

Project

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Element Description

The Project element describes the scientific endeavor(s) with which the collection is associated. Scientific endeavors include field campaigns, flight campaigns, projects, interdisciplinary science investigations, missions, scientific programs, etc. This element may also cover a long term project that continuously creates new datasets.

Best Practices

Project names are important for data search and discovery. In order to provide a consistent search experience, Project names are controlled by GCMD vocabulary maintained in the [Keyword Management System \(KMS\)](#). This is especially important for faceted searches by Project name in the [Earthdata Search Client](#). A list of valid Project keywords can be found here: https://gcmd.earthdata.nasa.gov/kms/concepts/concept_scheme/projects?format=csv

Providing a Project is optional, however, it is highly recommended that a Project be provided in the metadata if possible. If a dataset is associated with more than one Project, then multiple Projects may be listed. Project also includes the 'Campaign' sub-element in order to support multiple sub-campaigns under the same Project. The following sub-elements are used to describe Project:

ShortName: If the Project element is provided, then the Short Name field is required. The Project Short Name must be selected from the 'Short_Name' column in the GCMD [Project Keyword list](#). Project names are controlled to ensure consistency when searching for data using keywords or via the Project faceted search.

LongName: Providing a Project Long Name is optional, however, it is encouraged that a long name be provided if one exists in the [GCMD Project Keyword list](#). Providing a Project Long Name is encouraged because the associated Project Short Name may be comprised of acronyms. Project Long Names should be selected from the Long_Name column in the keyword list.

Campaign: The Campaign sub-element can be used to list the names of smaller projects/campaigns which fall within the scope of the Project listed. If necessary, multiple Campaigns may be associated with a single Project.

StartDate: The Start Date should indicate the date that the Project began. Providing the Start Date is optional.

EndDate: The End Date should indicate the date that the Project ended/will end. For Projects that are still underway, the End Date may be in the future. Providing the End Date for the Project is optional.

Examples:

ShortName: ISLSCP II

LongName: International Satellite Land Surface Climatology Project II

StartDate: 1986-01-01

EndDate: 1995-12-31

ShortName: MEaSUREs

LongName: Making Earth System Data Records for Use in Research Environments

Campaign: NVAP-M

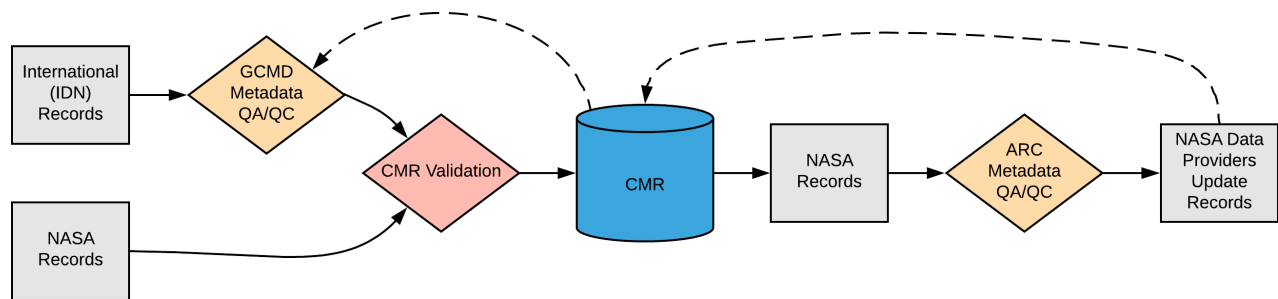
Element Specification

Providing a Project is optional. Multiple Projects may be provided if necessary (Cardinality 0..*)

Model	Element	Type	Constraints	Required?	Cardinality	Notes
UMM-Common	Project /ShortName	String	1 - 40 characters Project Short_Name Keywords	Yes, if applicable	1	Providing a Project is optional. If provided, the Short Name is required.
UMM-Common	Project /LongName	String	1 - 300 characters Project Long_Name Keyword	No	0..1	
UMM-Common	Project /Campaigns	String	1 - 80 characters	No	0..*	Multiple Campaigns may be listed under each Project.
UMM-Common	Project /StartDate	dateTime	n/a	No	0..1	
UMM-Common	Project /EndDate	dateTime	n/a	No	0..1	

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.
 - Verify that all pertinent keywords have been applied.
 - Verify that existing facets and other controlled keyword values are consistent and suitable for the data.
- Automated Review
 - Check that the field has been populated.
 - Check that the field is populated with a valid value from KMS.
 - Check that the field value is not a duplicate.
 - Check that the field length is not greater than the maximum characters allowed for each sub-element.
 - Check that the Date format is valid.
- The specific project must be unique within the collection.
- The project short name must match with what is in the KMS.
- If a granule has a project short name in it, it must match to one that is defined in the collection.
- If removing a project from a collection, none of its granules can reference that project's short name.

ARC Priority Matrix

Priority Categorization	Justification
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Red = High Priority Finding	This element is categorized as highest priority when: - The Project Short Name and/or Long Name keyword does not comply with the KMS. - The Project Short Name and/or Long Name keyword does not exist in the KMS. - A keyword(s) is placed in the incorrect position of the hierarchy (e.g. the Project Short Name is placed in the Long Name field). - Keywords from two different KMS hierarchies are listed in the same hierarchy in the metadata (hierarchies cannot be mixed and matched). - The Project and/or Campaign listed is incorrect for the dataset. - The Start Date and/or End Date are incorrect for the Project.
Yellow = Medium Priority Finding	This element is categorized as medium priority when: - There is no Project provided. While not required, providing a Project is highly recommended. - A recommendation is made to add a Project Long Name when a long name exists in the KMS. - Project and/or Campaign names are provided in an inconsistent manner across related datasets.
Blue = Low Priority Finding	Not Applicable
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

Providing a Project is optional. Multiple Projects may be provided if necessary (Cardinality 0..*)

UMM-C Element	DIF 10 Path	Type	Constraints	Required in DIF 10?	Cardinality	Notes
Project /ShortName	Project /Short_Name	String	Project Short_Name Keywords	Yes, if applicable	1	Providing a Project is optional. If provided, the Short Name is required.
Project /LongName	Project /Long_Name	String	Project Long_Name Keywords	No	0..1	
Project /Campaigns	Project /Campaign	String		No	0..*	Multiple Campaigns may be listed under each Project.
Project /StartDate	Project /Start_Date	Date		No	0..1	
Project /EndDate	Project /End_Date	Date		No	0..1	

Example Mapping

DIF 10

```
<Project>
  <Short_Name>OIB</Short_Name>
  <Long_Name>Operation Ice Bridge</Long_Name>
  <Campaign>2009_AN_NASA</Campaign>
  <Campaign>2009_GR_NASA</Campaign>
  <Campaign>2010_AN_NASA</Campaign>
  <Campaign>2010_GR_NASA</Campaign>
  <Start_Date>2009-01-01</Start_Date>
  <End_Date>2011-01-01</End_Date>
</Project>
```

UMM

```

"Projects": [
  {
    "ShortName": "OIB",
    "LongName": "Operation Ice Bridge",
    "Campaigns": ["2009_AN_NASA", "2009_GR_NASA",
"2010_AN_NASA", "2010_GR_NASA"],
    "StartDate": "2009-01-01T00:00:00Z",
    "EndDate": "2011-01-01T00:00:00Z"
  }
]

```

ECHO 10

Providing a Campaign is optional. Multiple Campaigns may be provided if necessary (Cardinality 0..*)

UMM-C Element	ECHO 10 Path	Type	Constraints	Required in ECHO10?	Cardinality	Notes
Project /ShortName	Campaigns/Campaign /ShortName	String	1 - 40 characters Project Short_Name Keywords	Yes, if applicable	1	Providing a Campaign is optional. If provided, the Short Name is required.
Project /LongName	Campaigns/Campaign /LongName	String	1 - 1024 characters Project Long_Name Keywords	No	0..1	
Project /StartDate	Campaigns/Campaign /StartDate	dateTime	n/a	No	0..1	
Project /EndDate	Campaigns/Campaign /EndDate	dateTime	n/a	No	0..1	

Example Mapping

ECHO 10

```

<Campaigns>
  <Campaign>
    <ShortName>OIB</ShortName>
    <LongName>Operation Ice Bridge</LongName>
    <StartDate>2009-01-01T00:00:00.000Z</StartDate>
    <EndDate>2011-01-01T00:00:00.000Z</EndDate>
  </Campaign>
</Campaigns>

```

UMM

```

"Projects": [
  {
    "ShortName": "OIB",
    "LongName": "Operation Ice Bridge",
    "StartDate": "2009-01-01T00:00:00Z",
    "EndDate": "2011-01-01T00:00:00Z"
  }
]

```

ISO 19115-2 MENDS

Providing a Project is optional. Multiple Projects may be provided if necessary (Cardinality 0..*)

UMM-C Element	ISO 19115-2 MENDS Path	Type	Notes
---------------	------------------------	------	-------

Project /ShortName	/gmi:MI_Metadata/gmi:acquisitionInformation/gmi:MI_AcquisitionInformation /gmi:operation/gmi:MI_Operation/ gmi:identifier/gmd:MD_Identifier/gmd:code/gco:CharacterString with /gmi:MI_Metadata/gmi:acquisitionInformation/gmi:MI_AcquisitionInformation /gmi:operation/ gmi:MI_Operation/gmi:identifier/gmd:MD_Identifier/gmd: codeSpace/gco:CharacterString = gov.nasa.esdis.umm.projectsshortname	String	Maps to the UMM element Project/ShortName. A list of valid project short names can be found in the KMS . For each project listed, a short name is required by CMR. The short name value goes in the gmd:code field. The value of "gov.nasa.esdis.umm.projectsshortname" should be provided in the gmd:codeSpace field so that CMR can properly parse out the project short name from the ISO metadata.
Project /LongName	/gmi:MI_Metadata/gmi:acquisitionInformation/gmi:MI_AcquisitionInformation /gmi:operation/gmi:MI_Operation/ gmi:identifier/gmd:MD_Identifier/gmd:description/gco:CharacterString	String	Maps to the UMM element Project/LongName. A list of valid project long names can be found in the KMS . Providing a project long name is optional, but is highly recommended.
Project /Campaign	/gmi:MI_Metadata/gmi:acquisitionInformation/gmi:MI_AcquisitionInformation /gmi:operation/gmi:MI_Operation/ gmi:childOperation/gmi:MI_Operation/gmi: identifier/gmd:MD_Identifier/gmd:code/gco:CharacterString with /gmi:MI_Metadata/gmi:acquisitionInformation/gmi:MI_AcquisitionInformation /gmi:operation/gmi:MI_Operation gmi:childOperation/gmi:MI_Operation/gmi: identifier/gmd:MD_Identifier/gmd:codeSpace/gco:CharacterString = gov.nasa. esdis.umm.campaignshortname	String	Maps to the UMM element Project/Campaign. The campaign value goes in the gmd:code field. Multiple Campaigns can be provided if necessary. The value of "gov.nasa.esdis.umm.campaignshortname" should be provided in the gmd:codeSpace field so that CMR can properly parse out the campaign name from the ISO metadata.
Project /StartDate	/gmi:MI_Metadata/gmi:acquisitionInformation/gmi:MI_AcquisitionInformation /gmi:operation/gmi:MI_Operation/ gmi:description/gco:CharacterString = StartDate:	String	Maps to the UMM element Project/StartDate. The string "StartDate: " must be provided as part of the character string in order for CMR to properly parse out the project start date from the ISO metadata.
Project /EndDate	/gmi:MI_Metadata/gmi:acquisitionInformation/gmi:MI_AcquisitionInformation /gmi:operation/gmi:MI_Operation/ gmi:description/gco:CharacterString = EndDate:	String	Maps to the UMM element Project/EndDate. The string "EndDate: " must be provided as part of the character string in order for CMR to properly parse out the project end date from the ISO metadata.

Example Mapping

ISO 19115-2 MENDS

```

<gmi:MI_Metadata>
...
  <gmi:acquisitionInformation>
    <gmi:MI_AcquisitionInformation>
      ...
      <gmi:operation>
        <gmi:MI_Operation>
          <gmi:description>
            </gco:CharacterString>StartDate: 2009-01-
01T00:00:00Z EndDate: 2011-01-01T00:00:00Z</gco:
CharacterString>
            </gmi:description>
            ...
            <gmi:identifier>
              <gmd:MD_Identifier>
                <gmd:code>
                  <gco:CharacterString>0IB</gco:
CharacterString>
                </gmd:code>
                <gmd:codeSpace>
                  <gco:CharacterString>gov.nasa.esdis.
umm.projectsshortname</gco:CharacterString>
                </gmd:codeSpace>
                <gmd:description>
                  <gco:CharacterString>Operation Ice
Bridge</gco:CharacterString>
                </gmd:description>
              </gmd:MD_Identifier>
            </gmi:identifier>
            <gmi:childOperation>
              <gmi:MI_Operation>
                <gmi:identifier>
                  <gmd:MD_Identifier>
                    <gmd:code>
                      <gco:
CharacterString>2009_AN_NASA</gco:CharacterString>

```

```

        </gmd:code>
        <gmd:codeSpace>
          <gco:CharacterString>gov.nasa.
esdis.umm.campaignshortname</gco:CharacterString>
        </gmd:codeSpace>
      </gmd:MD_Identifier>
    </gmi:identifier>
  </gmi:MI_Operation>
</gmi:childOperation>
<gmi:childOperation>
  <gmi:MI_Operation>
    <gmi:identifier>
      <gmd:MD_Identifier>
        <gmd:code>
          <gco:
CharacterString>2009_GR_NASA</gco:CharacterString>
        </gmd:code>
        <gmd:codeSpace>
          <gco:CharacterString>gov.nasa.
esdis.umm.campaignshortname</gco:CharacterString>
        </gmd:codeSpace>
      </gmd:MD_Identifier>
    </gmi:identifier>
  </gmi:MI_Operation>
</gmi:childOperation>
<gmi:childOperation>
  <gmi:MI_Operation>
    <gmi:identifier>
      <gmd:MD_Identifier>
        <gmd:code>
          <gco:
CharacterString>2010_AN_NASA</gco:CharacterString>
        </gmd:code>
        <gmd:codeSpace>
          <gco:CharacterString>gov.nasa.
esdis.umm.campaignshortname</gco:CharacterString>
        </gmd:codeSpace>
      </gmd:MD_Identifier>
    </gmi:identifier>
  </gmi:MI_Operation>
</gmi:childOperation>
<gmi:childOperation>
  <gmi:MI_Operation>
    <gmi:identifier>
      <gmd:MD_Identifier>
        <gmd:code>
          <gco:
CharacterString>2010_GR_NASA</gco:CharacterString>
        </gmd:code>
        <gmd:codeSpace>
          <gco:CharacterString>gov.nasa.
esdis.umm.campaignshortname</gco:CharacterString>
        </gmd:codeSpace>
      </gmd:MD_Identifier>
    </gmi:identifier>
  </gmi:MI_Operation>
</gmi:childOperation>
</gmi:MI_Operation>
  </gmi:operation>
  ...
</gmi:MI_AcquisitionInformation>
</gmi:acquisitionInformation>
...
</gmi:MI_Metadata>

```

```

"Projects": [
  {
    "ShortName": "OIB",
    "LongName": "Operation Ice Bridge",
    "Campaigns": ["2009_AN_NASA", "2009_GR_NASA",
"2010_AN_NASA", "2010_GR_NASA"],
    "StartDate": "2009-01-01T00:00:00Z",
    "EndDate": "2011-01-01T00:00:00Z"
  }
]

```

ISO 19115-2 SMAP

Providing a Project is optional. Multiple Projects may be provided if necessary (Cardinality 0..*)

UMM-C Element	ISO 19115-2 SMAP Path	Type	Notes
Project /ShortName	/gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmi:acquisitionInformation/ gmi:MI_AcquisitionInformation/gmi:operation/ gmi:MI_Operation/gmi:identifier/gmd:MD_Identifier/gmd:code/gco:CharacterString with /gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmi:acquisitionInformation/ gmi:MI_AcquisitionInformation/gmi:operation/ gmi:MI_Operation/gmi:identifier/ gmd:MD_Identifier/gmd:codeSpace/gco:CharacterString = gov.nasa.esdis.umm.projectsshortname	String	Maps to the UMM element Project/ShortName. A list of valid project short names can be found in the KMS . For each project listed, a short name is required by CMR. The short name value goes in the gmd:code field. The value of "gov.nasa.esdis.umm.projectsshortname" should be provided in the gmd:codeSpace field so that CMR can properly parse out the project short name from the ISO metadata.
Project /LongName	/gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmi:acquisitionInformation/ gmi:MI_AcquisitionInformation/gmi:operation/ gmi:MI_Operation/gmi:identifier/ gmd:MD_Identifier/gmd:description/gco:CharacterString	String	Maps to the UMM element Project/LongName. A list of valid project long names can be found in the KMS . Providing a project long name is optional, but is highly recommended.
Project /Campaign	/gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmi:acquisitionInformation/ gmi:MI_AcquisitionInformation/gmi:operation/gmi:MI_Operation/ gmi:childOperation/gmi:MI_Operation/gmi:identifier/gmd:MD_Identifier/gmd:code/gco:CharacterString with /gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmi:acquisitionInformation/ gmi:MI_AcquisitionInformation/gmi:operation/gmi:MI_Operation gmi:childOperation/gmi:MI_Operation/gmi:identifier/gmd:MD_Identifier/gmd:codeSpace/gco:CharacterString = gov.nasa.esdis.umm.campaignshortname	String	Maps to the UMM element Project/Campaign. The campaign value goes in the gmd:code field. Multiple Campaigns can be provided if necessary. The value of "gov.nasa.esdis.umm.campaignshortname" should be provided in the gmd:codeSpace field so that CMR can properly parse out the campaign name from the ISO metadata.
Project /StartDate	/gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmi:acquisitionInformation/ gmi:MI_AcquisitionInformation/gmi:operation/ gmi:MI_Operation/gmi:description/gco:CharacterString = StartDate:	String	Maps to the UMM element Project/StartDate. The string "StartDate: " must be provided as part of the character string in order for CMR to properly parse out the project start date from the ISO metadata.
Project /EndDate	/gmd:DS_Series/gmd:seriesMetadata/gmi:MI_Metadata/gmi:acquisitionInformation/ gmi:MI_AcquisitionInformation/gmi:operation/ gmi:MI_Operation/gmi:description/gco:CharacterString = EndDate:	String	Maps to the UMM element Project/EndDate. The string "EndDate: " must be provided as part of the character string in order for CMR to properly parse out the project end date from the ISO metadata.

Example Mapping

ISO 19115-2 SMAP

```
<gmd:DS_Series>
```

```

<gmd:seriesMetadata>
<gmi:MI_Metadata>
...
  <gmi:acquisitionInformation>
    <gmi:MI_AcquisitionInformation>
      ...
      <gmi:operation>
        <gmi:MI_Operation>
          <gmi:description>
            </gco:CharacterString>StartDate: 2009-01-
01T00:00:00Z EndDate: 2011-01-01T00:00:00Z</gco:
CharacterString>
            </gmi:description>
            ...
            <gmi:identifier>
              <gmd:MD_Identifier>
                <gmd:code>
                  <gco:CharacterString>OIB</gco:
CharacterString>
                </gmd:code>
                <gmd:codeSpace>
                  <gco:CharacterString>gov.nasa.esdis.
umm.projectshortname</gco:CharacterString>
                </gmd:codeSpace>
                <gmd:description>
                  <gco:CharacterString>Operation Ice
Bridge</gco:CharacterString>
                </gmd:description>
                </gmd:MD_Identifier>
              </gmi:identifier>
              <gmi:childOperation>
                <gmi:MI_Operation>
                  <gmi:identifier>
                    <gmd:MD_Identifier>
                      <gmd:code>
                        <gco:
CharacterString>2009_AN_NASA</gco:CharacterString>
                      </gmd:code>
                      <gmd:codeSpace>
                        <gco:CharacterString>gov.nasa.
esdis.umm.campaignshortname</gco:CharacterString>
                      </gmd:codeSpace>
                      </gmd:MD_Identifier>
                    </gmi:identifier>

                    </gmi:MI_Operation>
                  </gmi:childOperation>
                <gmi:childOperation>
                  <gmi:MI_Operation>
                    <gmi:identifier>
                      <gmd:MD_Identifier>
                        <gmd:code>
                          <gco:
CharacterString>2009_GR_NASA</gco:CharacterString>
                        </gmd:code>
                        <gmd:codeSpace>
                          <gco:CharacterString>gov.nasa.
esdis.umm.campaignshortname</gco:CharacterString>
                        </gmd:codeSpace>
                        </gmd:MD_Identifier>
                      </gmi:identifier>
                    </gmi:MI_Operation>
                  </gmi:childOperation>
                <gmi:childOperation>
                  <gmi:MI_Operation>
                    <gmi:identifier>
                      <gmd:MD_Identifier>
                        <gmd:code>
                          <gco:
CharacterString>2010_AN_NASA</gco:CharacterString>
                        </gmd:code>

```

```

        <gmd:codeSpace>
          <gco:CharacterString>gov.nasa.
esdis.umm.campaignshortname</gco:CharacterString>
        </gmd:codeSpace>
      </gmd:MD_Identifier>
    </gmi:identifier>
  </gmi:MI_Operation>
</gmi:childOperation>
<gmi:childOperation>
  <gmi:MI_Operation>
    <gmi:identifier>
      <gmd:MD_Identifier>
        <gmd:code>
          <gco:
CharacterString>2010_GR_NASA</gco:CharacterString>
        </gmd:code>
      </gmd:codeSpace>
      <gco:CharacterString>gov.nasa.
esdis.umm.campaignshortname</gco:CharacterString>
    </gmd:codeSpace>
  </gmd:MD_Identifier>
    </gmi:identifier>
  </gmi:MI_Operation>
</gmi:childOperation>
</gmi:MI_Operation>
</gmi:operation>
...
</gmi:MI_AcquisitionInformation>
</gmi:acquisitionInformation>
...
</gmi:MI_Metadata>
</gmd:seriesMetadata>
</gmd:DS_Series>

```

UMM

```

"Projects": [
  {
    "ShortName": "OIB",
    "LongName": "Operation Ice Bridge",
    "Campaigns": ["2009_AN_NASA", "2009_GR_NASA",
"2010_AN_NASA", "2010_GR_NASA"],
    "StartDate": "2009-01-01T00:00:00Z",
    "EndDate": "2011-01-01T00:00:00Z"
  }
]

```

UMM Migration

None

History

UMM Versioning

Version	Date	What Changed
1.15.5	12/3/2020	The description of this element now includes text about the controlled vocabulary for project names coming from KMS.
1.15.4	9/18/2020	No changes were made for Project during the transition from version 1.15.3 to 1.15.4
1.15.3	7/1/2020	No changes were made for Project during the transition from version 1.15.2 to 1.15.3
1.15.2	5/20/2020	No changes were made for Project during the transition from version 1.15.1 to 1.15.2
1.15.1	3/25/2020	No changes were made for Project during the transition from version 1.15.0 to 1.15.1

1.15.0	2/26/2020	No changes were made for Project during the transition from version 1.14.0 to 1.15.0
1.14.0	10/21/2019	No changes were made for Project during the transition from version 1.13.0 to 1.14.0
1.13.0	04/11/2019	No changes were made for Project during the transition from version 1.12.0 to 1.13.0
1.12.0	01/22/2019	No changes were made for Project during the transition from version 1.11.0 to 1.12.0.
1.11.0	11/28/2018	No changes were made for Project during the transition from version 1.10.0 to 1.11.0.
1.10.0	05/02/2018	No changes were made for Project during the transition from version 1.9.0 to 1.10.0.

ARC Documentation

Version	Date	What Changed	Author
1.0	08/24/2018	Recommendations/priority matrix transferred from internal ARC documentation to wiki space	Kaylin Bugbee