Validation of WMO Core Profile 1.3
Item 2.1: Key points of WCMP

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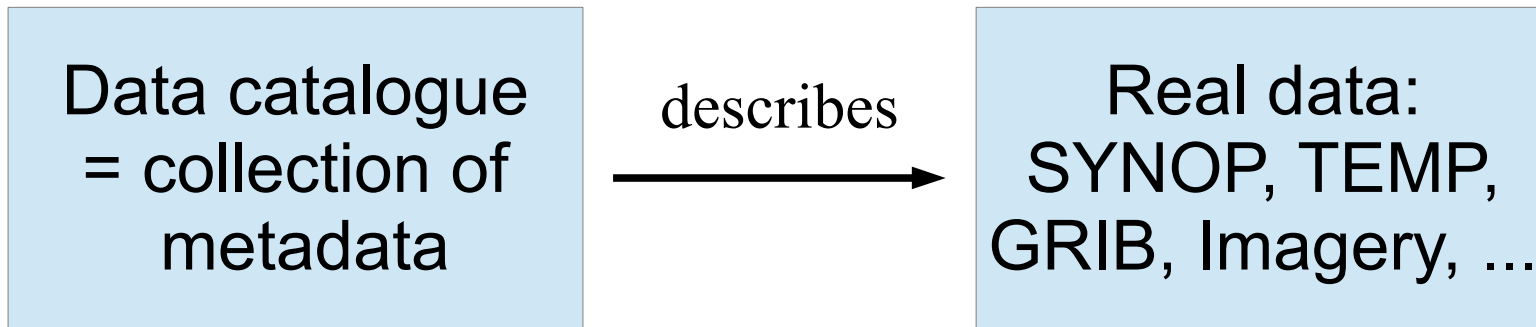
Introduction to WIS Discovery Metadata

What's metadata?

- General
    - Data about data
- WIS
    - (Element of) data catalogue
- WIGOS
    - (Element of) observation platform and instruments

WIS Discovery Metadata

Data catalogue = collection of metadata	describes →	Real data: SYNOP, TEMP, GRIB, Imagery, ...

- ## Analogy to library

Book catalogue = collection of metadata

Real books

describes →

Images from Wikimedia Commons

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ISO Geographical Metadata

- ISO 19115:2003 – conceptual UML
- ISO/TS 19139:2007 – actual encoding in XML
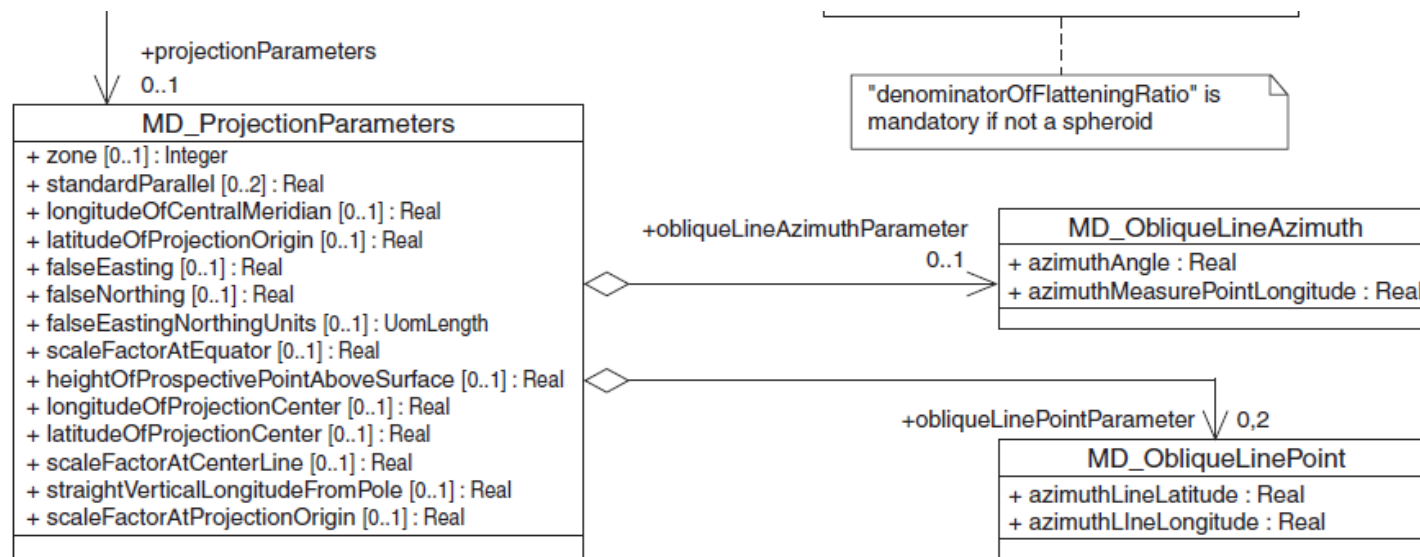
Typical book card

- **Title**: An Introduction to Dynamic Meteorology, 3rd Edition

- **Author**: James R. Holton

- **Subject**: Atmospheric Dynamics

- **Published**: April 12, 1992

- **Identifier**: ISBN 978-0123543554

- **Language**: English

- **Shelf**: 1st floor, 551.51-H838i-3

ISO 19115 is very big

only summary of
16 pages of UML

WMO Core Metadata Profile

- Extension
  - Defining XML elements other than in ISO
  - Given up for interoperability

- Restriction
  - What elements in ISO are really needed
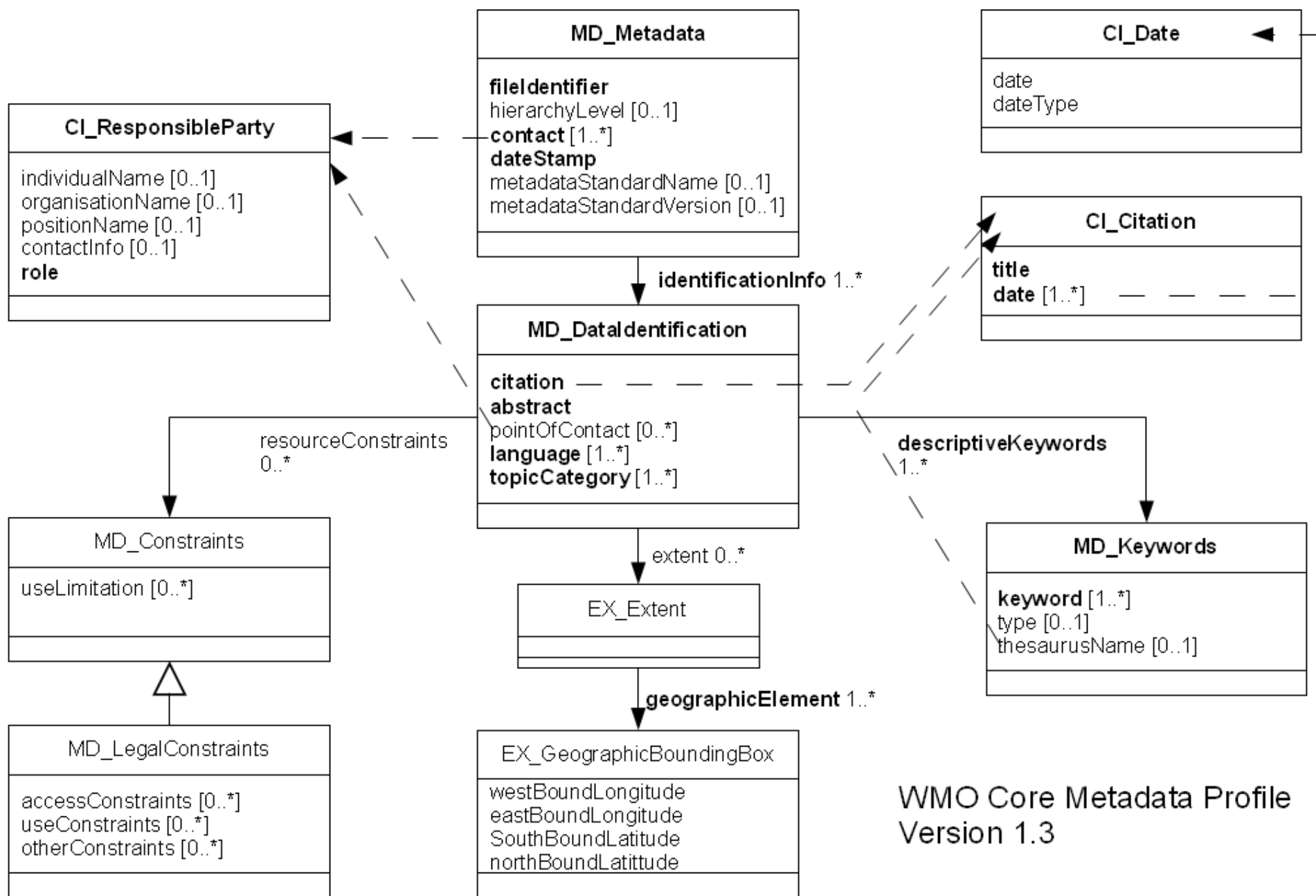 - Recommended encoding of meteorological information

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Key points of WMO Core Profile 1.3

Philosophy

- Computer validation

- Minimalism

- Controlled vocabulary

  - Rather than free text

  - Linked data, semantic web

MD_Metadata

fileIdentifier
hierarchyLevel [0..1]
contact [1..*]
dateStamp
metadataStandardName [0..1]
metadataStandardVersion [0..1]

CI_Date ◄

date
dateType

CI_ResponsibleParty

individualName [0..1]
organisationName [0..1]
positionName [0..1]
contactInfo [0..1]
role

CI_Citation

title
date [1..*] — — — — —

identificationInfo 1..*

MD_DataIdentification

citation — — — — — —
abstract
pointOfContact [0..*]
language [1..*]
topicCategory [1..*]

resourceConstraints
0..*

descriptiveKeywords
1..*

MD_Constraints

useLimitation [0..*]

extent 0..*

EX_Extent

MD_Keywords

keyword [1..*]
type [0..1]
thesaurusName [0..1]

MD_LegalConstraints

accessConstraints [0..*]
useConstraints [0..*]
otherConstraints [0..*]

geographicElement 1..*

EX_GeographicBoundingBox

westBoundLongitude
eastBoundLongitude
SouthBoundLatitude
northBoundLatittude

WMO Core Metadata Profile
Version 1.3

UML becomes really compact

- It's bare minimum
  - Some more elements should be documented to be useful

- Most requirements can be tested automatically
  - Validation in Schematron language

WCMP 1.3 Requirements (1)

- Validates XML Schema of ISO 19139

- Passes all constraints in ISO 19139 Annex A

- No default namespace

- GML namespace: http://www.opengis.net/3.2

- Mandatory: gmd:fileIdentifier

  - Unique in the WIS

WCMP 1.3 Requirements (2)

- At least one "theme" keywrod from WMO_CategoryCode

- Keywords from a thesaurus goes to a single MD_Keyword

- Bounding box (for geographical data)

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WCMP 1.3 Requirements (3)

- For data for global exchange

  - Keyword "GlobalExchange" (type dataCentre)

  - fileIdentifier prefix "urn:x-wmo:md:int.wmo.wis::"

  - resourceConstraints/*/otherConstraints

    - One data policy code
    - One GTS priority code

WCMP 1.3 Recommendations (1)

- URI syntax of gmd:fileIdentifier

- MD_Metadata/contact/*/role = pointOfContact

- Abstract provide a clear and concise statement of content

- identificationInfo/*/pointOfContact has at least

  - A name (person, organisation, or position)

  - Email address

- citation/*/date/*/date in YYYY-MM-DD format

WCMP 1.3 Recommendations (2)

- resourceConstraints for global data:

  - both accessConstraints and useConstraints

- Single resourceConstraints for constraints from single source

Guidance needed (1)

- Contact points
    - Metadata author
        - GISC assisting MD authoring
    - Data originator / archiver / distributor
    - WMO programme or int'l project

- More thesaurus for keywords
    - Physical quantity (variable)
    - WMO Programme?
    - Geographical area?

Guidance needed (2)

- Date range

- Update cycle

- Access to data

- Observing stations

- Grid data properties
  - Vertical level(s)
  - Forecast time(s)
  - Spatial resolution(s)

Summary

- *WIS Discovery Metadata* is catalogue of data

- Uses ISO geographical metadata standard

- WMO Core Metadata Profile: latest version 1.3

- Must's, Should's, and Todo's