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Dublin Core: Building Wind Energy Application Profile

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Dublin Core Application Profile (DCAP)

1. Functional Requirements
2. Domain Model
3. Description Set Profile and Usage Guidelines
4. Syntax Guidelines and Data Formats



1. Functional Requirements

Describes what a wind energy community wants to accomplish with its application.

Make wind energy data (resources):

- **Findable (No 1 priority)**
- **Accessible (Consequence)**
- **Interoperable (data provider)**
- **Reusable (data provider)**



2. Domain Model


Characterizes the types of resources described by the metadata and their relationships.

- **Observations (digital resource)**
- **Simulations (digital resource)**
- **Samples (physical resource)**



3. Description Set Profile and Usage Guidelines

Enumerates the metadata terms (out of 15) to be used and the rules for their use.



4. Syntax Guidelines and Data Formats

*Define the machine syntax that will be used
to encode the (meta)data.*

→ XML

→ JSON

DC Elements

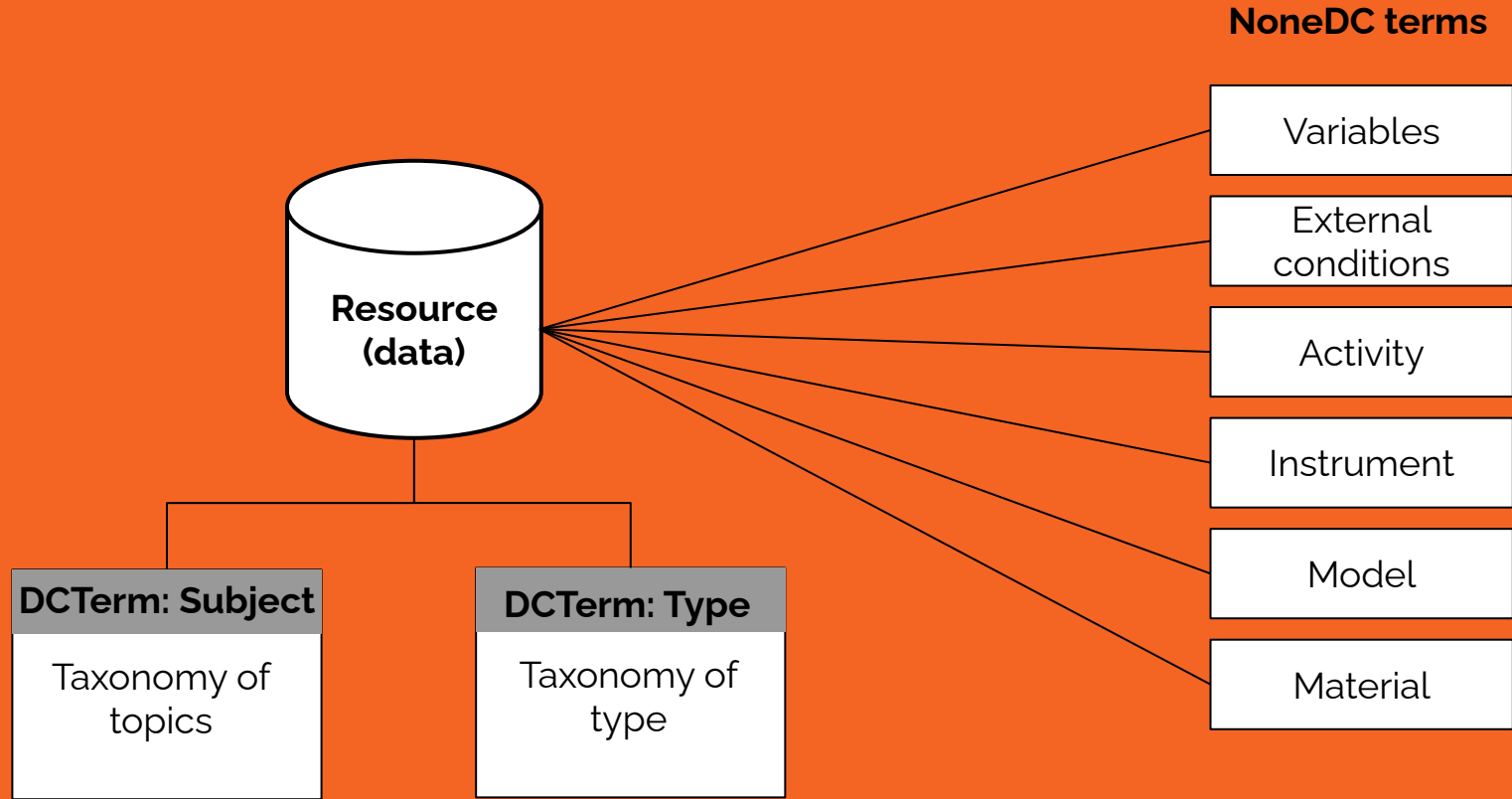
1. **Title:** name or names by which the resource (data) is formally known (e.g., Perdigão-2015)
2. **Creator:** who created the resource - it can be for example person(s), organization(s) and/or service(s)
3. **Subject*:** expressing the wind energy topic (see Taxonomy) the dataset is covering (e.g., wind power plants -> wind farm -> wakes)
4. **Description:** short description/abstract about the resource
5. **Publisher:** who is publishing the dataset, it can be person(s), organization(s) (ForWind) and/or service(s) (e-WindLidar)
6. **Contributor:** who contributed to the resource - it can be person(s), organization(s) and/or service(s)
7. **Date:** the date when the resource was created (period of measurements), made available, etc.
8. **Type*:** a description of the nature or genre of the content of the resource (e.g., observations, samples, simulations)
9. **Format/Medium:** digital resource use Format, a physical resource use Medium
10. **Identifier:** an unambiguous reference to the resource within a given context (e.g., reference to a paper or DOI)
11. **Source:** a related resource/dataset from which the described dataset is derived
12. **Language:** properties refers to the language of the intellectual content of the dataset (e.g., English)
13. **Relation:** relationship between the described dataset and another dataset (e.g., Kassel-2016 isPart of NEWA dataset)
14. **Coverage:** spatial locations (geographic coordinates) and temporal periods (a period label, a date or a date range)
15. **Rights (accessRights):** who can access a dataset or an indication of its security status (e.g., open access for research activities)

* We have a (controlled) domain specific (Wind Energy) vocabulary/taxonomy

DC and restricted vocabularies

		Mandatory	Highly Likely	Maybe	Highly Unlikely	Impossible
1	Title					
2	Creator			ORCID?		
3	Subject	WE Taxonomy				
4	Description					
5	Publisher			Custom?		
6	Contributor			ORCID?		
7	Date		W3C DTF			
8	Type	WE Taxonomy				
9	Format	MIME/IMT				
10	Identifier			URI/DOI?		
11	Source					
12	Language	RFC 3066 (?)				
13	Relation					
14	Coverage		ISO 3166?			
15	Rights					

GOAL: describe datasets with metadata cards



DCTerm: Subject

Taxonomy of topics
(Wind Power Plant)

Wind Energy

Siting

Financial Aspects /
Economics

Wind Turbine

Wind Power Plant

Operation &
Maintenance

Wind Farm

Wind Farm Control

Ancillary Services

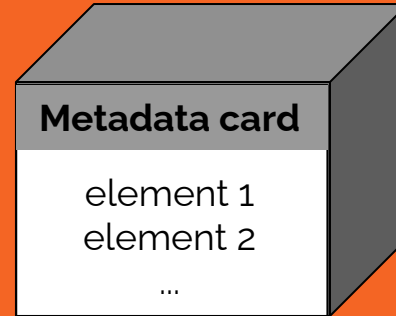
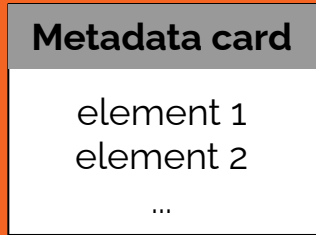
Grid Connection

Wakes

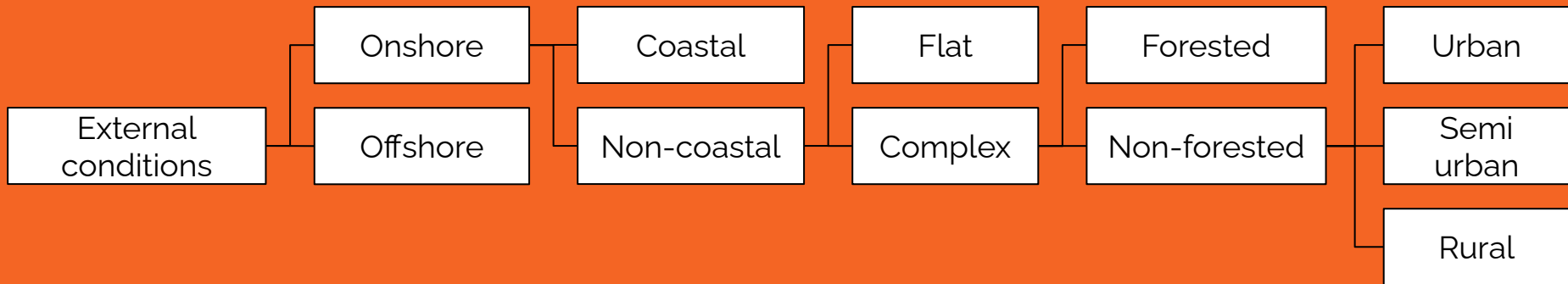
1st Narrow Terms

2nd Narrow Terms

3rd Narrow Terms



Our metadata card has elements that have “depth”



Descriptor

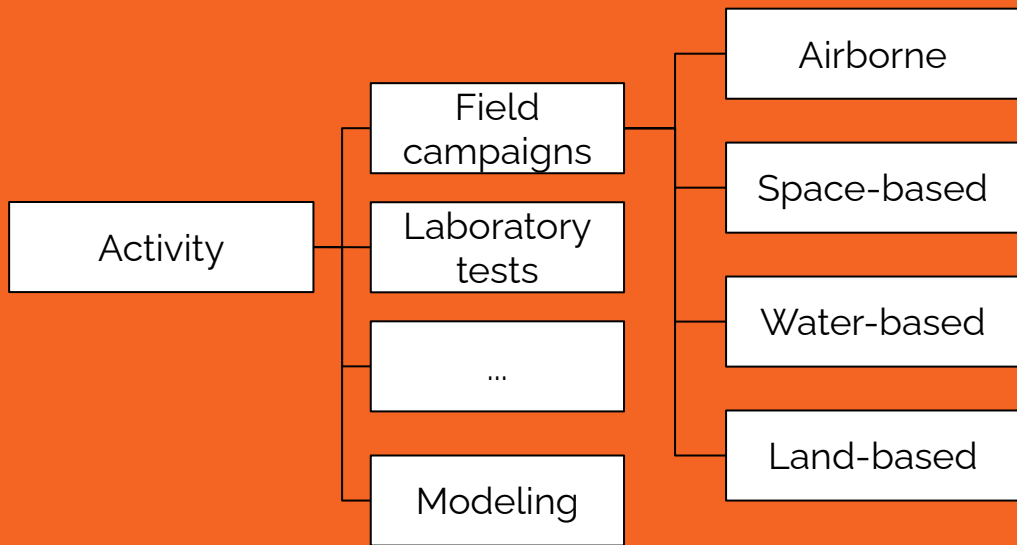
1st N.T.

2nd N.T.

3rd N.T.

4th N.T.

5th N.T.



Descriptor

1st N.T.

2nd N.T.

3rd N.T.

4th N.T.

5th N.T.

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8. **Type*:** a description of the resource
9. **Format/Medium:** digital resource
10. **Identifier:** an unambiguous identifier
11. **Source:** a related resource
12. **Language:** properties referring to the language of the resource
13. **Relation:** relationship between resources
14. **Coverage:** spatial location of the resource
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Metadata elements can be used as facets in search engine

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