



Natural Resource Information Portal (<http://nrinfo.nps.gov>)
Reference Application Metadata Standards
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There are three primary standards that the Reference Application meets or exceeds: NPS BibMAPS, Dublin Core, and ISO 19115 Metadata Standard/North American Profile.

1. NPS Bibliographic Metadata Application Profile Standards (BibMAPS)

The NPS Bibliographic Metadata Application Profile Standards (BibMAPS) consists of a proposed NPS enterprise core bibliographic element set, with each element designated as mandatory, recommended, or optional. The proposed element set is based on Dublin Core standards (see below). The purpose of this standard is to facilitate data exchange, data aggregation, and federated searching of all NPS-managed bibliographic data. As of June, 2010, the draft standard is in review.

Developers of the Reference Application actively collaborated with representatives of the NPS Office of the Chief Information Officer (OCIO) and the BibMAPS team to ensure that the Reference Application complies with the current and upcoming defined standards.

Data elements in the Reference Application correspond almost directly with those in BibMAPS. The similarities and differences among BibMAPS and the Reference Application are summarized by the following points:

- Most often, Reference has more stringent requirements than BibMAPS. For example, Display Citation is “mandatory” for Reference while only “mandatory if applicable” for BibMAPS.
- There are two cases where BibMAPS has more stringent requirements than the Reference Application (Location and Edition).
- In most cases there is a 1-to-1 relationship between a BibMAPS element and the corresponding Reference element. Differences in field definitions are negligible or non-existent.
- There is one case where multiple BibMAPS elements correspond to a single Reference element. In particular, five BibMAPS date elements all map to the DateOfIssue element from Reference.
- There is one case where multiple BibMAPS elements correspond to multiple Reference elements. This occurs primarily when describing the format, extent and medium of the information resource being described.

2. The Dublin Core

The 15-element Dublin Core Metadata Element Set identifies elements that are essential to describing an information resource in a cross-disciplinary data environment. Dublin Core standards have been ratified by the American National Standards Institute (ANSI), National Information Standards Organization (NISO), and International Organization of Standards (ISO).

In all cases, the Reference Application meets the minimum requirements defined by Dublin Core, with the exception of Language, which will be supported in the next iteration of Reference.

3. The ISO 19115:2003 Metadata Standard/North American Profile (ISO19115:2003/NAP)

The Content Standard for Digital Geospatial Metadata (CSDGM) is the U.S. federal geospatial metadata standard. Per Executive Order 12096, all federal agencies are required to use this standard to document geospatial data created as of January, 1995. The standard is often referred to as the FGDC Metadata Standard.

The international community, through the International Organization of Standards (ISO), has developed and approved an international metadata standard, ISO 19115. As a member of ISO, the U.S. is required to revise the CSDGM so it aligns with ISO 19115. In particular, 13 core data elements are required to meet ISO 19115 standards. The Federal Geographic Data Committee (FGDC) is currently establishing the North American Profile of ISO 19115.

The Reference Application meets the minimum requirements defined by ISO19115:2003/NAP. The differences among ISO19115:2003/NAP and the Reference Application can be summarized by the following points:

- Several Reference Application data elements are “optional” as opposed to “mandatory if applicable.” Examples are spatial resolution and spatial representation.
- While the Reference Application will not manage all of the ISO19115:2003/NAP mandatory if applicable fields directly, it is capable of managing and vending a source XML metadata record which does meet all of the ISO standard elements.

Crosswalk Table: Reference Application, BibMAPS, Dublin Core and ISO 19115:2003-NAP

The following table lists each of the BibMAPS, Dublin Core and ISO19115:2003-NAP key elements, and their corresponding data element in the Reference Application.

- M – Mandatory
- MA – Mandatory if Applicable
- R – Recommended
- O - Optional

BibMAPS Element	Dublin Core	ISO 19115:2003-NAP	Reference Element	Comments
Title (M)	Title(M)	Title (M)	Title (M)	
Alternative Title (R)			[Not Supported]	
Creator (MA)	Creator (M)		Creator (MA)	
Contributor (MA)	Contributor (M)		Contributor (MA)	
Publisher (MA)	Publisher (M)		Publisher (MA)	
Subject (MA)	Subject(M)	Topic Category (R)	Subject (MA)	
Description (MA)	Description (M)		Brief Content Description (R)	
Abstract (R)			Abstract/Full Description (R)	
Table of Contents (R)			Table of Contents (R)	
Date Created (MA)	Date (M)	Reference Date (M)	Date Of Issue (MA)	
Date Valid (O)			Content Begin Date and Content End Date (R)	
Date Available (O)			[Plan to Support] (O)	
Date Modified (O)			[Plan to Support] (O)	
Date Copyrighted (O)			Date Of Issue (MA)	Date of Issue is less granular than the BibMAPS standards.
Date Submitted (O)			Date of Issue (MA)	
Date Accepted (O)			Date Of Issue (MA)	
Date Captured (O)			Date Of issue (R)	
Type (M)	Type(M)		Reference Type (M)	
Format (R)	Format (M)		Format (RA)	
Extent (O)			Size (RA)	
Medium (O)			Holding Location Type (R)	
Identifier (M)	Identifier (M)	Metadata File Identifier (MA)	Reference Code (M)	
Bibliographic Citation (MA)			Display Citation (M)	
Source (O)	Source(M)		Holding Location (R)	
Language (MA)	Language(M)	Language (M)	[Plan to Support] MA	

BibMAPS Element	Dublin Core	ISO 19115:2003-NAP	Reference Element	Comments
Relation (O)	Relation (M)		LinkType (R)	
IsVersionOf/ (R)			[Plan to Support] (R)	
IsFormatOf (R)		Distribution Format (A)	HoldingType (R)	
HasFormat (R)			Size (R)	
IsReplacedBy/Replaces (R)			[Plan to Support] (R)	
IsPartOf/HasParts			IsPartOf (MA) Generates/WasProducedBy	
Requires			[Plan to Support] (R)	
References/IsReferencedBy (O)			[Plan to Support] (R)	
Temporal Coverage (MA)			ContentBeginDate (R) ContentEndDate (R)	
Spatial Coverage (MA)	Coverage (M)	Geographic location by coordinates (MA)	Geography (MA)	
Rights (MA)	Rights(M)		Information Resource Proprietary Rank (M)	Does not currently include full statement
Audience (O)			"National Park Service Natural Resources"	This is the audience of the Reference Application
Edition (MA)			Edition (RA) [Plan to Support] (R)	Reference will have robust means for versioning
Location (MA)			Holding Location (R)	
		Metadata Point of Contact (M)	Reference Owner (M)	
		Metadata Date Stamp (M)	Date Last Edited (M)	
		Responsible Party (A)	Contact.Steward (O)	
		Character Set (A)	"USA"	
		Spatial Resolution (A)	Size (O)	
		Spatial Representation Type (A)	Size (O)	
		Reference System (A)	Size (O)	
		Lineage (A)	[Not Supported]	
		Online Resource (A)	Holdings(O)	