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METADATA AND REPORTING

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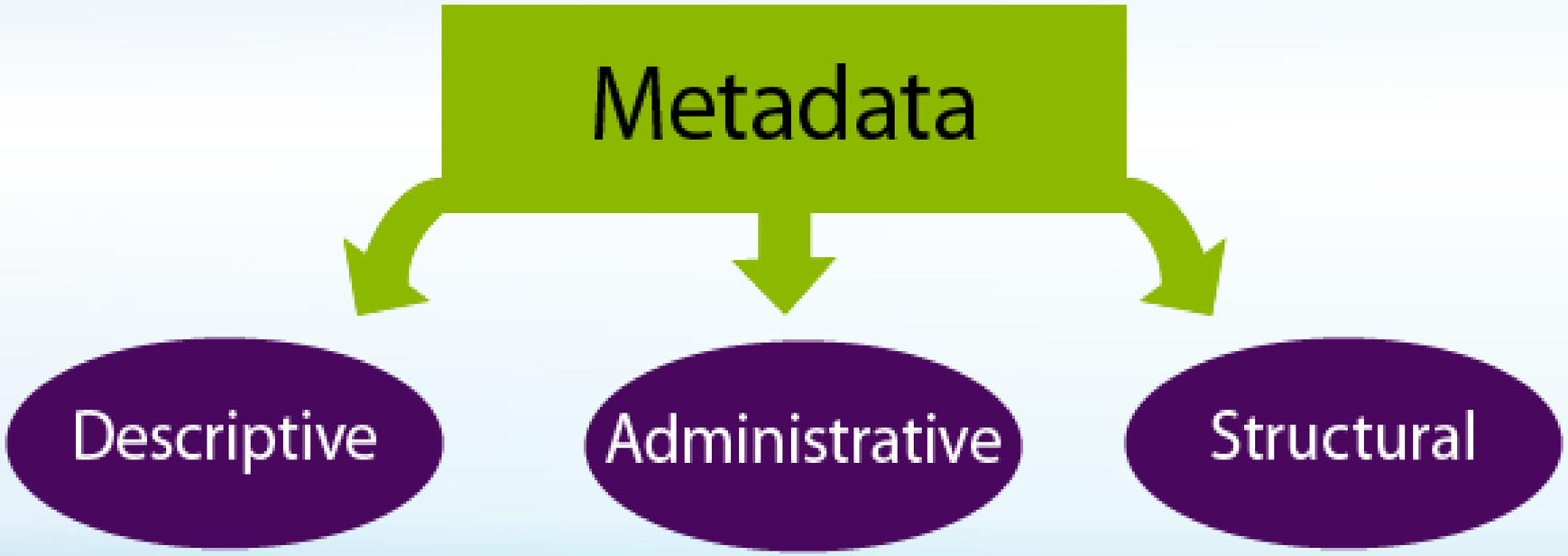
What is GIS Metadata?

- GIS Metadata refers to the information about the characteristics of spatial data.
- It is a set of data that describes the contents, quality, and condition of geographic data.
- Metadata provides a detailed description of the data, such as the title, abstract, keywords, projection information, and data quality information.



Why Metadata Matters??

Metadata is "data about data." Without accurate records, spatial datasets become untrustworthy and difficult to reuse.

- **Data Lineage:** Understand how, when, and by whom the spatial layers were collected and processed.
- **Interoperability:** Ensures datasets integrate smoothly across municipal, national, and global agencies.
- **Discovery:** Makes spatial data searchable and understandable inside local and web search catalogs.

LEADING STANDARDS

ISO 19115 Standard: The global geographic information metadata standard. It defines structured catalogues for spatial schema, extents, quality, temporal elements, and distribution methods.

FGDC CSDGM Standard: The Federal Geographic Data Committee standard. Highly common across North America, defining strict elements for digital geospatial metadata schemas.

Metadata Components

Component	Description
Title	A concise and descriptive title for the dataset.
Abstract	A summary of the dataset's content, purpose, and relevance.
Keywords	Terms that describe the main topics or themes of the dataset for easier searching.
Contact Information	Details of the person or organization responsible for the dataset.
Data Quality	Information on the accuracy, precision, and reliability of the data.
Temporal Information	The date or period during which the data was collected or applicable.
Spatial Information	Geographic extent and coordinate reference system of the dataset.
Usage Constraints	Any limitations or conditions on the use of the dataset.

Importance

- ❑ Enhances data usability and discoverability.
- ❑ Provides essential context and documentation for data sharing and reuse.
- ❑ Facilitates data management and integration.

Geospatial Metadata & Standards

DATA GOVERNANCE AND ACCOUNTABILITY

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International standard for geographic information metadata.

Description: An international standard for geographic information metadata.

- Provides a comprehensive set of elements for describing digital geographic datasets.

Key Features: Covers information about the identification, extent, quality, spatial and temporal schema, spatial reference, and geographic data distribution.

- Facilitates the interoperability and exchange of geographic data.

ANZLIC Metadata Profile

1. **Description:**
   - A metadata standard adapted specifically for the needs of Australia and New Zealand.
   - Based on ISO 19115 but tailored to meet regional requirements.
2. **Key Features:**
   - Provides a comprehensive structure for documenting geospatial datasets.
   - Includes specific elements relevant to the geographic and administrative context of the region.
3. **Usage:**
   - Widely adopted by government agencies, research institutions, and other organizations in Australia, New Zealand, and the Pacific region.
   - Promotes interoperability and data sharing among Pacific Island countries and territories.

Some examples: GIS Metadata – Pacific Island Countries

	Categories of Spatial Data that are available on the External Drive			Number of Folders	
Countries	Private	Public	Descriptions	Private	Public
American Samoa	Biology	Topography			
	bmng500m_AS				
	Boundaries			17	1
	Census				
	Climate				
	Coastline				
	Cultural				
	Geodetic				
	Geology				
	Hazards				
	Hydrography				
	Hazards				
	Infrastructure				
	Landuse				
	Parcel				
	Placenames				
	PublicHealth				
CNMI		CNMI reef habitat NOAA			
		pagan_habitat			2
Cook Islands	20140610_CK_Large_Marine_Areas_SPREP	20151208_CK_SPC_PCRAFI		8	10
	ArcGIS	Admin			
	CK_BaseLayers_Arcmap	Aitutaki_Habitat_scheme			
	CK_Imagery_Mapinfo	CK_bathy			
	CK_Landuse	CK_EEZ			
	CK_Large_MMA	CK_Place_names			
	CK_Reef	CK_Protected areas			
	CK_Region	CK_Topo Maps			
		CK_Wetlands			
		Mapinfo			
Fiji	Biology	Bathy			
	boundaries	place names			
	census	topo		19	11
	Fiji data	Fj_coastline			
	fish	Place_Names_Fiji.shp			
	hydrology	bmng500m_FJ			
	infrastructure	s2004_FJ			
	LMMA data	SWBD_Coast_FJ			
	Protected areas	FP EEZ			
	reef data	Island_names			
	unsorted	place_names			
	DSM				
	fiji_change_detection_0519				
	Mapinfo				
	MMA Fiji Maps_GIS				
French Polynesia	Australes				
	reefs			4	
	Society				
	Tuamotu				
FSM	Chuuk shapefiles	FSM DEM			
	FSM-NRSC-soils	FAM_EEZ		8	3
	Kosrae_certified_spatial_soils_data	state boundaries			
	PIC Vegetation				
	Pohnpei Veg2002				
	Pohnpei_DigitalAtlasMicronesia				
	Reefs				
	ABS_Action_Areas				

Kiribati	Datasets	Protected areas			
	20170730_Tarawa_MSP_Results_GIZ_Update				
	reefs	SPC Data		10	14
	turtles	EEZ			
	veg mapping	Coastline			
	vlodstock	Phoenix Island Attols			
	MPA	PIPA bounds polygon			
	20170710_New_Tarawa_PAs_CSIRO	sub_reefs		PA Data	
	20170716_MACBIO_John_data	tar_villages_text			
	Kiribati	Tarawa_Villages_point			
		Tarawa_Villages_text			
		Tarawa_Villages_region			
Nauru	Maps	20191201_Nauru_OSM_demo			
	Project	20160201_Nauru_Bathy_Area_GEBCO			
	Nauru005_SPC_data	20160510_Nauru_Bathy_2008_SPC			
	Nauru004_biorap	NR_Island			
	Nauru001_basedata				
	Nauru002_QGIS_training				
	20160121_PCRAFI_Nauru			11	
	20160128_ProcFishNauru_SPC				
	20150727_BIORAP_Nauru				
	20160128_BIORAP_Nauru_UQ_SPREP				
	NR_District				
New Caledonia	NCWrecks_GIS	place_names			
	NewCaledonia	Place_names_east_coast_subset		2	4
		PN_island			
		PN_PPL			
Niue	Niue PA Spatial files_Mar2019	topo map			
	niue	coastline_moved_east_for_Oli		3	2
	whale data from olive				
Palau	Palau_v6				
	PublicHealth				
PNG	PNG Mangrove	Hansen Vegetation Data			
	PNG MilneBay reef	FIMS_ident2_RSPO_all_Identit_hansenless50		5	8
	Landuse	hans_distforst_less50_Updatebare			
	Reefs	Vegetation_FIMS_RSPO_Hansen_2016			
	Protected Areas	Vegetation_FIMS_RSPO_Hansen_2016_vegred			
		Vegetation_FIMS_RSPO_Hansen_2016			
RMI	Protected Areas	Elevation			
	Development Projects	Topo			
	CourseTargets				
	Pacificland				
	PublicHealth				
	HealthCentres				
	Divesurvey				
	Fishbase				
	Seamounts				
	TerritorialSea				

Creating Metadata in QGIS

Here is a step-by-step process:

1. Open your QGIS project and add the layer containing the features from your fieldwork.
2. Select the layer containing the features you want to create metadata for, in this case, we will select “Mangroves point layer”, then “Properties”, and then “Metadata”.
3. In the “Metadata” dialog box, select the “Identification tab” on top.
4. Complete the information on this tab. For “Identifier” select “Set from layer”. This will populate the current layer properties.
5. Select the “Categories tab” and select the ISO categories “Boundaries”. You can select other categories as well.
6. Select the “Keywords tab” and view the current content. This will generate the content from your categories tab.
7. Select the “Access” tab and update the required information Fees, License, Rights and Constraints.
8. Select the “Extent” tab and select “Set from CRS layer”. This will extract information from your dataset and update it here.
9. Choose the “Contact” and update the information required.
10. Select the “Link” tab and add any resources or links related to the dataset using the Add link (+) or Remove link (-) button.
11. Select the “History” tab and update the information required.
12. Once you are satisfied with the information you have entered. Click “Apply” and “OK”.

Create Metadata Exercise

For your exercise today, you will create metadata in QGIS for the following datasets that were shared with you during this week's training.

1. **Field data**
- **Mangroves**
- **Waste**
- **Biodiversity**
- **Hydrology**

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Thank You