SLOVENSKI STANDARD
SIST EN ISO 19157:2015

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Nadomešča:
SIST EN ISO 19113:2005
SIST EN ISO 19114:2005
SIST EN ISO 19114:2005/AC:2006

Geografske informacije - Kakovost podatkov (ISO 19157:2013)

Geographic information - Data quality (ISO 19157:2013)

Geoinformation - Datenqualität (ISO 19157:2013)

Information géographique - Qualité de données (ISO 19157:2013)

Ta slovenski standard je istoveten z: **EN ISO 19157:2013**

ICS:

03.120.99	Drugi standardi v zvezi s kakovostjo	Other standards related to quality
07.040	Astronomija. Geodezija. Geografija	Astronomy. Geodesy. Geography
35.240.70	Uporabniške rešitve IT v znanosti	IT applications in science

SIST EN ISO 19157:2015 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

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EN ISO 19157

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ICS 35.240.70

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English Version

Geographic information - Data quality (ISO 19157:2013)

Information géographique - Qualité des données (ISO 19157:2013)

Geoinformation - Datenqualität (ISO 19157:2013)

This European Standard was approved by CEN on 9 November 2013.

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

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Foreword

This document (EN ISO 19157:2013) 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of an identical text or by endorsement, at the latest by June 2014, and conflicting national standards shall be withdrawn at the latest by June 2014.

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

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Endorsement notice

The text of ISO 19157:2013 has been approved by CEN as EN ISO 19157:2013 without any modification.

INTERNATIONAL STANDARD

ISO 19157

First edition
2013-12-15

Geographic information — Data quality

Information géographique — Qualité des données

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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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 211, Geographic information/Geomatics

This edition of ISO 19157:2013 cancels and replaces ISO/TS 19138:2006, ISO 19114:2003 and ISO 19113:2002, which have been technically revised.

Introduction

Geographic data are increasingly being shared, interchanged and used for purposes other than their producers' intended ones. Information about the quality of available geographic data are vital to the process of selecting a data set in that the value of data are directly related to its quality. A user of geographic data may have multiple data sets from which to choose. Therefore, it is necessary to compare the quality of the data sets to determine which best fulfils the requirements of the user.

The purpose of describing the quality of geographic data is to facilitate the comparison and selection of the data set best suited to application needs or requirements. Complete descriptions of the quality of a data set will encourage the sharing, interchange and use of appropriate data sets. Information on the quality of geographic data allows a data producer to evaluate how well a data set meets the criteria set forth in its product specification and assists data users in evaluating a product's ability to satisfy the requirements for their particular application. For the purpose of this evaluation, clearly defined procedures are used in a consistent manner.

To facilitate comparisons, it is essential that the results of the quality reports are expressed in a comparable way and that there is a common understanding of the data quality measures that have been used. These data quality measures provide descriptors of the quality of geographic data through comparison with the universe of discourse. The use of incompatible measures makes data quality comparisons impossible to perform. This International Standard standardizes the components and structures of data quality measures and defines commonly used data quality measures.

This International Standard recognizes that a data producer and a data user may view data quality from different perspectives. Conformance quality levels can be set using the data producer's product specification or a data user's data quality requirements. If the data user requires more data quality information than that provided by the data producer, the data user can follow the data producer's data quality evaluation process flow to get the additional information. In this case the data user requirements are treated as a product specification for the purpose of using the data producer process flow.

The objective of this International Standard is to provide principles for describing the quality for geographic data and concepts for handling quality information for geographic data, and a consistent and standard manner to determine and report a data set's quality information. It aims also to provide guidelines for evaluation procedures of quantitative quality information for geographic data.

Geographic information — Data quality

1 Scope

This International Standard establishes the principles for describing the quality of geographic data. It

— defines components for describing data quality;

— specifies components and content structure of a register for data quality measures;

— describes general procedures for evaluating the quality of geographic data;

— establishes principles for reporting data quality.

This International Standard also defines a set of data quality measures for use in evaluating and reporting data quality. It is applicable to data producers providing quality information to describe and assess how well a data set conforms to its product specification and to data users attempting to determine whether or not specific geographic data are of sufficient quality for their particular application.

This International Standard does not attempt to define minimum acceptable levels of quality for geographic data.

2 Conformance

Any product claiming conformance to this International Standard shall pass all the requirements described in the abstract test suite presented in Annex A as follows:

a) A data quality evaluation process shall pass the tests outlined in A.1;

b) Data quality metadata shall pass the tests outlined in A.2 and A.3;

c) A standalone quality report shall pass the tests outlined in A.4;

d) A data quality measure shall pass the tests outlined in A.5.

3 Normative references

The following referenced documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/TS 19103:2005, *Geographic information — Conceptual schema language*

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

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

ISO 19115-2:2009, *Geographic information — Metadata — Part 2: Extensions for imagery and gridded data*

ISO 19135:2005, *Geographic information — Procedures for item registration*

1) Under preparation.

4 Terms and definitions

4.1
accuracy
closeness of agreement between a test result or measurement result and the true value

Note 1 to entry: In this International Standard, the true value can be a reference value that is accepted as true.

[SOURCE: ISO 3534-2:2006, 3.3.1, modified – original Note has been deleted. New Note 1 to entry has been added.]

4.2
catalogue
collection of *items* (4.18) or an electronic or paper document that contains information about the collection of items

[SOURCE: ISO 10303-227:2005, 3.3.10, modified - Note has been deleted.]

4.3
conformance
fulfilment of specified requirements

[SOURCE: ISO 19105:2000, 3.8]

4.4
conformance quality level
threshold value or set of threshold values for data *quality* (4.21) results used to determine how well a *dataset* (4.8) meets the criteria set forth in its *data product specification* (4.6) or user requirements

4.5
correctness
correspondence with the *universe of discourse* (4.24)

4.6
data product specification
detailed description of a *dataset* (4.8) or *dataset series* (4.9) together with additional information that will enable it to be created, supplied to and used by another party

[SOURCE: ISO 19131:2007, 4.7, modified - Note has been deleted.]

4.7
data quality basic measure
generic data *quality* (4.21) measure used as a basis for the creation of specific data quality measures

Note 1 to entry: Data quality basic measures are abstract data types. They cannot be used directly when reporting data quality.

4.8
dataset
identifiable collection of data

Note 1 to entry: A data set can be a smaller grouping of data which, though limited by some constraint such as spatial extent or *feature type* (4.15), is located physically within a larger data set. Theoretically, a data set can be as small as a single *feature* (4.11) or *feature attribute* (4.12) contained within a larger data set. A hardcopy map or chart can be considered a data set.

[SOURCE: ISO 19115-1:—, 4.3][2)]

2) To be published.

4.9
dataset series
collection of *datasets* (4.8) sharing common characteristics
[SOURCE: ISO 19115-1:—, 4.10][3)]

4.10
direct evaluation method
method of evaluating the *quality* (4.21) of a *dataset* (4.8) based on inspection of the *items* (4.18) within the dataset

4.11
feature
abstraction of real world phenomena

Note 1 to entry: A feature may occur as a type or an instance. *Feature type* (4.15) or *feature instance* (4.13) will be used when only one is meant.

[SOURCE: ISO 19101:2002, 4.11]

4.12
feature attribute
characteristic of a *feature* (4.11)

Note 1 to entry: A feature attribute has a name, a data type and a value domain associated with it. A feature attribute for a *feature instance* (4.13) also has an attribute value taken from the value domain.

[SOURCE: ISO 19101:2002, 4.12, modified – Examples have been deleted. Note 1 to entry has been added.]

4.13
feature instance
individual of a given *feature type* (4.15) having specified *feature attribute* (4.12) values
[SOURCE: ISO 19101-1:—, 4.1.14][4)]

4.14
feature operation
operation that every instance of a *feature type* (4.15) may perform

[SOURCE: ISO 19110:2005, 4.5 - modified, Example and Note have been removed.]

4.15
feature type
class of *features* (4.11) having common characteristics

[SOURCE: ISO 19156:2011, 4.7]

4.16
geographic data
data with implicit or explicit reference to a location relative to the Earth

[SOURCE: ISO 19109:2005, 4.12, modified - Note has been deleted.]

4.17
indirect evaluation method
method of evaluating the *quality* (4.21) of a *dataset* (4.8) based on external knowledge

Note 1 to entry: Examples of external knowledge are data set lineage, such as production method or source data.

3) To be published.

4) To be published.