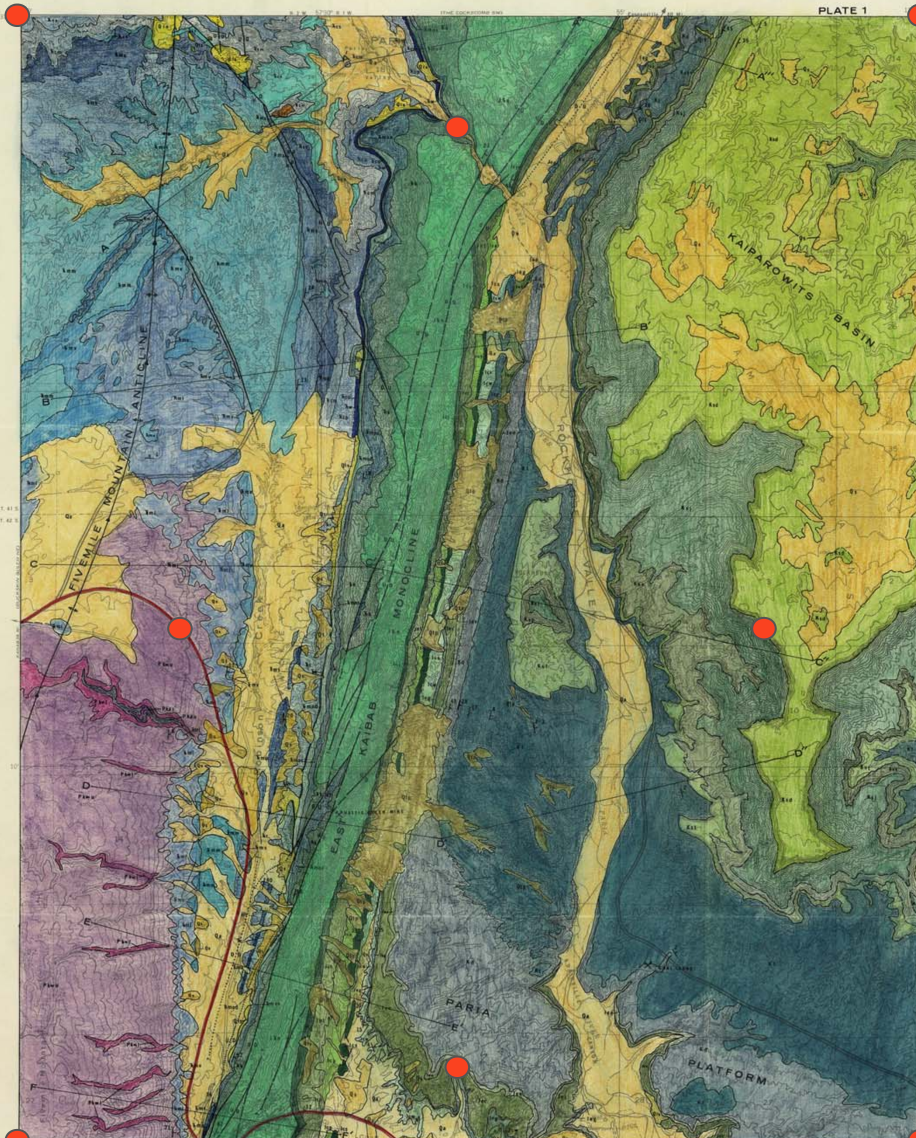
- Taking a print map and defining its existence in physical space
- Used for both vector and raster data
- Useful for relating and examining different information

The Georeferencing Process

- Tiff's were imported into a GIS program, converted into a JPEG file and georeferenced

- Reference layers were added, and control points were created aligning the map with features in physical space

PLATE 1



Base from U.S.G.S. topographic quadrangle
Paria NW 1954

Geology by R.C. Blakey, 1969

GEOLOGIC MAP OF THE PARIA NW QUADRANGLE, KANE COUNTY, UTAH

UTAH
location

SCALE 1:24 000

1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

CONTOUR INTERVAL 40 FEET

TRUE NORTH
MAGNETIC NORTH
15°

EXPLANATION

QUATERNARY — Pleistocene–Recent
- Qs — Sand deposits
- Qa — Alluvial deposits
- Qls — Landslide & talus deposits
- Qtp — Terrace – pediment deposits

UNCONFORMITY

TERTIARY ? — Pliocene ?
- QTc — Conglomerate

UNCONFORMITY

CRETACEOUS — Upper Cret.
- Straight Cliffs Formation
  - Ksd – Drip Tank Member
  - Ksj – John Henry Member
  - Kss – Smoky Hollow Mem.
  - Kst – Tibbet Canyon Mem.
- Kt — Tropic Shale

Lower (?) Cret.
- Kd — Dakota Formation

UNCONFORMITY

JURASSIC — San Rafael Group
- Entrada Sandstone
  - Jee – Escalante Mem.
  - Jec – Cannonville Mem.
  - Jeg – Gunsight Butte Mem.
- Carmel Formation
  - Jcw – Winsor Member
  - Jcs – White ss. facies
  - Jcp – Paria River Mem.
- Carmel & Navajo Fms.
  - Jnt – Thousand Pockets Tgn.
  - Jcj – Judd Hollow Tongue

UNCONFORMITY

JURASSIC ? / TRIASSIC — Glen Canyon Group
- JTRn — Navajo Sandstone
- TRk — Kayenta Formation
- Moenave Formation
  - TRmos – Springdale Ss. M.
  - TRmod – Dinosaur Canyon M.
- TRw — Wingate Sandstone

UNCONFORMITY

Upper Triassic & Jurassic
- Chinle Formation
  - TRco – Owl Rock Member
  - TRcp – Petrified Forest Mem.
  - TRcm – Monitor Butte Mem.
  - TRcs – Shinarump Member
- TRc — Chinle Fm. (undivided)

UNCONFORMITY

Lower & Middle (?) Trias.
- Moenkopi Formation
  - TRmu – Upper Red Member
  - TRms – Shnabkaib Member
  - TRmm – Middle Red Member
  - TRmv – Virgin Limestone Mem.
  - TRml – Lower Red Member

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PERMIAN
- Kaibab Formation
  - Pkau – Upper Alpha Mem.
  - Pkal – Lower Alpha Mem.
  - Pkbu – Upper Beta Mem.
  - Pkbl – Lower Beta Mem.

Contact
Dashed where approx. located

U / D
Fault
Dashed where approx. located; dotted where concealed

Plunging anticline

Strike and dip of beds

Toreva-block slide

Mine

AAW43-11
Plate 1
QE 35 1970 B5
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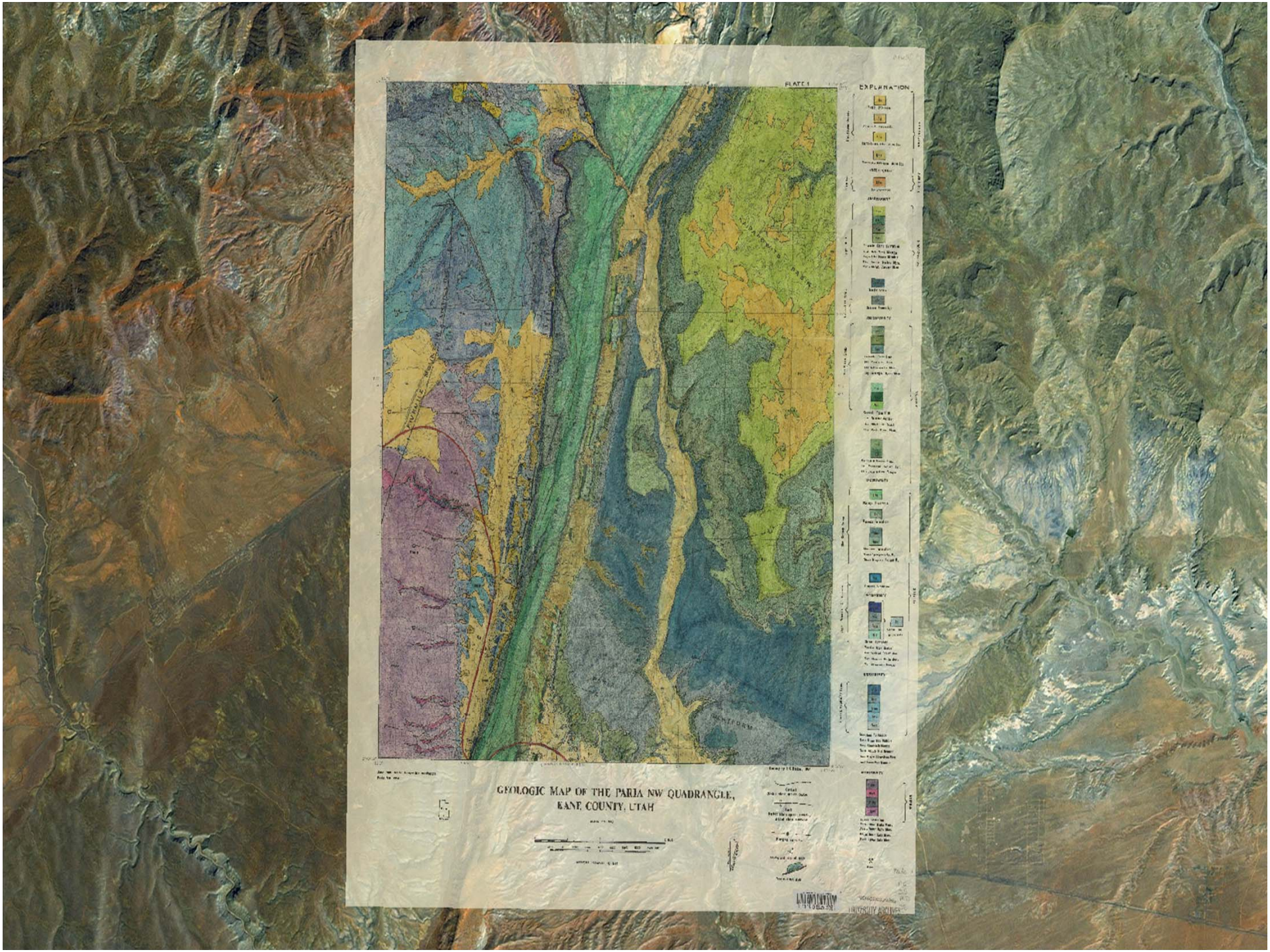
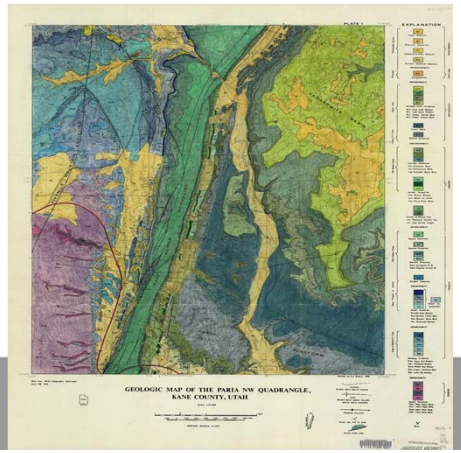


PLATE 1
EXPLANATION
GEOLOGIC MAP OF THE PARIA NW QUADRANGLE,
KANE COUNTY, UTAH

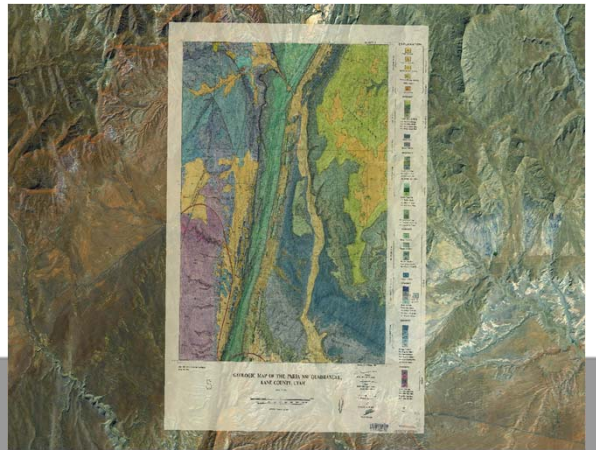
The Georeferencing Process

- TIFF's were imported into a GIS program, converted into a JPEG file and georeferenced
- Reference layers were added, and control points were created aligning the map with features in physical space
- Files were compressed into a zip file that includes the JPEG image and associated world files

Original TIFF



Georeferenced JPEG



Examples of Georeferenced Thesis Maps

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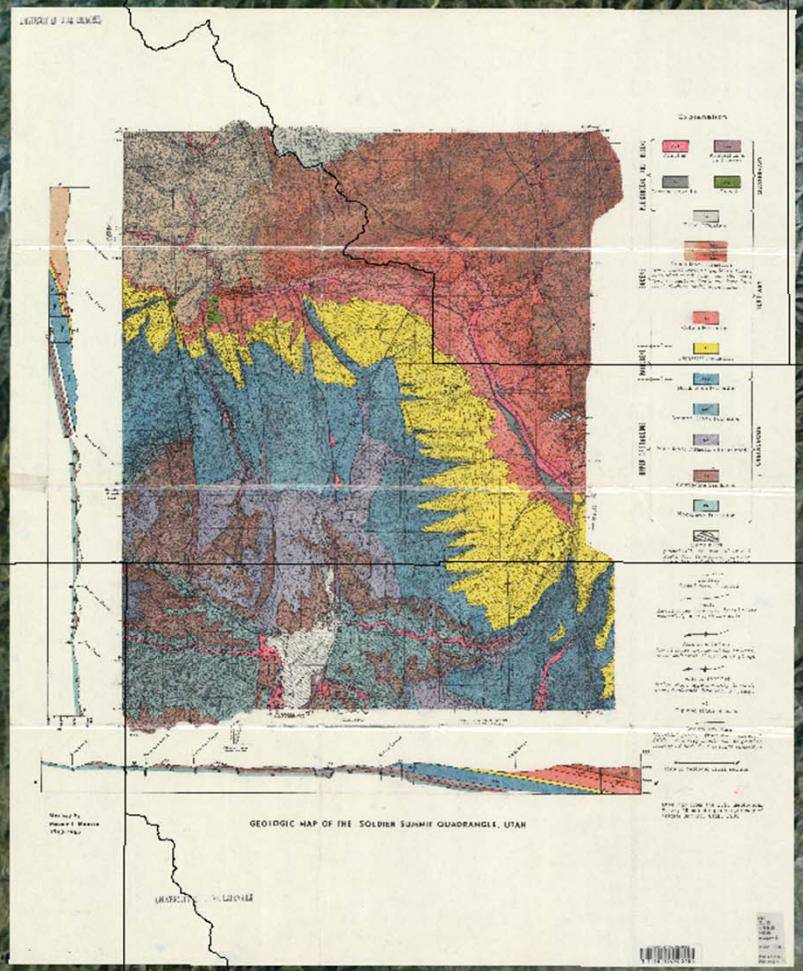

Soldier Summit Quadrangle, Utah

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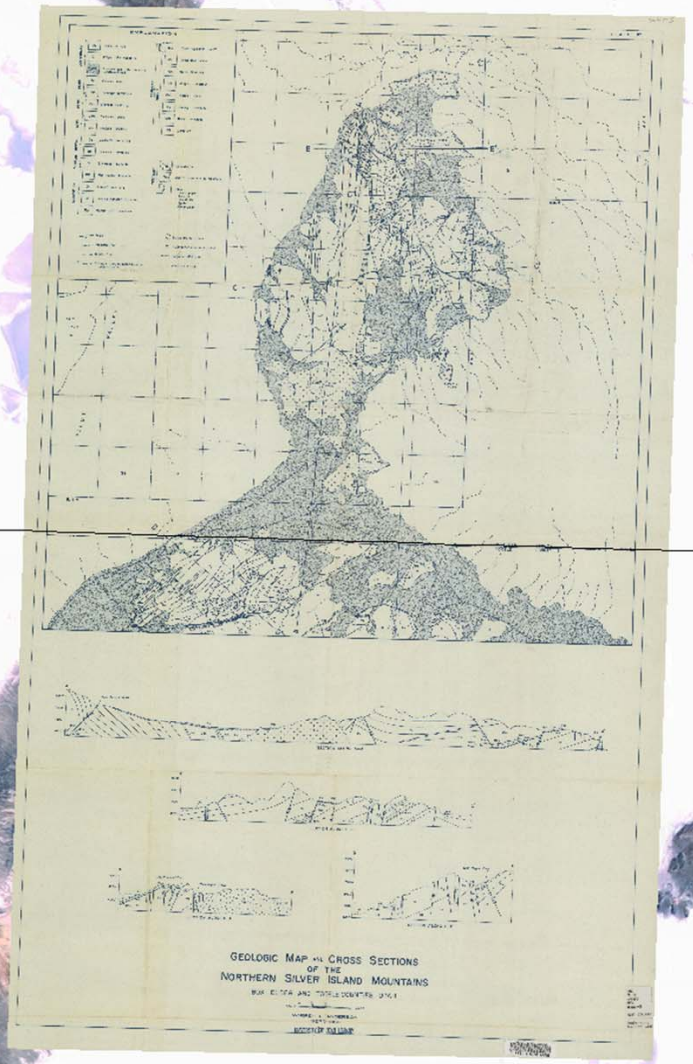

Northern Silver Island, Tooele County, Utah

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Stansbury Island, Tooele County, Utah

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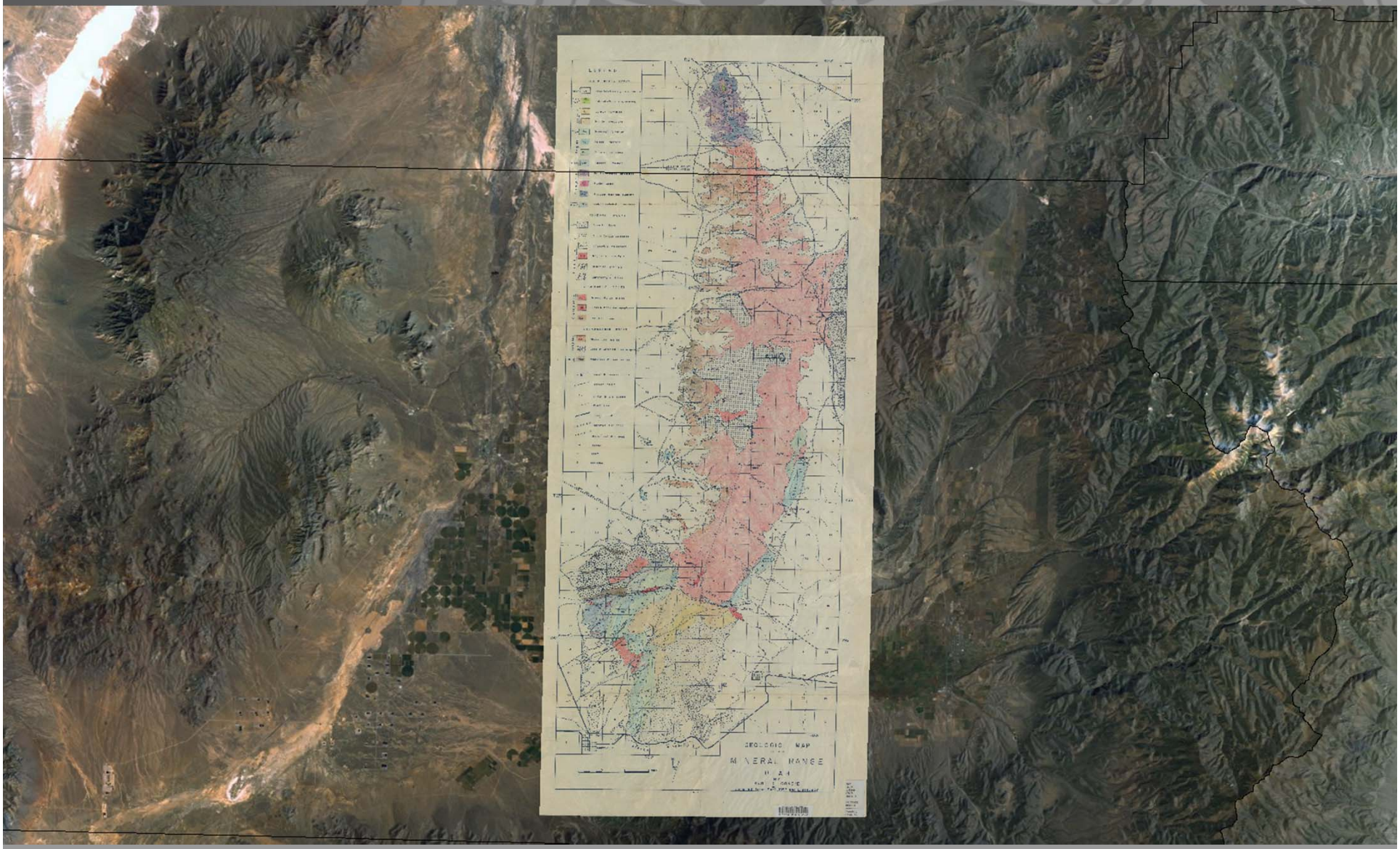

Mineral Range, Utah

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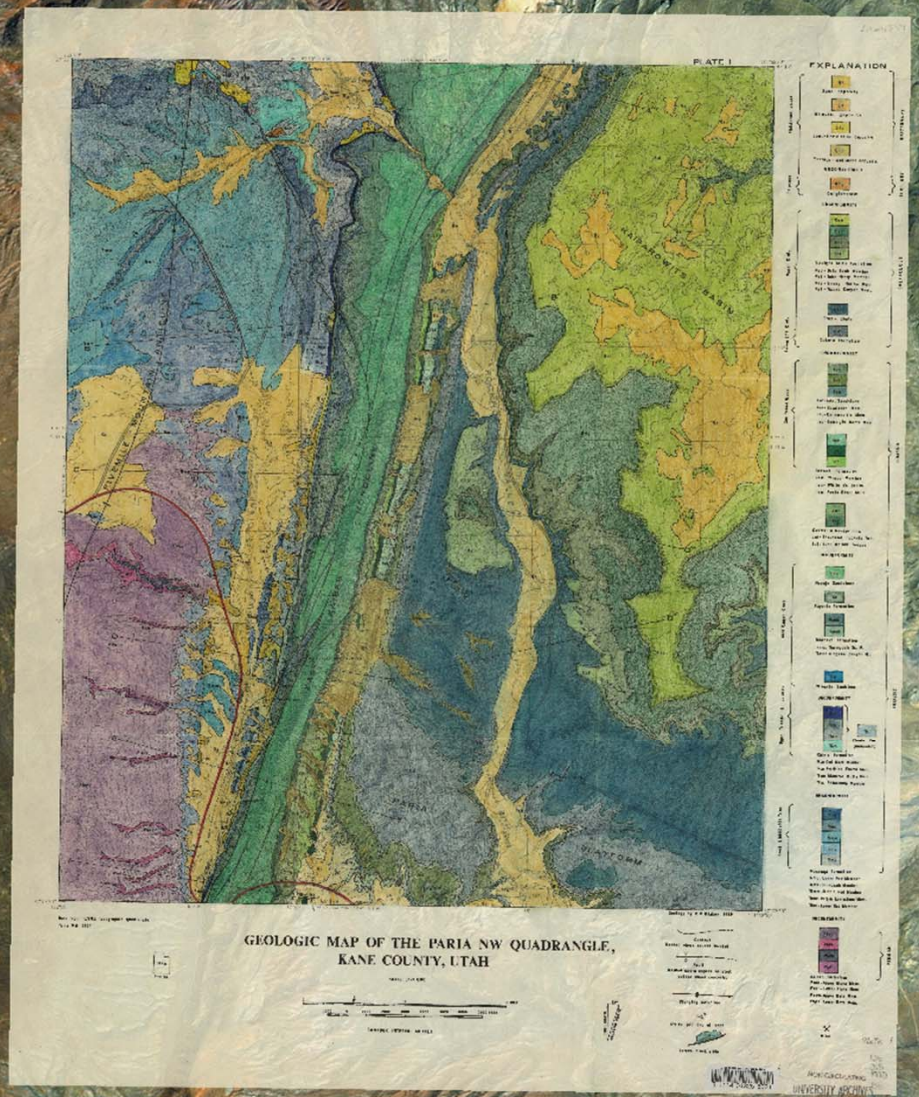
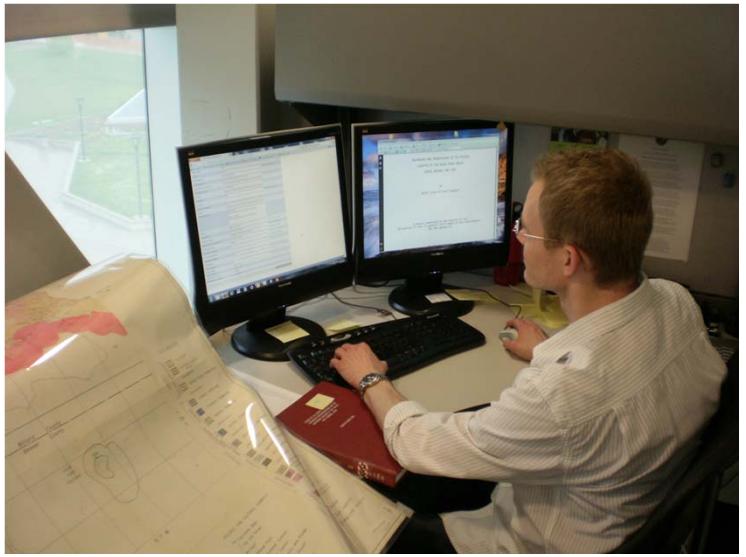


Paria NW Quadrangle, Kane County, Utah

After the Georeferencing Process

- Zip files containing JPEG images and world files are uploaded to the server and linked to the accompanying thesis, making them available through USpace

- Zip files can be viewed with GIS software for further analysis



GEOLOGY OF THE PARIA NORTHWEST QUADRANGLE
KANE COUNTY, UTAH

by

Ronald Clyde Blakey

A thesis submitted to the faculty of the University
of Utah in partial fulfillment of the requirements
for the degree of

Master of Science

Department of Geology

University of Utah
August 1970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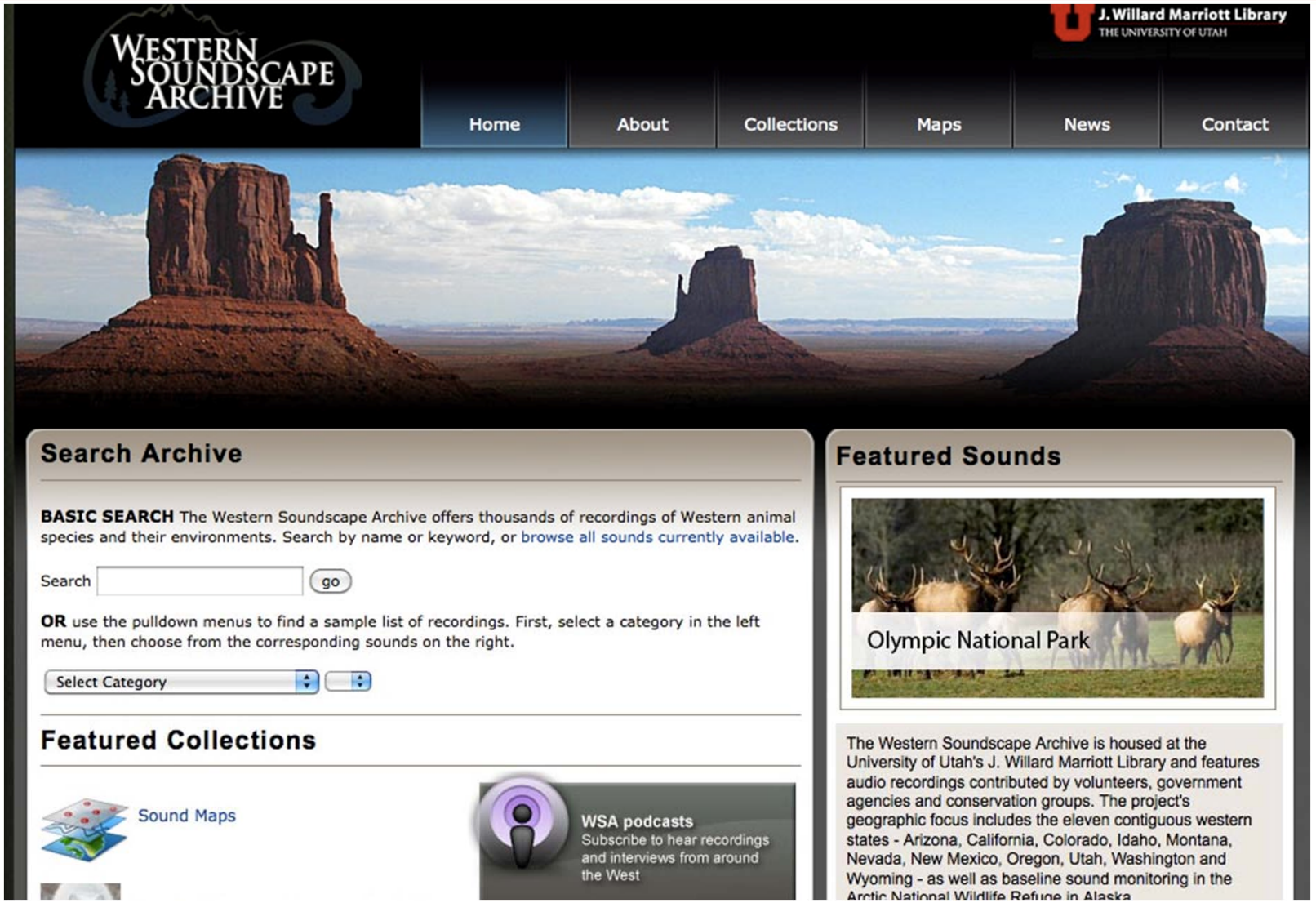
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BASIC SEARCH The Western Soundscape Archive offers thousands of recordings of Western animal species and their environments. Search by name or keyword, or browse all sounds currently available.
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OR use the pulldown menus to find a sample list of recordings. First, select a category in the left menu, then choose from the corresponding sounds on the right.
Select Category
Featured Collections
Sound Maps
WSA podcasts
Subscribe to hear recordings and interviews from around the West
Featured Sounds
Olympic National Park
The Western Soundscape Archive is housed at the University of Utah's J. Willard Marriott Library and features audio recordings contributed by volunteers, government agencies and conservation groups. The project's geographic focus includes the eleven contiguous western states - Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming - as well as baseline sound monitoring in the Arctic National Wildlife Refuge in Alaska

Western Soundscape Archive

- Thousands of sound recordings
- Expanding access to digital collections by creating geo-referenced interfaces
- Harnessing existing place name metadata to capture coordinates
- Automating the production of map interfaces for digital content

Quality control

- Place names may not be in Google's "index"
- Linear features like streams
- Counties
- False hits

Compressed file size	
Compressed file quality	
Compressed File Extent	
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Longitude	-121.9856781
Full resolution	
OCLC number	
Date created	2008-10-16
Date modified	2011-03-04
CONTENTdm number	980
CONTENTdm file name	981.jpg

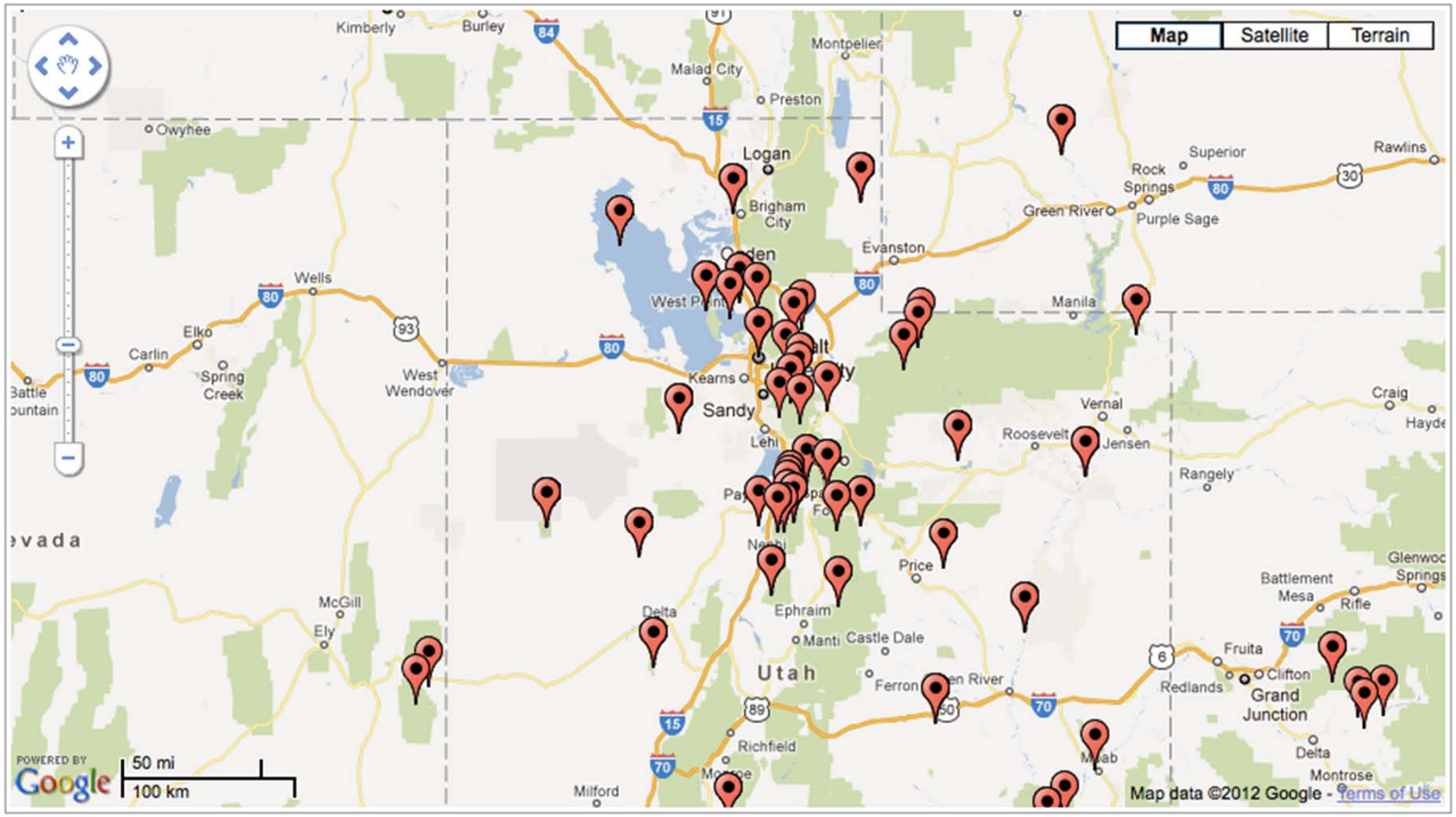
delete save changes

From tables to maps

- Lat/Long tables to Excel spreadsheet
- Add html commands and scripting
- Convert to .KML file
- Hotspots with hyperlinked thumbnails
- .KML file in Western Soundscape will generate the map locating each recording

Nevada, New Mexico, Oregon, Utah, Washington and Wyoming - as well as baseline sound monitoring in the Arctic National Wildlife Refuge in Alaska. Click on the map to see recordings by state or county, or browse through map points for selected highlights.

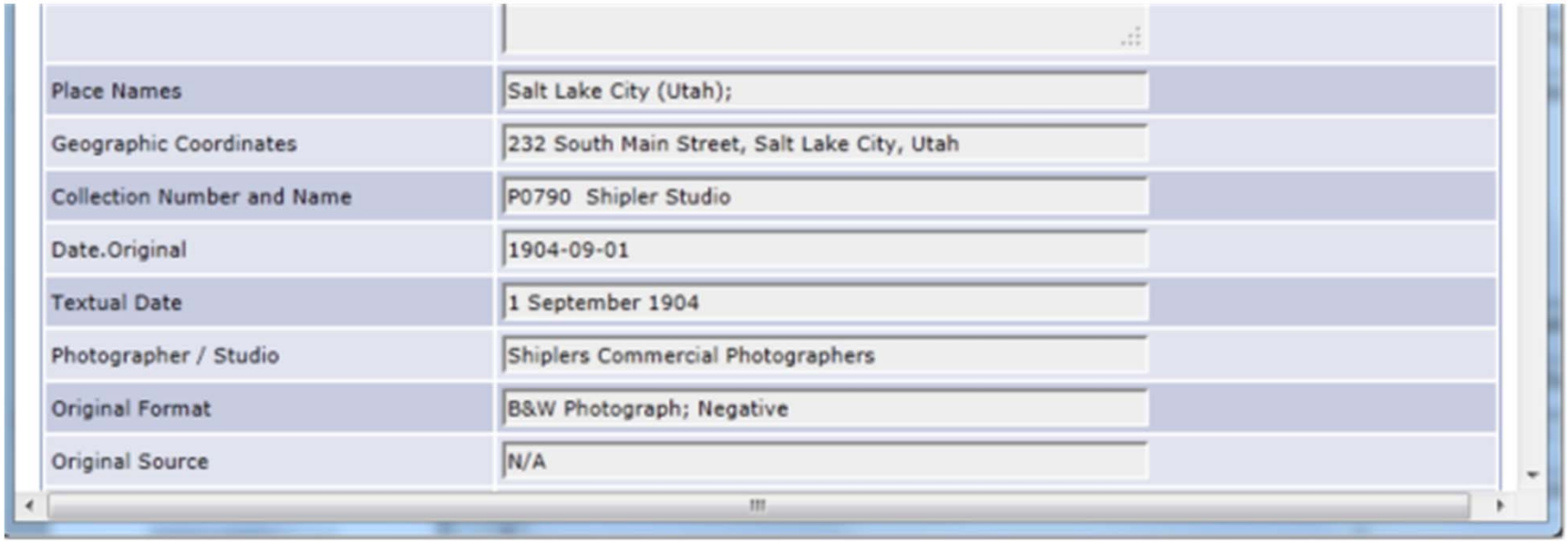
Embedded KML Viewer



Google

Gadgets powered by Google

Coordinates… or Addresses



Place Names	Salt Lake City (Utah);
Geographic Coordinates	232 South Main Street, Salt Lake City, Utah
Collection Number and Name	P0790 Shipler Studio
Date.Original	1904-09-01
Textual Date	1 September 1904
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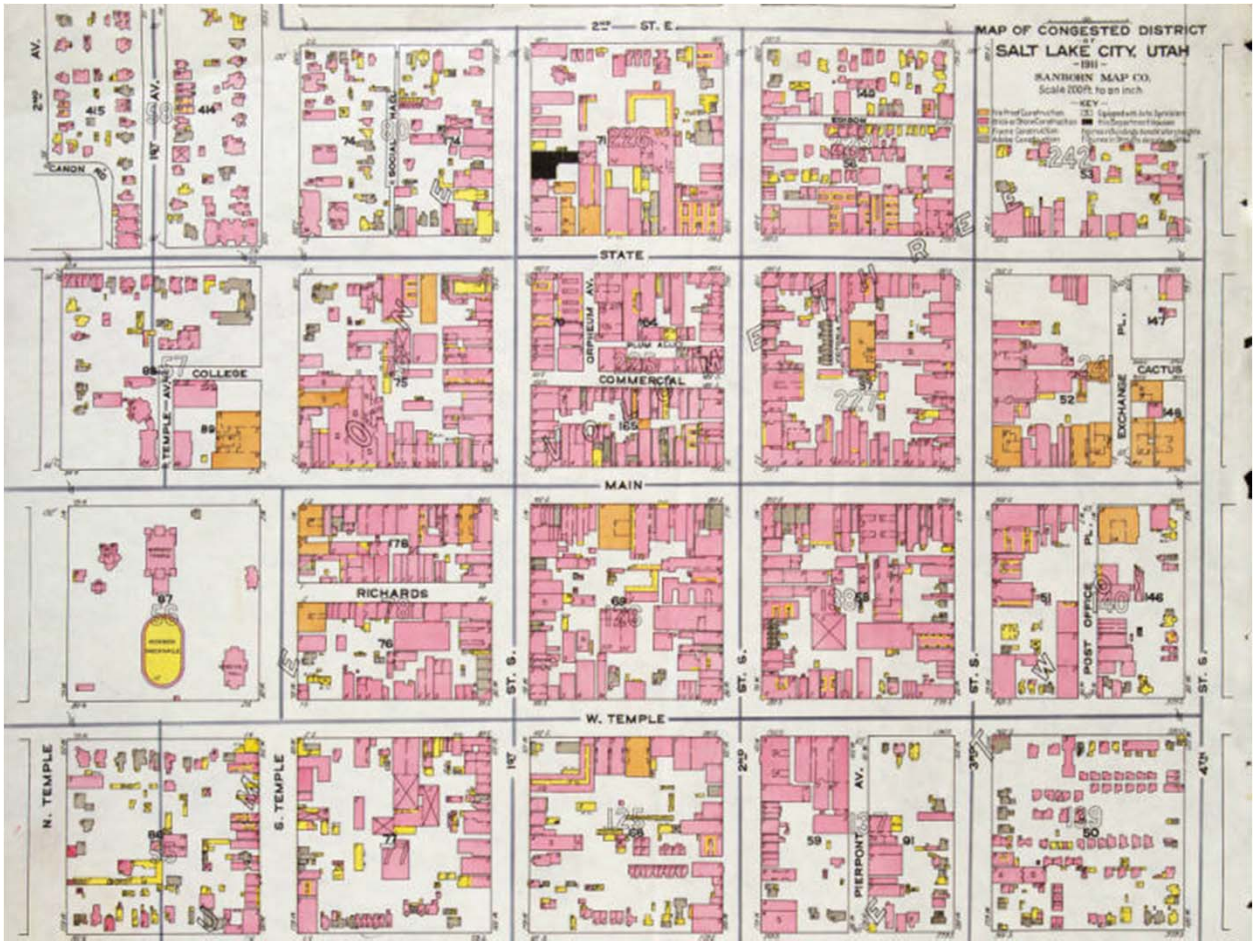
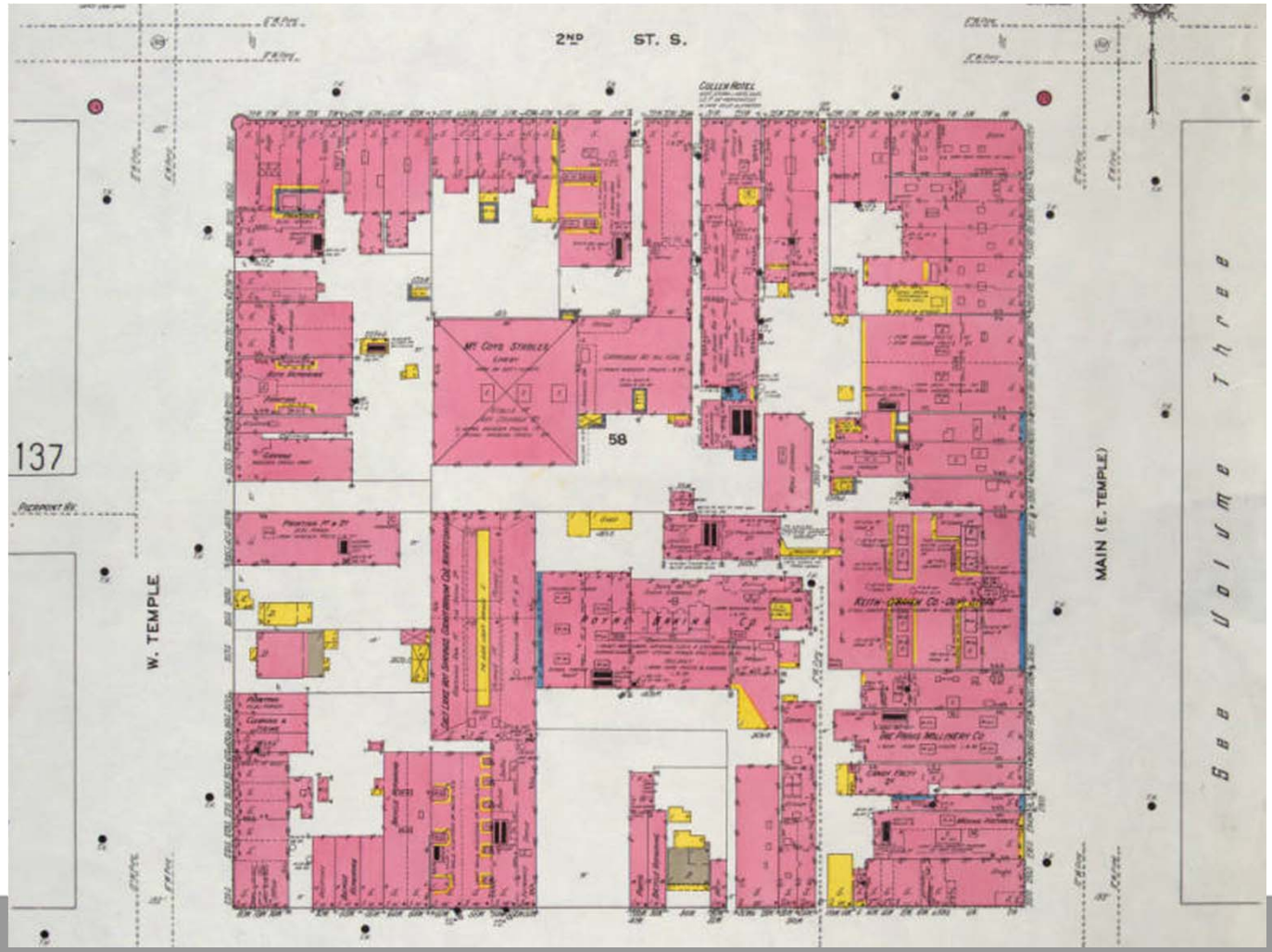
Original Source	N/A

Refinery near Salt Lake

Downtown Salt Lake: target area for a historical GIS project



Block 58, Salt Lake 1911



Royal Cafe at 232 South Main Street, Salt Lake City, Sept. 1904

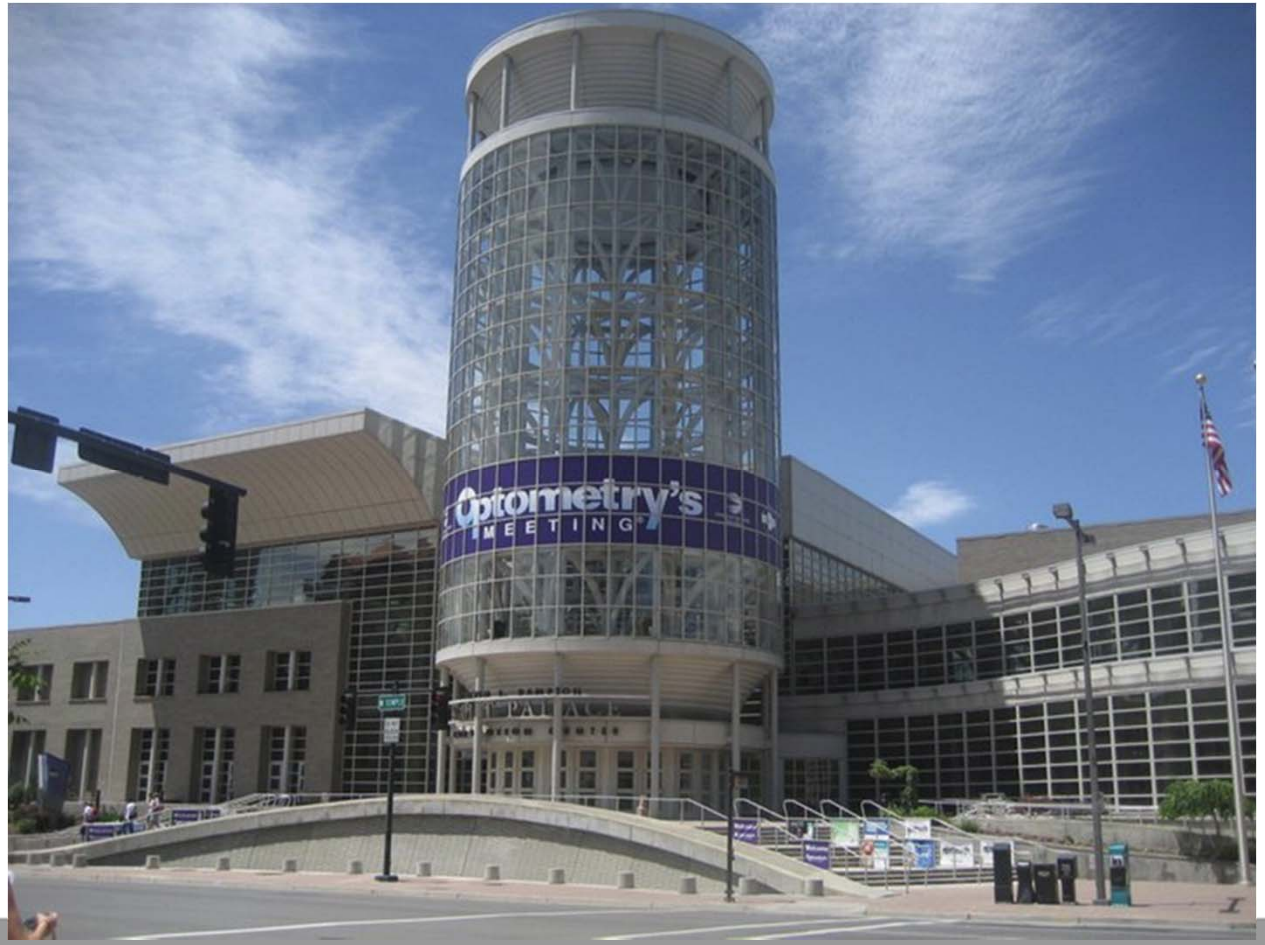
A visual time machine

- Electronic devices may provide access to historical resources via the geocoordinates

Broadway Center, 300 South State, 21st century Salt Lake

Auerbach's Department Store
300 South State, in September 1912

Salt Palace, 21st century



Hotel Herald, 98 West 100 South, Salt Lake City, October 1907

Dream BIG!!

Questions?

Special thanks to the Utah Geographic Information Council for the opportunity to present these projects and for your attendance

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