Open Government Case Study: Marlborough District Council Floodwatch

Purpose of agency

The mission of the Marlborough District Council (MDC), a NZ unitary authority, includes managing risks to public safety associated with natural events such as riverine flooding.

What high value data has been released for re-use?

Real-time rainfall and river condition data in an easy to read map format

Floodwatch, providing real-time rainfall and river condition data in an easy to read map format to the public, council, & contractors, was launched in 2011. It uses three datasets:

- river flows – measured in cubic feet/metre, includes information on the flow rate of the region's rivers, both actual (last 24 hours) and forecast (future 6 hours).
- river levels – measured in metres, includes the current height of the region's rivers.
- rainfall – measured in mm, includes rainfall totals for user-designated hourly timeframes.

Telemetred gauging stations collect data continuously, feed it directly to the MDC hydro database, compare it to thresholds & deliver it nearly instantaneously to the web via an on–demand GeoRSS service. Each station's data is presented in relation to pertinent calculated threshold levels & displayed graphically & through automated colouring.

Source gauging stations are maintained by several agencies, including MDC, Tasman District Council & NIWA. While no formal licensing is associated with the station data, pertinent agencies have agreed that it is open and freely available for use and re-use.

Release rationale

Efficient online delivery of information to the public

- better delivery of responsibilities to protect life & property & mitigate flooding events risks
- improve public uptake, interpretation and use of regional information;
- improve operational efficiencies by reducing call volumes during flooding events
- use the Internet and latest technologies to deliver information to the public efficiently
- demonstrate regional leadership within the location information sector
- support the *New Zealand Geospatial Strategy* and comply with the *Declaration on Open and Transparent Government*

Risk mitigation

Careful risk mitigation

Improper use of released information - Data is in easily interpreted and map-based formats, threshold information is colour-enhanced, & pop-up terms & conditions of use include a misuse of data liability disclaimer.

Technology - Floodwatch needs uninterrupted delivery of technology layers. Source collection failure is mitigated by immediate disconnection of a malfunctioning station, halting data delivery to Floodwatch. IT, geospatial & hydrology teams monitor the system components.

Data Integrity - MDC depends on other organisations' systems and collection approaches for some source data & on stations' data collection and delivery systems. MDC hydrology team members actively monitor the network and data to manage any integrity issues.

Cost and timeframe

Uses existing software & hardware solutions

Six-month project. Minimal implementation costs. Leveraged existing MDC software & hardware solutions. MDC staff provided in kind support. Initial prototyping & internal launch. Public response via MDC email and through the MDC website has been consistently positive.

Economic and social impacts

Better interaction between people, businesses and government

- the public and businesses in the Marlborough region can use Floodwatch data and resultant flood risk analysis for their properties to inform their interactions with other government departments
- members of the public can actively monitor real-time data and thresholds from Floodwatch during flooding events, to take proactive and efficient actions to protect lives and property
- taken over time, Floodwatch data can reveal flood risk in the region, which can be used to guide smart planning and development in the area

Transparency and democratic impacts

Encourages greater public involvement in policy development

- Floodwatch data provides the public with a clearer picture of the spatial distribution of flood events and risk. This encourages informed and active participation in government policy development, particularly disaster management
- the success of Floodwatch and its use of existing technology solutions have spurred planning for similar online data delivery systems. An application, using river flow and aquifer data, is being planned to support water takes and entitlement management in the region. This could generate greater public involvement in this policy area

Efficiency impacts

Users can access river and rainfall data from nearly any mobile device

- following the launch of Floodwatch, calls to the MDC flood phone during rainfall events have reduced, releasing hydrology staff to provide a higher value contribution (analysis, etc.)
- with minimal cost and effort, the Floodwatch data capture mechanism employed can be used to deliver other data (ie, water quality) captured at the source gauging stations, resulting in information dissemination cost savings for other units within MDC
- using the GeoRSS feed underpinning Floodwatch, users can access river and rainfall data from nearly any mobile device, supporting farmers, contractors and staff in the field
- web-enabled access to the data means that users are no longer as vulnerable to the loss of hard infrastructure systems (eg, telephone lines) during flood events