

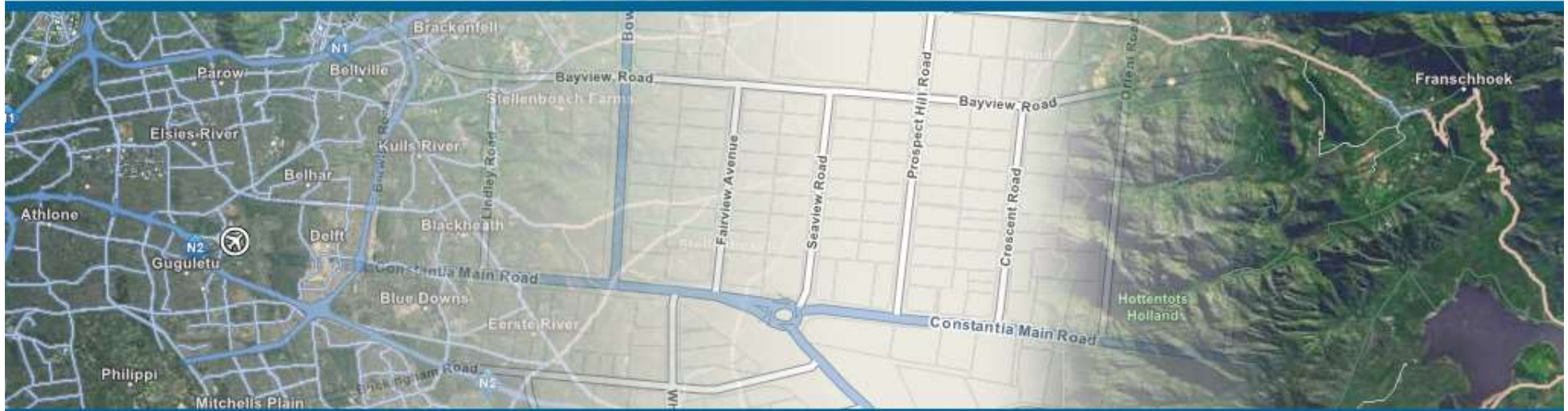
# Terminology Maintenance in ISO/TC 211

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ISO/TC 211 AG7 Terminology Maintenance Group (TMG)

Spatial data infrastructures, standards, open source and  
open data for geospatial  
(SDI-Open 2019)

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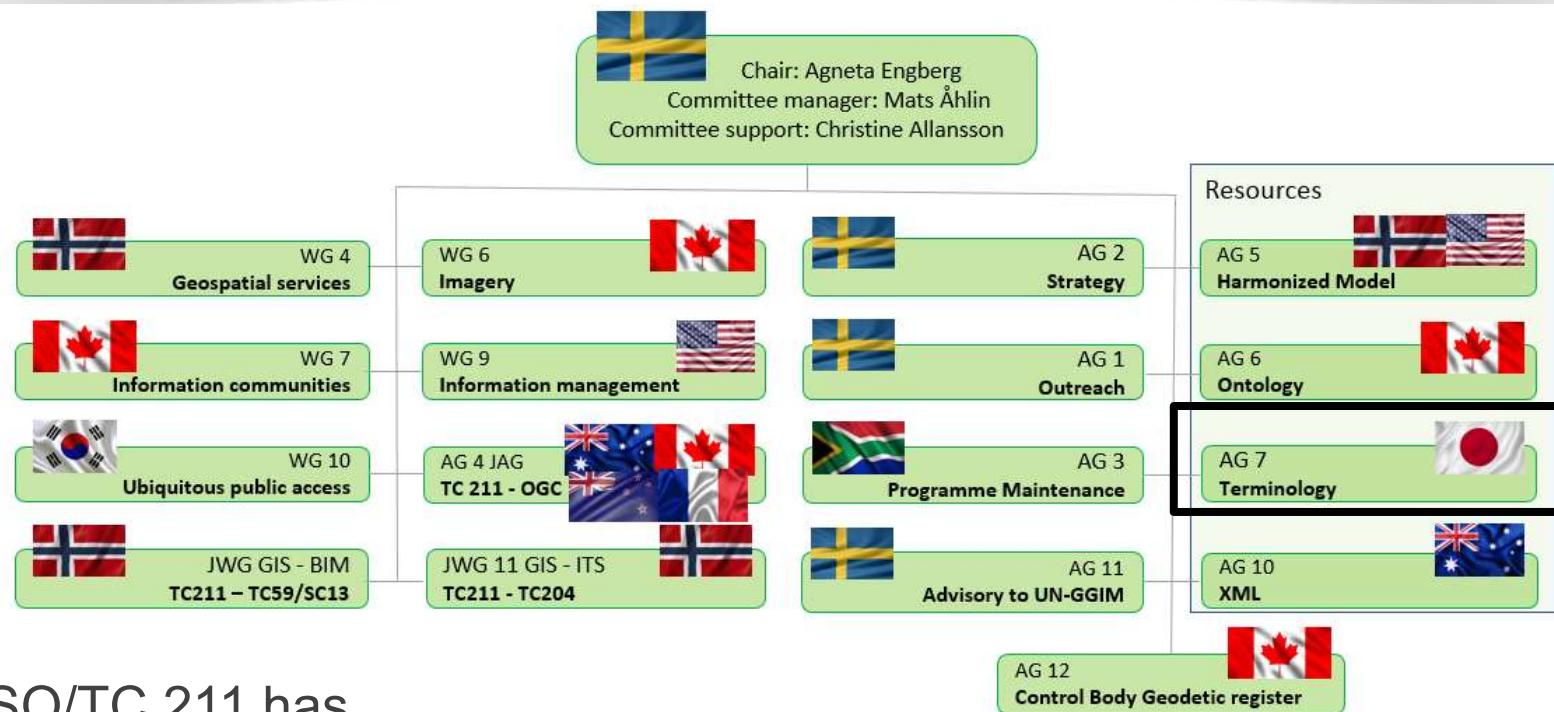
International Cartographic Association  
Association Cartographique Internationale



# Background of ISO/TC 211

- ISO/TC 211 Geographic information/Geomatics
  - <https://www.iso.org/committee/54904.html>
  - <https://committee.iso.org/home/tc211>
- Standardization in the field of digital geographic information
  - Working to establish a structured set of standards for information concerning objects or phenomena that are directly or indirectly associated with a location relative to the Earth.
- ISO (International Organization for Standardization) Technical Committee (TC) formed in 1994
- 39 Participating and 31 Observing Members
  - Nominated by Standards Bodies in their respective countries
- Management: Norway (1994 – 2016); Sweden (2017 – present)
  - Chairperson: Ms Agneta Engberg / Secretariat: Mr Mats Åhlin
  - Two meetings per year – late spring & late autumn
- 77 published standards with another 25 under development or in revision
  - <https://www.iso.org/committee/54904/x/catalogue/p/0/u/1/w/0/d/0>

# Structure of TC211



- ISO/TC 211 has
  - 5 internal Working Groups (WGs) - 2 joint Working Groups (JWGs) [TC59/SC13, TC204]
  - 9 permanent Advisory Groups (AGs)
    - Programme Maintenance, Geodetic Control Body, Model Harmonization, Ontologies, XML, & **Terminology (AG7)**
  - A number of temporary AG or ad-hoc groups
- ISO/TC 211 maintains a close relationship with The Open Geospatial Consortium (OGC) through the Joint Advisory Group (JAG) [AG 4]
- Liaison agreements with other ISO TCs and outside organizations

# Why should we care about terminology?

- We use terminology to help understand concepts and facilitate clear communication, which in turn leads to accurate and smoother processes, with reduction of errors and possible savings of time, effort, and money
- However, if terminology is not carefully managed, multiple and different terms and synonyms along with varying definitions end up being used for the same concepts – this creates confusion and ambiguity; not helpful to your work or communication and definitely not helpful to standardization activities.
- Terminology is not static over time. As domains change and develop, terms will evolve and change; this is managed through a revision process;
- This dynamic property presents a number of challenges for terminology management within one domain and quickly multiplied across multiple related domains and organizations
- ISO/TC 37 Language and terminology
  - <https://www.iso.org/committee/48104.html>
  - Established in 1947
  - Overall guidance to all TCs through their standards development
  - However each TC develops their own terminology following TC37 standards and rules for drafting standards (ISO Directives, Part 2)

# The need for terminology management awareness

- An example, one of many
- “geodetic datum”

**geodetic datum** - datum describing the relationship of a coordinate system to the Earth  
TC 211/ISO 19111:2003

**geodetic datum** – A set of parameters specifying the reference coordinate system used for geodetic control in the calculation of coordinates of points on the earth.  
TC 8/SC6 /ISO 19018:2004

**geodetic datum** - datum describing the relationship of a 2- or 3-dimensional coordinate system to the Earth  
TC 211/ISO 19111:2007

**geodetic datum** - datum describing the relationship of a coordinate system to the Earth  
JTC 1/SC24 ISO/IEC 18026:2009(en), Information Systems - Spatial Reference Model

**geodetic datum** - mathematical surface that approximates a portion of the earth's surface  
TC 204/ISO 14825:2011

**geodetic reference frame**  
reference frame or datum describing the relationship of a two- or three-dimensional coordinate system to the Earth

Note 1 to entry: In the data model described in this document, the UML class GeodeticReferenceFrame includes both modern terrestrial reference frames and classical **geodetic datums**.

TC 211/ISO 19111:2019



# Terminology Maintenance Group (TMG)

- Preliminary discussions prior to 2001
- Establishment of the group in 2001-OCT
  - Made permanent in 2002-MAY; Convened by Mr. Andrew Jones of Australia until 2017; From 2017 by Japan
- Task 1: Terminology Maintenance and Harmonisation
  - Review and assess terminology records in ISO/TC 211's draft documents
  - Maintain a terminology repository
  - Work to ensure that consistent terms, definitions and concept systems are used in all ISO/TC 211 standards and technical specifications
  - Comments, discussions, and feedback to project leaders and editors
- Task 2: Terminology Publication
  - Disseminate the current terms and definitions to the TC members
  - Work with TC211 members to create a translation of published terms
- Task 3: Cross-Domain Vocabularies
  - Work with other groups to identify cross-domain terminology issues

# Terminology Maintenance Group (TMG)

## Terminology related standards in ISO/TC 211

- TMG guided development of two terminology standards within ISO/TC 211
- 19104 Geographic information – Terminology
  - <https://www.iso.org/standard/63541.html>
  - Specifies requirements for the collection, management and publication of terminology in the field of geographic information
  - Framework for the terminology repository maintained by the TMG
  - Revised in 2016
  - Does not aim to contain all of the terminology of the standards in the TC
- 19146 Geographic information – Cross-domain vocabularies
  - <https://www.iso.org/standard/72217.html>
  - Establishes a methodology for cross-mapping vocabularies.
  - Specifies an implementation of ISO 19135-1:2015 for the purpose of registering cross-mapped vocabulary entries.
  - Revised in 2016

# Terminology Maintenance Group (TMG) Primary Work Products

- Terminology Repository
  - Microsoft Excel workbook with six spreadsheets, and over 230 defined attributes total
  - Since the inception over 600 documents (various drafts [CD, DIS, DTS] and published standards) have been processed into the repository;
  - Close to 2,500 active terminology records and over 12,400 superseded variations of draft terms contained in a persistent archive
  - Processing tasks supported by group of Excel Visual Basic macros; yet human intervention/decision making is still required.
  - Closed processing and management by TMG convenor only

## Macro Operation and Interface in The Terminology Repository

The screenshot displays the Terminology Repository Excel interface with a macro operation window open. The window title is 'SetTermID'. It contains a text area with the following text:

The term/definition pair being considered appears below.

geodetic datum - datum describing the relationship of a 2- or 3-dimensional coordinate system to the Earth - ISO 19111:2007, 4.24

The following term/definition pairs are potential matches.

1918 - 0 - geodetic datum - datum describing the relationship of a 2- or 3-dimensional coordinate system to the Earth - ISO 19136-1:2015 - submitted - draft  
 198 - 0 - geodetic datum - datum describing the relationship of a coordinate system to the Earth - ISO 19136-1:2015 - superseded - legacy  
 708 - 5 - geodetic datum - datum describing the relationship of a two- or three-dimensional coordinate system to the Earth - ISO 19130-1:2015 - valid - normative  
 709 - 0 - geodetic datum - datum describing the relationship of a two- or three-dimensional coordinate system to the Earth - ISO 19130-2:2015 - valid - normative  
 1918 - 0 - geodetic datum - datum describing the relationship of a 2- or 3-dimensional coordinate system to the Earth - ISO 19136-1:2015 - valid - normative  
 708 - 0 - geodetic datum - datum describing the relationship of a two- or three-dimensional coordinate system to the Earth - ISO 19162:2015 - valid - normative

Below the text area are buttons: 'Continue', 'Skip This Entry', and 'Exit Macro'.

The background Excel spreadsheet shows columns: Entry\_ID, Document\_ID, Archive\_Or\_Spreadsheet, Record\_Status\_Code, Record\_Status\_Description, Instance\_ID, Document, and Standard. The data is organized into rows, with some rows highlighted in green and others in red.



# Terminology Maintenance Group (TMG)

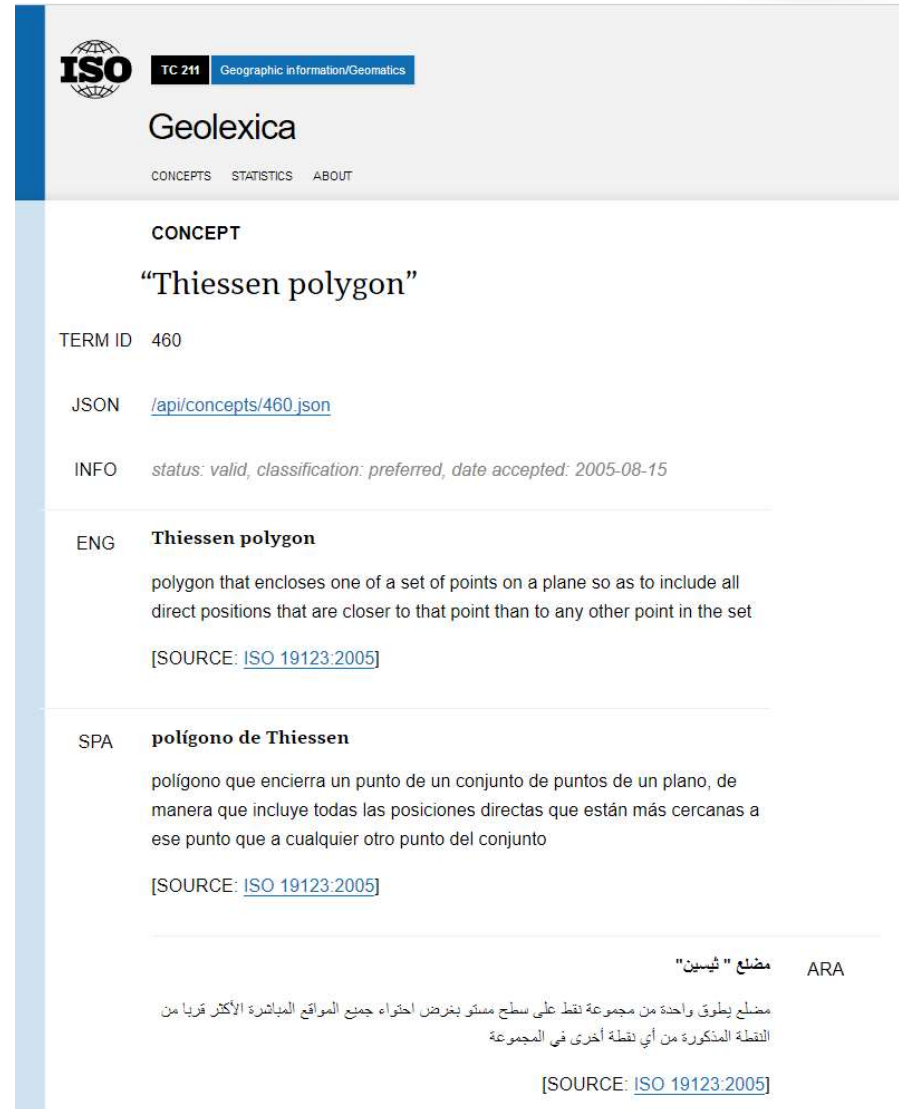
## Primary Work Products

- Terminology Spreadsheet
  - Excel workbook containing a subset of attributes extracted from the Terminology Repository
  - Current and retired terms, abbreviations, and symbols
  - Published quarterly since January 2004, currently 63<sup>rd</sup> Edition; distributed to TC 211 members only; Dynamic publication managed as a “standing document” in the TMG
  - Used by Project Teams and Editors and TC 211 members
- Input to Project Teams (PTs) and the TC
  - Monitoring of terminology development in all working groups from the Working Draft (WD) stage
  - Processing of terms into the repository and formal comment submissions to the TC on [CD, DIS, DTS] drafts; along with informal discussions with PT leaders and editors
  - Comments based on issues identified during insertion into the Terminology Repository and examination of the drafts for grammar, formatting and clarity
  - TMG comments submitted for over 240 draft documents under development since 2002, averaging 10 – 20+ comments per submission
  - TMG meeting held every plenary week; discussing terminology issues and the status of TMG products and cross domain engagement

# Terminology Maintenance Group (TMG)

## Primary Work Products

- Multi-Lingual Glossary of Terms (MLGT)
  - Excel workbook containing terminology entries from Published ISO/TC 211 standards
  - Coordination with National Body (NB) members for translation of terminology entries
  - First published in 2006 with English entries; translations from NB submitted in the following years
  - Release 4 from 2017-DEC currently contains 1,064 normatively published (as of 2017-DEC) English entries and close to 7,000 translated entries in 14 languages
  - Openly distributed, from the TC 211 website, for everyone to access and use
  - <https://committee.iso.org/sites/tc211/home/re.html>
- Geolexica – an online version of the ISO/TC 211 Multi-Lingual Glossary of Terms
  - <https://www.geolexica.org>
  - Developed by Ribose <https://www.ribose.com> for TC211
  - Robust web discovery interface with JSON API
  - Easy updated from new editions and translations of the MLGT



The screenshot displays the Geolexica website interface. At the top, the ISO TC 211 logo and 'Geographic Information/Geomatics' are visible. The page title is 'Geolexica', with navigation links for 'CONCEPTS', 'STATISTICS', and 'ABOUT'. The main content area is titled 'CONCEPT' and features the entry for 'Thiessen polygon'. The entry includes the term ID '460', a JSON API link, and status information: 'status: valid, classification: preferred, date accepted: 2005-08-15'. The English description states: 'polygon that encloses one of a set of points on a plane so as to include all direct positions that are closer to that point than to any other point in the set'. The Spanish description states: 'polígono que encierra un punto de un conjunto de puntos de un plano, de manera que incluye todas las posiciones directas que están más cercanas a ese punto que a cualquier otro punto del conjunto'. Both descriptions cite the source as 'ISO 19123:2005'. At the bottom, the Arabic entry is partially visible, titled 'مضلع " ثيسين " ARA', with a description starting 'مضلع يطلق واحدة من مجموعة نقط على سطح مستو يفرض احتواء جميع المواقع المباشرة الأكثر قربا من النقطة المذكورة من أي نقطة أخرى في المجموعة'.

# Moving Forward

- Terminology maintenance and engagement within TC 211 is actively contributing to the work of the TC
- However more cross TC and cross domain engagement is needed – yet that is not an easy matter
  - Time, human resources, funding, travel, etc.
- If you are interested in standards development and terminology talk to your local standards body about joining ISO/TC 211!

*Thank you and enjoy the conference this week  
and your visit to Japan*

*Questions and discussion, if time permits*

I would like to thank [METI](#), [JIPDEC](#), and [APA](#) for supporting my terminology work