

Related Urls

- [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 Related URLs element provides access to resources related to a collection. The Related URL may also link to data access points, as well as relevant tools and services.

Note: This wiki page pertains to Related URLs in collection level metadata. For guidance on Related URLs in granule level metadata, please see the [RelatedURLs \(GRANULES\) wiki page](#).

Best Practices

The Related URLs metadata element allows for the linkage of a metadata record to external resources or locations on the web. When used properly, this element allows users to quickly and easily access data, as well as access relevant services and information about the data. Related URLs at the collection level should point to:

- A data access location
- A landing page for the associated dataset
- Any relevant services provided for the data (if applicable) such as: Web Map Services (WMS), OPeNDAP, THREDDS, Web Map Tile Services (WMTS), Web Coverage Services (WCS), etc.
- A user's guide and/or comparable documentation which provides important information about how to use the data
- The project home page
- Relevant software packages
- Relevant online data tools
- Relevant PI documentation
- Read-Me files
- Data citation policies
- Algorithm Theoretical Basis Document (ATBD)
- OpenSearch Description Document (OSDD) links
- Any other documentation directly related to the dataset (examples include: data recipes, micro articles, product quality assessment documentation, important announcements, documentation on dataset anomalies, etc.)

There are two special sub-sections within Related URLs. These include the **GET DATA** and the **USE SERVICE API** sub-elements. **A separate wiki page with full details has been developed for each of these sub-sections:**

[Related URLs \(GET DATA\)](#)

[Related URLs \(USE SERVICE API\)](#)

The details on this wiki page are for general Related URL guidance and do not include any of the GET DATA or USE SERVICE API sub-elements.

Several of the elements within the Related URLs section of the metadata serve to properly identify the purpose of the link. These identifying elements include:

URL Content Type: The URL Content Type is a keyword which, at a high level, describes the content of a link. This is a controlled vocabulary field maintained as an enumeration list within the [UMM-Common schema](#) with the following options: "CollectionURL", "PublicationURL", "DataCenterURL", "DistributionURL", "DataContactURL", "VisualizationURL". The URL Content Type helps specify how the URL will be displayed in the Earthdata Search Client.

URL Type: The URL Type is a keyword which specifies the content of a link. URL Type keywords are maintained in the [Keyword Management System \(KMS\)](#). A list of valid URL Type keywords can be found here: https://gcmd.earthdata.nasa.gov/kms/concepts/concept_scheme/rucontenttype?format=csv

Note that the keyword list does not include the upper level URL Content Type keywords (specified above & maintained in the UMM schema). Please see the diagram below for details on the relationship between URL Content Type keywords and URL Type keywords.

URL Subtype: The URL Subtype is a keyword which further specifies the content of a link. Together, the URL Type and Subtype keywords create a keyword hierarchy which is used to identify the URL. Providing a Subtype is optional, but should be used when applicable. The URL Subtype keywords are maintained in the [Keyword Management System \(KMS\)](#). A list of valid URL Subtype keywords can be found here: https://gcmd.earthdata.nasa.gov/kms/concepts/concept_scheme/rucontenttype?format=csv

Description: While not required, it is highly recommended that a description be provided for each URL provided in the metadata. The description should be kept brief and explain where the link navigates and the type of information it contains. Descriptions should be unique to the link. While descriptions can be repeated for the same type of URL across different metadata records, it is generally advised that the same description not be repeated within the same metadata record. i.e. the description should be used to further differentiate two URLs with the same URL Type and Subtype.

Examples:

URL: https://daac.ornl.gov/ACTAMERICA/guides/ACTAMERICA-PICARRO_Ground.html

URL Content Type: PublicationURL

URL Type: VIEW RELATED INFORMATION

URL Subtype: USER'S GUIDE

Description: The guide document contains detailed information about the dataset.

URL: <https://ghrc.nsstc.nasa.gov/home/micro-articles/lake-effect-snow>

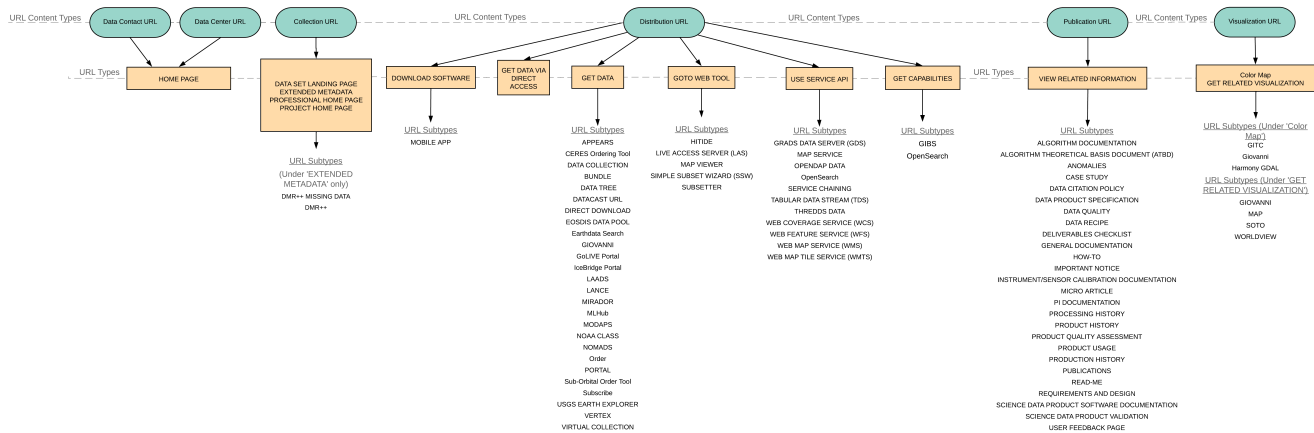
URL Content Type: PublicationURL

URL Type: VIEW RELATED INFORMATION

URL Subtype: MICRO ARTICLE

Description: Learn about how AMSR-2 data can be used to study lake effect snow in this micro article.

Please see the below diagram for the full relationship between **URL Content Type**, **Type**, and **Subtype** keywords:



Element Specification

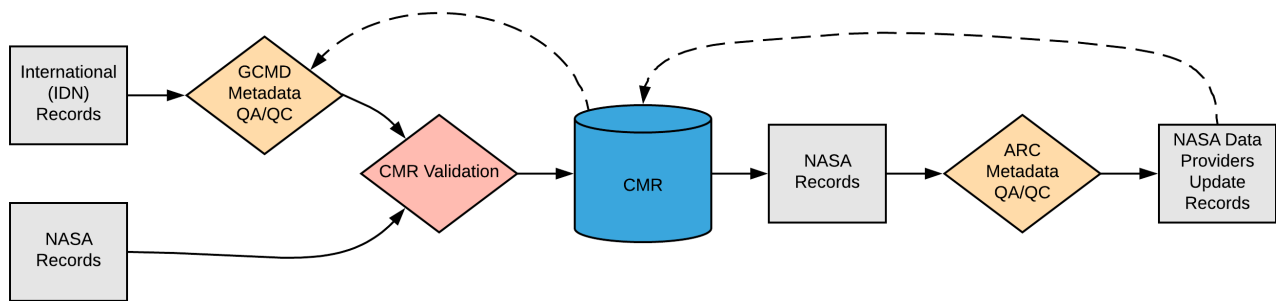
Related URLs is a required metadata element. At least 1 Related URL must be provided. Multiple URLs may be provided if necessary (Cardinality: 0..*).

Model	Element	Type	Usable Valid Values	Constraints	Required?	Cardinality	Notes
UMM-Common	RelatedUrls /URL	String	n/a	1 - 1024 characters	Yes	1	
UMM-Common	RelatedUrls /Description	String	n/a	1 - 4000 characters	No	0..1	It is strongly recommended that a description be provided for each URL.

UMM-Common	RelatedUrls/URLContentType	Enumeration	CollectionURL PublicationURL DataCenterURL DistributionURL DataContactURL VisualizationURL	n/a	Yes	1	The DataCenterURL option is only valid in the Data Centers section of the metadata. The DataContactURL option is only valid in the Data Contacts section of the metadata.
UMM-Common	RelatedUrls/Type	String	GCMD URL Content Type 'Type' Keywords	KMS controlled	Yes	1	Each Type keyword corresponds to a specific URL Content Type category.
UMM-Common	RelatedUrls/Subtype	String	GCMD URL Content Type 'Subtype' Keywords	KMS controlled	No	0..1	The Type and Subtype are part of a keyword hierarchy specified in the KMS .

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.
 - Confirm that the URLs link to the appropriate web pages.
- Automated Review
 - Check that the field has been populated.
 - Check that the URL_Content_Type field is populated with a valid value from KMS.
 - Check for potential broken links.
 - Check that the URL is formatted correctly.
 - Check that the field length of Description is not greater than 12,000 characters.
 - Check that the field length of URL is not greater than 1,024 characters.
- Checks to see that the URL value is a syntactically valid URL.
- Checks to see if a description is present.
- Validates that the RelatedUrl/Type and Subtype values correspond to the correct value in the URLContentType element.
- Validates that the object types of GET DATA and GET SERVICE are only used with Distribution URLs.

ARC Priority Matrix

Priority Categorization	Justification
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Red = High Priority Finding	This element is categorized as highest priority when: - No Related URLs are provided. - No data access URL is provided. For further details on data access URLs please see the Related URLs (GET DATA) wiki page. - There is a service available for a collection, but no service URL is provided. For further details on service URLs please see the Related URLs (USE SERVICE API) wiki page. - No DOI is provided and no link to the data set landing page is provided. - No User's Guide link is provided, but one is available. - The URL provided is broken. - The URL provided is incorrect/unrelated to the associated dataset. - The URL Type or Subtype provided does not accurately describe the link (i.e. the link is mislabeled). - The URL Type or Subtype provided does not align with the KMS. - The Type or Subtype does not exist in the KMS. - The Type or Subtype is placed in the incorrect position of the hierarchy (e.g. GET DATA should not be provided in the Subtype field, because it is categorized as a Type keyword in the KMS). - There is an invalid Type/Subtype relationship (e.g. Type: GET DATA, Subtype: USER'S GUIDE, is not a valid combination in the KMS). - The URL links to an FTP server (this only applies to NASA EOSDIS metadata).
Yellow = Medium Priority Finding	This element is categorized as medium priority when: - A URL is provided but the 'Description' element is left blank. It is highly recommended that a description be provided for each URL. - If a recommendation is made to add a new URL to the metadata, there will be accompanying yellow recommendations to add the appropriate URLContentType/URLType/Subtype/Description elements. - Note: These recommendations are blue at the granule level since the schema does not require Related URLs at the granule level. - A recommendation is made to change a valid URL Type or Subtype keyword for purposes of consistency with other similar metadata records. - A DOI is provided but no link to the data set landing page is provided. When viewing the raw metadata file, the DOI is not formatted as a hyperlink. Providing a link to the data set landing page (preferably via DOI URL) provides quick access to the data set landing page directly from the raw metadata file.
Blue = Low Priority Finding	This element is categorized as low priority when: - The 'Description' element is identical for multiple URLs. It is recommended that a unique description be provided for each link. - A URL is provided via "http" when "https" is available. - The URL provided in the metadata re-directs. It is recommended that the most current link always be provided. - A noted exception to this is DOI URLs (e.g. https://doi.org/10.3334/ORNLDAAAC/1416) since these will always re-direct. - If a URL with Type "USE SERVICE API" is present, but no mime type is provided, a blue recommendation will be made to add a mime type for the service URL. - If a recommendation is made to add a new "USE SERVICE API" URL to the metadata, there will be an accompanying blue recommendation to add a mime type for the service URL. - A recommendation is made to remove duplicate URLs.
Green = No Findings/Issues	The element is provided and follows all applicable criteria specified in the best practices section above.

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

Related_URL is a required metadata element. At least 1 Related_URL must be provided. Multiple URLs may be provided if necessary (Cardinality: 0..*).

UMM-C Element	DIF 10 Path	Type	Usable Valid Values	Constraints	Required in DIF 10?	Cardinality	Notes
RelatedUrls/URL	Related_URL/URL	URL			No	0..*	The link is provided here.
RelatedUrls/URLContentType							The URLContentType is derived from the Types.
RelatedUrls/Type	Related_URL/URL_Content_Type/Type	String	GCMD URL Content Type 'Type' Keywords	KMS controlled	No	0..1	

RelatedUrls/Subtype	Related_URL /URL_Content_Type /Subtype	String	GCMD URL Content Type 'Subtype' Keywords	KMS controlled	No	0..1	The Type and Subtype are part of a keyword hierarchy specified in the KMS . If none of the available Subtypes are appropriate for the URL, then it is okay to leave the Subtype field blank.
RelatedUrls/Description	Related_URL /Description	String			No	0..1	It is strongly recommended that a description be provided for each URL.
RelatedUrls/GetData /MimeType	Related_URL /MimeType	String	GCMD Mime Type Keywords	KMS controlled	No	0..1	This is only translated to UMM if the The
RelatedUrls/GetService /Protocol	Related_URL/Protocol	String			No	0..1	
	Related_URL/Title	String			No	0..1	
	Multimedia_Sample /File	String			No	0..1	
RelatedUrls/URL	Multimedia_Sample /URL	String			No	0..1	
	Multimedia_Sample /Format	String			No	0..1	
	Multimedia_Sample /Caption	String			No	0..1	
RelatedUrls/Description	Multimedia_Sample /Description	String			No	0..1	
RelatedUrls/URLContentType = VisualizationURL							For all Multimedia URLs translated to UMM the URLContentType is VisualizationURL
RelatedUrls/Type = GET RELATED VISUALIZATION							For all Multimedia URLs translated to UMM the Type is GET RELATED VISUALIZATION

Example Mapping

DIF 10

<Multimedia_Sample>

<File>ACOS</File>

<URL>https://docserver.gesdisc.eosdis.nasa.gov/public/project/OC0/ACOS.Lite.2015_v7.3.png</URL>

<Format>PNG</Format>

<Caption>Global amounts of column CO2, averaged for 2015, using ACOS_L2_Lite_FP v7.3.</Caption>

<Description>Global amounts of column CO2, averaged for 2015, using ACOS_L2_Lite_FP v7.3. This average used 365 "Lite" files, gridded on a 6x6 deg grid, and smoothed for the presentation.</Description>

</Multimedia_Sample>

...

<Related_URL>

<URL_Content_Type>

<Type>dataset LANDING PAGE</Type>

</URL_Content_Type>

<URL>https://doi.org/10.3334/ORNLDAAC/1568</URL>

<Description>Access the dataset landing page for the collection.</Description>

</Related_URL>

<Related_URL>

<URL_Content_Type>

<Type>VIEW RELATED INFORMATION</Type>

<Subtype>USER'S GUIDE</Subtype>

</URL_Content_Type>

<URL>https://daac.ornl.gov/ACTAMERICA/guides/ACTAMERICA-PICARRO_Ground.html</URL>

<Description>The guide document contains detailed information about the dataset.</Description>

</Related_URL>

UMM

```

"RelatedUrls": [
  {
    "Description": "Global amounts of column CO2,
averaged for 2015, using ACOS_L2_Lite_FP v7.3. This
average used 365 \"Lite\" files, gridded on a 6x6
deg grid, and smoothed for the presentation.",
    "URLContentType": "VisualizationURL",
    "Type": "GET RELATED VISUALIZATION",
    "URL": "https://docserver.gesdisc.eosdis.nasa.gov
/public/project/OCO/ACOS.Lite.2015_v7.3.png"
  }, {
    "Description": "Access the dataset landing page
for the collection.",
    "URLContentType": "CollectionURL",
    "Type": "dataset LANDING PAGE",
    "URL": "https://doi.org/10.3334/ORNLDAAAC/1568",
  }, {
    "Description": "The guide document contains
detailed information about the dataset.",
    "URLContentType": "PublicationURL",
    "Type": "VIEW RELATED INFORMATION",
    "Subtype": "USER'S GUIDE",
    "URL": "https://daac.ornl.gov/ACTAMERICA/guides
/ACTAMERICA-PICARRO_Ground.html"
  }
]

```

ECHO 10

An unlimited amount of OnlineResources and/or AssociatedBrowseImageUrls may be listed (Cardinality: 0..*)

UMM-C Element	ECHO 10 Path	Type	Usable Valid Values	Constraints	Required in ECHO10?	Cardinality	Notes
RelatedUrls/URL	/OnlineAccessURLs /OnlineAccessURL/URL	String		String length from 1 to 1024	Yes	1	
RelatedUrls /Description	/OnlineAccessURLs /OnlineAccessURL /URLDescription	String		String length from 1 to 4000	No	0..1	
RelatedUrls/URLC ontentType = DistributionURL							All OnlineAccessURLs are URLContentTypes of DistributionURL
RelatedUrls/Type = GET DATA							All OnlineAccessURLs are Types of GET DATA
RelatedUrls /GetData /MimeType	/OnlineAccessURLs /OnlineAccessURL /MimeType	String		String length from 1 to 50	No	0..1	
RelatedUrls/URL	/Collection /OnlineResources /OnlineResource/URL	String		String length from 1 to 1024	Yes	1	
RelatedUrls /Description	/Collection /OnlineResources /OnlineResource /Description	String		String length from 1 to 4000	No	0..1	
RelatedUrls /URLContentType RelatedUrls/Type RelatedUrls /Subtype	/Collection /OnlineResources /OnlineResource/Type	String	Any GCMD URL Content Type Keyword	KMS controlled String length from 1 to 50	Yes	1	ECHO 10 only has a single URL Type field (not a Type and Subtype field). Thus, a URL Type may be selected from either the URL Type or Subtype keywords.
RelatedUrls /GetData /MimeType	/Collection /OnlineResources /OnlineResource /MimeType	String	GCMD Mime Type Keywords	KMS controlled String length from 1 to 50	No	0..1	It is recommended that a mime type always be provided for service URLs.
RelatedUrls/URL	/Collection /AssociatedBrowseImage Urls/ProviderBrowseUrl /URL	String		String length from 1 to 1024	No	0..1	This element can be used to link to a browse image. Browse images may also be provided as an Online Resource URL. Use of the Associated Browse URL element is discouraged in favor of the Online Resource URL.

RelatedUrls /Description	/Collection /AssociatedBrowseImage Urls/ProviderBrowseUrl /Description	String		String length from 1 to 4000	No	0..1	A brief explanation/ description of the browse image.
	/Collection /AssociatedBrowseImage Urls/ProviderBrowseUrl /FileSize	Long			No	0..1	
	/Collection /AssociatedBrowseImage Urls/ProviderBrowseUrl /MimeType	String		String length from 1 to 50	No	0..1	
RelatedUrls/URLC ontentType = VisualizationURL							For all AssociatedBrowseImageUrls translated to UMM the URLContentType is VisualizationURL
RelatedUrls/Type = GET RELATED VISUALIZATION							For all AssociatedBrowseImageUrls translated to UMM t he Type is GET RELATED VISUALIZATION

Example Mapping

ECHO 10

```

<OnlineAccessURLs>
  <OnlineAccessURL>
    <URL>https://daac.ornl.gov/daacdata/actamerica
/ACTAMERICA-PICARRO_Ground/</URL>
    <URLDescription>This link allows direct data
access via Earthdata login</URLDescription>
  </OnlineAccessURL>
</OnlineAccessURLs>
<OnlineResources>
  <OnlineResource>
    <URL>https://doi.org/10.3334/ORNLDAAC/1568</URL>
    <Description>Access the dataset landing page for
the collection.</Description>
    <Type>dataset LANDING PAGE</Type>
  </OnlineResource>
  <OnlineResource>
    <URL>https://daac.ornl.gov/ACTAMERICA/guides
/ACTAMERICA-PICARRO_Ground.html</URL>
    <Description>The guide document contains
detailed information about the dataset.</Description>
    <Type>USER'S GUIDE</Type>
  </OnlineResource>
  <OnlineResource>
    <URL>https://daac.ornl.gov/graphics/browse
/project/act-america_logo.png</URL>
    <Description>Browse Image</Description>
    <Type>GET RELATED VISUALIZATION</Type>
    <MimeType>image/png</MimeType>
  </OnlineResource>
</OnlineResources>
...
<AssociatedBrowseImageUrls>
  <ProviderBrowseUrl>
    <URL>https://s3.amazonaws.com/grfn-static
/SENTINEL-
1_INSAR_UNWRAPPED_INTERFEROGRAM_AND_COHERENCE_MAP_bro
wse.png</URL>
  </ProviderBrowseUrl>
</AssociatedBrowseImageUrls>

```

UMM

```

"RelatedUrls": [
  {
    "Description": "This link allows direct data
access via Earthdata login",
    "URLContentType": "DistributionURL",
    "Type": "GET DATA",
    "URL": "https://daac.ornl.gov/daacdata/actamerica
/ACTAMERICA-PICARRO_Ground"
  }, {
    "Description": "Access the dataset landing page
for the collection.",
    "URLContentType": "CollectionURL",
    "Type": "dataset LANDING PAGE",
    "URL": "https://doi.org/10.3334/ORNLDAAAC/1568",
  }, {
    "Description": "The guide document contains
detailed information about the dataset.",
    "URLContentType": "PublicationURL",
    "Type": "VIEW RELATED INFORMATION",
    "Subtype": "USER'S GUIDE",
    "URL": "https://daac.ornl.gov/ACTAMERICA/guides
/ACTAMERICA-PICARRO_Ground.html"
  }, {
    "Description": "Browse Image",
    "URLContentType": "VisualizationURL",
    "Type": "GET RELATED VISUALIZATION",
    "URL": "https://daac.ornl.gov/graphics/browse
/project/act-america_logo.png"
  }, {
    "URLContentType": "VisualizationURL",
    "Type": "GET RELATED VISUALIZATION",
    "URL": "https://s3.amazonaws.com/grfn-static
/SENTINEL-
1_INSAR_UNWRAPPED_INTERFEROGRAM_AND_COHERENCE_MAP_bro
wse.png"
  }
]

```

ISO 19115-2 MENDS

An unlimited amount of Related URLs may be listed (Cardinality: 0..*)

Note: These ISO paths only apply to CollectionURLs and PublicationURLs. Please see the [RelatedURLs \(GET DATA\) wiki page](#) for ISO guidance specific to data access URLs. Please see the [RelatedURLs \(USE SERVICE API\) wiki page](#) for ISO guidance specific to services. Please see the Data Center wiki page for ISO guidance specific to DataCenterURLs. Please see the Data Contact wiki page for ISO guidance specific to DataCenterURLs.

UMM-C Element	ISO 19115-2 MENDS Path	Type	Notes
RelatedUrls/URL	/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:aggregationInfo/gmd:MD_AggregateInformation/gmd:aggregateDataSetName/ gmd:CI_Citation/gmd:citedResponsibleParty/gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:onlineResource/gmd:CI_OnlineResource/gmd:linkage/gmd:URL	String	Where the URL is provided. Maps to the UMM element "RelatedUrls/URL" Note: This path only applies to CollectionURLs and PublicationURLs.
RelatedUrls/Description	/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/ gmd:aggregationInfo/gmd:MD_AggregateInformation/gmd:aggregateDataSetName/ gmd:CI_Citation/gmd:citedResponsibleParty/gmd:CI_ResponsibleParty/ gmd:contactInfo/gmd:onlineResource/gmd:CI_OnlineResource/gmd:description/gco:CharacterString="Description: "	String	Maps to the UMM element "RelatedUrls/Description" A brief, unique description of the URL should be provided in this field. It is highly recommended that a description be provided for each URL. * The character string should always start with the prefix "Description: " in order for CMR to properly parse out the URL description.

RelatedUrls/URLContentType	/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/ gmd:aggregationInfo/gmd:MD_AggregateInformation/gmd:aggregateDataSetName/ gmd:CI_Citation/gmd:citedResponsibleParty/gmd:CI_ResponsibleParty/ gmd:contactInfo/gmd:onlineResource/gmd:CI_OnlineResource/gmd:description/gco:CharacterString="URLContentType: "	String	Maps to the UMM element "RelatedUrls/URLContentType" The URL Content Type is required in UMM and is used to specify how the link will display in the Earthdata Search Client. The URL Content Type must be selected from the following controlled vocabulary options: CollectionURL, PublicationURL, DataCenterURL, DistributionURL, DataContactURL, VisualizationURL. Please see the best practices section (above) on guidance on choosing the correct URL Content Type. * The character string should always start with the prefix "URLContentType: " in order for CMR to properly parse out the URL Content Type.
RelatedUrls/Type	/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/ gmd:aggregationInfo/gmd:MD_AggregateInformation/gmd:aggregateDataSetName/ gmd:CI_Citation/gmd:citedResponsibleParty/gmd:CI_ResponsibleParty/ gmd:contactInfo/gmd:onlineResource/gmd:CI_OnlineResource/gmd:description/gco:CharacterString="Type: "	String	Maps to the UMM element "RelatedUrls/Type" Providing a URL Type is required in UMM. Failing to specify a Type in ISO metadata will result in the field being auto-populated by the CMR, which could result in the URL being mislabeled. URL Type is a GCMD controlled vocabulary field and must be selected from keywords in the KMS. Please see the best practices section (above) on guidance on choosing the correct URL Type. * The character string should always start with the prefix "Type: " in order for CMR to properly parse out the URL Type.
RelatedUrls/Subtype	/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/ gmd:aggregationInfo/ gmd:MD_AggregateInformation/gmd:aggregateDataSetName/ gmd:CI_Citation/gmd:citedResponsibleParty/gmd:CI_ResponsibleParty/ gmd:contactInfo/gmd:onlineResource/gmd:CI_OnlineResource/gmd:description/gco:CharacterString="Subtype: "	String	Maps to the UMM element "RelatedUrls/Subtype" Providing a URL Subtype is optional, but is encouraged if an appropriate URL Subtype exists. URL Subtype is a GCMD controlled vocabulary field and must be selected from keywords in the KMS. Please see the best practices section (above) on guidance on choosing the correct URL Subtype. * The character string should always start with with the prefix "Subtype: " in order for CMR to properly parse out the URL Subtype.

Example Mapping

ISO 19115-2 MENDS

```

<gmi:MI_Metadata>
...
  <gmd:identificationInfo>
  <gmd:MD_DataIdentification>
    <gmd:citation gco:nilReason="missing"/>
    <gmd:abstract gco:nilReason="missing"/>
    <gmd:aggregationInfo>
    <gmd:MD_AggregateInformation>
      <gmd:aggregateDataSetName>
      <gmd:CI_Citation>
        <gmd:title gco:nilReason="missing"/>
        <gmd:date gco:nilReason="missing"/>
        <gmd:citedResponsibleParty>
        <gmd:CI_ResponsibleParty>
          <gmd:contactInfo>
          <gmd:CI_Contact>
            <gmd:onlineResource>
            <gmd:CI_OnlineResource>
              <gmd:linkage>
                <gmd:URL>https://doi.org/10.3334
/ORNLDAAC/1568</gmd:URL>
              </gmd:linkage>
            <gmd:description>
              <gco:CharacterString>Description:
Access the dataset landing page for the collection.
URLContentType: CollectionURL URLType: dataset
LANDING PAGE</gco:CharacterString>
            </gmd:description>
          </gmd:CI_OnlineResource>
        </gmd:onlineResource>
      </gmd:CI_Contact>
    </gmd:contactInfo>
    <gmd:role gco:nilReason="missing"/>
  </gmd:CI_ResponsibleParty>
</gmd:citedResponsibleParty>
<gmd:citedResponsibleParty>
<gmd:CI_ResponsibleParty>
  <gmd:contactInfo>
    <gmd:CI_Contact>
      <gmd:onlineResource>
      <gmd:CI_OnlineResource>
        <gmd:linkage>
          <gmd:URL>https://daac.ornl.gov
/ACTAMERICA/guides/ACTAMERICA-PICARRO_Ground.html<
/gmd:URL>
        </gmd:linkage>
      <gmd:description>
        <gco:CharacterString>Description:
The guide document contains detailed information
about the dataset. URLContentType: PublicationURL
URLType: VIEW RELATED INFORMATION URLSubtype: USER'S
GUIDE</gco:CharacterString>
      </gmd:description>
    </gmd:CI_OnlineResource>
  </gmd:onlineResource>
    </gmd:CI_Contact>
  </gmd:contactInfo>
  <gmd:role gco:nilReason="missing"/>
</gmd:CI_ResponsibleParty>
</gmd:citedResponsibleParty>
</gmd:CI_Citation>
  </gmd:aggregateDataSetName>
  <gmd:associationType gco:nilReason="missing"/>
</gmd:MD_AggregateInformation>
</gmd:aggregationInfo>
</gmd:MD_DataIdentification>
</gmd:identificationInfo>
...
</gmi:MI_Metadata>

```

UMM

```
"RelatedUrls": [
  {
    "Description": "Access the dataset landing page
for the collection.",
    "URLContentType": "CollectionURL",
    "Type": "dataset LANDING PAGE",
    "URL": "https://doi.org/10.3334/ORNLDAAAC/1568",
  }, {
    "Description": "The guide document contains
detailed information about the dataset.",
    "URLContentType": "PublicationURL",
    "Type": "VIEW RELATED INFORMATION",
    "Subtype": "USER'S GUIDE",
    "URL": "https://daac.ornl.gov/ACTAMERICA/guides
/ACTAMERICA-PICARRO_Ground.html"
  }
]
```

ISO 19115-2 SMAP

An unlimited amount of Related URLs may be listed (Cardinality: 0..*)

Note: These ISO paths only apply to CollectionURLs and PublicationURLs. Please see the [RelatedURLs \(GET DATA\) wiki page](#) for ISO guidance specific to data access URLs. Please see the [RelatedURLs \(USE SERVICE API\) wiki page](#) for ISO guidance specific to services. Please see the Data Center wiki page for ISO guidance specific to DataCenterURLs. Please see the Data Contact wiki page for ISO guidance specific to DataCenterURLs.

UMM-C Element	ISO 19115-2 SMAP Path	Type	Notes
RelatedUrls/URL	gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/ gmd:aggregationInfo /gmd:MD_AggregationInformation/gmd:aggregateDataSetName/ gmd:CI_Citation/gmd:citedResponsibleParty/gmd:CI_OnlineResource/gmd:contactInfo/gmd:onlineResource/gmd:CI_OnlineResource/gmd:linkage/gmd:URL	String	Where the URL is provided. Maps to the UMM element "RelatedUrls/URL" Note: This path only applies to CollectionURLs and PublicationURLs.
RelatedUrls/Description	gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/ gmd:aggregationInfo /gmd:MD_AggregationInformation/gmd:aggregateDataSetName/ gmd:CI_Citation/gmd:citedResponsibleParty/gmd:CI_OnlineResource/gmd:contactInfo/gmd:onlineResource/gmd:CI_OnlineResource/gmd:description/gco:CharacterString="Description:"	String	Maps to the UMM element "RelatedUrls/Description" It is highly recommended that a description be provided for each URL. Provide a brief, unique description of the URL in this field. The value must start with the string "Description: " in order for CMR to properly identify the URL description.
RelatedUrls/URLContentType	gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/ gmd:aggregationInfo /gmd:MD_AggregationInformation/gmd:aggregateDataSetName/ gmd:CI_Citation/gmd:citedResponsibleParty/gmd:CI_OnlineResource/gmd:contactInfo/gmd:onlineResource/gmd:CI_OnlineResource/gmd:description/gco:CharacterString="URLContentType:"	String	Maps to the UMM element "RelatedUrls/URLContentType" The value must start with the string "URLContentType: " in order for CMR to properly identify the URL Content Type. The URL Content Type is required in UMM and is used to specify how the link will display in the Earthdata Search Client. The URL Content Type must be selected from the following controlled vocabulary options: CollectionURL, PublicationURL, DataCenterURL, DistributionURL, DataContactURL, VisualizationURL. Please see the best practices section (above) on guidance on choosing the correct URL Content Type.
RelatedUrls/Type	gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/ gmd:aggregationInfo /gmd:MD_AggregationInformation/gmd:aggregateDataSetName/ gmd:CI_Citation/gmd:citedResponsibleParty/gmd:CI_OnlineResource/gmd:contactInfo/gmd:onlineResource/gmd:CI_OnlineResource/gmd:description/gco:CharacterString="Type:"	String	Maps to the UMM element "RelatedUrls/Type." The value must start with the string "Type: " in order for CMR to properly identify the URL Type. Providing a URL Type is required in UMM. Failing to specify a Type in ISO metadata will result in the field being auto-populated by the CMR, which could result in the URL being mislabeled. URL Type is a GCMD controlled vocabulary field and must be selected from keywords in the KMS . Please see the best practices section (above) on guidance on choosing the correct URL Type.

RelatedUrls/Subtype	gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/ gmd:aggregationInfo/ gmd:MD_AggregateInformation/gmd:aggregateDataSetName/ gmd:CI_Citation/gmd:citedResponsibleParty/gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:onlineResource/gmd:CI_OnlineResource/gmd:description/gco:CharacterString="Subtype:	String	Maps to the UMM element "RelatedUrls/Subtype" The value must start with the string "Subtype: " in order for CMR to properly identify the URL Subtype. Providing a URL Subtype is optional, but is encouraged if an appropriate URL Subtype exists. URL Subtype is a GCMD controlled vocabulary field and must be selected from keywords in the KMS. Please see the best practices section (above) on guidance on choosing the correct URL Subtype.
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Example Mapping

ISO 19115-2 SMAP

```

<gmd:DS_Series>
<gmd:seriesMetadata>
<gmi:MI_Metadata>
...
  <gmd:identificationInfo>
  <gmd:MD_DataIdentification>
  <gmd:citation gco:nilReason="missing"/>
  <gmd:abstract gco:nilReason="missing"/>
  <gmd:aggregationInfo>
  <gmd:MD_AggregateInformation>
    <gmd:aggregateDataSetName>
      <gmd:CI_Citation>
        <gmd:title gco:nilReason="missing"/>
        <gmd:date gco:nilReason="missing"/>
        <gmd:citedResponsibleParty>
        <gmd:CI_ResponsibleParty>
          <gmd:contactInfo>
            <gmd:CI_Contact>
              <gmd:onlineResource>
                <gmd:CI_OnlineResource>
                  <gmd:linkage>
                    <gmd:URL>https://doi.org/10.3334
/ORNLDAAC/1568</gmd:URL>
                  </gmd:linkage>
                <gmd:description>
                  <gco:CharacterString>Description:
Access the dataset landing page for the collection.
URLContentType: CollectionURL URLType: dataset
LANDING PAGE</gco:CharacterString>
                </gmd:description>
              </gmd:CI_OnlineResource>
            </gmd:onlineResource>
          </gmd:CI_Contact>
        </gmd:contactInfo>
      <gmd:role gco:nilReason="missing"/>
    </gmd:CI_ResponsibleParty>
  </gmd:citedResponsibleParty>
  <gmd:citedResponsibleParty>
  <gmd:CI_ResponsibleParty>
    <gmd:contactInfo>
      <gmd:CI_Contact>
        <gmd:onlineResource>
          <gmd:CI_OnlineResource>
            <gmd:linkage>
              <gmd:URL>https://daac.ornl.gov
/ACTAMERICA/guides/ACTAMERICA-PICARRO_Ground.html<
/gmd:URL>
            </gmd:linkage>
          <gmd:description>
            <gco:CharacterString>Description:
The guide document contains detailed information
about the dataset. URLContentType: PublicationURL
URLType: VIEW RELATED INFORMATION URLSubtype: USER'S
GUIDE</gco:CharacterString>
          </gmd:description>
        </gmd:CI_OnlineResource>
      </gmd:linkage>
    </gmd:CI_OnlineResource>
  </gmd:linkage>
</gmd:CI_OnlineResource>

```

```

        </gmd:onlineResource>
      </gmd:CI_Contact>
    </gmd:contactInfo>
    <gmd:role gco:nilReason="missing"/>
  </gmd:CI_ResponsibleParty>
  </gmd:citedResponsibleParty>
</gmd:CI_Citation>
</gmd:aggregateDataSetName>
<gmd:associationType gco:nilReason="missing"/>
</gmd:MD_AggregateInformation>
</gmd:aggregationInfo>
</gmd:MD_DataIdentification>
</gmd:identificationInfo>
...
</gmi:MI_Metadata>
</gmd:seriesMetadata>
</gmd:DS_Series>

```

UMM

```

"RelatedUrls": [
  {
    "Description": "Access the dataset landing page
for the collection.",
    "URLContentType": "CollectionURL",
    "Type": "dataset LANDING PAGE",
    "URL": "https://doi.org/10.3334/ORNLDAAAC/1568",
  }, {
    "Description": "The guide document contains
detailed information about the dataset.",
    "URLContentType": "PublicationURL",
    "Type": "VIEW RELATED INFORMATION",
    "Subtype": "USER'S GUIDE",
    "URL": "https://daac.ornl.gov/ACTAMERICA/guides
/ACTAMERICA-PICARRO_Ground.html"
  }
]

```

UMM Migration

None

History

UMM Versioning

Version	Date	What Changed
1.17.1	8/10 /2022	No changes were made for RelatedUrls during the transition from version 1.17 to 1.17.1
1.17	5/11 /2022	No changes were made for RelatedUrls during the transition from version 1.16.7 to 1.17
1.16.7	3/2 /2022	No changes were made for RelatedUrls during the transition from version 1.16.6 to 1.16.7
1.16.6	12/1 /2021	No changes were made for RelatedUrls during the transition from version 1.16.5 to 1.16.6
1.16.5	7/13 /2021	Removed enumerations for RelatedUrls/URLContentType, RelatedUrls/Type, and RelatedUrls/Subtype values, and indicating that KMS should be the source of the values.

1.16.4	6/30 /2021	Changed RelatedUrls that adds HITIDE, SOTO, Sub-Orbital Order Tool, and CERES Ordering Tool as new enumerations to the subtype field.
1.16.3	5/19 /2021	Changed RelatedURL that adds GET CAPABILITIES as a new enumeration to the type field and adds GIBS as a new subtype, opensearch already exists as a valid subtype.
1.16.2	4/7 /2021	No changes were made for RelatedUrls during the transition from version 1.16.1 to 1.16.2
1.16.1	4/7 /2021	No changes were made for RelatedUrls during the transition from version 1.16.0 to 1.16.1
1.16.0	3/24 /2021	No changes were made for RelatedUrls during the transition from version 1.15.5 to 1.16.0
1.15.5	12/3 /2020	No changes were made for RelatedUrls during the transition from version 1.15.4 to 1.15.5
1.15.4	9/18 /2020	No changes were made for RelatedUrls during the transition from version 1.15.3 to 1.15.4
1.15.3	7/1 /2020	No changes were made for RelatedUrls during the transition from version 1.15.2 to 1.15.3
1.15.2	5/20 /2020	No changes were made for RelatedUrls during the transition from version 1.15.1 to 1.15.2
1.15.1	3/25 /2020	No changes were made for RelatedUrls during the transition from version 1.15.0 to 1.15.1
1.15.0	2/26 /2020	No changes were made for RelatedUrls during the transition from version 1.14.0 to 1.15.0
1.14.0	10/21 /2019	No changes were made for RelatedUrls during the transition from version 1.13.0 to 1.14.0
1.13.0	04/11 /2019	No changes were made for RelatedUrls during the transition from version 1.12.0 to 1.13.0.
1.12.0	01/22 /2019	During the transition from version 1.11.0 to 1.12.0, 4 new Related URL keywords were added.
1.11.0	11/28 /2018	During the transition from version 1.10.0 to 1.11.0, the enumerations for sub elements 'Type' and 'Subtype' were changed to match the GCMD version of the keywords that was released on March 15, 2018.
1.10.0	05/02 /2018	During the transition from version 1.9.0 to 1.10.0, the following sub elements were added: 'Mime Type' (Get Data) and 'Format' (Get Service).

ARC Documentation

Version	Date	What Changed	Author
1.0	07/25/2018	Recommendations/priority matrix transferred from internal ARC documentation to wiki space	Jeanne' le Roux