

AS/NZS ISO 19111:2019 Geographic information — Referencing by coordinates

Amendment No. 2

Revised text amendment

Publishing and Approval Dates

Council of Standards Australia Approval: 12 February 2024

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Summary

This Amendment applies to the following elements:

Amendment Details

AS/NZS ISO 19111:2019 is amended as follows. The amendments should be inserted in the locations as instructed.

Element	Instruction/New text
Front cover	After "ISO 19111:2019/Amd 1:2021", <i>add</i> the following: AS/NZS ISO 19111:2019/Amd 2 <i>Delete</i> "(Incorporating Amendment No. 1) and <i>replace</i> with the following: (Incorporating Amendments up to and including No. 2)
Preface	After first paragraph, <i>add</i> the following:
CI 1	Amendment 2 to this Standard was prepared by the Joint Standards Australia / Standards New Zealand Committee IT-004.
CI 2	<i>Delete</i> the fourth paragraph and <i>replace</i> with the following: This Standard is identical with, and has been reproduced from, ISO 19111:2019, Geographic information — Referencing by coordinates and its Amendment No. 1 (2021) and Amendment No. 2 (2024) which have been added at the end of the source text.
Amd 2 (new)	After Amendment No. 1, <i>add</i> the following Amendment No. 2 (2024):

3.1.16

Move the EXAMPLE to be before Note 1 to entry. At the end of the EXAMPLE, remove right parenthesis after "...and G1762." The complete revised definition becomes:

3.1.16

datum ensemble

group of multiple realizations of the same terrestrial or vertical reference system that, for approximate spatial referencing purposes, are not significantly different



EXAMPLE “WGS 84” as an undifferentiated group of realizations including WGS 84 (TRANSIT), WGS 84 (G730), WGS 84 (G873), WGS 84 (G1150), WGS 84 (G1674) and WGS 84 (G1762). At the surface of the Earth these have changed on average by 0.7 m between the TRANSIT and G730 realizations, a further 0.2 m between G730 and G873, 0.06 m between G873 and G1150, 0.2 m between G1150 and G1674 and 0.02 m between G1674 and G1762.

Note 1 to entry: Datasets referenced to the different realizations within a datum ensemble may be merged without coordinate transformation.

Note 2 to entry: ‘Approximate’ is for users to define but typically is in the order of under 1 decimetre but may be up to 2 metres.

3.1.31

Replace definition with:

3.1.31

geodetic coordinate reference system

two- or three-dimensional coordinate reference system based on a geodetic reference frame and having either a three-dimensional Cartesian or an ellipsoidal or a spherical coordinate system

Note 1 to entry: In this document a coordinate reference system based on a geodetic reference frame and having an ellipsoidal coordinate system is geographic.

3.1.60

Replace definition with:

3.1.60

spherical coordinate system

two- or three-dimensional coordinate system in Euclidean space in which position is specified by two angular coordinates and (in the three-dimensional case) one distance coordinate

Note 1 to entry: Not to be confused with an ellipsoidal coordinate system based on an ellipsoid ‘degenerated’ into a sphere.

9.3.2

After 9.3.2 list item f), add:

- g) Derived projected 2D + Vertical CRS.
- h) Derived projected 2D + Engineering 1D (near vertical).

9.3.4

Replace whole subclause with the following:

A spatio-parametric coordinate reference system is a compound CRS in which one component is a geographic 2D, projected 2D, engineering 2D CRS or derived projected 2D CRS, supplemented by a parametric CRS to create a three-dimensional CRS: an example is included in E.3.3. More than one parametric coordinate reference system may be included if these represent independent parametric quantities.

9.4, *fourth paragraph*

Insert an additional new last sentence as follows:

Associations between coordinate reference systems and coordinate operations are summarized in the UML class diagram in Clause 12, Figure 17.

Replace Figure 9 with the following:

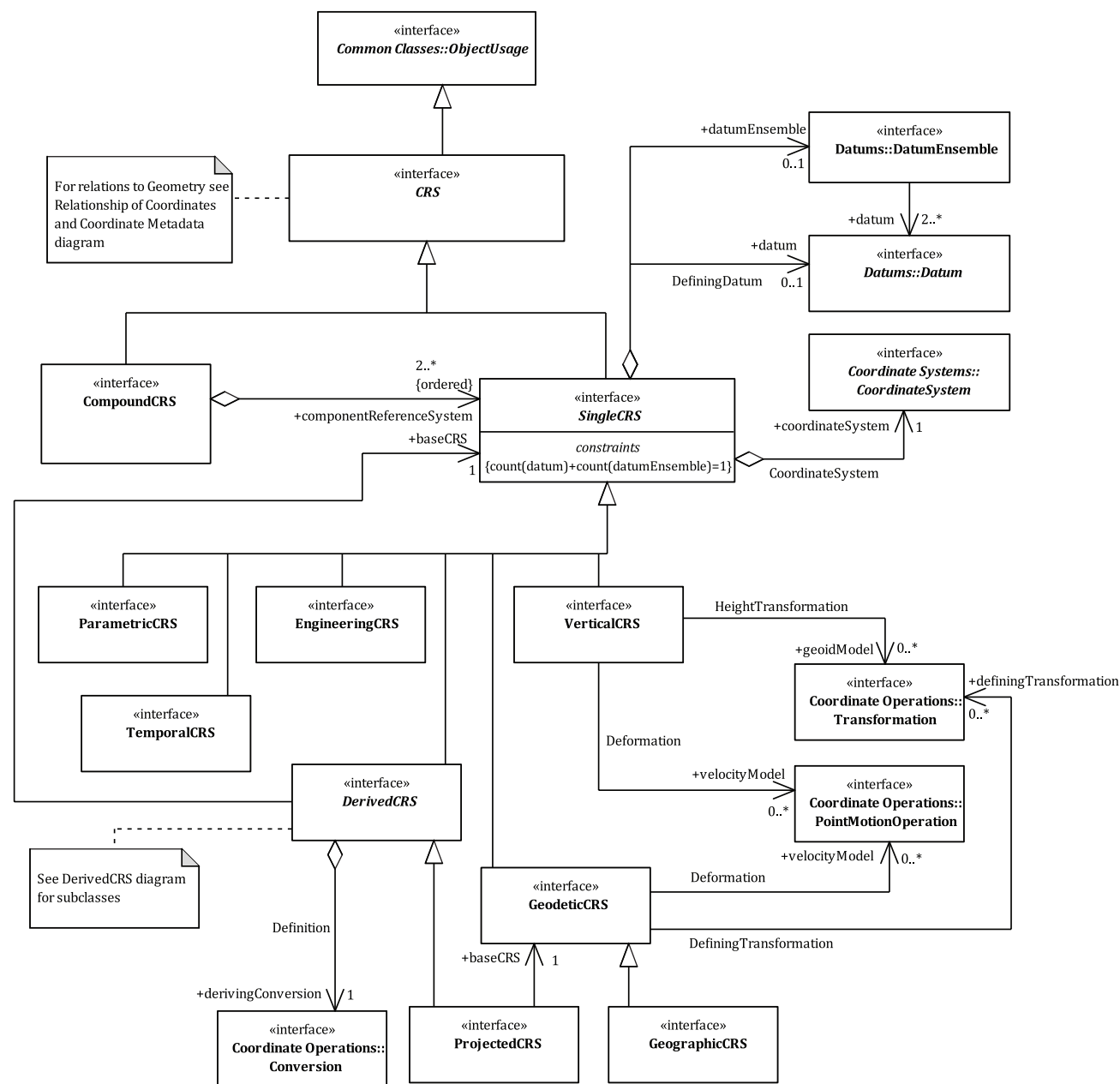


Figure 9 — UML diagram — Coordinate Reference Systems package

9.4, Table 10

Replace Table 10 with the following:

Table 10 — Defining elements of Coordinate Reference Systems::GeodeticCRS class

Definition:	coordinate reference system associated with a geodetic reference frame and a three-dimensional Cartesian or spherical coordinate system NOTE If the geodetic reference frame is dynamic then the geodetic CRS is dynamic, else it is static.				
Stereotype:	Interface				
Class attribute:	Concrete				
Inheritance from:	SingleCRS				
Generalization of:	GeographicCRS, DerivedGeodeticCRS				
Association roles:	associations inherited from SingleCRS, plus:				
<u>Association name</u>	<u>UML identifier</u>	<u>Association with</u>	<u>Obligation</u>	<u>Maximum Occurrence</u>	<u>Association definition</u>
Coordinate System	(aggregation) coordinateSystem	CoordinateSystems:: GeodeticCS	M	1	coordinate system that is a component of this geodetic coordinate reference system
Defining Datum	(aggregation) datum	Datums:: Geodetic ReferenceFrame	0	1	geodetic reference frame that is a component of this geodetic coordinate reference system
Defining Transformation	definingTransformation	CoordinateOperations:: Transformation	0	N	transformation that defines this geodetic coordinate reference system
Deformation	velocityModel	CoordinateOperations:: PointMotionOperation	0	N	velocity model(s) or deformation grid(s) that may be applied to this geodetic coordinate reference system
Constraints:	constraints inherited from SingleCRS, plus: {coordinateSystem.ocl As Type(EllipsoidalCS) implies count(datum.ellipsoid)=1}				
Remarks:	The constraint enforces the requirement on geographicCRS to be associated with an ellipsoid. It is made through the GeodeticCRS class because GeographicCRS is related to Datum and hence Ellipsoid only through its subtyping from the GeodeticCRS class. GeodeticCRSs should be associated with a Cartesian coordinate system or with a spherical coordinate system.				
Public attributes:	6 attributes (CRS name, CRS alias, CRS identifier, CRS scope, CRS validity and CRS remarks) inherited from Common Classes::IdentifiedObject and Common Classes::ObjectUsage.				