NOAA NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION

Metaserver

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Metaserver User Manual

Production Version 1.8.0

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Contact Information

Questions or feedback regarding this manual should be directed to the OneStop Metadata Content Team (lori.hager@noaa.gov, catherine.luquire@noaa.gov, paul.lemieux@noaa.gov)

If you encounter issues or need to report a bug in Docucomp, please email ncei.collection-manager.support@noaa.gov. In the email, describe the issue or bug and steps required to replicate it. Additionally, provide your name and contact information if you wish to be contacted for issue clarification and/or to receive updates on the status of the issue.

Acknowledgements

Special thanks to Marty Aubrey, Charlie Burris, and Jerri Reeves for their technical input

Overview

Metaserver provides CoMET services without creating a metadata record, resolves xlinks, translates between different XML standards, and allows advanced users to process WAFs on demand

Helpful quickfacts

1. ISO 19139 XML is the implementation of ISO 19115-2 XML
2. If a user updates an in-use XML Component in Docucomp, user must republish records in CoMET OR run a WAF on demand in Metaserver
3. Enterprise Metadata Tools wiki page details Record Services and Collection Services available within Metaserver

Getting Started

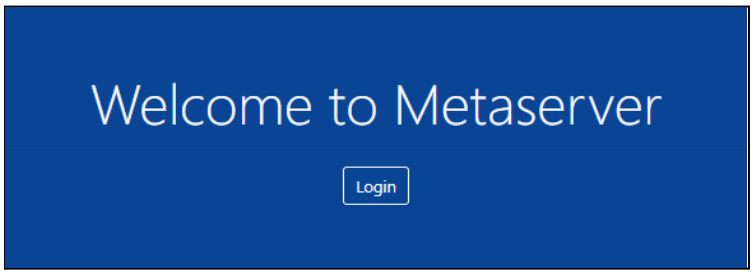
New Users

Note: If a NOAA employee, manager must request access

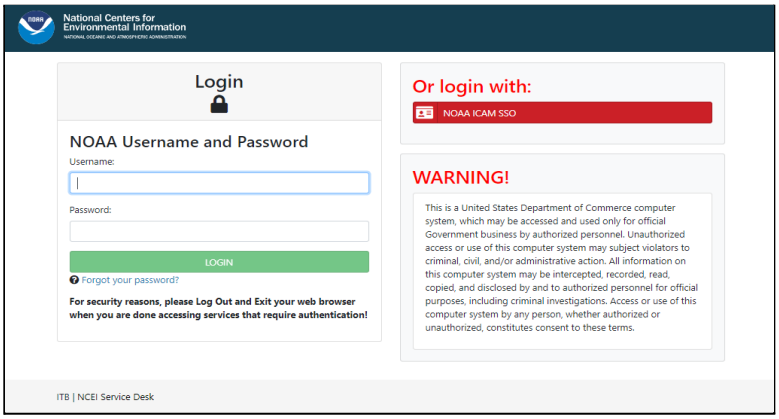
- Email: ncei.collection-manager.support@noaa.gov
- Subject:
  - New User for Metaserver for *employee name*
- Body:
  - Employee's Contact information
  - Associated program or agency
  - Intended usage

Log In

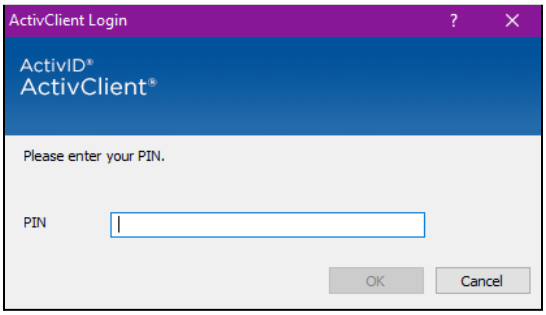
- Access Metaserver at https://data.noaa.gov/metaserver/
- Select 'Login'



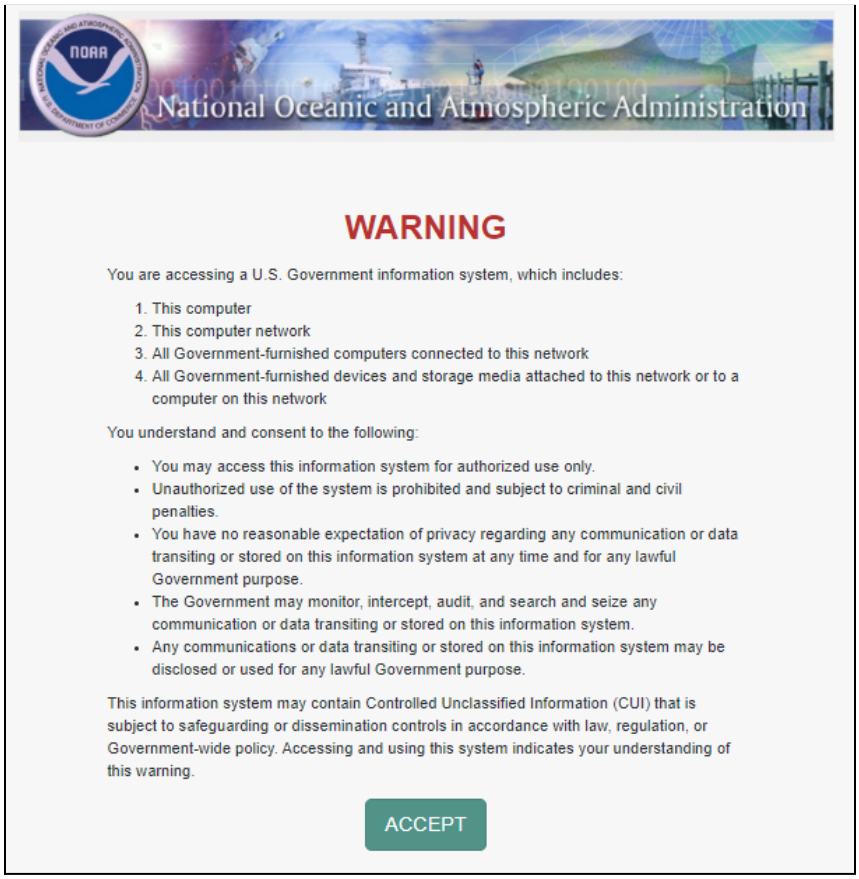
- Enter Username (email address without @noaa.gov) and email password OR click 'NOAA ICAM SSO' button



- ‘Select a certificate’, if prompted
  - Select same certificate used when logging into work computer
- Enter CAC PIN

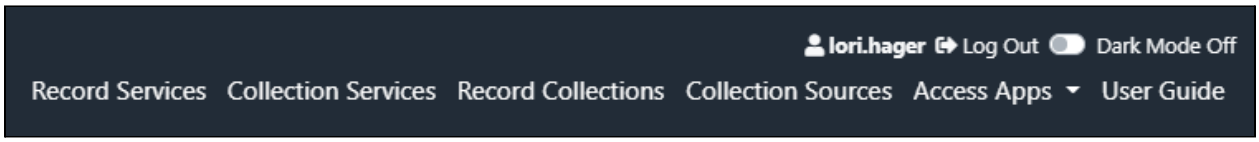


- After authentication, a Warning page is displayed
  - Click ‘Accept’ to proceed



Record Services

- On Home page click ‘Record Services’

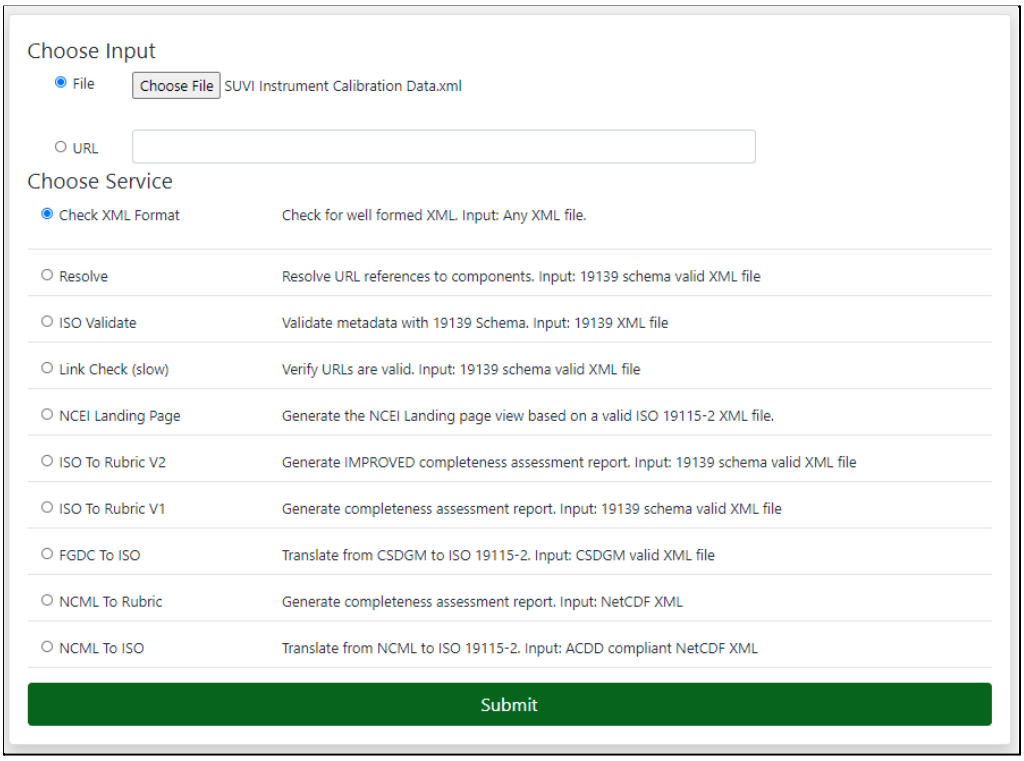


- Below ‘Choose Input’
  - Either click ‘File’ and then ‘Choose File’ to upload XML file saved on computer OR click ‘URL’ to enter URL for remote XML file

Note: Every service requires a 19139 Schema-Valid XML file

Check XML format prior to using other services

- Below Choose Service
  - Click button next to ‘Check XML Format’
  - Click ‘Submit’



- Message opens in new tab
  - If XML has no errors, get message ‘Xml is well formed.’at top left corner of page

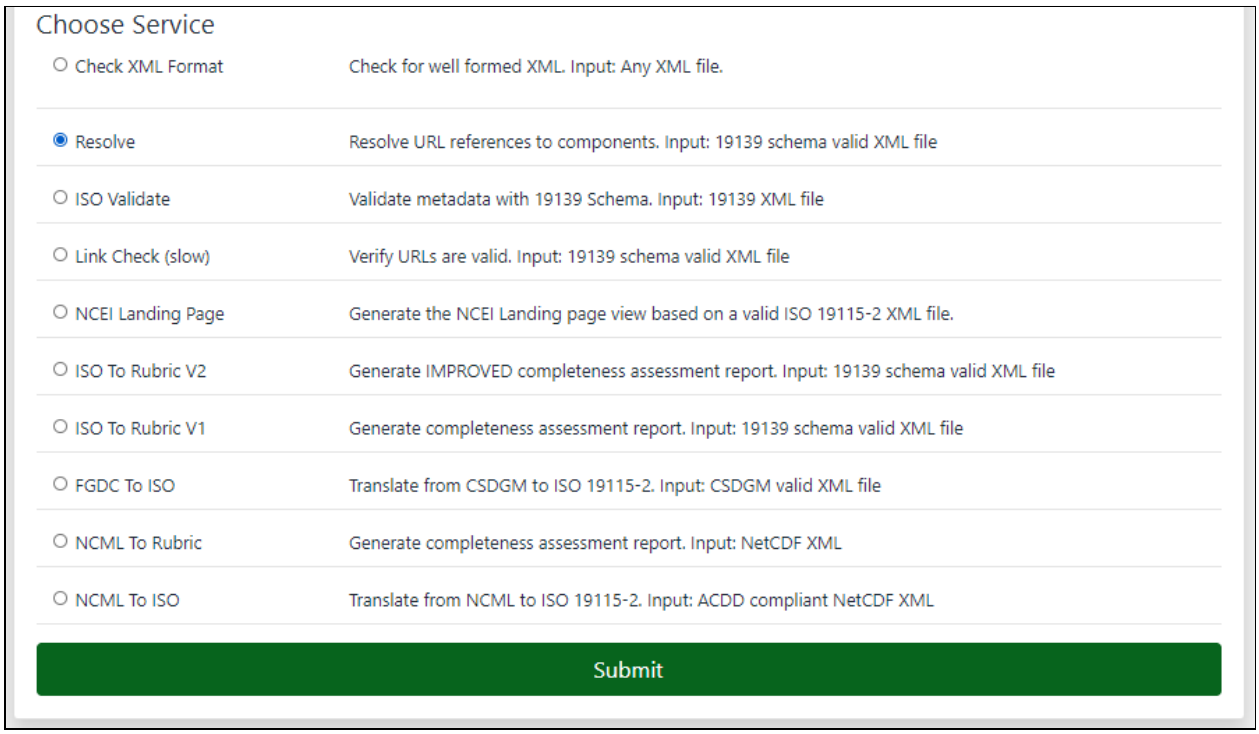
```
Xml is well formed.
```

Note: if XML has errors, ONLY first error will be displayed at a time

  - Correct error
  - Repeat Check XML Format instructions
  - Correct any additional errors

```
RecordServices EXCEPTION...Error on line 52: Element type "attribute" must be followed by either attribute specifications, ">" or "/>".
```

- Close message tab and return to Record Services tab
- Select one Service from Choose Service list
  - Resolve
  - ISO Validate
  - Link Check (slow)
  - ISO to Rubric V2
  - ISO to Rubric V1
  - FGDC to ISO
  - NCML to Rubric
  - NCML to ISO
- Click ‘Submit’



Note: If error message received for any services, refer to '[Check XML Format](#)' instructions, e.g.

- *RecordServices EXCEPTION...unable to resolve document…*
- *org.xml.sax.SAXParseException*

Resolve

Resolve URL references to components. Input: 19139 schema valid XML file. Resolving records with Docucomp Components (Xlinks) allows users to see how the record will look published. This feature will not resolve a component with errors, so this feature is a method to allow users to check that components are correct.

- XML opens in new tab

Note: Six highlighted 'resourceConstraint' tags are populated with XML


```
▼<gmd:resourceConstraints>
  ▼<gmd:MD_LegalConstraints>
    ▼<gmd:useLimitation>
       <gco:CharacterString>otherRestrictions</gco:CharacterString>
     </gmd:useLimitation>
    ▼<gmd:otherConstraints>
       <gco:CharacterString>Cite as: {{Author(s)}}. {{Publication year}}: {{Title}}. {{Version}}. [indicate subset used]. NOAA National Centers for Environmental
       Information. https://doi.org/{{DOI}}. Accessed [date].</gco:CharacterString>
     </gmd:otherConstraints>
    ▼<gmd:otherConstraints>
       <gco:CharacterString>{{cite as guidance}}: {{Last, First M.; Last, First M.; Last, First M. YYYY. Title. Version. [indicate subset used]. Publisher. volume,
       page https://doi.org/DOI}}</gco:CharacterString>
     </gmd:otherConstraints>
   </gmd:MD_LegalConstraints>
 </gmd:resourceConstraints>
▼<gmd:resourceConstraints xlink:title="Distribution Liability">
  ▼<gmd:MD_LegalConstraints uuid="dadd4ac3-2b9f-4db5-8603-71285b94c3d7">
    ▼<gmd:accessConstraints>
       <gmd:MD_RestrictionCode codeList="https://data.noaa.gov/resources/iso19139/schema/resources/Codelist/gmxCodelists.xml#MD_RestrictionCode"
       codeListValue="otherRestrictions">otherRestrictions</gmd:MD_RestrictionCode>
     </gmd:accessConstraints>
    ▼<gmd:otherConstraints>
       <gco:CharacterString>Distribution liability: NOAA and NCEI make no warranty, expressed or implied, regarding these data, nor does the fact of distribution
       constitute such a warranty. NOAA and NCEI cannot assume liability for any damages caused by any errors or omissions in these data. If appropriate, NCEI can
       only certify that the data it distributes are an authentic copy of the records that were accepted for inclusion in the NCEI archives.</gco:CharacterString>
     </gmd:otherConstraints>
   </gmd:MD_LegalConstraints>
 </gmd:resourceConstraints>
▼<gmd:resourceConstraints xlink:title="Use Liability">
  ▼<gmd:MD_LegalConstraints uuid="e8163b1b-fb5a-4f4e-8d5c-ed06da10e21b">
    ▼<gmd:useConstraints>
       <gmd:MD_RestrictionCode codeList="https://data.noaa.gov/resources/iso19139/schema/resources/Codelist/gmxCodelists.xml#MD_RestrictionCode"
       codeListValue="otherRestrictions">otherRestrictions</gmd:MD_RestrictionCode>
     </gmd:useConstraints>
    ▼<gmd:otherConstraints>
       <gco:CharacterString>Use liability: NOAA and NCEI cannot provide any warranty as to the accuracy, reliability, or completeness of furnished data. Users
       assume responsibility to determine the usability of these data. The user is responsible for the results of any application of this data for other than its
       intended purpose.</gco:CharacterString>
     </gmd:otherConstraints>
   </gmd:MD_LegalConstraints>
 </gmd:resourceConstraints>
▼<gmd:aggregationInfo>
```


- Same XML file, but unresolved

Note: Four highlighted 'resourceConstraint' tags are populated with Xlinks


```
▼<gmd:resourceConstraints>
  ▼<gmd:MD_LegalConstraints>
    ▼<gmd:useLimitation>
       <gco:CharacterString>otherRestrictions</gco:CharacterString>
     </gmd:useLimitation>
    ▼<gmd:otherConstraints>
       <gco:CharacterString>Cite as: {{Author(s)}}. {{Publication year}}: {{Title}}. {{Version}}. [indicate subset used]. NOAA National Centers for Environmental Information.
       https://doi.org/{{DOI}}. Accessed [date].</gco:CharacterString>
     </gmd:otherConstraints>
    ▼<gmd:otherConstraints>
       <gco:CharacterString>{{cite as guidance}}: {{Last, First M.; Last, First M.; Last, First M. YYYY. Title. Version. [indicate subset used]. Publisher. volume, page
       https://doi.org/DOI}}</gco:CharacterString>
     </gmd:otherConstraints>
   </gmd:MD_LegalConstraints>
 </gmd:resourceConstraints>
 <gmd:resourceConstraints xlink:href="https://data.noaa.gov/docucomp/dadd4ac3-2b9f-4db5-8603-71285b94c3d7" xlink:title="Distribution Liability"/>
 <gmd:resourceConstraints xlink:href="https://data.noaa.gov/docucomp/e8163b1b-fb5a-4f4e-8d5c-ed06da10e21b" xlink:title="Use Liability"/>
▼<gmd:aggregationInfo>
```

ISO Validate

Validate metadata with 19139 Schema. Input: 19139 XML file

- 19139 Schema-valid ISO

Validation Report

Back to Index Page - .

Invalid Records for Collection

Date measured: Mon Apr 05 16:12:33 EDT 2021

Metric	Value
Invalid Record count	0
Non-ISO Records Count	

No errors found :-)

- Example: failed XML schema validation
  - Report displays all errors

Validation Report

Back to Index Page - .

Invalid Records for Collection

Date measured: Wed Apr 21 11:44:07 EDT 2021

Metric	Value
Invalid Record count	1
Non-ISO Records Count	

Invalid Record Report	
Record	**Error**
viewAs (1).xml	line:126 column:180 cvc-complex-type.2.4.a: Invalid content was found starting with element '{"http://www.isotc211.org/2005/gmd":CI_ResponsibleParty}'. One of '{"http://www.isotc211.org/2005/gmd":MD_Distribution}' is expected.

Link Check (slow)

Verify CI_OnlineResource URLs are valid. Input: 19139 schema valid XML file. This service is noted as slow as it does not run as fast as the others.

- Checks for broken CI_OnlineResource links
  - No broken links

```
Number of Unique Bad OnlineResource URLs = 0   Total URL hits = 0
```

  - Broken links examples
    - Lists broken link(s) and number of times links appear within XML
    - Lists Unique Bad URLs and Total URL hits

```
  https://www.google   urlcount=2
  https://www.ncei.noaah.gov/maps/hypoxia/   urlcount=1
Number of Unique Bad OnlineResource URLs = 2   Total URL hits = 3
```

NCEI Landing Page

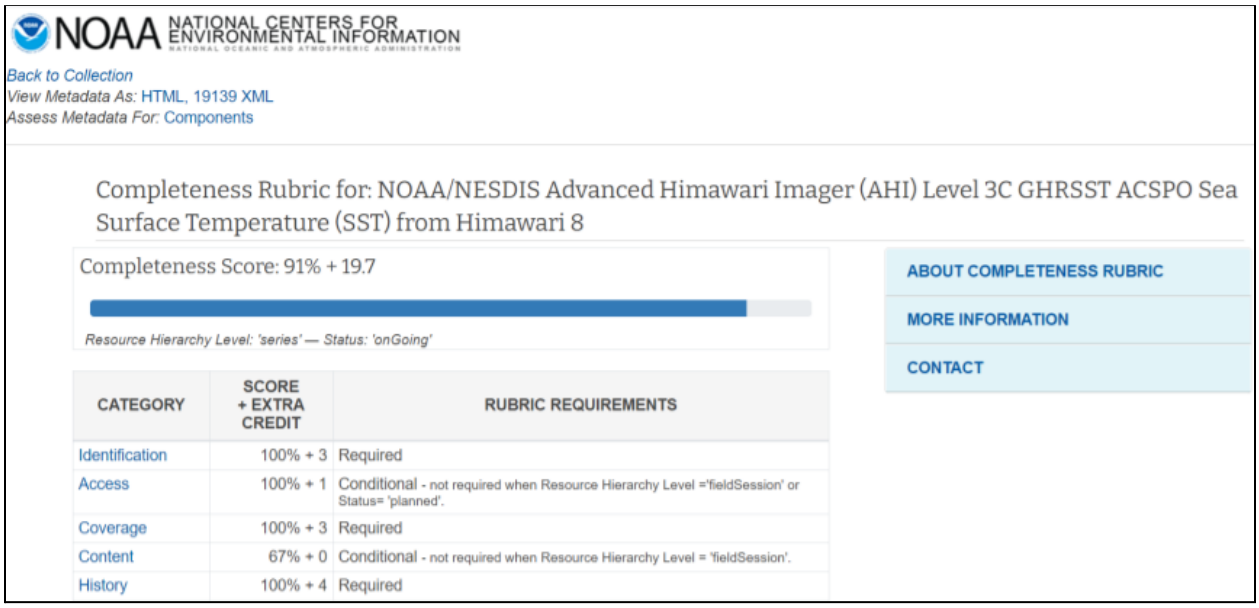
Generate the NCEI Landing page view

- Input: 19139 schema valid XML file

ISO to Rubric V2

Generate [V2 completeness assessment report]

- Input: 19139 schema valid XML file



NOAA NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION

Back to Collection
View Metadata As: HTML, 19139 XML
Assess Metadata For: Components

Completeness Rubric for: NOAA/NESDIS Advanced Himawari Imager (AHI) Level 3C GHRSST ACSPO Sea Surface Temperature (SST) from Himawari 8

Completeness Score: 91% + 19.7

Resource Hierarchy Level: 'series' — Status: 'onGoing'

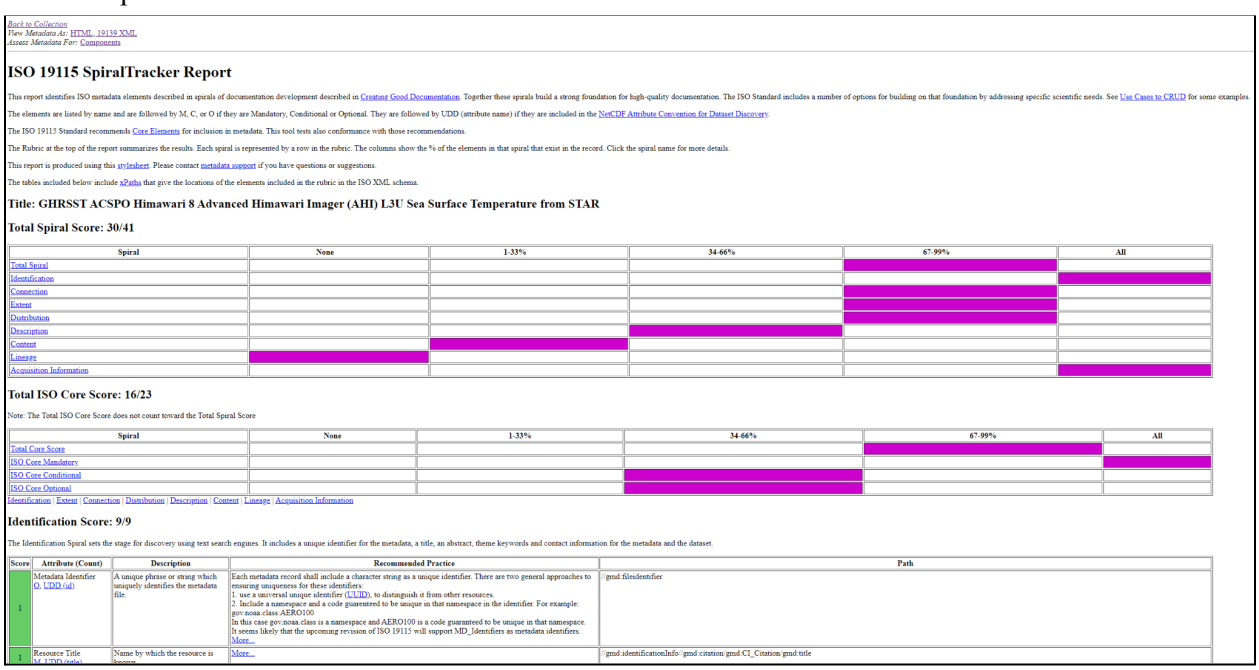
ABOUT COMPLETENESS RUBRIC
MORE INFORMATION
CONTACT

CATEGORY	SCORE + EXTRA CREDIT	RUBRIC REQUIREMENTS
Identification	100% + 3	Required
Access	100% + 1	Conditional - not required when Resource Hierarchy Level ='fieldSession' or Status= 'planned'.
Coverage	100% + 3	Required
Content	67% + 0	Conditional - not required when Resource Hierarchy Level = 'fieldSession'.
History	100% + 4	Required

ISO to Rubric V1

Generate a V1 completeness assessment report

- Input: 19139 schema valid XML file



Back to Collection
View Metadata As: HTML, 19139 XML
Assess Metadata For: Components

ISO 19115 SpiralTracker Report

This report identifies ISO metadata elements described in spirals of documentation development described in Creating Good Documentation. Together these spirals build a strong foundation for high-quality documentation. The ISO Standard includes a number of options for building on that foundation by addressing specific scientific needs. See Use Cases to CRUD for some examples.

The elements are listed by name and are followed by M, C, or O if they are Mandatory, Conditional or Optional. They are followed by UDD (attribute name) if they are included in the NetCDF Attribute Convention for Dataset Discovery.

The ISO 19115 Standard recommends Core Elements for inclusion in metadata. This tool tests also conformance with those recommendations.

The Rubric at the top of the report summarizes the results. Each spiral is represented by a row in the rubric. The columns show the % of the elements in that spiral that exist in the record. Click the spiral name for more details.

This report is produced using this stylesheet. Please contact metadata support if you have questions or suggestions.

The tables included below include xPaths that give the locations of the elements included in the rubric in the ISO XML schema.

Title: GHRSST ACSPO Himawari 8 Advanced Himawari Imager (AHI) L3U Sea Surface Temperature from STAR

Total Spiral Score: 30/41

Spiral	None	1-33%	34-66%	67-99%	All
Total Spiral				■	
Identification					■
Connection				■	
Extent				■	
Distribution				■	
Description			■		
Content		■			
Lineage	■				
Acquisition Information					■

Total ISO Core Score: 16/23

Note: The Total ISO Core Score does not count toward the Total Spiral Score

Spiral	None	1-33%	34-66%	67-99%	All
Total Core Score				■	
ISO Core Mandatory					■
ISO Core Conditional			■		
ISO Core Optional			■		

Identification | Extent | Connection | Distribution | Description | Content | Lineage | Acquisition Information

Identification Score: 9/9

The Identification Spiral sets the stage for discovery using text search engines. It includes a unique identifier for the metadata, a title, an abstract, theme keywords and contact information for the metadata and the dataset.

Score	Attribute (Count)	Description	Recommended Practice	Path
1	Metadata Identifier O, UDD (id)	A unique phrase or string which uniquely identifies the metadata file.	Each metadata record shall include a character string as a unique identifier. There are two general approaches to ensuring uniqueness for these identifiers: 1. use a universal unique identifier (UUID), to distinguish it from other resources. 2. Include a namespace and a code guaranteed to be unique in that namespace in the identifier. For example: gov.noaa.class.AERO100 In this case gov.noaa.class is a namespace and AERO100 is a code guaranteed to be unique in that namespace. It seems likely that the upcoming revision of ISO 19115 will support MD_Identifiers as metadata identifiers. More...	//gmd:fileIdentifier
1	Resource Title M, UDD (title)	Name by which the resource is known	More...	//gmd:identificationInfo//gmd:citation/gmd:CI_Citation/gmd:title

FGDC to ISO

Non-functional

NCML to Rubric

Generate a completeness assessment report

- Input: NetCDF XML

NetCDF Attribute Convention for Dataset Discovery Report

The Unidata Attribute Convention for Data Discovery provides recommendations for netCDF attributes that can be added to netCDF files to facilitate discovery of those files using standard metadata searches. This tool tests conformance with those recommendations using this stylesheet. More Information on Convention and Tool.

Title: AF EDR

Total Score: 22/46

General File Characteristics

Number of Global Attributes 39
Number of Variables 0
Number of Variable Attributes 0
Number of Standard Names 0
Number of Services 0

Spiral	None	1-33%	34-66%	67-99%	All
Total			X		
Identification					X
Text Search			X		
Extent Search		X			
Other Extent Information		X			
Creator Search				X	
Contributor Search	X				
Publisher Search					X
Other Attributes			X		

Identification | Text Search | Extent Search | Other Extent Information | Creator Search | Contributor Search | Publisher Search | Other Attributes

Identification / Metadata Reference Score: 4/4

As metadata are shared between national and international repositories it is becoming increasing important to be able to unambiguously identify and refer to specific records. This is facilitated by including an identifier in the metadata. Some mechanism must exist for ensuring that these identifiers are unique. This is accomplished by specifying the naming authority or namespace for the identifier. It is the responsibility of the manager of the namespace to ensure that the identifiers in that namespace are unique. Identifying the Metadata Convention being used in the file and providing a link to more complete metadata, possibly using a different convention, are also important.

Score	Attribute	Description	THREDDS	ISO 19115-2
1	id	The combination of the "naming authority" and the "id" should be a globally unique identifier for the dataset.	dataset@id	/gmi:MI_Metadata/gmd:fileIdentifier/gco:CharacterString
1	naming_authority			/gmi:MI_Metadata/gmd:fileIdentifier/gco:CharacterString
1	Metadata_Conventions	This attribute should be set to "Unidata Dataset Discovery v1.0" for NetCDF files that follow this convention.		
1	Metadata_Link or metadata_link	This attribute provides a link to a complete metadata record for this dataset or the collection that contains this dataset. *This attribute is not included in Version 1 of the Unidata Attribute Convention for Data Discovery. It is recommended here because a complete metadata collection for a dataset will likely contain more information than can be included in granule formats. This attribute contains a link to that information.*		

Identification | Text Search | Extent Search | Other Extent Information | Creator Search | Contributor Search | Publisher Search | Other Attributes

Text Search Score: 4/7

Text searches are a very important mechanism for data discovery. This group includes attributes that contain descriptive text that could be the target of these searches. Some of these attributes, for example title and summary, might also be displayed in the results of text searches.

Score	Attribute	Description	THREDDS	ISO 19115-2
1	title	A short description of the dataset.	dataset@name	/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:citation/gmd:CI_Citation/gmd:title/gco:CharacterString
1	summary	A paragraph describing the dataset.	metadata/documentation[@type='summary']	/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:abstract/gco:CharacterString
0	keywords	A comma separated list of key words and phrases.	metadata/keyword	/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:descriptiveKeywords/gmd:MD_Keywords/gmd:keyword/gco:CharacterString
0	keywords_vocabulary	If you are following a guideline for the words/phrases in your "keywords" attribute, put the name of that guideline here.	metadata/keyword@vocabulary	/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:descriptiveKeywords/gmd:MD_Keywords/gmd:thesaurusName/gmd:CI_Citation/gmd:title/gco:CharacterString
1	standard_name_vocabulary	The name of the controlled vocabulary from which variable standard names are taken.	metadata/variables@vocabulary	/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:descriptiveKeywords/gmd:MD_Keywords/gmd:thesaurusName/gmd:CI_Citation/gmd:title/gco:CharacterString
1	history	Provides an audit trail for modifications to the original data.		/gmi:MI_Metadata/gmd:dataQualityInfo/gmd:DQ_DataQuality/gmd:lineage/gmd:LI_Lineage/gmd:statement/gco:CharacterString
0	comment	Miscellaneous information about the data.	metadata/documentation	/gmi:MI_Metadata/gmd:identificationInfo/gmd:MD_DataIdentification/gmd:supplementalInformation

Identification | Text Search | Extent Search | Other Extent Information | Creator Search | Contributor Search | Publisher Search | Other Attributes

NCML to ISO

Translate from NCML to ISO 19115-2

- Input: ACDD compliant NetCDF XML


```
▼<gmi:MI_Metadata xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:gco="http://www.isotc211.org/2005/gco" xmlns:gmd="http://www.isotc211.org/2005/gmd"
 xmlns:gmi="http://www.isotc211.org/2005/gmi" xmlns:srv="http://www.isotc211.org/2005/srv" xmlns:gmx="http://www.isotc211.org/2005/gmx" xmlns:gsr="http://www.isotc211.org/2005/gsr"
 xmlns:gss="http://www.isotc211.org/2005/gss" xmlns:gts="http://www.isotc211.org/2005/gts" xmlns:gml="http://www.opengis.net/gml/3.2" xmlns:xlink="http://www.w3.org/1999/xlink"
 xmlns:xs="http://www.w3.org/2001/XMLSchema" xsi:schemaLocation="http://www.isotc211.org/2005/gmi https://data.noaa.gov/resources/iso19139/schema.xsd">
  ▼<gmd:fileIdentifier>
     <gco:CharacterString>gov.noaa.nesdis.nde:0a62e344-6916-4070-926a-1c65a85308d2</gco:CharacterString>
   </gmd:fileIdentifier>
  ▼<gmd:language>
     <gmd:LanguageCode codeList="https://data.noaa.gov/resources/iso19139/schema/resources/Codelist/gmxCodelists.xml#LanguageCode" codeListValue="eng">eng</gmd:LanguageCode>
   </gmd:language>
  ▼<gmd:characterSet>
     <gmd:MD_CharacterSetCode codeList="https://data.noaa.gov/resources/iso19139/schema/resources/Codelist/gmxCodelists.xml#MD_CharacterSetCode"
     codeListValue="UTF8">UTF8</gmd:MD_CharacterSetCode>
   </gmd:characterSet>
  ▼<gmd:hierarchyLevel>
     <gmd:MD_ScopeCode codeList="https://data.noaa.gov/resources/iso19139/schema/resources/Codelist/gmxCodelists.xml#MD_ScopeCode" codeListValue="dataset">dataset</gmd:MD_ScopeCode>
   </gmd:hierarchyLevel>
  ▼<gmd:contact>
    ▼<gmd:CI_ResponsibleParty>
      ▼<gmd:individualName>
         <gco:CharacterString>DOC/NOAA/NESDIS/STAR > AF Algorithm Team, Center for Satellite Applications and Research, NESDIS, NOAA, U.S. Department of
         Commerce</gco:CharacterString>
       </gmd:individualName>
      ▼<gmd:organisationName>
         <gco:CharacterString>DOC/NOAA/NESDIS/NDE > S-NPP Data Exploitation, NESDIS, NOAA, U.S. Department of Commerce</gco:CharacterString>
       </gmd:organisationName>
      ▼<gmd:contactInfo>
        ▼<gmd:CI_Contact>
          ▼<gmd:address>
            ▼<gmd:CI_Address>
              ▼<gmd:electronicMailAddress>
                 <gco:CharacterString>espcoperations@noaa.gov</gco:CharacterString>
               </gmd:electronicMailAddress>
             </gmd:CI_Address>
```

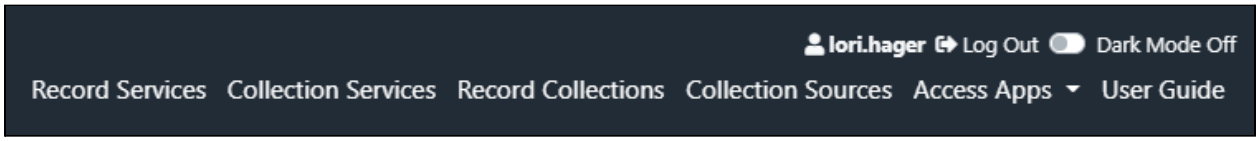
WAF On Demand

Web Accessible Files (WAFs) are configured to be refreshed on a recurring basis. Frequency is determined at set-up but can be adjusted as needed by contacting ncei.collection-manager.support@noaa.gov

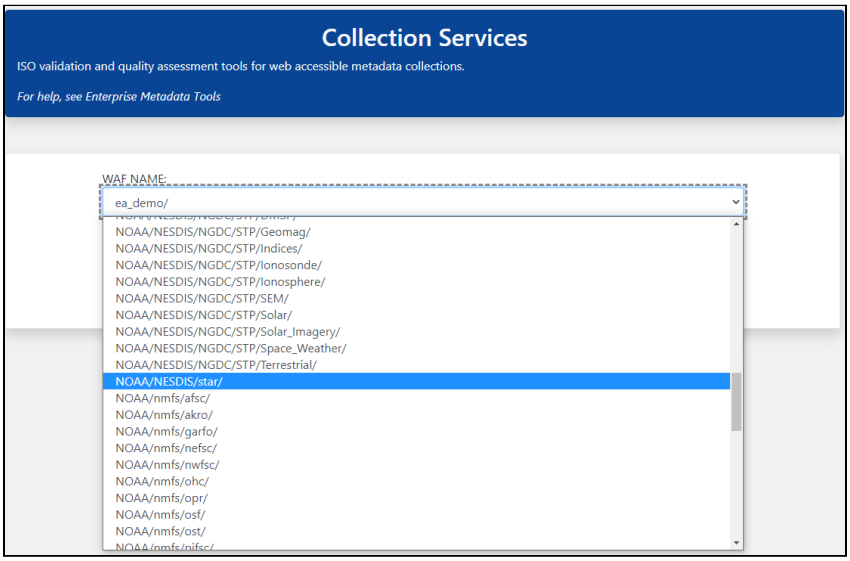
WAF On Demand is available to users that need to refresh an entire WAF immediately. WAF On Demand resolves Xlink components, generates rubric and diagnostic reports, and Table of Contents for a public WAF. This service is for legacy customers and it is recommended that new customers publish records through CoMET.

Collection Services

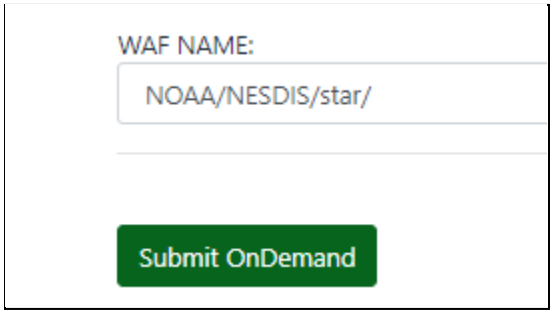
- On Home page click 'Collection Services'



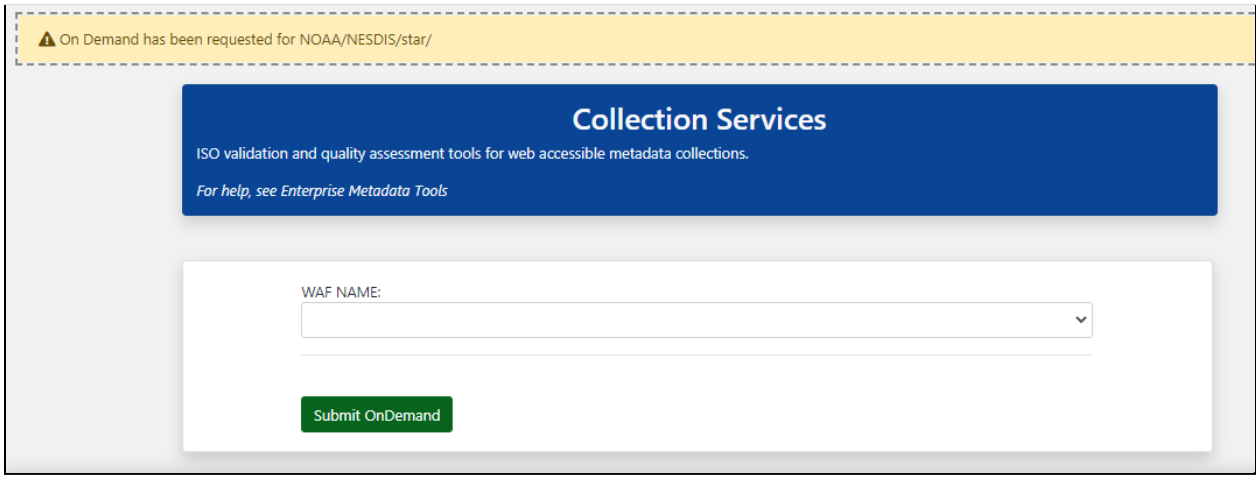
- From 'WAF NAME' dropdown menu, select a WAF



- Click ‘Submit OnDemand’



- Message appears ‘On Demand has been requested for . . . .’



Change Log

Revision Number	Description of Change	Author	Date
NR	New Release	C Luquire, L Hager	6/28/2021
A	Updated version number on title page and footer; standardized formatting; fixed broken links; updated screenshots	L Hager, C Luquire	9/02/2021