

Australian/New Zealand Standard™

**Geographic information—Cross-domain
vocabularies**



AS/NZS ISO 19146:2011

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee IT-004, Geographical Information/Geomatics. It was approved on behalf of the Council of Standards Australia on 14 November 2011 and on behalf of the Council of Standards New Zealand on 15 November 2011. This Standard was published on 23 December 2011.

The following are represented on Committee IT-004:

ANZLIC—The Spatial Information Council
Australasian Fire and Emergency Service Authorities Council
Australian Antarctic Division
Australian Hydrographic Office
Australian Map Circle
CSIRO Exploration and Mining
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT-004, Geographical Information/Geomatics.

The objective of this Standard is to define a methodology for cross-mapping technical vocabularies that have been adopted by industry-specific geospatial communities. It also specifies an implementation of ISO 19135 for the registration of geographic information concepts for the purpose of integrating multiple domain-based vocabularies.

This Standard is identical with, and has been reproduced from ISO 19146:2010, *Geographic information—Cross-domain vocabularies*.

As this Standard is reproduced from an International Standard, the following applies:

- (a) Its number appears on the cover and title page while the International Standard number appears only on the cover.
- (b) In the source text ‘this International Standard’ should read ‘this Australian/New Zealand Standard’.
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References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard</i>		<i>Australian/New Zealand Standard</i>	
ISO/TS		AS/NZS ISO	
19103	Geographic information— Conceptual schema language	19103	Geographic information—Conceptual schema language
19143	Geographic information—Filter encoding	19143	Geographic information—Filter encoding
ISO			
19115	Geographic information— Metadata	19115	Geographic information—Metadata
19135	Geographic information— Procedures for item registration	19135	Geographic information—Procedures for item registration

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annex to which they apply. A ‘normative’ annex is an integral part of a Standard, whereas an ‘informative’ annex is only for information and guidance.

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INTRODUCTION

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

The issues associated with the correct use of language extend far beyond day-to-day communication. Every field of endeavour, from engineering to cookery, has its own technical language and vocabulary. In order to participate in discussions on a subject, it is necessary to understand both the subject's terminology and the context in which it is to be used. The imprecise use of technical or professional language (for example, by using two terms interchangeably when, in fact, they have distinctly different connotations) gives rise to the same traps and dangers associated with the inappropriate use of a spoken language.

This International Standard establishes a methodology for cross-mapping technical vocabularies that have been adopted by industry-focussed geospatial communities (for example, geospatial communities supporting the transport or utilities industries). The processes relate to the unique identification of concepts and ensuring the existence of monosemic relations between concepts and designations. The methodology aims to ensure the consistent use of cross-mapping processes when associating disparate geospatial vocabularies and identifying synonyms.

It is not the objective of this International Standard to define an ontology or taxonomy for geographic information and geomatics. Its purpose is to provide rules for ensuring consistency when implementing cross-mapping processes. The rules, however, have been developed with regard to taxonomic and ontological concepts and with a view to enabling semantic interoperability. Their application to vocabulary cross-mapping, therefore, can be expected to provide input to any future ontology/taxonomy initiatives.

This International Standard applies the provisions of ISO 19135 to the registration of geospatial concepts. An online register of cross-mapped terminology entries, conforming to the requirements of ISO 19135, is associated with this International Standard. Administrative arrangements for the population and maintenance of the online register are beyond the scope of this International Standard. However, the provisions of ISO 19135 relating to the maintenance of registers apply.

This International Standard adopts terms and concepts that are taken from UML and terminology theory and practice. A cross-mapping between the two terminologies can be found in ISO/TR 24156:2008.

AUSTRALIAN/NEW ZEALAND STANDARD

Geographic information—Cross-domain vocabularies

1 Scope

This International Standard defines a methodology for cross-mapping technical vocabularies that have been adopted by industry-specific geospatial communities. It also specifies an implementation of ISO 19135 for the registration of geographic information concepts for the purpose of integrating multiple domain-based vocabularies.

Methodologies for the development of ontologies and taxonomies that relate to geographic information and geomatics are not within the scope of this International Standard.

2 Conformance

Any vocabulary cross-mapping that claims conformance to this International Standard shall satisfy all of the conditions specified in the following abstract test suites:

- a) Annex A of this International Standard, and
- b) ISO 19135:2005, A.1 and A.2 for conformance to ISO 19135.

A vocabulary cross-mapping register established by ISO/TC 211 shall, in addition, satisfy all of the conditions specified in the ISO 19135 abstract test suite for registers established by ISO/TC 211 as specified in ISO 19135:2005, A.3.

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 19103:2005, *Geographic information — Conceptual schema language*

ISO/TS 19104:2008, *Geographic information — Terminology*

ISO 19115:2003, *Geographic information — Metadata*

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