

**OGC® DOCUMENT: 24-023R1**

External identifier of this OGC® document: <http://www.opengis.net/doc/NOTE/guf-conceptual/2.0>



Open  
Geospatial  
Consortium

# RELEASE NOTES FOR OGC GEOSPATIAL USER FEEDBACK STANDARD. CONCEPTUAL MODEL. V.2.0

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RELEASE NOTES

PUBLISHED

**Version:** 1.0

**Submission Date:** 2025-02-25

**Approval Date:** 2025-10-13

**Publication Date:** 2026-03-23

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## ABSTRACT

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Geospatial User Feedback is metadata that is predominantly produced by the consumers of geospatial data products based on their use and experience with those products. The GUF Standard complements the existing metadata conventions whereby documents recording dataset characteristics and production workflows are generated by the creator, publisher or curator of a data product. As a part of metadata, the GUF data model internally reuses some elements of ISO 19115-1 (the updated version of the OGC Abstract Specification Topic 11 – Metadata) but not the general structure. This selective use of ISO metadata elements prioritizes future interoperability with developing ISO metadata models.

The first version of the GUF conceptual model was approved as an OGC Standard in 2016-05-25. GUF v.2.0 extends the original model by including the description of reproducible usage of a certain resource and corrects issues in several elements. This document describe 7 critical changes, 6 substantive changes and 9 administrative changes including Data Type changes, element name changes, new elements descriptions, cardinality changes and new classes and requirements among several minor text explanation corrections. This document details the changes between the two versions.

Even if most of the changes are additions or error fixes, any addition to an XML document results in validation error if an old application uses the previous version of the XML schemas. That is why we decided not to call the XML encoding part a v1.1 but a v2.0. The conceptual model could still be called v1.1 (because there is no significant change to the old version concepts) but this will create confusion with the decided version of the XML encoding. In the end it was decided to keep the version numbers synchronized to 2.0.



## KEYWORDS

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The following are keywords to be used by search engines and document catalogues.

ogcdoc, OGC document, API, openapi, html



# PREFACE

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This document provides Release Notes for OGC Geospatial User Feedback (GUF) Standard. Conceptual Model. v.2.0 OGC 23-017 and does not modify that Standard.

This document provides the details of edits, deficiency corrections, and enhancements of the above-referenced standard. It also documents those items that have been deprecated. Finally, this document provides implementation details related to issues of backwards compatibility.

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## SECURITY CONSIDERATIONS

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No security considerations have been made for this document.



## SUBMITTING ORGANIZATIONS

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The following organizations submitted this Document to the Open Geospatial Consortium (OGC):

- UAB-CREAF



## SUBMITTERS

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All questions regarding this submission should be directed to the editor or the submitters:

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# NORMATIVE REFERENCES

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# 1

## NORMATIVE REFERENCES

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The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

Joan Masó, Lucy Bastin: OGC 15-097r1, *OGC® Geospatial User Feedback Standard: Conceptual Model*. Open Geospatial Consortium (2016). <http://www.opengis.net/doc/IS/guf-conceptual/1.0.0>.

*OGC Geospatial User Feedback Standard: Conceptual Model v.2.0*

Arliss Whiteside, Jim Greenwood: OGC 06-121r9, *OGC Web Service Common Implementation Specification*. Open Geospatial Consortium (2010). [https://portal.ogc.org/files/?artifact\\_id=38867](https://portal.ogc.org/files/?artifact_id=38867).



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# TERMS AND DEFINITIONS

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## TERMS AND DEFINITIONS

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This document uses the terms defined in OGC Policy Directive 49, which is based on the ISO/IEC Directives, Part 2, Rules for the structure and drafting of International Standards. In particular, the word “shall” (not “must”) is the verb form used to indicate a requirement to be strictly followed to conform to this document and OGC documents do not use the equivalent phrases in the ISO/IEC Directives, Part 2.

This document also uses terms defined in the OGC Standard for Modular specifications (OGC 08-131r3), also known as the ‘ModSpec’. The definitions of terms such as standard, specification, requirement, and conformance test are provided in the ModSpec.

For the purposes of this document, the following additional terms and definitions apply.

This document uses the terms defined in Sub-clause 5.3 of OGC 06-121r9, which is based on the ISO/IEC Directives, Part 2, Rules for the structure and drafting of International Standards. In particular, the word “shall” (not “must”) is the verb form used to indicate a requirement to be strictly followed to conform to this standard.

For the purposes of this document, the following additional terms and definitions apply.

### 2.1. administrative change

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change that does not alter the conformance abstract tests for any requirements

**Note 1 to entry:** An administrative change includes typographical errors, changes in wording to improve clarity or consistency, and perfunctory changes such as changes in version numbers.

### 2.2. critical change

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change that alters requirements in a way that is known to cause reverse compatibility issues

### 2.3. substantive change

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change that alters requirements in a way that is not deemed to have a high risk for causing reverse compatibility issues

3

# INTRODUCTION

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## 3.1. Scope

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The GUF v2.0 OGC™ Standard defines a data model for encoding user feedback about geospatial datasets or metadata records describing datasets. It reuses and extends the v.1.0 of the GUF conceptual model (OGC 15-097r1) as well as ISO 19115-1:2024 data model and it is applicable to metadata catalogue servers and clients that want to exchange geospatial user feedback information.

Geospatial User Feedback as used in this standard encompasses: user comments, questions and answers, user reports of dataset problems and proposed solutions to those problems, ratings, usage reports, reproducible usage reports, citations of related datasets or publications describing usage, quality reports, relevant additional provenance information, significant events related to the use or interpretation of a dataset.

This document lists, classifies, and explains the new features of version 2.0 compared to version 1.0 of the GUF standard and their implications. Among these changes, the definition of the new requirement and the new QCM\_ReproducibleUsage class stand out, as they enable the description of the specific use of a resource in a reproducible way for other users. It also describes critical and substantial changes due to the definition of new data types, name changes, or changes in cardinality in elements previously existing in version 1.0, as well as administrative changes to resolve minor errors or improve some definitions.

Although most of the changes are additions or error fixes, even small changes to an XML document can lead to validation errors if older applications are using previous versions of the XML schemas. For this reason, we chose not to label the XML encoding as v1.1, but rather as v2.0. While the conceptual model could still be considered v1.1 (since no significant changes were made to the original concepts), this could lead to confusion with the versioning of the XML encoding. Ultimately, we decided to synchronize the version numbers and designate both as v2.0.

## 3.2. Document contributor contact points

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All questions regarding this document should be directed to the contacts provided below or the referenced standard editor(s).

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NAME	ORGANIZATION
Joan Masó	UAB-CREAF
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Oscar González	UAB-CREAF

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# CHANGE LOG

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# 4

## CHANGE LOG

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### 4.1. KEY

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- Source:
  - Change Request
  - GitHub Issue
  - Other
- Identifier: Change Request number or issue number and pull request/commit in GitHub
- Type:
  - A=Administrative
  - S=Substantive
  - C=Critical

See Clause 5 for more information on critical changes and Clause 6 for more information on substantive changes.

- Section: Section number in the updated document
- Description: Brief text describing the change
- Purpose: the reason for the change:
  - Clarity
  - Consistency
  - Interoperability
  - Perfunctory
  - Readability
  - Usability

## 4.2. Change table

**Table 2 – Change Log**

SOURCE	IDENTIFIER	TYPE	SECTION	DESCRIPTION	PURPOSE
Editor	ED-01	S	6.2 (Table 2)	New attributes “highlights” and “keywords” for QCM_Publication class.	Completeness.
Editor	ED-02	A	6.2 (Table 4)	Fix typo.	Clarity.
Editor	ED-03	C	6.3 (Table 5)	Updated Data Type for “problemDateTime” element from “CI_Date” to “DateTime”.	Consistency.
Editor	ED-04	C	6.3 (Table 5)	Updated Data Type for “expectedFixDate” element from “CI_Date” to “Date”.	Consistency.
Editor	ED-05	S	6.3 (Table 5)	“fixedResource” attribute cardinality updated from “zero or one (optional)” to “zero or more (optional)”.	Completeness.
Editor	ED-06	A	6.3 (Table 5)	Updated “target” attribute definition	Clarity.
Editor	ED-07	S	6.4	New requirement added. “QCM_ReproducibleUsage” as “MD_Usage” extension.	Consistency.
Editor	ED-08	S	6.4 (Table 6)	“QCM_ReproducibleUsage” class description.	Completeness.
Editor	ED-09	A	multiple	updating tables numeration.	Clarity.
Editor	ED-10	A	7.2 (Table 7)	Fix typo in “tag” attribute. Unification with schemas	Consistency.
Editor	ED-11	C	7.2 (Table 7)	Updated “additionalLineage” attribute name to “additionalLineageSteps”.	Clarity.
Editor	ED-12	C	7.2 (Table 8)	“userDetails” attribute Data Type changed from “CI_Responsibility” to “CI_Party”.	Consistency.
Editor	ED-13	S	7.2 (Table 8)	New “description” optional attribute added.	Clarity
Editor	ED-14	C	7.2 (Table 8)	“applicationDomain” attribute Data Type changed from “CharacterString” to “GUF_ApplicationDomain”. Cardinality changed from “Zero or more (optional)” to “One or more (mandatory)”. GUF v.1.0 “expertise Level” attribute deprecated	Consistency.
Editor	ED-15	S	7.2 (Table 9)	New “GUF_ApplicationDomain” Data Type added.	Completeness.
Editor	ED-16	A	7.2 (Table 11)	“resourceRef” attribute definition updated.	Clarity

SOURCE IDENTIFIER TYPE			SECTION	DESCRIPTION	PURPOSE
Editor	ED-17	A	7.2 (Table 11)	“metadataIdentifier” attribute considerations added.	Clarity
Editor	ED-18	A	7.2 (Table 11)	Corrigenda. “role” attribute replaces the GUF v.1.0 “targetType” attribute. In GUF v.1 Conceptual model documentation the role attribute appeared as “targetType”. Not in the UML models and XSD schemas, where “role” attribute was correctly documented.	Consistency.
Editor	ED-19	A	7.2 (Table 13)	“motivation” attribute cardinality added missing information.	Consistency.
Editor	ED-20	C	8.2 (Table 23)	“minimumRating” and “maximumRating” attributes overwrite GUF v.1.0 “minimumPossibleRating” and “maximumPossibleRating”.	Clarity.
Editor	ED-21	C	8.2 (Table 23)	“numberOfReproducibleUsageReports” attribute added to document the total number of populated reproducible usage reports.	Completeness.
Editor	ED-22	A	8.2 (Table 25)	Fix typo in “count” attribute definition.	Clarity.



5

# DESCRIPTION OF CRITICAL CHANGES

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The changes described below are critical as they involve changes in the XML encoding that will result in validation errors in documents based on version 1.0 of the GUF.

### 5.1. ED-03: “problemDateTime” Element Data Type Changes

---

In GUF version 1.0, Table 5 in section 6.3 describes the QCM\_DiscoveredIssue Data Type which is used to report issues found while using a certain resource.

QCM\_DiscoveredIssue contains an element named “problemDateTime” designed to define the date and time a problem is detected by a user of that resource.

In GUF v.1.0, “problemDateTime” was defined as a CI\_Date element, requiring users to specify both a “date” and a “dateType.” This could lead to inconsistencies with the “problemDateTime” element definition. As the “type of date” is included in the element name itself, no “dateType” is needed. Therefore, GUF v.2.0 updates the “problemDateTime” data type from “CI\_Date” to “DateTime.”

### 5.2. ED-04: “expectedFixDate” Element Data Type Changes

---

Similar to ED-03.

In GUF version 1.0, Table 5 in section 6.3 describes the QCM\_DiscoveredIssue Data Type and is used to report issues found while using a certain resource.

QCM\_DiscoveredIssue contains an element named “expectedFixDate” designed to define the date when a solution is expected to be released by the provider in the form of a “fixedResource” or directly as a fix in the original target resource.

In GUF v.1.0, “expectedFixDate” was defined as a CI\_Date element, requiring users to specify both a “date” and a “dateType.” This could lead to inconsistencies with the “expectedFixDate” element definition. As the “type of date” is included in the element name itself, no “dateType” is needed. Therefore, GUF v.2.0 updates the “expectedFixDate” data type from “CI\_Date” to “Date.”

## 5.3. ED-11: GUF\_FeedbackItem Data Type Element Name Update

---

For clarity purposes, Table 7 in section 7.2 describing GUF\_FeedbackItem data type, the GUF v.1.0 “additionalLineage” element name is updated to “additionalLineageSteps” in the version 2.0. This element is defined as “Additional lineage steps not included in the producer metadata,” making the new element name more self-explanatory.

## 5.4. ED-12: “userDetails” Element Data Type Changes

---

GUF v.1.0 GUF\_UserInformation Data Type included the element “userDetails” defined as a CI\_Responsibility type element and also a “userRole” element defined as GUF\_UserRoleCode.

As CI\_Responsibility Data Type contains an element named “role,” inconsistencies with the role described in the “userRole” element may appear.

To avoid this source of inconsistencies, GUF v.2.0 changes the “userDetails” element Data Type to CI\_Party.

## 5.5. ED-14: “applicationDomain” Data Type Changes

---

In GUF version 1.0, the GUF\_UserInformation class had two attributes: applicationDomain (a set of text strings that could contain multiple values, i.e., CharacterString [0..\*]) and expertiseLevel (a single value of type GUF\_RatingCode). This setup allowed multiple application domains to be associated with a user, but only one expertise level could be defined.

This design presented a significant issue: there was no way to specify which application domain the expertise level referred to. This was problematic because it is likely that a user may have different levels of expertise for different application domains, but the current configuration could not represent this distinction adequately.

To fix this issue, the original “expertiseLevel” attribute is deprecated, and the “applicationDomain” attribute type is now GUF\_ApplicationDomain Data Type and has a [1..\*] cardinality. This data type allows documenting several “domains” (Character String) and the “expertiseLevel” (GUF\_RatingCode) corresponding to each of them.

Related to ED-15 substantive change.

## 5.6. ED-20: Updating Element Names in UFS\_FeedbackSummary

---

In the GUF v.1.0 Standard, UFS\_FeedbackSummary contained two elements named “minimumPossibleRating” and “maximumPossibleRating.” The names of these elements suggest the minimum and maximum of the scale of rating used, but their description indicates that their content is the minimum and maximum rating received among all the feedback items for a particular resource.

To clarify the meaning of these elements, GUF v.2.0 overwrites “minimumPossibleRating” and “maximumPossibleRating” elements with “minimumRating” and “maximumRating” elements.

## 5.7. ED-21: UFS\_FeedbackSummary New “numberOfReproducibleUsageReports” Element

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As GUF v.2.0 adds the QCM\_ReproducibleUsage class to the model (see ED-07 and ED-08) it is relevant to add a new element “numberOfReproducibleUsageReports” to UFS\_FeedbackSummary Data Type. This element is mandatory, and is used to document the total number of populated reproducible usage reports for a particular resource.

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# DESCRIPTION OF SUBSTANTIVE CHANGES

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### 6.1. ED-01: New attributes in QCM\_Publication Class.

---

The QCM\_Publication Class (Table 2 of the documentation) extends CI\_Citation and is dedicated to describing a publication element. To enhance this description and better capture “knowledge,” two new attributes have been added in this new version: “highlights” and “keywords.”

The cardinality of these two new attributes is “zero or more.” As they are optional attributes, no compatibility issues are expected with previous versions.

### 6.2. ED-05: Changing cardinality in QCM\_DiscoveredIssue attribute.

---

QCM\_DiscoveredIssue describes an issue on the actual resource the publication is about. QCM\_DiscoveredIssue contains a fixedResource attribute to describe a new version of the target resource where the known problem is no longer present.

The fixedResource attribute has changed its cardinality to “zero or more,” maintaining its optionality but accepting more than one value. This means that more than one fixed resource, if they exist, can be documented.

As it is still an optional element, no compatibility problems are expected.

### 6.3. ED-07: New QCM\_ReproducibleUsage requirement added.

---

GUF v.2.0 defines a MD\_USAGE extension for describing the specific usage in a reproducible way (introducing a code snippet or a linkage to a script) of a resource by a user. This is a new “MD\_Usage” requirement “QCM\_ReproducibleUsage”.

As describing usage is optional, no compatibility issues are expected with previous versions.

## 6.4. ED-08: New class QCM\_ReproducibleUsage.

---

The new “QCM\_ReproducibleUsage” requirement supports the following attributes to describe usage (Table 6 of the documentation):

- `codeSnippet`: A fragment of code or execution sentence necessary to reproduce this usage. `codeSnippet` is mandatory if `codeSnippetLinkage` is not documented.
- `codeSnippetLinkage`: URL to the code or execution sentence necessary to reproduce this usage. `codeSnippetLinkage` is mandatory if `codeSnippet` is not documented.
- `codeMediaType`: Format of the necessary code or execution sentence to reproduce this usage.
- `platform`: Platform to execute the code or execution sentence of this usage.
- `version`: Version of the platform to execute the code or execution sentence of this usage.
- `schema`: Schema of the code or execution sentence to reproduce this usage (only for declarative code: e.g., JSON).
- `suggestedApplication`: Specific suggested application to open the code or execution sentence of this usage.
- `diagram`: Descriptive diagram of this reproducible usage.
- `diagramLinkage`: URL Link of the descriptive diagram of this reproducible usage.
- `diagramMediaType`: Format of the descriptive diagram of this reproducible usage (Mime Type).

As describing usage is optional, no compatibility issues are expected with previous versions.

## 6.5. ED-13: New attributes in GUF\_UserInformation Data Type.

---

Information about users includes a new optional element named “description” that supports documenting a user’s short description or bio.

As it is an optional element, no compatibility issues are expected.

## 6.6. ED-15: New “GUF\_ApplicationDomain” Data Type added.

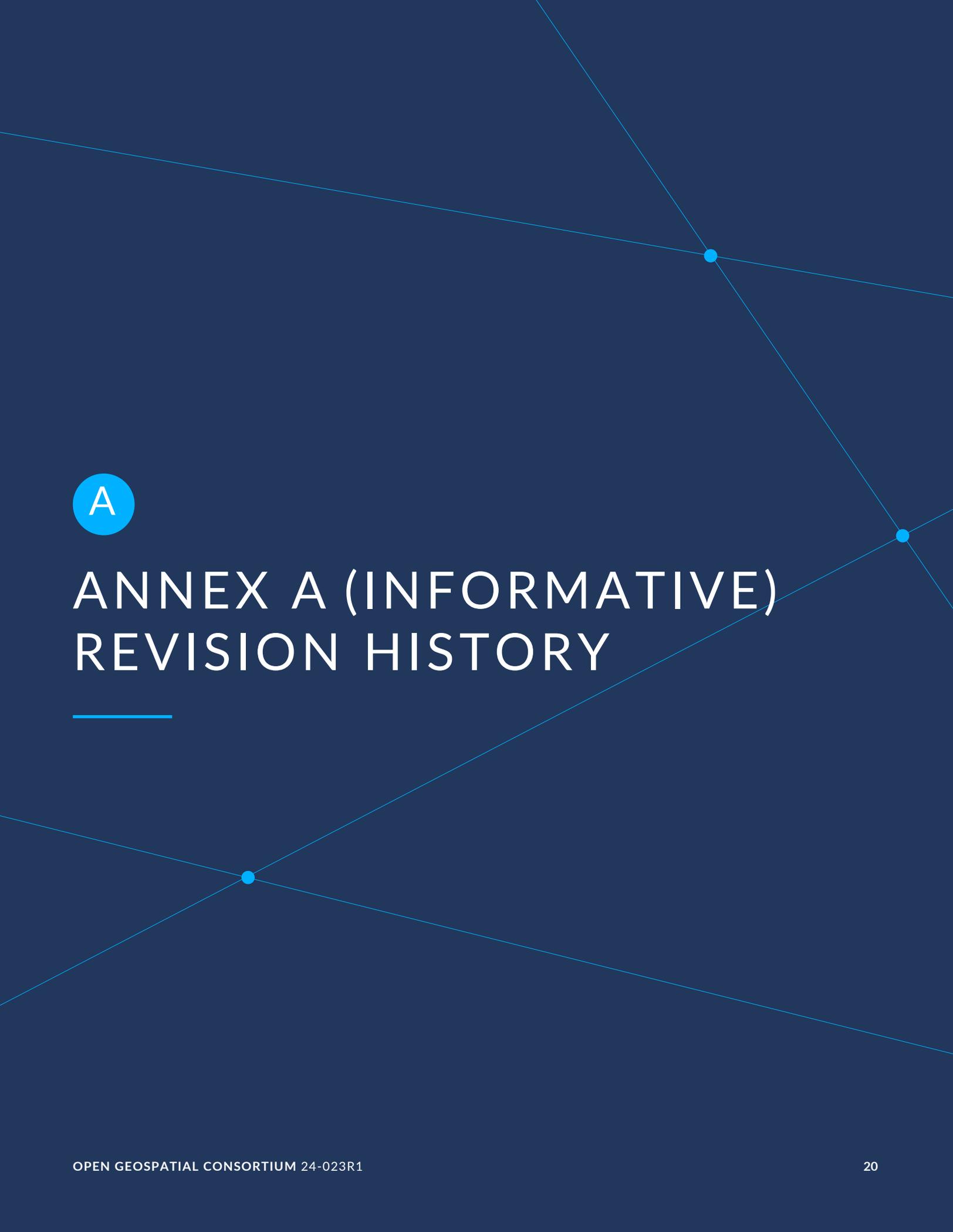
---

In GUF v.1.0, the GUF\_UserInformation Class had two attributes named “applicationDomain” (CharacterString [0..\*]) and “expertiseLevel (GUF\_RatingCode).” This configuration causes several application domains to may be described, but only one expertise level can be defined. Moreover without specifying to which of the application domains it corresponds (as is likely that the expertise level is not the same for all the application domains).

To fix this issue, in GUF 2.0 the original “expertiseLevel” attribute has been deprecated, and the “applicationDomain” attribute type is now GUF\_ApplicationDomain Data Type and has a [1..\*] cardinality. This data type allows documenting several “domains” (Character String) and the “expertiseLevel” (GUF\_RatingCode) corresponding to each of them.

Related to ED-14 critical change.

This change may cause compatibility issues with GUF elements encoded following previous versions.



A

# ANNEX A (INFORMATIVE) REVISION HISTORY

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# ANNEX A (INFORMATIVE) REVISION HISTORY

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**Table A.1** – Revision History

DATE	RELEASE	EDITOR	PRIMARY CLAUSES MODIFIED	DESCRIPTION
2023-11-22	0.1	Alaitz Zabala & Oscar González	all	initial version
2024-05-23	0.2	Alaitz Zabala & Oscar González	all	Reviewed version to present to OGC GUF SWG
2024-11-27	0.3	Carl Reed	all	text minor revisions
2025-01-22	0.4	Alaitz Zabala & Oscar González	all	Reviewed to fit OAB comments