

E DIN EN ISO 19177-1:2024-09 (E)

Erscheinungsdatum: 2024-08-02

Geographic information - Geospatial API for tiles - Part 1: Core (ISO/DIS 19177-1:2024); English version prEN ISO 19177-1:2024

| Contents | | Page |
|---|--|-------------|
| Foreword | | vi |
| Introduction | | vii |
| 1 Scope | | 1 |
| 2 Normative references | | 1 |
| 3 Terms and definitions | | 2 |
| 4 Conformance | | 4 |
| 4.1 General..... | | 4 |
| 4.2 Requirements classes defining resources..... | | 4 |
| 4.3 Requirements Classes defining data origins..... | | 5 |
| 4.4 Requirements classes defining query parameters..... | | 6 |
| 4.5 Requirements classes for specific resource representations..... | | 6 |
| 4.6 Declaration of conformance..... | | 7 |
| 5 Conventions | | 7 |
| 5.1 General..... | | 7 |
| 5.2 Identifiers..... | | 7 |
| 5.3 Link relations..... | | 8 |
| 5.4 Use of HTTPS..... | | 9 |
| 6 Overview | | 9 |
| 6.1 Introduction..... | | 9 |
| 6.2 Evolution from OGC Web Services..... | | 10 |
| 6.3 Relationship to other OGC API standards..... | | 11 |
| 6.4 Using this standard independently..... | | 12 |
| 6.4.1 Description of the domain..... | | 12 |
| 6.4.2 Description of the observed or measured properties..... | | 12 |
| 6.4.3 Available formats and tile response expectations..... | | 12 |
| 6.4.4 Limitations..... | | 13 |
| 6.5 How to approach an implementation of an OGC API Standard..... | | 13 |
| 6.6 Why we call them “tiles”..... | | 15 |
| 7 Requirements Class “Core” | | 17 |
| 7.1 General..... | | 17 |
| 7.2 A tile..... | | 17 |
| 7.2.1 General..... | | 17 |
| 7.2.2 Operation..... | | 17 |
| 7.2.3 Parameter tileMatrix..... | | 18 |
| 7.2.4 Parameter tileRow..... | | 18 |
| 7.2.5 Parameter tileCol..... | | 19 |
| 7.2.6 Parameter tileMatrixSetId (optional)..... | | 19 |
| 7.2.7 Response..... | | 19 |
| 7.2.8 Error conditions..... | | 21 |
| 7.3 Declaration of conformance classes..... | | 21 |
| 7.3.1 General..... | | 21 |
| 7.3.2 Response..... | | 21 |
| 8 Requirements Class “TileSet” | | 22 |
| 8.1 Overview..... | | 22 |
| 8.2 Tileset resource..... | | 23 |

| | | |
|-----------|--|-----------|
| 8.2.1 | General..... | 23 |
| 8.2.2 | Tileset path..... | 23 |
| 8.2.3 | Response..... | 23 |
| 8.3 | Web API-defined TileMatrixSets..... | 26 |
| 8.3.1 | General..... | 26 |
| 8.3.2 | Web API Landing Page..... | 26 |
| 8.3.3 | TileMatrixSets..... | 27 |
| 8.3.4 | TileMatrixSet..... | 28 |
| 9 | Requirements Class “Tilesets List” | 28 |
| 9.1 | Overview..... | 28 |
| 9.2 | Tilesets list..... | 28 |
| 9.2.1 | General..... | 28 |
| 9.2.2 | Tilesets path..... | 28 |
| 9.2.3 | Response..... | 29 |
| 10 | Requirements Class “Dataset Tilesets” | 30 |
| 10.1 | Overview..... | 30 |
| 10.2 | General..... | 30 |
| 10.3 | Web API Landing Page..... | 30 |
| 10.3.1 | General..... | 30 |
| 10.3.2 | Response..... | 30 |
| 10.4 | Dataset tilesets..... | 31 |
| 10.4.1 | General..... | 31 |
| 10.4.2 | Operation..... | 31 |
| 10.4.3 | Response..... | 31 |
| 10.5 | Tiles..... | 32 |
| 10.5.1 | General..... | 32 |
| 10.5.2 | Response..... | 32 |
| 11 | Requirements Class “GeoData Tilesets” | 32 |
| 11.1 | Overview..... | 32 |
| 11.2 | General..... | 32 |
| 11.3 | Geospatial data resources..... | 33 |
| 11.4 | Geospatial data resources tilesets list..... | 34 |
| 11.4.1 | General..... | 34 |
| 11.4.2 | Operation..... | 34 |
| 11.4.3 | Response..... | 34 |
| 11.5 | Tiles..... | 34 |
| 12 | Requirements Class “Collections Selection” | 34 |
| 12.1 | Overview..... | 34 |
| 12.2 | Operation..... | 35 |
| 12.2.1 | General..... | 35 |
| 12.2.2 | Parameter <code>collections</code> | 35 |
| 12.2.3 | Response..... | 35 |
| 12.2.4 | Error conditions..... | 36 |
| 13 | Requirements Class “DateTime” | 36 |
| 13.1 | Overview..... | 36 |
| 13.2 | Describing the temporal extent..... | 36 |
| 13.3 | <code>datetime</code> query parameter request and response..... | 36 |
| 13.4 | <code>subset=datetime</code> query parameter request and response..... | 38 |
| 13.5 | Actual date & time response header..... | 39 |
| 13.6 | Closest date & time permission..... | 39 |
| 14 | Requirements Class “OpenAPI Specification 3.0” | 40 |
| 14.1 | Overview..... | 40 |
| 14.2 | Web API OpenAPI description..... | 40 |
| 14.2.1 | General..... | 40 |
| 14.2.2 | Response..... | 40 |

| | | |
|-----------|--|-----------|
| 15 | Requirements class “XML Tileset Metadata” | 43 |
| 15.1 | Overview | 43 |
| 15.2 | TileSet and TileSets List XML representation | 44 |
| 15.2.1 | General | 44 |
| 15.2.2 | Operation | 44 |
| 15.2.3 | Response | 44 |
| 16 | Requirements classes for tile encodings | 45 |
| 16.1 | General | 45 |
| 16.2 | Overview | 45 |
| 16.3 | Requirements Class “PNG” | 45 |
| 16.4 | Requirements Class “JPEG” | 46 |
| 16.5 | Requirements Class “TIFF” | 47 |
| 16.6 | Requirements Class “NetCDF” | 47 |
| 16.7 | Requirements Class “GeoJSON” | 48 |
| 16.8 | Requirements Class “Mapbox Vector Tiles” | 49 |
| | Annex A (normative) Abstract Test Suite | 50 |
| | Bibliography | 62 |