TECHNICAL SPECIFICATION

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Geographic information — Content components and encoding rules for imagery and gridded data —

Part 2: Implementation schema

Information géographique — Composantes de contenu et règles de codage pour l'imagerie et les données maillées —

Partie 2: Schéma d'implémentation

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 211, *Geographic information/Geomatics*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

Geographic imagery and gridded thematic data are widely used in the geospatial community and related fields. Over the past two decades, several standards of geographic images have been developed by ISO/TC 211. ISO 19123 defines a conceptual schema for the spatial characteristics of coverages and defines the relationship between the domain of coverages and an associated attribute range. Multiple types of coverages are defined in ISO 19123, including raster, triangulated irregular network, point, curve and polygon coverages.

Although ISO/TS 19163-1 specifies logical data structures and the rules for encoding the content components in the structures, it is not an implementation schema. Without a concrete implementation structure, the specified UML cannot be mapped to the encodings used in various data formats, such as JPEG2000, GeoTIFF, NetCDF, and GMLJP2.

This part of ISO 19163 proposes a GML-based implementation schema of ISO/TS 19163-1 as a binding between the content components and specific encoding formats.

This document conforms to the coverage structure defined in ISO 19123-2.

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Geographic information — Content components and encoding rules for imagery and gridded data —

Part 2: Implementation schema

1 Scope

This document specifies an implementation schema based on the content models for geographic imagery and gridded thematic data defined in the ISO/TS 19163-1.

This document defines a structure that is suitable for binding content components and specific encoding formats. It also provides an implementation schema for binding a concrete, implementable, conformance-testable coverage structure as defined in ISO 19123-2.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/TS 19163-1:2016, *Geographic information — Content components and encoding rules for imagery and gridded data — Part 1: Content model*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
binding
specification of a mapping relating the information defined in a content model (data and metadata) to the data format that carries that information

[SOURCE: ISO/TS 19163-1:2016, 4.2]

3.2
conversion rule
rule for converting instances in the input data structure to instances in the output data structure

[SOURCE: ISO 19118:2011, 4.7]

3.3
document
<XML> well-formed data object

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