DIGITAL MAPPING TECHNIQUES 2023

The following was presented at DMT’23
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The contents of this document are provisional

See Presentations and Proceedings from the DMT Meetings (1997-2023)

http://ngmdb.usgs.gov/info/dmt/
Multimap Geologic Enterprise Geodatabase Efforts

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The Alaska GeMS Multimap database is:

A repository of individual AK GeMS single map databases stored in a single optimized PostgreSQL geodatabase.
How is it different than Single Map

- Hosted on PostGreSQL
- String based domains are converted to integer-based domains
- True GUID Fields for IDs
- Single Projection (Alaska Albers Equal Area, NAD83)
- Relationship Classes built
- Supporting tables Created and Maintained
  - Tables to support many-to-many data sources
  - Product Statistics Table
  - Cartographic labels
Supporting Data Sources Many-to-Many relationships

We used the USGS logic for data sources many to many.

1. Script builds
   - Contacts_and_faults
   - data_sources
   - Updated with Main import script
   - data_sources_list
   - data_sources_list_contacts_and_faults
   - One-time creation

2. Script builds
   - Not versioned
   - data_sources_match
   - data_sources
   - data_source
   - Used to build MtoM relationship class below

3. Tool builds using the match table
   - Not versioned
   - data_sources_data_sources_list
   - data_sources
   - data_source
   - Updated with Main import script
   - source
Alaska DGGS Multimap GeMS DB Architecture

- **Individual MultiMap Schema FileGDB**
  - Append
  - Bulk Load of SINGLE geologic map dataset
  - Python Script
  - Edits
    - On Demand
    - Check for changes made to originally loaded data

- **Individual SingleMap Schema FileGDB**
  - Append
  - Python Script
  - Edits
    - Not Versioned
    - Test & internal Web Services

- **AK GeMS Multimap DB**
  - TEST
    - Default version
    - Edit version
    - Archive
    - Test & internal Web Services

- **AK GeMS Multimap DB**
  - DEV
    - Default version
    - Edit version
    - Archive

- **AK GeMS Multimap DB**
  - PROD
    - Not Versioned
    - Test & internal Web Services

- **Replication**
  - 1 way
  - Public Data Only

- **Python Script**
  - When an updated Map DB needs to be delivered as SingleMap Schema product
Multimap Toolboxes and Notebook

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  2.3 Schema to XLS
- 3. Troubleshooting
  3.1 Identify if records exist in FC
  3.2 Why does FC orientation_points have $0 for source name? (Attribute Rules)
  3.3 Find Missing Product
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Digital Mapping Techniques 2023
Questions?