



# Visualization Considerations with GeMS Data and Maps

DMT Lite 2021

*06 Dec 2021*

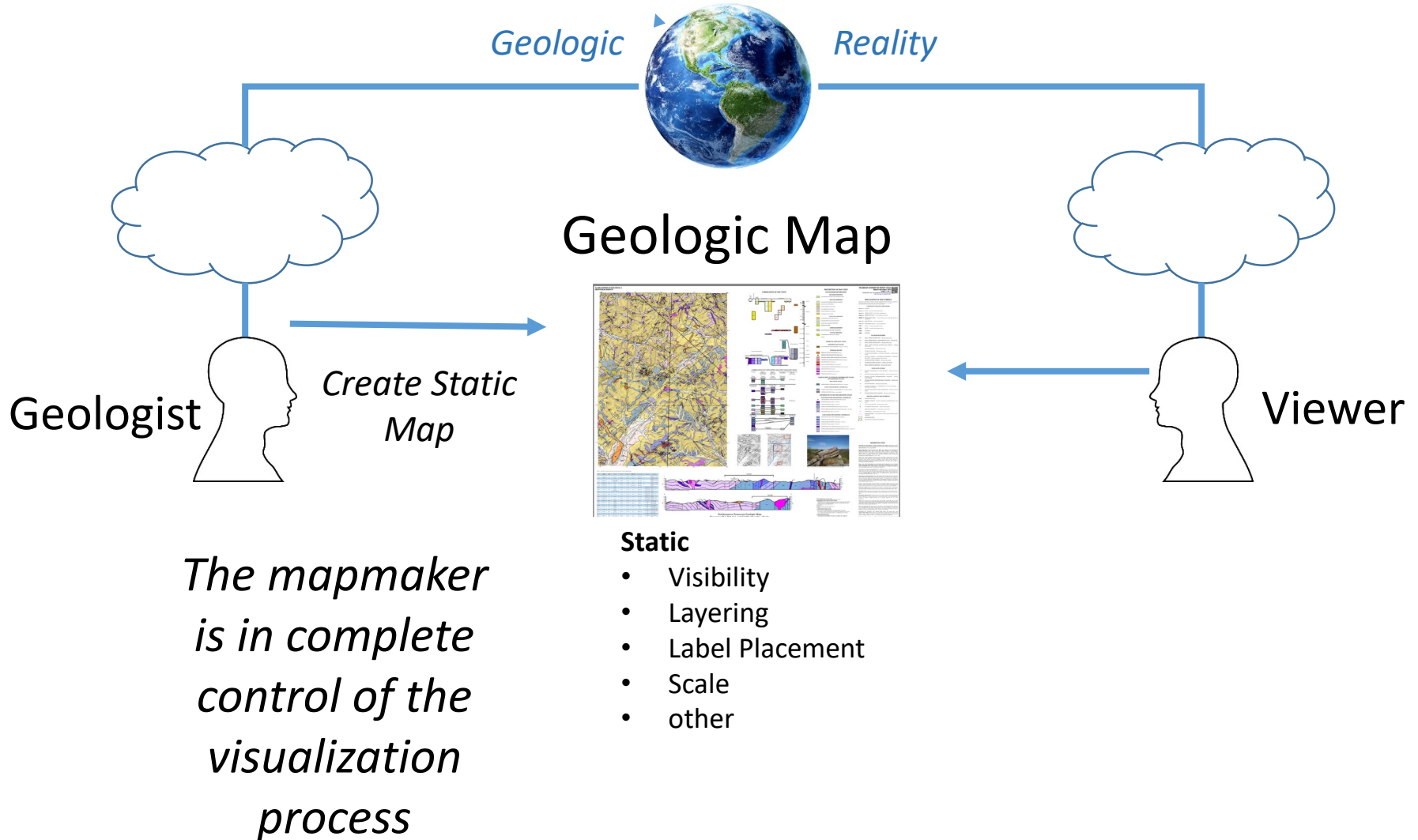
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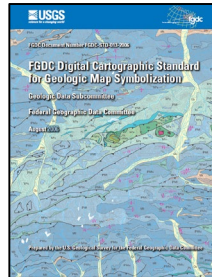
# Classic Map Production & Use



# Fundamentals of Map Design

## Principles of Map Design

- Ensure Legibility
- Ensure Visual Contrast
- Consider Figure – Ground
- Employ Visual Hierarchy
- Maintain Balance



## Controls of Map Design

- Geographic Reality
- The Audience
- Purpose of Map
- Available Data
- Map Scale Options
- Conditions of Use
- Technical Limitations

## Graphic Variables

Position

Size

Shape

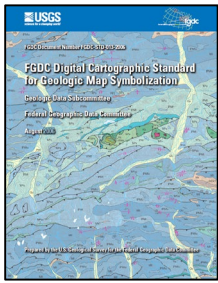
Color

Pattern

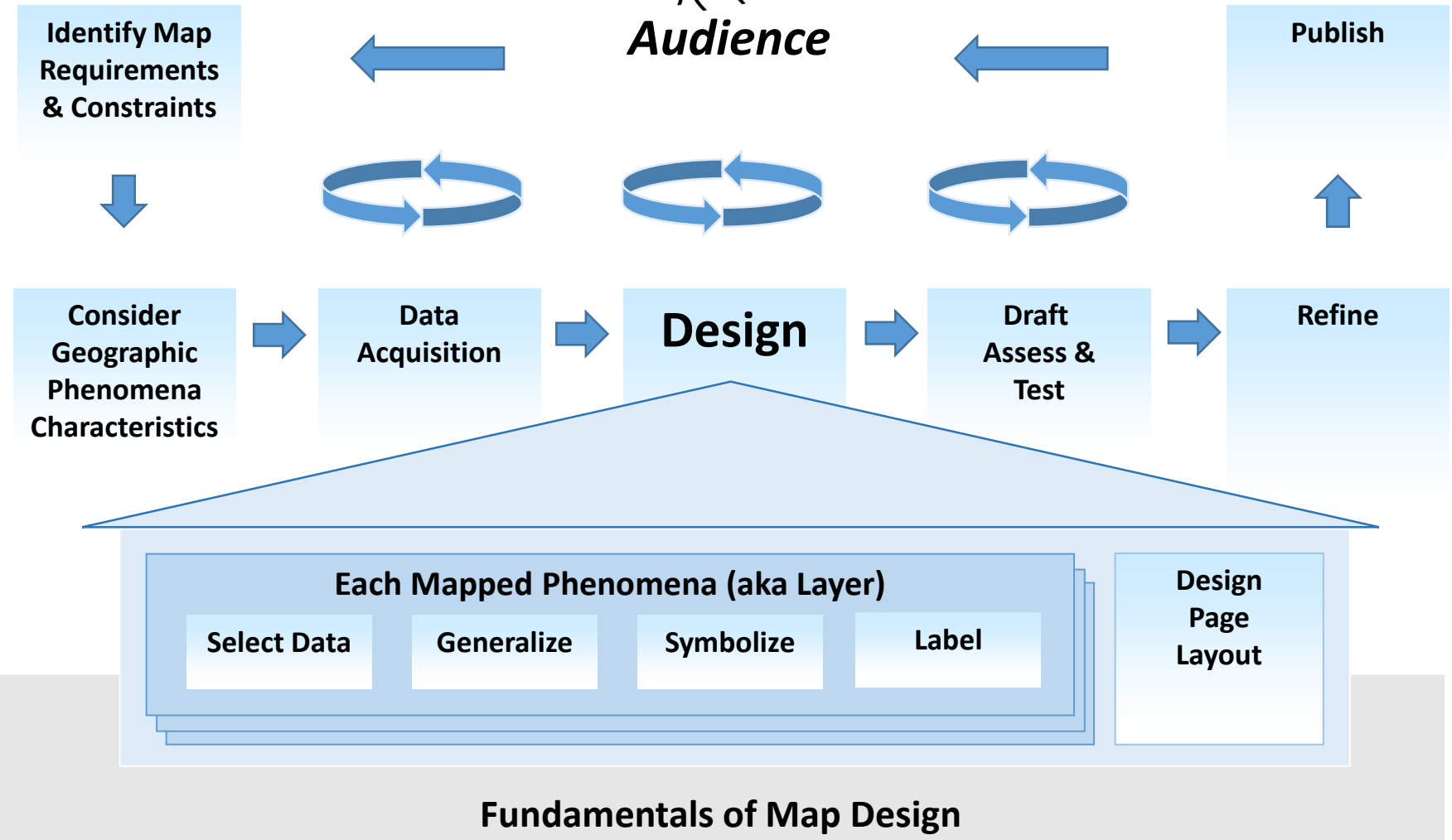
Hue

Value

Saturation



# The Map Design Process



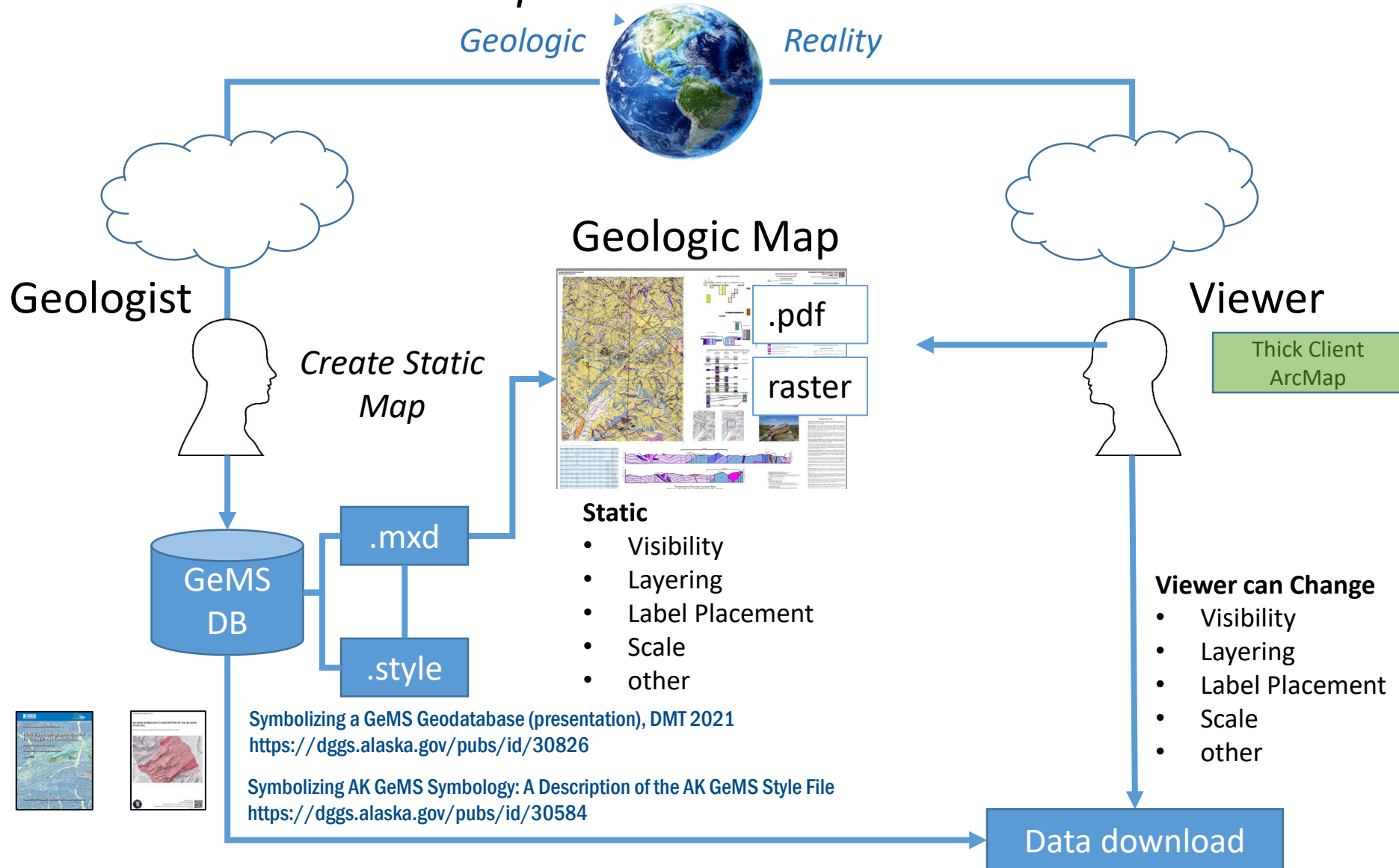
# TM 11-B10: GeMS (Geologic Map Schema)

## Symbology Quote

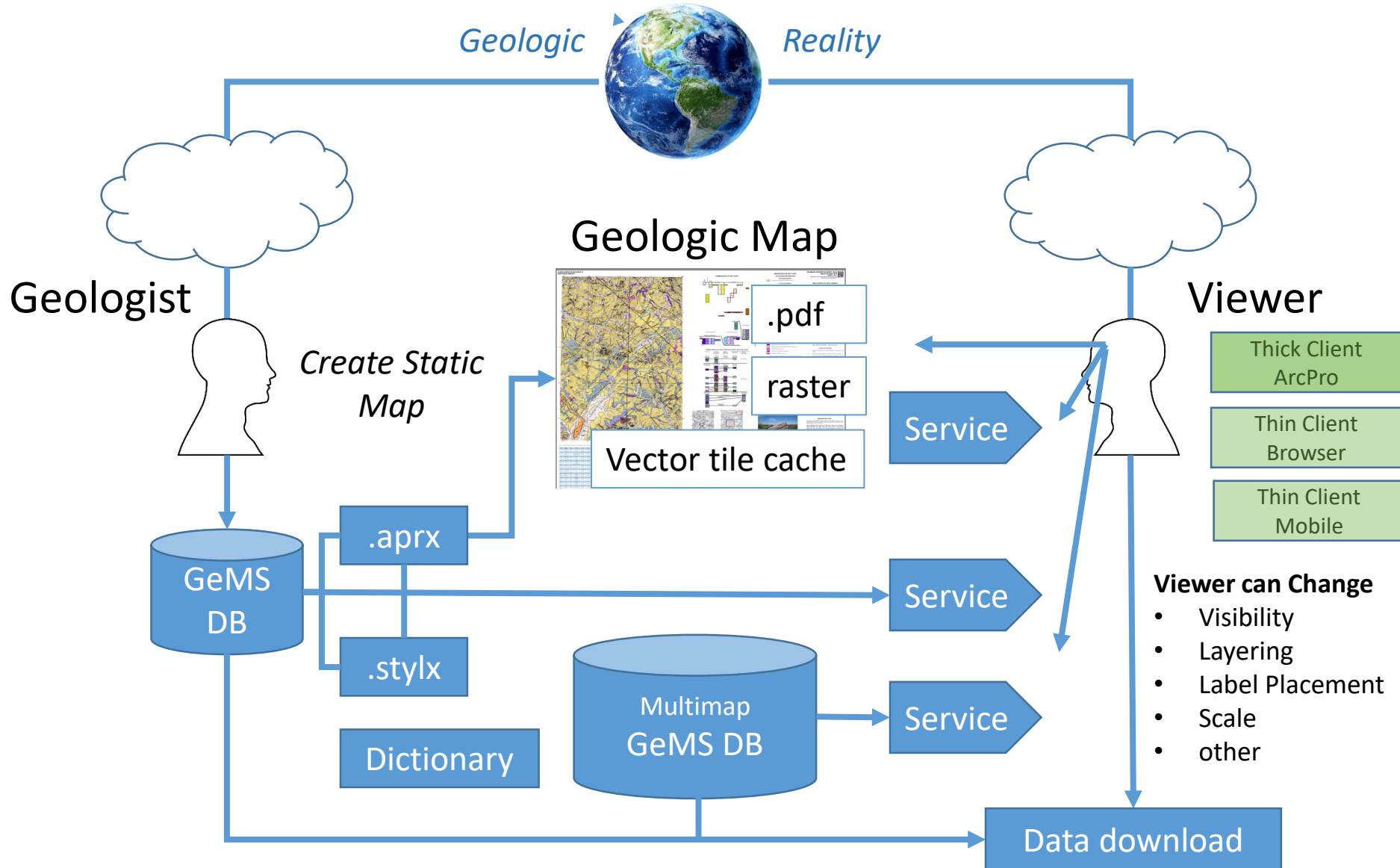
***“The distinction between map data and their symbolization is important.*** Storing map data in a GIS—as opposed to its symbolization in a drawing program—facilitates machine-assisted analyses of the data, gives greater flexibility for alternate symbolization, and **eases reuse** of the data at different scales.”

*p.2*

# Traditional Map Production & Use *with GIS - ArcMap*

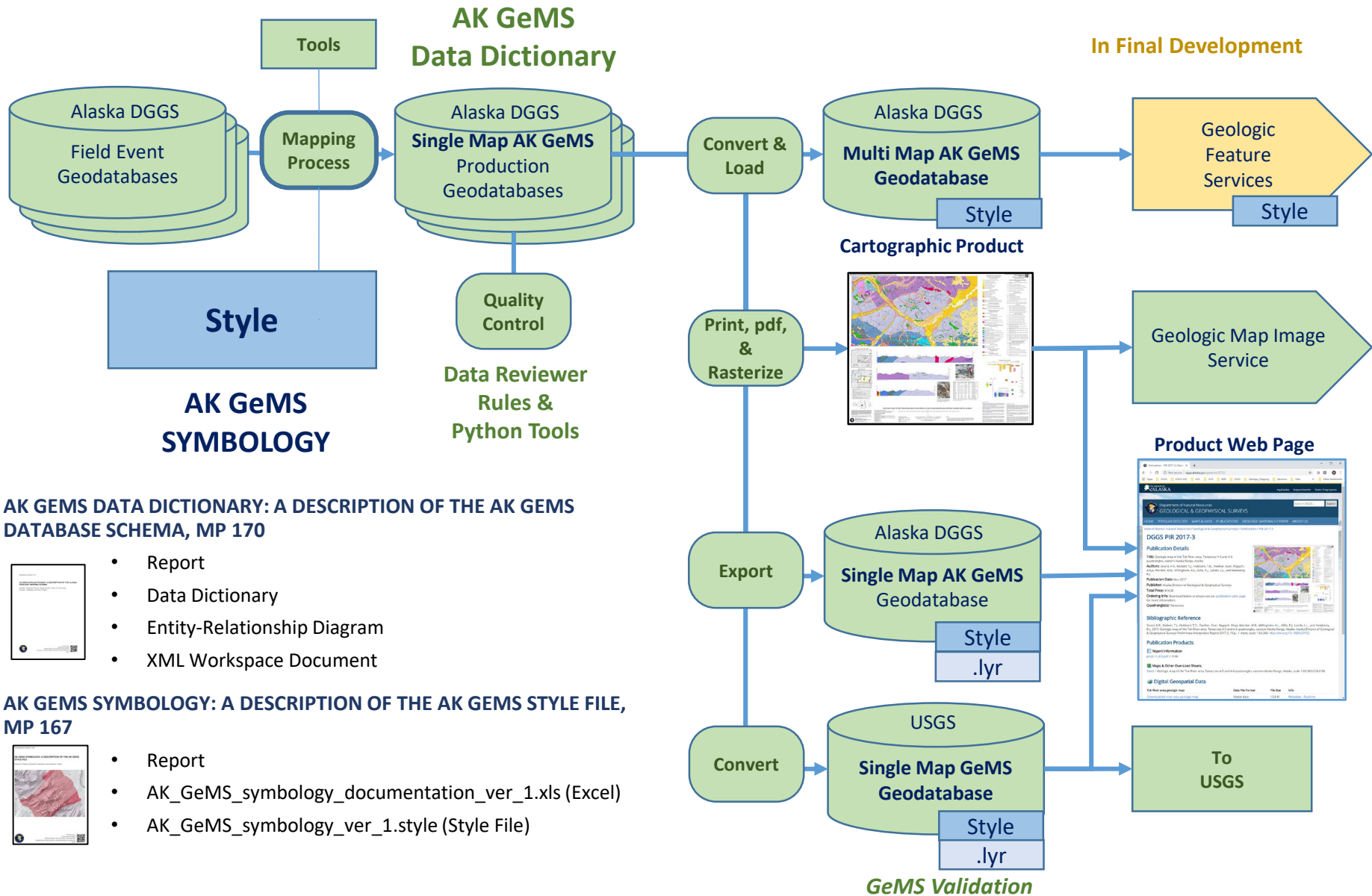


# Modern Map Production & Use *with GIS - Arc Pro & Services*



# Alaska DGGs Geologic Mapping System Components

## Organizational Procedures





# Some Opportunities and Challenges

- Transition from ArcMap to ArcPro
  - Increased capability of the Stylx format
  - Vector Tile Caches
  - Dictionary Symbolology
- Sharing Data as Services
  - Different results with:
    - Feature Services versus Map Image Services
    - Thick Client (ArcPro) versus Thin Clients (Web Map)
  - Multilayers Symbol (example – most faults) Support Issues with Services
  - Symbol Rotation Issues
  - Maintaining Drawing Speed
- Multimap visualization
  - Layer order with multiple products
  - Label placement
- Variable Symbolology Issues
  - Example: concealed contact, what should the symbol be when the surficial layer is removed in a visualization?
  - Example: orientation point as single view versus multiple

4.3.2

Small, minor inclined joint (1st option)—Showing strike and dip

60



4.3.4

Small, minor inclined (dip direction to right) joint, for multiple observations at one locality (1st option)—Showing strike and dip



Question?