

AGRC Base Map Caching

An Exercise in Insanity



AGRC Data Resources

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Roads and Highway System

Data Type: GIS Map Data
Steward(s): AGRC, Local Government partners

Abstract:
This dataset contains GIS mapping data representing the statewide roads centerline dataset for Utah and other road and highway related data such as milestone locations, exit numbers and names, polylinem highway linear referencing system (LRS) routes, and label lines for dynamic rendering of highway shields.

Data Content:
This dataset includes the following feature classes:

Road Centerlines

[Description](#) [Usage](#) [Updates](#) [Contact](#) [Links](#) | [Download](#)

Transportation.Roads is a multi-purpose statewide roads dataset for cartography and range based-address location. This dataset is also used as the base geometry for deriving the GIS-representation of UDOT's highway linear referencing system (LRS). A network analysis dataset for route-finding can also be derived from this dataset.



Utah SGID Road & Highway Data Sample

Highway Linear Referencing System Routes

[Description](#) [Usage](#) [Updates](#) [Contact](#) [Links](#) | [Download](#)

Transportation.UDOTRoutes_LRS is a polylinem dataset wherein each state and federal route is a single feature whose vertices include a milestone measure coordinate.



Milepost Points

[Description](#) [Usage](#) [Updates](#) [Contact](#) [Links](#) | [Download](#)

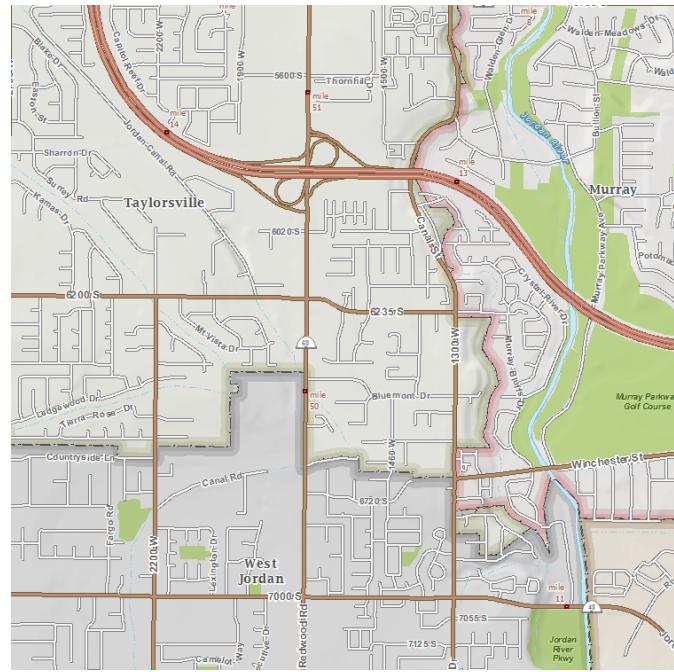
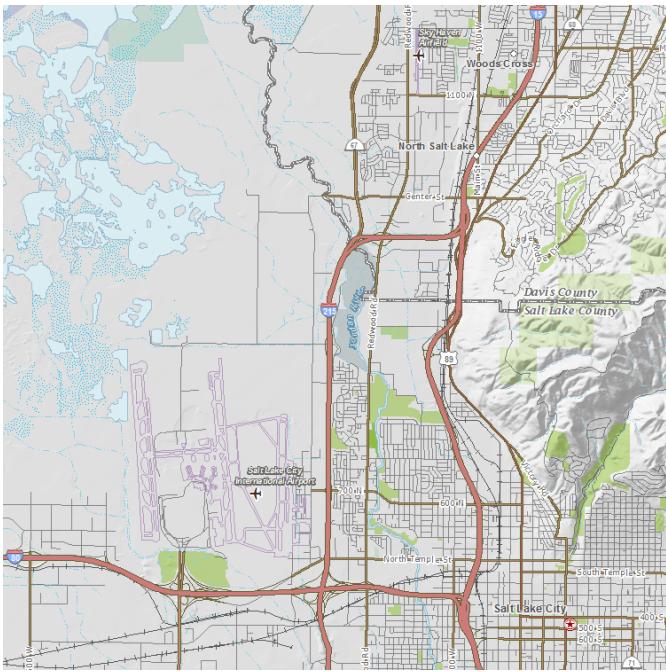
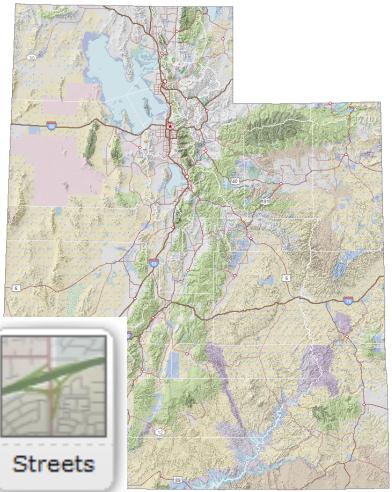
Transportation.UDOTMileposts represents the approximate location of state and federal highway mileposts as a single point. This dataset is derived directly from SGID10.Transportation.UDOTRoutes_LRS.



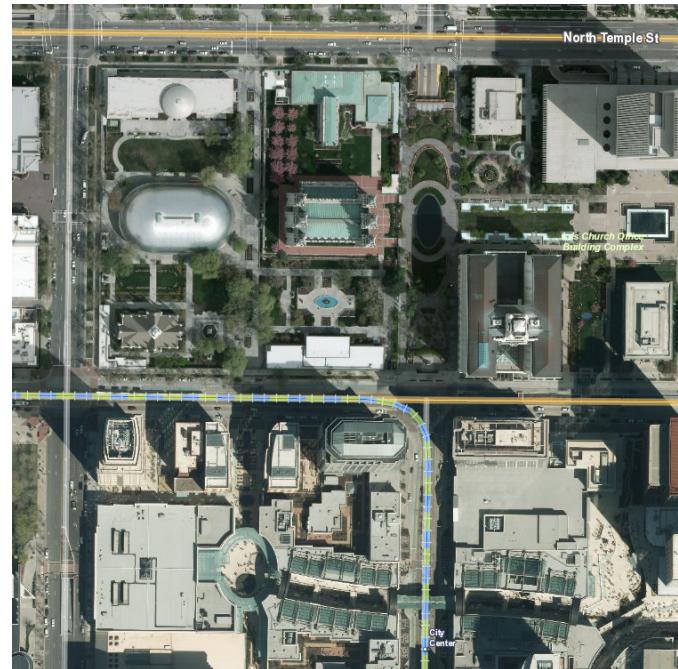
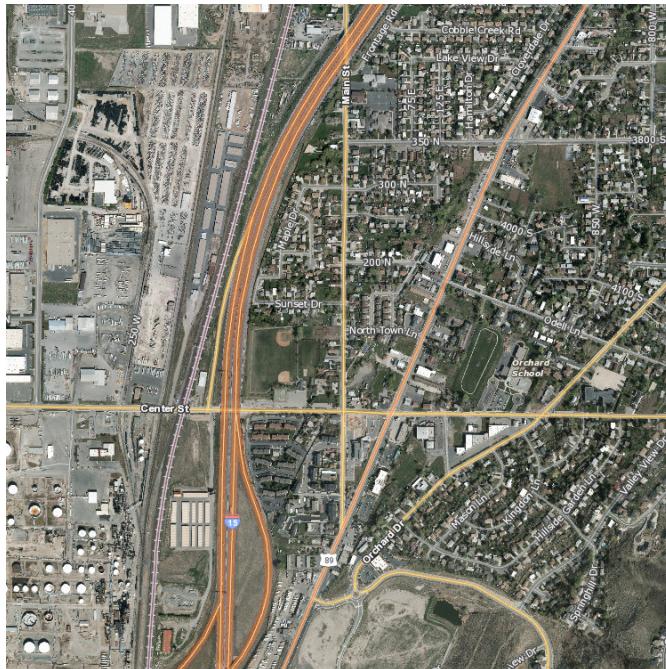
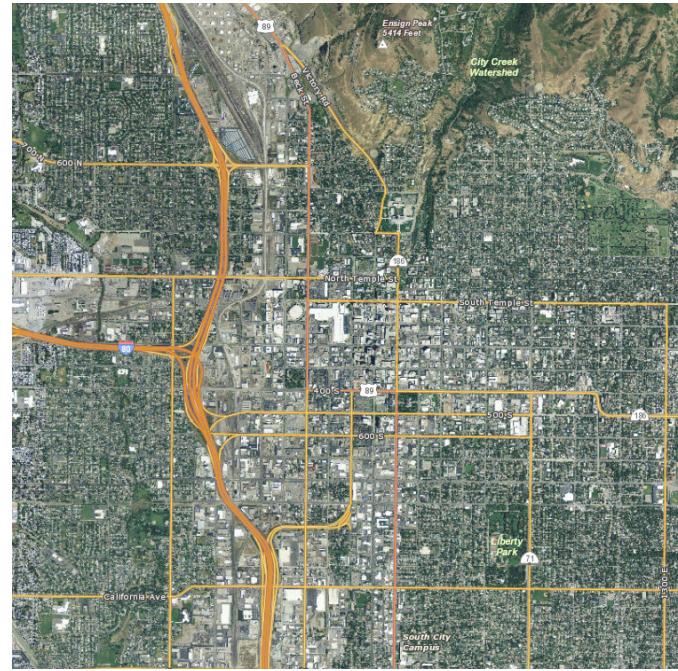
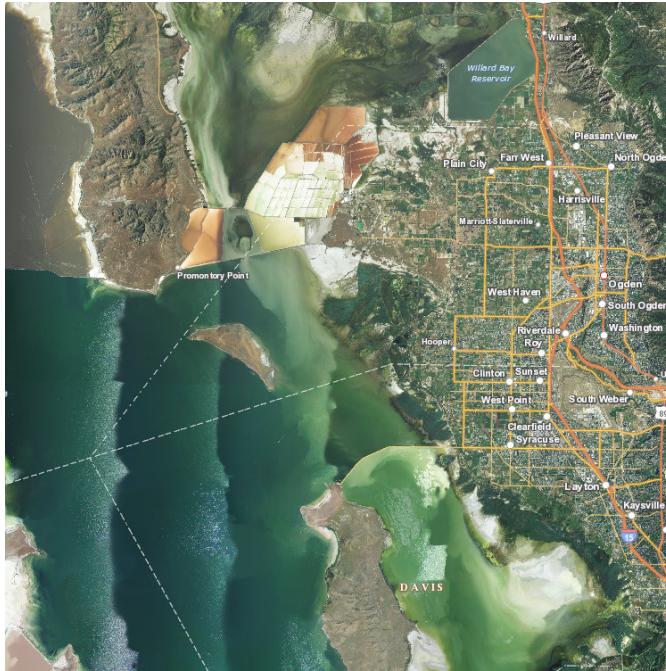
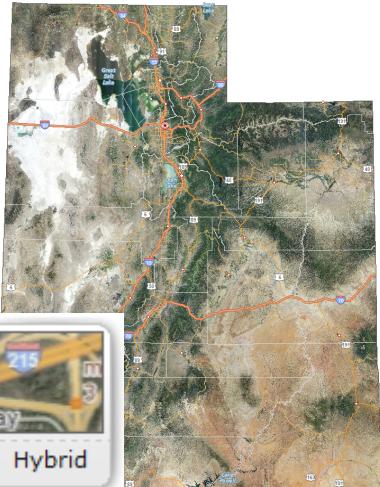
Public Image Server



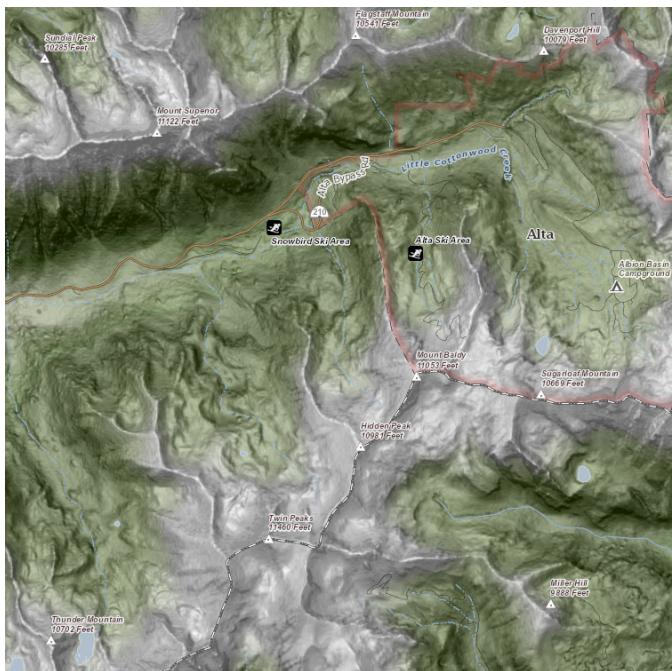
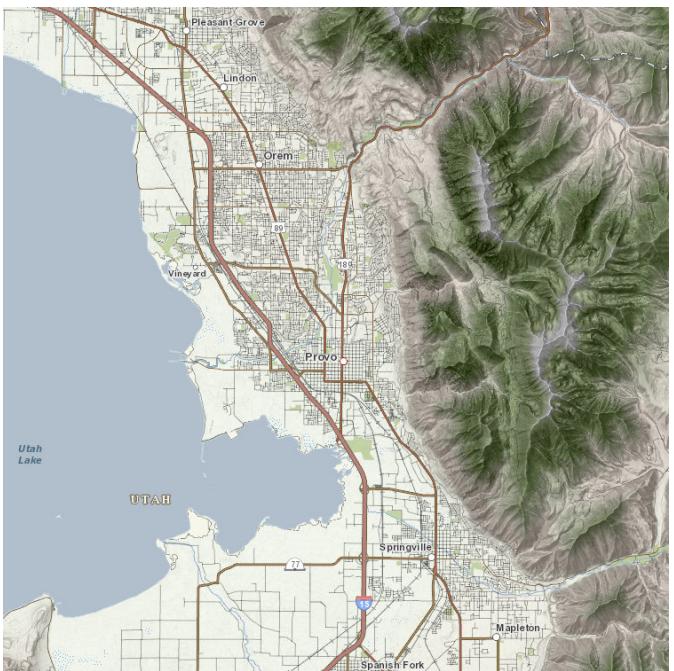
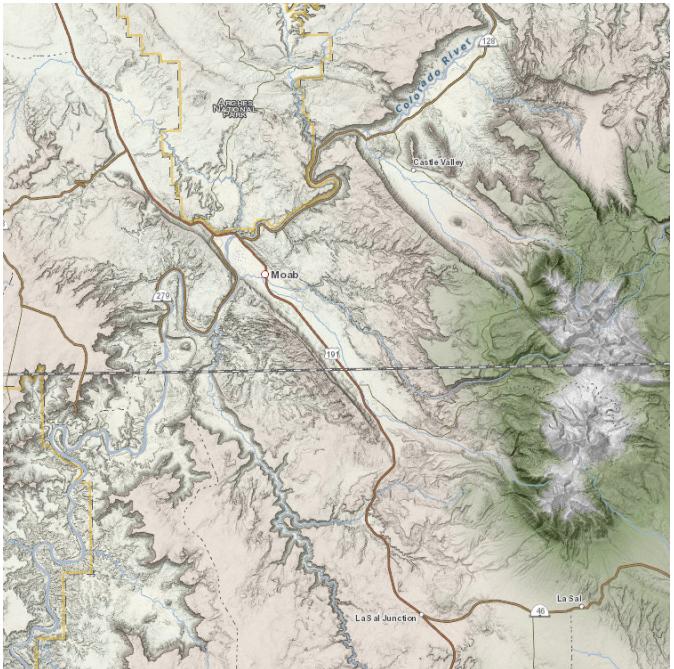
Streets Base Map



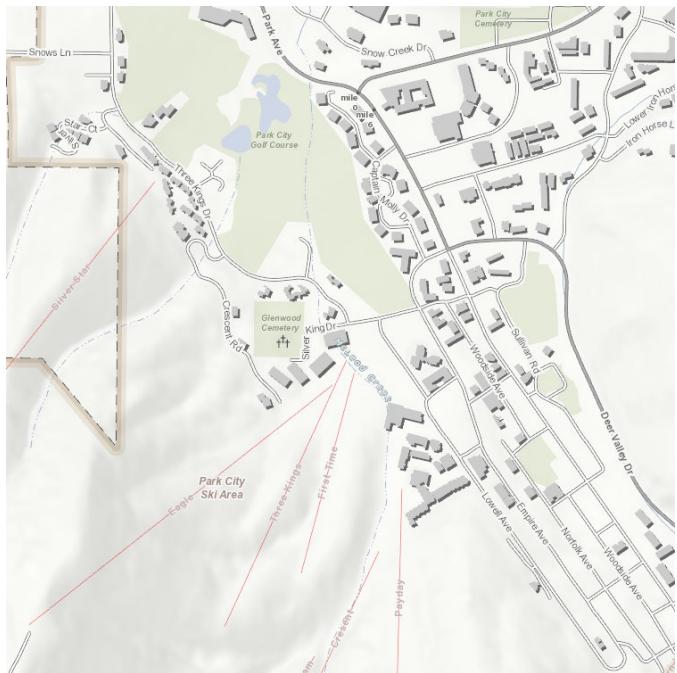
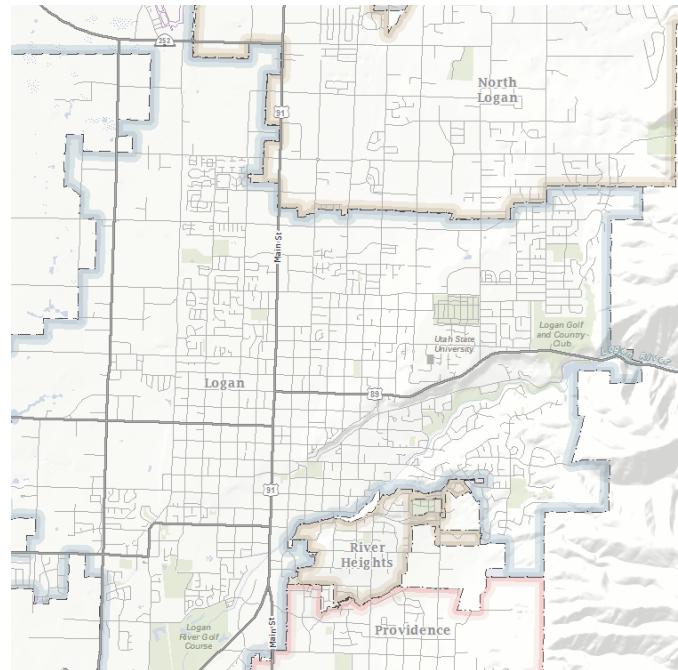
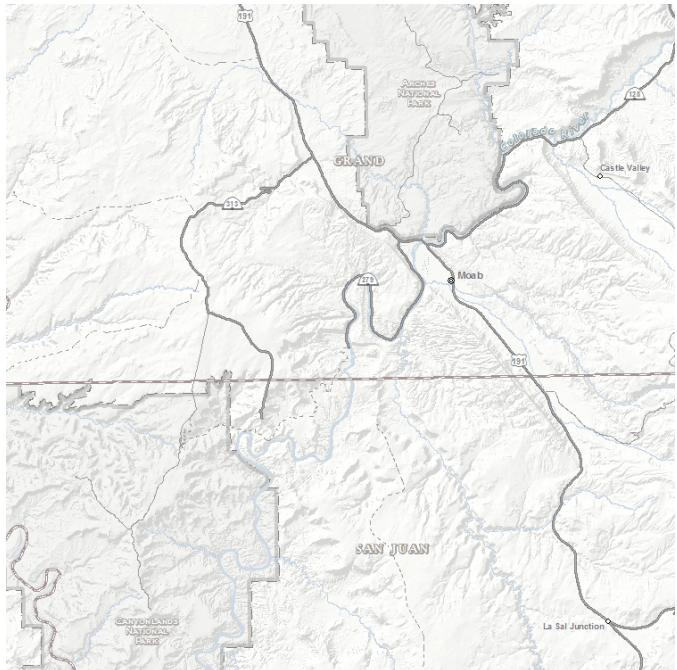
Hybrid Base Map



Terrain Base Map



Lite Base Map



Cache MXD Structure

Terrain.mxd - ArcMap

File Edit View Bookmarks Insert Selection Geoprocessing Customize Windows Help

Editor Snapping Labeling Best

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Layers

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- Cache Level 06
- Cache Level 05
- Cache Level 04
- Cache Level 03
- Cache Level 02
- Cache Level 01
- Cache Level 00

WALT LAKE ALPINE HIGHLAND CEDAR HILLS WASATCH

Lehi American Fork Pleasant Grove Lindon Orem Vineyard Prov

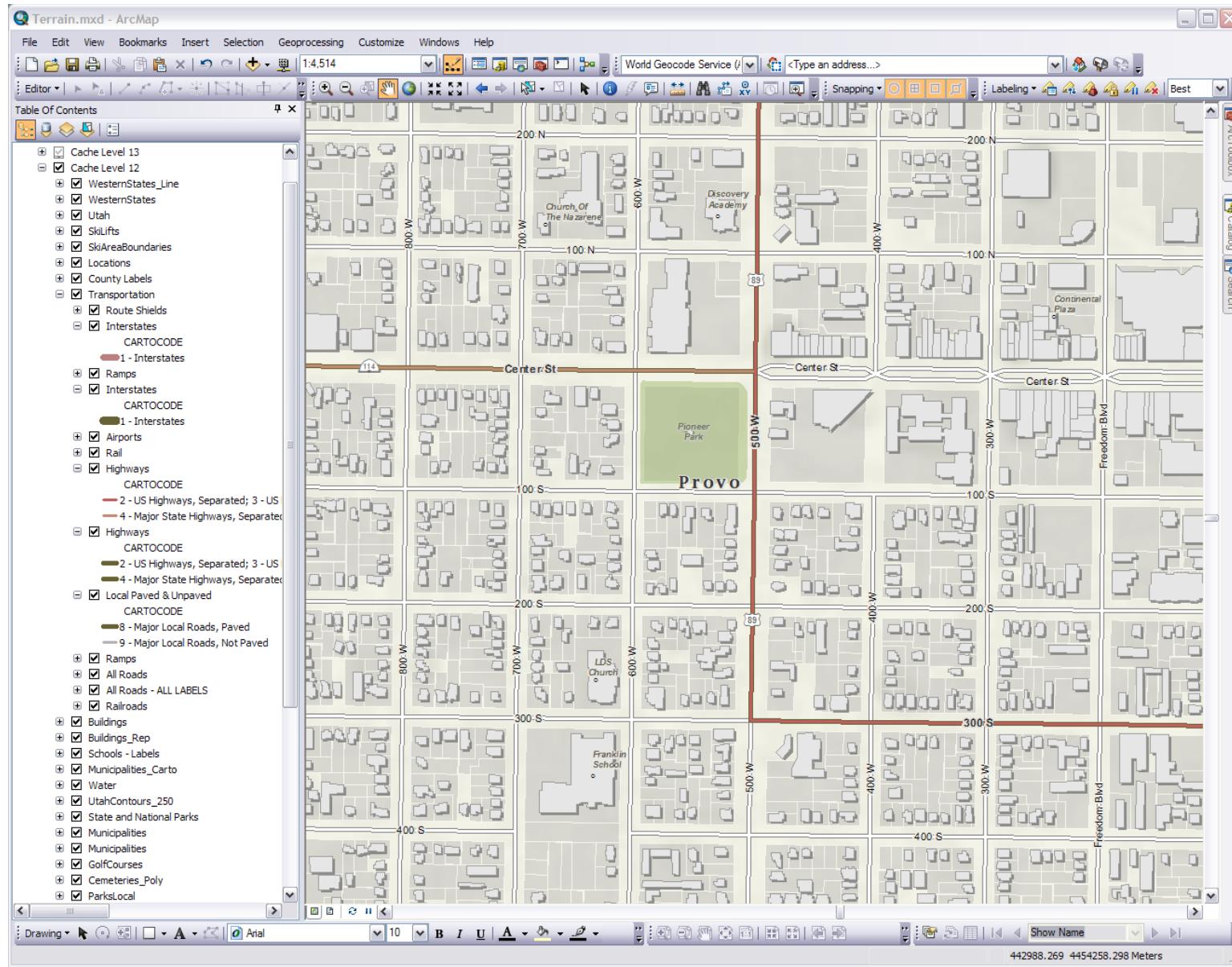
Saratoga Springs Utah Lake

AGRC Level Google Tile Scale

AGRC Level	Google Tile Scale
14	1128.497176
13	2256.994353
12	4513.988705
11	9027.977411
10	18055.954822
9	36111.909643
8	72223.819286
7	144447.638572
6	288895.277144
5	577790.554289
4	1155581.108577
3	2311162.217155
2	4622324.434309
1	9244648.868618
0	18489297.737236

Drawing Aerial Show Name 419061 4462367 Meters

Cache MXD Structure



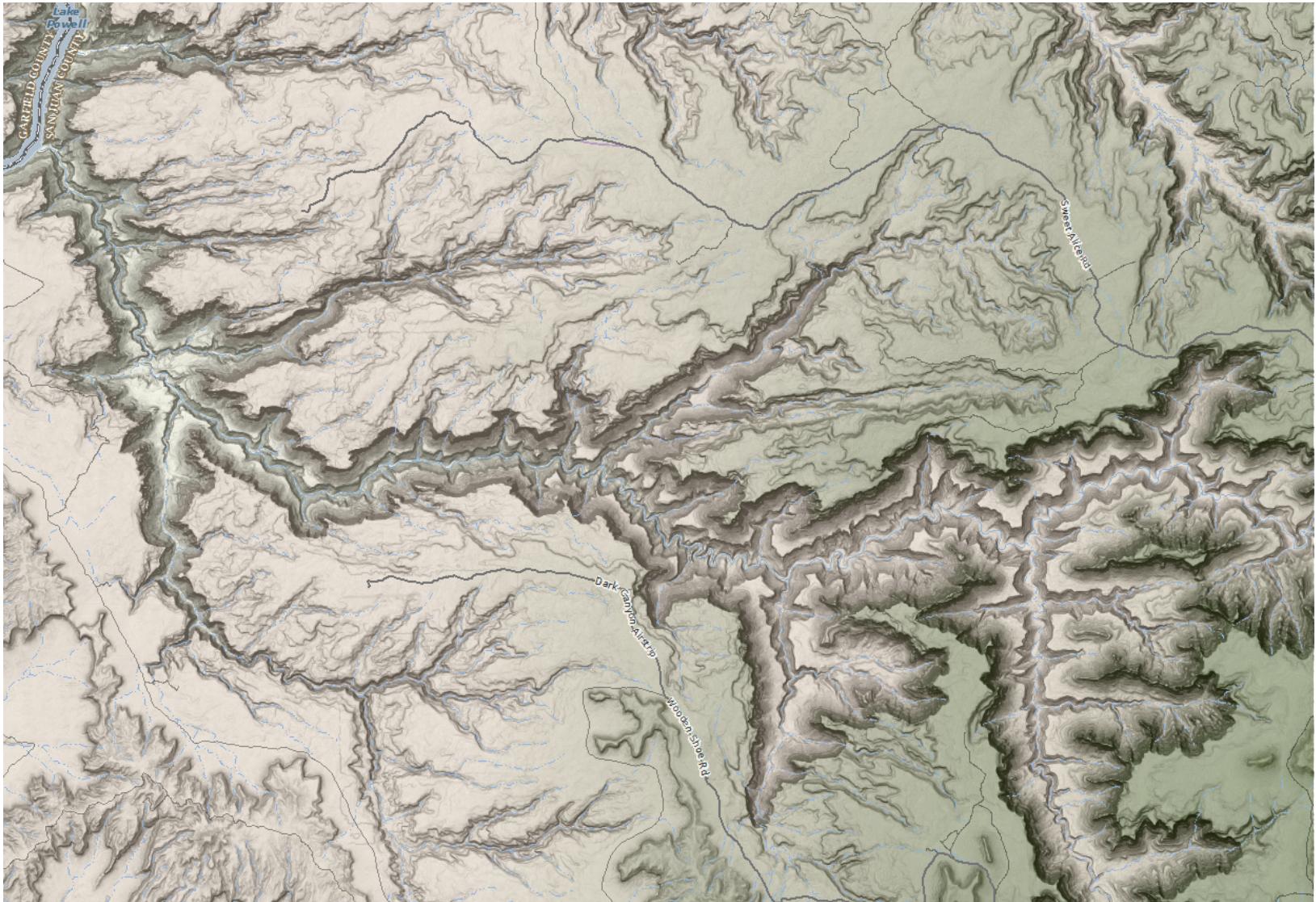
Cache MXD Structure

	Layers	Group Layers
Vector	678	100
Hybrid	328	96
Terrain	666	134
Lite	571	97

Unique Layers	
Airports	Municipalities
BoatRamps	Municipalities_Carto
Buildings	NatlMonuments
Cemeteries	Parcels
Cemeteries_Poly	ParksLocal
Cities	PlacesOfWorship
CommuterRailRoute_UTA	PlaceNamesGNIS2010
CommuterRailStops_UTA	Railroads
Counties	Roads
Counties_LabelLines	Route Shields
DEM_10METER	Schools
GolfCourses	SkiAreaBoundaries
GrandStaircaseEscalanteNM	SkiLifts
Hillshade_10Meter4way	Slope_10Meter
Hospitals	StreamsNHDHighRes
LakesNHDHighRes	Utah
LandOwnership	UtahContours_250
LightRail_UTA	UtahMajorRiversPoly
LightRailStations_UTA	WesternStates
MergedParks	WesternStates_Line
Mileposts	41 - 69 Total

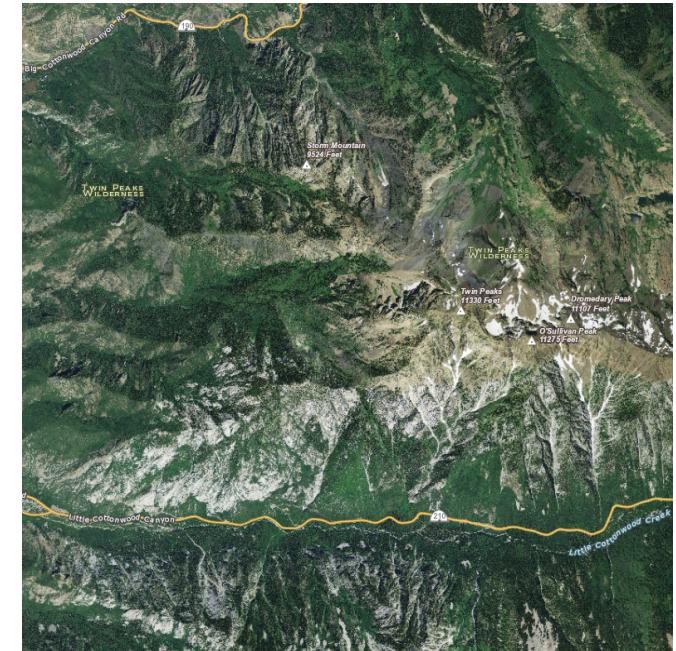
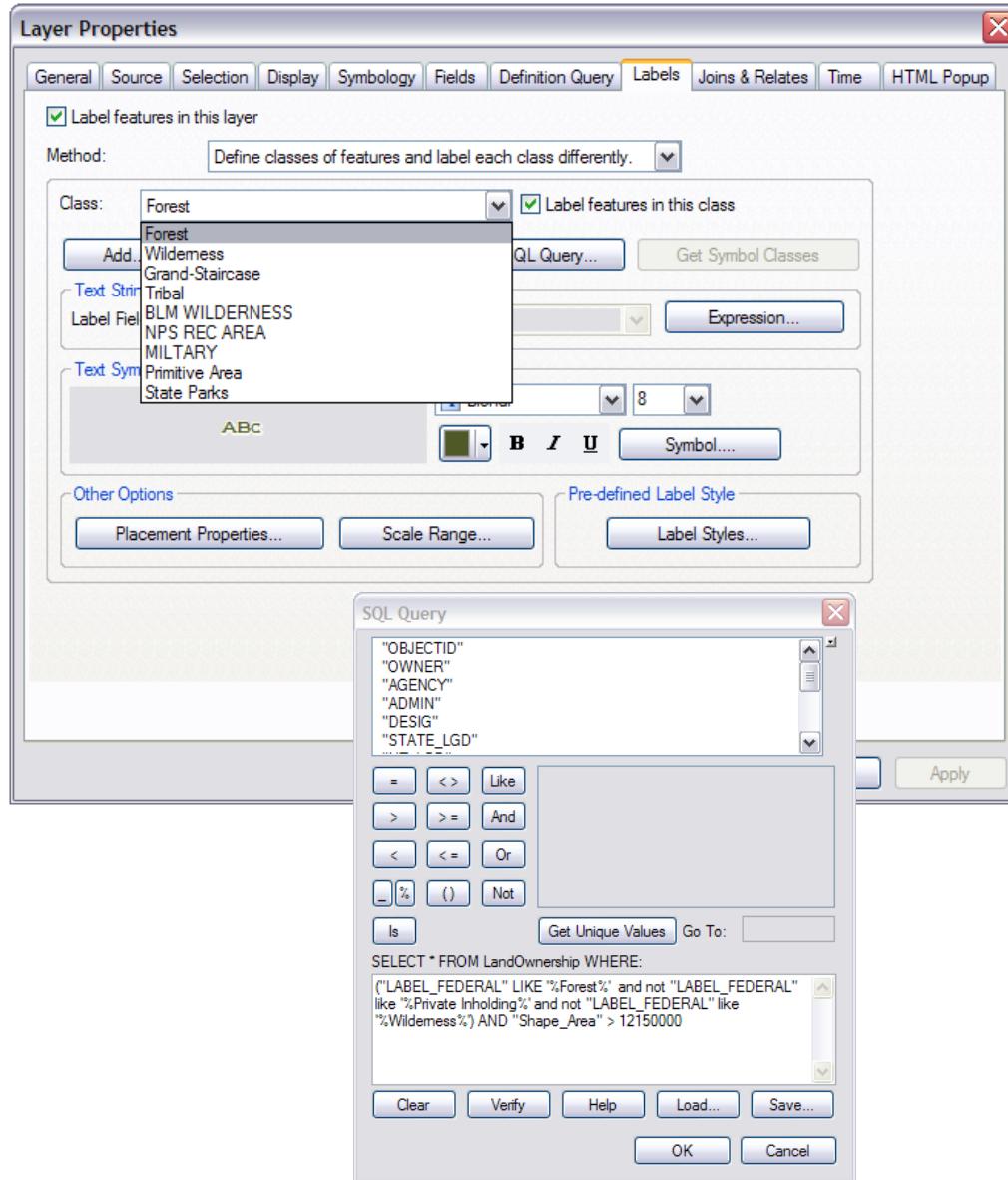
Tips and Tricks

Visualizing Terrain



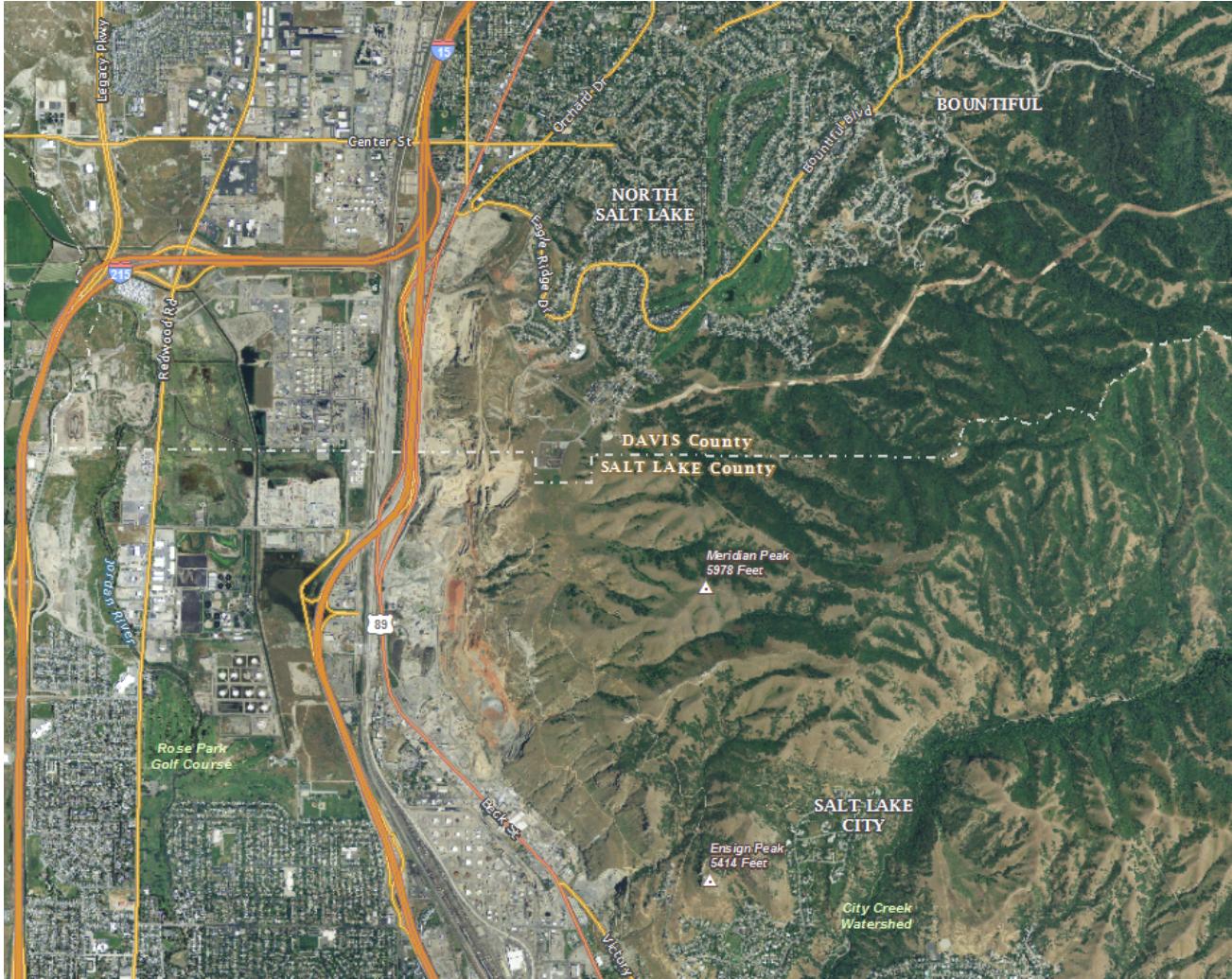
Tips and Tricks

Working with Labels



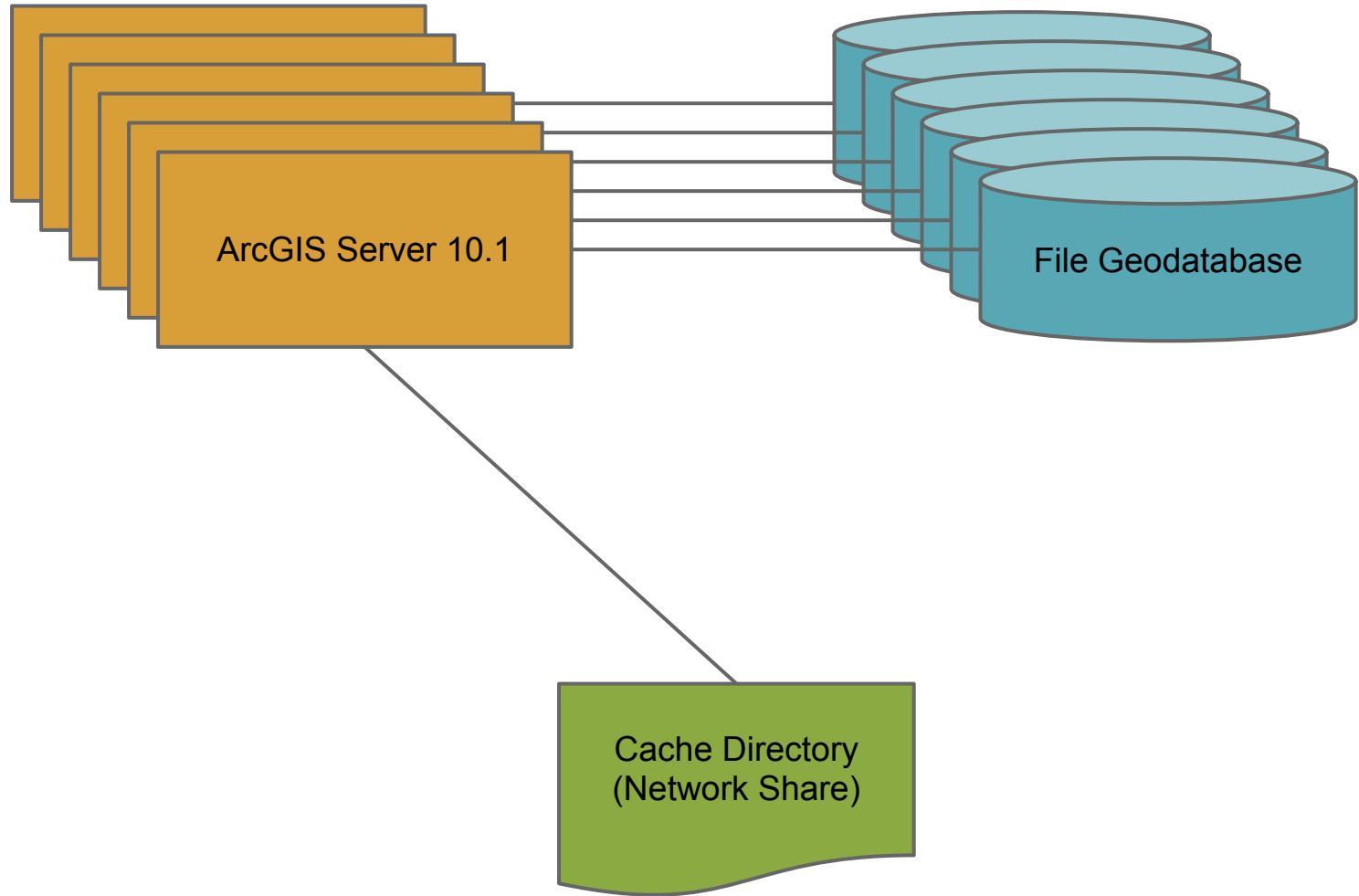
Tips and Tricks

Don't Screw Up!



10.1 Upgrade Caching System

ArcGIS Server 10.1 Site - Default Cluster





Terrain

Files: **7,205**

Folders: **18**

Size on disk: **193 GB**



Hybrid

Files: **7,670**

Folders: **18**

Size on disk: **642 GB**



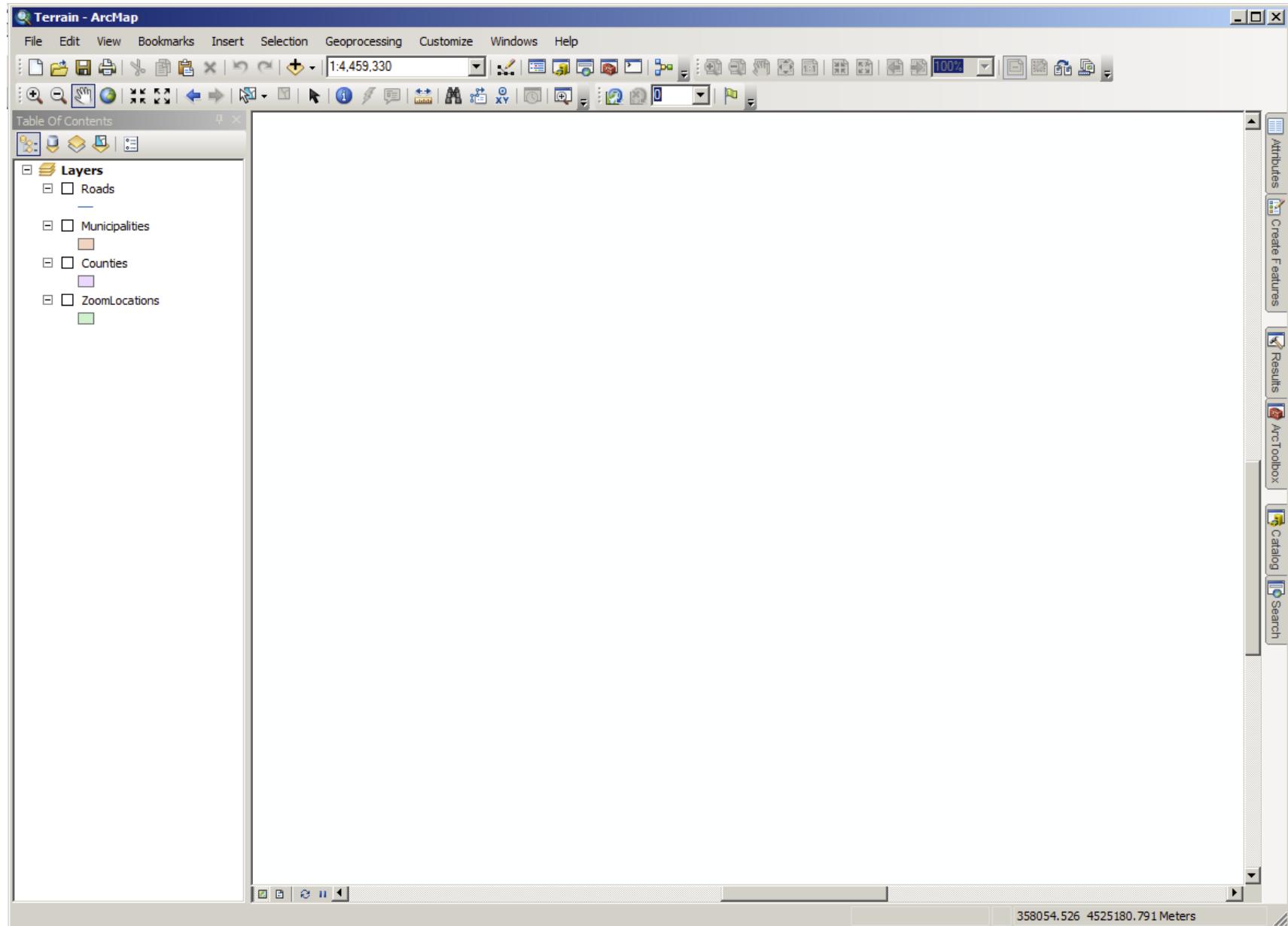
Lite

Files: **7,660**

Folders: **18**

Size on disk: **164 GB**

Blank MXD's For Production Map Services



AGRC | Online Basemap C x

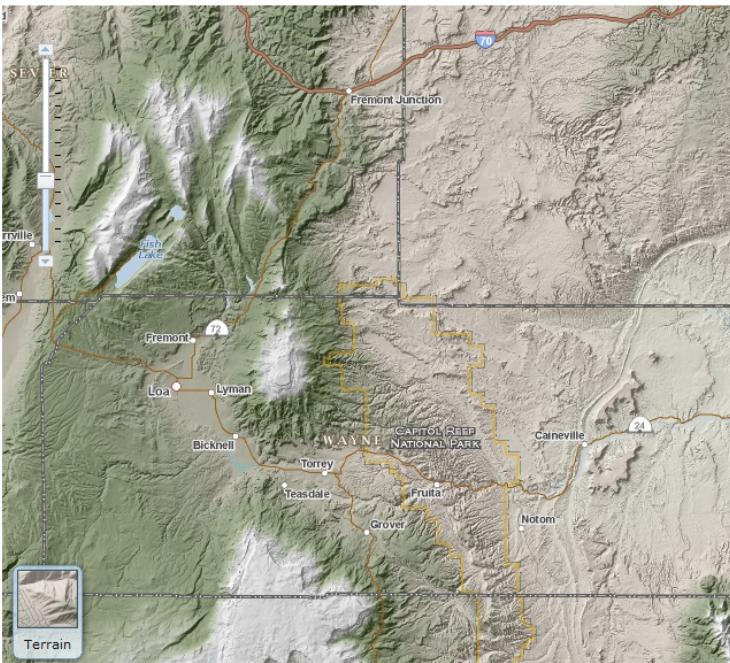
mapserv.utah.gov/cacheviewer/

Bike Boating Crap Flows GIS HP Misc News Ski State Weather Food

Service Name: Terrain
Service Url: <http://mapserv.utah.gov/ArcGIS/rest/services/UtahBaseMap-Terrain/MapServer>
Mouse Location: UTM NAD83 coords: 449895, 4295815

Here are instructions on how to use this map [with the rest api](#) or [with arcmap](#).
[View all caches simultaneously.](#)

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Terrain

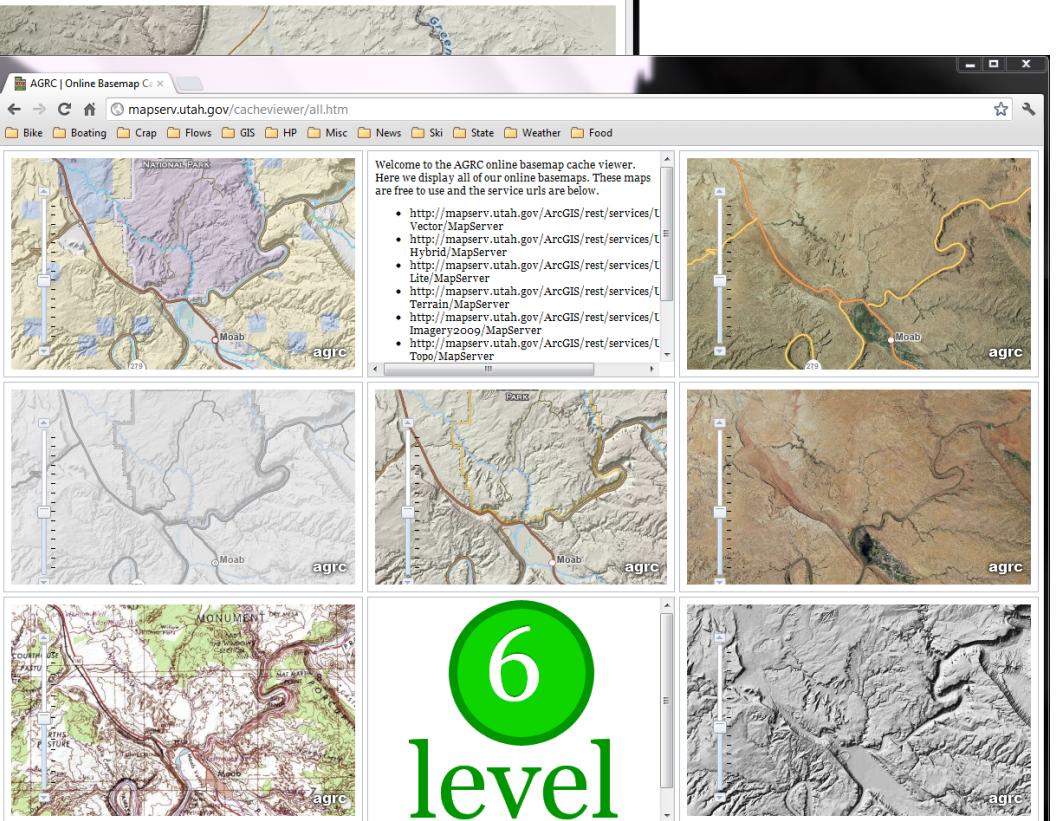
AGRC | Online Basemap C x

mapserv.utah.gov/cacheviewer/all.htm

Bike Boating Crap Flows GIS HP Misc News Ski State Weather Food

Welcome to the AGRC online basemap cache viewer. Here we display all of our online basemaps. These maps are free to use and the service urls are below.

- <http://mapserv.utah.gov/ArcGIS/rest/services/tVector/MapServer>
- <http://mapserv.utah.gov/ArcGIS/rest/services/tHybrid/MapServer>
- <http://mapserv.utah.gov/ArcGIS/rest/services/tLite/MapServer>
- <http://mapserv.utah.gov/ArcGIS/rest/services/tTerrain/MapServer>
- <http://mapserv.utah.gov/ArcGIS/rest/services/tImagery2009/MapServer>
- <http://mapserv.utah.gov/ArcGIS/rest/services/tTopo/MapServer>



mapserv.utah.gov/cacheviewer

URL Changes From 9.3.1 to 10.1

AGRC Cached Base Map Changes for 10.1 : URL's

9.3 URL	10.1 URL
UtahBaselImagery-Detailed	BaseMaps/Imagery
UtahBaseMap-Imagery2009	
UtahBaseMap-Hillshade	BaseMaps/Hillshade
UtahBaseMap-Hybrid	BaseMaps/Hybrid
UtahBaseMap-Lite	BaseMaps/Lite
UtahBaseMap-Terrain	BaseMaps/Terrain
UtahBaseMap-Topo	BaseMaps/Topo
UtahBaseMap-Vector	BaseMaps/Vector

OLD

<http://mapserv.utah.gov/ArcGIS/rest/services/UtahBaseMap-Vector/MapServer>

NEW

<http://mapserv.utah.gov/ArcGIS/rest/services/BaseMaps/Vector/MapServer>

9.3 Caching Experience

Command Prompt - updateCache.py

```
C:\PythonScripts\Caching>updateCache.py
Map service name eg: 'MyServiceFolder/MyService': Hybrid10.1
constructor
gp created.
Starting Cache Update 10-12
get_constraining_extent
returning: 144886.32 4018914.92 7403
TenThroughTwelve:done
email sent
constructor
gp created.
Starting Cache Update 13
get_constraining_extent
returning: 231003.02 4094887.7008 67
13: done
email sent
constructor
gp created.
Starting Cache Update 14
get_constraining_extent
returning: 231003.02 4094887.7008 67
14: done
email sent
Press enter to exit.
```

Name	Size	Type
_svn		File F
base		File F
CacheValidation		File F
baseCacheTests.py	1 KB	Python
bug20400.py	2 KB	Python
bug20913.py	7 KB	Python
bug20927.lite.py	2 KB	Python
bug20927.pyc	2 KB	Compa
bug20927.terrain.py	2 KB	Python
bug20927.vector.py	2 KB	Python
bug20965.py	2 KB	Python
createCacheScheme.py	3 KB	Python
MergeCache.py	2 KB	Python
updateCache.py	27 KB	Python
ValidateCache.py	3 KB	Python

insanity

```
# updateCache = ZeroThroughTwo(mapServiceName)
# updateCache.Update()

# print '0-2: done'

# updateCache = ThreeAndFour(mapServiceName)
# updateCache.Update()

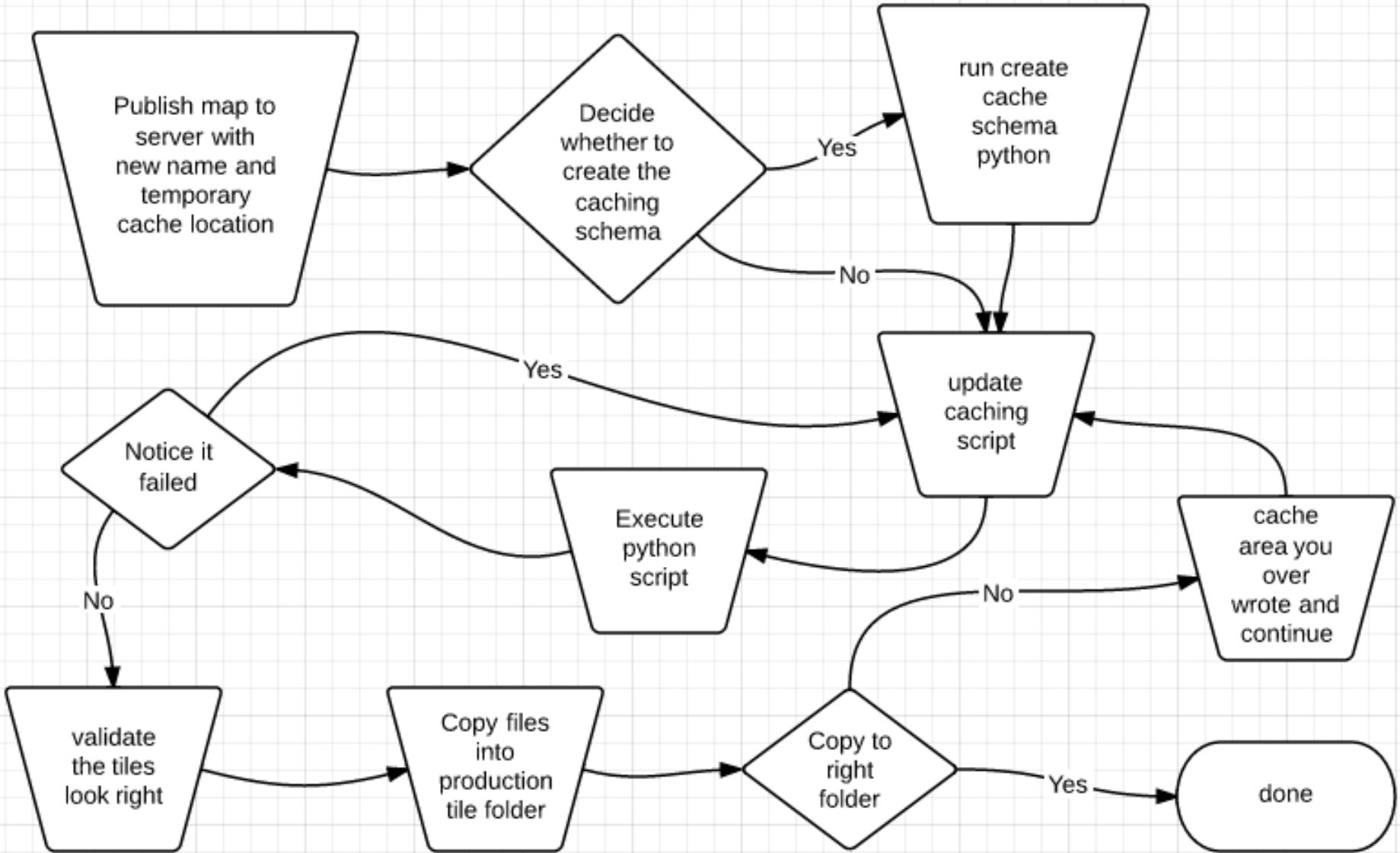
# print '3-4: done'
notify = agrc93.email.Emailer('stdavis@utah.gov')

updateCache = TenThroughTwelve(mapServiceName)
updateCache.Update()
print 'TenThroughTwelve:done'
notify.sendEmail("10-12 Done", "Go check it out. Messages: " + updateCache.message

updateCache = Thirteen(mapServiceName)
updateCache.Update()
print '13: done'
notify.sendEmail("13 Done", "Go check it out. Messages: " + updateCache.message

updateCache = Fourteen(mapServiceName)
updateCache.Update()
print '14: done'
notify.sendEmail("14 Done", "Go check it out. Messages: " + updateCache.message
```

job security

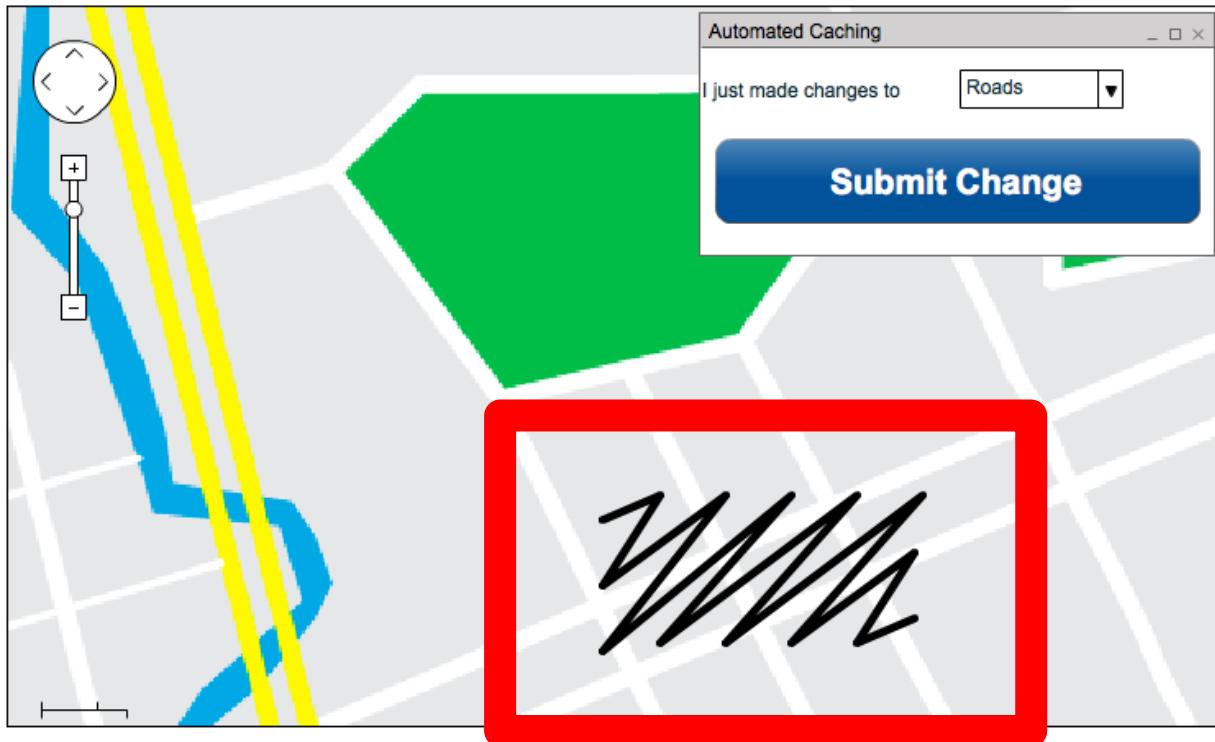




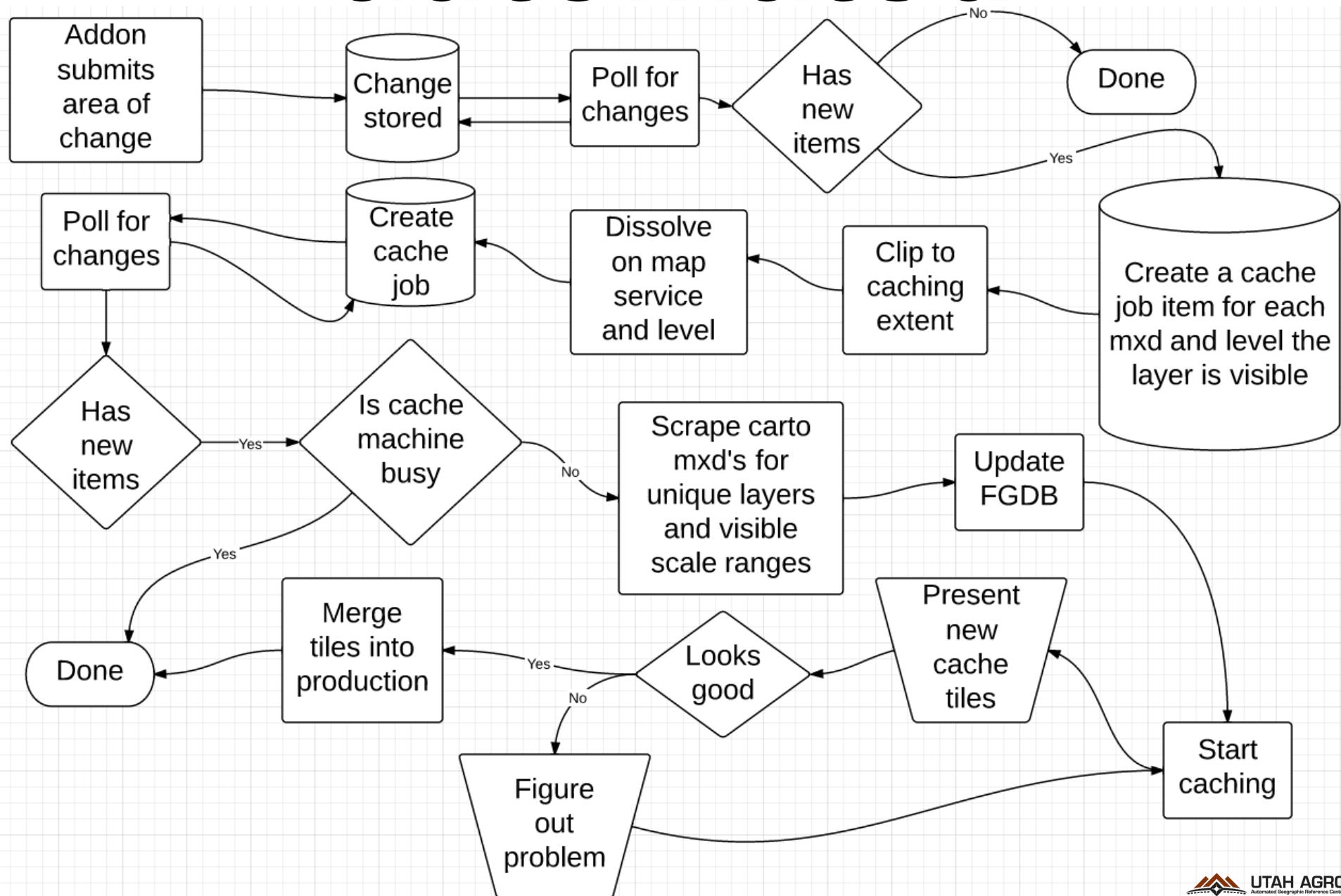
**road to
getting your
'PhD'**

push here dummy

data currency



automated



get involved



<https://github.com/agrc/AutomatedCaching>



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Automated Geographic Reference Center

comments questions

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