

Alberta

Leading the Way to Public Safety

Alberta is recognized worldwide for its magnificent natural beauty, though it is a province often under threat by extreme weather events. Many urban communities in Alberta are located in river valley settings, and during spring and summer months, these areas are prone to flood damage when rivers overflow their banks. Alberta is also prone to forest fires, and in the spring of 2009, fire crews were called out to almost 530 fires across the province.

To effectively manage these and other emergency situations, the Alberta Emergency Management Association (AEMA) was established. This organization leads the co-ordination, collaboration

and co-operation of all organizations involved in the prevention, preparedness and response to disasters and emergencies so that vital services are delivered effectively during a crisis.

As the challenges of protecting Canadians from increasingly complex emergencies continue to grow, the AEMA recognized a need to bolster provincial capacity for the mitigation and response of emergency situations. It identified that the development of an integrated incident management, mapping and notification system would serve as an integral part of its Response Readiness Plan and, in 2008, sent out a request for proposal to have a unique application deployed. The integrated solution would form an emergency management common operational picture for the various government agencies and stakeholders in the province. The 1.9 million dollar, multi-year project was awarded to Black Coral Inc., an ESRI Canada Business Partner, and included a supporting team of Canadian technology companies. Black Coral specializes in situational awareness and incident management software solutions for the defence and public safety markets.

The AEMA's goal was to achieve a fully integrated, state-of-the-art emergency management system that would be capable of integrating mapping and GIS capabilities with an advanced incident management and notification capability. Geospatial needs included consolidating hundreds of gigabytes (GB) of geospatial data into secured geospatial datasets

for seamless sharing across the entire provincial network. To make this happen, Black Coral implemented its incident management software, SoftRisk, that leverages ESRI's ArcGIS Server technology for integrated Web mapping.



Users can set up automatic email alerts to report on emergency incidents across an area of responsibility.

SoftRisk is a fully functional Web-based incident management tool that was designed specifically to coordinate response efforts during major events, emergencies and disasters. It enables users to call up contact, resource and site information related to incidents across the province so that emergency response can happen immediately.

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Darrell O'Donnell,
Black Coral

The tool comes equipped with geospatial data and imagery, which in conjunction with ESRI server technology, lets users visualize mission-critical information and achieve situational awareness during emergency or disaster situations. For example, users can configure the response to a specific incident type, such as “chemical spill” in advance, based on preset conditions. The response is then automatically triggered in a crisis, immediately sending mass notification by phone, email, fax or pager, while initiating tasks and assigning resources.

A major challenge faced by emergency

organizations is gaining access to all of the datasets that are needed to effectively coordinate response efforts. For example, one government department may manage pipeline data while another maintains data related to forest fires, and it can often be difficult to seamlessly share this information across a government organization. The SoftRisk solution enables Black Coral's customers to consolidate disparate datasets and it also provides a spatial component. By leveraging ESRI's JavaScript Application Programming Interface (API), Web mapping capabilities are integrated into the software so that resources, site facilities and contact information can be accessed from a central source and viewed in context. So, for example, in an emergency situation, a user could instantly call up key information such as the location of evacuation shelters across the province or areas where additional firefighters should be deployed and then use the notification feature to automatically notify emergency managers.

“Geospatial context is absolutely critical to maintaining situational awareness,” said Darrell O'Donnell, Co-Founder and Chief Technology Officer, Black Coral. “The ability to access a common operational picture of the entire province through the Web puts more of the necessary information at the fingertips of emergency responders so that they can make mission-critical decisions that are based on the facts.”

The ArcGIS Server JavaScript API proved ideal for integration with SoftRisk, because it enabled the software to be deployable without requiring any installation beyond a Web browser. Data can now also be shared between SoftRisk and the Black Coral LIVE field/tactical situational awareness platform – a desktop software application that allows tactical teams to communicate in real-time on top of a digital map.

The system is used for day-to-day operations in the AEMA's Agency Readiness Response Centre, and will be used to manage large-scale incidents in the Government Emergency Operations Centre. Black Coral has currently loaded over 5 GB of vector data and 180 GB of imagery into the solution, and will continue to work with AEMA over the next five years to provide integrated incident management, mapping and notification capability. ■