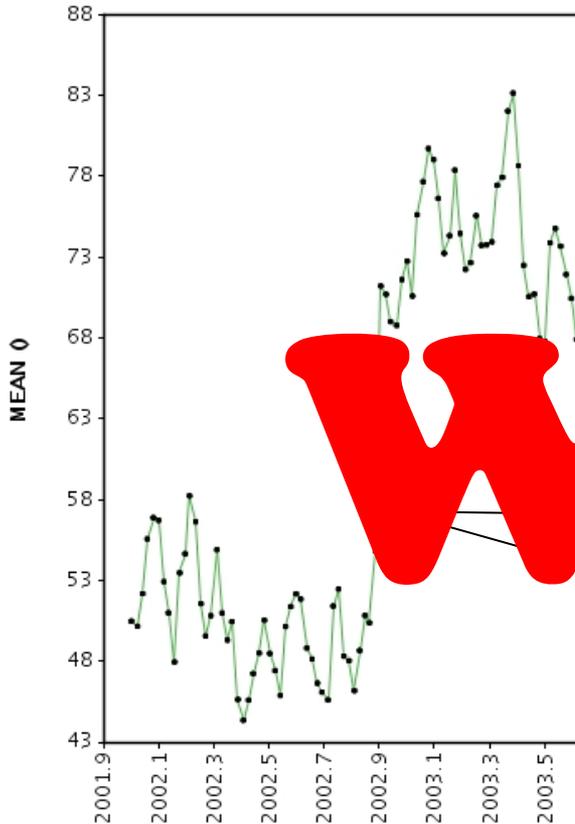


# Transitioning to ISO

Ted Habermann, NOAA/NESDIS/NGDC



i checked my 2002 email archives, and here is what i found out:

it appears that the current 3rd generation algorithm was implemented into operations around Oct-Nov 2002 time frame. cannot say more precisely, as all email correspondence i am looking at, talks about this indirectly. (maybe it's what's referred to as the Phase II algorithm.) At the same time, we had implemented quite a few other changes fixing data bugs and formats: view angle problem, increased digitization in all channel's reflectances and AODs, etc.

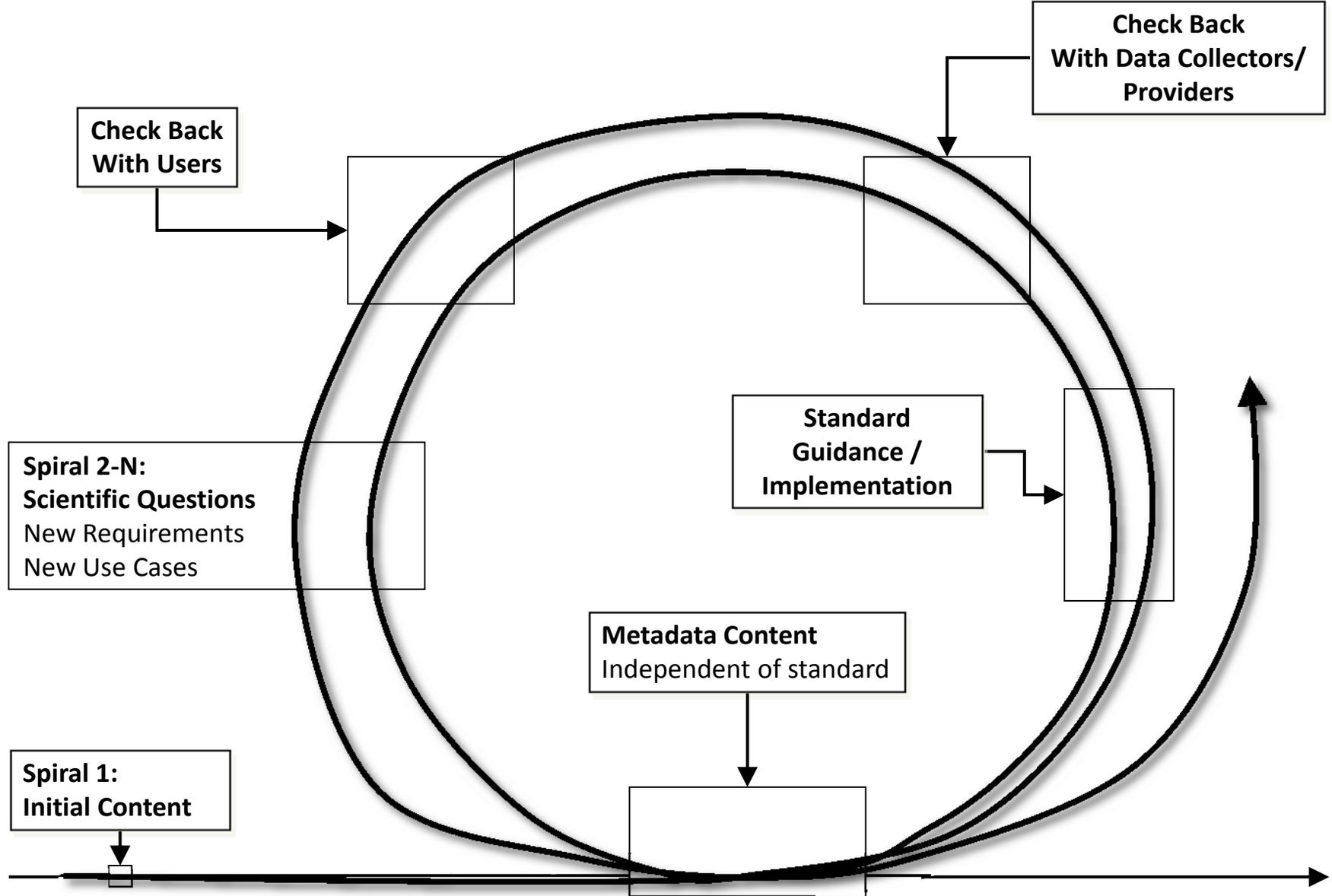
The jump is deemed due to introducing 3rd generation algorithm, which replaced the 2nd generation. The new numbers ( $\sim 0.08$ ) look more realistic than the previous ones ( $\sim 0.05$  or so). The changes seen in the data is close to the expected effect of this change. The 3rd gen alg takes into account the exact spectral response, whereas the 2nd gen is generic ("one size fits all").

hopefully this settles the issue..

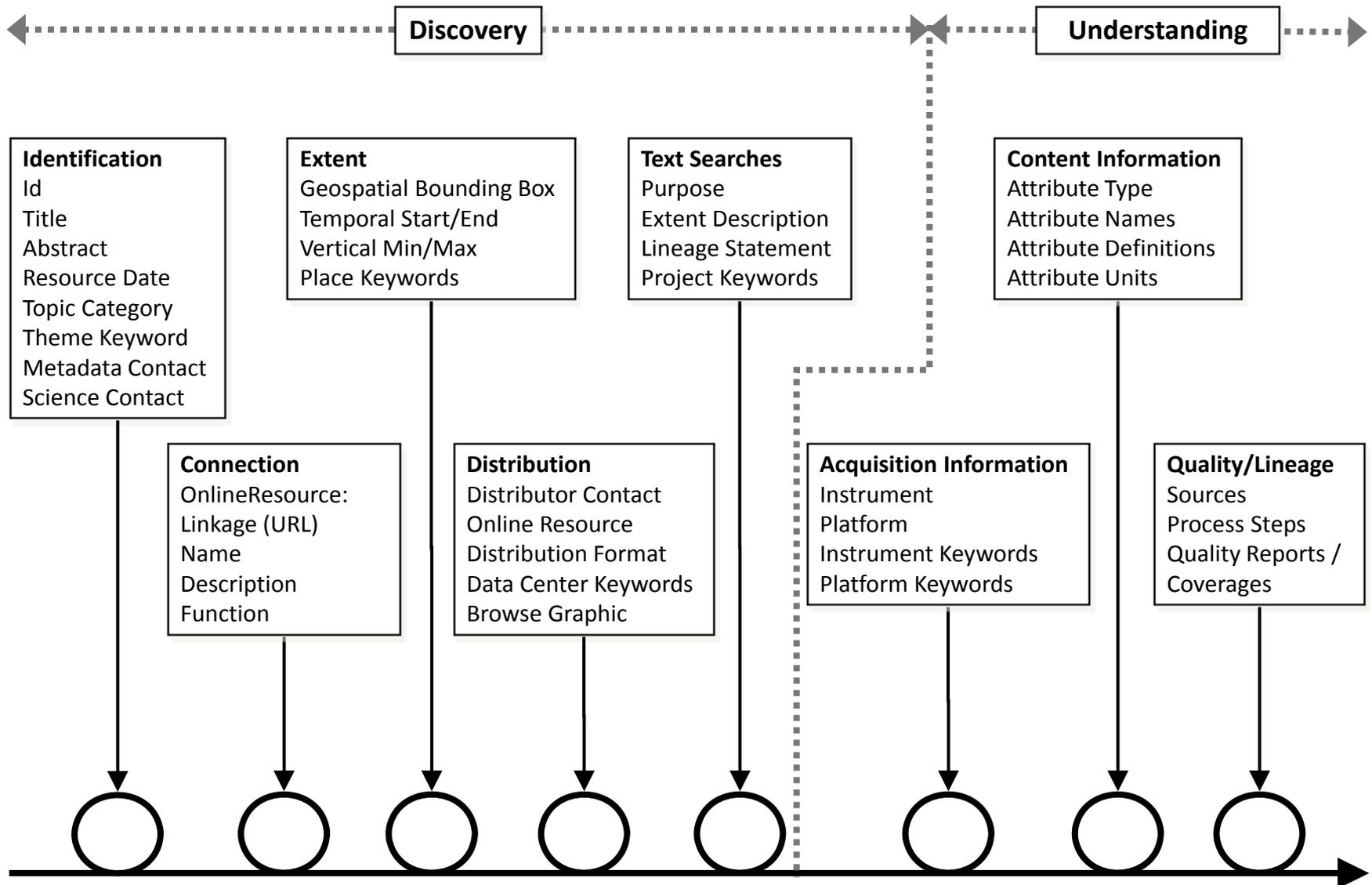
Documentation: It's not just discovery...



# Spiral Development / Training



# Potential Spirals



# Spirals and Rubrics

Spiral	None	0-33%	34-66%	67-99%	All
Identification					
Connection					
Extent					
Distribution					
Description					
Content					
Lineage					
Acquisition Information					

Metadata Evaluation for Dataset X

Date: 2010/10/24

# Initial Rubric for FGDC > ISO Translation

Mozilla Firefox

Eden - XML enco... http://w...tion.xsd Index of /publish... file:///C...port.html file:///C...port.html file:///C...port.html file:///C...port.html file:///...rt.html

## 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 [Ted Habermann](#) if you have questions or suggestions.

### Title: Historical North Atlantic and Eastern North Pacific Tropical Cyclone Tracks, 1851-2009

**Total Spiral Score: 17/41**

Spiral	None ☆☆☆	1-33% ☆☆☆	34-66% ☆☆☆	67-99% ☆☆☆	All ☆☆☆
<a href="#">Total Spiral</a>					
<a href="#">Identification</a>					
<a href="#">Extent</a>					
<a href="#">Connection</a>					
<a href="#">Distribution</a>					
<a href="#">Description</a>					
<a href="#">Content</a>					
<a href="#">Lineage</a>					
<a href="#">Acquisition Information</a>					

**Total ISO Core Score: 15/23**

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

Find: 1996-02-28 Next Previous Highlight all Match case Phrase not found

Done

# Identifying Bounding Extents

**Extent Score: 2/5**

The Extent Spiral defines the spatial and temporal extent of the dataset. This information can be displayed on maps and timelines and used in spatial searches. The ISO standard supports the definition of multiple extents for each dataset. In order to simplify the process of identifying the bounding extent, it is recommended that the id attribute be set = "boundingExtent". This must be set in order for the extent to be identified using this tool.

Score	Attribute (Count)	Description
0	Resource Spatial Extent C, UDD (geospatial_lat_min_max, geospatial_lon_min_max)	Describe spatial, horizontal, and/or vertical extent and the temporal coverage resource
0	Temporal Extent UDD (time_coverage_start, time_coverage_end)	Describe temporal coverage resource
0	Vertical Extent	The element which minimizes the vertical extent of dataset.
1	Place Keywords (1) UDD (keywords)	Keywords describe location

ISO Extents - GEO-IDE Guidelines and Best Practices Wiki - Mozilla Firefox

## ISO Extents

ISO 19115 combines spatial and temporal extents into a single object, called an EX\_Extent, that includes temporal, vertical, and geographic extents. Dataset descriptions in ISO can include **multiple extents**.

The temporal and vertical extents are simple descriptions of temporal or vertical ranges.

The geographic extent can be described in three ways. The first option is a simple bounding box which works quite well in some simple situations. This is similar to the bounding box in the FGDC Metadata Standard, except that the FGDC box described the spatial extent of the entire dataset and this Extent object gives the spatial extent of a specific quality report.

The second option generalizes the bounding box to a bounding polygon. This covers a large number of cases which might involve natural shapes, such as watersheds, or political shapes, like counties.

The final option allows specification of an identifier of a geographic object, like counties, to describe spatial extents. This is similar to the G-Ring option for the spatial extent, except that it is used to describe a specific quality report.

## 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 [Ted Habermann](#) if you have questions or suggestions.

### Title: Historical North Atlantic and Eastern North Pacific Tropical Cyclone Tracks, 1851-2009

**Total Spiral Score: 19/41**

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

**Total ISO Core Score: 17/23**

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

# Connections are Critical

Connection Score: 1/4

The ISO Standards for describing onlineResources make it possible to display meaningful titles and descriptions for URLs. This spiral checks that all of the URL names and descriptions exist.

Score	Attribute (Count)	Description	Best Practice	Path
1	Online Resource URLs (3)	URLs for online resources.	Information for Online Resources	////gmd:CI_OnlineResource/gmd:linkage/gmd:URL
0	Online Resource Functions (0)	Function code for online download, information,		
0	Online Resource Names (2)	Title for online resource		
0	Online Resource Description (0)	A short paragraph describing the resource displayed with a link.		

Distribution Score: 2/6

Discovering that a dataset exists is not helpful unless you can find it.

Score	Attribute (Count)	Description
1	Distributor Contact (1)	The contact for distribution of the resource.
0	Online Resource (0)	Information about Internet hosted resources: availability URL; protocol used; resource name; resource description, and resource function
1	Resource Distribution Format (1)	Description of distribution format.

ISO Online Resources - GEO-IDE Guidelines and Best Practices Wiki - Mozilla Firefox

page discussion view source history

## ISO Online Resources

As the World Wide Web has developed into a ubiquitous information source, links to on-line information and services have become a critical element in all metadata records. These links are treated very differently in the FGDC and ISO standards.

**FGDC:** In the FGDC, URLs are free text with no associated information. These can only be displayed as links to themselves. This works, to some extent, for simple URLs, but does not work well for the more complex URLs that are becoming more common.

**ISO:** In the ISO, URLs are CI\_OnlineResource objects that include a rich set of fields for describing the on-line resource:

**CI\_OnlineResource**

- linkage : URL
- protocol [0..1] : CharacterString
- applicationProfile [0..1] : CharacterString
- name [0..1] : CharacterString
- description [0..1] : CharacterString
- function [0..1] : CI\_OnlineFunctionCode

**CI\_OnlineFunctionCode**

- download
- information
- offlineAccess
- order
- search

Usage: On-line linkage elements exist in the FGDC Citation Order Process section.

The ISO CI\_OnlineResource is found in the CI\_Contact, the NOAA Server URLs in many NOAA metadata records in Browse, and Obtain. These element names reflect the function image. The MoreInfo and Obtain URLs would be done as CI\_OnlineResource.

**FGDC (with NOAA Supplemental):**

```
<onlink>http://www.ngdc.noaa.gov/seg/figures/
```

This link is displayed as <http://www.ngdc.noaa.gov/seg/>

## 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 [Ted Habermann](#) if you have questions or suggestions.

**Title: Historical North Atlantic and Eastern North Pacific Tropical Cyclone Tracks, 1851-2009**

**Total Spiral Score: 22/41**

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

**Total ISO Core Score: 17/23**

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

# Rubric Reflects the Improvements

Mozilla Firefox

Eden - XML encoding... http://ww...ation.xsd Index of /published/... file:///C:/...eport.html file:///C:/...eport.html file:///C:/...eport.html file:///C:/...eport.html file:///C:/...ort.html

## 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 [Ted Habermann](#) if you have questions or suggestions.

**Title: Historical North Atlantic and Eastern North Pacific Tropical Cyclone Tracks, 1851-2009**

**Total Spiral Score: 22/41**

Spiral	None ☆☆☆	1-33% ☆☆☆	34-66% ☆☆☆	67-99% ☆☆☆	All ☆☆☆
<a href="#">Total Spiral</a>					
<a href="#">Identification</a>					
<a href="#">Extent</a>					
<a href="#">Connection</a>					
<a href="#">Distribution</a>					
<a href="#">Description</a>					
<a href="#">Content</a>					
<a href="#">Lineage</a>					
<a href="#">Acquisition Information</a>					

**Total ISO Core Score: 17/23**

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

Find: 1996-02-28 Next Previous Highlight all Match case Phrase not found

Done

# Spiral Development / Training

Completeness and Evaluation

**ISO 19115 Report**

The report details ISO metadata elements described in a spiral of documentation development described in [Catalogs/Class Documents](#). Together these spirals build a strong foundation for the spiral documentation. The ISO standard includes a number of options for holding on the metadata to achieve specific, variable results. See [ISO Catalogs/Class](#) for more examples.

The elements are identified as **Required** or **Optional**. They are followed by **ISO** (optional) unless they are indicated by the **ISO/IEC** (optional) or **ISO/IEC JTC1** (optional).

The ISO 19115 standard recommends [Catalogs/Class](#) for inclusion in metadata. This tool was also conformant with those recommendations.

The tables at the top of the report summarize the results. Each spiral is represented by a row in the table. The columns show the % of the elements in that spiral that were the result. Click the spiral name for more details.

This report is produced using the [ISO/IEC](#). Please contact [ISO/IEC](#) if you have questions or suggestions.

**Title: Aerosol Optical Thickness (100 KM)**

**Total Spiral Score: 27/41**

Spiral	New	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	All
Identification												
Characterization												
Location												
Temporal												
Domain												
Content												
Access/Restrictions												

**Category/ISO 19115**

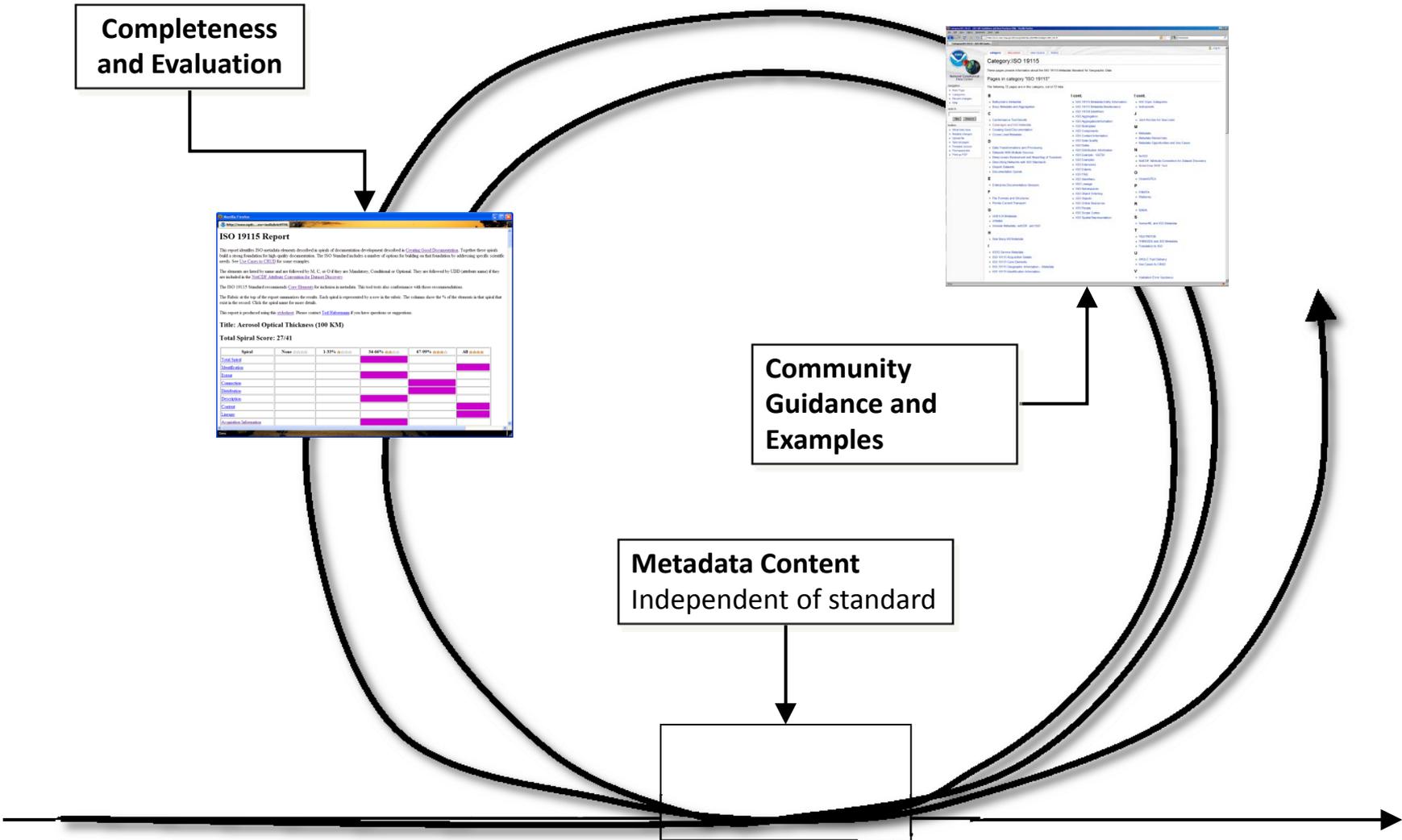
Pages in category 'ISO 19115'

The following 12 pages are in this category, out of 12 pages.

Category	Items	Items
A	Aerosol Optical Thickness (100 KM)	Aerosol Optical Thickness (100 KM)
B	Aerosol Optical Thickness (100 KM)	Aerosol Optical Thickness (100 KM)
C	Aerosol Optical Thickness (100 KM)	Aerosol Optical Thickness (100 KM)
D	Aerosol Optical Thickness (100 KM)	Aerosol Optical Thickness (100 KM)
E	Aerosol Optical Thickness (100 KM)	Aerosol Optical Thickness (100 KM)
F	Aerosol Optical Thickness (100 KM)	Aerosol Optical Thickness (100 KM)
G	Aerosol Optical Thickness (100 KM)	Aerosol Optical Thickness (100 KM)
H	Aerosol Optical Thickness (100 KM)	Aerosol Optical Thickness (100 KM)
I	Aerosol Optical Thickness (100 KM)	Aerosol Optical Thickness (100 KM)
J	Aerosol Optical Thickness (100 KM)	Aerosol Optical Thickness (100 KM)
K	Aerosol Optical Thickness (100 KM)	Aerosol Optical Thickness (100 KM)
L	Aerosol Optical Thickness (100 KM)	Aerosol Optical Thickness (100 KM)

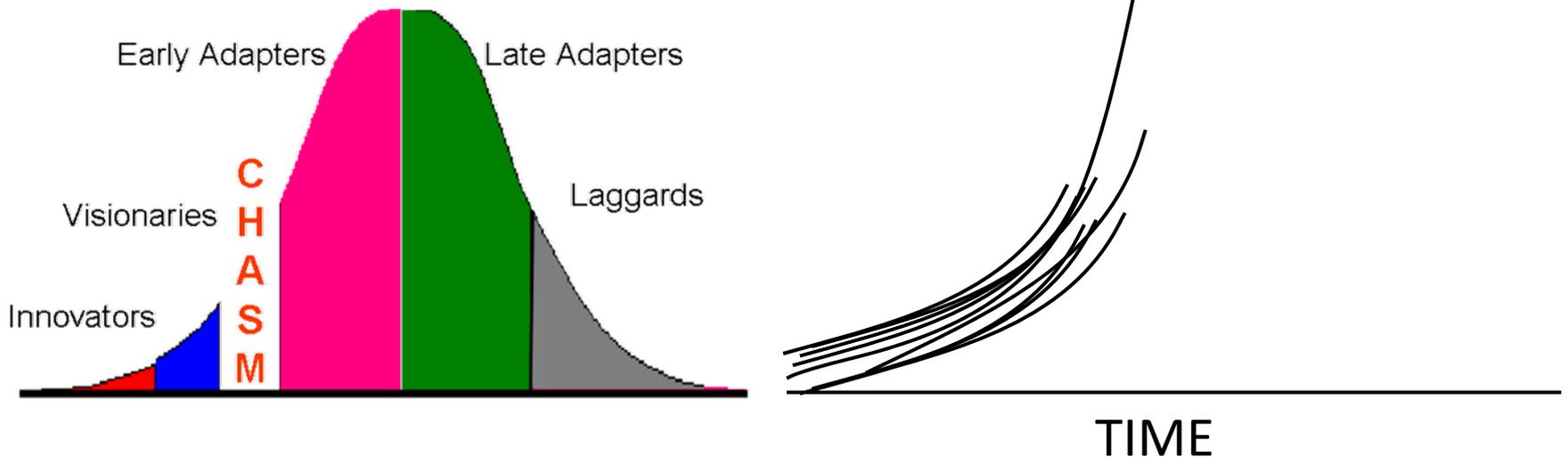
Community Guidance and Examples

Metadata Content Independent of standard

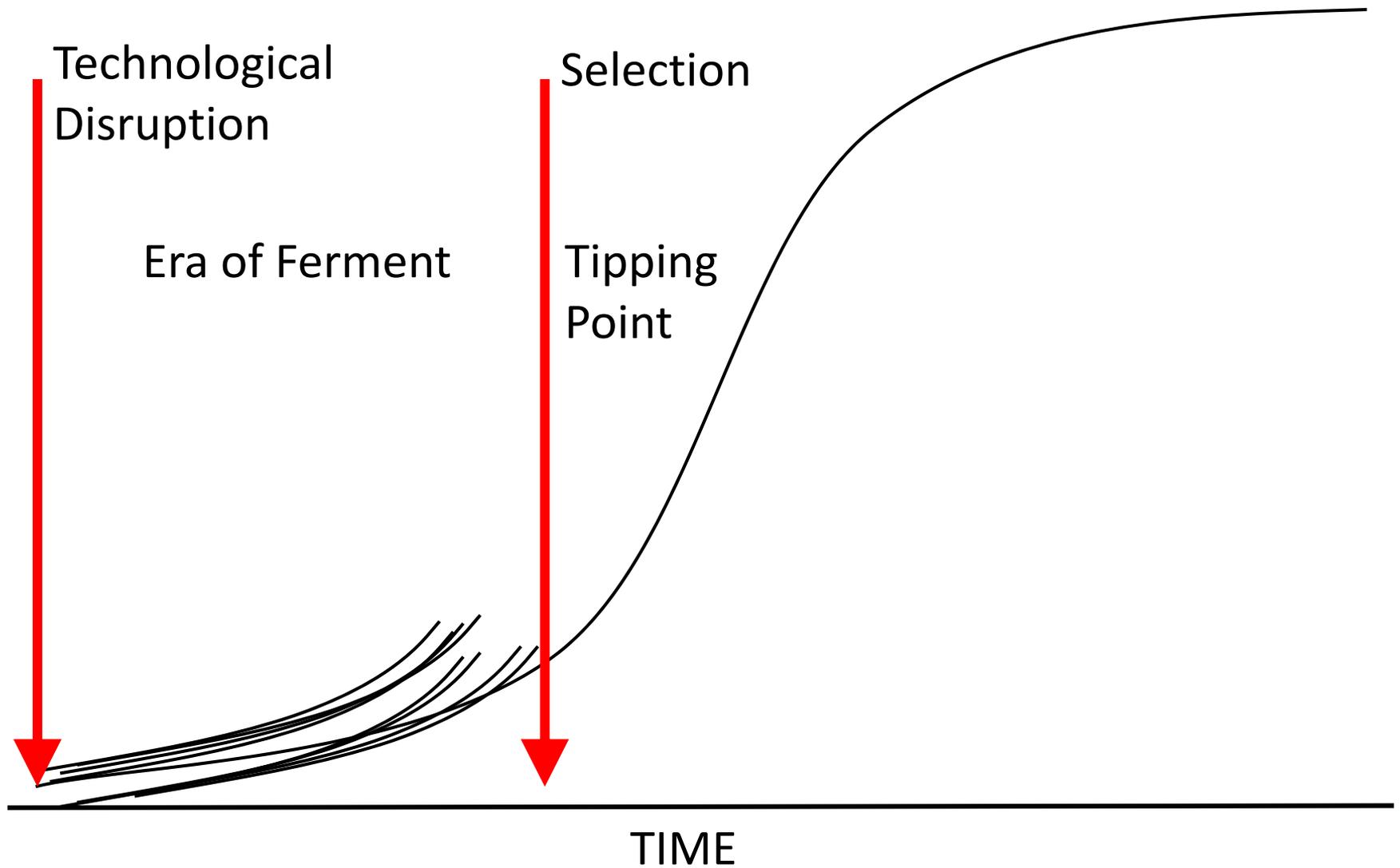


# Technology Adoption

Moore described the “chasm” in the adoption life cycle. He proposes that many new technologies do not make it across the chasm between visionaries and early adapters. They fall into the chasm. The technology S-curve with the chasm might look like:



# Technology Cycle



# What Does a Tipping Point Look Like?

WORLD METEOROLOGICAL COMMISSION FOR BASIC SCIENCES

AMS

NATIONAL SCIENCE FOUNDATION  
WHERE DISCOVERIES BEGIN

HOME | FUNDING | AWARDS | DISCOVERIES | NEWS

Award and Administration Guide

Chapter VI - Other Post Award Considerations

4. Dissemination and Sharing

b. Investigators are expected to disseminate more than incremental collections of data, samples, physical collections, or information created or gathered in the course of the project. Investigators are expected to encourage and facilitate the use of their data and information by other researchers and organizations working to serve as a body of networks and to coordinate with the Federal Interagency Committee on Data Use in Environmental Observing Systems (CIOS).

FGDC Endorsed External Standards -- Federal Geographic Data Committee - Mozilla Firefox

FGDC Endorsed External Standards

you are here: home → standards → fgdc endorsed non-federally authored standards

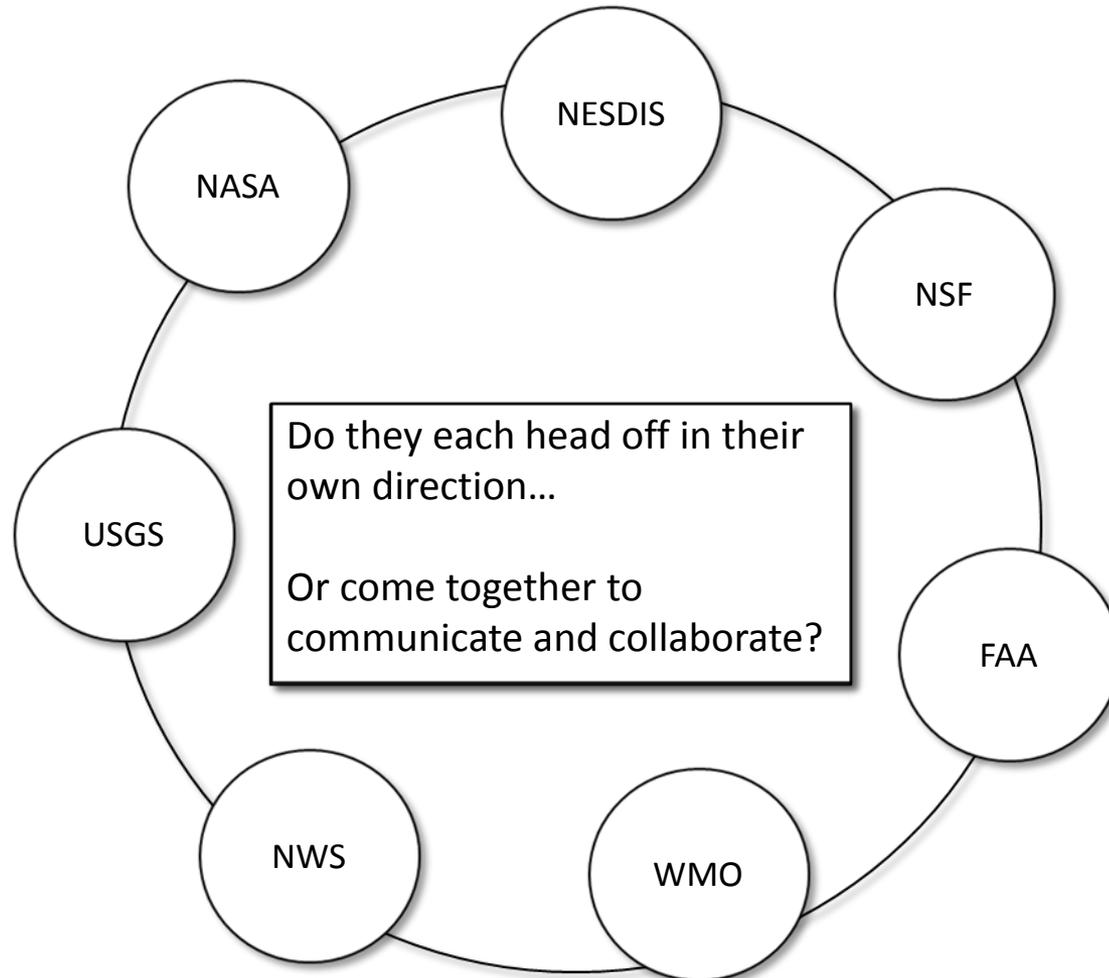
### FGDC Endorsed External Standards

The FGDC Steering Committee has officially endorsed the following standards in accordance with the [FGDC Policy on Recognition of Non-Federally Authored Geographic Information Standards and Specifications](#) [PDF].

These standards play an important role in enabling interoperability. Included are standards from the Open Geospatial Consortium; ISO Technical Committee 211, Geographic Information/Geomatics; the American National Standards Institute (through International Committee for Information Technology Standards Technical Committee L1, Geographic information systems) and de facto standards.

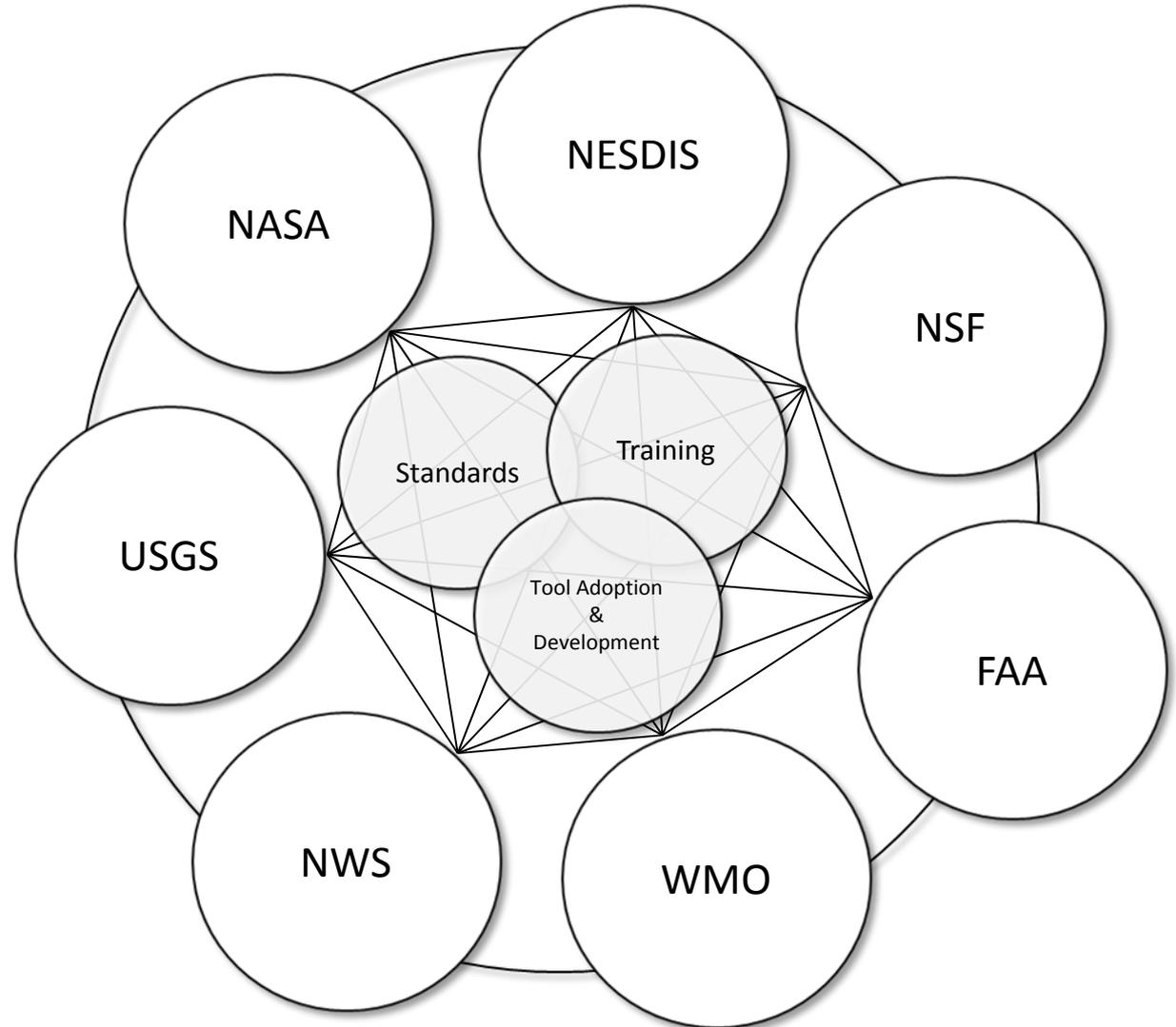
Standard ID	Standard Title	Endorsement Date	To obtain a copy of the standard	Category*	Scope/Abstract	Applicability
GeoTIFF Revision 1.0	GeoTIFF Revision 1.0	2010/03/27	<a href="#">Link</a>	CRS	GeoTIFF is a public domain specification which allows georeferencing information to be embedded within a TIFF file. The potential additional information includes projections, coordinate systems.	Various participants within the National System for Geographic Information (NSG) have validated requirements to make selected imagery and holdings data available in Geographic Tagged Image File Format (GeoTIFF).

# Shared Needs

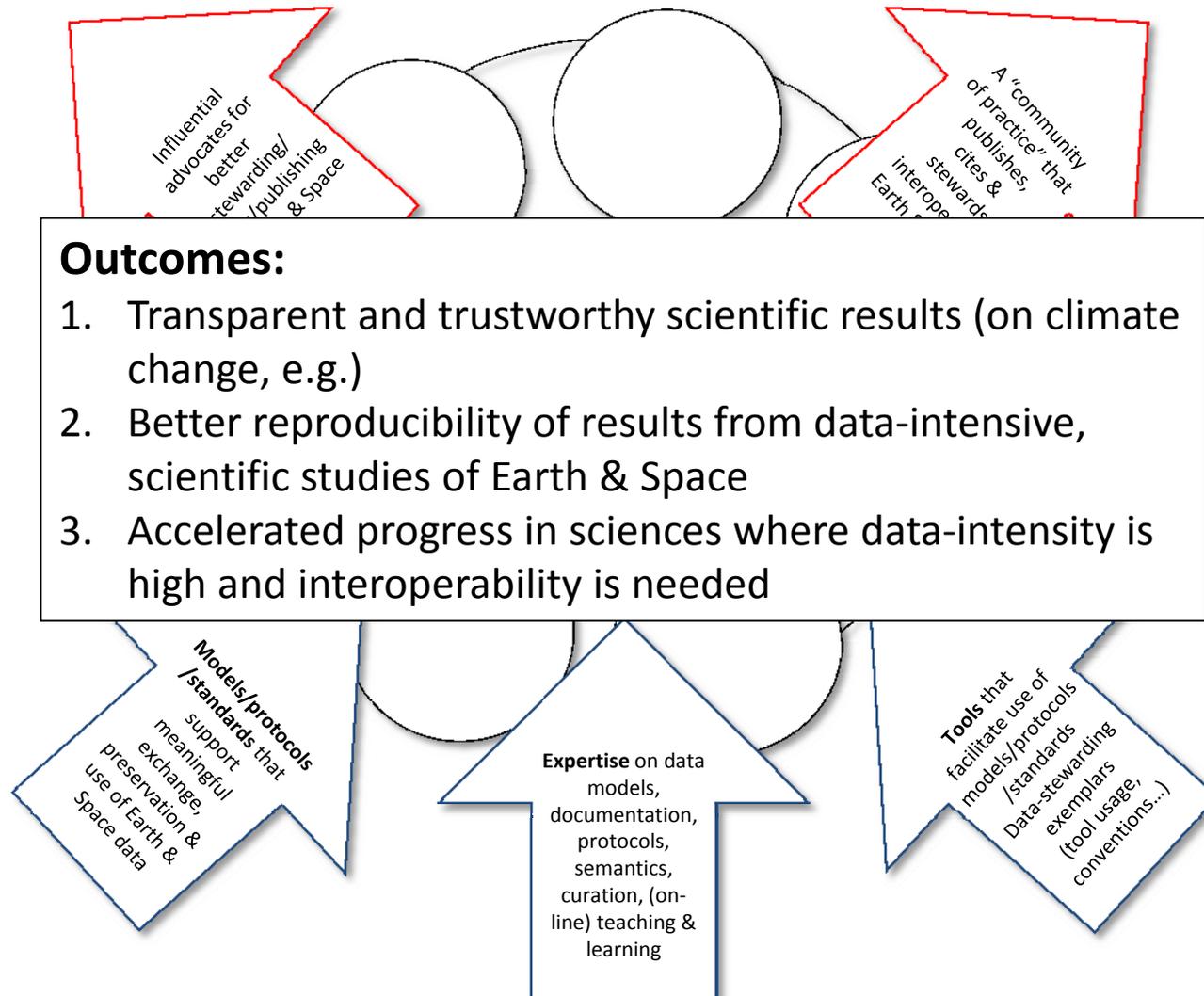


# The Documentation Consortium

**Consortium:** association of organizations with the objective of pooling resources for **achieving a common goal:** To foster stewardship & meaningful publication of Earth & Space data for world-wide cross-disciplinary & citizen use, today and tomorrow. Initially to coordinate and facilitate the transition to effectively use of ISO Documentation Standards.



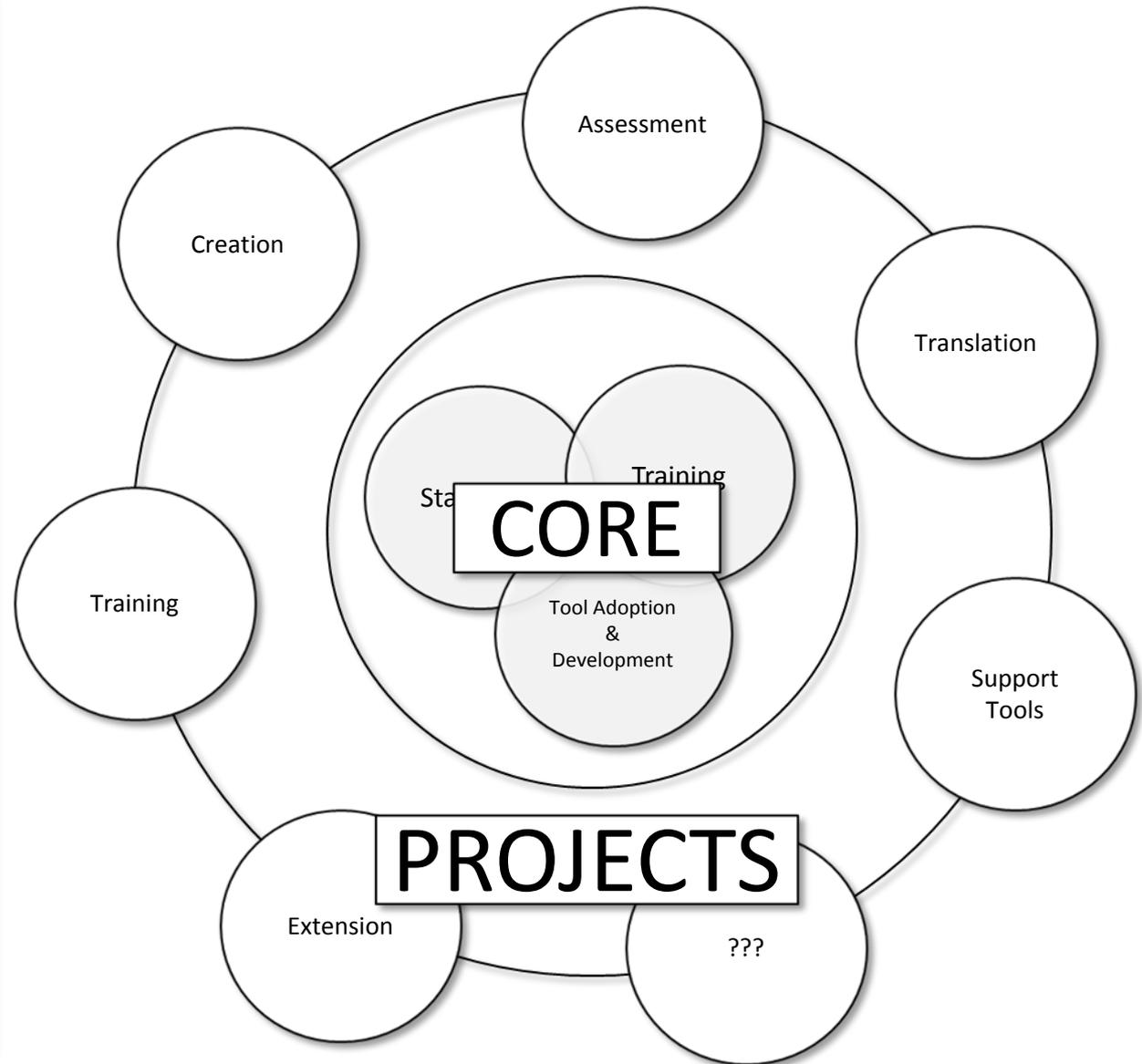
**Mission:** To foster stewardship & meaningful publication of Earth & Space data for world-wide cross-disciplinary & citizen use, today and tomorrow.



# Consortium Structure

**Core Tasks** of the consortium will include outreach, standards evolution, and guidance / best practices.

**Project Tasks** will support specific needs of partners and will be done in collaboration with those partners. They could include documentation assessment, creation, translation, and extension, as well as training and tool development.



# UCAR Community Programs

The **Joint Office for Science Support (JOSS)** of the University Corporation for Atmospheric Research provides professional and administrative support to the research and educational community. JOSS is to collaborate with the research and educational community. JOSS scientists and staff organize and manage the most professional and cost-effective programs.

**Earth Observation Lab** provides robust, accessible [Data Services](#) and tools to the research and educational community. Perhaps most important, the Earth Observation Lab provides a vigorous Education Program to support and train graduate students and teachers, and the development of atmospheric engineers, professional and administrative staff.

**COMET** Formed to promote a better understanding of mesoscale meteorology and to maximize the benefits of new weather technologies. Today the COMET Program addresses education and training needs in the atmospheric and related sciences through Distance Learning, Research, and Outreach.

**Unidata Mission:** To provide the data services, tools, and cyberinfrastructure leadership that advance Earth system science, enhance educational opportunities, and broaden participation.

**UCAR Organization | UCAR**

UCAR ▾ NCAR ▾ Find People ▾ Contact/Visit ▾

UCAR Our Organization ▾ Events ▾ News ▾ Research+Resources ▾ Education ▾ Libraries ▾ For Staff

Google Custom Search Search

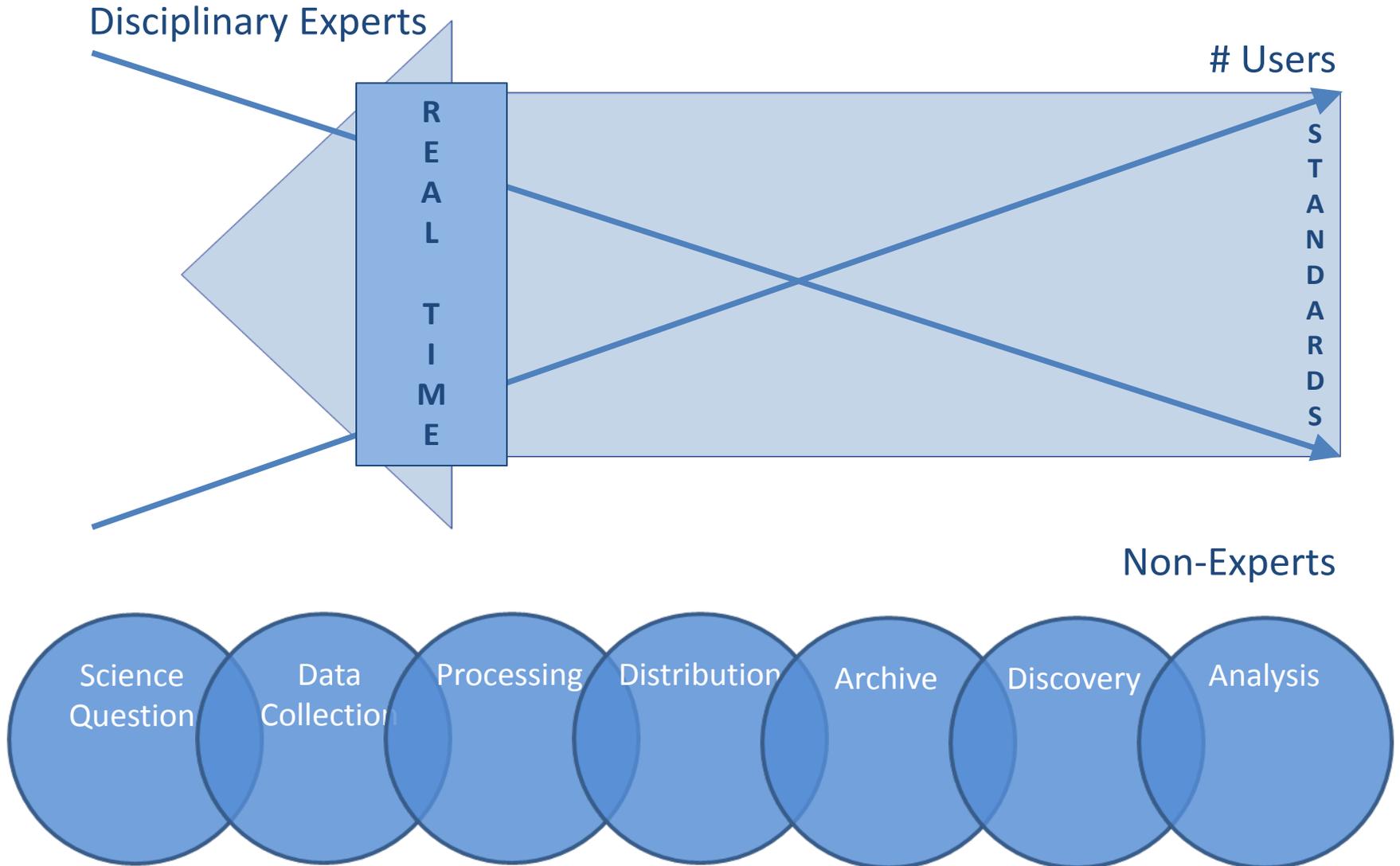
HAO High Altitude Observatory  
AIM Atmospheric Imaging Instrument  
C&H Corona and Heliospheric  
LSA Lower Solar Atmosphere  
SIV Solar Interior and Variability

NESL NCAR Earth System Laboratory  
ACD Atmospheric Chemistry Division  
CGD Climate and Global Dynamics Division  
MMM Mesoscale & Microscale Meteorology Division

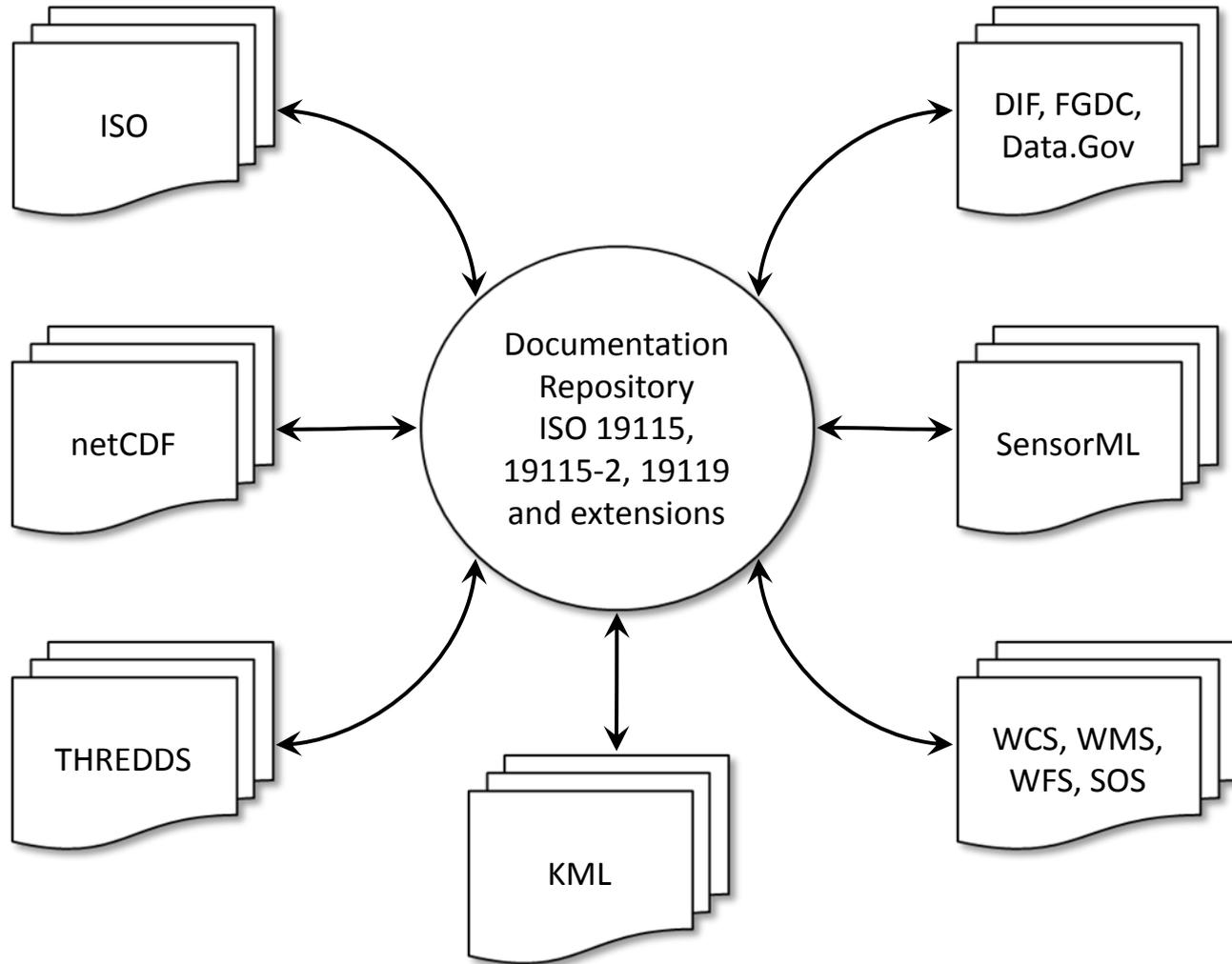
RAL Research Applications Laboratory  
AAP Aviation Applications Program  
CSAP Climate Science and Applications Program

CA Corporate Affairs  
Vice President for Corporate Affairs  
Comm Communications Office | New  
Gov Governance, Membership & Affairs  
OGA Office of Government Affairs

# Migrating Standards Upstream



# Multiple Dialects and Connections



# Links

GEO-IDE Wiki:

Home page: <https://www.nosc.noaa.gov/dmc/swg/wiki/index.php>

ISO Pages:

[https://nosc.ngdc.noaa.gov/dmc/swg/wiki/index.php?title=Category:ISO\\_19115](https://nosc.ngdc.noaa.gov/dmc/swg/wiki/index.php?title=Category:ISO_19115)

ISO WAF with Rubric Links:

<http://www.ngdc.noaa.gov/metadata/published/19115/isoMetadataHome.html>

Spirals:

[https://www.nosc.noaa.gov/dmc/swg/wiki/index.php?title=Creating\\_Good\\_Documentation](https://www.nosc.noaa.gov/dmc/swg/wiki/index.php?title=Creating_Good_Documentation)

[https://nosc.ngdc.noaa.gov/dmc/swg/wiki/index.php?title=Documentation\\_Spirals](https://nosc.ngdc.noaa.gov/dmc/swg/wiki/index.php?title=Documentation_Spirals)

**Questions / Comments / Suggestions:** [ted.habermann@noaa.gov](mailto:ted.habermann@noaa.gov)

# Questions?



[ted.habermann@noaa.gov](mailto:ted.habermann@noaa.gov)