

Northern Queensland Wildfire Mitigation Project

<http://wildfire.atgis.com.au>



Introduction

The Northern Queensland Wildfire Mitigation Project (NQWMP) is a large scale mapping project delivering a range of detailed spatial information, maps and mapping tools to assist in fire management in northern Queensland. This project, undertaken by Atherton Tablelands Geographic Information Services, covers Cairns Peninsula, Innisfail and Townsville Rural Operations Areas, a total area of 373,236km². The project has digital and hardcopy components - an online mapping tool and printed maps of fire districts. NQWMP is divided into the following strands:

- Fire Hazard Mapping
- Rural Fire Brigade Resource Mapping
- Data Warehouse & Distribution
- Fire Management Group & Incident GIS Support

Rural Fire Brigade Resource Mapping

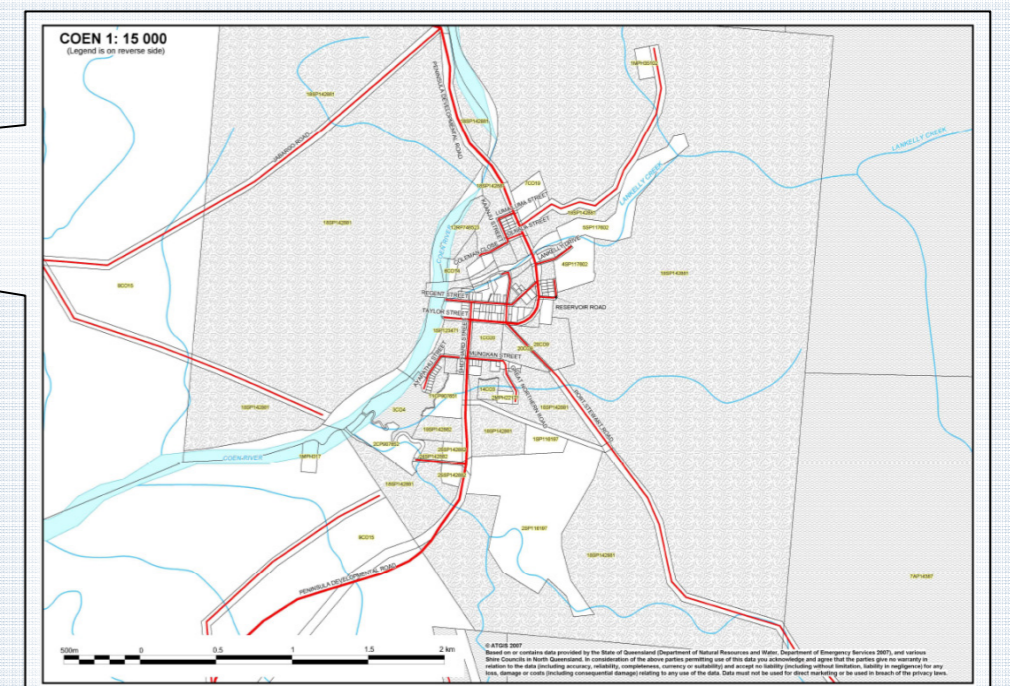
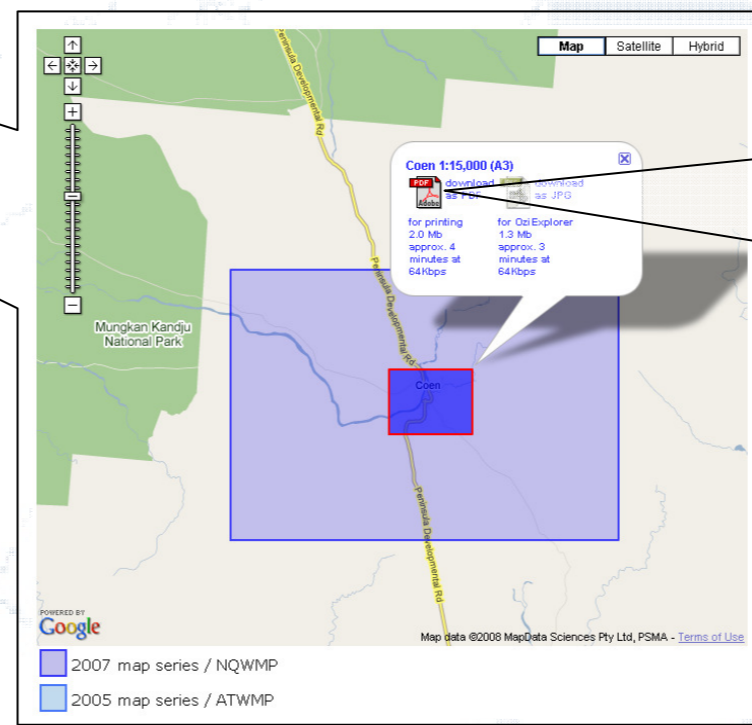
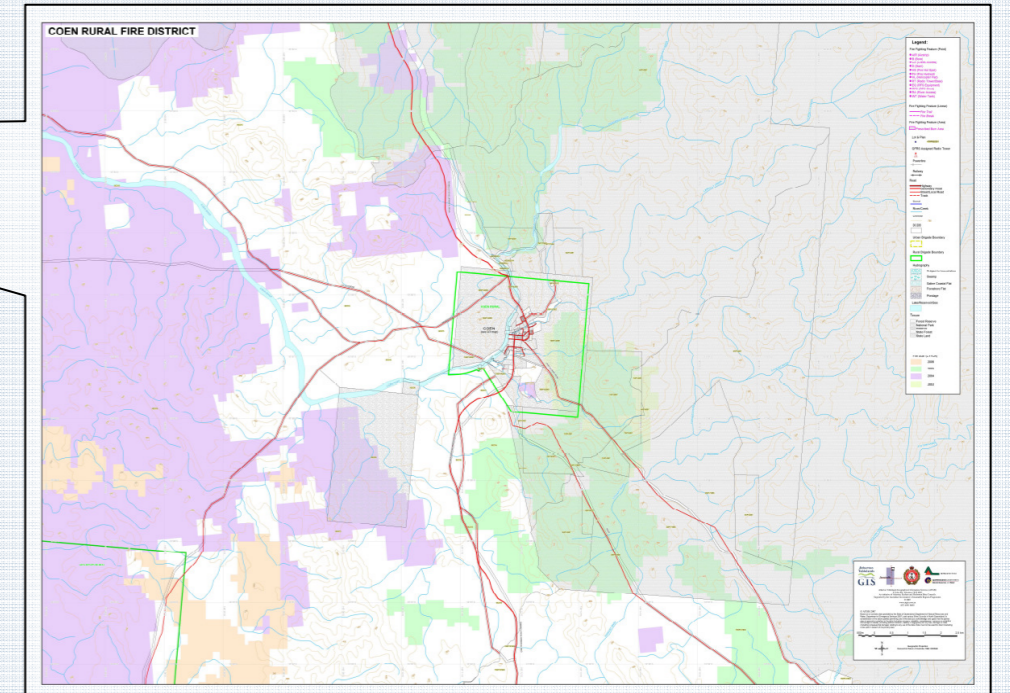
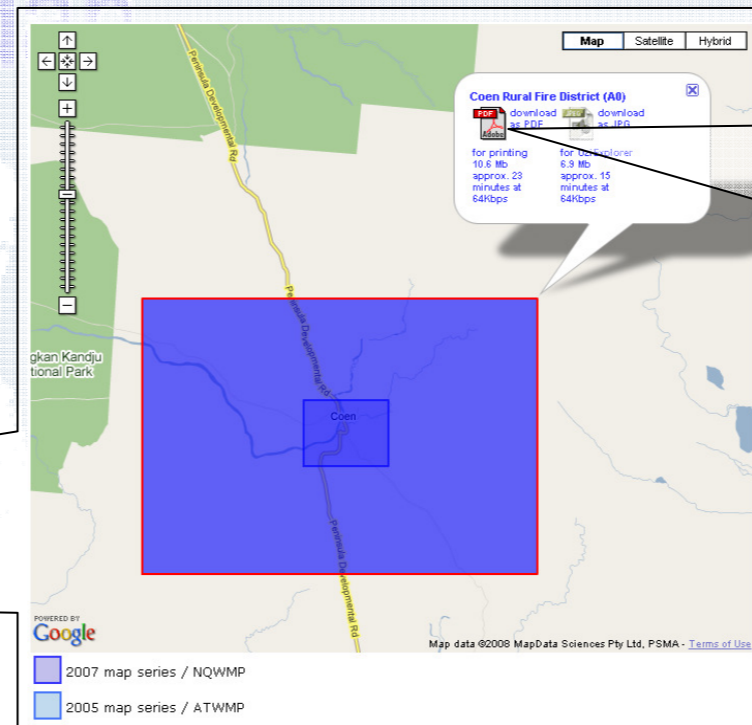
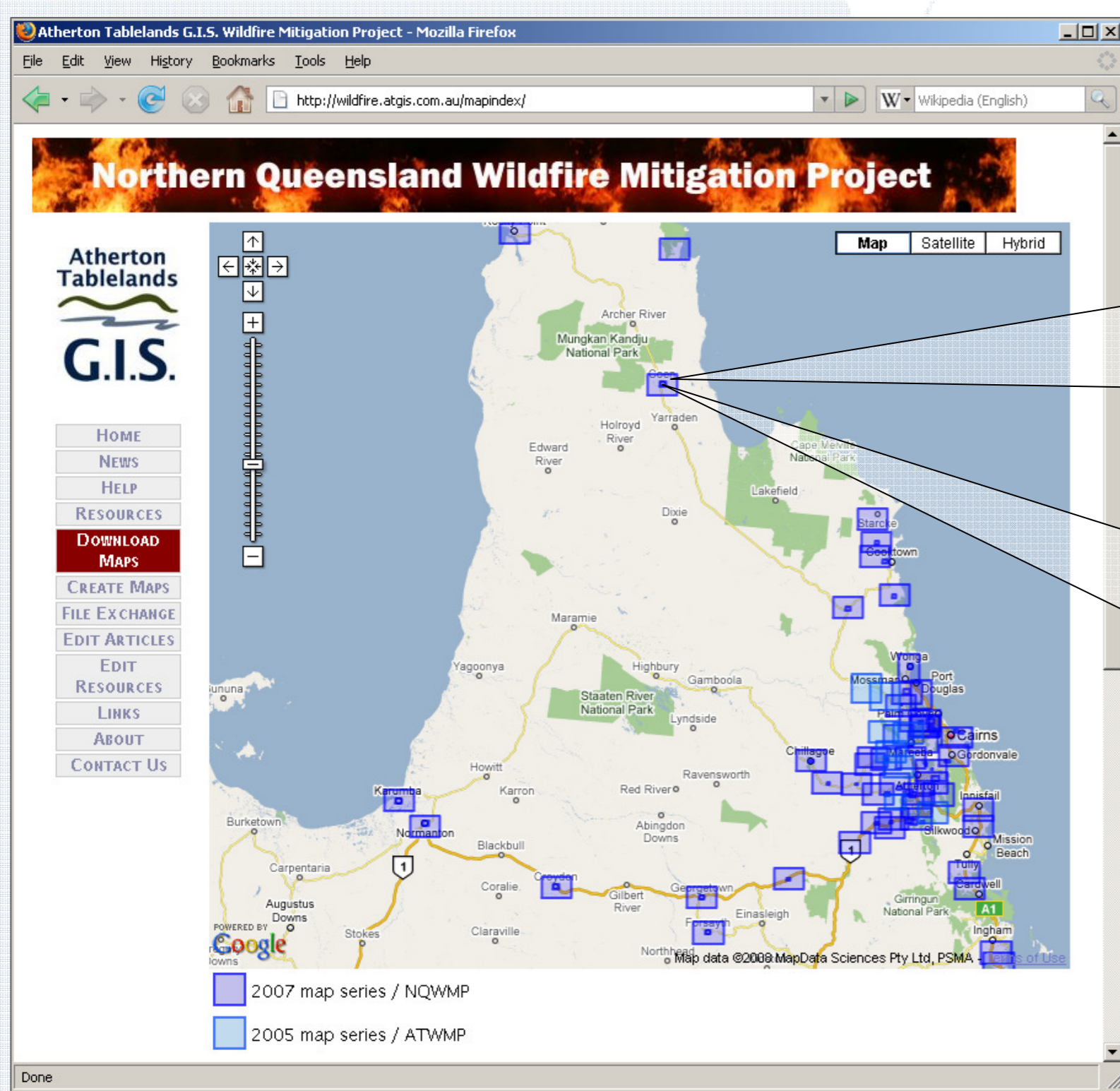
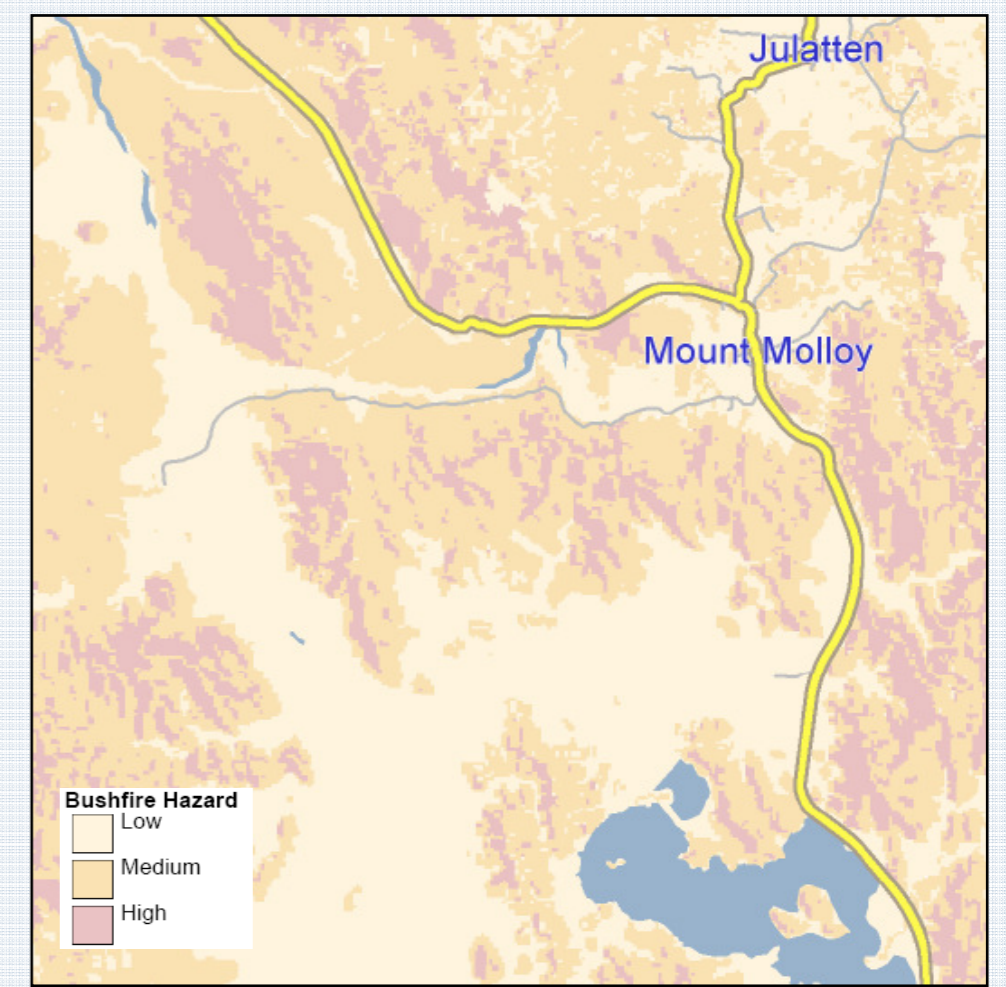
The work undertaken by ATGIS for this strand included design and provision of hardcopy A0 maps (at 1:25,000 scale) for 90 Queensland Fire and Rescue Service Rural Fire Brigades within the project area. The brigades were selected from more than 200 within the project area, based on brigade activation status and the urgency of their mapping requirements. Hardcopies of maps to show high-density rural areas in greater detail were also provided at A3 size (at scales between 1:5000 and 1:15,000). These maps can also be downloaded in PDF or JPG format from the project website. 1:25,000 scale A4 PDF map atlases were also provided to 23 Queensland Fire and Rescue Service Rural Fire Brigades as part of this work.

Fire Hazard Mapping

Fire Hazard Mapping is an assessment of the fire hazard based on factors including the vegetation type, slope steepness, slope aspect and climate.

Fire Hazard indicates amount, condition and structure of fuels which will burn if a fire enters an area regardless of the fuel type's weather-influenced moisture content or its resistance to fireguard construction. Additionally, the Fire Hazard index also accounts for the impact of slope and the aspect of the landscape.

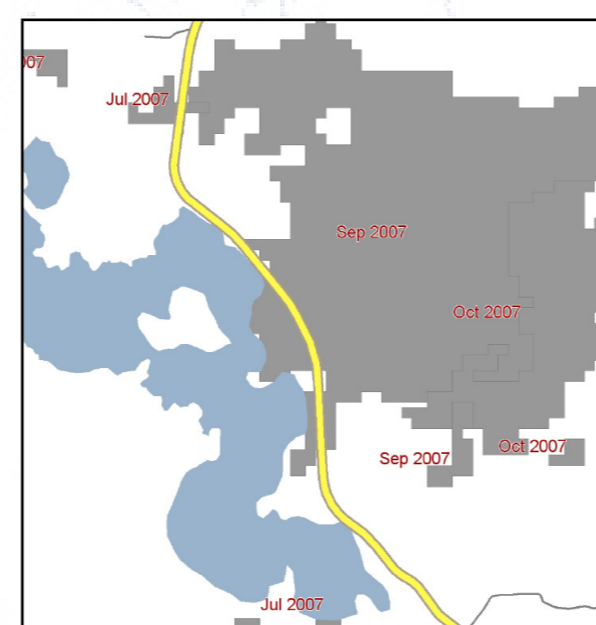
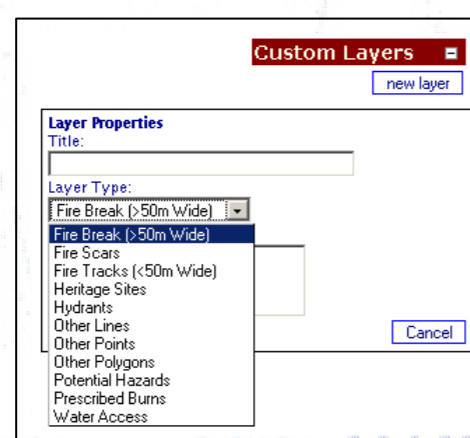
The project area was assessed to a resolution of better than 90m. Hazard levels of High, Medium and Low were calculated, reflecting local Northern Queensland climate conditions. This was the primary objective of the Fire Hazard Mapping.



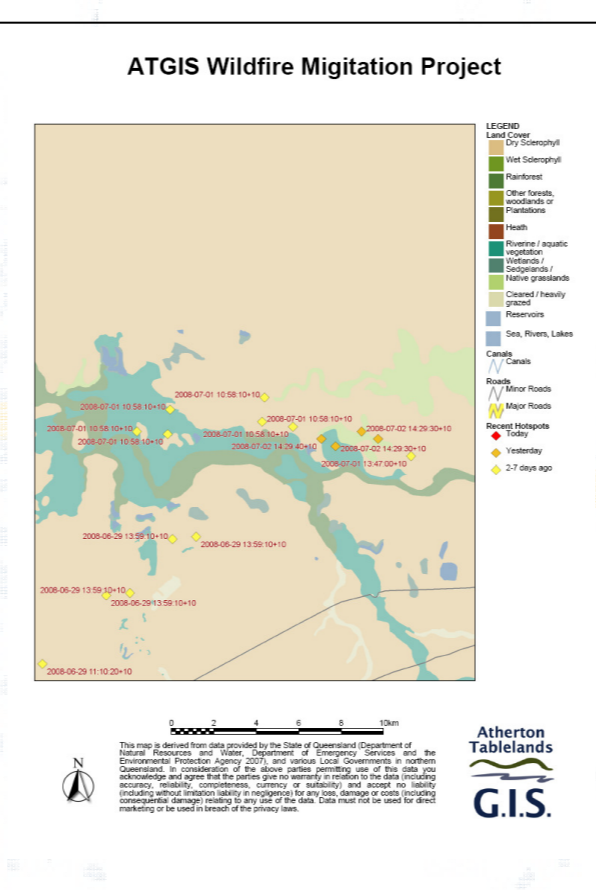
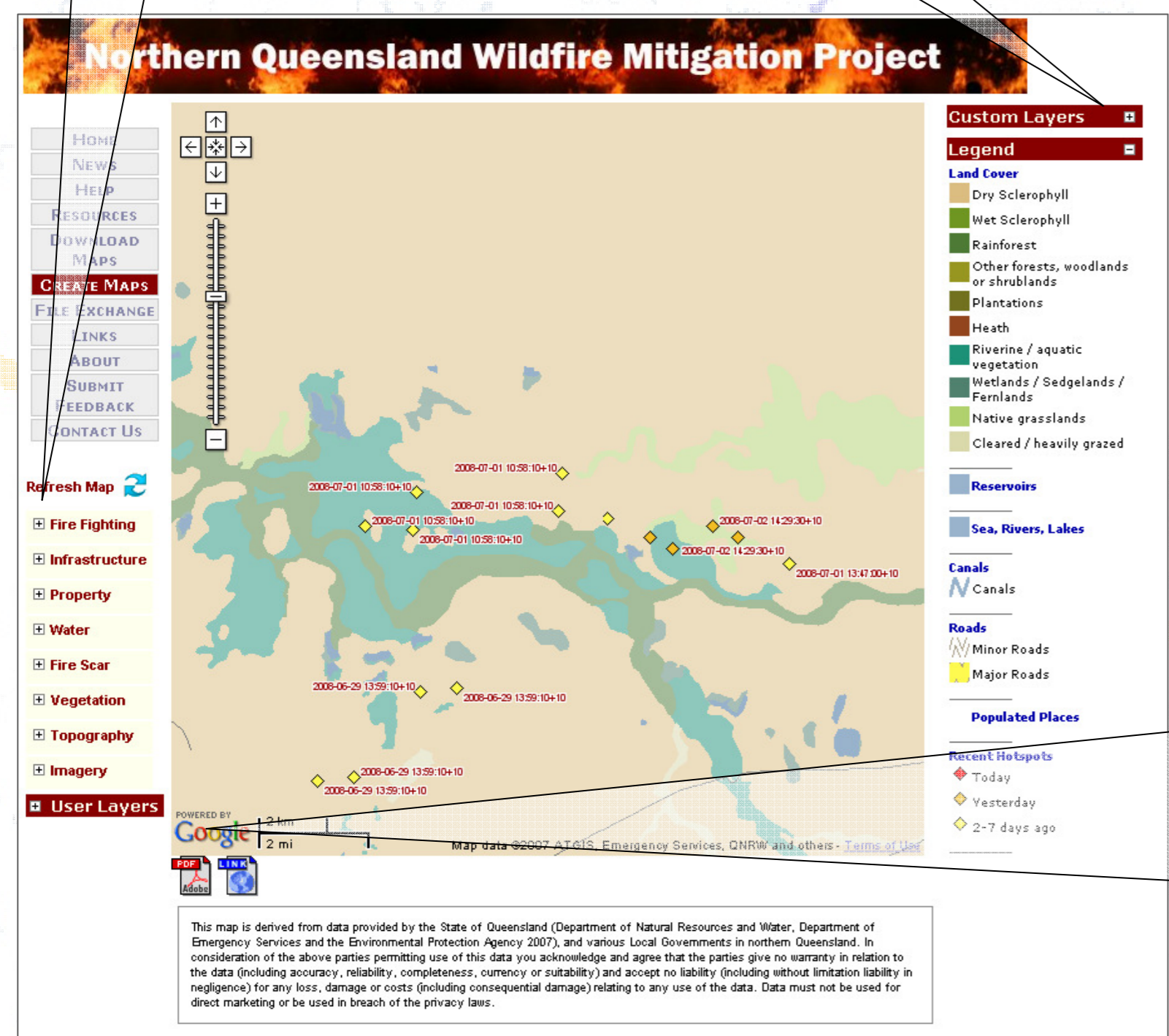
Online Data Warehouse & Distribution Facility

This strand caters for the management and delivery of the map layers and provides web based tools for stakeholders to add to these mapping layers and create their own maps online. Users can use available data to create maps of an area of interest, generating a URL link to the page and a printable PDF map. Points can be added to the available data using the digitise feature. This allows for introducing new data and planning for events such as controlled burns.

Data managed online can be divided into three separate groups: information to assist in fighting fires (such as water points and prescribed burns), asset information (infrastructure, including roads and power lines) and contextual information to assist in mapping (such as topographic map sheets and aerial orthoimagery). Much of the data from Strand Three was also used in the Rural Fire Brigade hardcopy resource maps



Fire scar and hotspot data are continually updated.



One-click PDF production



Fire Management Group & Wildfire Incident Onsite Mapping Support

There are currently eleven Fire Management Groups within the project area, with ATGIS providing tools to create, manage and distribute information on all agencies' planned hazard reduction activities. ATGIS attends Fire Management Groups' meetings across the region, throughout the year, in support of wildfire hazard mitigation planning and incident management team training exercises.

Staff involved in the project are trained to provide assistance during wildfire related incidents. If there is an incident, ATGIS staff are able to respond to assist fire management crews by creating and providing maps during and after the incident response, and have the capacity to capture and process spatial data on the fireground as required.

A mobile response unit, consisting of GIS-enabled laptops, external USB hard disk with map data, flash drives, USB broadband internet turbo card, A3 colour printer, A3 laminator, mobile phone, data projector, handheld GPS units, PDA units and other equipment has been developed to assist in the provision of spatial information during incident response. ATGIS is currently building a laptop to serve as a standalone local wi-fi internet server for providing web-mapping capacity to incidents outside of mobile network coverage.

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ATGIS is part of the Tablelands Regional Council