

Collaboration is key  
to the future of  
geospatial



UGIC 2021 | Greg Bunce | Bryce Canyon, UT

“We are flying blind.”

“With all our money, with all our know-how, we have dropped the ball. ... **We don't have the data.**”

“**We are pulling data in from all different sources and there's this wide divergence.** It's not reconcilable.”

“Data is key to an effective pandemic response — and the **lack of proper data** has hobbled the U.S. response again and again.”

The Washington Post  
Democracy Dies in Darkness

Coronavirus U.S. map World map Delta variant

Health

## Messy, incomplete U.S. data hobbles pandemic response

The nation's decentralized, underfunded reporting system hampers efforts to combat the coronavirus.



The U.S. Capitol dome seen reflected in the window of a medical vehicle. (Jabin Botsford/The Washington Post)

By [Joel Achenbach](#) and [Yasmeen Abutaleb](#)

September 30, 2021 at 9:30 a.m. EDT

“U.S. authorities must rely on a vast and **decentralized public health infrastructure**”

“**Another obstacle to data aggregation** may be the **siloed computer systems**”

“They don't necessarily want to give up all that data because they see that as a **potential future revenue stream**”

“**Jurisdictions often have different ways of counting** tests, infections and even deaths. The data may not be submitted to the CDC for days or weeks.”

# Open and freely available authoritative data

- The pandemic has made this clear
- A need for better collaboration and coordination
- Geospatial community has led the way



standards & best practices | single source of truth | data driven decisions

# “Collaborate”

...two or more parties successfully working together



implies more than just cooperation...

sharing and developing each other's ideas

*dictionary.com*



# Collaboration in the geospatial industry



WIKIPEDIA  
The Free Encyclopedia



ArcGIS  
Online

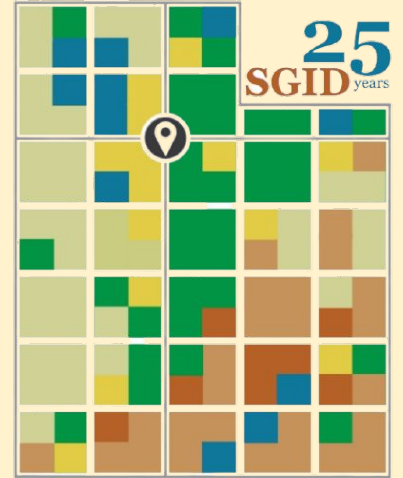


*The National Map*



NGAC

National Geospatial Advisory Committee



Utah's State Geographic  
Information Database  
- established 1991 -



ArcGIS Living Atlas



FGDC.GOV  
FEDERAL GEOGRAPHIC DATA COMMITTEE



OpenStreetMap



# Geospatial collaboration in all spaces

- Geospatial community
  - OSM 4.5M changes/day
  - AGOL UGRC 526 contributors
- Private sector
  - particularly in open source
- Public sector
- Data users
- Citizens



# Authoritative efforts

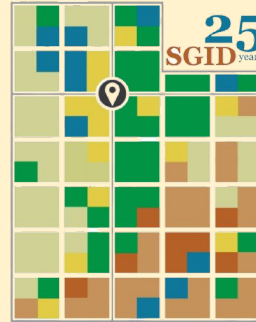
Importance of authoritative data

Accountability



notable efforts

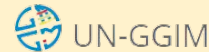
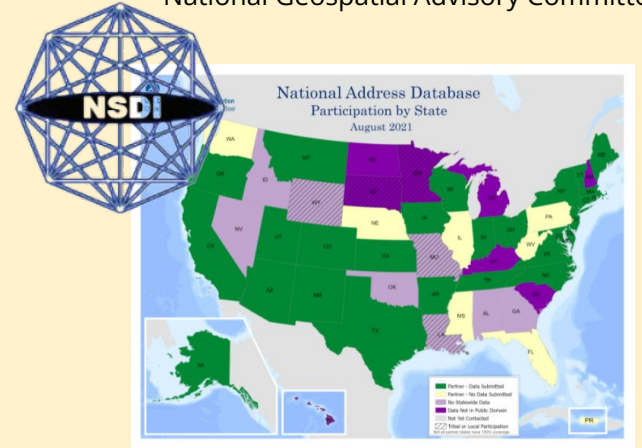
Utah SGID



Utah's State Geographic Information Database  
- established 1991 -

NGAC (GDA)

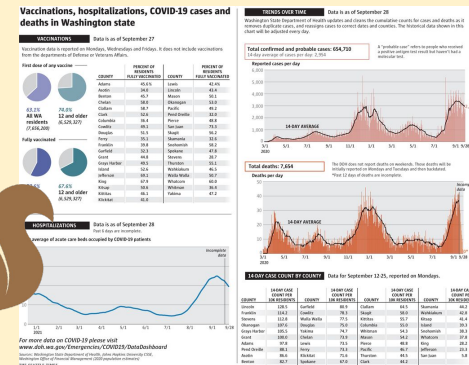
National Geospatial Advisory Committee



Integrated Geospatial Information Framework (IGIF)

# The value of collaboration

- Create and maintain large-scale datasets
  - Solve larger problems
  - Data-driven decisions
- Reduce duplication (efficiency)
- Single source of truth (ensuring authoritative sources at each level)
  - Everyone benefits from this (from grocery deliver to getting an ambulance to the front door)
- Transparency → data integrity
  - open data
- Sharing of ideas (cross pollination)

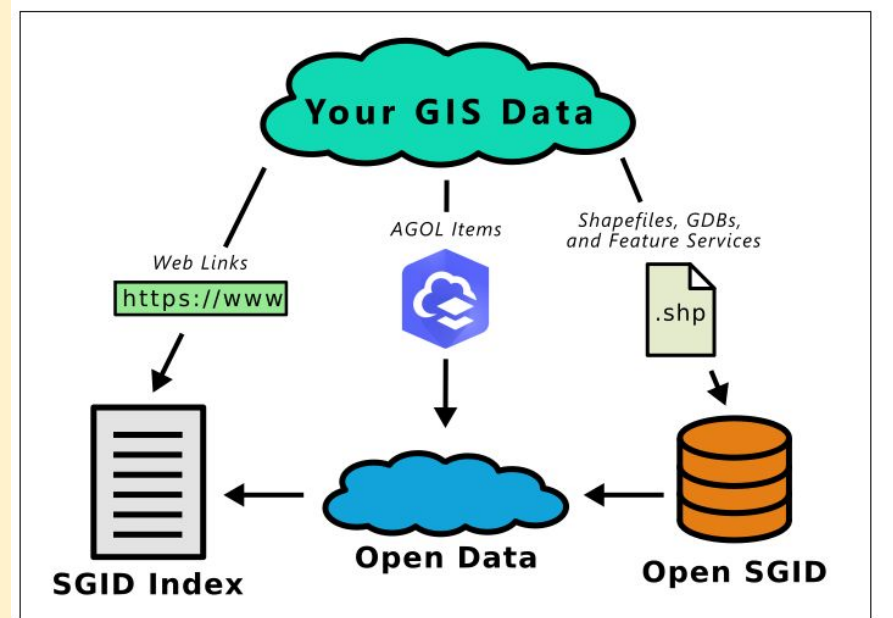




# Collaboration & sharing... the SGID

[gis.utah.gov/sharing](https://gis.utah.gov/sharing)

- SGID Index
- Sharing via web services
  - AGOL → OpenData Hub ([opendata.gis.utah.gov](https://opendata.gis.utah.gov))
- User feedback (chalkdust)
- UGRC webpage
  - GitHub (data pages)
- Aggregation\*

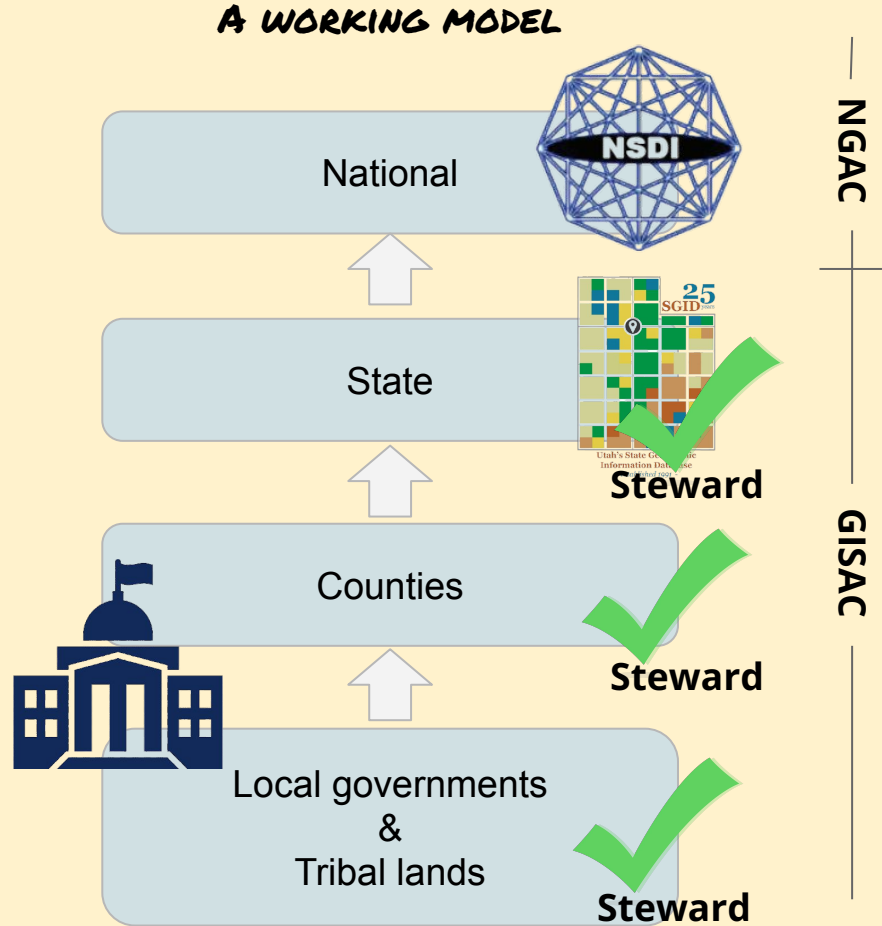


*Note: This data flow works for 95% of datasets, but exceptions can and do exist.*

# Data Aggregation

## Roles

- Advisory Committee
  - Standards (interop)
  - Best practices
- Steward
  - Closest to the source
- Aggregator / Facilitator
  - QA/QC
  - Connectivity
  - Topology



# What can we do now?



standards & best practices | single source of truth | data driven decisions

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# What can we do now? (beside continuing the great work we collectively do)

- Interoperability
  - Leading to quicker data updates → better decision making and response times

- Shared standards
- Best practices
- Metadata
- License agreements

**NEXT**  
GENERATION  
**9-1-1**



common denominator



The Great Baltimore Fire of 1904

# What can we do now?

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- Where does the address point get placed?
- Where do we break centerlines (segmentation)?
- How do we handle address ranges in centerlines?
- County Identifier
  - County number, FIPS, name?
    - MORGAN, 015, 49029
- Fields: text or numeric?
- How many characters?
- Attribute domains
  - ST GEORGE or SAINT GEORGE

# What can we do now?.... Okay, so how?



- Utah Geographic Information Systems Advisory Committee (GISAC)
  - shared ownership and responsibility
    - Leading to wider adaptation and use
  - Get involved
    - sit on a committee
      - have a voice
      - help guide how we move forward!
  - Reach out to Matt Peters (mpeters@utah.gov) or Greg Bunce (gbunce@utah.gov) at UGRC to learn more or to get involved in GISAC

[gis.utah.gov/about/gisac](https://gis.utah.gov/about/gisac)

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Federal Interagency Committee

Local Government Committee

GIS Technical Advisory Committee

State Government GIS Users Committee

Surveying and Mapping Advisory Committee

# What's next?



- Integrated geospatial data system
  - Use defined authoritative data layers to inform the creation and maintenance of the geospatial data in Utah
    - Visualize neighboring data
      - connectivity
    - Authoritative layers inform all edits
      - county boundaries, municipalities, etc.
  - Flexible schema (via field mapping)
  - Centralized database supporting local or centralized contributors
- Public - private - non-profit partnerships

# The takeaways

- We are now able to solve bigger problems through technology
  - Better data equates better informed decision making → better world
- We no longer work in silos... we all play a role in the larger geospatial ecosystem
- Standards for interoperability
  - The human aspect
- Interconnected , integrated system
  - The technology aspect

As geospatial folks,

we are a part of the solution, not the problem