

WRAP Metadata: essential elements

Suggested minimum set of elements (from Content Standard for Digital Geospatial Metadata):

<origin>	Data Originator [author]
<pubdate>	Date of Publication
<title>	Title
<abstract>	Abstract
<purpose>	Purpose
<timeperd>	Time period for data content [single date or date range]
<current>	Currentness reference (e.g., ground condition)
<progress>	whether data product is preliminary or complete
<update>	maintenance and update (e.g., “no update planned”)
<bounding>	bounding box coordinates in long/lat
<themekt>	theme keyword thesaurus used (e.g., ISO 19115 Topic Category)
<themekey>	keywords [usually multiple]
<acconst>	presence/absence of access constraint
<useconst>	use constraint (place to put a disclaimer)
<metd>	date that metadata was generated
[Metadata Contact information]	
<addrtype>	mailing and physical address
<cntorg>	Organization
<city>	city
<state>	state
<postal>	ZIP code
<cntvoice>	phone number
<metstdn>	metadata standard used
<metstdv>	version of metadata standard

Suggested additions to the minimum set of metadata elements:

- Multiple Online_Linkage values (URLs) for navigation to:
 - data viewing i.e., IMAT client and/or ArcIMS site
 - data download (when ready, and if different than viewing location)
 - in-depth documentation, etc.
- Spatial Reference System (Projection)
- Attribute Labels, and Attribute Definitions

Suggested steps:

- 1) decide on the minimum set of elements
- 2) generate a template
- 3) develop explicit protocols for efficient metadata generation
- 4) construct metadata for each unique high-level data series (e.g., CMAQ output)
- 5) construct metadata for particular data sets (e.g., specific modeling runs)
- 6) construct metadata for individual data layer as necessary.

Alternatively, we could use a file naming system, include an explanation of that system in the data set-level or even data series-level metadata, thus precluding the production of custom metadata for every single layer that is accessed through the TSS portal.

Example Metadata record.

The following was prepared from a text file that produced by ESRI's ArcView software. The format and content (headings) are the ESRI profile of the CSDGM (FGDC-1998). All headings (i.e., text to the "left of the colon") and *all text in italics* were generated automatically. All text that is shaded was edited. All text in bold was generated automatically and provides a description of what information the particular element should provide – some of these need to be edited.

We probably want to develop some standardized language for the Use_Constraints element, including a liability/disclaimer statement.

Identification_Information:

Citation:

Citation_Information:

Originator: Western Regional Air Partnership (WRAP)

Publication_Date: **Date of dataset publication**

Title: **SMOKE Emissions by County**

Geospatial_Data_Presentation_Form: vector digital data

Online_Linkage:

<http://dubhe.cira.colostate.edu/TSS/MapWidget/MapWidgetDemo1.aspx?code=qw>

[and/or]

http://maps.envirodenver.com/website/WRAP_TSS/viewer.htm

[and/or]

<http://dubhe.cira.colostate.edu/TSS>

Description:

Abstract: **A brief narrative summary of the data set.** These data represent aggregated annual air emissions, by county, for 2002. Emissions are expressed in _____ units.

Purpose: **A summary of the intentions with which the data set was developed.** These data are intended to serve as _____. No responsibility is assumed by the Western Regional Air Partnership in the use of these data.

Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2002

Currentness_Reference: ground condition

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None planned

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -180.000000

East_Bounding_Coordinate: 180.000000

North_Bounding_Coordinate: 77.322350

South_Bounding_Coordinate: 7.221892

Keywords:

Theme:

Theme_Keyword_Thesaurus: ISO 19115 Topic Category

Theme_Keyword: environment

Theme_Keyword: climatologyMeteorologyAtmosphere

Theme_Keyword: boundaries

Access_Constraints: **Restrictions and legal prerequisites for accessing the data set.** None

Use_Constraints: **Restrictions and legal prerequisites for using the data set after access is granted.** None

Native_Data_Set_Environment: *Microsoft Windows XP Version 5.1 (Build 2600) Service Pack 2; ESRI ArcCatalog 9.0.0.535*

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: *Vector*

Point_and_Vector_Object_Information:

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: *G-polygon*

Point_and_Vector_Object_Count: *6138*

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Planar:

Map_Projection:

Map_Projection_Name: *Lambert Conformal Conic*

Lambert_Conformal_Conic:

Standard_Parallel: *33.000000*

Standard_Parallel: *45.000000*

Longitude_of_Central_Meridian: *-97.000000*

Latitude_of_Projection_Origin: *40.000000*

False_Easting: *0.000000*

False_Northing: *0.000000*

Planar_Coordinate_Information:

Planar_Coordinate_Encoding_Method: *coordinate pair*

Coordinate_Representation:

Abscissa_Resolution: *0.016384*

Ordinate_Resolution: *0.016384*

Planar_Distance_Units: *meters*

Geodetic_Model:

Horizontal_Datum_Name: *D_Sphere_ARC_INFO*

Ellipsoid_Name: *Sphere_ARC_INFO*

Semi-major_Axis: *6370997.000000*

Denominator_of_Flattening_Ratio: *infinity*

Entity_and_Attribute_Information:

Detailed_Description:

Entity_Type:

Entity_Type_Label: *county_wSMOKEemiss*

Attribute:

Attribute_Label: *FID*

Attribute_Definition: *Internal feature number.*

Attribute_Definition_Source: *ESRI*

Attribute_Domain_Values:

Unrepresentable_Domain: *Sequential unique whole numbers that are automatically generated.*

Attribute:

Attribute_Label: *Shape*

Attribute_Definition: *Feature geometry.*

Attribute_Definition_Source: *ESRI*

Attribute_Domain_Values:

Unrepresentable_Domain: *Coordinates defining the features.*

Attribute:

Attribute_Label: *AREA*

Attribute:

Attribute_Label: *PERIMETER*

Attribute:

Attribute_Label: *NUM*

Attribute:

Attribute_Label: *ID*

Attribute:

Attribute_Label: *STATE*

Attribute:

Attribute_Label: *COUNTY*

Attribute:

Attribute_Label: *FIPS*

Attribute:

Attribute_Label: *STATE_FIPS*

Attribute:

Attribute_Label: *SQUARE_MIL*

Attribute:

Attribute_Label: *OID_*

Attribute:

Attribute_Label: *REGION_*

Attribute:

Attribute_Label: *STATE_____*

Attribute:

Attribute_Label: *COUNTY_____*

Attribute:

Attribute_Label: *CO_____*

Attribute:

Attribute_Label: *NOX_____*

Attribute_Definition: *NOX consists of NO + NO₂, where X = 1 or 2.*

Attribute:

Attribute_Label: *VOC*_____

Attribute_Definition: Volatile organic compounds consist of ALD2 + ETH + FORM + ISOP
+ OLE + PAR + TOL + XYL

Attribute:

Attribute_Label: *NH3*_____

Attribute:

Attribute_Label: *SO2*_____

Attribute:

Attribute_Label: *PM10*_____

Attribute:

Attribute_Label: *PM2_5*_____

Attribute:

Attribute_Label: *PMC*

Attribute_Definition: Particular matter coarse (PMC = PM10 – PM2.5)

Attribute:

Attribute_Label: *FIPS_1*

Distribution_Information:

Resource_Description: *Downloadable Data*

Standard_Order_Process:

Digital_Form:

Digital_Transfer_Information:

Transfer_Size: *12.282*

Metadata_Reference_Information:

Metadata_Date: *20060322*

Metadata_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: *Western Regional Air Partnership (WRAP)*

Contact_Person: *Tom Moore*

Contact_Address:

Address_Type: *Mailing & Physical Address*

Address: [Western Governors' Association](#)

c/o Cooperative Institute for Research in the Atmosphere

Colorado State University

1375 Campus Delivery

City: *Fort Collins*

State_or_Province: *CO*

Postal_Code: *80523-1375*

Contact_Voice_Telephone: *(970) 491-8837*

Metadata_Standard_Name: *FGDC Content Standards for Digital Geospatial Metadata*

Metadata_Standard_Version: *FGDC-STD-001-1998*

Metadata_Time_Convention: *local time*

Metadata_Extensions:

Online_Linkage: <http://www.esri.com/metadata/esriprof80.html>

Profile_Name: *ESRI Metadata Profile*