AS/NZS ISO 19157:2015
ISO 19157:2013

AS/NZS ISO 19157:2015

Australian/New Zealand Standard™

Geographic information—Data quality

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The following are represented on Committee IT-004:

ANZLIC—The Spatial Information Council
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Australian Bureau of Meteorology
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Australian Hydrographic Office
CSIRO
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR AS/NZS ISO 19157:2014.

Australian/New Zealand Standard™

Geographic information—Data quality

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT-004, Geographical Information/Geomatics, to supersede AS/NZS ISO 19113:2004, *Geographic information—Quality principles*, AS/NZS ISO 19114:2005, *Geographic information—Quality evaluation procedures*, and AS/NZS ISO 19138:2008, *Geographic information—Data quality measures*.

The objective of this Standard is to establish the principles for describing the quality of geographic data. It—

(a) defines components for describing data quality;

(b) specifies components and content structure of a register for data quality measures;

(c) describes general procedures for evaluating the quality of geographic data;

(d) establishes principles for reporting data quality.

This Standard is identical with, and has been reproduced from ISO 19157:2013, *Geographic information—Data quality.*

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

(i) In the source text 'this International Standard' should read 'this Australian/New Zealand Standard'.

(ii) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
ISO		AS/NZS ISO	
19115	Geographic information—Metadata	19115	Geographic information—Metadata
19115-2	Part 2: Extensions for imagery and gridded data	19115.2	Part 2: Extensions for imagery and gridded data

Only normative references that have been adopted as Australian or Australian/New Zealand Standard have been listed.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the annexes 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

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.

AUSTRALIAN/NEW ZEALAND STANDARD

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.