Time for a Health Spatial Data Infrastructure?

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AUGUST 25 2020

The world's leading and comprehensive community of experts making location information:

- **F**indable
- **A**ccessible
- **I**nteroperable
- **R**eusable

OGC®

What is OGC?

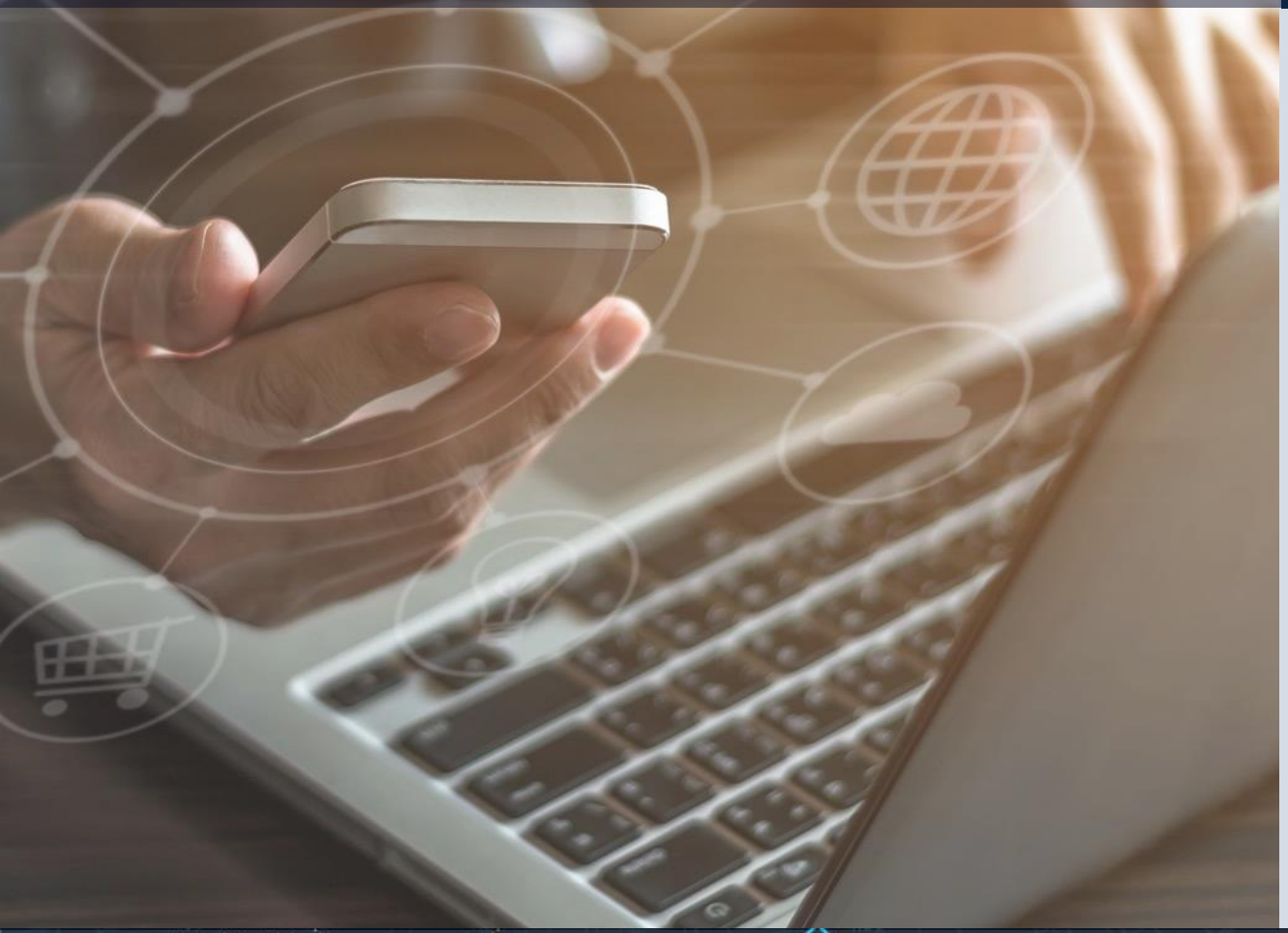
A Global consortium representing over 500 industry, government, research and academic member organizations:

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

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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

Our perspective – Location & Information Sharing

- [National States Geographic Information Council on the value of GIS in the pandemic]
  - "More leaders are recognizing **the value of "knowing the where"**
  - "By **geo-enabling** public health and emergency response data…to understand COVID-19 in the US and mitigate its spread and overall impact."

- [Guidance from National Alliance for Public Safety GIS on information sharing for crisis management]
  - "Mutual Aid and Crisis Management Systems (MACM) in the Public Safety Community suffer from **a lack of use of interoperability and information exchange standards** for system to system interoperability"

- [Recommendations from Research Data Alliance on data sharing]
  - "There is a need **for timely and accurate** collection, reporting and sharing of data within and between research communities, public health practitioners, clinicians and policymakers"
  - "The **harmonization** across these sophisticated yet diverse systems combined with the **timeliness** of accessing data across information systems are currently major **roadblocks**"

- [Lessons learned from the National Academies of Science, Engineering and Medicine on geospatial needs for a pandemic-resilient world]
  - "Epidemics and pandemics such as the COVID-19 outbreak have **clear geographic dimensions**"
  - "Geospatial information can play **vital roles** in crafting effective government and societal responses at the operational, tactical and strategic levels"

Too many COVID-19 Portals and Dashboards

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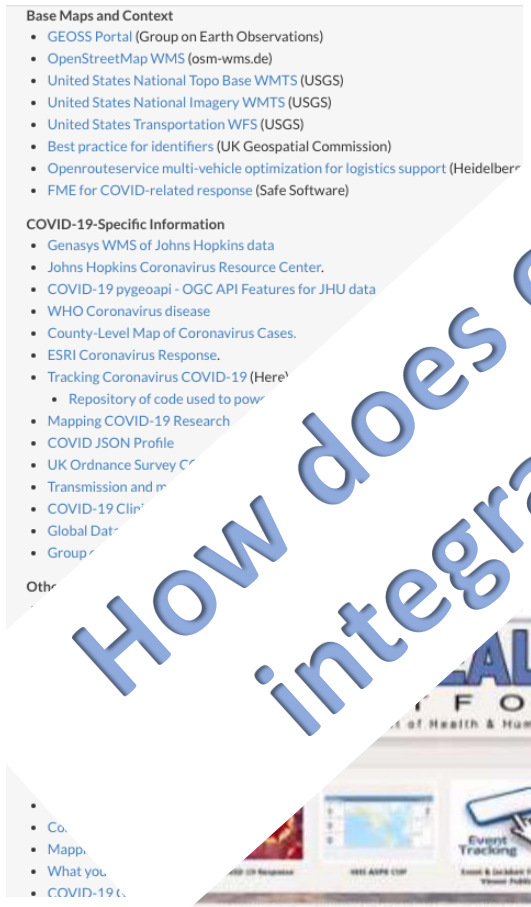

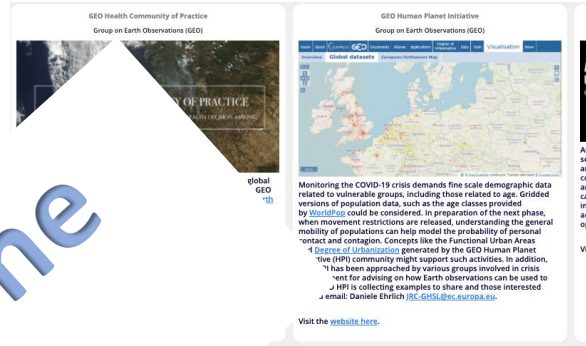

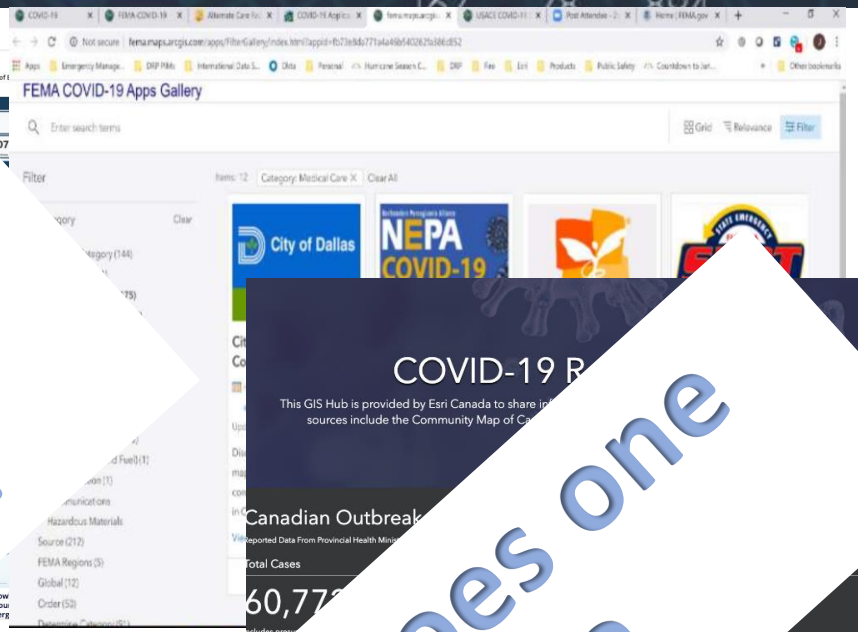

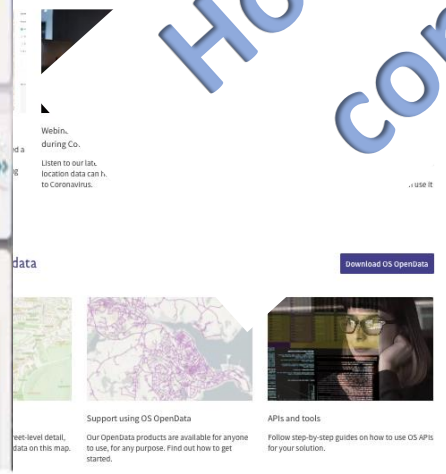

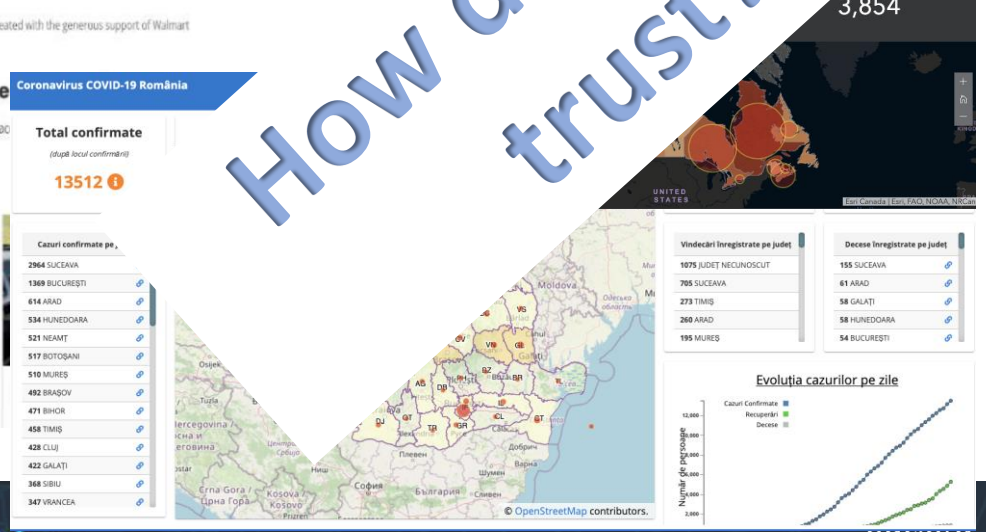

How does one integrate?

How does one contribute?

How does one trust?

What we've heard

- We are scraping websites to get information. There are no APIs, let alone standard APIs….
- We are spending most of our time figuring out how to connect to data (different hospitals, different counties, different states, different health departments), how to keep it up to date, how to interpret it …. And then the next day, it all changes again!
- As health care professionals, we don't have the data at the appropriate granularity level to customize a plan for our patient
- As government officials, we don't have the data at the appropriate granularity level to make custom local decisions
- How do we integrate mobility data?
- ….

Is it time for a Health Spatial Data Infrastructure?

- We need to **collaboratively** develop and evolve a Health SDI based on standards and FAIR location information – a community-based effort that

  - **Brings together** location experts in government, industry and academia from across the world and across domains
  - Delivers FAIR location-referenced information via the use of **open standards** and APIs
  - Treats **location**/geospatial information as a **unifying** concept and a differentiator in analysis and decision making - rather than an afterthought
  - Supports **data-driven** decision making for rapid response (at any level)
  - Enables **granular sharing** and correlation of data for impact on local policy and economic recovery
  - Empowers data scientists, **innovators** and entrepreneurs to think outside the box
  - Facilitates a **practical dialog** on issues of data sharing from the technical, policy and privacy perspectives
  - Demonstrates the feasibility and sustainability of an **operational ecosystem** that is beneficial to government and public safety officials, the medical/health community as well as secondary impacted industries
  - Tackles confidentiality and intellectual property issues and employs **ethical practices** in the process
  - Can serve as a global Pandemic Early Warning, Response, and Recovery Platform

Health Spatial Data Infrastructure Initiative

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- Build on the **latest technological developments** from access and integration of location information to applications of Artificial Intelligence and Machine Learning to advances in data science, analytics and visualization.
- Incorporate NOT just the traditional layers of a typical SDI, but also a whole new set of dynamic crowd-sourced privately collected such as **mobility data**
  - The incorporation of such data presents a fundamental shift in the SDI concept that is already being actively explored in other industries such as transportation and infrastructure with the rise of HD maps
  - The incorporation of such data raises not only technical issues but equally privacy concerns that will need to be addressed
- Support **secondary industries impact** of a health crisis, as understanding supply-chain repercussions and emerging use cases such as implications on broadband service provision and expansion to rural areas to support teleworking and distance learning
  - The availability of data from across disciplines via standard models and APIs is key to the support of emerging use cases
- Enable local decision making by non-geospatial-savvy users such as clinicians using local virus spread information to **derive individualized risk indices** for their patients in combination with their health history and symptoms.
  - The concept of incorporating analysis and insights gleaned from such location data from a trusted Health Spatial Data Infrastructure into the routine of clinicians is ground-breaking and key to better and more accurate response

This initiative will map a path to a global, Pandemic Early Warning, Response, and Recovery Platform that will ensure the world will not again face endless lockdowns, complete disruption of entire societies, unprecedented job losses and trillions of dollars in economic costs due to an unexpected contagious disease.

https://www.ogc.org/projects/initiatives/healthsdi

Thank You!

Community

500+ International Members
110+ Member Meetings
60+ Alliance and Liaison partners
50+ Standards Working Groups
45+ Domain Working Groups
25+ Years of Not for Profit Work
10+ Regional and Country Forums

Innovation

120+ Innovation Initiatives
380+ Technical reports
Quarterly Tech Trends monitoring

Standards

65+ Adopted Standards
300+ products with 1000+ certified implementations
1,700,000+ Operational Data Sets Using OGC Standards

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