OGC API STANDARDS FOR WEB USE

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Open Geospatial Consortium

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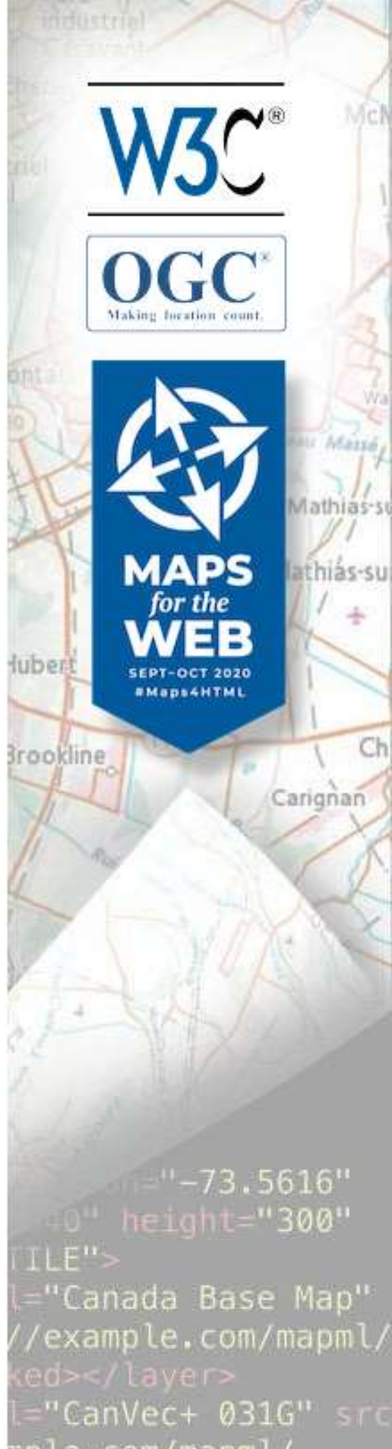
W3C/OGC Joint Workshop Series on Maps for the Web

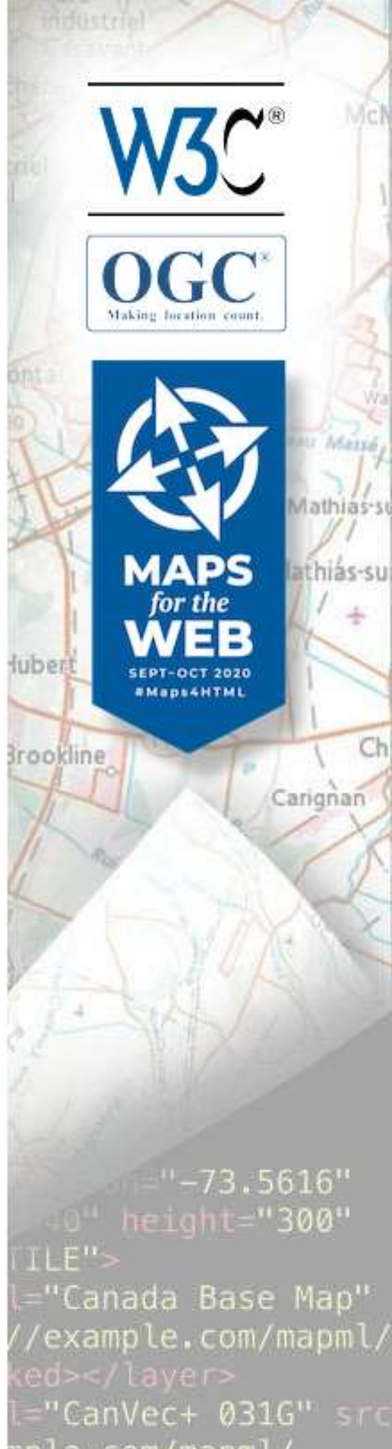
w3.org/2020/maps/



Overview

- About OGC
- Background to OGC API development
- Motivation for developing OGC APIs
- Overview of OGC API standards
- Innovation initiatives
- How to get involved

#OGCAPI



What is OGC?

A Global consortium representing over 500 industry, government, research and academic member organizations:

A hub for thought leadership and innovation for all things related to location

A neutral and trusted forum for tackling interoperability issues within and across communities

A consensus-based open standards organization for location information

Who are our members?

The world's leading and comprehensive community of experts making location data more findable, accessible, interoperable and reusable

OGC

Commercial

- Business Development
- Competitive Technical Advantage
- Global; Brand Exposure
- Funding for Innovation

Government

- Innovation and Market Support
- Trusted Advice
- International Partnerships
- Operational Policy, Support, and Certification

Research & Academia

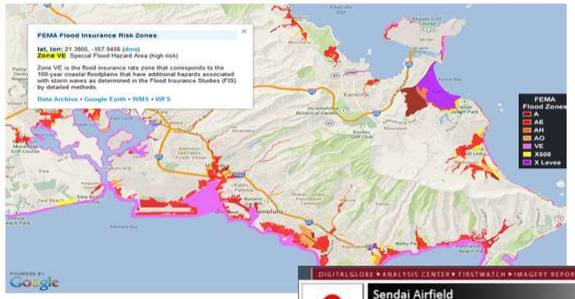
- Applied Research Partners
- Funding for Innovation
- International Collaboration
- Citations

Background

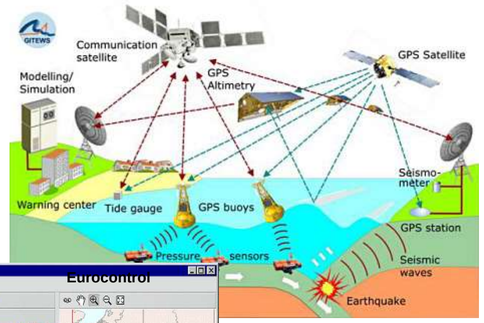
OneGeology.Org

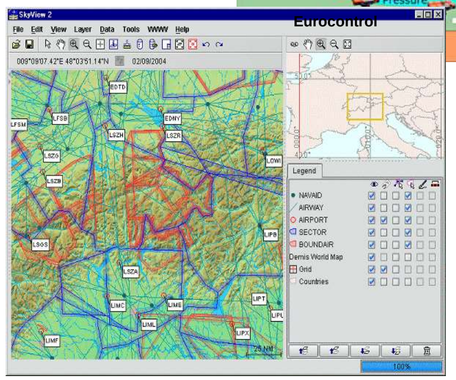
OGC Web Services (OWS)
Web Map Service (WMS)
Web Map Tile Service (WMTS)
Web Feature Service (WFS)
Web Coverage Service (WCS)

OpenIOOS.Org



PacIOOS has generated a Web Map Service (WMS) and Web Featu
These interoperable Open Geospatial Consortium (OGC) standards w
mapping applications: WMS GetCapabilities • WFS GetCapabilities





“There are more than 200K OGC Web Services deployed across the Web”
- Source: GeoSeer spatial data search engine: https://geoseer.net

Background: OGC Web Services

	WMS	WFS	WCS	WPS	SOS	SPS	CSW	WMTS
Use HTTP methods explicitly.	Y	N	Y*	N	N	N	N	Y
Be stateless.	Y	Y	Y	Y	Y	Y	Y	Y
Expose directory structure-like URIs.	N	N	N	N	N	N	N	Y
Use HTTP Error codes	N	N	N	N	N	N	N	N
Transfer XML, JavaScript Object Notation (JSON), or image.	Image	XML	Any	Any	XML	XML	XML	Image

Source: OGC 15-052r1r1

Timeline

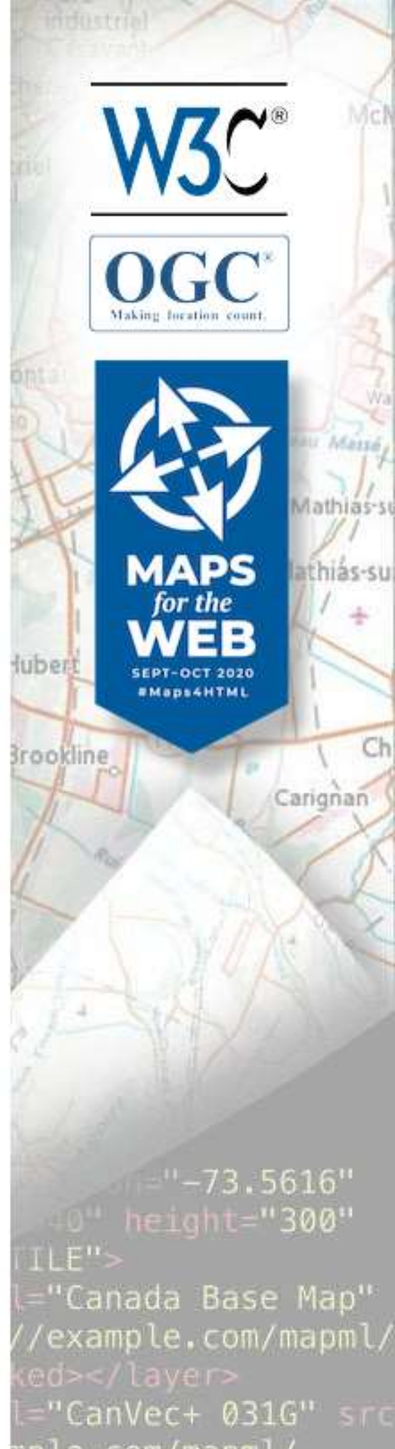
2015
- Testbed-11 Comparison of REST to classic OGC Web Services

2016
- Testbed-12 work on a RESTful binding of the WPS
- Focus of discussions shifts from REST to Web APIs

2017
- OGC® Open Geospatial APIs - White Paper published

2018
- Work on version 3 of the Web Feature Service (WFS3) starts

2019
- WFS3 draft specification renamed OGC API - Features
- OGC API – Features – Part 1: Core standard is published

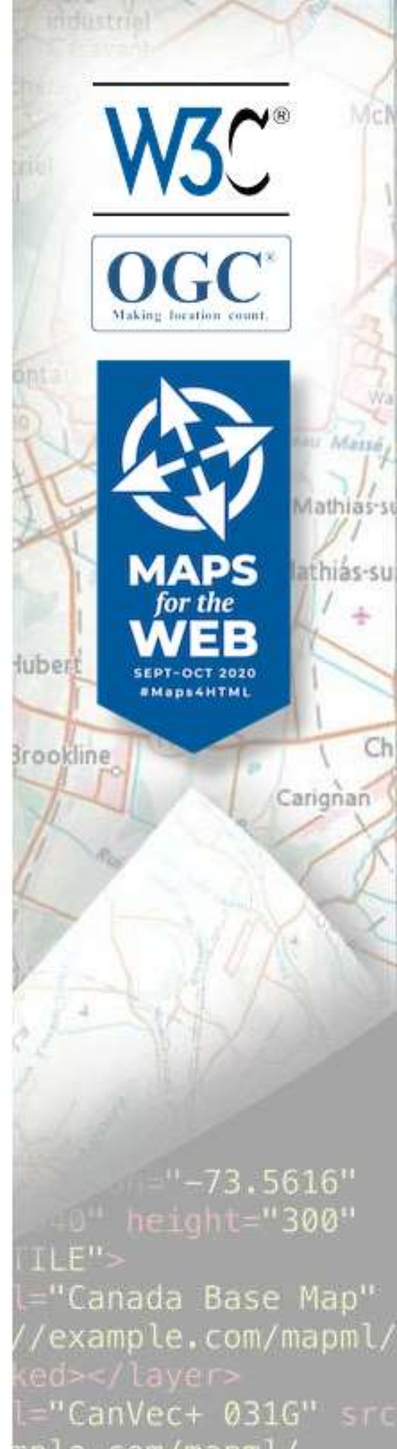


‘Why’ OGC APIs

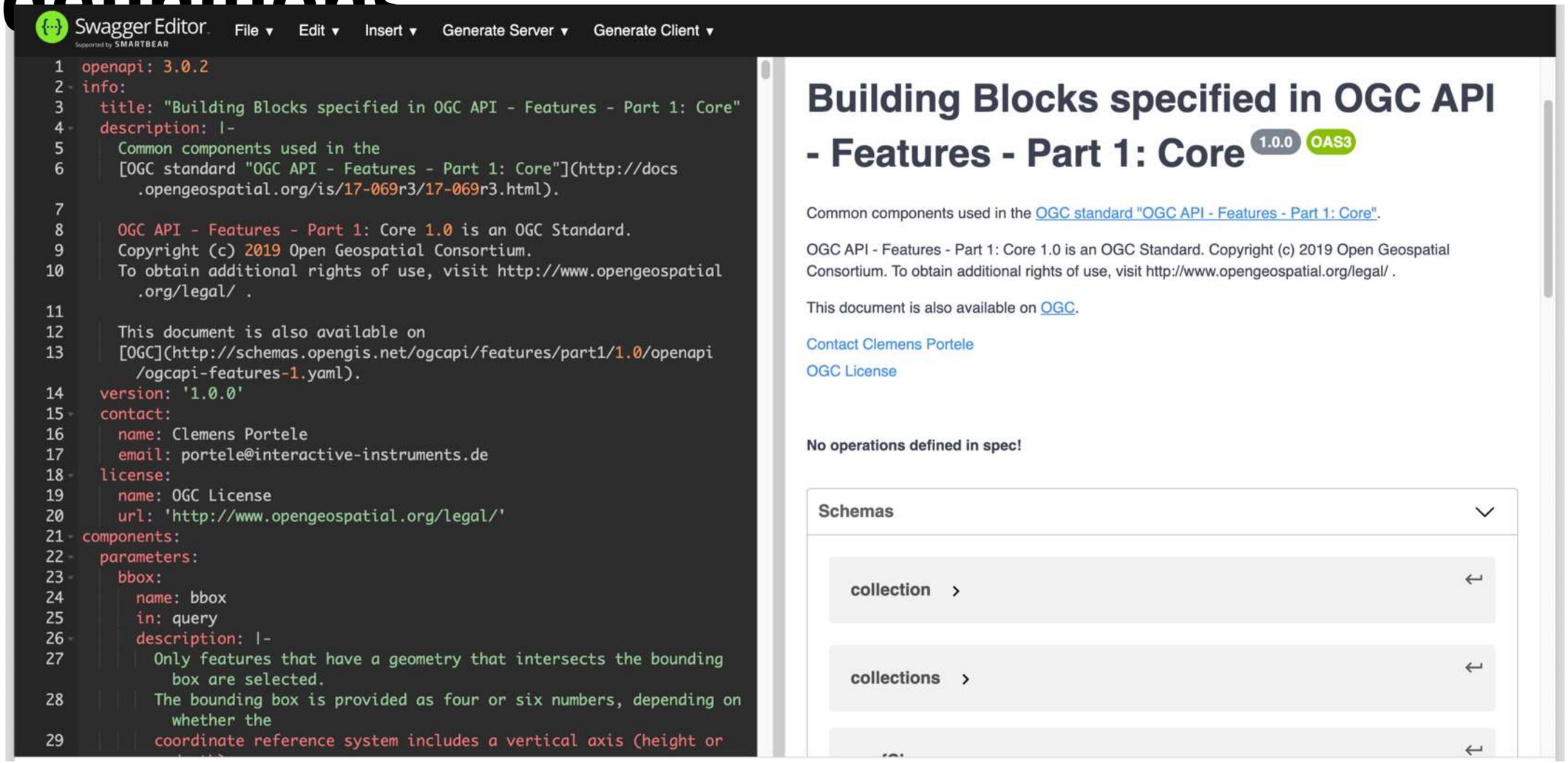
- APIs are a popular, effective method for rapid software development
- API variations degrade interoperability
- Open Standards enable interoperability of independent implementations
- OGC APIs will improve interoperability between Web APIs

OGC API Standards Development

- Modular API building blocks;
  spatially enable Web APIs in a consistent way
- Spatial Data on the Web Best Practices
- Leverages OpenAPI
- Focus on developer experience and usability
- Modular building blocks for access to spatial data that can be used in data APIs
- Open development; Public GitHub, Early implementations,
  In-depth validation



API First Approach – using OpenAPI definitions



OGC API standards

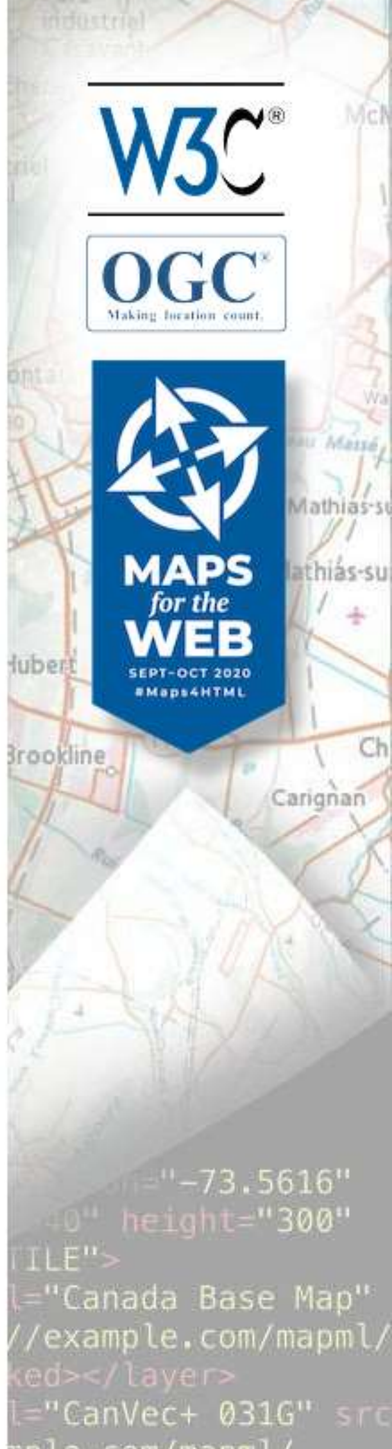
Approved

- OGC API – Features

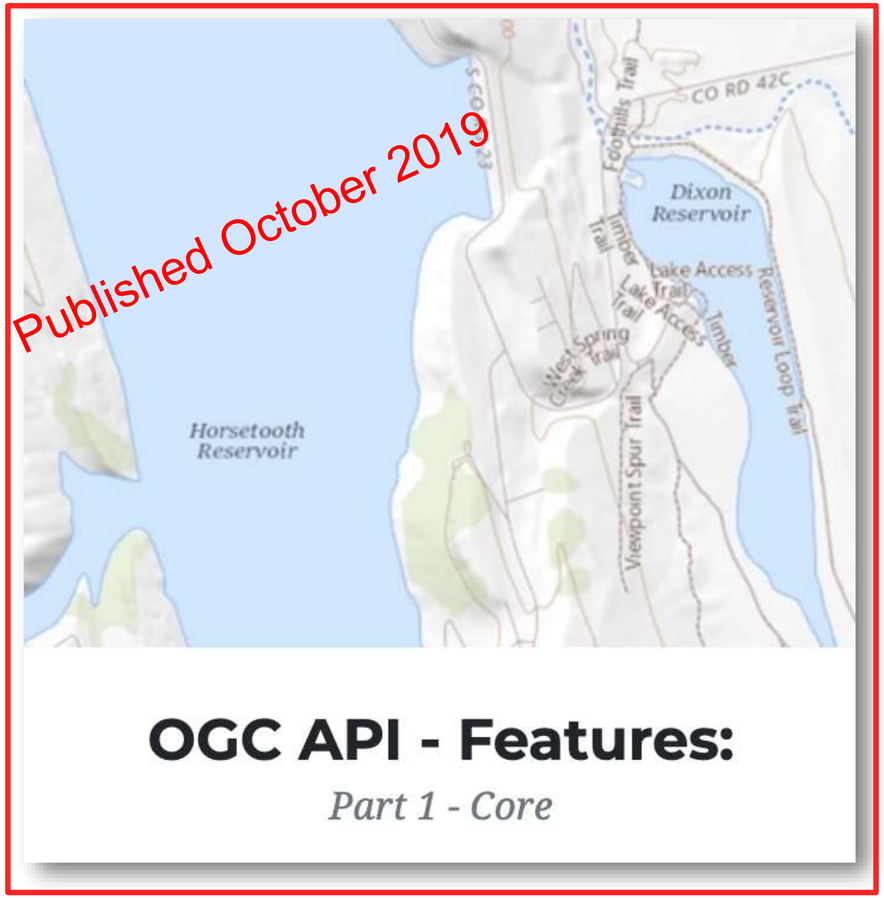
Draft

- OGC API – Common
- OGC API – Coverages
- OGC API – Records
- OGC API – Processes
- OGC API – Tiles
- OGC API – Maps
- OGC API - Environmental Data Retrieval
- OGC API – Styles

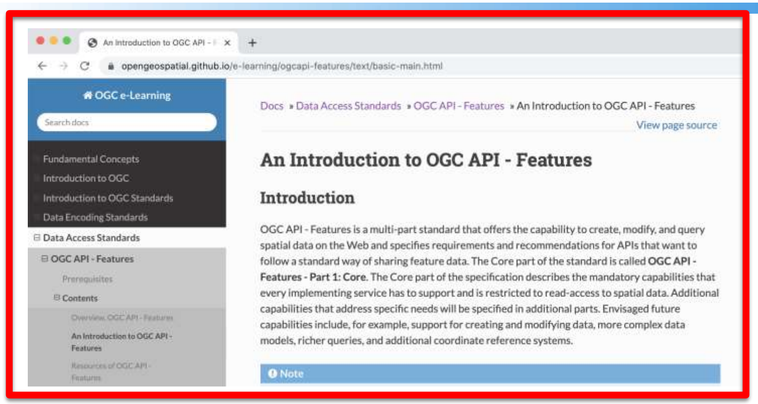
- Future concepts: DGGS, Routing



What to expect from each approved OGC API standard



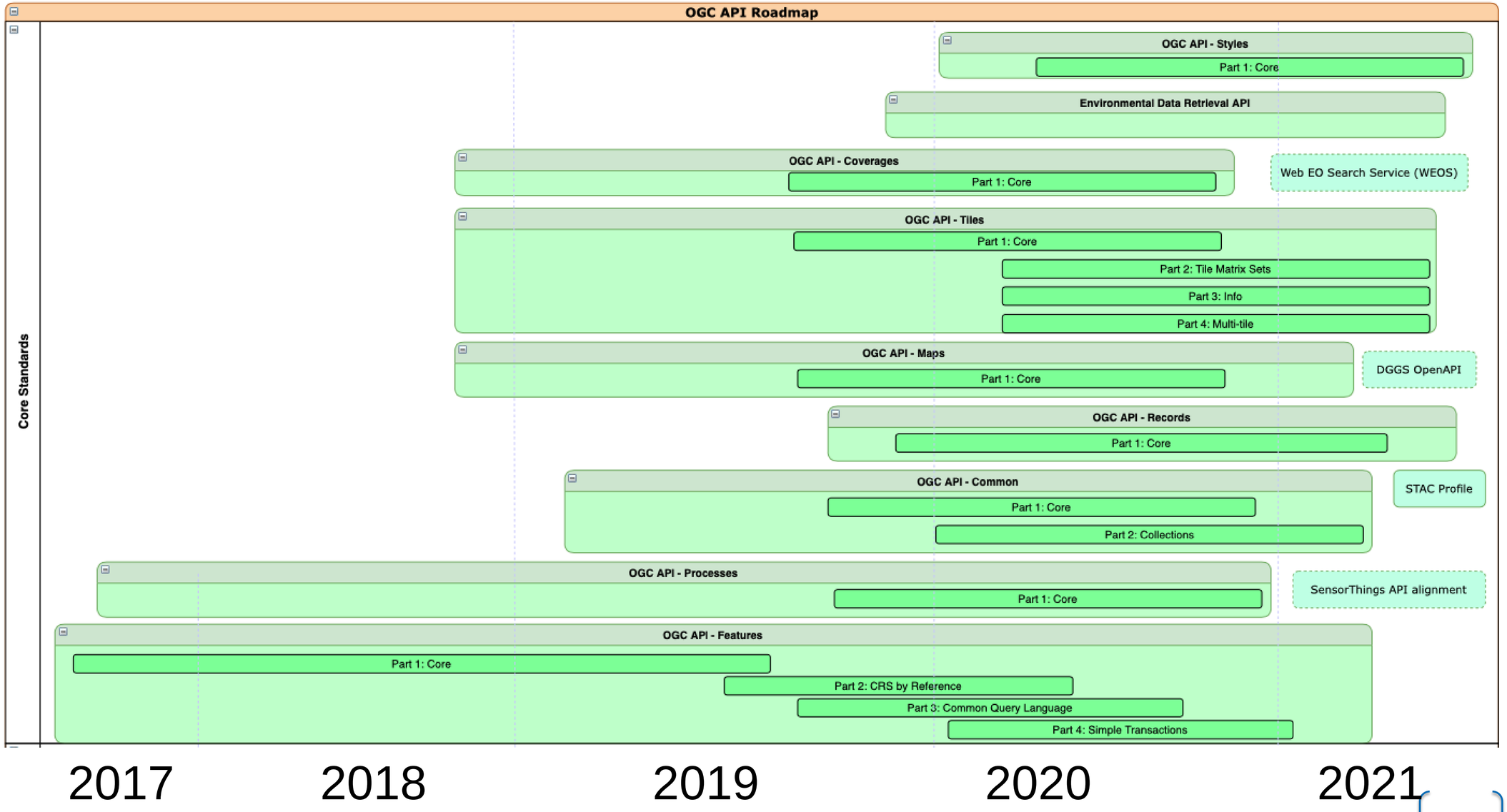
Standards document
& OpenAPI definition



Tutorials & Guides

Executable Test Suite

Roadmap



Sprints, Hackathons, Pilots, Testbeds and Innovation

Previous

- OGC API Hackathon: June 2019
- STAC and OGC API - Features and Catalogues Sprint: December 2019
- ESIP and OGC Coverage Processing and Analysis Sprint: January 2020
- Environmental Data Retrieval API Sprint: March 2020
- OGC API – Tiles Sprint: April 2020
- Routing Pilot, Vector Tiles Pilot
- Testbeds 15 & 16 – APIs for Styles, Maps and Tiles, SWIM, DGGS
- 3D Data Container and Tiles Pilot
- … and many more

Next up

OGC API – Common & OGC API – Features Virtual Code Sprint
On Sept 29 – 30, 2020
Register at https://portal.ogc.org/public_ogc/register/q3_api.php

THANK YOU!

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http://ogcapi.ogc.org
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