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Geographic information — Terminology

Information géographique — Terminologie

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Foreword

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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 on 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 the following URL: www.iso.org/iso/foreword.html.

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

This first edition of ISO 19104 cancels and replaces ISO/TS 19104:2008, which has been technically revised.

Introduction

A common language is an essential prerequisite to human communication. A simple knowledge of vocabulary however, is insufficient to guarantee effective communication. A word can have several meanings depending on the context in which it is used. Similarly, a concept can be referenced by several terms, each communicating a different connotation or level of emphasis.

The issues associated with language extend far beyond day-to-day communication. Every field of endeavour, from engineering to cookery, has its own vocabulary. To participate in discussions on a subject, it is necessary to understand both the terms and the context in which they are used. Imprecise usage (for example, by using two terms interchangeably when, in fact, they have distinctly different connotations) may have unfortunate consequences.

The risks compound considerably when translating terminology from one language (for example, English) to another (for example, Mandarin Chinese). The different cultures, language structures and character sets can present difficulties in ensuring that terminological entries in both languages have precisely the same meaning.

This document specifies requirements for the development of terminological entries in the field of geographic information. Its scope includes the development of concepts, the content and drafting of terminological entries, and the presentation of terminological records. It also includes guidelines for the cultural and linguistic adaptation of terminological entries based on the provisions of ISO 10241-2.

This document applies the provisions of ISO 19135-1 to the registration of geospatial concepts. A schema for the establishment of multi-lingual terminology registers is provided. The provisions of ISO 19135-1 regarding the management and maintenance of registers are also applied.

Geographic information — Terminology

1 Scope

This document specifies requirements for the collection, management and publication of terminology in the field of geographic information.

The scope of this document includes

— selection of concepts, harmonization of concepts and development of concept systems,

— structure and content of terminological entries,

— term selection,

— definition preparation,

— cultural and linguistic adaptation,

— layout and formatting requirements in rendered documents, and

— establishment and management of terminology registers.

This document is applicable to International Standards and Technical Specifications in the field of geographic information.

2 Conformance

2.1 Conformance class overview

This document defines two aggregate conformance classes, namely

— terminological entry – for preparing and publishing terminological entries, and

— terminology register – for establishing and managing terminology registers.

Any terminological entry or terminology register claiming conformance with this document shall comply with its respective aggregate conformance class and shall satisfy the associated abstract test suite requirements described in Annex A.

2.2 Terminological entry conformance class

2.2.1 Terminological entry aggregated conformance classes

The terminological entry conformance class is an aggregate of five distinct conformance classes, namely

— selection and harmonization of concepts,

— terminological entry content,

— terminological entry drafting,

— cultural and linguistic adaptation, and

— layout and formatting of terminological entries.

The characteristics of the terminological entry conformance class are defined in Table 1.

Table 1 — Terminological entry conformance class

Conformance class identifier	terminological entry <http://standards.iso.org/iso/19104/conf/tent>
Standardization target	terminological entry
Dependency	2.2.2 – Selection and harmonization of concepts conformance class <http://standards.iso.org/iso/19104/conf/con>
Dependency	2.2.3 – Terminological entry content conformance class <http://standards.iso.org/iso/19104/conf/tmm>
Dependency	2.2.4 – Terminological entry drafting conformance class <http://standards.iso.org/iso/19104/conf/ted>
Dependency	2.2.5 – Cultural and linguistic adaptation conformance class <http://standards.iso.org/iso/19104/conf/cla>
Dependency	2.2.6 – Layout and formatting of terminological entries conformance class <http://standards.iso.org/iso/19104/conf/pub>
Requirements	All requirements in Tables 2, 3, 4, 5 and 6.
Tests	All tests in Tables 2, 3, 4, 5 and 6.

2.2.2 Selection and harmonization of concepts conformance class

Table 2 defines the characteristics of the conformance class for the selection and harmonization of concepts.

Table 2 — Selection and harmonization of concepts conformance class

Conformance class identifier	concept selection <http://standards.iso.org/iso/19104/conf/con>
Standardization target	terminological entry
Dependency	ISO 704:2009
Dependency	ISO 860:2007
Dependency	ISO 10241-1:2011
Requirements	All requirements in Clause 7 <http://standards.iso.org/iso/19104/req/con>
Tests	All tests in A.1

2.2.3 Terminological entry content conformance class

Table 3 defines the characteristics of the conformance class for terminological entry content.

Table 3 — Terminological entry content conformance class

Conformance class identifier	terminological entry content <http://standards.iso.org/iso/19104/conf/tmm>
Standardization target	terminological entry
Dependency	ISO 704:2009
Dependency	ISO 10241-1:2011
Requirements	All requirements in 8.2 <http://standards.iso.org/iso/19104/req/tmm>
Tests	All tests in A.2

2.2.4 Terminological entry drafting conformance class

Table 4 defines the characteristics of the conformance class for terminological entry drafting.

Table 4 — Terminological entry drafting conformance class

Conformance class identifier	terminological entry drafting <http://standards.iso.org/iso/19104/conf/ted>
Standardization target	terminological entry
Dependency	ISO 704:2009
Dependency	ISO 10241-1:2011
Requirements	All requirements in 8.3 <http://standards.iso.org/iso/19104/req/ted>
Tests	All tests in A.3

2.2.5 Cultural and linguistic adaptation conformance class

Table 5 defines the characteristics of the conformance class for cultural and linguistic adaptation.

Table 5 — Cultural and linguistic adaptation conformance class

Conformance class identifier	cultural and linguistic adaptation <http://standards.iso.org/iso/19104/conf/cla>
Standardization target	terminological entry
Dependency	ISO/IEC Guide 21-1
Dependency	ISO 10241-2:2012
Requirements	All requirements in 8.4 <http://standards.iso.org/iso/19104/req/cla>
Tests	All tests in A.4

2.2.6 Layout and formatting of terminological entries conformance class

Table 6 defines the characteristics of the conformance class for the layout and formatting of terminological entries.

Table 6 — Layout and formatting of terminological entries conformance class

Conformance class identifier	layout and formatting <http://standards.iso.org/iso/19104/conf/pub>
Standardization target	terminological entry
Dependency	ISO 10241-1:2011
Requirements	All requirements in 9 <http://standards.iso.org/iso/19104/req/pub>
Tests	All tests in A.5

2.3 Terminology register conformance class

2.3.1 Terminology register aggregated conformance classes

The terminology register conformance class is an aggregate of four distinct conformance classes, being:

— terminology register structure,

— terminology register stakeholder,

— terminology register information package,

— terminology register schema.

The characteristics of the terminology register conformance class are defined in Table 7.

Table 7 — Terminology register conformance class

Conformance class identifier	terminology register <http://standards.iso.org/iso/19104/conf/treg>
Standardization target	terminology register
Dependency	2.3.2 – Terminology register structure conformance class <http://standards.iso.org/iso/19104/conf/trs>
Dependency	2.3.3 – Terminology register stakeholder conformance class <http://standards.iso.org/iso/19104/conf/tst>
Dependency	2.3.4 – Terminology register information package conformance class <http://standards.iso.org/iso/19104/conf/tri>
Dependency	2.3.5 – Terminology register schema conformance class <http://standards.iso.org/iso/19104/conf/sch>
Requirements	All requirements in Tables 8, 9, 10 and 11
Tests	All tests in Tables 8, 9, 10 and 11

2.3.2 Terminology register structure conformance class

Table 8 defines the characteristics of the conformance class for terminology register structure.

Table 8 — Terminology register structure conformance class

Conformance class identifier	terminology register structure <http://standards.iso.org/iso/19104/conf/trs>
Standardization target	terminology register
Dependency	ISO 19135-1:2015
Requirements	All requirements in 10.2 <http://standards.iso.org/iso/19104/req/trs>
Tests	All tests in A.6

2.3.3 Terminology register stakeholder conformance class

Table 9 defines the characteristics of the conformance class for terminology register stakeholders.

Table 9 — Terminology register stakeholder conformance class

Conformance class identifier	terminology register stakeholder <http://standards.iso.org/iso/19104/conf/tst>
Standardization target	terminology register
Dependency	ISO 19135-1:2015
Requirements	All requirements in 10.3 <http://standards.iso.org/iso/19104/req/tst>
Tests	All tests in A.7

2.3.4 Terminology register information package conformance class

Table 10 defines the characteristics of the conformance class for terminology register information packages.

Table 10 — Terminology register information package conformance class

Conformance class identifier	terminology register information package <http://standards.iso.org/iso/19104/conf/tri>
Standardization target	terminology register
Dependency	ISO 19135-1:2015
Requirements	All requirements in 10.4 <http://standards.iso.org/iso/19104/req/tri>
Tests	All tests in A.8

2.3.5 Terminology register schema conformance class

Table 11 defines the characteristics of the conformance class for terminology register schema.

Table 11 — Terminology register schema conformance class

Conformance class identifier	terminology register schema <http://standards.iso.org/iso/19104/conf/sch>
Standardization target	terminology register
Dependency	ISO 19103:2015
Dependency	ISO 19115-1:2014
Dependency	ISO 19135-1:2015
Requirements	All requirements in 10.5 <http://standards.iso.org/iso/19104/req/sch>
Tests	All tests in A.9

3 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 639-2, *Codes for the representation of names of languages — Part 2: Alpha-3 code*

ISO 690, *Information and documentation — Guidelines for bibliographic references and citations to information resources*

ISO 704:2009, *Terminology work — Principles and methods*

ISO 860:2007, *Terminology work — Harmonization of concepts and terms*

ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes*

ISO 10241-1:2011, *Terminological entries in standards — Part 1: General requirements and examples of presentation*

ISO 10241-2:2012, *Terminological entries in standards — Part 2: Adoption of standardized terminological entries*

ISO 12615, *Bibliographic references and source identifiers for terminology work*

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

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

ISO 19135-1:2015, *Geographic information — Procedures for item registration — Part 1: Fundamentals*

4 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:

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

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

NOTE The core list of terms and definitions from the ISO/TC 211 geographic information International Standards and Technical Specifications is available at <http://www.isotc211.org/>.

4.1
abbreviation
designation (4.10) formed by omitting words or letters from a longer form and designating the same *concept* (4.3)

[SOURCE: ISO 1087-1:2000, 3.4.9]

4.2
admitted term
term (4.34) rated according to the scale of the term acceptability rating as a synonym for a *preferred term* (4.21)

Note 1 to entry: An admitted term is an acceptable alternative to a preferred term.

[SOURCE: ISO 1087-1:2000, 3.4.16, modified — the Note 1 to entry has been added.]

4.3
concept
unit of knowledge created by a unique combination of characteristics

Note 1 to entry: Concepts are not necessarily bound to particular languages. They are, however, influenced by the social or cultural background which often leads to different categorizations.

[SOURCE: ISO 1087-1:2000, 3.2.1]

4.4
concept field
unstructured set of thematically related *concepts* (4.3)

[SOURCE: ISO 1087-1:2000, 3.2.10]

4.5
concept harmonization
activity leading to the establishment of a correspondence between two or more closely related or overlapping *concepts* (4.3) having professional, technical, scientific, social, economic, linguistic, cultural or other differences, in order to eliminate or reduce minor differences between them

Note 1 to entry: The purpose of concept harmonization is to improve communication.

[SOURCE: ISO 860:2007, 3.1]

4.6
concept system
set of *concepts* (4.3) structured according to the relations among them

[SOURCE: ISO 1087-1:2000, 3.2.11]

4.7
data category
result of the specification of a specific type of *terminological data* (4.36)

[SOURCE: ISO 10241-1:2011, 3.1.4]

4.8
definition
representation of a *concept* (4.3) by a descriptive statement which serves to differentiate it from related concepts

[SOURCE: ISO 1087-1:2000, 3.3.1]

4.9
deprecated term
term (4.34) rated according to the scale of the term acceptability rating as undesired

[SOURCE: ISO 1087-1:2000, 3.4.17]

4.10
designation
designator
representation of a *concept* (4.3) by a sign which denotes it

Note 1 to entry: In terminology work, three types of designations are distinguished: symbols, appellations and *terms* (4.34).

[SOURCE: ISO 1087-1:2000, 3.4.1]

4.11
domain
<general vocabulary> distinct area of human knowledge to which a *terminological entry* (4.37) is assigned

Note 1 to entry: Within a database or other terminology collection, a set of domains will generally be defined. More than one domain can be associated with a given *concept* (4.3).

[SOURCE: ISO 19146:2010, 4.9, modified — In the definition, the words terminological record have been changed to *terminological entry*.]

4.12
hierarchical register
structured set of *registers* (4.26) for a domain of register items, composed of a *principal register* (4.22) and a set of *subregisters* (4.32)

EXAMPLE ISO/IEC 6523 (all parts) is associated with a hierarchical register. The principal register contains organization identifier schemes and each subregister contains a set of organization identifiers that comply with a single organization identifier scheme.

Note 1 to entry: Each subregister is a register in its own right.

[SOURCE: ISO 19135-1:2015, 4.1.4, modified — Note has been added.]

4.13
homograph
designation (4.10) having the same written form as another designation representing a different *concept* (4.3)

EXAMPLE 1 The homographic term "die" as a noun represents different concepts in the domains of manufacturing, integrated circuits and table-top games.

EXAMPLE 2 The homographic graphical symbol  (e.g. in an airport or train station) may mean "up" (e.g. an escalator) or "straight ahead" depending on the location's surroundings.

[SOURCE: ISO 10241-1:2011, 3.4.1.4]

4.14
homonymy
relation between *designations* (4.10) and *concepts* (4.3) in a given language in which one designation represents two or more unrelated concepts

Note 1 to entry: An example of homonymy is:

bark

1 "sound made by a dog",

2 "outside covering of the stem of woody plants",

3 "sailing vessel".

Note 2 to entry: The designations in the relation of homonymy are called homonyms.

[SOURCE: ISO 1087-1:2000, 3.4.25]

4.15
homophone
one of two or more words that are pronounced the same but differ in meaning, origin, and sometimes spelling

EXAMPLE *night* and *knight*.

4.16
item class
set of items with common properties

Note 1 to entry: Class is used in this context to refer to a set of instances, not the concept abstracted from that set of instances.

[SOURCE: ISO 19135-1:2015, 4.1.7]

4.17
language
system of signs for communications usually consisting of vocabulary and rules

Note 1 to entry: In this document, language refers to natural language or special languages but not to programming languages or artificial languages unless specifically identified.

[SOURCE: ISO 5127:2001, 1.1.2.01, modified — Note has been added.]

4.18
language identifier
information in a *terminological entry* (4.37) which indicates the name of a *language* (4.17)

[SOURCE: ISO 1087-1:2000, 3.8.8]

4.19
non-verbal representation
representation of a *concept* (4.3) by means other than a descriptive statement, while revealing characteristics of this concept

Note 1 to entry: A non-verbal representation can be a chemical or mathematical formula, a pictographic representation or a figure, table or other kind of visual or non-visual representation revealing characteristics of the concept concerned.

[SOURCE: ISO 10241-1:2011, 3.4.2.3, modified — The reference to the examples has been removed.]

4.20
obsolete term
term (4.34) which is no longer in common use

[SOURCE: ISO 1087-1:2000, 3.4.18]

4.21
preferred term
term (4.34) rated according to the scale of the term acceptability rating as the primary term for a given *concept* (4.3)

[SOURCE: ISO 1087-1:2000, 3.4.15]

4.22
principal register
register (4.26) that contains a description of each of the *subregisters* (4.32) in a *hierarchical register* (4.12)

[SOURCE: ISO 19135-1:2015, 4.1.8]

4.23
reference environment
geographical and cultural environment in which a *concept* (4.3) is conceived and perceived

4.24
reference language
language (4.17) specified for the development and description of *concepts* (4.3)

EXAMPLE The reference language for the ISO/TC 211 Multi-Lingual Glossary of terms is English.

Note 1 to entry: See *submitted language* (4.29).

4.25
reference language subregister
subregister (4.32) in a hierarchical multi-lingual *terminology register* (4.39) that contains only *terminological entries* (4.37) in the *reference language* (4.24)

4.26
register
set of files containing identifiers assigned to items with descriptions of the associated items

[SOURCE: ISO 19135-1:2015, 4.1.9]

4.27
simple register
register (4.26) containing items of a single *item class* (4.16)

EXAMPLE A register containing *terminological entries* (4.37) in a single specified language.