

DIN EN ISO 19123-1:2024-02 (E)

Geographic information - Schema for coverage geometry and functions - Part 1: Fundamentals (ISO 19123-1:2023); English version EN ISO 19123-1:2023

Contents		Page
Foreword.....		v
Introduction.....		vii
1	Scope	1
2	Normative references	1
3	Terms, definitions, abbreviated terms and notation	1
	3.1 Terms and definitions.....	1
	3.2 Abbreviated terms.....	8
4	Conformance	8
	4.1 Notation.....	8
	4.2 Interoperability and conformance testing.....	9
	4.3 Organization.....	9
5	Coverages	10
	5.1 Overview.....	10
	5.2 Coverage packages.....	11
	5.3 Probing coverages: evaluate() function.....	12
	5.4 Domain of a coverage.....	12
	5.4.1 Concept.....	12
	5.4.2 Coordinates.....	13
	5.4.3 Mathematical versus physical coordinates.....	14
	5.4.4 Coordinate reference systems and axes.....	14
	5.4.5 Coverage classification along topological dimensions.....	16
	5.5 Range of a coverage.....	16
	5.6 Interpolation.....	17
	5.6.1 Concept.....	17
	5.6.2 Discrete and continuous coverages.....	18
	5.7 Common point rule.....	19
	5.8 Realization variants.....	19
	5.8.1 Overview.....	19
	5.8.2 Geometry/value pair view.....	19
	5.8.3 Domain/range view.....	20
	5.8.4 Partitioned view.....	21
	5.8.5 Functional view.....	21
	5.9 Envelope.....	21
6	Multi-point coverages	22
7	Grid coverages	23
	7.1 Overview.....	23
	7.2 Grids.....	24
	7.2.1 Grid definition.....	24
	7.2.2 Grid axis types.....	27
	7.3 Rectified and referenceable grid coverages.....	30
	7.4 Grid cells.....	31
	7.4.1 Grid cell concept.....	31
	7.4.2 Pixel-in-centre, pixel-in-corner.....	32
	7.5 Grid coverage.....	32
	7.6 Further grid coverage types.....	33

8	Multi-curve coverages	34
8.1	Overview.....	34
8.2	General multi-curve coverages.....	35
8.3	Segmented curve coverages.....	35
9	Multi-surface coverages	36
9.1	Overview.....	36
9.2	General multi-surface coverages.....	36
9.3	Further surface coverages.....	37
	9.3.1 General.....	37
	9.3.2 Thiessen polygon coverages.....	37
	9.3.3 Triangulated irregular networks (TINs).....	38
10	Multi-solid coverages	39
	Annex A (normative) Conformance tests	41
	Annex B (informative) Interpolation methods	45
	Annex C (informative) Sequential enumeration	49
	Annex D (normative) Legacy data-centric coverage specification	60
	Bibliography	77