Spatial Representation Information

I need to provide information about the spatial representation of my data.

Overview

The SpatialRepresentationInfo package in ISO 19115 provides fields for describing the spatial representation of the dataset. The package includes fields for describing the spatial characteristics of both gridded and vector datasets.

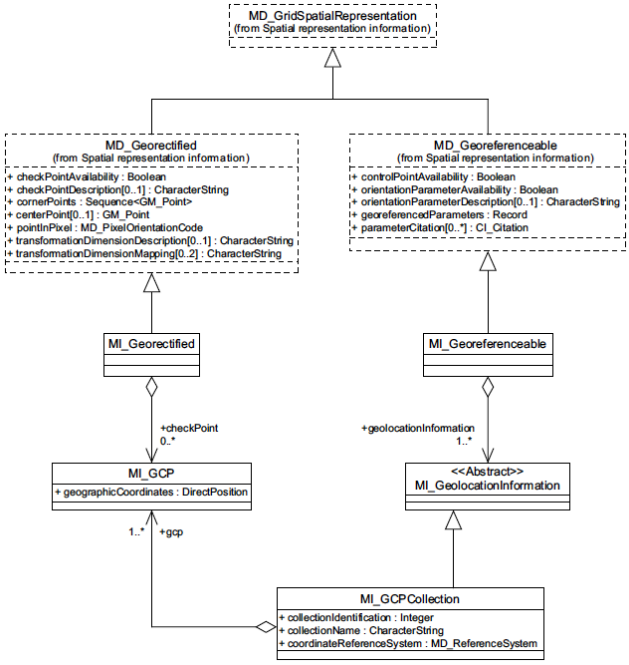
Recommendations

Documentation Objectives

- Describe a Georectified Grid.
- Describe a Georeferenced Grid

Conceptual Model

The treatment of grids illustrates the typical application of abstract objects in a UML Model. The abstract object MD_GridSpatialRepresentation has the elements that are shared by all grids: dimension and cell geometry information. Details about specific kinds of grids are then described in concrete object that can actually be instantiated. The ISO Standard includes two types of specialized grids. Georectified grids are grid whose cells are regularly spaced in a geographic (i.e., lat /long) or map coordinate system defined in the Spatial Referencing System (SRS) so that any cell in the grid can be geolocated given its grid coordinate and the grid origin, cell spacing, and orientation. Georeferenceable grids are grids with cells irregularly spaced in any given geographic/map projection coordinate system, whose individual cells can be geolocated using geolocation information supplied with the data but cannot be geolocated from the grid properties alone.



Implementation (XML)

```
<gmd:spatialRepresentationInfo>
  <gmd:MD_Georectified>
    <gmd:numberOfDimensions>
      <gco:Integer>3</gco:Integer>
    </gmd:numberOfDimensions>
    <gmd:axisDimensionProperties>
      <gmd:MD_Dimension>
        <gmd:dimensionName>
          <gmd:MD_DimensionNameTypeCode
codeList="http://www.isotc211.org/2005/resources/Codelist/gmxCodelists.xml#MD_DimensionNameTypeCode"
codeListValue="vertical">vertical</gmd:MD_DimensionNameTypeCode>
        </gmd:dimensionName>
        <gmd:dimensionSize>
          <gco:Integer>26</gco:Integer>
        </gmd:dimensionSize>
        <gmd:resolution>
          <gco:Measure uom="mbar">39.6</gco:Measure>
        </gmd:resolution>
      </gmd:MD_Dimension>
    </gmd:axisDimensionProperties>
```

```
    <gmd:axisDimensionProperties>
      <gmd:MD_Dimension>
        <gmd:dimensionName>
          <gmd:MD_DimensionNameTypeCode
codeList="http://www.isotc211.org/2005/resources/Codelist/gmxCodelists.xml#MD_DimensionNameTypeCode"
codeListValue="row">row</gmd:MD_DimensionNameTypeCode>
        </gmd:dimensionName>
        <gmd:dimensionSize>
          <gco:Integer>180</gco:Integer>
        </gmd:dimensionSize>
        <gmd:resolution>
          <gco:Measure uom="degrees_north">2.5</gco:Measure>
        </gmd:resolution>
      </gmd:MD_Dimension>
    </gmd:axisDimensionProperties>
    <gmd:axisDimensionProperties>
      <gmd:MD_Dimension>
        <gmd:dimensionName>
          <gmd:MD_DimensionNameTypeCode
codeList="http://www.isotc211.org/2005/resources/Codelist/gmxCodelists.xml#MD_DimensionNameTypeCode"
codeListValue="column">column</gmd:MD_DimensionNameTypeCode>
        </gmd:dimensionName>
        <gmd:dimensionSize>
          <gco:Integer>360</gco:Integer>
        </gmd:dimensionSize>
        <gmd:resolution>
          <gco:Measure uom="degrees_east">1.0</gco:Measure>
        </gmd:resolution>
      </gmd:MD_Dimension>
    </gmd:axisDimensionProperties>
    <gmd:cellGeometry>
      <gmd:MD_CellGeometryCode
codeList="http://www.isotc211.org/2005/resources/Codelist/gmxCodelists.xml#MD_CellGeometryCode"
codeListValue="area">area</gmd:MD_CellGeometryCode>
    </gmd:cellGeometry>

<gmd:transformationParameterAvailability><gco:Boolean>true</gco:Boolean></gmd:transformationParameterAva
ilability>
    <gmd:checkPointAvailability/>
    <gmd:cornerPoints>
      <gml:Point gml:id="someUniqueID_1">
        <gml:pos>-180 -90</gml:pos>
      </gml:Point>
    </gmd:cornerPoints>
    <gmd:cornerPoints>
      <gml:Point gml:id="someUniqueID_2">
        <gml:name>upperRight</gml:name>
        <gml:pos>180 90</gml:pos>
      </gml:Point>
    </gmd:cornerPoints>
    <gmd:pointInPixel>
      <gmd:MD_PixelOrientationCode>center</gmd:MD_PixelOrientationCode>
```

```
    </gmd:pointInPixel>
  </gmd:MD_Georectified>
</gmd:spatialRepresentationInfo>
```

Implementation (NcML)

Usage

Crosswalks

Notes