

CONTENT SPECIFICATION FOR METADATA  
IN THE  
NATIONAL COASTAL DATA DEVELOPMENT CENTER'S  
METADATA CATALOG

Version 2.0

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## **1.0 INTRODUCTION**

The National Coastal Data Development Center (NCDDC) provides access to the long-term coastal data record. NCDDC works closely with Federal, State and local agencies, academic institutions, non-profit organizations, and private industries to create a unified catalog of coastal data sets. The purpose of this metadata specification is to assure uniformity among semantic indicators and data access descriptors referenced in metadata records contained in the NCDDC Data Catalog.

### **1.1 Objective**

This metadata specification is to be used in conjunction with the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata (CSDGM) and its formal profiles and extensions. The objective is to identify recommended uses of CSDGM standard elements and to identify and define extended elements to the CSDGM that are required for either providing indexing of the metadata or for accessing data through the NCDDC FGDC Metadata Catalog, portal and gateways. Production rules for the use of extended elements within the structure of the CSDGM are provided.

### **1.2 Applicability**

This specification applies to all coastal data sets distributed through the NCDDC FGDC Metadata Catalog and/or to metadata records that are specifically related to and cataloged for designated programs or projects. Extended elements in the metadata provide for data indexing and support data access and distribution. NCDDC requires that all applicable metadata loaded into its FGDC Catalog utilize the format of this specification. Data providers are encouraged to submit metadata in accordance with this specification. However, information for some extended elements (i.e., Gateway Identification or Program Association) may not be supplied by data providers and, therefore, may be completed by NCDDC.

### **1.3 Related Standards**

The basis for the Content Specification for Metadata in the National Coastal Data Development Center's Metadata Catalog is the FGDC CSDGM (FGDC-STD-001-1998). This specification can also be used with the established profiles to the CSDGM, the Biological Profile, the Shoreline Metadata Profile, and the Remote Sensing Extension.

### **1.4 Specification Development**

This document is the second version of the metadata specification for the NCDDC Metadata Catalog. Revisions to this specification may be required as data models and semantic indexing capabilities become fully implemented within the NCDDC.

### **1.5 Specification Maintenance**

The NCDDC shall revise this metadata specification as necessary. Future changes to the FGDC CSDGM, which may impact the structure of metadata records in the NCDDC

Metadata Catalog, will be incorporated into future versions of this document. A PDF version of this publication is available online from <http://www.ncddc.noaa.gov/metadatarresource/metadata-references>.

Questions concerning this specification should be directed to:

National Coastal Data Development Center  
Building 1100  
Stennis Space Center, MS 39529

telephone: (228)-688-2936  
facsimile: (228)-688-2968  
email: [ncddcmetadata@noaa.gov](mailto:ncddcmetadata@noaa.gov)

## 2.0 ELEMENTS OF THE CONTENT STANDARD FOR DIGITAL GEOSPATIAL METADATA

All standard elements of the CSDGM and its profiles are available for use with this NCDDC metadata specification. All mandatory sections in the CSDGM must be provided in metadata used in the NCDDC FGDC Metadata Catalog. In addition, several CSDGM standard elements are recommended for use under this NCDDC specification. Extended elements have been added to the CSDGM to identify and index the program affiliation of the data or to incorporate the distribution of data through the NCDDC.

## 3.0 RECOMMENDED ELEMENTS

NCDDC recommends that a number of standard elements with the conditionality of mandatory if applicable or optional in the CSDGM be completed for metadata loaded into the NCDDC catalog. These include several elements within the Identification Information and Metadata Reference Information sections of a metadata record. For these elements which are compound elements, any subordinate elements shall also be completed in accordance with the CSDGM.

### Place

Name: Place  
Type: compound  
Short Name: place  
Parent: Keywords  
Child: Place Keyword Thesaurus  
Child: Place Keyword  
Conditionality: Mandatory if applicable  
Definition: Geographic locations characterized by the data set.

### Temporal

Name: Temporal  
Type: compound  
Short Name: temporal  
Parent: Keywords  
Child: Temporal Keyword Thesaurus  
Child: Temporal Keyword  
Conditionality: Mandatory if applicable  
Definition: Time period(s) characterized by the data set.

#### Online Linkage

Name: Online Linkage  
Type: text  
Domain: free text  
Short Name: onlink  
Parent: Citation Information  
Conditionality: Optional  
Definition: The name of an online computer resource that contains the data set. Entries should follow the Uniform Resource Locator convention of the Internet.

#### Point of Contact

Name: Point of Contact  
Type: compound  
Short Name: ptcontac  
Parent: Identification Information  
Conditionality: Optional  
Definition: Contact information for an individual or organization that is knowledgeable about the data set.

#### Metadata Future Review Date

Name: Metadata Future Review Date  
Type: date  
Short Name: metfrd  
Parent: Metadata Reference Information  
Conditionality: Optional  
Definition: The date by which the metadata should be reviewed.

## 4.0 EXTENDED ELEMENTS WITHIN THE CONTENT STANDARD FOR DIGITAL GEOSPATIAL METADATA

Extended elements in the NCDDC specification are associated with two uses by NCDDC including the reference information needed to identify (1) the program with which the data is affiliated and (2) the middleware developed and required for data distributed through the NCDDC.

### 4.1 Extended Element Descriptions

The following are the extended elements added to the hierarchical structure of the Content Standard for Digital Geospatial Metadata. These elements are appended to either section 1, "Identification Information," or section 6, "Distribution Information," of the CSDGM.

#### Program Affiliation

Name: Program\_Affiliation  
Short\_Name: progaff  
Type: compound  
Child: Program\_Name  
Parent: Identification\_Information  
Optionality: Mandatory if Applicable  
Repeatability: Not Repeatable  
Definition: The reference information to any program or system to which the data are affiliated and which allows particular service operations to be performed.  
Rationale: To provide a means to identify data related to specific programs or systems.  
Source: NOAA National Coastal Data Development Center

#### Program Name

Name: Program\_Name  
Short\_Name: progname  
Type: text  
Domain: "Priority Habitat Information System" "Integrated Ocean Observing System" "Subcommittee on Integrated Management of Ocean Resources"  
Parent: Program\_Affiliation  
Optionality: Mandatory  
Repeatability: Repeatable  
Definition: The title of the program or system under which the data are affiliated. The acronym may be included in the title.  
Rationale: To identify the associated program or system by its name and acronym.  
Source: NOAA National Coastal Data Development Center

## NCDDC Access Process

Name: NCDDC Access Process  
Short Name: ncddc  
Type: compound  
Child: NCDDC Resource  
Child: Gateway Information  
Parent: Distribution Information  
Optionality: mandatory if applicable  
Repeatability: not repeatable  
Definition: Information required to make the data available online via NCDDC.  
Source: NOAA National Coastal Data Development Center

## NCDDC Resource

Name: NCDDC Resource  
Short Name: ncddres  
Type: free text  
Parent: NCDDC Access Process  
Optionality: mandatory if applicable  
Repeatability: not repeatable  
Definition: The NCDDC-specific abstract resource to a metadata record.  
Source: NOAA National Coastal Data Development Center

## Gateway Information

Name: Gateway Information  
Short Name: gtwyinfo  
Type: compound  
Child: Gateway Type  
Child: Additional Information URL  
Child: Gateway Resource  
Parent: NCDDC Access Process  
Optionality: mandatory  
Repeatability: repeatable  
Definition: Information necessary to access data via NCDDC middleware.  
Source: NOAA National Coastal Data Development Center

## Gateway Type

Name: Gateway Type  
Short Name: gtwytype

Type: "Data Exchange Infrastructure," "Distributed Ocean Data System,"  
free text  
Parent: Gateway information  
Optionality: optional  
Repeatability: not repeatable  
Definition: A description of the type of middleware used to access the  
data.  
Source: National Coastal Data Development Center

#### Additional Information URL

Name: Additional Information URL  
Short Name: addurl  
Type: free text  
Parent: Gateway information  
Optionality: mandatory  
Repeatability: not repeatable  
Definition: The URL for the additional information page.  
Source: National Coastal Data Development Center

#### Gateway Resource

Name: Gateway Resource  
Short Name: gateway  
Type: compound  
Parent: Gateway information  
Child: Gateway Identification  
Child: Site Identification  
Optionality: mandatory  
Repeatability: repeatable  
Definition: The information required to access specific data through a  
given middleware.  
Source: NOAA National Coastal Data Development Center

#### Gateway Identification

Name: Gateway Identification  
Short Name: gtwyid  
Type: free text  
Parent: Gateway Resource  
Optionality: mandatory  
Repeatability: not repeatable  
Definition: The NCDDC-specific abstract identifier for a gateway.  
Source: National Coastal Data Development Center



## Site Identification

Name: Site Identification  
Short Name: siteid  
Type: free text  
Parent: Gateway Resource  
Optionality: mandatory if applicable  
Repeatability: not repeatable  
Definition: Identification information specific to the requested data (i.e. a buoy number, a station ID).  
Source: NOAA National Coastal Data Development Center

### 4.2 Examples of the Extended Element Structure

Within the CSDGM structure the application of the NCDDC extended elements is provided below in both XML and Text formats.

#### 4.2.1 NCDDC Program Affiliation Examples

XML format:

```
<progaff>  
  <progname>Priority Habitat Information System (PHINS)</progname>  
  <progname>Integrated Ocean Observing System (IOOS)</progname>  
</progaff>
```

Text format:

Program\_Affiliation:

Program\_Name: Priority Habitat Information System (PHINS)  
Program\_Name: Integrated Ocean Observing System (IOOS)

#### 4.2.2. NCDDC Access Process Examples

XML format:

```
<NCDDC>  
  <NCDDCRES>oceanographic/TAMUCC/tcoon_87705571</NCDDCRES>  
  <GTWYINFO>  
    <GTWYTYPE>Data Exchange Infrastructure</GTWYTYPE>  
    <ADDURL>tcoonQS.jsp</ADDURL>  
  <GATEWAY>  
    <GTWYID>corbaloc::squall.ncddc.noaa.gov:2123/DataSource</GTWYID>  
    <SITEID>086</SITEID>  
  </GATEWAY>  
</GTWYINFO>  
</NCDDC>
```

Text format:

NCDDC\_Access\_Process:

NCDDC\_Resource: oceanographic/TAMUCC/tcoon\_87705571

Gateway\_Information:

Gateway\_Type: Data Exchange Infrastructure

Additional\_Information\_URL: tcoonQS.jsp

Gateway\_Resource:

Gateway\_Identification: corbaloc::squall.ncddc.noaa.gov:2123/DataSource

Site\_Identification: 086

### 4.3 Production Rules for Extended Elements

From the CSDGM, a production rule specifies the relationship between a compound element, and data elements or other (lower-level) compound elements. Each production rule has a left side (identifier) and a right side (expression) connected by the symbol "=", meaning that the term on the left side is replaced by or produces the term on the right side. Terms on the right side are either other compound elements or individual data elements. The symbols used in the production rules have the following meaning:

Symbol Meaning:

- = is replaced by, produces, consists of
- + and
- () optional - the term(s) enclosed is (are) optional
- [] selection - select one term from the list of enclosed terms.  
Terms are separated by "|"
- m{ }n iteration - the term(s) enclosed is (are) repeated from "m" to "n" times

Terms that are "mandatory if applicable" are identified by the production rule:

0{ term }1. Terms bounded by parentheses, "(" and ")", are optional and are provided at the discretion of the data producer. If a producer chooses to provide information enclosed by parentheses, the producer shall follow the production rules for the enclosed information in accordance with the CSDGM.

#### 4.3.1 NCDDC Program Affiliation Extension

The following are the production rules for use of the NCDDC extended elements within the structure of section 1, "Identification Information," of the CSDGM. The NCDDC extended elements are shown in bold type. Line numbering also is provided for ease in element location.

Identification_Information =	1.0
Citation +	1.1
Description +	1.2
Time_Period_of_Content +	1.3
Status +	1.4
Spatial_Domain +	1.5

Keywords +	1.6
Access_Constraints +	1.7
Use_Constraints +	1.8
(Point_of_Contact) +	1.9
(1{Browse_Graphic}n) +	1.10
(Data_Set_Credit) +	1.11
(Security_Information) +	1.12
(Native_Data_Set_Environment) +	1.12
(1{Cross_Reference}n)+	1.14
<b>0{Program_Affiliation}1</b>	<b>1.15</b>

<b>Program_Affiliation =</b>	<b>1.15</b>
<b>1{Program_Name}n</b>	<b>1.15.1</b>

#### 4.3.2 NCDDC Access Process Extension

The following are the production rules for use of the NCDDC extended elements within the structure of section 6, "Distribution Information," of the CSDGM. The NCDDC extended elements are shown in bold type. Line numbering also is provided for ease in element location.

Distribution_Information =	6.0
Distributor +	6.1
0{Resource_Description} 1 +	6.2
Distribution_Liability +	6.3
0{Standard_Order_Process}n +	6.4
0{Custom_Order_Process} 1 +	6.5
(Technical_Prerequisites) +	6.6
(Available_Time_Period) +	6.7
<b>0 {NCDDC Access Process} 1</b>	<b>6.8</b>
<b>NCDDC_Access_Process =</b>	<b>6.8</b>
<b>0 {NCDDC_Resource} 1 +</b>	<b>6.8.1</b>
<b>1 {Gateway_Information} n</b>	<b>6.8.2</b>
<b>Gateway_Information =</b>	<b>6.8.2</b>
<b>(Gateway_Type) +</b>	<b>6.8.2.1</b>
<b>Additional_Information_URL +</b>	<b>6.8.2.2</b>
<b>1 {Gateway_Resource} n</b>	<b>6.8.2.3</b>
<b>Gateway_Resource =</b>	<b>6.8.2.3</b>
<b>Gateway_Identification +</b>	<b>6.8.2.3.1</b>
<b>0 {Site_Identification} 1</b>	<b>6.8.2.3.2</b>

## 5.0 REFERENCES

Biological Data Working Group, Federal Geographic Data Committee, and USGS Biological Resources Division; Content Standard for Digital Geospatial Metadata Part 1: Biological Data Profile; Federal Geographic Data Committee, Washington, D.C.; FGDC-STD-001.1-1999; pgs. 54; October 1999.

Content Specification for Metadata in the National Coastal Data Development Center's Metadata Catalog; Version 1.0; NOAA National Coastal Data Development Center; December 2002.

Federal Geographic Data Committee; Content Standard for Digital Geospatial Metadata; Federal Geographic Data Committee, Washington, D.C.; FGDC-STD-001-1998; pgs. 85; June 1998.

Federal Geographic Data Committee. FGDC-STD-012-2002. Content Standard for Digital Geospatial Metadata: Extensions for Remote Sensing Metadata. Federal Geographic Data Committee, Washington, D.C.

Marine and Coastal Spatial Data Subcommittee, Federal Geographic Data Committee; Shoreline Metadata Profile of the Content Standard for Digital Geospatial Metadata; Federal Geographic Data Committee, Washington, D.C.; FGDC-STD-001.2-2001; pgs. 72; June 2001.