

AS/NZS ISO 19160.3:2020  
ISO 19160-3:2020



Australian/New Zealand Standard™

# Addressing

**Part 3: Address data quality**



AS/NZS ISO 19160.3:2020

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- Australian Bureau of Meteorology
- Australian Maritime Safety Authority
- CSIRO
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- Department of Agriculture, Water and the Environment
- Department of Defence (Australian Government)
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## Part 3: Address 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.

The objective of this document is to:

- (a) establish a set of data quality elements and measures for describing the quality of address data;
- (b) describe procedures for reporting data quality; and
- (c) provide guidelines for the use of the established set of data quality elements and measures for describing the quality of address data.

This document is a profile of AS/NZS ISO 19157 and can be used by those evaluating and reporting the quality of address data such as address data managers, address data aggregators, and address data users.

This document does not attempt to define minimum acceptable levels of quality for address data.

This document is identical with, and has been reproduced from, ISO 19160-3:2020, *Addressing — Part 3: Address data quality*.

As this document has been reproduced from an International Standard, a full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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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](http://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](http://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 of the voluntary nature of standards, 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 [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 211, *Geographic information/Geomatics*.

A list of all parts in the ISO 19160 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

Addresses provide one of the most common ways to unambiguously determine an object for purposes of identification and location and yet they can vary considerably from country to country. For example, in many Euro-centric countries reference to a road network in the address is common, while addresses in countries such as Japan comprise hierarchies of administrative areas without reference to thoroughfares. Addresses serve many purposes including postal delivery, emergency response, marketing, mapping, utility planning, and land administration to name a few (ISO 19160-1).

A wide variety of address standards and/or specifications are in use around the world. The preparatory work for this document, the review summary of the ISO 19160 stage zero project describes a number of these standards which are well integrated into various operational processes and in some cases legally enforced (ISO 19160-1). In addition, ISO 19160-1 has been developed as an international standard to facilitate interoperability between existing and future address specifications.

There are also many stakeholders involved in addressing: for address assignment (e.g. local governments, postal operators); for address use (e.g. customer service providers and electronic business, local and national governments, utility service providers, election commissions); and for finding addresses (e.g. citizens, delivery and emergency response service providers). Relevant stakeholders were identified during the preparatory work of the 19160 stage zero project as well as during the development of ISO 19160-1. These stakeholders are now either involved or aware of the development of the ISO 19160 addressing standards (ISO 19160-1).

In order to organize, maintain, and provide address records, address authorities must create master address repositories that replace the numerous, often isolated and incomplete address data files from different parts of an organization with one authoritative, integrated address database (e.g. US FGDC Address). Moreover, it is common for address data from local authorities to be aggregated at higher administrative levels (e.g. regional, state, national).

The wide range of uses for addresses, as well as the need to share and aggregate address data, requires a consistent framework for measuring and reporting the quality of address data. The goal of this document is to provide address database managers, address data aggregators, and address data users with this framework. This document also recognizes that the wide range of uses for addresses means that the data quality evaluation process utilized will depend on the use of the addresses being evaluated.

This document is a profile of ISO 19157 and is needed due to the uniqueness and complexity of addressing. The temporal nature of addresses, their components, and the real-world objects they identify can make it difficult to determine if addresses are missing or incorrectly included in a dataset. An address is also a complex collection of information with attributes and components that often reference other objects or are restricted by other components. These are just a few of the challenges faced by address data stakeholders that this document aims to overcome. Its objective is to ensure address data quality is maintained and/or improved by establishing a set of address data quality measures. Furthermore, this document can be used to understand and communicate the quality of an address dataset when address data aggregation or sharing needs to be accomplished.

# Australian/New Zealand Standard

## Addressing

### Part 3: Address data quality

#### 1 Scope

This document

- is a profile of ISO 19157;
- establishes a set of data quality elements and measures for describing the quality of address data;
- describes procedures for reporting data quality;
- provides guidelines for the use of the established set of data quality elements and measures for describing the quality of address data.

This document can be used by those evaluating and reporting the quality of address data such as address data managers, address data aggregators, and address data users.

This document does not attempt to define minimum acceptable levels of quality for address data.

#### 2 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 19115-1:2014, *Geographic information — Metadata — Part 1: Fundamentals*

ISO 19115-2, *Geographic information — Metadata — Part 2: Extensions for acquisition and processing*

ISO 19157:2013, *Geographic information — Data quality*

ISO 19160-1:2015, *Addressing — Part 1: Conceptual model*

#### 3 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:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.iso.org/obp>

##### 3.1

##### **accuracy**

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

[SOURCE: ISO 3534-2:2006, 3.3.1, modified — NOTES 1 to 3 have been removed.]

##### 3.2

##### **address**

structured information that allows the unambiguous determination of an object for purposes of identification and location

[SOURCE: ISO 19160-1:2015, 4.1, modified — Notes 1 to 6 to entry and EXAMPLES 1 to 4 have been removed.]