

# Contact Groups

- [Element Description](#)
- [Best Practices](#)
- [Element Specification](#)
- [Metadata Validation and QA/QC](#)
- [Dialect Mappings](#)
  - [DIF 10](#)
  - [ECHO 10](#)
  - [ISO 19115-2 MENDS](#)
  - [ISO 19115-2 SMAP](#)
- [UMM Migration](#)
- [History](#)
  - [UMM Versioning](#)
  - [ARC Documentation](#)

## Element Description

The Contact Groups metadata element is used to provide contact information for a group associated with the dataset.

There are 5 options for providing contact information in the UMM:

1. [Data Center](#)
2. [Data Center/Contact Person](#)
3. [Data Center/Contact Group](#)
4. [Contact Person](#)
5. **Contact Groups**

Details for each of these options are provided on a separate wiki page. This wiki page describes details for option 5 (Contact Groups).

Note that the Contact Groups element can also be nested under the [Data Center](#) element. As a rule of thumb, if a group is affiliated with a Data Center, then it is recommended that their contact info be provided under [DataCenter/ContactGroup](#). If the group is not affiliated with a particular [Data Center](#), then their contact information can be provided here.

## Best Practices

Each Contact Groups listed in the metadata must be affiliated with a **Role**. Providing a Role for the Contact Groups is required and must be selected from a controlled vocabulary list. Multiple Roles may be assigned to the same group, if necessary. There are seven options for Role:

1. DATA CENTER CONTACT: a group affiliated with the dataset. If the group is affiliated with a Data Center, then it is recommended that their contact information be provided under [DataCenter/ContactGroup](#).
2. TECHNICAL CONTACT: a group with technical (expert) knowledge about the data product.
3. SCIENCE CONTACT: a group with technical (expert) knowledge about the science principles involved in deriving the data product.
4. INVESTIGATOR: a group involved in the creation of the data product. For instance, this might be the principal investigator (PI) or co-PI of the project responsible for creating the data product.
5. METADATA AUTHOR: a group responsible for creating and/or maintaining the collection level and/or granule level metadata record(s) associated with the data product.
6. USER SERVICES: the user services office at the organization responsible for archiving, distributing, originating or processing the data. If the group is affiliated with a Data Center, then it is recommended that their contact information be provided under [DataCenter/ContactGroup](#).
7. SCIENCE SOFTWARE DEVELOPMENT: a group with knowledge of software(s) specifically developed for the data product.

Other Contact Group metadata fields include:

**Non Data Center Affiliation:** This field can be used to specify the name of the organization the Contact Groups is affiliated with. Providing a Non Data Center Affiliation is optional, however, is it recommended that this information be provided.

**Group Name:** The name of the group. *Providing a group name is required.*

**UUID:** A Level 3 UUID of the data contact, (see wiki link [http://en.wikipedia.org/wiki/Universally\\_unique\\_identifier#Version\\_4\\_.28random.29](http://en.wikipedia.org/wiki/Universally_unique_identifier#Version_4_.28random.29)).

**Contact Information:** Any relevant contact information for the group. Providing contact information is optional, however, it is recommended that at least one piece of contact information (such as a link, email or phone number) be provided. Some examples of contact information include: phone number, email, fax, related links, service hours, and contact instructions. See the element specification table below for full details.

### Examples:

Role: SCIENCE CONTACT

Non Data Center Affiliation: University of Central Florida Department of Biology

GroupName: Marine Turtle Research Group

ContactInformation/ContactMechanism/Type: Email

ContactInformation/ContactMechanism/Value: savetheseaturtles@email.com

ContactInformation/RelatedURLs/Url: <https://sciences.ucf.edu/biology/marineturtlesearchgroup/>

ContactInformation/RelatedURLs/UrlContentType: DataContactURL

ContactInformation/ContactMechanism/Type: HOME PAGE

/ContactInformation/RelatedURLs/Description: The Marine Turtle Research Group website home page

Role: TECHNICAL CONTACT

Non Data Center Affiliation: Boston University

GroupName: Antarctic Research Group

ContactInformation/ContactMechanism/Type: Telephone

ContactInformation/ContactMechanism/Value: 999-888-7777

ContactInformation/ContactMechanism/Type: Email

ContactInformation/ContactMechanism/Value: [earth@bu.edu](mailto:earth@bu.edu)

ContactInformation/Address/StreetAddresses: Boston University, Department of Earth & Environment

ContactInformation/Address/StreetAddresses : 675 Commonwealth Avenue

ContactInformation/Address/City: Boston

ContactInformation/Address/StateProvince: MA

ContactInformation/Address/PostalCode: 02215

ContactInformation/Address/Country: USA

## Element Specification

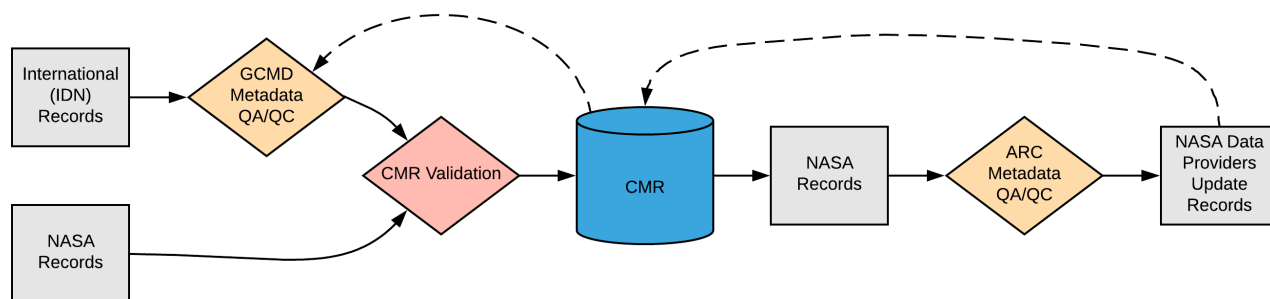
Providing a Contact Group is optional. An unlimited number of Contact Groups may be listed (Cardinality: 0..\*)

| Model      | Element                                              | Type        | Usable Valid Values                                                                                                                             | Constraints         | Required?          | Cardinality | Notes                                                                                                                                                                                                                                                                                                                                    |
|------------|------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UMM-Common | ContactGroups/Roles                                  | Enumeration | Data Center Contact<br>Technical Contact<br>Science Contact<br>Investigator<br>Metadata Author<br>User Services<br>Science Software Development | n/a                 | Yes, if applicable | 1..*        | Location of the enumeration list in the UMM-Common schema: <a href="https://git.earthdata.nasa.gov/projects/EMFD/repos/unified-metadata-model/browse/collection/v1.12/umm-cmn-json-schema.json#1440">https://git.earthdata.nasa.gov/projects/EMFD/repos/unified-metadata-model/browse/collection/v1.12/umm-cmn-json-schema.json#1440</a> |
| UMM-Common | ContactGroups/NonDataCenterAffiliation               | String      | n/a                                                                                                                                             | 1 - 1024 characters | No                 | 0..1        |                                                                                                                                                                                                                                                                                                                                          |
| UMM-Common | ContactGroups/GroupName                              | String      | n/a                                                                                                                                             | 1 - 255 characters  | Yes, if applicable | 1           | If Contact Group information is provided, a Group Name is required.                                                                                                                                                                                                                                                                      |
| UMM-Common | ContactGroups/Uuid                                   | String      | n/a                                                                                                                                             |                     | No                 | 0..1        |                                                                                                                                                                                                                                                                                                                                          |
| UMM-Common | ContactGroups/ContactInformation/ServiceHours        | String      | n/a                                                                                                                                             | 1 - 1024 characters | No                 | 0..1        | The time zone should be specified.                                                                                                                                                                                                                                                                                                       |
| UMM-Common | ContactGroups/ContactInformation/ContactInstructions | String      | n/a                                                                                                                                             | 1 - 2048 characters | No                 | 0..1        | Supplemental/ special instructions on how or when to contact the group.                                                                                                                                                                                                                                                                  |

|            |                                                                |             |                                                                                                                                           |                     |                    |      |                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------|----------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UMM-Common | ContactGroups /ContactInformation /ContactMechanism/Type       | Enumeration | Direct Line<br>Email<br>Facebook<br>Fax<br>Mobile<br>Modem<br>Primary<br>TDD/TTY Phone<br>Telephone<br>Twitter<br>U.S. toll free<br>Other | n/a                 | Yes, if applicable | 1    | <p>Providing a contact mechanism is optional. If provided, the Type is required and must be selected from the <a href="#">ContactMechanismType enumeration list</a> found in the UMM-Common schema.</p> <p>The actual value (e.g. the phone number or email) should be provided in the Value field (see below).</p> <p>Multiple contact mechanisms can be provided for each group (Cardinality 0..*).</p> |
| UMM-Common | ContactGroups /ContactInformation /ContactMechanism/Value      | String      | n/a                                                                                                                                       | 1 - 1024 characters | Yes, if applicable | 1    | <p>Providing a contact mechanism is optional. If provided, a Value is required (e.g. if the contact mechanism type is 'Email' then the actual email would go in this field).</p> <p>Multiple contact mechanisms can be provided for each group (Cardinality 0..*).</p>                                                                                                                                    |
| UMM-Common | ContactGroups /ContactInformation/Address /StreetAddresses     | String      | n/a                                                                                                                                       | 1 - 1024 characters | No                 | 0..* | Multiple Street Addresses may be provided to indicate multiple lines in a street address.                                                                                                                                                                                                                                                                                                                 |
| UMM-Common | ContactGroups /ContactInformation/Address /City                | String      | n/a                                                                                                                                       | 1 - 100 characters  | No                 | 0..1 |                                                                                                                                                                                                                                                                                                                                                                                                           |
| UMM-Common | ContactGroups /ContactInformation/Address /StateProvince       | String      | n/a                                                                                                                                       | 1 - 100 characters  | No                 | 0..1 |                                                                                                                                                                                                                                                                                                                                                                                                           |
| UMM-Common | ContactGroups /ContactInformation/Address /PostalCode          | String      | n/a                                                                                                                                       | 1 - 20 characters   | No                 | 0..1 |                                                                                                                                                                                                                                                                                                                                                                                                           |
| UMM-Common | ContactGroups /ContactInformation/Address /Country             | String      | n/a                                                                                                                                       | 1 - 100 characters  | No                 | 0..1 |                                                                                                                                                                                                                                                                                                                                                                                                           |
| UMM-Common | ContactGroups /ContactInformation /RelatedURLs/Url             | String      | n/a                                                                                                                                       | 1 - 1024 characters | Yes, if applicable | 1    | Providing a URL for a contact group is completely optional. If information is provided in any of the 'RelatedURLs' metadata fields, then the URL must be provided.                                                                                                                                                                                                                                        |
| UMM-Common | ContactGroups /ContactInformation /RelatedURLs /UrlContentType | Enumeration | DataContact URL                                                                                                                           | n/a                 | Yes, if applicable | 1    | <p>This field is only required if a URL is provided.</p> <p>URL Content Types are controlled as an <a href="#">enumeration list in the UMM-Common schema</a>. The only valid option for Contact Person Related URLs is "DataContactURL".</p>                                                                                                                                                              |
| UMM-Common | ContactGroups /ContactInformation /RelatedURLs/Type            | String      | KMS controlled                                                                                                                            | HOME PAGE           | Yes, if applicable | 1    | <p>This field is only required if a URL is provided.</p> <p>Related URL Types are controlled by GCMD vocabulary (<a href="#">URL Content Types</a>). The only valid keyword option for a Contact Group Related URL is "HOME PAGE".</p>                                                                                                                                                                    |
| UMM-Common | ContactGroups /ContactInformation /RelatedURLs/Description     | String      | n/a                                                                                                                                       | 1 - 4000 characters | No                 | 0..1 | It is strongly recommended that a description be provided for each URL.                                                                                                                                                                                                                                                                                                                                   |

## Metadata Validation and QA/QC

All metadata entering the CMR goes through the below process to ensure metadata quality requirements are met. All records undergo CMR validation before entering the system. The process of QA/QC is slightly different for NASA and non-NASA data providers. Non-NASA providers include interagency and international data providers and are referred to as the International Directory Network (IDN).



Please see the expandable sections below for flowchart details.

- Manual Review
  - Identify errors, discrepancies or omissions.
- Automated Review
  - Check that the field length is not greater than 255 characters (Personnel/Contact\_Group/Name).
  - Check that the field length is not greater than 100 characters (Personnel/Contact\_Group/Address/Street\_Address).
  - Check that the field length is not greater than 100 characters (Personnel/Content\_Group/Address/City).
  - Check that the field length is not greater than 100 characters (Personnel/Contact\_Group/Address/State\_Province).
  - Check that the field length is not greater than 100 characters (Personnel/Contact\_Group/Address/Country).
  - Check that the field length is not greater than 20 characters (Personnel/Contact\_Group/Address/Postal\_Code).
  - Check that the field length is not greater than 100 characters (Personnel/Contact\_Group/Email).
  - Check that the field has been populated.
  - Check that the field value is not a duplicate.
  - Check that the field value (Phone Type) matches the enumeration value (Direct Line, Primary, Telephone, Fax, Mobile, Modem, TDD /TTY Phone, U.S. toll free, Other).
  - Check that the field value (Personnel Role) matches the enumeration value (DATA CENTER CONTACT).
  - Check for potential broken links.
  - Check that the URL is formatted correctly.
  - Check that the email address is formatted correctly.
  - Check that the phone number is formatted correctly.

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#### ARC Priority Matrix

| Priority Categorization          | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Red = High Priority Finding      | <p>This element is categorized as highest priority when:</p> <ul style="list-style-type: none"> <li>• The Contact Groups Related URL provided is broken.</li> <li>• The URL Content Type does not match the enumeration value "DataContactURL".</li> <li>• The URL Type provided does not match the keyword value "HOME PAGE".</li> <li>• The Contact Groups Role provided does not align with the UMM-Common enumeration values (Data Center Contact, Technical Contact, Science Contact, Investigator, Metadata Author, User Services, Science Software Development).</li> <li>• The Contact Mechanism Type does not align with the UMM-Common enumeration values (Direct Line, Email, Facebook, Fax, Mobile, Modem, Primary, TDD/TTY Phone, Telephone, Twitter, U.S. toll free, Other).</li> <li>• The Contact Information provided is incorrect.</li> </ul> |
| Yellow = Medium Priority Finding | <p>This element is categorized as medium priority when:</p> <ul style="list-style-type: none"> <li>• The Contact Groups Related URL "Description" element is left blank. It is highly recommended that a description be provided for each URL.</li> <li>• The Contact Groups Related URL provided in the metadata redirects—it is recommended that the most current link always be provided.</li> <li>• The information provided in the Contact Groups elements is better suited for the <a href="#">Data Center</a>, <a href="#">Data Center/Contact Person</a>, <a href="#">Data Center/Contact Group</a> or <a href="#">Contact Person</a> metadata elements.</li> </ul>                                                                                                                                                                                     |
| Blue = Low Priority Finding      | <p>This element is categorized as low priority when:</p> <ul style="list-style-type: none"> <li>• The Contact Groups Related URL is provided via "http" when "https" is available.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Green = No Findings/Issues       | <p>The element is provided and follows all applicable criteria specified in the best practices section above.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

#### ARC Automated Checks

ARC uses the [pyQuARC library](#) for automated metadata checks. Please see the [pyQuARC GitHub](#) for more information.

## Dialect Mappings

**DIF 9** (Note: DIF-9 is being phased out and will no longer be supported after 2018)

### DIF 10

Providing Personnel is optional. An unlimited number of Personnel may be listed (Cardinality: 0..\*)

| UMM-C Element                                           | DIF 10 Path                                    | Type        | Usable Valid Values                                                                                                                           | Constraints | Required in DIF 10? | Cardinality | Notes                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------|------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ContactGroup/Roles                                      | Personnel/Role                                 | Enumeration | INVESTIGATOR<br><br>INVESTIGATOR, TECHNICAL CONTACT<br><br>METADATA AUTHOR<br><br>METADATA AUTHOR, TECHNICAL CONTACT<br><br>TECHNICAL CONTACT | n/a         | Yes, if applicable  | 1..*        |                                                                                                                                                                                                                                                                                                                                  |
| ContactGroup/GroupName                                  | Personnel/Contact_Group/Name                   | String      | n/a                                                                                                                                           |             | No                  | 1           | If Contact_Group information is provided, a Name is required.                                                                                                                                                                                                                                                                    |
| ContactGroup/Uuid                                       | Personnel/Contact_Group/uuid                   | String      | n/a                                                                                                                                           |             | No                  | 0..1        |                                                                                                                                                                                                                                                                                                                                  |
| ContactGroup/ContactInformation/ContactMechanism/Type   | Personnel/Contact_Group/Phone/Type             | Enumeration | Direct Line<br><br>Primary<br><br>Telephone<br><br>Fax<br><br>Mobile<br><br>Modem<br><br>TDD/TTY Phone<br><br>U.S. toll free<br><br>Other     | n/a         | Yes, if applicable  | 1           | Providing a phone number is optional. Multiple phone numbers can be provided. (Cardinality 0..*)<br><br>If provided, the Type is required and must be selected from the <a href="#">PhoneType enumeration list</a> found in the DIF10 schema.<br><br>The actual phone number should be provided in the Number field (see below). |
| ContactGroup/ContactInformation/ContactMechanism/Value  | Personnel/Contact_Group/Phone/Number           | String      | n/a                                                                                                                                           |             | Yes, if applicable  | 1           | Providing a phone number is optional.<br><br>If provided, the Number must be provided in this element.                                                                                                                                                                                                                           |
| ContactGroup/ContactInformation/ContactMechanism/Value  | Personnel/Contact_Group/Email                  | String      |                                                                                                                                               |             | No                  | 0..*        |                                                                                                                                                                                                                                                                                                                                  |
| ContactGroup/ContactInformation/Address/StreetAddresses | Personnel/Contact_Group/Address/Street_Address | String      |                                                                                                                                               |             | No                  | 0..*        | Multiple Street Address fields may be provided to indicate multiple lines in a street address.                                                                                                                                                                                                                                   |
| ContactGroup/ContactInformation/Address/City            | Personnel/Contact_Group/Address/City           | String      |                                                                                                                                               |             | No                  | 0..1        |                                                                                                                                                                                                                                                                                                                                  |
| ContactGroup/ContactInformation/Address/StateProvince   | Personnel/Contact_Group/Address/State_Province | String      |                                                                                                                                               |             | No                  | 0..1        |                                                                                                                                                                                                                                                                                                                                  |
| ContactGroup/ContactInformation/Address/PostalCode      | Personnel/Contact_Group/Address/Postal_Code    | String      |                                                                                                                                               |             | No                  | 0..1        |                                                                                                                                                                                                                                                                                                                                  |
| ContactGroup/ContactInformation/Address/Country         | Personnel/Contact_Group/Address/Country        | String      |                                                                                                                                               |             | No                  | 0..1        |                                                                                                                                                                                                                                                                                                                                  |

### Enumeration/Code List Mapping

| DIF 10 | Translation | UMM |
|--------|-------------|-----|
|        | Direction   |     |

|                                    |  |  |
|------------------------------------|--|--|
| INVESTIGATOR                       |  |  |
| INVESTIGATOR, TECHNICAL CONTACT    |  |  |
| METADATA AUTHOR                    |  |  |
| METADATA AUTHOR, TECHNICAL CONTACT |  |  |
| TECHNICAL CONTACT                  |  |  |

### Example Mapping

DIF 10

```

<Personnel>
  <Role>INVESTIGATOR</Role>
  <Contact_Group>
    <Name>Marine Turtle Research Group</Name>
    <Address>
      <Street_Address>UFC Department of Biology<
/Street_Address>
      <City>Orlando</City>
      <State_Province>FL</State_Province>
      <Country>USA</Country>
    </Address>
    <Phone>
      <Number>999-777-8888</Number>
      <Type>Telephone</Type>
    </Phone>
    <Phone>
      <Number>999-888-7777</Number>
      <Type>Fax</Type>
    </Phone>
    <Email>savetheturtles@email.com</Email>
  </Contact_Group>
</Personnel>

```

UMM

```

"ContactGroups":[
{
  "Roles":[
    "Investigator"
  ],
  "ContactInformation":{
    "ContactMechanisms":[
      {
        "Type": "Email",
        "Value": "savetheturtles@email.com"
      },
      {
        "Type": "Telephone",
        "Value": "999-777-8888"
      },
      {
        "Type": "Fax",
        "Value": "999-888-7777"
      }
    ],
    "Addresses":[
      {
        "StreetAddresses":[
          "UFC Department of Biology"
        ],
        "City": "Orlando",
        "StateProvince": "FL",
        "Country": "USA"
      }
    ]
  },
  "GroupName": "Marine Turtle Research Group"
}
]

```

## ECHO 10

ContactGroup does not map to ECHO 10. Contact information for a group can be provided in the '[Contacts/Contact/Organization](#)' ECHO 10 metadata elements. See the [Data Center wiki page](#) for details on the '[Contacts/Contact/Organization](#)' metadata elements.

| Specification | Path | Type | Usable Valid Values | Constraints | Required in ECHO 10? | Cardinality | Notes                                                                                                                                                                                                                                                                       |
|---------------|------|------|---------------------|-------------|----------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ECHO 10       | N/A  | N/A  | N/A                 | N/A         | N/A                  | N/A         | ContactGroup does not map to ECHO 10. Contact information for a group can be provided in the 'Contacts/Contact/Organization' ECHO 10 metadata elements. See the <a href="#">Data Center wiki page</a> for details on the 'Contacts/Contact/Organization' metadata elements. |

## ISO 19115-2 MENDS

Providing a Contact Group is optional. An unlimited number of Contact Groups may be listed (Cardinality: 0..\*)

| Specification | Path | Type | Notes |
|---------------|------|------|-------|
|---------------|------|------|-------|

|                      |                                                                                                                                                                                                                                                                                                                                                                                                            |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ISO 19115-2<br>MENDS | /gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification<br>/gmd:pointOfContact[=><br><br>[=>gmd:CI_ResponsibleParty/gmd:role/gmd:CI_RoleCode<br><br><a href="https://cdn.earthdata.nasa.gov/iso/resources/Codelist/gmxCodelists.xml#CI_RoleCode">https://cdn.earthdata.nasa.gov/iso/resources/Codelist/gmxCodelists.xml#CI_RoleCode</a>                                                          | Codelist | Maps to the UMM element "ContactGroup/Roles"<br><br>(for more than 1 role another pointOfContact must be created)<br><br>Data Center Contact<br><br>Technical Contact<br><br>Science Contact<br><br>Investigator<br><br>Metadata Author<br><br>User Services<br><br>Science Software Development                                                                                                                                                                                                    |
| ISO 19115-2<br>MENDS | /gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification<br>/gmd:pointOfContact[=><br><br>[=>gmd:CI_ResponsibleParty/gmd:positionName/gco:CharacterString<br>= NonDataCenterAffiliation:                                                                                                                                                                                                          | String   | Corresponds to the UMM field<br><br>"ContactGroup/NonDataCenterAffiliation"                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ISO 19115-2<br>MENDS | /gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification<br>/gmd:pointOfContact[=><br><br>[=>gmd:CI_ResponsibleParty/gmd:individualName/gco:CharacterString<br>= GroupName:                                                                                                                                                                                                                       | String   | Corresponds to the UMM field<br><br>"ContactGroup/GroupName"                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ISO 19115-2<br>MENDS | /gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification<br>/gmd:pointOfContact[=><br><br>[=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:<br>hoursOfService/gco:CharacterString                                                                                                                                                                                                    | String   | Corresponds to the UMM field<br><br>"ContactGroup/ContactInformation/ServiceHours"                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ISO 19115-2<br>MENDS | /gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification<br>/gmd:pointOfContact[=><br><br>[=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:<br>contactInstructions/gco:CharacterString                                                                                                                                                                                               | String   | Corresponds to the UMM field<br><br>"ContactGroup/ContactInformation/ContactInstructions"                                                                                                                                                                                                                                                                                                                                                                                                           |
| ISO 19115-2<br>MENDS | /gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification<br>/gmd:pointOfContact[=><br><br>[=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:<br>phone/gmd:CI_Telephone/[=><br>[=>gmd:voice/gco:CharacterString (UMM Types=>ISO: Direct Line,<br>Mobile, Primary, TDD/TTY Phone, Telephone, U.S. toll free, Other)<br>(ISO=>UMM: Telephone) or gmd:facsimile/gco:CharacterString (Fax) |          | Use '[=> gmd:voice/gco:CharacterString' to provide a<br>phone number<br><br>When translating from UMM to ISO, if the<br>ContactMechanism/Type = Direct Line, Mobile, Primary,<br>TDD/TTY Phone, Telephone, U.S. toll free or Other then the<br>number will be provided in this field<br><br>Use '[=> gmd:facsimile/gco:CharacterString' to provide a<br>fax number<br><br>When translating from UMM to ISO, if the<br>ContactMechanism/Type = Fax then the number will be<br>provided in this field |
| ISO 19115-2<br>MENDS | /gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification<br>/gmd:pointOfContact[=><br><br>[=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:<br>address/gmd:CI_Address/ gmd:electronicMailAddress/gco:<br>CharacterString                                                                                                                                                             | String   | Corresponds to the UMM fields<br><br>"ContactGroup/ContactInformation/ContactMechanism<br>/Type" = Email<br><br>&<br><br>"ContactGroup/ContactInformation/ContactMechanism<br>/Value"                                                                                                                                                                                                                                                                                                               |
| ISO 19115-2<br>MENDS | /gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification<br>/gmd:pointOfContact[=><br><br>[=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:<br>address/gmd:CI_Address/ gmd:deliveryPoint/gco:CharacterString                                                                                                                                                                         | String   | Corresponds to the UMM field "ContactGroup<br>/ContactInformation/Address/StreetAddresses"                                                                                                                                                                                                                                                                                                                                                                                                          |
| ISO 19115-2<br>MENDS | /gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification<br>/gmd:pointOfContact[=><br><br>[=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:<br>address/gmd:CI_Address/ gmd:city/gco:CharacterString                                                                                                                                                                                  | String   | Corresponds to the UMM field "ContactGroup/ContactInform<br>ation/Address/City"                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ISO 19115-2<br>MENDS | /gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification<br>/gmd:pointOfContact[=><br><br>[=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:<br>address/gmd:CI_Address/ gmd:administrativeArea/gco:CharacterString                                                                                                                                                                    | String   | Corresponds to the UMM field "ContactGroup/ContactInform<br>ation/Address/StateProvince"                                                                                                                                                                                                                                                                                                                                                                                                            |

|                      |                                                                                                                                                                                                                                 |        |                                                                                        |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------------------------------------------------------------------------------------|
| ISO 19115-2<br>MENDS | /gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification<br>/gmd:pointOfContact[=><br><br>[=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:<br>address/gmd:CI_Address/ gmd:postalCode/gco:CharacterString | String | Corresponds to the UMM field "ContactGroup/ContactInformation/Address/PostalCode"      |
| ISO 19115-2<br>MENDS | /gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification<br>/gmd:pointOfContact[=><br><br>[=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:<br>address/gmd:CI_Address/ gmd:country/gco:CharacterString    | String | Corresponds to the UMM field "ContactGroup/ContactInformation/Address/Country"         |
| ISO 19115-2<br>MENDS | /gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification<br>/gmd:pointOfContact[=><br><br>[=>gmd:CI_ResponsibleParty/gmd:onlineResource/gmd:<br>CI_OnlineResource/gmd:linkage/gmd:URL                                  | String | Corresponds to the UMM field "ContactGroup/ContactInformation/RelatedUrls/URL"         |
| ISO 19115-2<br>MENDS | /gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification<br>/gmd:pointOfContact[=><br><br>[=>gmd:CI_ResponsibleParty/gmd:onlineResource/gmd:<br>CI_OnlineResource/gmd:description                                      | String | Corresponds to the UMM field "ContactGroup/ContactInformation/RelatedUrls/Description" |

### Enumeration/Code List Mapping

| ISO MENDS | Translation<br>Direction | UMM                          |
|-----------|--------------------------|------------------------------|
|           |                          | Data Center Contact          |
|           |                          | Technical Contact            |
|           |                          | Science Contact              |
|           |                          | Investigator                 |
|           |                          | Metadata Author              |
|           |                          | User Services                |
|           |                          | Science Software Development |

### Example Mapping

ISO 19115-2 MENDS

```

<gmi:MI_Metadata>
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:pointOfContact>
        <gmd:CI_ResponsibleParty>
          <gmd:role>
            <gmd:CI_RoleCode codeList="https://cdn.
earthdata.nasa.gov/iso/resources/Codelist
/gmx/Codelists.xml#CI_RoleCode" codeListValue="
Science Contact">Science Contact</gmd:
CI_RoleCode>
          </gmd:role>
          <gmd:positionName>
            <gco:
CharacterString>NonDataCenterAffiliation: University
of Central Florida Department of Biology</gco:
CharacterString>
          </gmd:positionName>
          <gmd:individualName>
            <gco:CharacterString>GroupName: Marine
Turtle Research Group</gco:CharacterString>
          </gmd:individualName>
          <gmd:contactInfo>
            <gmd:CI_Contact>
              <gmd:phone>
                <gmd:CI_Telephone>
                  <gmd:voice>

```

```

                <gco:CharacterString>999-777-
8888</gco:CharacterString>
                </gmd:voice>
                <gmd:facsimile>
                <gco:CharacterString>999-888-
7777</gco:CharacterString>
                </gmd:facsimile>
                </gmd:CI_Telephone>
                </gmd:phone>
                <gmd:address>
                <gmd:CI_Address>
                <gmd:deliveryPoint>
                <gco:CharacterString>UFC
Department of Biology</gco:CharacterString>
                </gmd:deliveryPoint>
                <gmd:city>
                <gco:CharacterString>Orlando<
/gco:CharacterString>
                </gmd:city>
                <gmd:administrativeArea>
                <gco:CharacterString>FL</gco:
CharacterString>
                </gmd:administrativeArea>
                <gmd:country>
                <gco:CharacterString>USA</gco:
CharacterString>
                </gmd:country>
                <gmd:electronicMailAddress>
                <gco:
CharacterString>savetheturtles@email.com</gco:
CharacterString>
                </gmd:electronicMailAddress>
                </gmd:CI_Address>
                </gmd:address>
                </gmd:CI_Contact>
                </gmd:contactInfo>
                <gmd:onlineResource>
                <gmd:CI_OnlineResource>
                <gmd:linkage>
                <gmd:URL>https://sciences.ucf.edu
/biology/marineturtleresearchgroup/</gmd:URL>
                </gmd:linkage>
                <gmd:description>The Marine Turtle
Research Group website home page</gmd:description>
                </gmd:CI_OnlineResource>
                </gmd:onlineResource>
                </gmd:CI_ResponsibleParty>
                </gmd:pointOfContact>
                </gmd:MD_DataIdentification>
                </gmd:identificationInfo>
</gmi:MI_Metadata>

```

UMM

```

"ContactGroups":[
{
  "Roles":[
    "Investigator"
  ],
  "NonDataCenterAffiliation": "UFC Department of
Biology",
  "ContactInformation":{
    "ContactMechanisms":[
      {
        "Type": "Email",
        "Value": "savetheturtles@email.com"
      },
      {
        "Type": "Telephone",
        "Value": "999-777-8888"
      },
      {
        "Type": "Fax",
        "Value": "999-888-7777"
      }
    ],
    "Addresses":[
      {
        "StreetAddresses":[
          "UFC Department of Biology"
        ],
        "City": "Orlando",
        "StateProvince": "FL",
        "Country": "USA"
      }
    ]
  },
  "GroupName": "Marine Turtle Research Group"
},
{
  "ContactInformation": {
    "RelatedUrls": [
      {
        "Description": "The Marine Turtle Research
Group website home page",
        "URLContentType": "DataCenterURL",
        "Type": "HOME PAGE",
        "URL": "https://sciences.ucf.edu/biology
/marineturtleresearchgroup/"
      }
    ]
  }
}

```

## ISO 19115-2 SMAP

Providing a Contact Group is optional. An unlimited number of Contact Groups may be listed (Cardinality: 0..\*)

| Specification | Path | Type | Notes |
|---------------|------|------|-------|
|---------------|------|------|-------|

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ISO 19115-2<br>SMAP | /gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:pointOfContact[=><br><br>=>gmd:CI_ResponsibleParty/gmd:role/gmd:CI_RoleCode<br><br><a href="https://cdn.earthdata.nasa.gov/iso/resources/Codelist/gmxCodeLists.xml#CI_RoleCode">https://cdn.earthdata.nasa.gov/iso/resources/Codelist/gmxCodeLists.xml#CI_RoleCode</a>                                                  | Codelist | Maps to the UMM element "ContactGroup/Roles"<br><br>(for more than 1 role another pointOfContact must be created)<br><br>Data Center Contact<br><br>Technical Contact<br><br>Science Contact<br><br>Investigator<br><br>Metadata Author<br><br>User Services<br><br>Science Software Development                                                                                                                                                                                 |
| ISO 19115-2<br>SMAP | /gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:pointOfContact[=><br><br>=>gmd:CI_ResponsibleParty/gmd:positionName/gco:CharacterString<br>= <a href="#">NonDataCenterAffiliation</a> :                                                                                                                                                                                 | String   | Corresponds to the UMM field<br><br>"ContactGroup/NonDataCenterAffiliation"                                                                                                                                                                                                                                                                                                                                                                                                      |
| ISO 19115-2<br>SMAP | /gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:pointOfContact[=><br><br>=>gmd:CI_ResponsibleParty/gmd:individualName/gco:CharacterString<br>= <a href="#">GroupName</a> :                                                                                                                                                                                              | String   | Corresponds to the UMM field<br><br>"ContactGroup/GroupName"                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ISO 19115-2<br>SMAP | /gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:pointOfContact[=><br><br>=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:hoursOfService/gco:CharacterString                                                                                                                                                                                                | String   | Corresponds to the UMM field<br><br>"ContactGroup/ContactInformation/ServiceHours"                                                                                                                                                                                                                                                                                                                                                                                               |
| ISO 19115-2<br>SMAP | /gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:pointOfContact[=><br><br>=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:contactInstructions/gco:CharacterString                                                                                                                                                                                           | String   | Corresponds to the UMM field<br><br>"ContactGroup/ContactInformation/ContactInstructions"                                                                                                                                                                                                                                                                                                                                                                                        |
| ISO 19115-2<br>SMAP | /gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:pointOfContact[=><br><br>=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:phone/gmd:CI_Telephone/[==><br>[==>gmd:voice/gco:CharacterString (UMM Types=>ISO: Direct Line, Mobile, Primary, TDD/TTY Phone, Telephone, U.S. toll free, Other) (ISO=>UMM: Telephone) or gmd:facsimile/gco:CharacterString (Fax) |          | Use '[==> gmd:voice/gco:CharacterString' to provide a phone number<br><br>When translating from UMM to ISO, if the ContactMechanism/Type = Direct Line, Mobile, Primary, TDD/TTY Phone, Telephone, U.S. toll free or Other then the number will be provided in this field<br><br>Use '[==> gmd:facsimile/gco:CharacterString' to provide a fax number<br><br>When translating from UMM to ISO, if the ContactMechanism/Type = Fax then the number will be provided in this field |
| ISO 19115-2<br>SMAP | /gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:pointOfContact[=><br><br>=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:address/gmd:CI_Address/ gmd:electronicMailAddress/gco:CharacterString                                                                                                                                                             | String   | Corresponds to the UMM fields<br><br>"ContactGroup/ContactInformation/ContactMechanism /Type" = Email<br><br>&<br><br>"ContactGroup/ContactInformation/ContactMechanism /Value"                                                                                                                                                                                                                                                                                                  |
| ISO 19115-2<br>SMAP | /gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:pointOfContact[=><br><br>=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:address/gmd:CI_Address/ gmd:deliveryPoint/gco:CharacterString                                                                                                                                                                     | String   | Corresponds to the UMM field "ContactGroup /ContactInformation/Address/StreetAddresses"                                                                                                                                                                                                                                                                                                                                                                                          |
| ISO 19115-2<br>SMAP | /gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:pointOfContact[=><br><br>=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:address/gmd:CI_Address/ gmd:city/gco:CharacterString                                                                                                                                                                              | String   | Corresponds to the UMM field "ContactGroup /ContactInformation/Address/City"                                                                                                                                                                                                                                                                                                                                                                                                     |
| ISO 19115-2<br>SMAP | /gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:pointOfContact[=><br><br>=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:address/gmd:CI_Address/ gmd:administrativeArea/gco:CharacterString                                                                                                                                                                | String   | Corresponds to the UMM field "ContactGroup /ContactInformation/Address/StateProvince"                                                                                                                                                                                                                                                                                                                                                                                            |

|                     |                                                                                                                                                                                                                                                       |        |                                                                                         |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------------|
| ISO 19115-2<br>SMAP | /gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:pointOfContact[=>=<br/>=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:address/gmd:CI_Address/ gmd:postalCode/gco:CharacterString | String | Corresponds to the UMM field "ContactGroup /ContactInformation/Address/PostalCode"      |
| ISO 19115-2<br>SMAP | /gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:pointOfContact[=>=<br/>=>gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:address/gmd:CI_Address/ gmd:country/gco:CharacterString    | String | Corresponds to the UMM field "ContactGroup /ContactInformation/Address/Country"         |
| ISO 19115-2<br>SMAP | /gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:pointOfContact[=>=<br/>=>gmd:CI_ResponsibleParty/gmd:onlineResource/gmd:CI_OnlineResource/gmd:linkage/gmd:URL                                  | String | Corresponds to the UMM field "ContactGroup /ContactInformation/RelatedUrls/URL"         |
| ISO 19115-2<br>SMAP | /gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:pointOfContact[=>=<br/>=>gmd:CI_ResponsibleParty/gmd:onlineResource/gmd:CI_OnlineResource/gmd:description                                      | String | Corresponds to the UMM field "ContactGroup /ContactInformation/RelatedUrls/Description" |

### Enumeration/Code List Mapping

| ISO SMAP | Translation<br>Direction | UMM                          |
|----------|--------------------------|------------------------------|
|          |                          | Data Center Contact          |
|          |                          | Technical Contact            |
|          |                          | Science Contact              |
|          |                          | Investigator                 |
|          |                          | Metadata Author              |
|          |                          | User Services                |
|          |                          | Science Software Development |

### Example Mapping

ISO 19115-2 SMAP

```

<gmd:DS_Series>
<gmd:seriesMetadata>
<gmi:MI_Metadata>
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:pointOfContact>
        <gmd:CI_ResponsibleParty>
          <gmd:role>
            <gmd:CI_RoleCode codeList="https://cdn.
earthdata.nasa.gov/iso/resources/Codelist
/gmx/Codelists.xml#CI_RoleCode" codeListValue="
Science Contact">Science Contact</gmd:
CI_RoleCode>
          </gmd:role>
          <gmd:positionName>
            <gco:
CharacterString>NonDataCenterAffiliation: University
of Central Florida Department of Biology</gco:
CharacterString>
            </gmd:positionName>
            <gmd:individualName>
              <gco:CharacterString>GroupName: Marine
Turtle Research Group</gco:CharacterString>
            </gmd:individualName>
            <gmd:contactInfo>
              <gmd:CI_Contact>
                <gmd:phone>

```

```

        <gmd:CI_Telephone>
            <gmd:voice>
                <gco:CharacterString>999-777-
8888</gco:CharacterString>
            </gmd:voice>
            <gmd:facsimile>
                <gco:CharacterString>999-888-
7777</gco:CharacterString>
            </gmd:facsimile>
        </gmd:CI_Telephone>
    </gmd:phone>
    <gmd:address>
        <gmd:CI_Address>
            <gmd:deliveryPoint>
                <gco:CharacterString>UFC
Department of Biology</gco:CharacterString>
            </gmd:deliveryPoint>
            <gmd:city>
                <gco:CharacterString>Orlando<
/gco:CharacterString>
            </gmd:city>
            <gmd:administrativeArea>
                <gco:CharacterString>FL</gco:
CharacterString>
            </gmd:administrativeArea>
            <gmd:country>
                <gco:CharacterString>USA</gco:
CharacterString>
            </gmd:country>
            <gmd:electronicMailAddress>
                <gco:
CharacterString>savetheturtles@email.com</gco:
CharacterString>
            </gmd:electronicMailAddress>
        </gmd:CI_Address>
    </gmd:address>
    </gmd:CI_Contact>
    </gmd:contactInfo>
    <gmd:onlineResource>
        <gmd:CI_OnlineResource>
            <gmd:linkage>
                <gmd:URL>https://sciences.ucf.edu
/biology/marineturtleresearchgroup/</gmd:URL>
            </gmd:linkage>
            <gmd:description>The Marine Turtle
Research Group website home page</gmd:description>
        </gmd:CI_OnlineResource>
    </gmd:onlineResource>
    </gmd:CI_ResponsibleParty>
    </gmd:pointOfContact>
    </gmd:MD_DataIdentification>
    </gmd:identificationInfo>
</gmi:MI_Metadata>
</gmd:seriesMetadata>
</gmd:DS_Series>

```

UMM

```

"ContactGroups":[
  {
    "Roles":[
      "Investigator"
    ],
    "NonDataCenterAffiliation": "UFC Department of
Biology",
    "ContactInformation":{
      "ContactMechanisms":[
        {
          "Type": "Email",
          "Value": "savetheturtles@email.com"
        },
        {
          "Type": "Telephone",
          "Value": "999-777-8888"
        },
        {
          "Type": "Fax",
          "Value": "999-888-7777"
        }
      ],
      "Addresses":[
        {
          "StreetAddresses":[
            "UFC Department of Biology"
          ],
          "City": "Orlando",
          "StateProvince": "FL",
          "Country": "USA"
        }
      ]
    },
    "GroupName": "Marine Turtle Research Group"
  }
],
"ContactInformation": {
  "RelatedUrls": [
    {
      "Description": "The Marine Turtle Research
Group website home page",
      "URLContentType": "DataCenterURL",
      "Type": "HOME PAGE",
      "URL": "https://sciences.ucf.edu/biology
/marineturtleresearchgroup/"
    }
  ]
}

```

## UMM Migration

None

## History

### UMM Versioning

| Version | Date          | What Changed                                                                             |
|---------|---------------|------------------------------------------------------------------------------------------|
| 1.17.1  | 8/10<br>/2022 | No changes were made for Contact Group during the transition from version 1.17 to 1.17.1 |

|        |                |                                                                                                                                                                     |
|--------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.17   | 5/11<br>/2022  | No changes were made for Contact Group during the transition from version 1.16.7 to 1.17                                                                            |
| 1.16.7 | 3/2/2022       | No changes were made for Contact Group during the transition from version 1.16.6 to 1.16.7                                                                          |
| 1.16.6 | 12/1<br>/2021  | No changes were made for Contact Group during the transition from version 1.16.5 to 1.16.6                                                                          |
| 1.16.5 | 7/13<br>/2021  | No changes were made for Contact Group during the transition from version 1.16.4 to 1.16.5                                                                          |
| 1.16.4 | 6/30<br>/2021  | No changes were made for Contact Group during the transition from version 1.16.3 to 1.16.4                                                                          |
| 1.16.3 | 5/19<br>/2021  | No changes were made for Contact Group during the transition from version 1.16.2 to 1.16.3                                                                          |
| 1.16.2 | 4/7/2021       | No changes were made for Contact Group during the transition from version 1.16.1 to 1.16.2                                                                          |
| 1.16.1 | 4/7/2021       | No changes were made for Contact Group during the transition from version 1.16 to 1.16.1                                                                            |
| 1.16   | 3/24<br>/2021  | No changes were made for Contact Group during the transition from version 1.15.5 to 1.16                                                                            |
| 1.15.5 | 12/3<br>/2020  | No changes were made for Contact Group during the transition from version 1.15.4 to 1.15.5                                                                          |
| 1.15.4 | 9/18<br>/2020  | No changes were made for Contact Group during the transition from version 1.15.3 to 1.15.4                                                                          |
| 1.15.3 | 7/1/2020       | No changes were made for Contact Group during the transition from version 1.15.2 to 1.15.3                                                                          |
| 1.15.2 | 5/20<br>/2020  | No changes were made for Contact Group during the transition from version 1.15.1 to 1.15.2                                                                          |
| 1.15.1 | 3/25<br>/2020  | No changes were made for Contact Group during the transition from version 1.15.0 to 1.15.1                                                                          |
| 1.15   | 2/26<br>/2020  | No changes were made for Contact Group during the transition from version 1.14.0 to 1.15.0                                                                          |
| 1.14   | 10/21<br>/2019 | No changes were made for Contact Group during the transition from version 1.13.0 to 1.14.0                                                                          |
| 1.13   | 04/11<br>/2019 | No changes were made for Contact Group during the transition from version 1.12.0 to 1.13.0                                                                          |
| 1.12   | 01/22<br>/2019 | No changes were made for Contact Group during the transition from version 1.11.0 to 1.12.0.                                                                         |
| 1.11   | 11/28<br>/2018 | No changes were made for Contact Group during the transition from version 1.10.0 to 1.11.0.                                                                         |
| 1.10   | 05/02<br>/2018 | No changes were made for Contact Group during the transition from version 1.9.0 to 1.10.0.                                                                          |
| 1.9    | 3/21<br>/2017  | No changes were made for Contact Group during the transition from version 1.8 to 1.9.                                                                               |
| 1.8    | 10/31<br>/2016 | No changes were made for Contact Group during the transition from version 1.7 to 1.8.                                                                               |
| 1.7    | 9/27<br>/2016  | No changes were made for Contact Group during the transition from version 1.6 to 1.7.                                                                               |
| 1.6    | 8/1/2016       | Changed ContactInformation to be a single instance instead of an array. This change affects the ContactInformations in DataCenter, ContactPerson, and ContactGroup. |
| 1.5    | 7/28<br>/2016  | No changes were made for Contact Group during the transition from version 1.4 to 1.5.                                                                               |
| 1.4    |                | No changes were made for Contact Group during the transition from version 1.3 to 1.4.                                                                               |
| 1.3    | 5/12<br>/2016  | No changes were made for Contact Group during the transition from version 1.2 to 1.3.                                                                               |
| 1.2    | 5/10<br>/2016  | No changes were made for Contact Group during the transition from version 1.1 to 1.2.                                                                               |

|     |                    |                                                                                       |
|-----|--------------------|---------------------------------------------------------------------------------------|
| 1.1 | 2/10<br>/2016      | No changes were made for Contact Group during the transition from version 1.0 to 1.1. |
| 1.0 | Initial<br>Version |                                                                                       |

## ARC Documentation

| Version | Date     | What Changed                                                                              | Author                          |
|---------|----------|-------------------------------------------------------------------------------------------|---------------------------------|
| 1.0     | 02/13/19 | Recommendations/priority matrix transferred from internal ARC documentation to wiki space | <a href="#">Jeanne' le Roux</a> |