



UTAH AGRC
Automated Geographic Reference Center

Utah's New GIS Data Lifecycle

Matt Peters

Greg Bunce



- Better public access
- Internal-workflow conflicts
- Popularity of data as a service
- To focus efforts on data that is being used
- Bloated state GIS database





- SQL ESRI Enterprise Database
 - State network access only
- Combined editing and production DB
- Limited AGOL implementation
- Data download links on website
 - Using Google Drive
- FTP site remnants
- Imagery/basemaps on Google Cloud



Microsoft®
SQL Server®



Package Contents

The following data is available for download:

SCHOOL DISTRICT BOUNDARIES

School Districts in Utah.

Comments, questions, compliments, or concerns can be directed to the staff from AGRC at agrc@utah.gov 801-538-3665.

Downloads



School Districts: Shapefile

School Districts: File Geodatabase

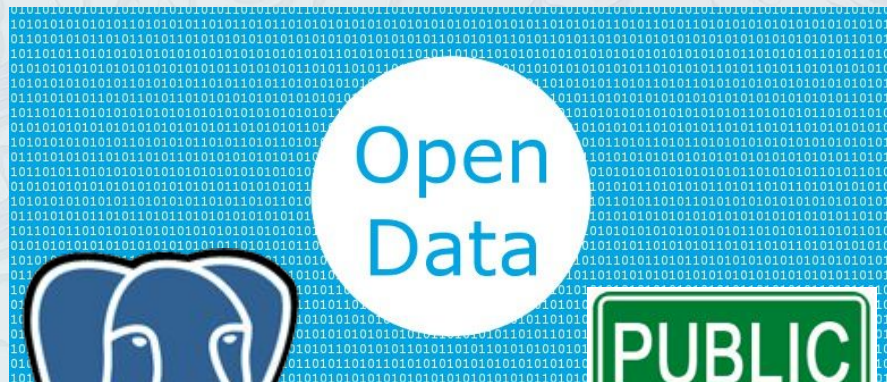
Updates

March, 2017

September 2017



- **Public access**
 - PostgreSQL + PostGIS (Google Cloud)
 - ArcGIS Online
 - Open Data
- *Internal data management*
 - Allow in-house edits (internal ESRI DB)
 - Better workflow for pushing data to public
- *Leveraging ArcGIS Online platform*
 - enable Open Data
 - rest services (geoservice, geojson)
 - data downloads
- *Direct integration of agency data*
 - ArcGIS Online
- *Automated data QA/QC checks*
 - Python scripts



PostgreSQL



ArcGIS Online



- *Public access*
 - *PostgresSQL + PostGIS (Google Cloud)*
 - *ArcGIS Online*
 - *Open Data*
- *Internal data management*
 - *allow in-house edits (internal ESRI DB)*
 - *better workflow for pushing data to public*
- *Leveraging ArcGIS Online platform*
 - *enable Open Data*
 - *rest services (geoservice, geojson)*
 - *data downloads*
- *Direct integration of agency data*
 - *ArcGIS Online*
- *Automated data QA/QC checks*
 - *Python scripts*



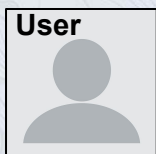
ArcGIS





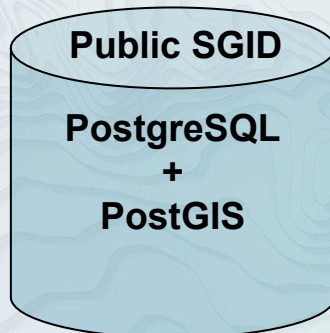
Utah's State GIS Database (SGID) Diagram

SGID Access

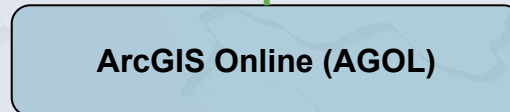
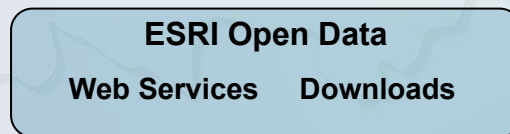


AGRC Website
data index

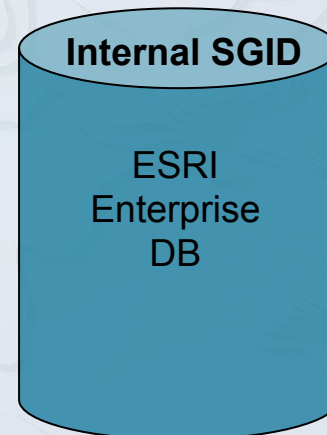
Direct DB Access



Web-Interface Access



Data Management





- *Public access*
 - PostgreSQL + PostGIS (Google Cloud)
 - ArcGIS Online
 - Open Data
- *Internal data management*
 - Allow in-house edits (internal ESRI DB)
 - Better workflow for pushing data to public
- *Leveraging ArcGIS Online platform*
 - enable Open Data
 - rest services (geoservice, geojson)
 - data downloads
- **Direct integration of agency data**
 - ArcGIS Online
- **Automated data QA/QC checks**
 - Python scripts



```
def sweep(self, lyr):
    empty_count = 0
    fields = ['OID@', 'Shape', 'SHAPE@'] # for point
    with arcpy.da.SearchCursor(lyr, fields) as Scursor:
        print("Looping through rows in '{}'. ...".format(lyr))
        for row in Scursor:
            bad_geom = False

            # Check if geometry object is null
            if row[2] is None:
                print("    OID {} has null (None) geometry".format(row[0]))
                bad_geom = True
```



- Data latency
 - Speeding-up data being pushed to the cloud
 - VPN tunnel to Google
- Cloud vulnerability
 - Dependency on external platforms
 - Having less control of software updates and timing
 - AGOL
 - Open Data





- Cut down on in-house storage
- Viable path to continuity of operation and disaster recovery
- Direct integration of agency data
- Cut down on data processing
 - Packaging and moving data around
- *Better user access*
 - *Direct DB, web services, downloads*
- *Vertical Integration*
 - *Administrative boundaries (voting precincts)*
 - *Roads and address points*
 - *Municipal boundaries*





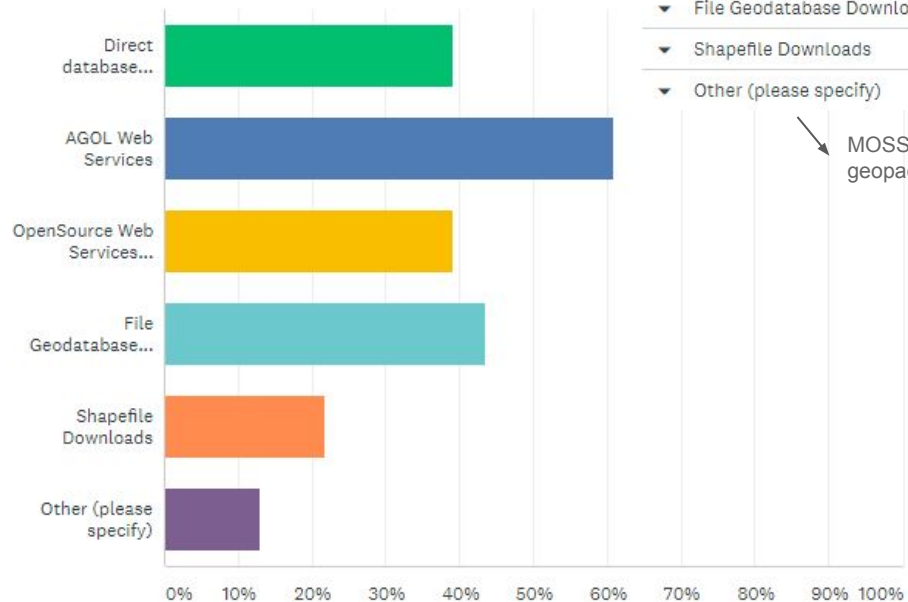
- *Cut down on in-house storage*
- *Viable path to continuity of operation and disaster recovery*
- *Direct integration of agency data*
- *Cut down on data processing*
 - *Packaging and moving data around*
- **Better user access**
 - Direct DB, web services, downloads
- **Vertical Integration**
 - Administrative boundaries
 - Roads and address points
 - Municipal boundaries





Where would you like to see continued efforts?

Answered: 23 Skipped: 0



ANSWER CHOICES	RESPONSES
Direct database connection to PostGIS	39.13%
AGOL Web Services	60.87%
OpenSource Web Services (geojson, etc)	39.13%
File Geodatabase Downloads	43.48%
Shapefile Downloads	21.74%
Other (please specify)	Responses 13.04%

MOSS format geopackages



Read more about Utah's state geographic information database here:

gis.utah.gov/sgid-then-and-now

Matt Peters (mpeters@utah.gov)

Greg Bunce (gbunce@utah.gov)