

Data Element Naming Convention

The Bureau of Land Management (BLM) requires data standards for program activities to ensure data can be shared among offices and with partners for more efficient, comprehensive and up-to-date assessments of public land resources and land status.

Uniformly named data elements will ensure data accessibility and reusability across systems and users. The use of standard naming conventions will ensure that names for all BLM data elements are clear, brief, unique, context-free, and conform to the rules of syntax. Structured format and content for data element documentation:

- Minimize costs associated with the maintenance of identical information in different formats;
- Reduce needless duplication of data collection and storage;
- Reduce redundant data through consolidation of synonymous and overlapping data elements;
- Increase opportunities for sharing data among BLM users and exchanging data with partners.
- Enhance consistent interdisciplinary use of information.

Naming Convention - A naming convention is a collection of rules, which, when applied to data, result in a set of data elements named in a logical and standardized way. These data element names inform the user about the contents of the data value domain (the set of possible values for a data element), and the usage of the data element in a concise manner. The naming convention assists users to achieve efficient use and reuse of data while maximizing understanding of information both within and outside the organization.

Types of Name – Data elements are ideally the product of business needs analyses. Business process modeling will identify data elements at the conceptual, logical, and physical levels.

Conceptual – Name development begins at the conceptual data model level. At this stage, information needs are grouped as high level entities or objects. For example, if “Tree” is an object class and “Height” is a descriptor, then the conceptual data element name would be “Tree Height”. At this level there is nothing in the name that tells you what kind of tree this is or whether the height is a code, a number, a measure, etc.

Logical – At the more detailed logical data model level, a term is added to describe the form that the domain values (set of possible valid values) can take. This is called the Classword and tells you whether the data element is a number, a date, a percent, an identifier, etc. If the Classword of “Measurement” is added to “Tree Height” then the resulting logical data element name is “Tree Height Measurement”.

Generic Names - Logical data element names are often generic data elements (also called common or enterprise data elements). These are reusable data elements and are not tied to applications but may be used by various applications.

Physical – Names at the physical level are the names that are utilized in the software. They will only be abbreviated to accommodate the particular software system being used (e.g.; TREE_HT_MEAS). When abbreviations are necessary, the abbreviation standards will be applied. When multiplicity occurs, the alternative names are called Alias'. If required, alias names must be linked (or related) to the logical name that they represent. Use of alias names is highly discouraged.

Naming Convention Rules - The data element name is composed of a Subject Area (entity/object), Modifiers, and a Classword. The Subject Area contains information about the element, the Modifier describes the specific element, and the Classword indicates the type or category of information the element reflects. A representative list of Subject Area and a complete list of Classwords is at the end of these instructions.

The specific rules listed below apply to logical and physical data element names. In all cases, physical data element names are to be mapped to the parent logical data element name.

Semantic Rules – These rules govern what components are part of the name and any specific rules related to those component parts.

1. Subject Areas (also known as entities/objects/prime word) are based on the names of entities found in data models or objects found in object models. Only one Subject Area is allowed.
2. Modifiers may be added as needed to describe the data element and make it unique within a specified context.
3. The representation of the data value domain of the data element is described by the Classword.
4. Only one Classword shall be used in a data element. In cases where the name Modifiers and the Classword create a redundancy, then one of them will be removed.

Syntax Rules – These rules specify the arrangement of the name components.

1. The Subject Area (object class) occupies the leftmost position in the data element name.
2. The Classword occupies the rightmost position in the data element name.

3. Modifiers (located between Subject Area and Classword) may be used and must be ordered by increasing levels of specificity (left to right).

Lexical Rules – These rules determine the standard “look” of names.

1. Nouns are used in singular forms; verbs, if any, are in the present tense.
2. No special characters (e.g.; hyphen, slashes, etc.) are allowed, unless they are part of an approved acronym.
3. All words are separated by a space. Physical names may be constrained by software systems to use other separators (such as an underscore).
4. The first letter of each word will be capitalized and the remainder of the word will be in lower case.
5. Physical name length is dependent on the software limitations of the database management system.
6. Logical names are not limited in length.
7. Names should not be abbreviated. Use acronyms if possible.
8. Abbreviations that are needed will be done in right to left fashion, utilizing the standard abbreviations found in the Corporate Metadata Repository. When abbreviations are necessary, the abbreviation standards shall be applied.
9. Prepositions (e.g.; at, by, for, from, in, of, to) are not allowed except in cases where they are required for clarity (e.g.; Power of Attorney Code).
10. Articles (e.g.; a, an, the) are not allowed.
11. Conjunctions (e.g.; and, or, but, etc.) are not allowed.

If new Classwords or modifications to Classword definitions are needed, the National Data Standards Change Request Procedures must be followed.

SUBJECT AREA EXAMPLES

Account	Mailroom
Action	Merchant
Agency	Meridian
Agreement	Mining
Animal	Office
Applicant	OPAC
Application	Order
Appraisal	Pay
Approval	Payment
Assignor	Penalty
Authorization	Plan
Bank	Product
BLM	Production
Bond	Remitter
Budget	Reservoir
Card	Right of Way
Case	
Cash	Section
Cave	Species
City	State
Collected	Status
Comment	Subactivity
Commercial	System
Commodity	Tax
Contact	Transaction
Contract	Travel
County	User
Cruise	Vendor
Customer	Well
Deposit	Zip
Discount	
Document	
Drainage	
Enforcement	
Facility	
Fax	
FFS	
Fiscal	
FRC	
Fund	
Geologic	
Inspection	
Inventory	
Land	

CLASSWORDS

Address	This is not a formatted attribute; each portion of an address would require a separate attribute (example: street address).
Amount	Monetary amount.
Code	An attribute which is represented by a coded field. A code is <u>usually</u> six or fewer alpha or numeric characters, and may have associated descriptions.
Date	Calendar date. The format standard is MMDDYYYY.
Identifier	An artificial, system-assigned number which identifies a unique occurrence of an element.
Measurement	Gauged or scaled extent, capacity, dimension, or frequency. Use when a unit of measurement is clearly specified or identified.
Name	Name of a person, place, or thing. This is not a formatted attribute; each portion of a name would require a separate attribute (example: first name).
Number	An alphanumeric non-system identifier (example: 182B, UTU12345). Non-computational numeric data.
Percent	Numeric data that represents a percentage or ratio.
Quantity	A numeric, non-monetary sum or count.
Time	Time of day. The format standard is HHMM (24 hour clock).
Text	Data having an unstructured content.
Year	Calendar unless fiscal is specified.