Locating the Geographic Center of DDI 3.0

IASSIST 2006
25 May 2006
Wendy Thomas
University of Minnesota
Goals of DDI Geography

- Describe the geographic cover in detail
- Describe the geographic hierarchies found in the data
- Expand ability to reference external maps and shape (or geographic boundary) files
<table>
<thead>
<tr>
<th>Tag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;nation&gt;</td>
<td>Name and abbreviation of country (DC)</td>
</tr>
<tr>
<td>&lt;geogCover&gt;</td>
<td>Total scope plus levels (DC)</td>
</tr>
<tr>
<td>&lt;geogUnit&gt;</td>
<td>Lowest level of aggregation (FGDC/ISO)</td>
</tr>
<tr>
<td>&lt;concept&gt;</td>
<td>Attach a geographic concept to a variable</td>
</tr>
</tbody>
</table>
1.X → 2.0 → 2.1 → 3.0

- `<geoBndBox>`
  - Bounding longitudes
  - Bounding latitudes
- `<boundPoly>`
  - Minimum of 4 points with the first and last point identical (a triangle)
- `geog = “Y|N”`
- `geoMap`
- `<mrow><mi>`

- For discovery by coordinate point (FGDC/ISO)
- Allows for more specific general shape
- Easy location of geographic variables
- Links to external maps used to display geography
- Define concatenated string (unique geo code)
Hierarchical categories
- catgry = IDREFS
- level = IDREFS

Nest categories by reference
- Identify which level of the hierarchy they were
- Describe a category level
Retained all of the 2.1 aspects of geography found in the Study Description

Gathered it together into its own class

Made it available for every module

Expanded it dramatically
<GeographicCoverage>
  <BoundingBox>
  <Description>
  <StructureDescription>
  <SpatialObject>
  <Geography> or
  <GeographyReference>
</GeographicCoverage>

FGDC/ISO
Dublin Core
Variable reference
FGDC/ISO
Describe or point to external
Bounding Box

<r:BoundingBox>
  <r:NorthLatitude>+76.63</r:NorthLatitude>
  <r:EastLongitude>-61.48</r:EastLongitude>
  <r:SouthLatitude>+13.71</r:SouthLatitude>
  <r:WestLongitude>-177.1</r:WestLongitude>
</r:BoundingBox>
<r:Description translated="false" translatable="true">
<xhtml:p>United States, Region, Division, State, County, County Subdivision, Place, Tract/Block Numbering Area within Place/Remainder within County Subdivision.</xhtml:p>
</r:Description>
Spatial Object

- Point
  - Address
  - Coordinate point
- Line
  - Street
  - Boundary
- Polygon
- Linear Ring
  - Point and radius
Geography

- Attributes
  - Does it have summary data?
  - Is it the top level? Lowest level?
  - Is it exhaustive?

- Elements
  - Level
  - Parent Geography
  - Value (how its identified)
  - Geographic Time
Geography

<r:Geography hasSummaryData="true" topLevel="false" lowestLevel="false" exhaustiveCoverage="true">
  <r:Identification>
    <r:ID>G004</r:ID>
  </r:Identification>
  <r:Level>
    <r:Code>040</r:Code>
    <r:Name>State</r:Name>
  </r:Level>
  <r:ParentGeography>
    <r:ID>G001</r:ID>
  </r:ParentGeography>
  <r:Values>
    <r:VariableReference>
      <r:ID>STATEFP</r:ID>
    </r:VariableReference>
    <r:ExternalAuthorityReference>
      http://www......FIPS-xx
    </r:ExternalAuthorityReference>
  </r:Values>
  <r:GeographicTime>
    <r:Date>20050401</r:Date>
  </r:GeographicTime>
</r:Geography>
Choice…to provide the value

<r:GeographyValue>
  <r:GeographyCode>
    <r:Value>1</r:Value>
    <r:Authority>US Census</r:Authority>
  </r:GeographyCode>
  <r:GeographyName>
    New England
  </r:GeographyName>
</r:GeographyValue>
External maps

Other Materials

- Available in all modules
- Uniform citation structure
- Typed [currently a string but will be controlled]
- Link to any element with an ID
  - Mapping of a specific variable
  - Shape files for specific geographic levels
Goals of DDI Geography

- Describe the geographic cover in detail
  - Geographic Coverage provides a bounding box, textual description, specific geographies and optional internal polygons
- Describe the geographic hierarchies found in the data
  - Level, relationships, coverage information
- Expand ability to reference external maps and shape (or geographic boundary) files
  - Other Materials allows for more flexibility
Questions?

- Check out the DDI site:
  - http://www.icpsr.umich.edu/ddi
  - http://snipurl.com/ddihelp

Wendy Thomas
wlt@pop.umn.edu