



SAVING THE LAST GREAT PLACES ON EARTH

The TNC Metadata Standard

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Why Have a TNC Standard?

Documentation of TNC datasets / creation of metadata repository:

- Ensure that TNC data sets are well documented and easily accessible.
- What do we have? Why was it created? When was it created? Who did the work? How do I get a copy?

Sharing geospatial data and materials from ecoregional assessments:

- with partners (federal agencies & NGOs)
- facilitate data aggregation and analysis – help share information between chapters and field offices

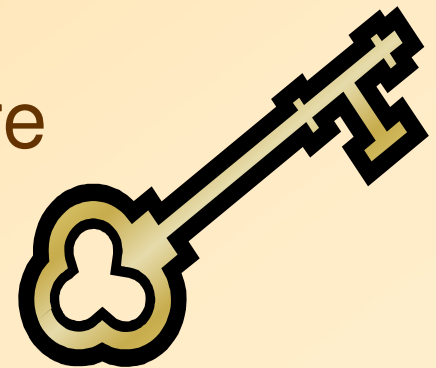
Why Have a TNC Standard?

Helps to create:

- Common terms
- Common definitions
- Common language
- Common structure
- Common templates

The Key to Using the Standard...

- If you're creating metadata for the first time, it may seem complex - stick with it
- Don't create your own version of the standard - you'll only confuse people
- Find the fields that are pertinent to your data and needs
- Use the main template; build more templates
- *Ask questions!*



Establishment of U.S. Metadata Standards

Executive Order 12906 (1994)

- Defines the responsibilities of the Federal Geographic Data Committee (FGDC)
- Requires that metadata be available to the public
- Requires creation of metadata for data sets from 1995 forward

FGDC's Responsibilities

Federal Geographic Data Committee (FGDC) is responsible for coordinating:

- development of National Spatial Data Infrastructure
- establishment of National Geospatial Data Clearinghouse
- development of standards
- cooperative efforts with State, Local, and tribal governments, and private sector
- implementation of digital geospatial data framework

Executive Order 12906

Federal Agencies responsible for:

- standardized documentation of all new data collected or produced beginning in January 1995
- plans to document data previously collected or produced (legacy data) to the “extent practicable”
- making metadata and data available to the public
- utilize Clearinghouse to determine if data has already been collected or cooperative efforts are possible

FGDC Profiles and Extensions

Profile: document that describes the application of the Standard to a specific community

Extension: extended elements to the standard are elements outside the standard but needed by the data set producer

Examples: Biological Data Profile, Shoreline Data Profile, Remote Sensing Extensions

International Organization for Standardization (ISO) Metadata Standard

- ISO 19115 has been approved - an abstract standard that specifies general content for the metadata, but does not specify the format.
- ISO 19139 is under development - XML implementation schema specifying the metadata record format.
- The FGDC is developing metadata content for the U.S. National Profile of ISO 19139.
- ***ISO not yet the official U.S. metadata standard (important if need to provide FGDC-compliant metadata!).***
- Software tools under development.
- Metadata created before the release of the ISO standard will not need to be altered.
- Updates and more information:
<http://www.fgdc.gov/metadata/whatsnew/fgdciso.html>

More Metadata Standards

- Ecological Metadata Language (EML)

Used for the Long-term Studies Section (LTSS) publicly accessible registry describing scientific data sets on ecology and the environment.

<http://knb.ecoinformatics.org/software/eml/>

<http://knb.ecoinformatics.org/knb/style/skins/ltss/index.html>

- Darwin Core

Used for the Global Biodiversity Information Facility (GBIF) portal of collection and observation data.

<http://darwincore.calacademy.org/>

<http://www.gbif.org/>

Draft TNC Metadata Standard

Draft TNC Metadata Standard

- Overview of the draft TNC Metadata Standard
- Relationship to the FGDC Content Standards for Digital Geospatial Metadata
- Metadata attribute details, definitions, and relationship to the TNC Ecoregional Data Standard

Overview of the draft TNC Metadata Standard

- Developed from the FGDC metadata standard required elements and the TNC Ecoregional Data Standard

- Attributes identified as:

Required for TNC Ecoregional Data Standard

FGDC Mandatory

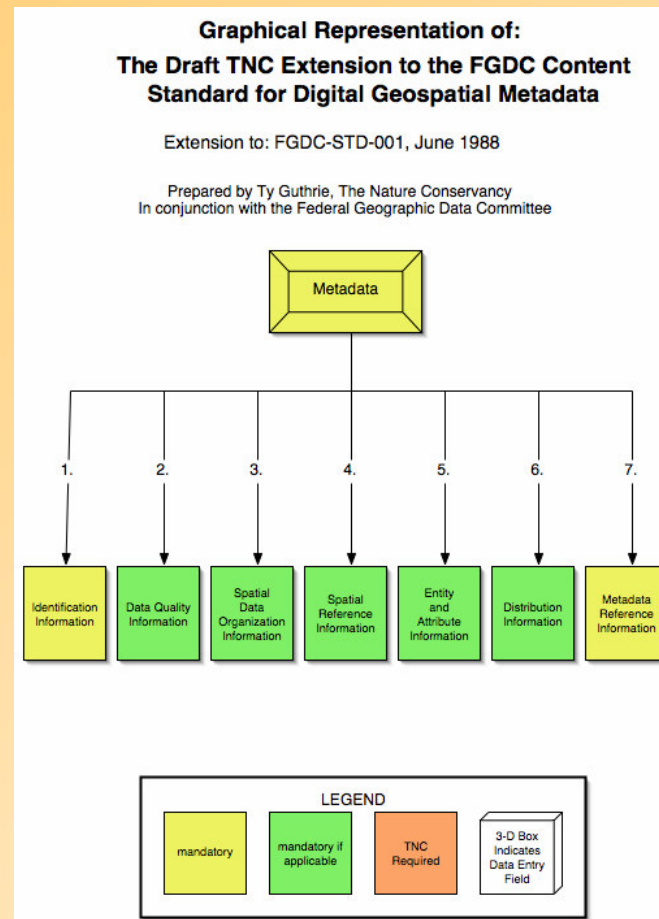
FGDC Mandatory if applicable

Overview of the draft TNC Metadata Standard

Includes:

- FGDC Section name
- Metadata attribute name
- Description (definition)
- Data type
- Domain values (where applicable)
- TNC Ecoregional Data Standard section
- Recommended standard language (where applicable)

Graphical Representation of the TNC Metadata Standard



Relationship to the FGDC Metadata Standard

- TNC standard is based on the FGDC standard, can be considered a “profile” of the FGDC standard
- Includes all mandatory FGDC metadata elements
- Identified additional metadata attributes that are the most relevant for TNC data
- Completion of TNC standard will produce FGDC compliant metadata records!

FGDC Metadata Standard: overview

Seven Major Metadata Sections:

- Section 1 - Identification Information*
- Section 2 - Data Quality Information
- Section 3 - Spatial Data Information
- Section 4 - Spatial Reference Information
- Section 5 - Entity and Attribute Information
- Section 6 - Distribution Information
- Section 7 - Metadata Information*

Three Supporting Sections:

- Section 8 - Citation Information*
- Section 9 - Time Period Information*
- Section 10 - Contact Information*

* *Minimum required metadata*

FGDC Metadata Standard: All the Details

FGDC Metadata Standards:

<http://www.fgdc.gov/standards/status/textstatus.html>

Content Standard for Digital Geospatial Metadata
(CSDGM) (version 2.0), FGDC-STD-001-1998

<http://www.fgdc.gov/metadata/contstan.html>

Content Standard for Digital Geospatial Metadata, Part
1: Biological Data Profile, FGDC-STD-001.1-1999

*(Note: The FGDC biological data profile is sometimes also referred to as
the “NBII extension”)*

http://www.fgdc.gov/standards/status/sub5_2.html

**Section 8
Citation
Information**

Citation Information

Originator
(can be repeated unlimited times)

Publication Date

Title

Edition

Geospatial Date Preservation Form

Series Information

Series Name

Issue Identification

Public Information

Publication Place

Publisher

Larger Work Citation

Citation Information (see Section 8)

**Section 9
Time Period
Information**

Time Period Information

Single Date / Time

Calendar Date

OR

Multiple Dates / Times

Single Date / Time
(2 or more repetitions)

Calendar Date

OR

Range of Dates / Times

Beginning Date

Ending Date

**Section 10
Contact Information**

Contact Information

Contact Person Primary

Contact Person

OR

Contact Organization Primary

Contact Organization

Contact Address
(can be repeated unlimited times)

Address Type

Address
(can be repeated unlimited times)

City

State or Province

Postal code

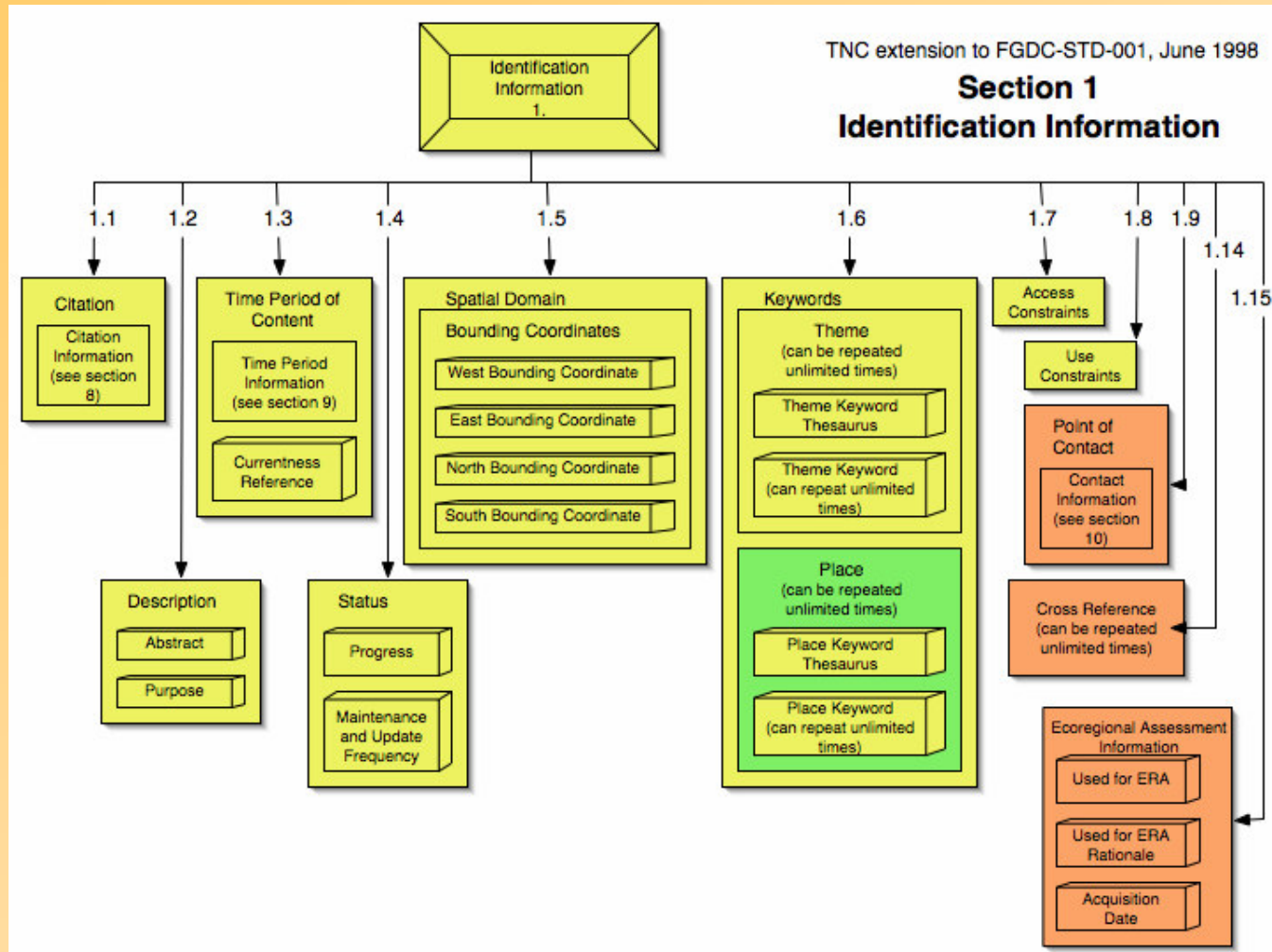
Contact Voice Telephone
(can be repeated unlimited times)

Contact Electronic Mail Address
(can be repeated unlimited times)

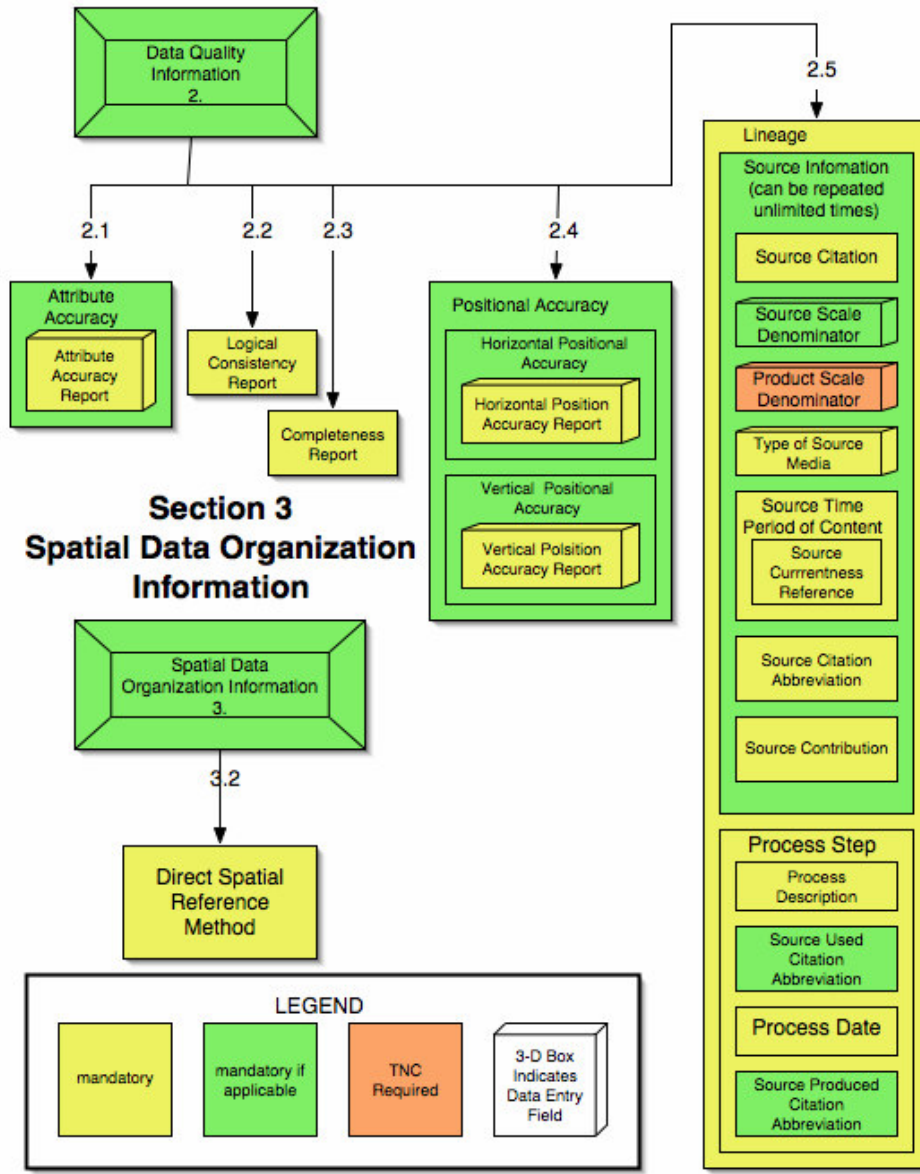
*TNC graphical representation –
Section 8, 9 &
10*

TNC extension to FGDC-STD-001, June 1998

TNC graphical representation – Section 1

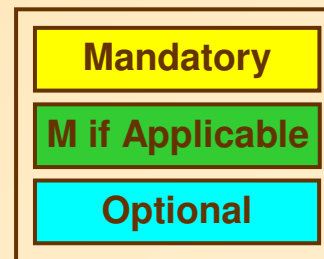
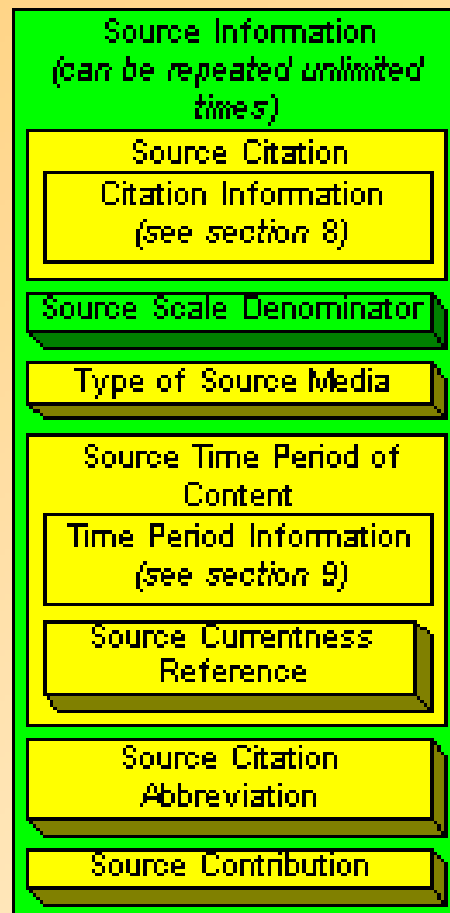


Section 2 Data Quality Information

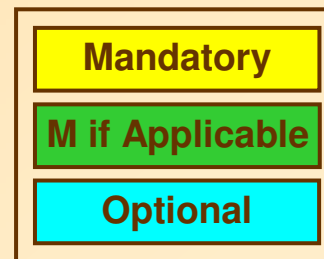
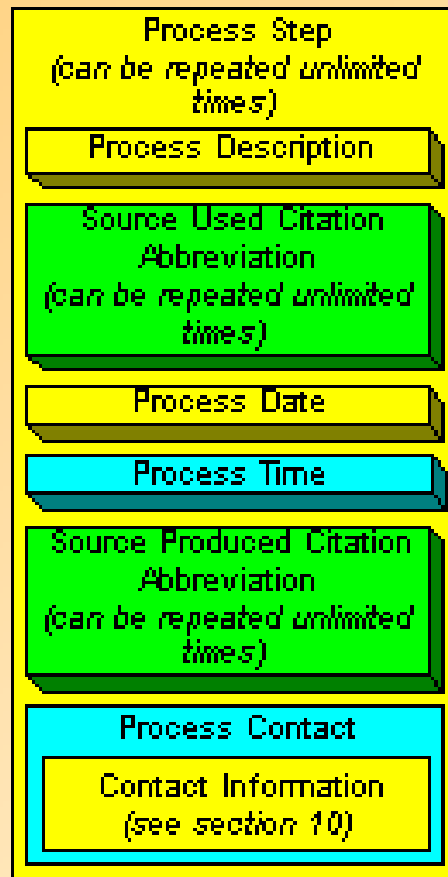


TNC graphical representation – Section 2 and 3

What were the ingredients (source data)?



How were they combined (process steps)?



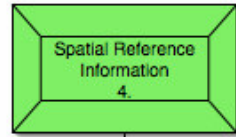
Who did the work (contact)?

Contact Information
Contact Person Primary
Contact Person
Contact Organization
OR
Contact Organization Primary
Contact Organization
Contact Person
Contact Position
Contact Address <i>(can be repeated unlimited times)</i>
Address Type
Address <i>(can be repeated unlimited times)</i>
City
State or Province
Postal Code
Country
Contact Voice Telephone <i>(can be repeated unlimited times)</i>

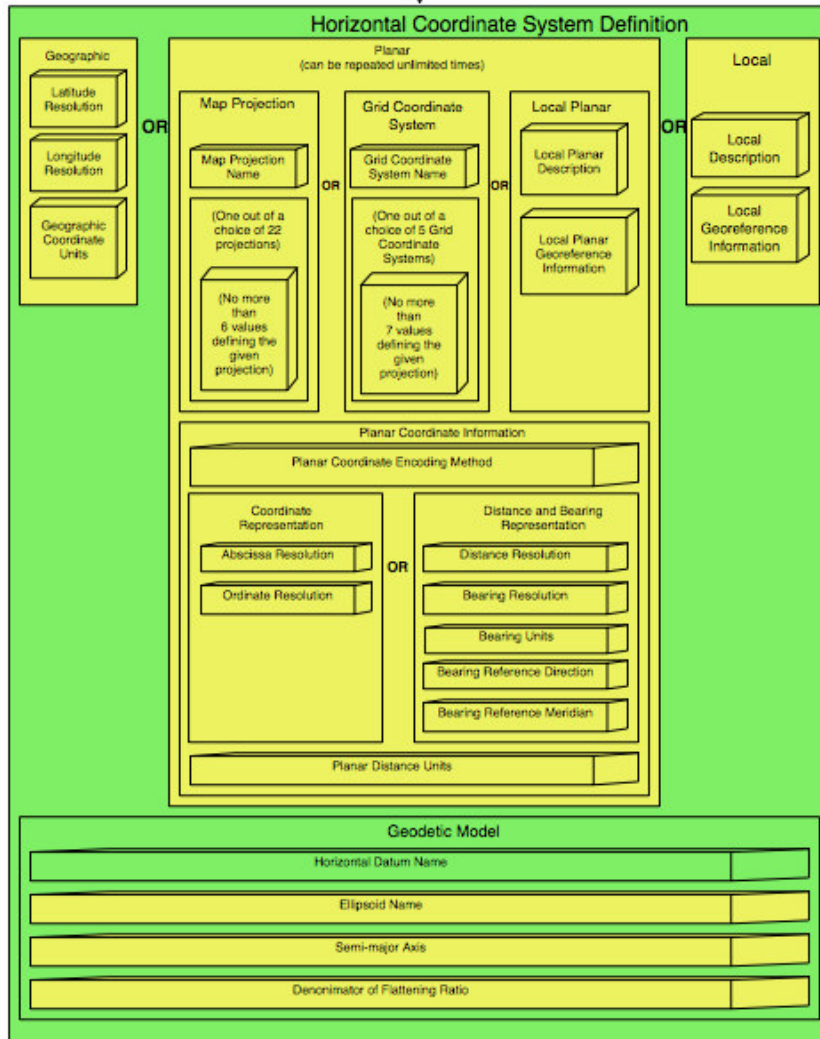
Mandatory
M if Applicable
Optional

**Section 4
Spatial Reference
Information**

TNC extension to
FGDC-STD-001, June 1998



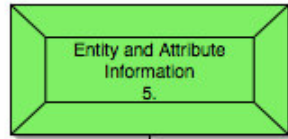
4.1



*TNC graphical
representation
– Section 4*

**Section 5
Entity and Attribute
Information**

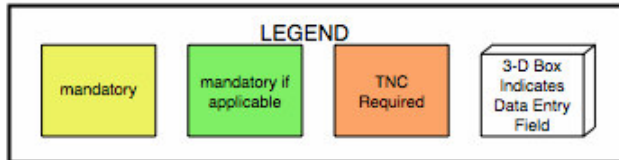
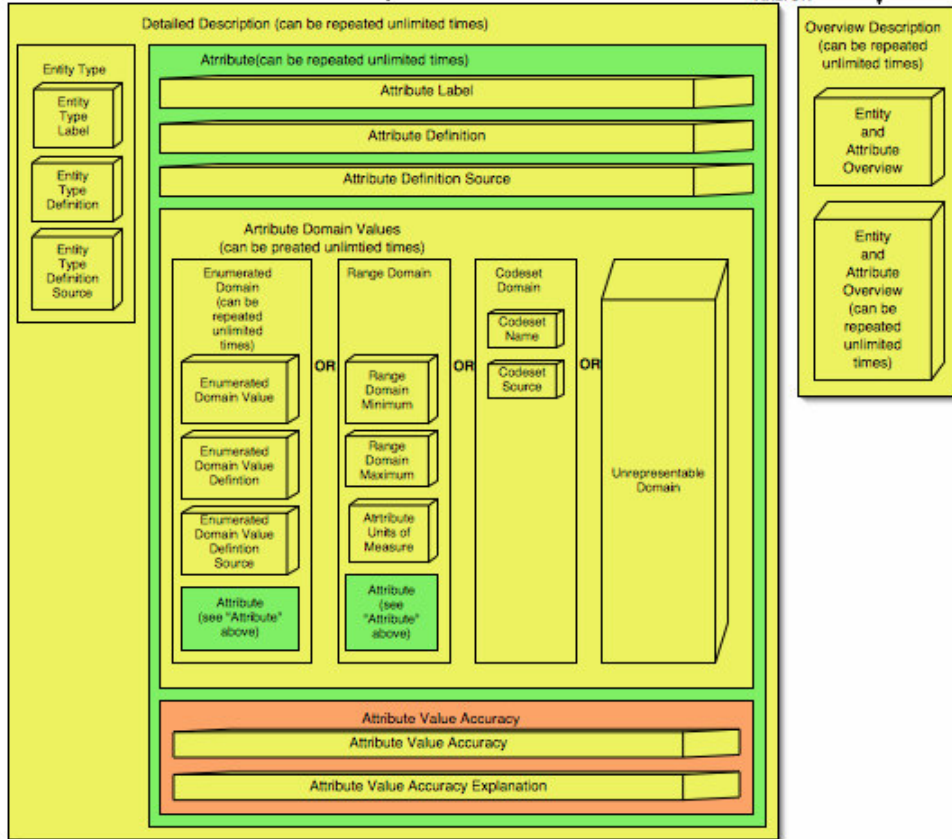
TNC extension to
FGDC-STD-001, June 1998



5.1

5.2

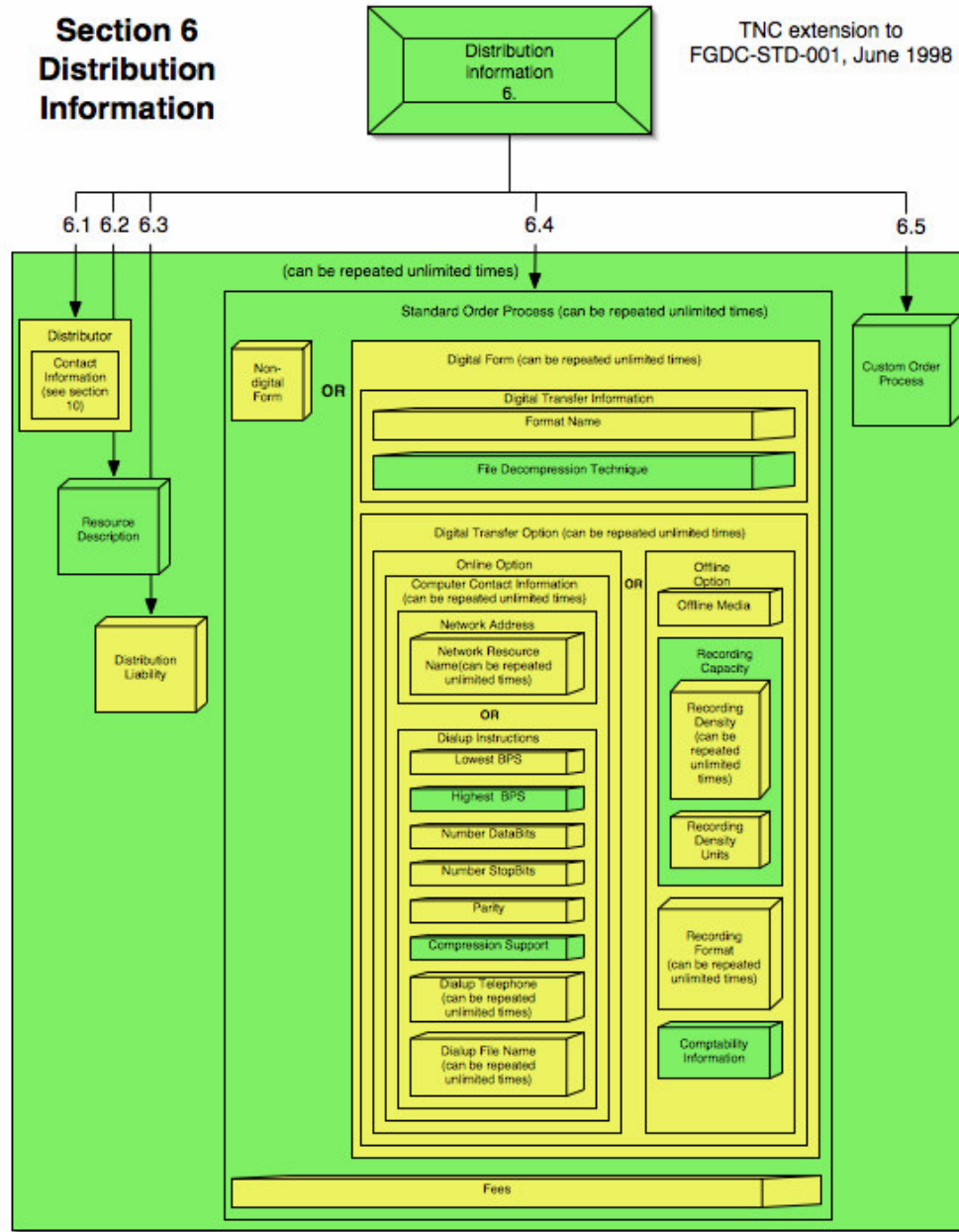
AND/OR



*TNC graphical
representation –
Section 5*

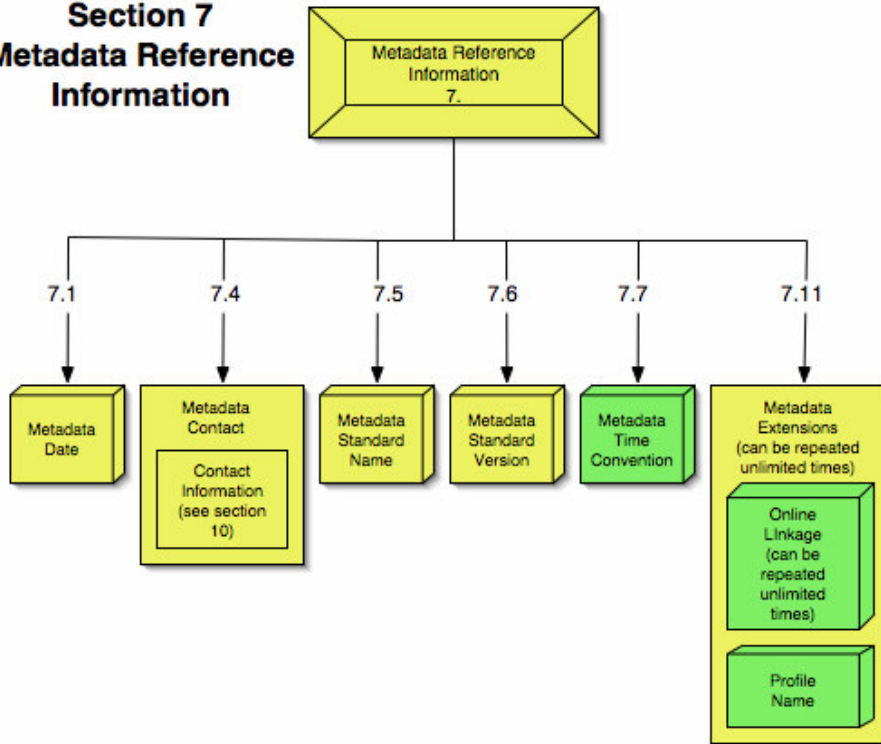
**Section 6
Distribution
Information**

TNC extension to
FGDC-STD-001, June 1998

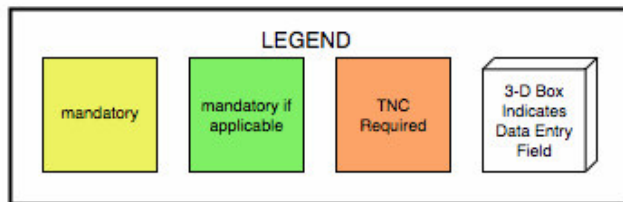


*TNC graphical
representation
– Section 6*

**Section 7
Metadata Reference
Information**



TNC extension to FGDC-STD-001, June 1998



TNC graphical representation – Section 7

Implementation – Where Does TNC Go From Here?

Implementation Decisions

- Getting support for metadata development?
- What is a “data set?” What needs metadata?
- When is the best time to collect metadata?
- When should you document legacy data?
- Who is the metadata being created for? For what purpose?
 - External - Clearinghouse, Projects, Internet
 - Internal - Data Library, Archives
- Who should create the metadata?
 - Single individual or team approach
- What metadata creation tools?

Getting Support: The Value of Metadata is TNC Wide

- Saves time, money, frustration
- Preserve institutional memory and investment in data; written documentation rather than in one person's brain
- Partnerships and “advertising” data collections, help share reliable information
- Efficiency – identify and use existing datasets, avoid duplication of effort
- Gives the data set creator(s) credit

Deciding what data sets need metadata?

- Dataset definitions: EO 12906, FGDC, NBII
- Historical data: NSDI “Guide for Federal Agencies”
- Prioritize data sets: Mission critical, High demand, Projects, Web downloadable, Legacy, Others?
- Data inventory: Format, Resolution, Contacts, Geographic locations, etc
- General rule of thumb: The “what if Joe Scientist gets hit by a bus tomorrow?” test

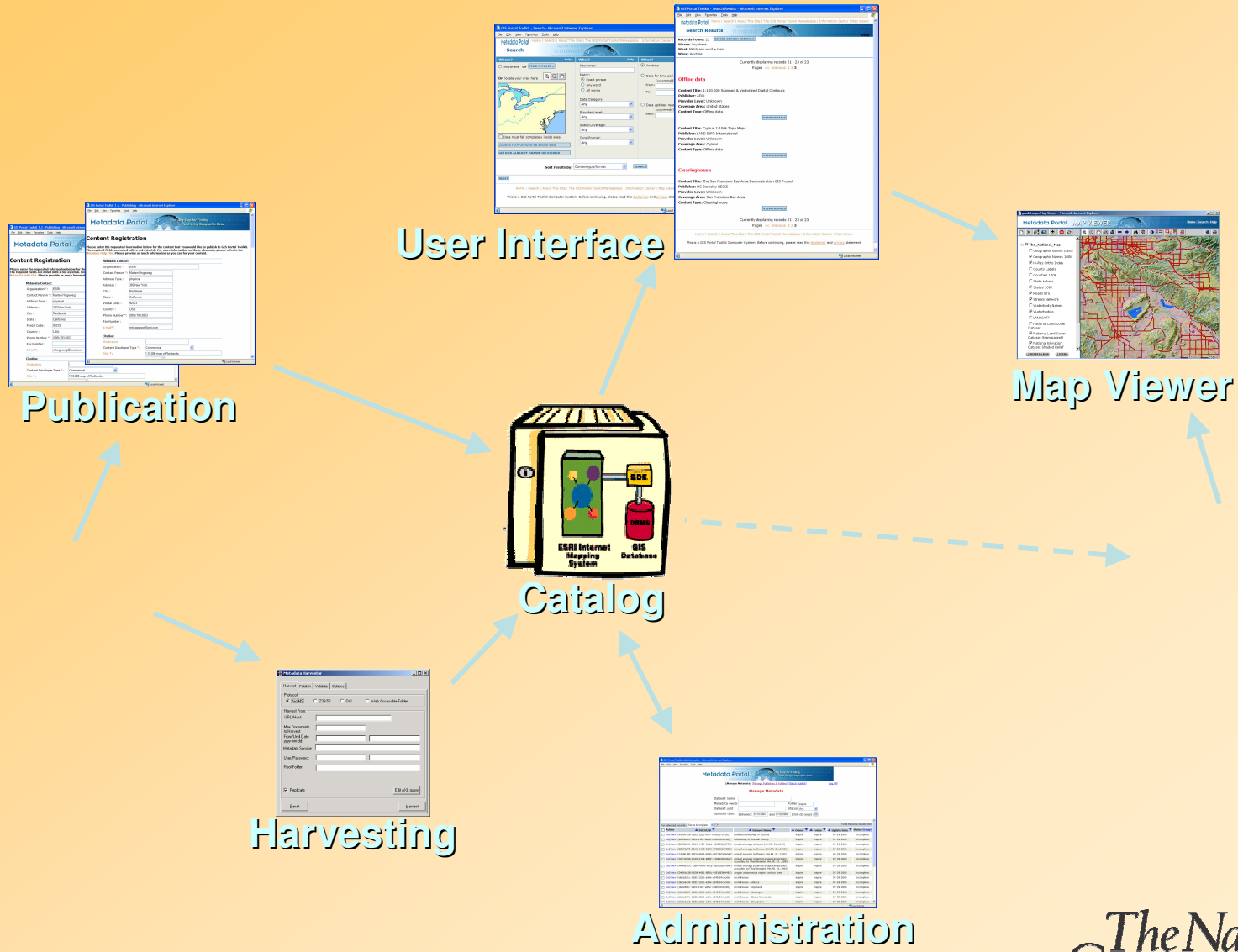
TNC User Requirements

- What information do you need to document?
- What do you need to communicate about those data? Feedback on the *DRAFT* TNC Metadata Standard?
- What resources / tools do you need to be able to create metadata?

Creation of a TNC Metadata Server / Portal

- By the end of the year, TNC plans to provide a common website to post metadata and expose your great GIS work to the rest of the conservation community.
- Please let us know if there is anything you would like or not like to see in a TNC metadata portal.

GIS Portal Components



Architecture

