



Legislative Report: Natural Hazard Mitigation Data Portal (GeoPortal 2.0)

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Introduction

In the 2021-23 biennium, the state Legislature tasked WaTech (through a budget proviso in ESSB 5693) to develop GeoPortal 2.0 - a modern, centralized data platform that allows agencies to share geographic data critical to natural hazard mitigation. The data hosted on the system is used to evaluate risks such as tsunami hazards, sea level rise and potential impacts to people and infrastructure. A progress report was provided to the Legislature on Dec. 1, 2022. The proviso requires a final report to the Legislature by June 1, 2023, with recommendations for enhancing the state's ability to respond to natural hazards by improving its ability to quickly share vital information.

The mission for the WaTech Geospatial Program is to ensure that all agencies are able to use and access geographic information when making business decisions.

Since work started in July 2021, WaTech has created a centralized location (GeoPortal 2.0) for storing geographic data so agencies can access information and more effectively collaborate on analytical efforts and mitigation planning. The focus has been on sharing sensitive geographic data, defined as Category 2 & 3 by [OCIO Policy 141.10 \(4.1\) Data Classification Standard](#). For example, draft landslide locations that may affect homes need to be carefully reviewed by multiple agencies before making the information public. This is the first time that agencies have had a platform to share sensitive geographic information efficiently and securely. The portal was developed on a repeatable framework that can be applied to additional state priorities including equity and social justice, low-carbon energy siting, and salmon recovery.

Outcomes

The GeoPortal 2.0 project was completed on-time and within budget. There are 96 datasets shared by 18 agencies using this data platform. The real benefit however is not the number of users, but the results delivered to state agencies and ultimately the residents of our state.

Examples of results that would not be possible without GeoPortal 2.0 include:

- Unlimited data sharing: The portal provides agencies with an unlimited ability to securely view and share maps and geographic data on the portal for Category 2 data (and Category 3 information for authorized agency employees). WaTech provides the platform and software to allow this level of access as part of the service offering and leverages the full security and authentication procedures as reviewed by WaTech's Privacy Office and Office of Cyber Security. The ability to securely view and share geographic information between agencies demonstrates an improved enterprise approach to GIS the state and the ability to expand enterprise GIS data sharing capabilities in the future.
- Natural Hazard Profiles for Mitigation Planning. The Emergency Management Department (EMD) uses data stored on the portal to develop enhanced mitigation hazard planning scenarios. These analyses are then shared and reviewed with 18 other agencies that participate in the Hazard Mitigation Working Group - including the Department of Natural Resources, the Department of Health, the Office of the Insurance Commissioner and the

University of Washington. There are 10 hazards (including tsunamis, wildfires, flooding and storms) reviewed by this working group and are categorized on the platform so that data and draft analyses can be reviewed by the appropriate agencies. Once the analyses are complete and the hazard and resiliency plans are final, most of the data can then be shared publicly via the open geospatial platform, geo.wa.gov.

- Ability to share sensitive data among multiple agencies. Example: Washington has residents on Medicare/Medicaid who are medically dependent on power utilities. The Energy Office within Commerce shares power outage location information with the Department of Health (DOH) using the GeoPortal 2.0 data platform so that DOH can prioritize residents who need assistance during emergency power outages. This level of data sharing speeds response times for helping those most in need.
- Federal Communications Commission (FCC) Broadband evaluation. The Department of Commerce's Broadband Office, Washington State University, and other agencies use the portal to verify broadband connections to addresses in Washington. This information is needed to secure additional federal funding and resources to ensure all residents have access to services on the internet.
- Licensed and derived data. The state of Washington purchases licensed data, such as imagery data, high-resolution land cover data which includes impervious surfaces, canopy coverage and open water. These layers are used in a wide variety of business processes for the state including electric vehicle charging station locations, equity of green spaces in Washington and impacts to salmon. GeoPortal 2.0 provides the platform to host and share these data sets efficiently for state agencies to use in support of their agency missions.
- Real-time data tracking. The Department of Ecology uses near real-time imagery to track algal blooms (*an algal bloom is a rapid increase or accumulation in the population of algae*) and run detection models to predict and target treatment of affected waterways. GeoPortal 2.0 is the logical place to store this information so that the data can be shared with other interested agencies including the Department of Health, Fish & Wildlife and State Parks to protect the public and coordinate state agency efforts.
- Protect rare and endangered plant populations. The Department of Natural Resources uses the portal to share rare and endangered plant populations to multiple agencies efficiently and effectively. This data is considered Category 3 and is protected on GeoPortal 2.0 to authorized viewers of the data. The data is securely shared with Department of Fish & Wildlife, State Parks and Ecology. This allows the related agencies to maintain dashboards and other applications in real-time without needing to download, upload and reshare to authenticated users. Use of the portal limits the need to store multiple copies of sensitive data in multiple locations.
- Utility Corridors. The WA Military Department is responsible for mapping critical infrastructure in our State. Utility corridors represent critical infrastructure at risk of damage during a natural disaster. Distributing the locations of this mapped infrastructure - for example, bridges with co-located utilities of power and broadband - is important to support risk analysis efforts in other agencies. However, due to the data category/sensitivity, sharing is often hindered, delayed, or not possible. The Departments of Transportation and Commerce requested the data be

shared via GeoPortal 2.0. The portal provides a centralized data platform to share these critical infrastructure map layers with data security front and center.

Opportunities: A better future through GIS

As shown above, GeoPortal 2.0 demonstrates what can be achieved by providing secure, centralized data sharing across agencies. Connecting these systems in a centralized manner allows new perspectives to complex questions that protect Washington's communities, strengthen climate resiliency and provide opportunities for all Washingtonians. But the current system is only scratching the surface.

By expanding the current GeoPortal system to host, distribute, and analyze geospatial data for state, local, regional, and tribal governments, this platform can position Washington State and its citizens to successfully tackle the most pressing issues of our time.

Recommendations:

- **Enhance decision-making:** Increase the availability of geospatial data for decision-making, especially for critical, complex issues such as natural hazard mitigation, climate resiliency, equity and other key initiatives for the state. Expanding GeoPortal 2.0 would allow agencies to interact with each other and collaboratively tackle cross-boundary issues including tsunami hazards and broadband access.
- **Increase financial transparency:** Increase transparency of financial investments in the state. For example, enhancing the portal's capabilities would enable the state to see where money is being spent on recovery efforts on a geographic map and compare that to where money is most needed based on the disaster. To achieve this, additional staff would be needed for project planning and the development of tools and systems to better integrate geographic data on GeoPortal 2.0 with financial systems such as OneWA.
- **Strengthen big data investments:** Big data often comes at a high price, not just to purchase, but also to store, backup, and distribute. Future investments in big datasets like statewide imagery, high-definition land cover, and laser imaging, detection, and ranging (LiDAR) can leverage the data-sharing capabilities in GeoPortal 2.0. However, with the increased demand for high-resolution data, there is a need for more cloud storage, computing capability, and licensing to make this big data available to all agencies and the public.
- **Improving equity:** A GeoPortal 2.0 expansion would enhance the state's ability to literally see how the state's money is being spent and help ensure a more equitable distribution of resources. For example, the system could be used to identify neighborhoods that have low broadband connectivity and then compare that to how much is being invested in those communities to address the issue. Simply put, we need to know where (geographically) money is being invested and how it is being spent in order to figure out if we are investing in the communities that need it most.

Achieving the benefits outlined in the recommendations above would require expanding GeoPortal 2.0 and investing in resources and staff. This would ensure every state agency benefits from a modern

approach to centralized geospatial data management. Expansion also would create a supported, enterprise platform to distribute expensive, large geospatial datasets in a cloud-native environment.

Contact

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