Building & Sharing a Historical GIS Database of 20th Century Mongolia

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IASSIST & CARTO | Montreal
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Why... build a GIS database/collection?
Why... build a GIS database/collection?

- Collections
- Service
- Metadata
Why... build a GIS database/collection?

- Collections
- Service
- Metadata
- Fun!!
Why... build a GIS database/collection? Mongolia?
Why... build a GIS database/collection? Mongolia? the 20th century?
1. Physical Map

2. Scanned Map

Scanned image of Map 18 (Mongolia, 1911-1919) from R. Rieber's 1979 Ethnographic and Linguistic Atlas of the Mongolian People's Republic (Ulanbator, Academy of Sciences), courtesy of Christopher Atwood.

3. Georectified Map

4. Digitized Features

5. GIS Database!
Scope

Themes:
- Boundaries
- Places
- Infrastructure

- Demographics
- Environment

Approximately 50 layers
Can be used to make new maps and joined with other data for analysis
Locating maps

● UC Berkeley Library map collection

● Map collections in Mongolia
  ○ National Archives
  ○ National Library
  ○ Agency for Land Administration and Management, Geodesy and Cartography
National Library of Mongolia

Mongolian National Archive
Visits to provincial capitals
Side note...

Ger
Community Mapping Center

www.germapcenter.org
1. Physical Map

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Results of trip to Mongolia:

- Handful of map scans
- Several physical maps
- Understanding of limitations
- Leads for next visit

Acquiring scans
Maps from UCB collection +
Georectifying

- Identify and match projection
- Align to standard reference layer
- Not perfect :(
  - Errors in original cartography
  - Warped source material
Digitizing features
Digitizing features: concerns

- Accuracy of original maps (sometime misleading by design!)
- Alignment with modern data
- Representation decisions
- Geographic scope
Metadata

- Information about project
- Citations & links for source material
- Georeferencing inputs & mathematical data (RMS, projection, reference layers, etc.)
- Decisions made during digitization
Metadata

- Developing templates & best practices
- Using ISO 19139 standard and ArcCatalog
- Exporting to GeoBlackLight metadata schema
Metadata & Publishing... go hand in hand!

- **Geodata@UCB** geoportal based on GeoBlackLight

- Working with developer to add support for:
  - Collections
  - Search using Mongolian language keywords
Who is the audience?

- Researchers of 20th century Mongolian history
- Cartographers
- English-speaking AND Mongolian-speaking people

Data will be shared with Mongolian institutions and advertised through researcher networks.
Future plans

- Complete core set of data & publish
- Expand to other topics, areas, & scales
- Find Mongolian collaborator(s)
- Assess scalability
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