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**Geographic information — Geodetic
codes and parameters**

Information géographique — Codes et paramètres géodésiques



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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of normative document:

- an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;
- an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

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.

ISO/TS 19127 was prepared by Technical Committee ISO/TC 211, *Geographic information/Geomatics*.

Introduction

ISO 19135 specifies procedures for the registration of items of geographic information. ISO/IEC JTC 1 defines registration as the assignment of an unambiguous name to an object in a way that makes the object available to interested parties.

ISO 19111 describes elements necessary to define fully coordinate reference systems and coordinate systems so that coordinates for positions on or near the Earth's surface can be unambiguously referenced. ISO 19111 also describes elements to define coordinate operations that change coordinate values from one coordinate reference system to coordinate values based on another coordinate reference system.

Currently, many lists of geodetic codes and parameters exist in national standards, standards of liaison organizations, and industrial specifications and software products. Little guidance is provided on applicability and appropriate use of these geodetic codes and parameters. Applicability and appropriate use are of great concern, as geographic information systems become more widely available to non-experts in cartography and geodesy.

This Technical Specification describes how the procedures specified in ISO 19135 are to be applied to registers of elements applicable to spatial referencing by coordinates in compliance with ISO 19111. Some elements that are optional in ISO 19111 become mandatory in this Technical Specification to provide guidance on applicability and appropriate use.

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Geographic information — Geodetic codes and parameters

1 Scope

This Technical Specification defines rules for the population and maintenance of registers of geodetic codes and parameters and identifies the data elements, in compliance with ISO 19111 and ISO 19135, required within these registers. Recommendations for the use of the registers, the legal aspects, the applicability to historic data, the completeness of the registers, and a mechanism for maintenance are specified by the registers themselves.

2 Conformance

To conform to this Technical Specification, a register of items of geographic information shall satisfy all of the conditions specified in the Abstract test suite (Annex A).

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 19111:2003, *Geographic information — Spatial referencing by coordinates*

ISO 19112, *Geographic information — Spatial referencing by geographic identifiers*

ISO 19135:—¹⁾, *Geographic information — Procedures for item registration*

4 Terms and definitions

For the purposes of this document, the terms, definitions, symbols, notations and abbreviated terms given in ISO 19111 and ISO 19135 apply.

5 Registers of geodetic codes and parameters

The ISO geodetic registry network is defined as:

- a) The ISO register of geodetic registers. This principal register holds a set of items that describe the subregisters described in b) and c);
- b) The ISO register of geodetic codes and parameters. This subregister shall contain coordinate reference system data and coordinate transformation data that conform to ISO 19111 and are international in

1) To be published.