Proposal for FGDC endorsement of OGC® GeoPackage 1.1

# Introduction

This proposal provides documentation needed to obtain FGDC recognition of OGC® GeoPackage Encoding Standard 1.1, <https://portal.opengeospatial.org/files/?artifact_id=64506>[[1]](#footnote-1). The FGDC endorsed OGC GeoPackage 1.0 [12-128r10][[2]](#footnote-2), which OGC has since deprecated[[3]](#footnote-3). With endorsement of GeoPackage 1.1, GeoPackage 1.0 will be withdrawn as an FGDC-endorsed standard.

The following information responds to the specific questions outlined per Section V.1 of the FGDC Policy on Recognition of Non-Federally Authored Geographic Information Standards and Specifications (November 2005)[[4]](#footnote-4).

# Documentation

1. **The category of the standard or specification (per Section III).**

Consortium developed specifications – specifications developed by consortia such as the Open Geospatial Consortium (OGC).

1. **The proposed level of FGDC recognition (per Section IV).**

Endorsement.

1. **A discussion of the applicability of the proposed standard or specification in Federal geospatial activities, including discussion of the conditions where it should be employed and anywhere it should not be, i.e., provide the scope of Federal geospatial applicability of the standard or specification.**

A GeoPackage is an open, standards-based, platform-independent, portable, self-describing, compact format for transferring geospatial information. The GeoPackage is the SQLite container, and the GeoPackage Encoding Standard governs rules and requirements of content stored in a GeoPackage container.

GeoPackage 1.1 defines the schema for a GeoPackage and describes conventions for storing vector features, matrix sets of imagery and raster maps at various scales, and extensions within a SQLite[[5]](#footnote-5) database. It defines GeoPackages for exchange and GeoPackage SQLite Extensions for direct use of vector geospatial features and/or tile matrix sets of earth images and raster maps at various scales. Direct use is the ability to access and update data in a "native" storage format without intermediate format translations in an environment that guarantees data model and data set integrity and identical access and update results in response to identical requests from different client applications. GeoPackage 1.1 facilitates widespread adoption and use of a single simple file format by both commercial and open-source software applications, on enterprise production platforms and mobile hand-held devices.

Mobile device users who require map/geospatial application services and operate in disconnected or limited network connectivity environments are challenged by limited storage capacity and the lack of open format geospatial data to support these applications. Mobile handheld devices do not yet have the processing power or battery life to tackle difficult geospatial product production and analysis tasks. GeoPackages are particularly useful on mobile devices in communications environments where there is limited connectivity and bandwidth.

SQLite was chosen as a platform, as the primary use case for designing GeoPackage was mobile device use. In this case, OGC specified a technology, which is unusual for OGC. Practicality and ease of implementation won out over standards purity. OGC has yet to get any negative feedback on this decision -- probably because SQLite is considered more like a library than a standalone application.

For more information on GeoPackage, visit <http://www.geopackage.org/>[[6]](#footnote-6).

1. **The specific reason(s) that the standard or specification would be of value to the Federal government and, if applicable, to other members of the FGDC. These should include, but not be limited to, identification of the specific FGDC subcommittee(s) and/or working group(s) whose members support the submission of the standard or specification and how it benefits its/their responsibilities.**

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1. **Any restrictions, limitations, or other constraints that may affect promulgation and/or adoption and/or implementation of the standard or specification, e.g., copyright, license fees, restriction of applicability to a specific technology, and the like. The FGDC staff will negotiate with standards organizations to make an attempt to acquire free standards documents for FGDC members.**

OGC are copyrighted. See Copyright Notice and Disclaimers | OGC[[7]](#footnote-7). There is no charge in acquiring OGC Standards.

1. **The name and business addresses of a point-of-contact (POC) in the proposing or sponsoring FGDC member agency and, if applicable, the name and business addresses of a POC in the proposing non-Federal body.**

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1. **Identification and/or explanation of the process by which the proposed standard or specification was developed and reviewed. This information will support FGDC determination as to whether the process meets the criteria for a voluntary consensus standards process as defined in OMB Circular A-119. When accredited standards development bodies such as ISO, ANSI/INCITS, and NIST are the authors only their identity need be supplied. Otherwise, a description of the development and review process and a list of participants must be included.**

OGC. See Section 9, Policies and Procedures for Adoption and/or Revisions of Standards, Technical Committee Policies and Procedures[[8]](#footnote-8)

1. <https://portal.opengeospatial.org/files/?artifact_id=64506>, accessed September 5, 2017 [↑](#footnote-ref-1)
2. See <https://www.fgdc.gov/standards/list>, accessed September 5, 2017 [↑](#footnote-ref-2)
3. <http://www.opengeospatial.org/standards/geopackage>, accessed September 5, 2017 [↑](#footnote-ref-3)
4. <https://www.fgdc.gov/standards/standards_publications/Non-FGDC_StandardsSpecs_Policy.pdf>, accessed June 23, 2017 [↑](#footnote-ref-4)
5. <http://sqlite.org/>, accessed September 5, 2017 [↑](#footnote-ref-5)
6. <http://www.geopackage.org/>, accessed September 5, 2017 [↑](#footnote-ref-6)
7. [www.opengeospatial.org/ogc/legal](http://www.opengeospatial.org/ogc/legal), accessed September 1, 2017 [↑](#footnote-ref-7)
8. <http://docs.opengeospatial.org/pol/05-020r25/05-020r25.html#93>, accessed August 30, 2017 [↑](#footnote-ref-8)