

# CDI FY18 Request for Proposals

## Content specifications to enable USGS transition to ISO metadata standard

**Submission Title:** Content specifications to enable USGS transition to ISO metadata standard

**Lead PI:** Dennis Walworth

**Mission Area:** Other

**Region:** Alaska

**Organization:** Alaska Science Center

**Orcid:** 0000-0003-1256-5458

**Phone:** 9077867001

**Email:** dwalworth@usgs.gov

**City:** Anchorage

**State:** AK

**Co-PIs and Collaborators:**

**Type:** Collaborator

**Name:** Joshua Bradley

**Mission Area:** Not Applicable

**Region:** Alaska

**Organization:** U.S. Fish and Wildlife Service

**Orcid:** 0000-0002-6068-3451

**Phone:**

**Email:** joshua\_bradley@FWS.gov

**City:** Fairbanks

**State:** AK

**Type:** Collaborator

**Name:** Tara Bell

**Mission Area:** Ecosystems

**Region:** Midwest Region

**Organization:** Great Lakes Science Center

**Orcid:** 0000-0002-6010-0869

**Phone:** 7342147210

**Email:** tbell@usgs.gov

**City:** Ann Arbor

**State:** MI

**Type:** Collaborator

**Name:** Andrew LaMotte

**Mission Area:** Water

**Region:** Northeast Region

**Organization:** Maryland-Delaware-District of Columbia Water Science Center

**Orcid:** 0000-0002-1434-6518

**Phone:** 4434985549

**Email:** alamotte@usgs.gov

**City:** Baltimore

**State:** MD

**Type:** Collaborator

**Name:** Lisa Zolly

**Mission Area:** Core Science Systems

**Region:** Southwest Region

**Organization:** Science Data Management, CSAS

**Orclid:** 0000-0003-3595-7809

**Phone:** 3032024157

**Email:** lisa\_zolly@usgs.gov

**City:** Denver

**State:** CO

**Type:** Collaborator

**Name:** Jacqueline Mize

**Mission Area:** Not Applicable

**Region:** Southeast Region

**Organization:** NOAA National Centers for Environmental Information

**Orclid:** NA

**Phone:**

**Email:** Jacqueline.Mize@noaa.gov

**City:** Stennis Space Center

**State:** MI

**Type:** CO-PI

**Name:** Frances Lightsom

**Mission Area:** Natural Hazards

**Region:** Northeast Region

**Organization:** Woods Hole Coastal and Marine Science Center

**Orclid:** 0000-0003-4043-3639

**Phone:** 5084572242

**Email:** flightsom@usgs.gov

**City:** Woods Hole

**State:** MA

**Type:** Collaborator

**Name:** Sophie Hou

**Mission Area:** Not Applicable

**Region:** Southwest Region

**Organization:** National Center for Atmospheric Research / University Corporation for Atmospheric Research

**Orcid:** 0000-0002-8087-1775

**Phone:**

**Email:** hou@ucar.edu

**City:** Boulder

**State:** CO

**Science Support Framework Element 1:** Data Management

**Science Support Framework Element 2:** Science Data Lifecycle - Publishing/Sharing

**Science Support Framework Element 3:** Science Project Support

**In-Kind Match:** \$50,882.00

**List of anticipated deliverables from the project:** Published workshop report, content specification documents, tool implementation example

**Lead Cost Center:** Alaska Science Center

**Project Description:** Metadata content specifications to support USGS migration to the ISO-19115 standard will be developed at an interdisciplinary workshop and implemented in the ADIwg metadata editor for testing by USGS science projects.

**Total Budget:** \$49,300.00

Project Title: Content specifications to enable USGS transition to ISO metadata standard  
Lead USGS PI: Dennis Walworth

### **Project Narrative**

Currently, USGS metadata authors primarily use the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata (CSDGM) standard to formally describe USGS data; however, that standard is now deprecated. The FGDC has endorsed the international ISO 19115 standard as the U.S. standard. While the CSDGM is still recognized, federal agencies are encouraged to transition to the ISO standard.

As USGS considers its own transition to ISO, there are challenges for implementing the standard. One such challenge is the lack of tools to build ISO-compliant metadata records. Having readily-available, open use tools that support the full ISO standard is essential for a successful transition into ISO. The Alaska Science Center anticipated this need and worked with a consortium group called the Alaska Data Integration workgroup (ADIwg) in developing open source tools (mdToolkit) for authoring robust ISO compliant metadata that does not require standards expertise to use.

The ISO standard is much more flexible and capable than the CSDGM standard in describing many kinds of data resources; however, that flexibility is obtained through both a lack of content constraints and virtually no required elements. The open-ended nature of ISO will make it challenging for authors to learn and will not ensure the production of robust and consistently described, structured content. Therefore, before USGS implements the ISO standard, we propose the development of content specifications that will constrain the utilization of ISO elements relative to specific data resources an author is describing, thus efficiently guiding the author toward successful completion of a relevant metadata record.

Consideration of content specifications for ISO offers an opportunity to reexamine how data might best be described relevant to subject area, data type and usage. In other words, there is no longer a need to conform to a one-size-fits-all standard. Although the CSDGM standard is relatively robust, users often find themselves retrofitting metadata fields to suit both their unique descriptive needs and the evolving nature of data types, formats, delivery and other technological advances since the standard was last updated in 1999. Therefore, the robustness and flexibility of the ISO standard will improve adaptation to evolving documentation needs.

We propose to convene a workshop with metadata experts and subject matter experts who span the scientific diversity of USGS, to initiate development of USGS content specifications for ISO metadata that will both take advantage of and address ISO standard's inherent flexibility toward the creation of metadata records.

The workshop would begin with an orientation to the ISO standard and include breakout groups to address the specific requirements of different kinds of data. After the workshop, project staff would draft an initial collection of metadata content specifications for further review and implementation. We will utilize the ADIwg mdJSON schema to define content specifications which will be implemented by the ADIwg mdEditor (<https://www.mdeditor.org>) to guide metadata creation.

**Estimated Budget Table**

Budget Category	Federal Funding "Requested"	Matching funds "Proposed"
<b>1. PERSONNEL (SALARIES including benefits):</b>		
Federal Personnel Total:	\$6,940	\$44,382
Contract/Collaborator Personnel Total:		\$5,300
<b>Total Salaries:</b>	\$6,940	\$49,682
<b>2. TRAVEL EXPENSES:</b>		
Travel Total (Per Diem, Airfare, Mileage/Shuttle) x # of Trips:	\$32,000	
Other Expenses (e.g. Registration Fees):		
<b>Total Travel Expenses:</b>	\$32,000	\$0
<b>3. OTHER DIRECT COSTS: (itemize)</b>		
Equipment (including software, hardware, purchases/rentals):		
Publication Costs:		\$1,000
Office Supplies, Training, Other Expenses (specify):		\$200
<b>Total Other Direct Costs:</b>	\$0	\$1,200
<b>Total Direct Costs:</b>	\$38,940	\$50,882
<b>Indirect Costs (%):</b>	26.47	
<b>GRAND TOTAL:</b>	49,300	50,882