

PROACTIVE EMERGENCY RESPONSE THROUGH AERIAL IMAGERY

The power of combining data and imagery for city planning

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Extreme climate change has brought record-breaking fires, destructive floods, unseasonable tornadoes, and more ruinous events to communities nationwide in recent years. Preparing for these disasters is the responsibility of local governments. This requires the anticipation, management, and risk reduction of catastrophes. Further, local governments need to have the capability to identify and counteract early warning systems. No local government can handle these responsibilities without leveraging geographic information systems (GIS).

Prioritizing resilience can augment the prosperity and security of your city. Proactive action against risk helps improve social, economic, and environmental conditions by hampering the hazards capable of crippling the community.

See how the city of Kelowna created a dynamic strategy to combat risk.

THE CHALLENGE

Proactive Risk Assessment

Kelowna is a city in the south of Canada's British Columbia. The city uses [Nearmap aerial imagery](#) to collect location intelligence and create a resilient community. With the help of the Advanced Planning Team at the Emergency Operations Center, Kelowna uses this data to enhance their understanding of what's happening on the ground without having to go onsite.

"We use Nearmap proactively by using passive data and the frequency of the imagery you provide throughout the year to plan for our city."

Kevin Stehle, Business Systems Analyst (GIS and Data Analytics), City of Kelowna

Kelowna is located near the salmon-bearing Mission Creek, the largest tributary in the area. This past spring, heavy rainfall resulted in an unusual amount of debris getting stuck under a low-lying bridge. Flows in Mission Creek were high, but not as high as some recent events.

Kevin and the team leveraged aerial captures of the creek's surroundings to identify the cause of the excess debris. The team went to [Nearmap MapBrowser](#) to look through the library of historical images to see what had changed in the creek. The Kelowna GIS professionals found several small log jams upstream of the bridge that created debris issues. Using the next aerial capture, after the event, they were able to illustrate that previous log jams had been greatly reduced.



MapBrowser enabled the City of Kelowna to identify a log jam (left) that was captured in 2021. In a recent capture from 2022 (right) the creek is flowing without blockage.



SOLUTION

Data-Driven Decisions

At this point, the Emergency Operations Center now has the data they need to make more informed decisions and get the right information to the right staff in preparation for the next event. Going forward, staff have the tools they need to proactively scan the creek and identify potential future issues. This past year, [Nearmap aerial intelligence](#) enabled Kelowna to gather more than two dozen high-resolution visuals that clearly depicted the severity of the issue and the potential damage to nearby infrastructure in the event of the log jam breaking free.

In order to understand the gravity of the situation, Kelowna reviewed the growth change in the larger log jam using past Nearmap surveys. The city was then able to go to Nearmap MapBrowser to use its oblique vintages and the built-in measurement tools to estimate the impact a jam like this could cause. The multiple vantage points provided by Nearmap enabled the city of Kelowna to investigate the area for removal points and approve the necessary actions.



CITY IMPACT

More Time to Act

The use of aerial intelligence allows Kelowna to evaluate their community at scale, inspect with sharper detail, and move forward with confidence with insight-rich visuals. The city's Emergency Operations Team Analysts were able to evaluate the risk of several log jams in minutes - a process that would take weeks if done manually. With the time saved, the team was able to provide city planners with a jumpstart to decide the correct next steps. They used this precious extra time to recognize a bridge across Mission Creek as the main concern due to its lack of height above the water surface, which could result in multiple debris impacts, as well as potential flooding.

THE FUTURE

Creating a Resilient City

With access to regularly updated aerial imagery, Kelowna is able to create a resilient city capable of reducing risk through proactive measures. Without Nearmap, Kelowna could miss future log jams and there could have been risk of damage to the bridge. In an era where aerial data is able to drive decisions, the city's GIS professionals view the ability to know about what's happening in their county as the return on investment.

BUSINESS IMPACT



PROACTIVE ASSESSMENTS

Access to high-resolution imagery allows the City of Kelowna to regularly monitor and assess the county for risks or hazards.



TIMELY AND EFFECTIVE

With Nearmap, the City of Kelowna was able to respond with an effective and timely plan to save local infrastructure from damage.



"It's like Christmas day to my team when I send out the announcement that new imagery is available in Nearmap. The truth on the ground delivered by each new survey empowers Kelowna with the certainty that they will have the data in place to plan for any situation."

Kevin Stehle, Business Systems Analyst (GIS and Data Analytics), City of Kelowna

 Nearmap Vertical

 Nearmap Oblique

For more information visit:

www.nearmap.com/government

