

# **GEOJSON**

## **PROPOSED WG**

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# GEOJSON

- A format for encoding data about spatially-bounded things – physical or informational – and their properties
- A comprehensive 2D geometry model that supports spatial analysis of streets, building footprints, and more
- Widely used in web mapping apps, JSON-based document databases, and web APIs

# STATUS

- GeoJSON is improving data interchange
- Maps abound, systems are evolving
- Intense demand for standardization, spec improvements, higher volume solutions, and extensibility
- Original GeoJSON authors are ready and willing to give change control to the IETF

# PROPOSED CHARTER

- Refine and improve the GeoJSON format, starting from draft-butler-geojson
- Describe a streamable sequence of GeoJSON texts based on RFC 7464
- Describe GeoJSON mappings of 'geo' URIs (RFC 5870)
- GEOPRIV “location” and “location object” concerns are out of scope

# REFINEMENTS

- Guidance on coordinate precision
- Interpreting undefined height or elevation
- Geometry at the anti-meridian and poles
- Timestamps for coordinates

# COORDINATE PRECISION

- Excessive precision inflates GeoJSON and hurts interoperability
- 103.141592653589797 vs 103.141593
- Sub-atomic vs 10 centimeter precision

# UNDEFINED ELEVATION

- Elevation is an optional coordinate value
- The interpretation of undefined elevation values is underspecified
- GeoJSON might follow section 3.4.5 of RFC 5870

# ANTI-MERIDIAN

- Consider two points on either side of the anti-meridian (dateline)
- If we say they determine a line segment, do we mean the short one across the anti-meridian or the long one?
- GeoJSON is ambiguous



# TIMESTAMPS

- Over time, there is drift between WGS 84 and other local coordinate reference systems
- Without recording timestamps, GeoJSON is not suited for other than real-time applications
- RFC 7105 may be useful here

# HIGH VOLUME

- GIS datasets run to  $> 1\text{M}$  records
- Serialization of such long JSON arrays is problematic
- JSON text sequences may be helpful
- Yet to be determined is how to convey properties of the feature collection

# EXTENSIBILITY

Provide sound and consistent guidance for extensions such as

- Map styling
- Moving features
- GPX-like (paths, routes)
- Geocoding

# GEOPRIV

- GeoJSON does not specify associations between geographic features and particular devices, users, or facilities
- Does not fit the definition of “Location Information” (Section 5.2 RFC 3693)
- Does not fit the specification of a "Location Object" (Section 5.2 RFC 3693)

# OTHER GROUPS

- W3C and OGC (Spatial Data on the Web WG)
- OASIS (OData)
- ECMA

# DOCS

- Proposed charter: <http://datatracker.ietf.org/doc/charter-ietf-geojson/>
- draft-butler-geojson: <http://tools.ietf.org/html/draft-butler-geojson>