

Guidelines on the TDIS Metadata standard for RBFS

Texas Disaster Information System

Prepared by TDIS
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Purpose:

This document provides guidelines on the TDIS metadata standards specific to the RBFS data and models uploaded to the Texas Disaster Information System (TDIS).

Definitions/Acronyms

Digital Object - Digital objects may be either simple or complex. Simple digital objects are made up of a single file, such as a PDF or an image, while complex digital objects are made up of multiple files, such as a website or a digitized book. In any case, digital objects include informational content as well as metadata that supports administration, access, and preservation. Source: <https://dictionary.archivists.org/entry/digital-object.html>

Background and Context

The registration of digital objects within the TDIS data catalog depends on the creation of robust metadata. TDIS recommends using the metadata schema on GitHub (see link in related resources). While TDIS is, at its core, a web-based data system designed to support disaster preparedness, response, recovery, and mitigation, the use of this system is dependent on the ability to describe, organize, track, discover, and serve the digital objects stored within it. The DQMT (Database Query Management Tool) is one such use case envisioned that will leverage this metadata.

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The general process for registering data in the TDIS data catalog is as follows:

1. **Identify the data to be registered:** This can include structured and unstructured data, such as individual files (artifacts), data layers (spatial), and models.
2. **Create metadata:** Once the data is identified, metadata needs to be created using TDISMeta. TDISMeta can be accessed from the URL: <https://tdismeta.cloud.tdis.io/app/>. Please reach out to the TDIS team at tdis@tamu.edu for credentials to access the application. Once the metadata has been created, there are instructions to download the .yaml file and include into the model directory.
3. **Register the data in the data catalog:** This involves processing the .yaml file included in the model files to catalog the model package.

4. **Validate the metadata:** After model package has been cataloged in the data catalog, the metadata needs to be validated to ensure it is accurate and complete. Reviews include checking the metadata for errors and inconsistencies and making corrections as necessary.

5. **Update the metadata:** The metadata in the data catalog needs to be maintained and kept current to ensure that it remains accurate and relevant. Metadata updates are necessary when changes are made to the digital object, such as when new data is added or the data format changes.

6. **Search and discover data:** Once the data is registered in the data catalog and its metadata is validated and up-to-date, users can search and discover the data through the DMQT tool at the following URL: <https://dmqt.cloud.tdis.io/>. A user can self-register to gain access to the tool.

Minimally Required Metadata

Fields from the current TDIS metadata schema that are minimally required.

Notes & Useful links:

Please check the control terms link below to see if a metadata field has controlled terms and if so what value are allowed.

Published metadata documentation: <https://github.com/TexasDIS/metadata>

Field descriptions: https://github.com/TexasDIS/metadata/blob/main/tdis_metadata_field_documentation.md

Controlled terms: https://github.com/TexasDIS/metadata/tree/main/controlled_terms

A sample yaml with these fields: https://github.com/TexasDIS/metadata/blob/main/examples_and_templates/tdis-minimum-viable-metadata.yaml

Basic Descriptive Information:

#	Field	Required/Optional	Applies to these Digital Objects
1	Region	Required	Collection, Artifact, Layer, Model
2	HUC	Required	Collection, Artifact, Layer, Model
3	County	Required	Collection, Artifact, Layer, Model
4	City	Required	Collection, Artifact, Layer, Model
5	Title	Required	Collection, Artifact, Layer, Model
6	Description	Required	Collection, Artifact, Layer, Model
7	Purpose	Optional	Collection, Artifact, Layer, Model
8	Creator	Required	Artifact, Layer, Model
9	Keyword Term	Required	Collection, Artifact, Layer, Model
10	Update Frequency	Required	Artifact, Layer, Model
11	Use Constraints	Required	Artifact, Layer, Model

Contact Information:

12	Contact Affiliation	Required	Collection, Artifact, Layer, Model
13	Contact Department	Required	Collection, Artifact, Layer, Model
14	Contact Email	Required	Collection, Artifact, Layer, Model
15	Contact Name	Required	Collection, Artifact, Layer, Model
16	Contact Phone Number	Required	Collection, Artifact, Layer, Model

Spatial Information:

17	Spatial Data Type	Required	Layer
18	Spatial Extent	Required	Collection, Layer, Model
19	Boundary Name	Required	Layer, Model
20	Horizontal Coordinate System*	Required	Layer

Models:

21	Model Software Name	Required	Model
22	Model Software Version	Required	Model
23	Model Type	Required	Model
24	Model Input	Optional	Model
25	Model Output	Optional	Model
26	Model Config File	Required	Model

* Recommended coordinate reference system is WGS_1984_World_Mercator, WKID=3395

Folder and Metadata file naming

- When the metadata file is downloaded using TDISMeta, a filename is automatically generated. No changes need to be made for the name. The metadata file has to be stored in the directory where the model files exist. Every model in the model package that needs to be cataloged needs to have an associated metadata file.
- The metadata filenames are automatically generated when using TDISmeta. In the case of datasets where metadata is being provided and the .yaml file is created manually please include **metadata_** as the prefix to the filename. The .yaml file needs to be saved in the same directory as the dataset or model.

Commented [BR1]: This should be "Coordinate Reference System"

Commented [BR2R1]: Do we want to enforce WGS 84 here?

Commented [TA3R1]: @Juan, Andrew Can we enforce or recommend WGS 84? if so, I can add a note on here.

Commented [TA4R1]: @BLESSING, RUSSELL, The name of this attribute in our metadata std is this.

https://github.com/TexasDIS/metadata/blob/main/fields_by_level/layer_metadata_fields.csv

All the 22 fields on here map exactly to our published std. If it will not be incorrect, it will be preferable to leave as is. If not, should we also rename the attribute in or std?

Commented [JA5R1]: @Thomas, Anto Is there a reason we are picking WGS 84? I do agree though we should select one for uniformity's sake. FYI many on the official models that I've worked with use NAD1983.

Commented [BR6R1]: @Thomas, Anto : we can leave the name as-is then. @Juan, Andrew : WGS84 is the standard projection for web mapping/applications.

Applicability of these guidelines

These guidelines apply to study Phases 3.

How often these guidelines will be updated

These guidelines may be updated no more than once a month as we get feedback from GLO, TIFF, CHARM, TWI, the RBFS region vendors, the TFMR vendor and other stakeholders and collaborators.

Change Log.

Date	By	Change
11/13/2023	AT	Added metadata attribute for Horizontal Coordinate System
11/13/2023	AT	Added the section Folder and Metadata file naming
11/13/2023	AT	Update applicability of these guidelines to Phase 3.
12/12/2024	VG	Updated metadata fields to include region, huc, county and city
12/12/2024	VG	Updated metadata guidance for naming and included information regarding TDISMeta
05/29/2025	VG	Updated metadata guidance to include TDISMeta details

Please send questions, comments and feedback to tdis@tamu.edu