

## People and Organizations in CMR Metadata

## Interim Collection Comparison Report for Big Earth Data Initiative

**Metadata Source: NASA Common Metadata Repository**

**Metadata Dialect: ISO 19115-2**

### Evaluation Target: People and Organizations

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Metadata serves an essential function in connecting users to people and organizations to help them access, use, and understand data. The ESDIS Common Metadata Repository (CMR) recognizes the importance of this type of information and includes two related elements in the Unified Metadata Model (UMM) Common Profile: Responsibility and Party. As elements in the Common Profile, these elements are included in all other UMM Profiles.

The Responsibility element broadly defines responsibilities related to data resources using the position of the element in the metadata model hierarchy. The UMM-Common Profile defines five responsibilities: Metadata Contact, Resource Author / Originator, Point of Contact, Distributor, and Processor. Each of these responsibilities can have multiple people or organizations (termed *parties*) associated with it. A RoleCode that is chosen from the standard ISO Codelist describes details of the roles of those parties.

Understanding usage, completeness and consistency of Responsibilities and Parties in ESDIS metadata is an important first step towards providing consistent and complete services to users of those data. This report provides an initial assessment of these characteristics.

We examined 4180 metadata records from 17 collections extracted from the CMR during March 2015 and 2126 metadata records from 15 collections extracted from the CMR during October 2015 ([Collections Examined](#)). For each recommended responsibility we provide a table that gives the average number of occurrences for elements of the associated party in each of these collections. A value of 1 or more typically (although not necessarily) indicates that the element is included one or more times in each record in a collection. A value  $< 1.0$  is typically the percentage of records in a collection that include the metadata element. Empty cells indicate values of 0 – the element is completely missing from the collection.

### Contact Information in the CMR

Metadata Contact:

ISO path: /qmi:MI Metadata/qmd:contact/qmd:CI ResponsibleParty

The Metadata Contact responsibility gives the party that is responsible for creating and maintaining the metadata. The xPath of the source of this information in the DIF and ECHO dialects is given in Table 1.

Table 1. Sources for Metadata Contact information

| Dialect | Source                                                                                                                             |
|---------|------------------------------------------------------------------------------------------------------------------------------------|
| DIF     | /DIF/Personnel[Role="DIF AUTHOR"]                                                                                                  |
| ECHO    | <ol style="list-style-type: none"> <li>1. /*/ArchiveCenter</li> <li>2. /*/Contacts/Contact[contains(Role,'DIF AUTHOR')]</li> </ol> |

This table shows the frequency of occurrence of elements of the Metadata Contact Responsibility / Parties for 25 collections in the CMR. The data indicates that all of the collections include the name of the organization that is responsible for the metadata (gmd:organisationName) and a roleCode (gmd:role/gmd:CI RoleCode) for the organization. In general, no contact information is provided for these organizations with the exception of CDDIS.

This difference reflects the source of the information in ECHO. Metadata Contacts that originate as ArchiveCenter have only the organisationName while those that originate as contacts generally have more complete information.

Table 2. Occurrences of Metadata Contact Responsibility

[illegible]

[illegible]



|                     |                                                                    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |      |     |      |      |      |      |      |
|---------------------|--------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-----|------|------|------|------|------|
| Organizational Name | gmd:identificationInfo/gmd:pointOfContact/gmd:organisationName     | 1.00 | 3.86 | 1.00 | 3.71 | 3.39 | 2.02 | 4.00 | 3.90 | 3.56 | 1.00 | 3.07 | 1.75 | 1.00 | 2.00 | 1.05 | 4.20 | 1.00 | 5.38  | 1.00 | .80 | 1.00 | 1.00 | 1.16 | 1.00 | 3.82 |
| Role Code           | gmd:identificationInfo/gmd:pointOfContact/gmd:role/gmd:CI_RoleCode | 1.00 | 7.82 | 1.21 | 6.36 | 6.35 | 5.32 | 7.00 | 6.32 | 7.10 | 1.00 | 7.45 | 4.11 | 1.01 | 4.00 | 1.13 | 7.19 | 1.09 | 10.69 | 1.00 | .80 | 1.00 | 1.00 | 1.39 | 1.00 | 6.51 |

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## Distribution Contact:

ISO Path: /gmi:MI\_Metadata/gmd:distributionInfo/gmd:MD\_Distribution/gmd:distributor/gmd:MD\_Distributor

/gmd:distributorContact/gmd:CI\_ResponsibleParty/

The Distribution Contact Responsibility contains the party responsible for answering questions about the distribution of the dataset. This is typically the Archive Center for the dataset. The xPath of the source of this information in the DIF and ECHO dialects is given in Table 7.

Table 7. Sources for Distribution Contact Responsibility information.

| Dialect | Source                                                                                                                                                                                                                                                                                                                                                                                       |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DIF     | 1. /DIF/Data_Center/Data_Center_Name                                                                                                                                                                                                                                                                                                                                                         |
| ECHO    | 1. /*/ArchiveCenter<br>2. /*/Contacts/Contact[contains(Role,'Archive')]<br>3. /*/Contacts/Contact[contains(Role,'DATA CENTER CONTACT')]<br>4. /*/Contacts/Contact[contains(Role,'Distributor')]<br>5. /*/Contacts/Contact[contains(Role,'User Services')]<br>6. /*/Contacts/Contact[contains(Role,'GHRC USER SERVICES')]<br>7. /*/Contacts/Contact[contains(Role,'ORNL DAAC User Services')] |

Table 8 shows the frequency of occurrence of elements of the Distribution Contact Responsibility / Parties for 25 collections in the CMR.

Table 8. Occurrences of the Distributor Contact Responsibility

|                     | Number of Records                                                                                                  | 161  | 2559      | 38      | 103  | 23         | 1044       | 19    | 340    | 130      | 6            | 154          | 406    | 606         | 1          | 285          | 5488        | 223         | 784       | 132       | 5         | 1216        | 603      | 202      | 11          | 130        |
|---------------------|--------------------------------------------------------------------------------------------------------------------|------|-----------|---------|------|------------|------------|-------|--------|----------|--------------|--------------|--------|-------------|------------|--------------|-------------|-------------|-----------|-----------|-----------|-------------|----------|----------|-------------|------------|
| Element             | Element Path                                                                                                       | A SF | AU _A ADC | C D DIS | E SA | EU ME TSAT | GE S_ DISC | IS RO | J A XA | L A A DS | LAN CEA MSR2 | LAN CEM ODIS | L A RC | LAR C_A SDC | LM _FI RMS | LPD AAC _ECS | NO AA_ NCEI | NSI DC_ ECS | NS ID CV0 | OB _D AAC | O MI N RT | ORN L_D AAC | PO DA AC | S E D AC | USG S_E ROS | US GS _LTA |
| Administrative Area | gmd:distributionInfo/gmd:distributor/gmd:distributorContact/gmd:contactInfo/gmd:address/gmd:administrativeArea     |      |           | .89     |      |            |            |       |        |          |              |              | .36    | 1.00        |            | .96          |             | .91         |           |           |           | 1.00        |          | .92      | 1.00        |            |
| City                | gmd:distributionInfo/gmd:distributor/gmd:distributorContact/gmd:contactInfo/gmd:address/gmd:city                   |      |           | .89     |      |            |            |       |        |          |              |              | .36    | 1.00        |            | .96          |             | .91         |           |           |           | 1.00        |          | .92      | 1.00        |            |
| Country             | gmd:distributionInfo/gmd:distributor/gmd:distributorContact/gmd:contactInfo/gmd:address/gmd:country                |      |           | .89     |      |            |            |       |        |          |              |              | .36    | 1.00        |            | .96          |             | .91         |           |           |           | 1.00        |          | .92      | 1.00        |            |
| Delivery Point      | gmd:distributionInfo/gmd:distributor/gmd:distributorContact/gmd:contactInfo/gmd:address/gmd:deliveryPoint          |      |           | .89     |      |            |            |       |        |          |              |              | .36    | 1.00        |            | .96          |             | .91         |           |           |           | 1.00        |          | .92      | 1.00        |            |
| Email               | gmd:distributionInfo/gmd:distributor/gmd:distributorContact/gmd:contactInfo/gmd:address/gmd:electronicMailAddress  | 1.00 |           | .89     |      |            |            |       |        | 1.00     |              |              | .36    | 1.00        |            | .96          |             | .91         |           | 1.00      |           | 1.00        | 1.09     | .92      | 1.00        |            |
| Postal Code         | gmd:distributionInfo/gmd:distributor/gmd:distributorContact/gmd:contactInfo/gmd:address/gmd:postalCode             |      |           | .89     |      |            |            |       |        |          |              |              | .36    | 1.00        |            | .96          |             | .91         |           |           |           | 1.00        |          | .92      | 1.00        |            |
| URL                 | gmd:distributionInfo/gmd:distributor/gmd:distributorContact/gmd:contactInfo/gmd:onlineResource/gmd:linkage/gmd:URL |      | 1.01      |         | 1.04 | 1.00       |            | 1.00  | 1.01   | .72      |              | .50          |        |             |            |              | 1.34        |             | 1.63      |           |           |             |          | .08      |             | 1.02       |
| Protocol            | gmd:distributionInfo/gmd:distributor/gmd:distributorContact/gmd:contactInfo/gmd:onlineResource/gmd:protocol        |      | 1.01      |         | 1.04 | 1.00       |            | 1.00  | 1.01   | .72      |              | .50          |        |             |            |              | 1.34        |             | 1.63      |           |           |             |          | .08      |             | 1.02       |

|                      |                                                                                                     |      |      |     |      |      |  |      |      |     |      |     |  |     |      |  |     |      |     |      |      |     |      |      |      |      |      |
|----------------------|-----------------------------------------------------------------------------------------------------|------|------|-----|------|------|--|------|------|-----|------|-----|--|-----|------|--|-----|------|-----|------|------|-----|------|------|------|------|------|
| Phone                | gmd:distributionInfo/gmd:distributor/gmd:distributorContact/gmd:contactInfo/gmd:phone/gmd:voice     | 1.00 | 1.79 |     |      |      |  |      |      |     |      |     |  | .36 | 1.00 |  | .96 |      | .91 |      |      |     | 2.00 | 1.09 | 1.84 | 4.00 |      |
| Individual Name      | gmd:distributionInfo/gmd:distributor/gmd:distributorContact/gmd:individualName                      |      | .89  |     |      |      |  |      |      |     |      |     |  | .11 |      |  |     |      | .01 |      |      |     | 1.00 | 1.09 | .92  |      |      |
| Organization Name    | gmd:distributionInfo/gmd:distributor/gmd:distributorContact/gmd:organisationName                    |      | 1.01 | .89 | 1.04 | 1.00 |  | 1.00 | 1.01 | .72 |      | .50 |  | .25 | 1.99 |  | .96 | 1.35 | .91 | 1.63 | 1.00 | .80 |      | 1.09 | 1.00 | 1.00 | 1.02 |
| Role Code            | gmd:distributionInfo/gmd:distributor/gmd:distributorContact/gmd:role/gmd:CI_RoleCode                | 1.00 | 1.01 | .89 | 1.04 | 1.00 |  | 1.00 | 1.01 | .72 | 1.00 | .50 |  | .36 | 1.99 |  | .96 | 1.35 | .91 | 1.63 | 1.00 | .80 | 1.00 | 1.09 | 1.00 | 1.00 | 1.02 |
| Contact Instructions | gmd:distributionInfo/gmd:distributor/gmd:distributorContact/gmd:contactInfo/gmd:contactInstructions |      |      |     |      |      |  |      |      |     |      |     |  | .36 |      |  | .96 |      | .91 |      |      |     |      |      |      | 1.00 |      |
| Hours                | gmd:distributionInfo/gmd:distributor/gmd:distributorContact/gmd:contactInfo/gmd:hoursOfService      |      |      |     |      |      |  |      |      |     |      |     |  | .36 |      |  | .96 |      | .91 |      |      |     |      |      | .92  | 1.00 |      |
| Fax                  | gmd:distributionInfo/gmd:distributor/gmd:distributorContact/gmd:contactInfo/gmd:phone/gmd:facsimile |      |      |     |      |      |  |      |      |     |      |     |  | .36 |      |  | .96 |      | .91 |      |      |     |      |      |      |      |      |
| Position Name        | gmd:distributionInfo/gmd:distributor/gmd:distributorContact/gmd:positionName                        |      |      |     |      |      |  |      |      |     |      |     |  | .11 |      |  |     |      | .01 |      |      |     |      | 1.09 |      |      |      |

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## Processor

ISO path: /gmi:MI\_Metadata/gmd:dataQualityInfo/gmd:DQ\_DataQuality/gmd:lineage/gmd:LI\_Lineage

/gmd:processStep/gmd:LI\_ProcessStep/gmd:processor

The Processor Responsibility gives the party that is responsible for processing the dataset. It is included in the lineage metadata. The xPath of the source of this information in the DIF and ECHO dialects is given in Table 9.

Table 9. Sources for Processor Responsibility information.

| Dialect | Source                 |
|---------|------------------------|
| DIF     | 1. TBD                 |
| ECHO    | 1. /*/ProcessingCenter |

Table 10 shows the frequency of occurrence of elements of the Processor Responsibility / Parties for 25 collections in the CMR.

Table 10. Occurrences of Processor Responsibility

|                   | Number of Records                                                                                                    | 161 | 2559    | 38    | 103 | 23       | 1044     | 19   | 340  | 130     | 6          | 154        | 406  | 606    | 1        | 285         | 5488      | 223       | 784       | 132      | 5       | 1216       | 603    | 202  | 11        | 130      |
|-------------------|----------------------------------------------------------------------------------------------------------------------|-----|---------|-------|-----|----------|----------|------|------|---------|------------|------------|------|--------|----------|-------------|-----------|-----------|-----------|----------|---------|------------|--------|------|-----------|----------|
| Element           | Element Path                                                                                                         | ASF | AU_AADC | CDDIS | ESA | EUMETSAT | GEOSDISC | ISRO | JAXA | LANDSAT | LANCERMSR2 | LANCERODIS | LARC | LARSDC | LM_FIRMS | LPD_AAC_ECS | NOAA_NCEI | NSIDC_ECS | NSIDC_CV0 | OB_D_AAC | OMI_NRT | ORNL_D_AAC | PODAAC | SEDA | USGS_EROS | USGS_LTA |
| Organization Name | gmd:dataQualityInfo/gmd:lineage/gmd:processStep/gmd:processor/gmd:organisationName                                   | .98 |         |       |     |          |          |      | .72  |         | .50        | .25        |      |        |          | .96         |           | .91       |           |          |         | 1.00       | 1.00   | .92  | 1.00      |          |
| Role Code         | gmd:dataQualityInfo/gmd:lineage/gmd:processStep/gmd:processor/gmd:role/gmd:CI_RoleCode                               | .98 |         |       |     |          |          |      | .72  | .50     | .25        |            |      |        |          | .96         |           | .91       |           |          |         | 1.00       | 1.00   | .92  | 1.00      |          |
| URL               | gmd:dataQualityInfo/gmd:lineage/gmd:processStep/gmd:processor/gmd:contactInfo/gmd:onlineResource/gmd:linkage/gmd:URL |     |         |       |     |          |          |      | .70  | .50     |            |            |      |        |          |             |           |           |           |          |         |            |        |      |           |          |
| Protocol          | gmd:dataQualityInfo/gmd:lineage/gmd:processStep/gmd:processor/gmd:contactInfo/gmd:onlineResource/gmd:protocol        |     |         |       |     |          |          |      | .70  | .50     |            |            |      |        |          |             |           |           |           |          |         |            |        |      |           |          |

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## E-Mail Addresses

The data shown above clearly indicates that the completeness of contact information varies significantly across collections and responsibilities. The standards all include extensive physical contact information, e.g. cities, addresses, and postal codes. This reflects the prevalence of physical mail delivery when these standards were created. Now electronic delivery dominates, so e-mail addresses are more likely to be helpful than physical addresses. We examined the occurrence of e-mail addresses for responsibilities in all 15 collections. Table 12 gives the results of this analysis.

Table 12. Completeness of contact email addresses

|                              | 161  | 2559     | 38     | 103  | 23        | 1044     | 19    | 340   | 130    | 6           | 154         | 406   | 606       | 1         | 285         | 5488      | 223       | 784      | 132      | 5       | 1216       | 603     | 202    | 11        | 130      |
|------------------------------|------|----------|--------|------|-----------|----------|-------|-------|--------|-------------|-------------|-------|-----------|-----------|-------------|-----------|-----------|----------|----------|---------|------------|---------|--------|-----------|----------|
| Element                      | A SF | AU_A ADC | CD DIS | E SA | EUME TSAT | GES_DISC | IS RO | JA XA | LA ADS | LANCE AMSR2 | LANCE MODIS | LA RC | LARC_ASDC | LM_FI RMS | LPDAA C_ECS | NOAA_NCEI | NSIDC_ECS | NSID CV0 | OB_D AAC | OMI NRT | ORNL_D AAC | POD AAC | SE DAC | USGS_EROS | USGS_LTA |
| Metadata Contact             |      |          | .11    |      |           |          |       |       |        |             |             |       |           |           |             |           |           |          |          |         |            |         |        |           |          |
| Distribution Contact         | 1.00 |          | .89    |      |           |          |       |       |        | 1.00        |             | .36   | 1.00      |           | .96         |           | .91       |          | 1.00     |         | 1.00       | 1.09    | .92    | 1.00      |          |
| Point of Contact             |      | 2.97     | .21    | 1.52 | 1.39      | 3.25     | 2.00  | 1.64  | 2.24   |             | 2.10        | 2.35  | .01       | 2.00      | .07         | 2.58      |           | 4.21     |          |         |            |         | .23    |           | 1.93     |
| Resource Author / Originator |      |          |        |      |           |          |       |       |        |             |             | .16   |           |           | .82         |           | 1.49      |          |          |         |            |         |        |           |          |
| Processor                    |      |          |        |      |           |          |       |       |        |             |             |       |           |           |             |           |           |          |          |         |            |         |        |           |          |

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