ISO 19136-2:2015-08 (E)

Geographic information - Geography Markup Language (GML) - Part 2: Extended schemas and encoding rules

Contents

Page

Foreword vi

Introduction vii

1 Scope 1

2 Conformance 1

3 Normative references 2

4 Terms,definitions,symbolsandabbreviatedterms 2
4.1 General 2
4.2 Terms and definitions 2
4.3 Symbols and abbreviated terms 3

5 Conventions 3
5.1 MIME media types 3
5.2 XML namespaces 3
5.3 Deprecated parts of previous versions of GML 4

6 Additionalbasetypes 5
6.1 Target namespace 5
6.2 Localisable strings 5
6.2.1 LanguageStringType 5
6.2.2 Additional types based on LanguageStringType 5
6.3 TimePositionUnion 5
6.4 Requirements class 7
6.5 Conformance 7

7 Compact Encodings of Commonly Used GML Geometries 8
7.1 Target namespace 8
7.2 Introduction 8
7.3 SimplePolygon 8
7.4 SimpleRectangle 9
7.5 SimpleTriangle 10
7.6 SimpleArcString 10
7.7 SimpleArc 11
7.8 SimpleArcByCenterPoint 11
7.9 SimpleArcStringByBulge 12
7.10 SimpleArcByBulge 12
7.11 SimpleCircle 13
7.12 SimpleCircleByCenterPoint 13
7.13 SimpleMultiPoint 14
7.14 MultiPointPropertyType 14
7.15 Requirements class 14
7.16 Conformance 14

8 Triangulated Irregular Networks 15
8.1 Target namespace 15
8.2 Introduction 15
8.3 TriangulatedSurface 15

8.4 SimpleTrianglePatch 15
8.5 TIN 16
8.6 TINElement 16
8.7 TINElementPropertyType 17
8.8 TINElementTypeType 17
8.9 Requirements class 19
8.10 Conformance 20

9 Linear Referencing 20
9.1 Target namespaces 20

9.2 Introduction 20
9.3 Basic Linear Referencing 21
9.3.1 Target namespace 21
9.3.2 Introduction 21
9.3.3 PositionExpression 21
9.3.4 PositionExpressionPropertyType 21
9.3.5 LinearElement 22
9.3.6 LinearElementPropertyType 23
9.3.7 StartValueType 23
9.3.8 LinearReferencingMethod 23
9.3.9 LinearReferencingMethodPropertyType 24
9.3.10 DistanceExpressionType 24
9.3.11 DistanceExpressionPropertyType 25
9.3.12 AlongReferent 25
9.3.13 AlongReferentPropertyType 25
9.3.14 Referent 26
9.3.15 ReferentPropertyType 27
9.3.16 MeasureType 27
9.3.17 LRMNameType 27
9.3.18 LRMTypeType 31
9.3.19 ReferentTypeType 32
9.3.20 LinearSRS 33
9.3.21 LinearSRSPropertyType 33
9.4 Linear Referencing Towards Referent 34
9.4.1 Target namespace 34
9.4.2 Introduction 34
9.4.3 DualAlongReferent 34
9.4.4 DualAlongReferentPropertyType 34
9.5 Linear Referencing Offset 35
9.5.1 Target namespace 35
9.5.2 Introduction 35
9.5.3 LRMWithOffset 35
9.5.4 LRMWithOffsetPropertyType 35
9.5.5 LateralOffsetDistanceExpressionType 36
9.5.6 LateralOffsetExpressionType 36
9.5.7 VerticalOffsetExpressionType 37
9.5.8 LateralOffsetDirectionType 38
9.5.9 VerticalOffsetDirectionType 39
9.5.10 LateralOffsetLinearSRS 39
9.5.11 LateralOffsetLinearSRSPropertyType 40
9.6 Linear Referencing Offset Vectors 41
9.6.1 Target namespace 41
9.6.2 Introduction 41
9.6.3 VectorOffsetDistanceExpressionType 41
9.6.4 VectorOffsetExpressionType 41
9.6.5 VectorOffsetLinearSRS 42
9.6.6 VectorOffsetLinearSRSPropertyType 45
9.7 Requirements classes 45
9.8 Conformance 47

10 ReferenceableGrid 48

10.1 Target namespace 48
10.3 AbstractReferenceableGrid 49
10.4 ReferenceableGridByArray 50
10.5 ReferenceableGridByVectorsType, ReferenceableGridByVectors 51
10.6 ReferenceableGridByTransformation 57
10.7 gridCRS 58
10.8 Coverages using ReferenceableGrid 58
10.9 Requirements classes 58
10.10 Conformance 59

11 Codelists,dictionariesanddefinitions 60
11.1 Overview 60
11.2 Requirements class 61
11.3 Conformance 62

12 Encoding rule 62
12.1 Target namespace 62
12.2 Improved conversion rule 62
12.2.1 Conversion rule changes 62
12.2.2 Requirements class 64
12.2.3 Conformance 65
12.3 Association class conversion rule 67
12.3.1 Overview 67
12.3.2 Requirements class 68
12.3.3 Conformance 69
12.4 Encoding rule extensions 70
12.4.1 Overview 70
12.4.2 gmlexr:extendedEncodingRule 70
12.4.3 Requirements class 70
12.4.4 Conformance class 71

Annex A (informative) Linear referencing method examples 73

Bibliography 78