

# SVENSK STANDARD

## SS-EN ISO 19115-2:2019



Fastställt/Approved: 2019-02-18

Utgåva/Edition: 2

Språk/Language: engelska/English

ICS: 35.020; 35.240.01; 35.240.30; 35.240.50; 35.240.60; 35.240.70

---

### **Geografisk information – Metadata – Del 2: Datainhämtning och bearbetning (ISO 19115-2:2019)**

### **Geographic information – Metadata – Part 2: Extensions for acquisition and processing (ISO 19115-2:2019)**

This preview is downloaded from [www.sis.se](http://www.sis.se). Buy the entire standard via <https://www.sis.se/std-80009955>

# Standarder får världen att fungera

*SIS (Swedish Standards Institute) är en fristående ideell förening med medlemmar från både privat och offentlig sektor. Vi är en del av det europeiska och globala nätverk som utarbetar internationella standarder. Standarder är dokumenterad kunskap utvecklad av framstående aktörer inom industri, näringsliv och samhälle och befrämjar handel över gränser, bidrar till att processer och produkter blir säkrare samt effektiviserar din verksamhet.*

## Delta och påverka

Som medlem i SIS har du möjlighet att påverka framtida standarder inom ditt område på nationell, europeisk och global nivå. Du får samtidigt tillgång till tidig information om utvecklingen inom din bransch.

## Ta del av det färdiga arbetet

Vi erbjuder våra kunder allt som rör standarder och deras tillämpning. Hos oss kan du köpa alla publikationer du behöver – allt från enskilda standarder, tekniska rapporter och standardpaket till handböcker och onlinetjänster. Genom vår webbtjänst e-nav får du tillgång till ett lättnavigerat bibliotek där alla standarder som är aktuella för ditt företag finns tillgängliga. Standarder och handböcker är källor till kunskap. Vi säljer dem.

## Utveckla din kompetens och lyckas bättre i ditt arbete

Hos SIS kan du gå öppna eller företagsinterna utbildningar kring innehåll och tillämpning av standarder. Genom vår närhet till den internationella utvecklingen och ISO får du rätt kunskap i rätt tid, direkt från källan. Med vår kunskap om standarders möjligheter hjälper vi våra kunder att skapa verklig nytta och lönsamhet i sina verksamheter.

**Vill du veta mer om SIS eller hur standarder kan effektivisera din verksamhet är du välkommen in på [www.sis.se](http://www.sis.se) eller ta kontakt med oss på tel 08-555 523 00.**



# Standards make the world go round

*SIS (Swedish Standards Institute) is an independent non-profit organisation with members from both the private and public sectors. We are part of the European and global network that draws up international standards. Standards consist of documented knowledge developed by prominent actors within the industry, business world and society. They promote cross-border trade, they help to make processes and products safer and they streamline your organisation.*

## Take part and have influence

As a member of SIS you will have the possibility to participate in standardization activities on national, European and global level. The membership in SIS will give you the opportunity to influence future standards and gain access to early stage information about developments within your field.

## Get to know the finished work

We offer our customers everything in connection with standards and their application. You can purchase all the publications you need from us - everything from individual standards, technical reports and standard packages through to manuals and online services. Our web service e-nav gives you access to an easy-to-navigate library where all standards that are relevant to your company are available. Standards and manuals are sources of knowledge. We sell them.

## Increase understanding and improve perception

With SIS you can undergo either shared or in-house training in the content and application of standards. Thanks to our proximity to international development and ISO you receive the right knowledge at the right time, direct from the source. With our knowledge about the potential of standards, we assist our customers in creating tangible benefit and profitability in their organisations.

**If you want to know more about SIS, or how standards can streamline your organisation, please visit [www.sis.se](http://www.sis.se) or contact us on phone +46 (0)8-555 523 00**



Europastandarden EN ISO 19115-2:2019 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN ISO 19115-2:2019.

Denna standard ersätter SS-EN ISO 19115-2:2010, utgåva 1

The European Standard EN ISO 19115-2:2019 has the status of a Swedish Standard. This document contains the official version of EN ISO 19115-2:2019.

This standard supersedes the SS-EN ISO 19115-2:2010, edition 1

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

*Upplysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS som även lämnar allmänna upplysningar om svensk och utländsk standard.*

*Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS, who can also provide general information about Swedish and foreign standards.*

Denna standard är framtagen av kommittén för Geodata, SIS/TK 323.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på [www.sis.se](https://www.sis.se) - där hittar du mer information.



EUROPEAN STANDARD

**EN ISO 19115-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2019

ICS 35.240.70

Supersedes EN ISO 19115-2:2010

English Version

## Geographic information - Metadata - Part 2: Extensions for acquisition and processing (ISO 19115-2:2019)

Information géographique - Métadonnées  
- Partie 2: Extensions pour l'acquisition  
et le traitement (ISO 19115-2:2019)

Geoinformation - Metadaten - Teil 2: Erweiterungen  
für Erhebung und Verarbeitung (ISO 19115-2:2019)

This European Standard was approved by CEN on 24 February 2018.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

# Contents

Page

<b>European foreword</b> .....	<b>vii</b>
<b>Introduction</b> .....	<b>viii</b>
<b>1 Scope</b> .....	<b>9</b>
<b>2 Normative references</b> .....	<b>9</b>
<b>3 Terms and definitions</b> .....	<b>9</b>
<b>4 Symbols and abbreviated terms</b> .....	<b>12</b>
4.1 Abbreviated terms.....	12
<b>5 Conformance</b> .....	<b>13</b>
5.1 Conformance requirements .....	13
5.2 Metadata profiles.....	13
<b>6 Acquisition and processing metadata</b> .....	<b>13</b>
6.1 Metadata for acquisition and processing requirements.....	13
6.2 Acquisition and processing metadata packages and dependencies.....	13
6.3 Acquisition and processing metadata class diagrams by package.....	14
6.3.1 Introduction .....	14
6.3.2 Acquisition Information .....	15
6.3.3 Extended Lineage information.....	18
6.3.4 Extended spatial representation information — Geolocation information.....	19
6.3.5 Extended Content information — Imagery .....	21
<b>Annex A (normative) Conformance</b> .....	<b>23</b>
<b>Annex B (normative) Acquisition and processing metadata data dictionary</b> .....	<b>26</b>
<b>Annex C (informative) XML schema implementation</b> .....	<b>64</b>
<b>Bibliography</b> .....	<b>65</b>

## European foreword

This document (EN ISO 19115-2:2019) has been prepared by Technical Committee ISO/TC 211 "Geographic information/Geomatics" in collaboration with Technical Committee CEN/TC 287 "Geographic Information" the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2019, and conflicting national standards shall be withdrawn at the latest by August 2019.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 19115-2:2010.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 19115-2:2019 has been approved by CEN as EN ISO 19115-2:2019 without any modification.

## Introduction

This document replaces the previous edition (ISO 19115-2:2009) *Geographic information — Metadata — Extension for imagery and gridded data*, which focused on metadata for imagery and gridded data as they are important information sources and products used within a geospatial environment by geographic information systems. During the revision process it was noted that this metadata applied to the acquisition and processing of geographic information from all sources not just imagery and gridded data. Hence, the new title *Geographic information — Metadata — Extensions for acquisition and processing*. The production of all geographic information, including imagery and gridded data, follows one or more process chains that begins with remote sensing data, scanned maps, field data collection or other sensing methods and ends with the creation of the end data products. The production process needs to be documented to maintain quality control over the end products. In addition, metadata about the geometry of the measuring process and the properties of the measuring equipment need to be retained with the raw data to support the production process.

The object of this document is to provide the additional structure needed to more extensively describe the acquisition and processing of geographic information from all sources. This structure is intended to augment ISO 19115-1. This document also provides an XML schema for implementing this document using ISO/TS 19115-3.



# Geographic information — Metadata —

## Part 2: Extensions for acquisition and processing

### 1 Scope

This document extends ISO 19115-1:2014 by defining the schema required for an enhanced description of the acquisition and processing of geographic information, including imagery. Included are the properties of measuring systems and the numerical methods and computational procedures used to derive geographic information from the data acquired by them. This document also provides the XML encoding for acquisition and processing metadata thereby extending the XML schemas defined in ISO/TS 19115-3.

### 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 19103:2015, *Geographic information — Conceptual schema language*

ISO 19115-1:2014, *Geographic information — Metadata — Part 1: Fundamentals*

ISO 19157:2013, *Geographic information — Data quality*

ISO/IEC 19501:2005, *Information technology — Open Distributed Processing — Unified Modeling Language (UML) Version 1.4.2*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 19115-1:2014 and the following apply.

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

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

#### 3.1

##### **attribute**

named property of an entity

Note 1 to entry: Describes a geometrical, topological, thematic, or other characteristic of an entity.

[SOURCE: ISO/IEC 2382:2015, 2121440, modified — Note 1 to entry replaces Notes 1 and 2 to entry.]

#### 3.2

##### **band**

range of wavelengths of electromagnetic radiation that produce a single response by a sensing device

[SOURCE: ISO/TS 19101-2:2008, 4.1]

## SS-EN ISO 19115-2:2019 (E)

### 3.3

#### **class**

description of a set of objects that share the same *attributes* (3.1), operations, methods, relationships, and semantics

[SOURCE: ISO 19103:2015, 4.7]

### 3.4

#### **coverage**

feature that acts as a function to return *values* (3.29) from its range for any direct position within its spatial, temporal or spatiotemporal *domain* (3.8)

EXAMPLE Raster *image* (3.18), polygon overlay, or digital elevation matrix.

[SOURCE: ISO 19123:2005, 4.1.7, modified — NOTE deleted.]

### 3.5

#### **data type**

specification of a *value domain* (3.30) with operations allowed on *values* (3.29) in this *domain* (3.8)

[SOURCE: ISO 19103:2015, 4.14, modified — EXAMPLE and Note 1 to entry deleted.]

### 3.6

#### **dataset**

identifiable collection of data

[SOURCE: ISO 19115-1:2014, 4.3, modified — Note 1 to entry deleted.]

### 3.7

#### **dataset series**

collection of *datasets* (3.6) sharing common characteristics

[SOURCE: ISO 19115-1:2014, 4.4]

### 3.8

#### **domain**

well-defined set

[SOURCE: ISO 19109:2015, 4.8, modified — Note 1 to entry deleted.]

### 3.9

#### **event**

action which occurs at an instant

[SOURCE: ISO 19108:2002, 4.1.6]

### 3.10

#### **geolocation information**

information used to determine geographic location corresponding to *image* (3.18) location

### 3.11

#### **georectified**

corrected for positional displacement with respect to the surface of the Earth

### 3.12

#### **georeferencing**

geopositioning an object using a Correspondence Model derived from a set of points for which both ground and *image* (3.18) coordinates are known

[SOURCE: ISO/TS 19130:2010, 4.37]

### 3.13

#### **grid**

network composed of two or more sets of curves in which the members of each set intersect the members of the other sets in an algorithmic way

Note 1 to entry: The curves partition a space into grid cells.

[SOURCE: ISO 19123:2005, 4.1.23]

### 3.14

#### **grid coordinate system**

coordinate system in which a position is specified relative to the intersection of curves

### 3.15

#### **grid coordinates**

sequence of two or more numbers specifying a position with respect to its location on a *grid* (3.13)

### 3.16

#### **gridded data**

data whose *attribute* (3.1) *values* (3.29) are associated with positions on a *grid coordinate system* (3.14)

### 3.17

#### **ground control point**

point on the earth that has an accurately known geographic position

### 3.18

#### **image**

gridded *coverage* (3.4) whose *attribute* (3.1) *values* (3.29) are a numerical representation of a physical parameter

Note 1 to entry: The physical parameters are the result of measurement by a *sensor* (3.27) or a prediction from a model.

### 3.19

#### **imagery**

representation of phenomena as *images* (3.18) produced by electronic and/or optical techniques

Note 1 to entry: In this document, it is assumed that the objects and phenomena have been sensed or detected by radar, cameras, photometers, and infrared and multispectral scanners, or similar devices.

[SOURCE: ISO 19101-2:2008, 4.14]

### 3.20

#### **metadata**

information about a resource

[SOURCE: ISO 19115-1:2014, 4.10]

### 3.21

#### **pass**

single instance of a remote, mobile measuring system going by a target of interest

Note 1 to entry: In this document, the measuring system will usually be a *remote sensing* (3.25) *platform* (3.23). In a navigation context, the measuring system might be a GPS satellite.

### 3.22

#### **pixel**

smallest element of a digital *image* (3.18) to which *attributes* (3.1) are assigned

Note 1 to entry: It is the smallest unit of display for a visible image.

[SOURCE: ISO/TS 19101-2:2008, 4.28, modified — Note 1 to entry replaces NOTES 1 and 2.]