# DIGITAL MAPPING TECHNIQUES 2021

The following was presented at DMT'21
(June 7 - 10, 2021 - A Virtual Event)

The contents of this document are provisional

See Presentations and Proceedings
from the DMT Meetings (1997-2021)

http://ngmdb.usgs.gov/info/dmt/

# Digital Review of GeMS Based Products
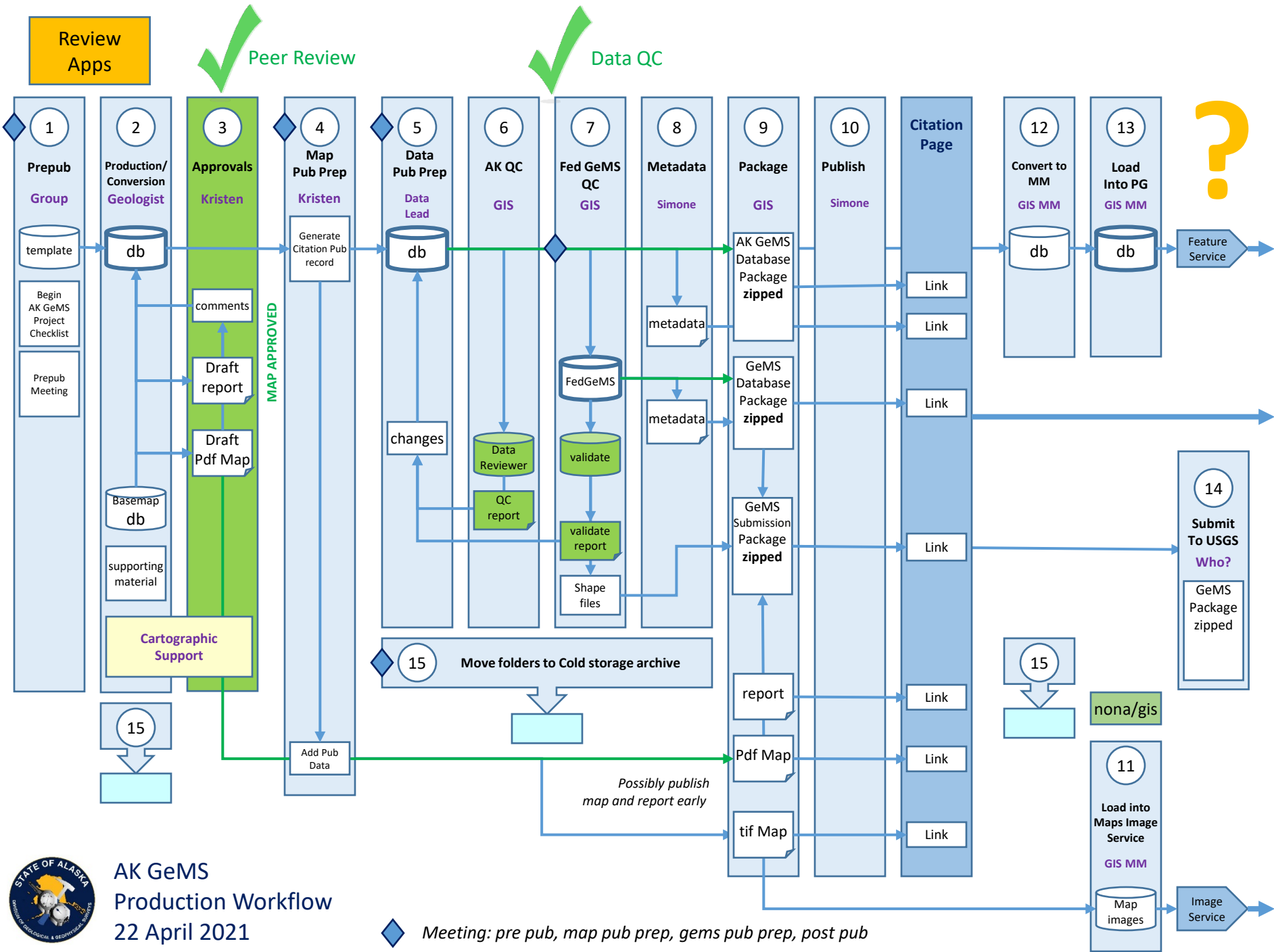
## Some Thoughts
09 Jun 2021

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Even though we moved away from exclusively generating static paper maps and now regularly share this information as pdfs, tifs, databases, services, or web apps, our content review processes have often not keep up to date. Reviewing a printed geologic map is relatively straightforward; the reviewer comments on the draft static product and the geologist and cartographer make appropriate changes to the scientific (are contacts in the correct location, are units described corrected, etc.) and cartographic aspects of the map (layout, legibility, symbology selection, etc.). However, this static presentation of geologic phenomena is no longer the only way we share information. By giving access to the underlying data used to produce a map as well as providing interactive web maps where users change scale and turn on and off layers, we no longer have complete control of how users will view our geologic representations and as a result, the review process becomes much more complicated. Questions come up, what should be reviewed, who would review what component, what can be automated with scripts, how can artificial intelligence algorithms can be employed?

- Our review processes have not always kept up to date.

- Reviewing a printed geologic map is relatively straightforward;
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- However, this static presentation of geologic phenomena is no longer the primary method of delivery. Users manipulate what and how they view data.
  - By giving access to the underlying data used to produce a map, as well as providing interactive web maps where users can change scale and turn on and off layers, we no longer have complete control of how reviewers and users will view our geologic representations.

- As a result, the scientific, cartographic, and data review processes become unclear and potentially much more complicated.

- Questions come up,
  - What does digital review mean? Review of content with digital tools or the review of digital data and visualizations
  - What should be reviewed and by Who?
  - How should the review occur?
  - Is there a difference between a Reviewer and a DB Quality Control Check?
  - What can be automated with scripts, or even AI

Review Apps

✓ Peer Review

✓ Data QC

**1** Prepub — Group
- template
- Begin AK GeMS Project Checklist
- Prepub Meeting

**2** Production/Conversion — Geologist
- db
- Basemap db
- supporting material
- Cartographic Support

**3** Approvals — Kristen
- comments
- Draft report
- Draft Pdf Map
- MAP APPROVED

**4** Map Pub Prep — Kristen
- Generate Citation Pub record
- Add Pub Data

**5** Data Pub Prep — Data Lead
- db
- changes

**6** AK QC — GIS
- Data Reviewer
- QC report

**7** Fed GeMS QC — GIS
- FedGeMS
- validate
- validate report
- Shape files

**8** Metadata — Simone
- metadata
- metadata

**9** Package — GIS
- AK GeMS Database Package **zipped**
- GeMS Database Package **zipped**
- GeMS Submission Package **zipped**
- report
- Pdf Map
- tif Map

**10** Publish — Simone

**Citation Page**
- Link
- Link
- Link
- Link
- Link
- Link
- Link

**12** Convert to MM — GIS MM
- db

**13** Load Into PG — GIS MM
- db
- Feature Service

**14** Submit To USGS — Who?
- GeMS Package zipped

**15** Move folders to Cold storage archive

**15**

nona/gis

**11** Load into Maps Image Service — GIS MM
- Map images
- Image Service

*Possibly publish map and report early*

AK GeMS
Production Workflow
22 April 2021

◆ Meeting: pre pub, map pub prep, gems pub prep, post pub

# DGGS Paly Samples Reviewer

A Short Term Web App for Reviewing Sample Data

Find address or place
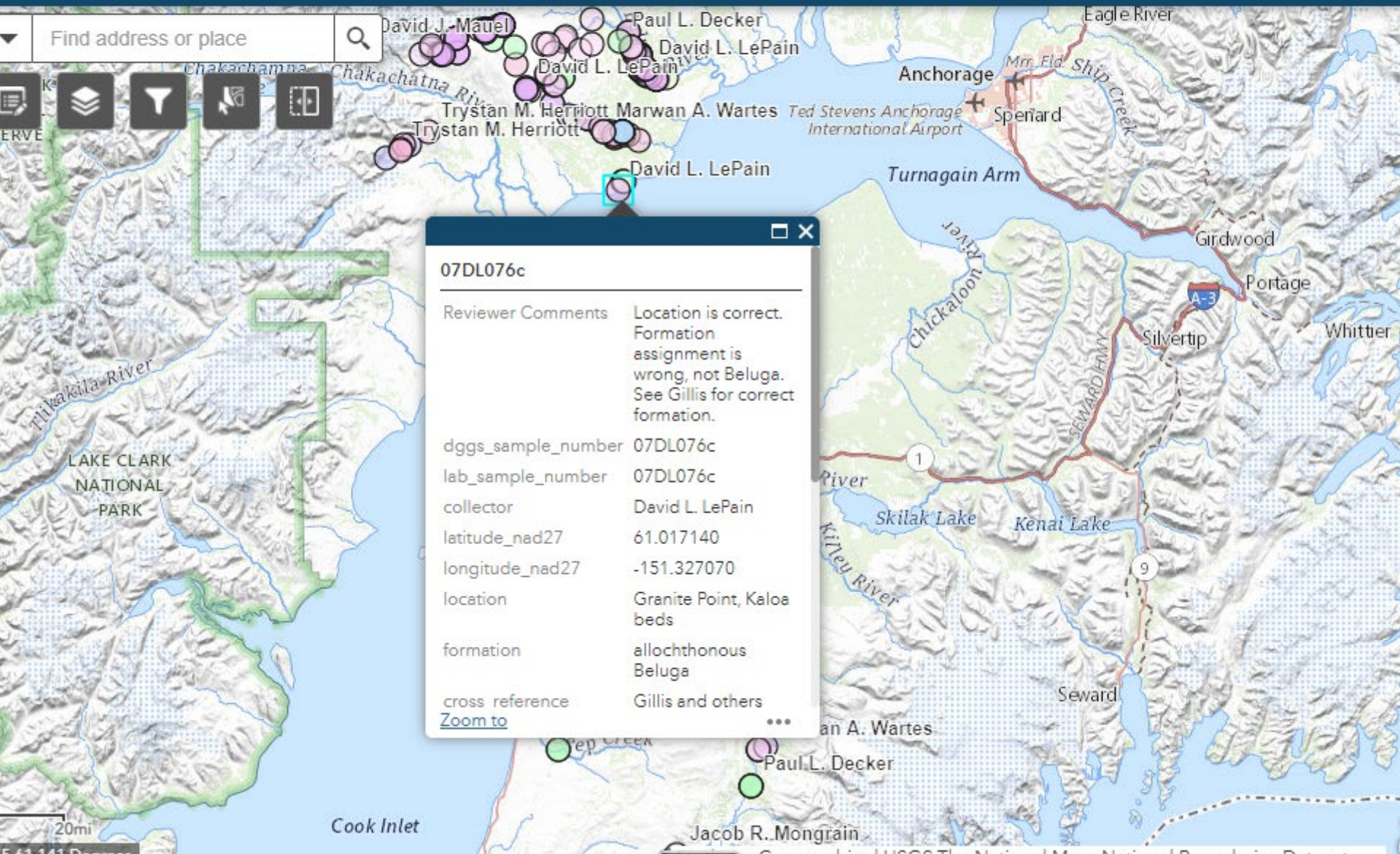
**07DL076c**

| | |
|---|---|
| Reviewer Comments | Location is correct. Formation assignment is wrong, not Beluga. See Gillis for correct formation. |
| dggs_sample_number | 07DL076c |
| lab_sample_number | 07DL076c |
| collector | David L. LePain |
| latitude_nad27 | 61.017140 |
| longitude_nad27 | -151.327070 |
| location | Granite Point, Kaloa beds |
| formation | allochthonous Beluga |
| cross reference | Gillis and others |

Zoom to

Anchorage

Turnagain Arm

Girdwood

Portage

Whittier

Silvertip

Seward

LAKE CLARK NATIONAL PARK

Skilak Lake

Kenai Lake

Cook Inlet

Jacob R. Mongrain

Paul L. Decker

David J. Mauel

Paul L. Decker

David L. LePain

Trystan M. Herriott

Marwan A. Wartes

Trystan M. Herriott

David L. LePain

20mi

# Data Reviewer Checks

43 configurable data check to choose from

## Methods

- Adhoc/on the fly validation
- Batch validation

## Categories of Data Reviewer Checks

- Database Validation checks
- Default checks
- Duplicate Geometry checks
- Event checks
- Feature on Feature checks
- Polygon checks
- Polyline checks
- Spatial Parameter Evaluation checks
- Table checks
- Z Value checks
- Advanced checks



http://esriurl.com/12379
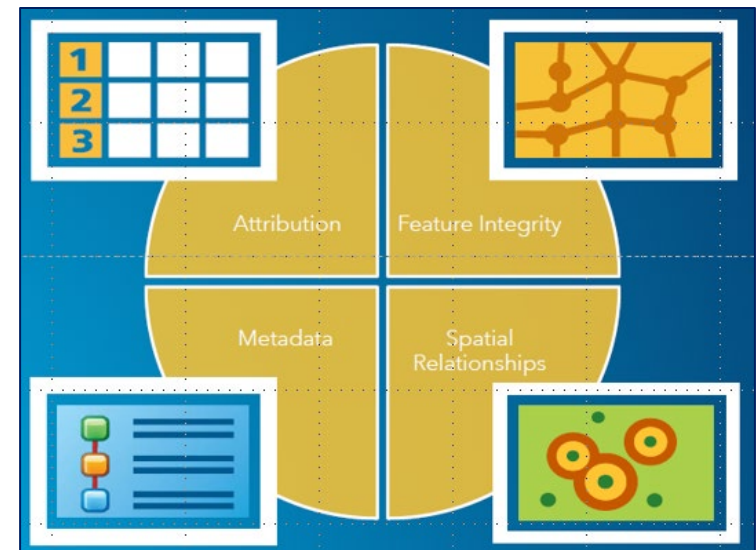
# Data Reviewer Interface

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