

# SVENSK STANDARD

## SS-EN ISO 19108:2005

Fastställt/Approved: 2005-02-04

Publicerad/Published: 2009-03-02

Utgåva/Edition: 1

Språk/Language: engelska/English

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

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### **Geografisk information – Modell för att beskriva tidsaspekter (ISO 19108:2002)**

### **Geographic information – Temporal schema (ISO 19108:2002)**



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ISO 19108 finns tidigare utgiven som svensk standard med beteckning SS-ISO 19108, utgåva 1.

The European Standard EN ISO 19108:2005 has the status of a Swedish Standard. This document contains the official English version of EN ISO 19108:2005.

ISO 19108 has been implemented and published as a Swedish Standard with the designation SS-ISO 19108, edition 1.

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN ISO 19108**

January 2005

ICS 35.240.70

English version

## Geographic information - Temporal schema (ISO 19108:2002)

Information géographique - Schéma temporel (ISO  
19108:2002)

Geoinformation - Zeitliches Schema (ISO 19108:2002)

This European Standard was approved by CEN on 24 December 2004.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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## SS-EN ISO 19108:2005 (E)

### Foreword

The text of ISO 19108:2002 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 19108:2005 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of an identical text or by endorsement, at the latest by July 2005, and conflicting national standards shall be withdrawn at the latest by July 2005.

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

### Endorsement notice

The text of ISO 19108:2002 has been approved by CEN as EN ISO 19108:2005 without any modifications.



## Introduction

This International Standard defines the standard concepts needed to describe the temporal characteristics of geographic information as they are abstracted from the real world. Temporal characteristics of geographic information include feature attributes, feature operations, feature associations, and metadata elements that take a value in the temporal domain.

The widespread application of computers and geographic information systems has led to the increased analysis of geospatial data within multiple disciplines. Geographic information is not confined to a three-dimensional spatial domain. Many geographic information systems require data with temporal characteristics. A standardized conceptual schema for temporal characteristics will increase the ability of geographic information to be used for certain types of applications such as simulations and predictive modelling.

As a fundamental physical reality, time is of interest to the whole range of scientific and technical disciplines. Many of the concepts described in this International Standard are applicable outside of the field of geographic information. ISO/TC 211 does not intend to develop independent standards for the description of time, but the technical committee believes that it is necessary to standardize the way to describe the temporal characteristics of geographic data sets and features. Geographic information system and software developers and users of geographic information will use this schema to provide consistently understandable temporal data structures.

Historically, temporal characteristics of features have been treated as thematic feature attributes. For example, a feature "Building" may have an attribute "date of construction". However, there is increasing interest in describing the behaviour of features as a function of time. This can be supported to a limited extent when time is treated independently of space. For example, the path followed by a moving object can be represented as a set of features called "way point", each of which is represented as a point and has an attribute that provides the time at which the object was at that spatial position. Behaviour in time may be described more easily if the temporal dimension is combined with the spatial dimensions, so that a feature can be represented as a spatiotemporal object. For example, the path of a moving object could be represented as a curve described by coordinates in  $x$ ,  $y$  and  $t$ . This International Standard has been prepared in order to standardize the use of time in feature attributes. Although it does not describe feature geometry in terms of a combination of spatial and temporal coordinates, it has been written to establish a basis for doing so in a future standard within the ISO 19100 series.



# Geographic information — Temporal schema

## 1 Scope

This International Standard defines concepts for describing temporal characteristics of geographic information. It depends upon existing information technology standards for the interchange of temporal information. It provides a basis for defining temporal feature attributes, feature operations, and feature associations, and for defining the temporal aspects of metadata about geographic information. Since this International Standard is concerned with the temporal characteristics of geographic information as they are abstracted from the real world, it emphasizes valid time rather than transaction time.

## 2 Conformance

### 2.1 Conformance classes and requirements

This International Standard defines five conformance classes, which depend upon the nature of the test item.

### 2.2 Application schemas for data transfer

To conform to this International Standard, an application schema for data transfer shall satisfy the requirements of A.1 of the Abstract Test Suite in annex A.

### 2.3 Application schemas for data with operations

To conform to this International Standard, an application schema that supports operations on data shall satisfy the requirements of A.2 of the Abstract Test Suite in annex A.

### 2.4 Feature catalogues

To conform to this International Standard, a feature catalogue shall satisfy the requirements of A.3 of the Abstract Test Suite in annex A.

### 2.5 Metadata element specifications

To conform to this International Standard, a metadata specification shall satisfy the requirements of A.4 of the Abstract Test Suite in annex A.

### 2.6 Metadata for data sets

To conform to this International Standard, metadata for a data set shall satisfy the requirements of A.5 of the Abstract Test Suite in annex A.

## 3 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these