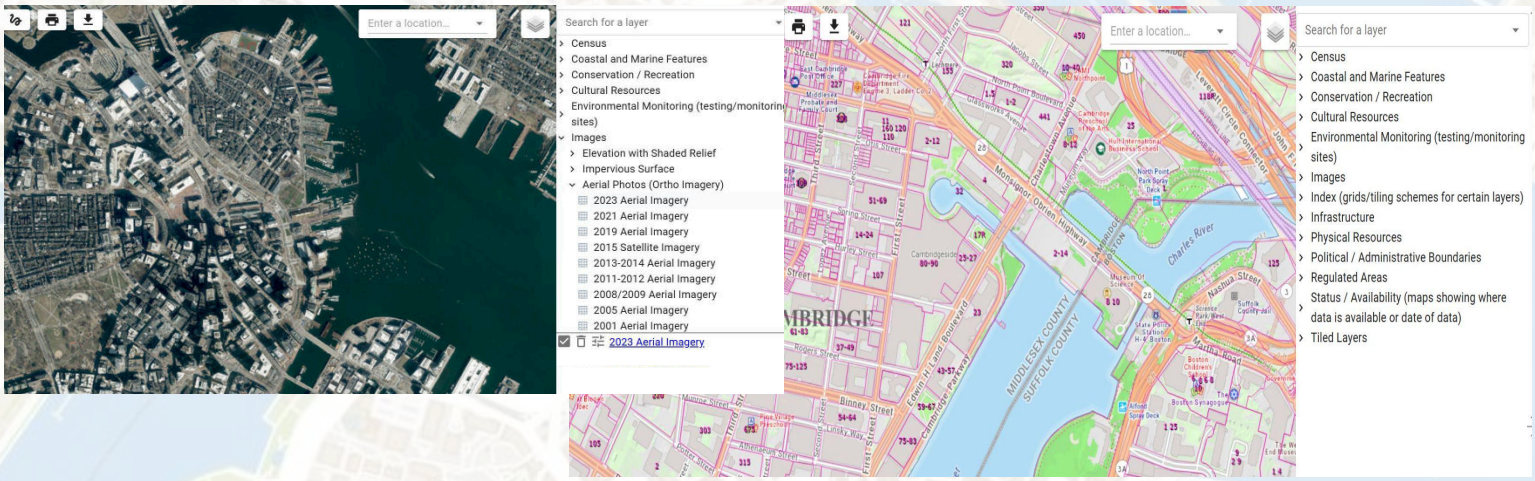
GeoSolutions USA

MassGIS Case Study

MassGIS Leverages GeoServer to Power MassMapper

MassMapper: The Online Interactive Mapping Tool Provided by MassGIS



MassGIS is the Commonwealth of Massachusetts' Bureau of Geographic Information and serves as the state's primary source for geospatial data and services. In support of its mission to make geospatial information accessible to the public, MassGIS developed **MassMapper**, MassGIS's flagship interactive map.

CHALLENGES

MassGIS needed a flexible, standards-based web mapping platform that could serve large volumes of spatial data to a diverse set of users, government agencies, researchers, developers, and the general public. The system had to support complex spatial queries, high-availability services, and Open Geospatial Consortium (OGC) standards such as WMS and WFS.

RESULTS

Impact for Local Governments
Regional GIS managers benefit directly from MassGIS's use of GeoServer through:

- **Reliable access to authoritative data**
- **Improved data interoperability**
- **Reduced operational burden**
- **Support for transparency and public engagement**
- **2,500+ MassMapper launches per business day**
- **169,000+ GeoServer requests per business day**

SOLUTION

For almost 20 years, MassGIS has leveraged **GeoServer**, a robust open-source server for sharing geospatial data. GeoServer provides the backbone for MassMapper by enabling the efficient serving of data via OGC-compliant services, supporting dynamic styling with SLD and integration with other open-source tools and software, including PostgreSQL, PostGIS, Leaflet, and Apache - as well as proprietary tools in a fully hybridized web mapping platform.

Key features implemented:

- **WMS/WFS services** for hundreds of statewide datasets.
- Efficient publishing of **parcel data, wetlands, infrastructure, structures, addresses, land use/land cover** with fine-grained control over styling and access.
- Easy integration with MassMapper's custom web interface and third-party applications used by planners, assessors, and emergency managers.

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NAICS:541370, 541511 | **CAGE**: 9EF10

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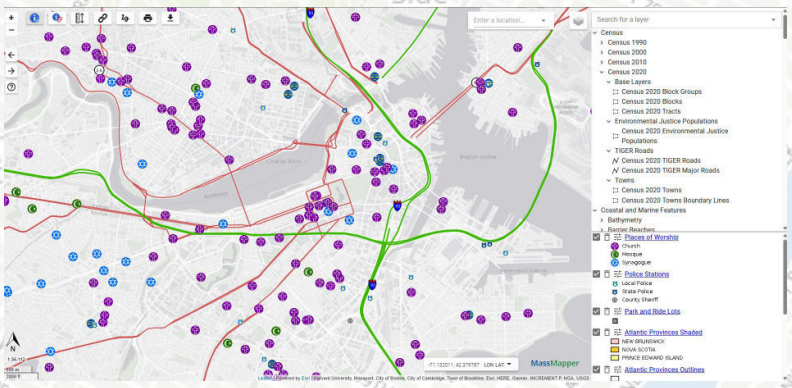
MassGIS Leverages GeoServer to Power MassMapper

Background

MassGIS, the Commonwealth of Massachusetts' Bureau of Geographic Information, manages one of the most comprehensive and trusted public GIS infrastructures in the United States. Established to promote the effective use of geospatial information across all levels of government, MassGIS plays a critical role in supporting data-driven decision-making, transparency, and public access to geographic data. Its mission is to ensure that reliable, authoritative, and up-to-date spatial information is readily available to agencies, municipalities, businesses, and the general public through modern, scalable, and open technologies.

Over nearly two decades, **GeoServer** has served as the technological backbone of this initiative, providing a robust, standards-compliant environment for managing and serving hundreds of statewide layers, including **parcels, aerial imagery, infrastructure, environmental resources, zoning, and transportation networks**. GeoServer's adherence to Open Geospatial Consortium (OGC) standards such as WMS, WFS, and WCS allows MassGIS to ensure seamless interoperability between systems and consistent data delivery across departments and applications.

The collaboration with **GeoSolutions**, through their **enterprise support services**, ensures continuous optimization, scalability, and security improvements across the MassMapper platform. Beyond technical support, GeoSolutions also provides guidance on best practices, performance tuning, and architectural design, helping MassGIS align its infrastructure with evolving standards and user needs.



MassMapper at work

Solution

The MassMapper platform runs on clustered **GeoServer** deployments integrated with **PostGIS**, and **Leaflet**, providing a scalable, high-availability system for statewide geospatial data delivery.

At its core, **GeoServer** delivers OGC-compliant **WMS/WFS** services that power applications for planners, assessors, and emergency managers, ensuring fast and reliable access to authoritative data.

Through an **enterprise support** and **subscription** partnership with **GeoSolutions**, MassGIS benefits from ongoing optimization, scalability improvements, and expert guidance on performance tuning, security, and cloud readiness. This collaboration keeps GeoServer stable, efficient, and ready to evolve with MassGIS's open data mission.

Key results:

- Publishing of over **250 datasets** with dynamic **SLD/CSS** styling.
- Over **160,000 daily map requests** with high reliability.
- An open-source model that cuts costs and enhances transparency statewide.

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