ESRI Geologic Mapping Template

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What is a Map Template?

- Set of ArcGIS Resources
- Includes:
  - Template geodatabases
  - Cartographic designs
  - Tools and documentation
  - Example maps & databases
What is the Geologic Mapping Template?

- An ArcGIS 9.3 (and newer) solution for making geology maps
- **This is a GIS solution**
- Supports the critical graphics finishing tasks
- It’s a new GIS solution
- It’s adaptable
What is included?

• A set of ArcGIS resources:
  – Template geodatabase
  – Tools and documentation
  – Example map (Mount Baker, WA Quadrangle) and database
  – Representation symbology
    • FGDC Standard
    • Guidance from Dave Soller & Taryn Lindquist at the USGS
  – Maplex Label Placement Rules
Sample ESRI map reproduction:
Geology of the Conterminous United States

- Scale: 1:7,500,000
- Source: USGS
Sample ESRI map reproduction:
Geology of the Point Lay Quadrangle, Alaska

- Scale: 1:250,000
- Source: USGS
Sample ESRI map reproduction:
Geologic Map of the Mount Baker 30- by 60- Minute Quadrangle, Washington

- Scale: 1:100,000
- Source: USGS
Sample ESRI map reproduction:
Geologic Map of the Jordan Narrows Quadrangle, Utah

- Scale: 1:24,000
- Source: Utah Geological Survey
Live Demo:

Getting started with the Geologic Mapping Template

• FGDC implementation
  – Geologic Mapping Template/Mount Baker

• Custom implementation
  – Chris Garrity/Point Lay
FGDC Model: Feature Class Structure

- Feature class structure modeled after Appendix A of the Standard

1. Contacts, Key Beds, and Dikes
2. Faults
3. Boundaries Located by Geophysical Surveys
4. Lineaments and Joints
5. Folds
6. Bedding
7. Cleavage
8. Foliation
9. Lineation
10. Paleontological Features
11. Geophysical and Structure Contours
12. Fluvial and Alluvial Features
13. Glacial and Glaciofluvial Features
14. Periglacial Features
15. Lacustrine and Marine Features
16. Eolian Features
17. Landslide and Mass-Wasting Features
18. Volcanic Features

FGDC Map Specification

Feature Class
FGDC Model: Representation Class Structure

- Representation class structure modeled after Appendix A of the Standard

<table>
<thead>
<tr>
<th>REF NO.</th>
<th>DESCRIPTION</th>
<th>SYMBOL</th>
<th>CARTOGRAPHIC SPECIFICATIONS</th>
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</thead>
<tbody>
<tr>
<td>6.1</td>
<td>Horizontal bedding</td>
<td></td>
<td>2.5 mm</td>
</tr>
<tr>
<td>6.2</td>
<td>Inclined bedding—Showing strike and dip</td>
<td></td>
<td>1.0 mm 2.5 mm</td>
</tr>
<tr>
<td>6.3</td>
<td>Vertical bedding—Showing strike</td>
<td></td>
<td>2.0 mm</td>
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<tr>
<td>6.4</td>
<td>Overturned bedding—Showing strike and dip</td>
<td></td>
<td>1.0 mm 2.5 mm</td>
</tr>
<tr>
<td>6.5</td>
<td>Bedding overturned more than 180 degrees—</td>
<td></td>
<td>0.7 mm 2.5 mm</td>
</tr>
</tbody>
</table>

FGDC Map Specification
Review

• **Essentials**
  - Organize your data
  - Create a template database
  - Add data to template database
  - Symbolize data
  - Label features
  - Customizing symbols

• **Adapting (Chris Garrity) to immediate needs**
What does all that really imply?

• **ArcGIS 9.3 is required because:**
  – Improved symbol display capabilities through cartographic representations
  – Improved Maplex labeling functionality to fully automate labeling tasks (producing annotation to allow minor edits during map finishing would be a typical workflow)

• A map isn’t just a PDF or a dumb graphic; the data is part of the product.

• Paper isn’t the only media; **web-publishing** is here for the foreseeable future.
One Solution Cannot Be All Things…

• In our beta testing we learned that there were more expectations than we could meet.

• We needed to clearly convey which expectations we do (should) meet.

• The ESRI ArcGIS USGS/FGDC Geologic Mapping Template is a solution based on a data model.
  – Data Model ≠ Solution
  – Our data model is informed by our expertise in ArcGIS and much guidance from the USGS and State geologists.
Where do I get the Geologic Mapping Template?

- **Download it from the Map Template Gallery at the ESRI Resource Center**

http://resources.esri.com/maptemplates
Road Ahead for the Geologic Mapping Template

• More fill patterns
• Additional marker symbols
• Web edition
Questions?

• Thank you for attending
• Please fill out your survey