

Why have a GIS map production system?

The efficient production of high-quality, standards-based geologic maps requires more than GIS software and a data standard

A comprehensive map and data production system is essential

An effective production system must address a wide range of related components that include:

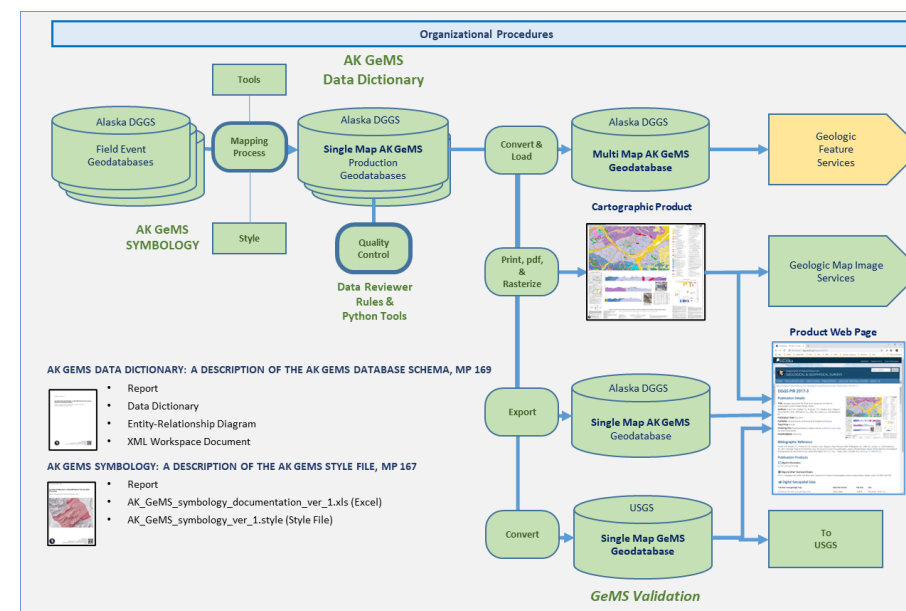
- data standards
- symbology standards
- flexible field data collection methods
- rigorous quality assurance and quality control (QA/QC) procedures.

These components must all be supported by:

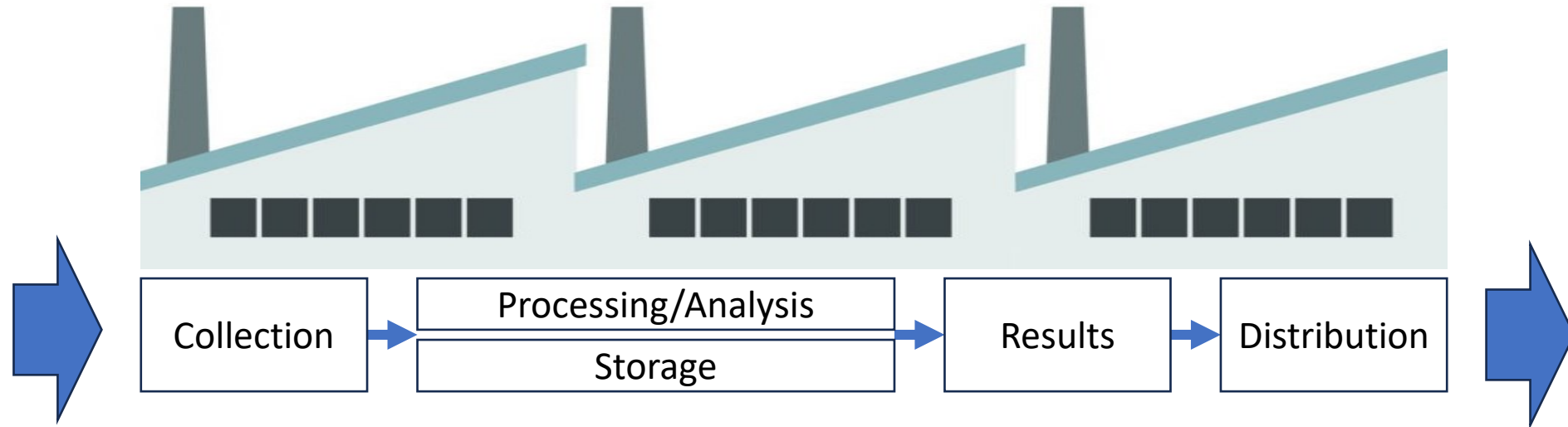
- Dedicated and embedded IT and GIS support
- Built upon a robust IT architecture.

In addition, these components must be:

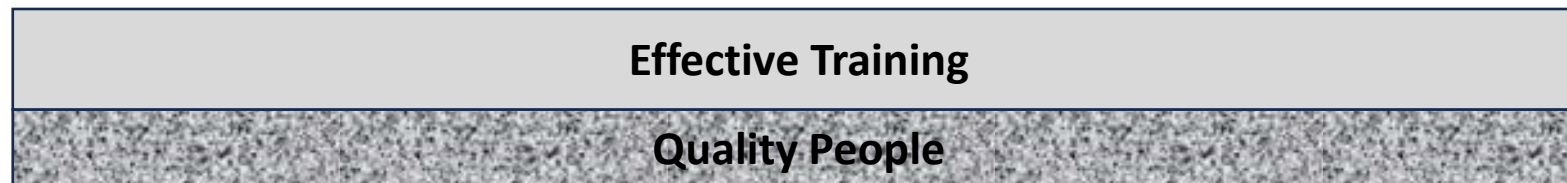
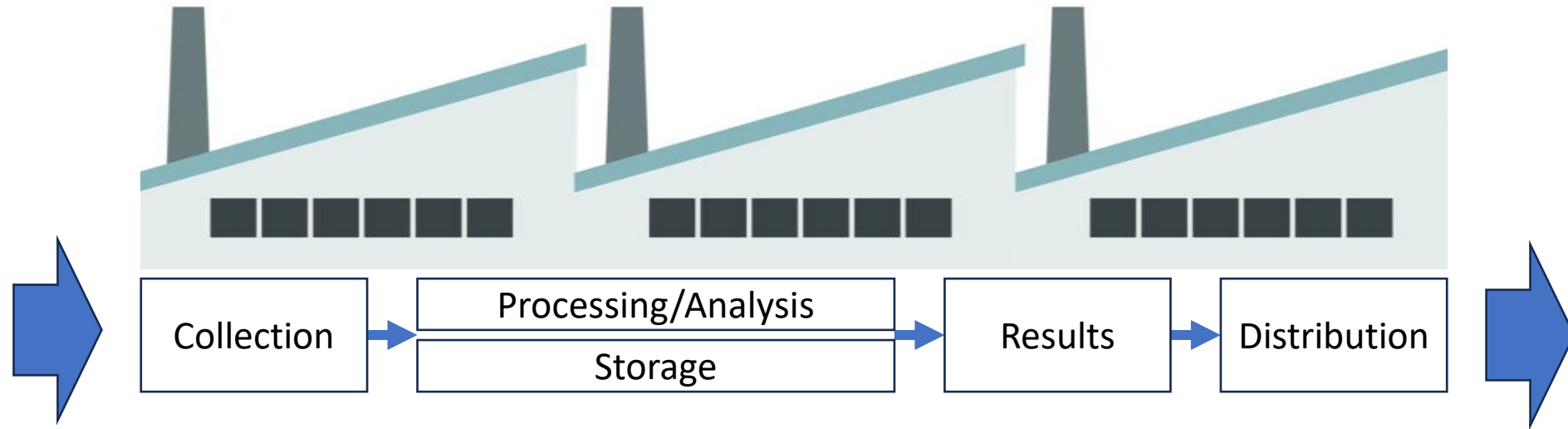
- Integrated with quality documentation
- Well-known organizational processes
- Supported by regular, first-rate training of quality people



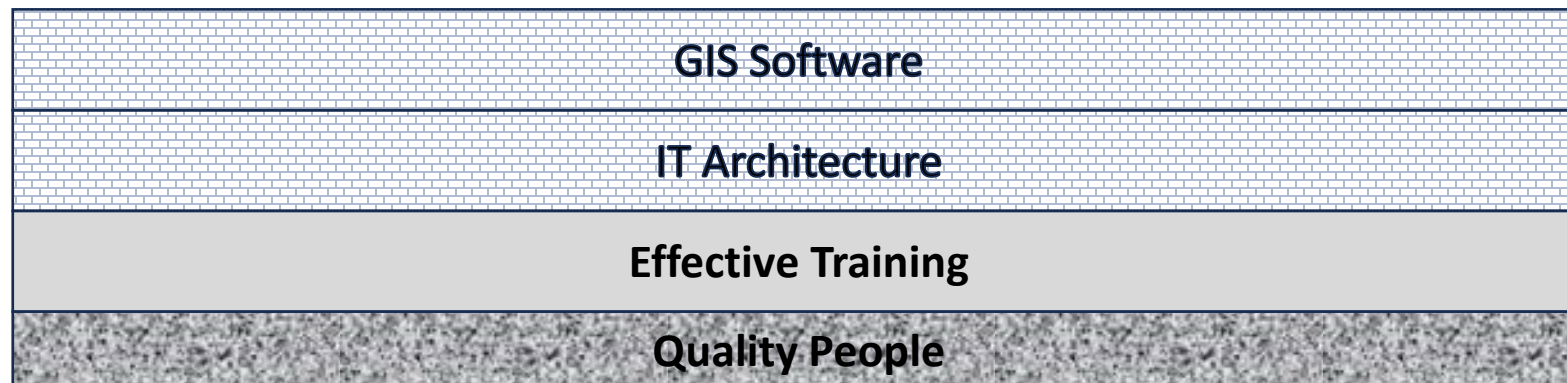
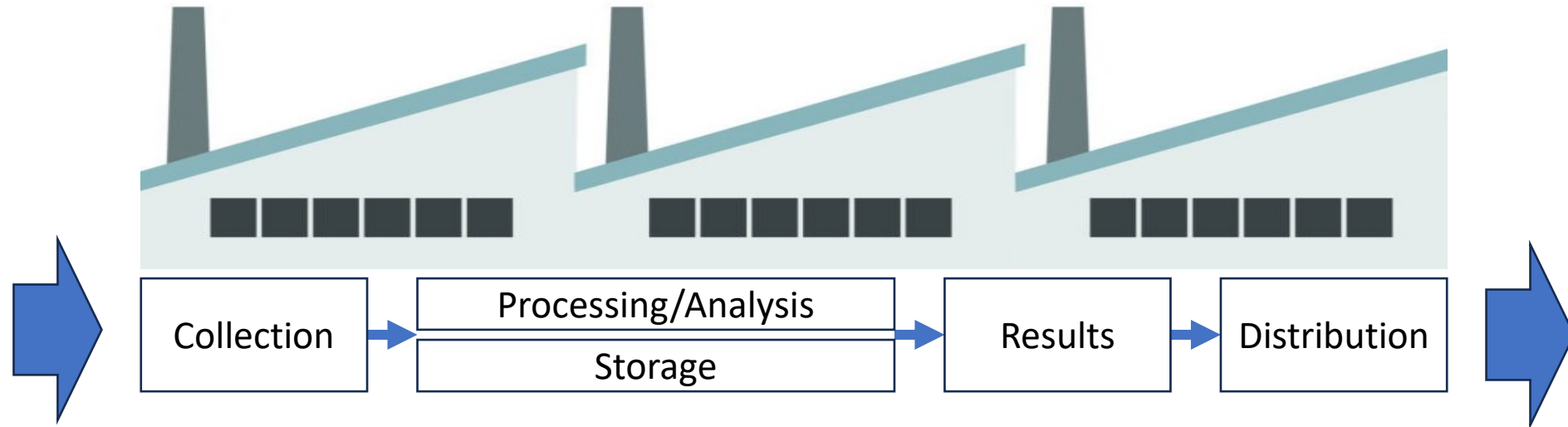
GIS Production System Components



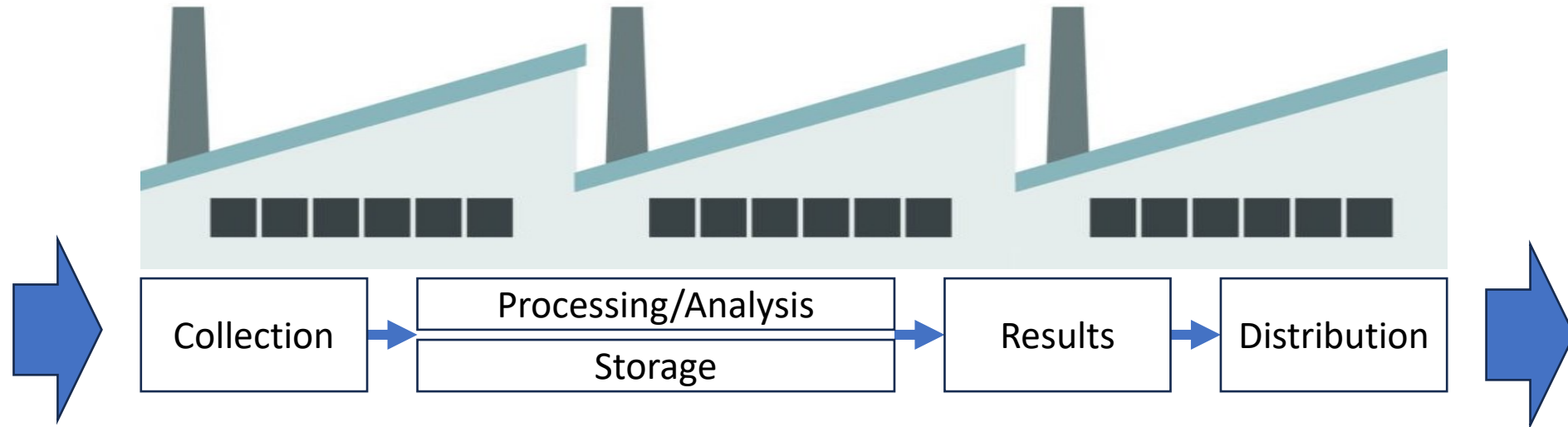
GIS Production System Components



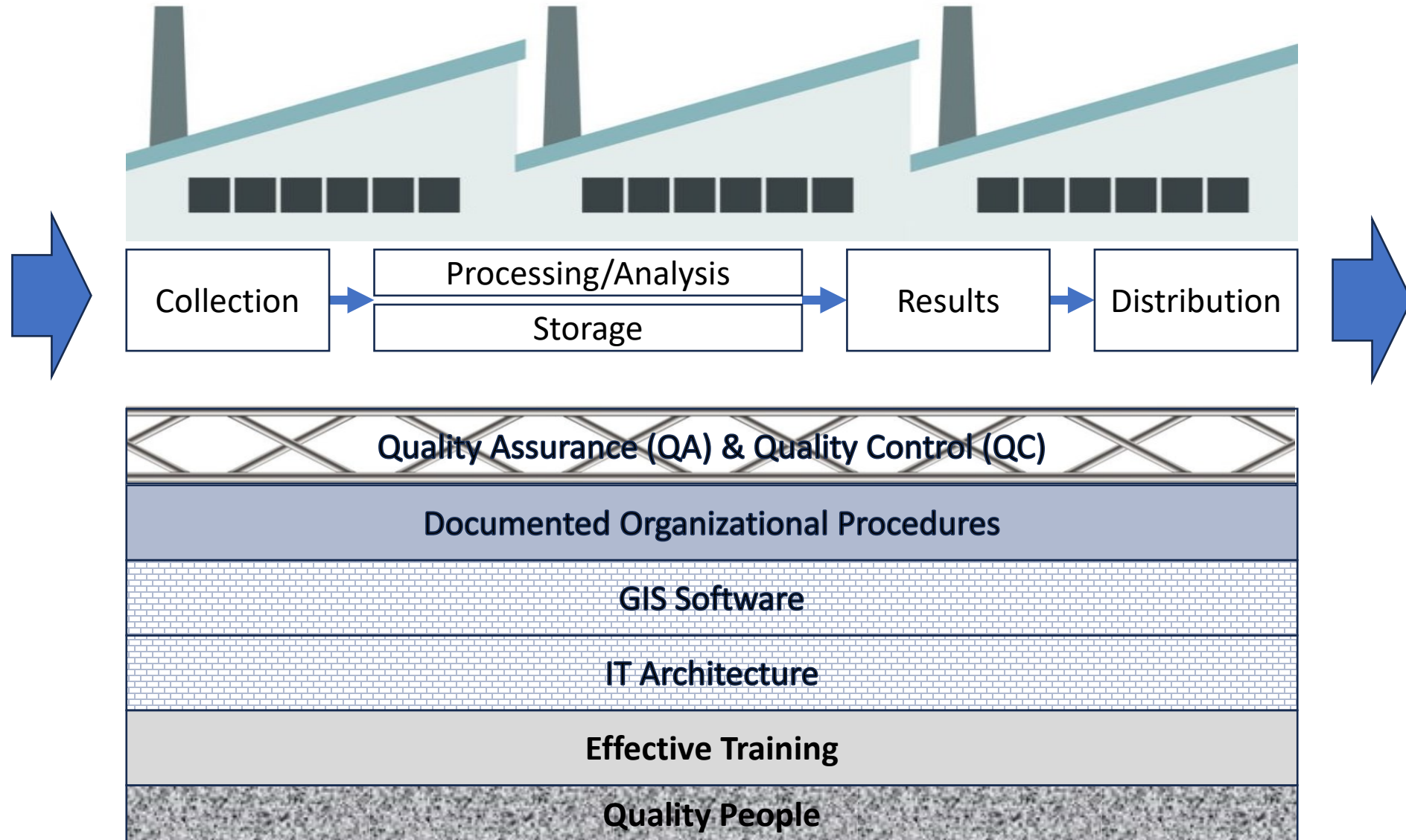
GIS Production System Components



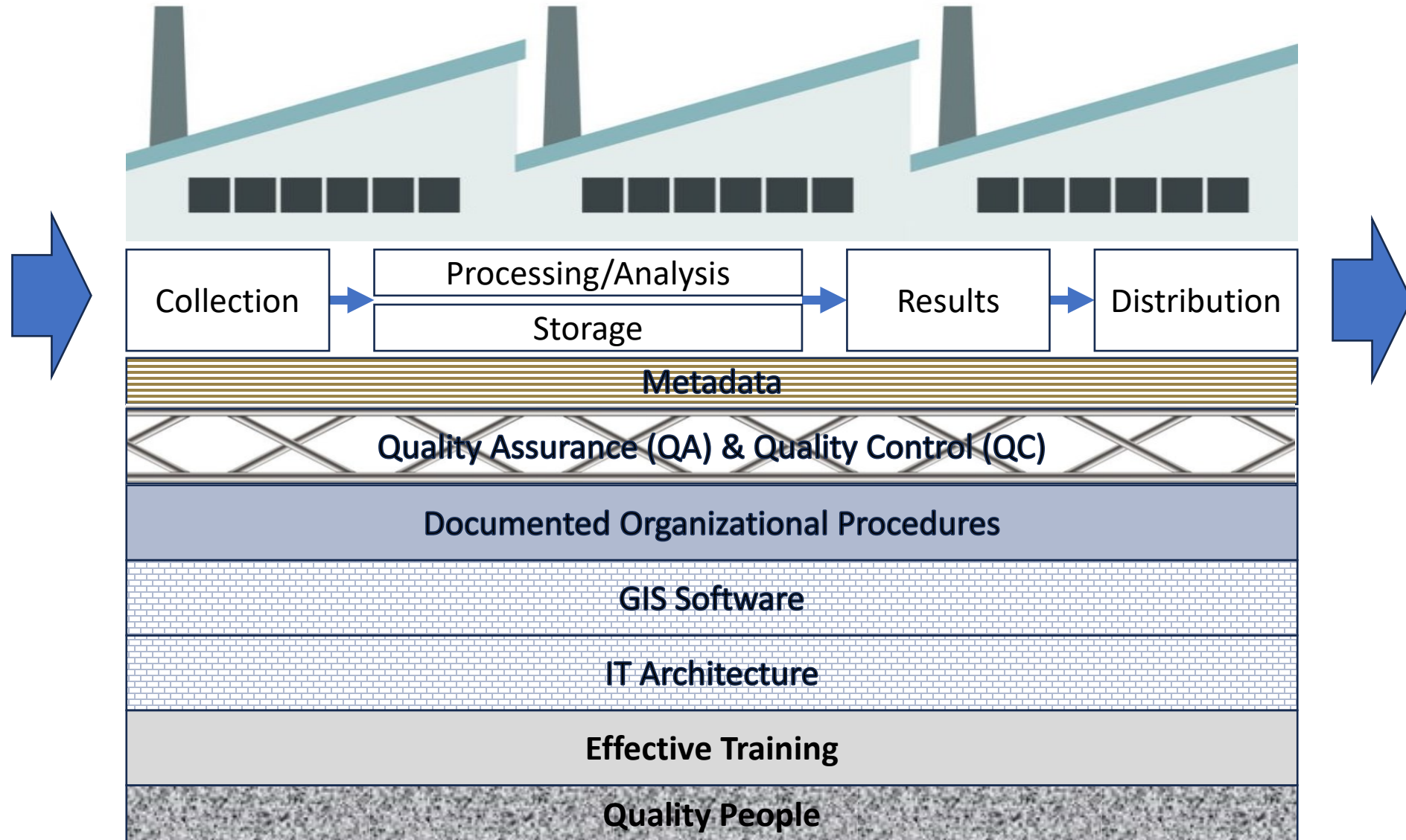
GIS Production System Components



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Integrated Team Is Essential!

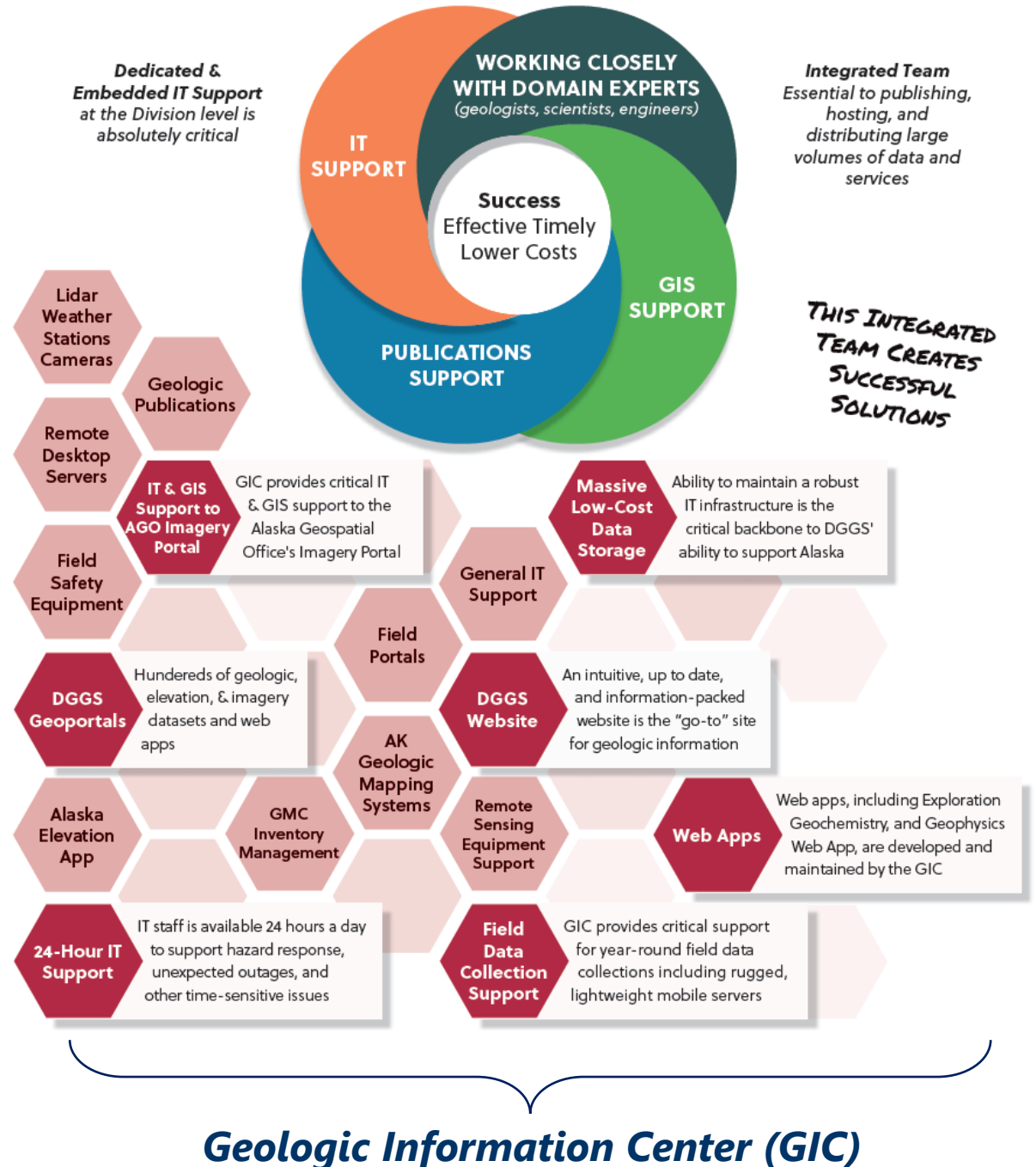
Dedicated and Embedded IT support at the Operational Level is Absolutely Critical

Regularly scheduled coordination meetings:

- Weekly GEDI meetings (Geologic Data Inquiry)
- Bi-weekly Division Publications Meetings
- Weekly GeMS Multimaps Meetings
- Individual Product Production Status Meetings
- Other Spin Off Meetings

Emphasis on Training:

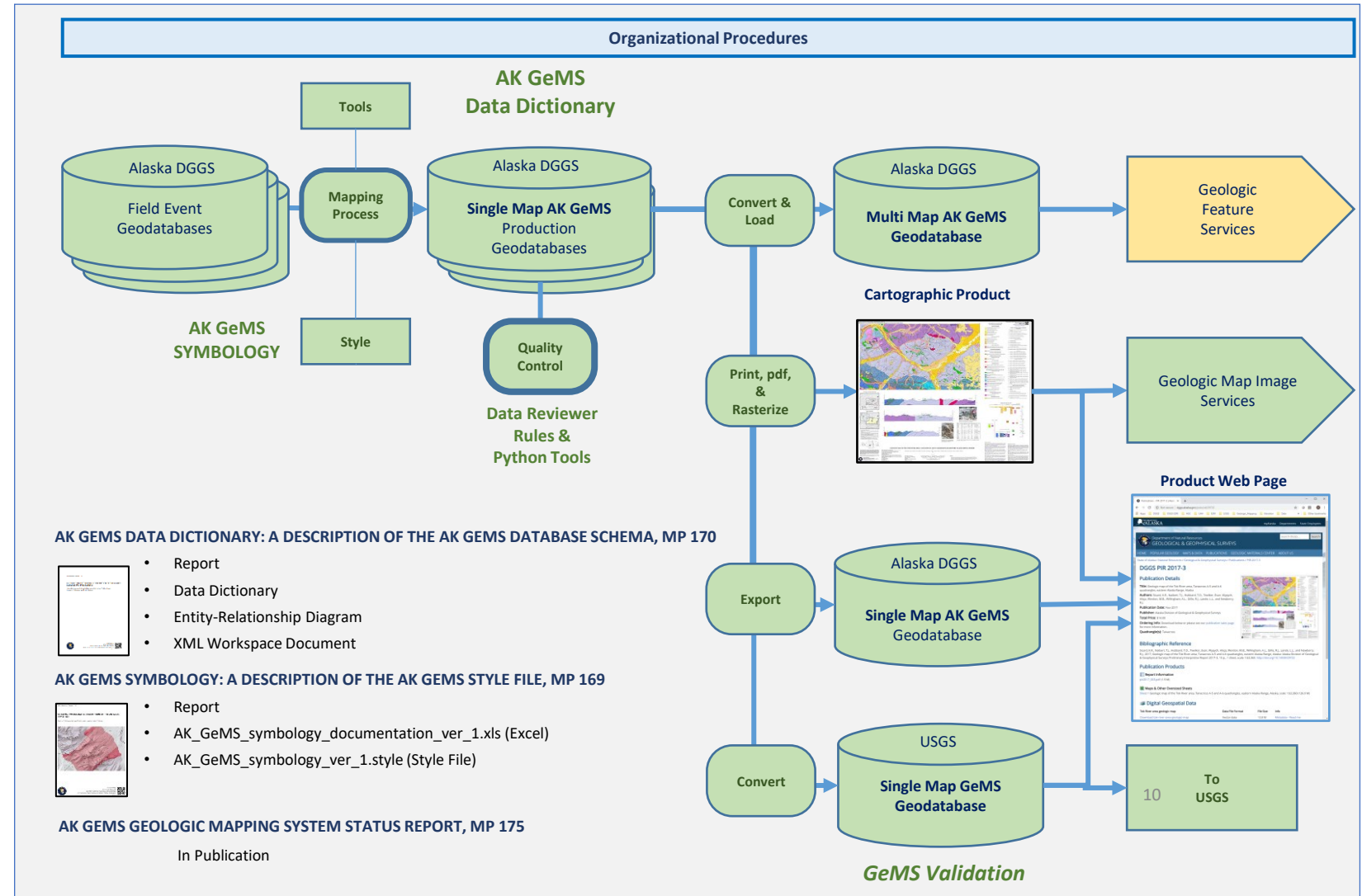
- Weekly GIS Tips & Tricks
- Illustrator sessions
- ESRI Training emphasis
- One-on-one training and support from IT, GIS, & Publications



AK GeMS Geologic Mapping System

AK GeMS Recent Efforts

- Developed a **comprehensive AK GeMS Production Workflow & Task List**
- Developed a semi-automated **quality control process, upgrading to ArcPro**
- Published **50+ AK GeMS Databases**
- Populating our **multi-map geodatabase** and began development of multi-map services and web apps
- Working on **Version 2.0** of Published Standards



Well-defined organizational procedures are critical.

AK GeMS Production Workflow

The backbone of our procedures is our **AK GeMS production workflow graphic**

This workflow is a **16-phase process** that takes a map and its data from pre-publication through production, quality control, publication, and archiving.

The workflow identifies:

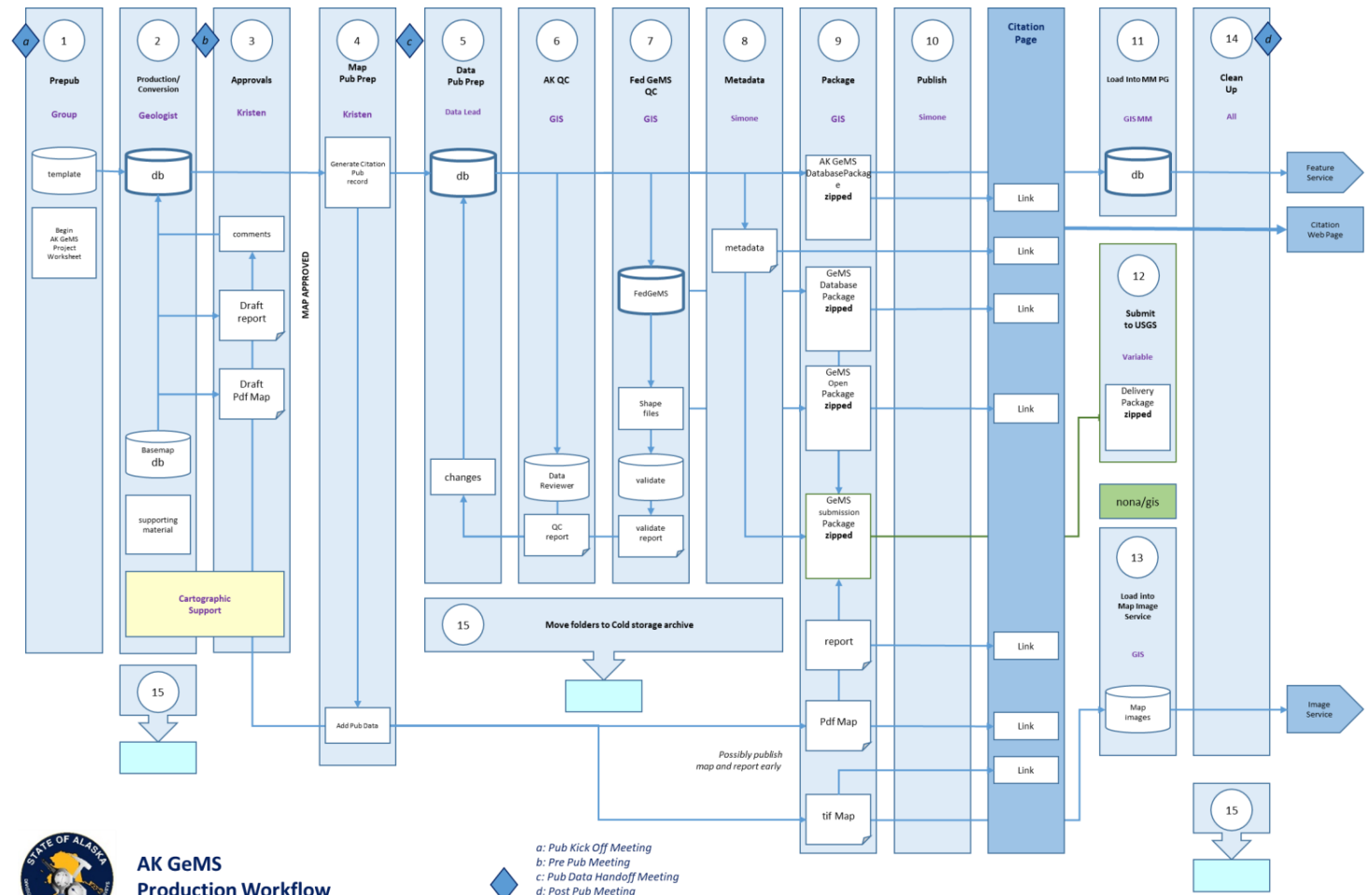
- **Order**
- **Responsibilities**
- **Location of data**
- **Production meetings**
- **Products**

QA (don't make mistakes) Phases

- Phase 2: Production
- Phases 5: Data Prep

QC (find mistakes) Phases

- Phase 3: Approvals
- Phases 6-7: GeMS QC



AK GeMS Production Workflow

a: Pub Kick Off Meeting
 b: Pre Pub Meeting
 c: Pub Data Handoff Meeting
 d: Post Pub Meeting



We are using Microsoft Teams Planner App to track map production through the AK GeMS Production Workflow

Reviewed:

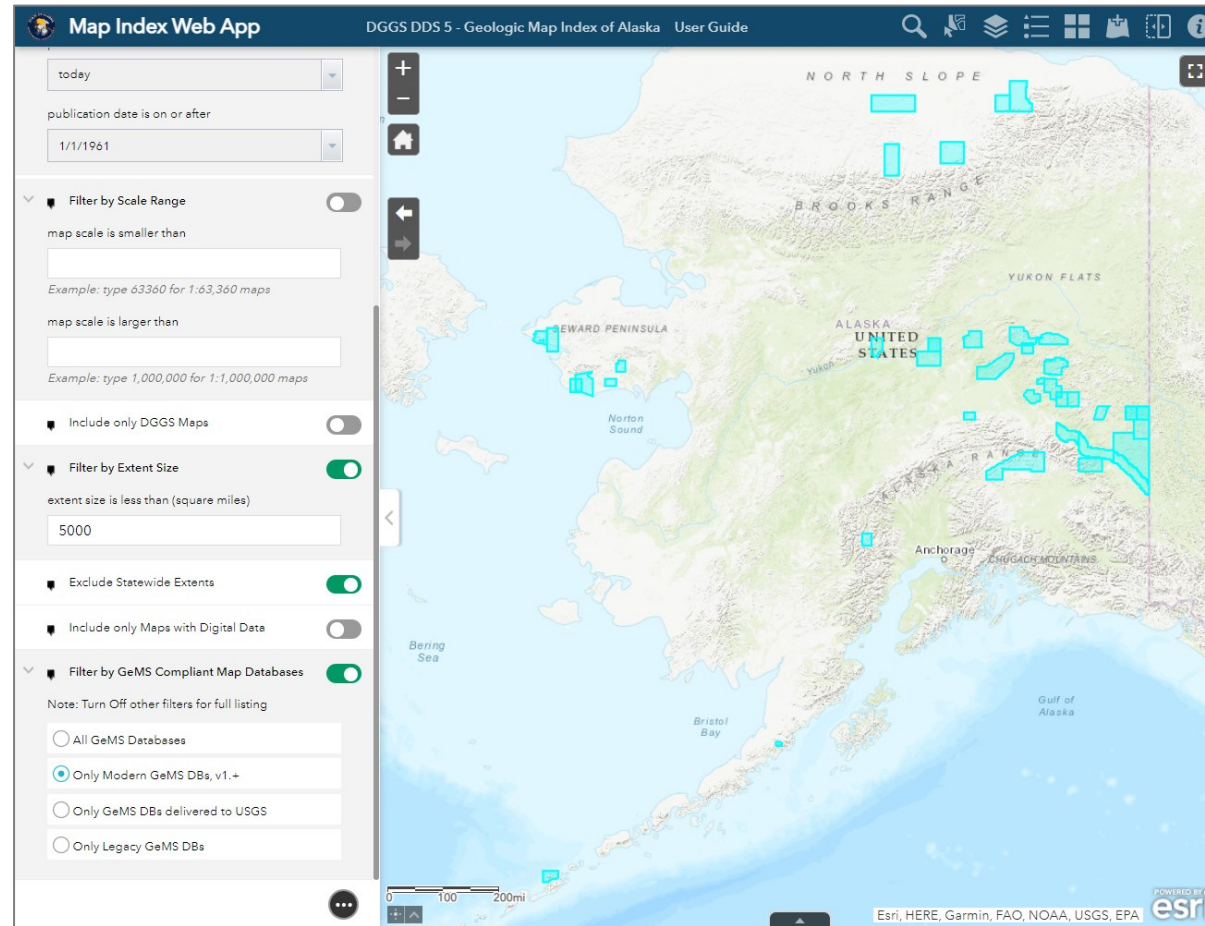
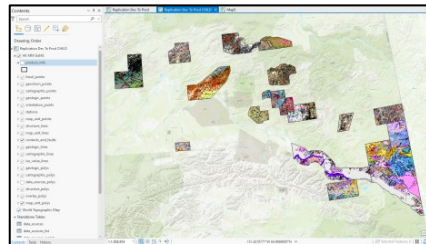
- Weekly at our GEDI (*Geologic Data Inquiry*) Meeting
- Bi-weekly Publications Meeting
- Quarterly at Division Publications Status Review

Geologic Map Index Web App

<https://maps.dggs.alaska.gov/mapindex>

AK GeMS Availability

- **Available:** 43 AK GeMS Map Databases currently available for download
- **In Production:** 20 Geologic Maps currently in production
- **Planned:** We have 40+ Geologic Maps that will go into production this next year
- Populating our **multi-map PostgreSQL geodatabase** and begun development of multi-map services and web apps



For additional Information & related Presentations and Publications

<https://dggs.alaska.gov/pubs/project/1607>

Conclusion

Establishing a more standardized and documented system based on published data and symbology standards is a success.

DGGS now produces higher quality standards-based map products at a significantly faster rate than in the past.

Between 2013 and 2020 we published 19 new geologic maps, (in various data formats), at a production rate of 2.4 a year.

With the Alaska Geologic Mapping System operational we have published, since 2021, 7 new maps and converted 45 maps into our AK GeMS data standard, at a production rate of 18 a year.

This is over a 7 folder increase in productivity!

