Proposal for FGDC endorsement of OGC Web Coverage Services (WCS) 2.0 and extensions

# Introduction

This proposal provides documentation needed to obtain FGDC recognition of (1) OGC® WCS 2.0 Interface Standard- Core: Corrigendum [OGC 09-110r4], <https://portal.opengeospatial.org/files/09-110r4> and (2) WCS extensions, <http://www.opengeospatial.org/standards/wcs>.

With endorsement of WCS 2.0 + extensions, WCS 1.1.2 will be retired as an FGDC-endorsed standard[[1]](#footnote-1).

The following information responds to the specific questions outlined per Section V.1 of the [FGDC Policy on Recognition of Non-Federally Authored Geographic Information Standards and Specifications](https://www.fgdc.gov/standards/standards_publications/Non-FGDC_StandardsSpecs_Policy.pdf) (November 2005)[[2]](#footnote-2).

# Documentation

1. **The category of the standard or specification (per Section III).**

Consortium developed specifications – specifications developed by consortia such as the Open Geospatial Consortium (OGC).

1. **The proposed level of FGDC recognition (per Section IV).**

Endorsement.

1. **A discussion of the applicability of the proposed standard or specification in Federal geospatial activities, including discussion of the conditions where it should be employed and anywhere it should not be, i.e., provide the scope of Federal geospatial applicability of the standard or specification.**

Coverages support mapping from a spatial, temporal or spatiotemporal domain that consists of a collection of direct positions for which feature attribute types are common to all positions within the domain. Examples of coverages include rasters, triangulated irregular networks, point sets and polygon coverages.

The OGC Web Coverage Service (WCS) 2.0 specification supports electronic retrieval of coverages. A WCS provides access to coverage data in forms that are useful for client-side rendering, as input into scientific models, and for other clients.

As with Web Mapping Services and Web Feature Services, a WCS allows clients to choose portions of a server's information holdings based on spatial constraints and other query criteria.

Coverages can be encoded in any suitable format, such as GML, JSON, GeoTIFF, NetCDF or GMLJP2. They are independent from service definitions and therefore can be accessed through a variety of web based services types. WCS 2.0 is not directly implementable. Extensions to the core WCS 2.0 meet additional requirements to completely specify a WCS for implementation.

The FGDC has endorsed WCS 1.1.2. Changes from WCS 1.1.2 to WCS 2.0 are substantial, with support for (1) harmonization and interoperability with GML and the Sensor Web Enablement (SWE) suite; (2) concise testing, down to pixel level; (3) spatio-temporal handling, including coordinate reference systems for time and index addressing; (4) modular, easier implementation; and (5) arbitrary irregular grids and point clouds. The OGC has deprecated WCS 1.1.2.

With endorsement of WCS 2.0 + extensions, WCS 1.1.2 will be retired as an FGDC-endorsed standard.

1. **The specific reason(s) that the standard or specification would be of value to the Federal government and, if applicable, to other members of the FGDC. These should include, but not be limited to, identification of the specific FGDC subcommittee(s) and/or working group(s) whose members support the submission of the standard or specification and how it benefits its/their responsibilities.**

WCS provides access to coverage data in forms that are useful for client-side rendering, as input into scientific models, and for other clients. It supports electronic retrieval of coverages.

WCS 2.0 + extensions are mandated standards in the DoD IT Standards Registry (DISR), which means that they are required for management, development, and acquisition of new or improved systems throughout the Department of Defense. WCS 2.0 is also a core service invocation standard in the SDI standards baseline (unpublished) for exchange of raster or gridded data (not rendered imagery).

1. **Any restrictions, limitations, or other constraints that may affect promulgation and/or adoption and/or implementation of the standard or specification, e.g., copyright, license fees, restriction of applicability to a specific technology, and the like. The FGDC staff will negotiate with standards organizations to make an attempt to acquire free standards documents for FGDC members.**

OGC are copyrighted. See Copyright Notice and Disclaimers | OGC[[3]](#footnote-3). There is no charge in acquiring OGC Standards.

1. **The name and business addresses of a point-of-contact (POC) in the proposing or sponsoring FGDC member agency and, if applicable, the name and business addresses of a POC in the proposing non-Federal body.**

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1. **Identification and/or explanation of the process by which the proposed standard or specification was developed and reviewed. This information will support FGDC determination as to whether the process meets the criteria for a voluntary consensus standards process as defined in OMB Circular A-119. When accredited standards development bodies such as ISO, ANSI/INCITS, and NIST are the authors only their identity need be supplied. Otherwise, a description of the development and review process and a list of participants must be included.**

OGC. See Section 9, Policies and Procedures for Adoption and/or Revisions of Standards, Technical Committee Policies and Procedures[[4]](#footnote-4)

1. See <https://www.fgdc.gov/standards/list>, accessed September 6, 2017 [↑](#footnote-ref-1)
2. <https://www.fgdc.gov/standards/standards_publications/Non-FGDC_StandardsSpecs_Policy.pdf>, accessed June 23, 2017 [↑](#footnote-ref-2)
3. [www.opengeospatial.org/ogc/legal](http://www.opengeospatial.org/ogc/legal), accessed September 1, 2017 [↑](#footnote-ref-3)
4. <http://docs.opengeospatial.org/pol/05-020r25/05-020r25.html#93>, accessed August 30, 2017 [↑](#footnote-ref-4)