

## **Geographic information - Rules for application schema**

Geographic information - Rules for application schema

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 19109:2006 sisaldab Euroopa standardi EN ISO 19109:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 30.08.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 19109:2006 consists of the English text of the European standard EN ISO 19109:2006.</p> <p>This document is endorsed on 30.08.2006 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b> This International Standard defines rules for creating and documenting application schemas, including principles for the definition of features.</p>	<p><b>Scope:</b> This International Standard defines rules for creating and documenting application schemas, including principles for the definition of features.</p>
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English Version

**Geographic information - Rules for application schema (ISO  
19109:2005)**

Information géographique - Règles de schéma d'application  
(ISO 19109:2005)

Geoinformation - Regeln zur Erstellung von  
Anwendungsschemata (ISO 19109:2005)

This European Standard was approved by CEN on 16 June 2006.

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## Foreword

The text of ISO 19109:2005 has been prepared by Technical Committee ISO/TC 211 "Geographic information/Geomatics" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 19109:2006 by Technical Committee CEN/TC 287 "Geographic Information", the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by January 2007, and conflicting national standards shall be withdrawn at the latest by January 2007.

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## Endorsement notice

The text of ISO 19109:2005 has been approved by CEN as EN ISO 19109:2006 without any modifications.

# INTERNATIONAL STANDARD

**ISO  
19109**

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## **Geographic information — Rules for application schema**

*Information géographique — Règles de schéma d'application*



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 19109 was prepared by Technical Committee ISO/TC 211, *Geographic information/Geomatics*.



## Introduction

Any description of reality is always an abstraction, always partial, and always just one of many possible “views”, depending on the application field.

The widespread application of computers and geographic information systems (GIS) has led to an increased use of geographic data within multiple disciplines. With current technology as an enabler, society's reliance on such data is growing. Geographic datasets are increasingly being shared and exchanged. They are also used for purposes other than those for which they were produced.

To ensure that data will be understood by both computer systems and users, the data structures for data access and exchange must be fully documented. The interfaces between systems, therefore, need to be defined with respect to data and operations, using the methods standardized in this International Standard. For the construction of internal software and data storage within proprietary systems, any method may be used that enables the standardized interfaces to be supported.

An application schema provides the formal description of the data structure and content required by one or more applications. An application schema contains the descriptions of both geographic data and other related data. A fundamental concept of geographic data is the feature.

# Geographic information — Rules for application schema

## 1 Scope

This International Standard defines rules for creating and documenting application schemas, including principles for the definition of features.

The scope of this International Standard includes the following:

- conceptual modelling of features and their properties from a universe of discourse;
- definition of application schemas;
- use of the conceptual schema language for application schemas;
- transition from the concepts in the conceptual model to the data types in the application schema;
- integration of standardized schemas from other ISO geographic information standards with the application schema.

The following are outside the scope:

- choice of one particular conceptual schema language for application schemas;
- definition of any particular application schema;
- representation of feature types and their properties in a feature catalogue;
- representation of metadata;
- rules for mapping one application schema to another;
- implementation of the application schema in a computer environment;
- computer system and application software design;
- programming.

## 2 Conformance

Any application schema claiming conformance to this International Standard shall pass all of the requirements described in the abstract test suites in Annex A.

### 3 Normative references

The following referenced documents are indispensable for the application 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 19103:—<sup>1)</sup>, *Geographic information — Conceptual schema language*

ISO 19107:2003, *Geographic information — Spatial schema*

ISO 19108:2002, *Geographic information — Temporal schema*

ISO 19112:2003, *Geographic information — Spatial referencing by geographic identifiers*

ISO 19113:2002, *Geographic information — Quality principles*

ISO 19115:2003, *Geographic information — Metadata*

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

### 4 Terms and definitions

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

#### 4.1

##### **application**

manipulation and processing of data in support of user requirements

[ISO 19101]

#### 4.2

##### **application schema**

conceptual schema for data required by one or more applications

[ISO 19101]

#### 4.3

##### **complex feature**

feature composed of other features

#### 4.4

##### **conceptual model**

model that defines concepts of a universe of discourse

[ISO 19101]

#### 4.5

##### **conceptual schema**

formal description of a conceptual model

[ISO 19101]

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1) To be published.