

Public ERIC: User Guide

Emergency Response Intelligence Capability

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1 Introduction

The Emergency Response Intelligence Capability (ERIC) tool integrates dynamic information from real time web feeds with background static data to provide a national picture. The information is obtained from numerous sources:

- statistical regions from the Australian Bureau of Statistics (ABS);
- context data including demographics and details of the natural and built environment;
- dynamic web feeds describing emergency events as they progress;
- the historical record of previous dynamic web feeds;

ERIC was developed for the Emergency Management team of the Australian Government Department of Human Services. A public version of the ERIC tool is available to demonstrate key features to emergency service organisations, other government departments and the general public, available at <http://eric.csiro.au/>.

This User Guide describes the operation and function of the public version of the ERIC tool.

The main ERIC interface is the Map View which is described in detail in Section 2. The Data Registry and examples of using ERIC on mobile devices are described in Section 3. A glossary of terms and detailed acknowledgements can be found in the Appendices.

1.1 Recommendations

The following are a list of recommendations which should provide a better user experience.

- use a modern browser
for example Internet Explorer 9, Mozilla Firefox 16, Google Chrome 22 or Safari 6
- if possible, maximise your browser window to use the full screen
- preferred screen resolution of 1280x1024
- don't have too many layers displayed at once, this makes panning/zooming slow
- it's best to navigate to region of interest first, then enable layers
- when the map is busy (blurred and spinning wheel) don't interact. User interface tasks will be queued otherwise.

2 Map View

The key user interface elements of the ERIC Map View are labelled in Figure 1 below. Each of these elements is described in detail in the following sections.

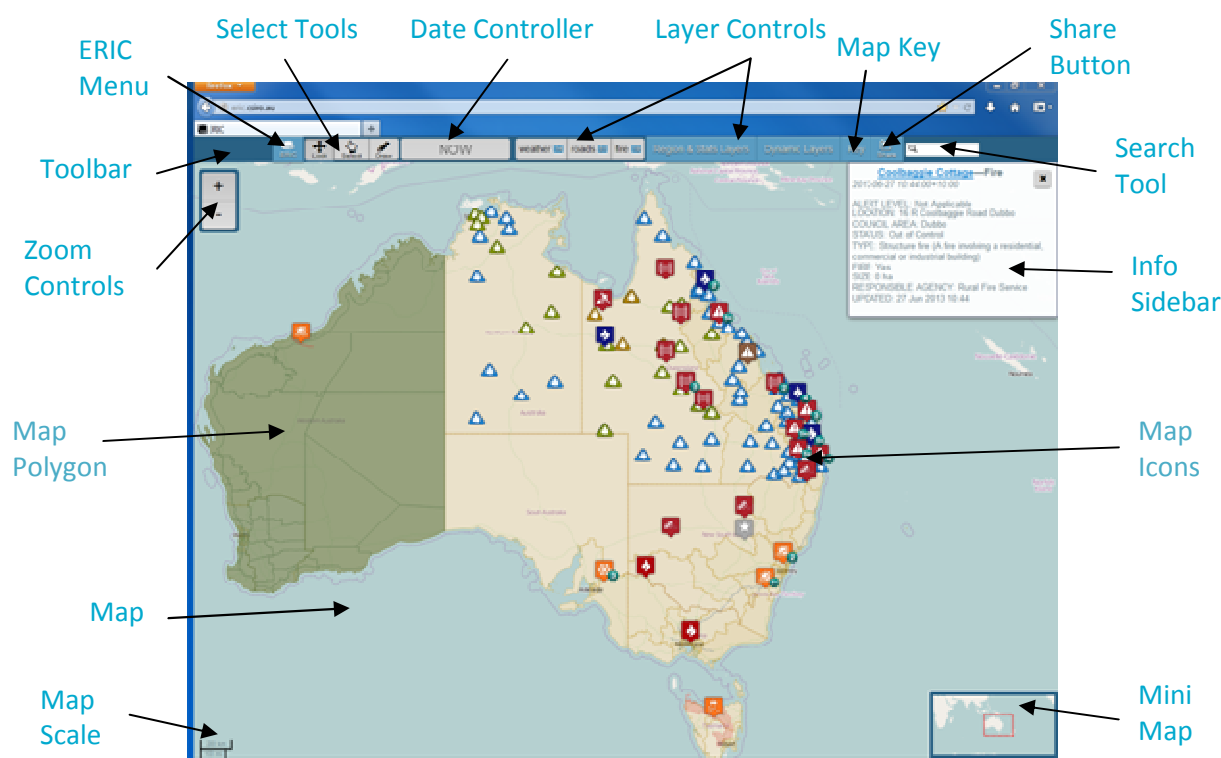


Figure 1: ERIC Map View User Interface Elements

2.1 Map

The Map is the main user interface element and the very first time you open ERIC in your browser it will display a map of Australia with no overlaid data layers. Subsequent visits to the ERIC web site may take you automatically to the last map view you were looking at. This will depend on whether you have cookies enabled. This view provides street map, terrain and satellite imagery backdrops for Australia. It includes imagery containing roads, suburbs, features of interest, water features, national parks and so on. Other data layers are presented on top of this backdrop to provide context about emergency events.

The Map is interactive; the user can zoom in and out using the Zoom Controls or the mouse scroll wheel, they can pan the map by dragging their mouse across the Map area and can select elements on the Map by clicking on them. ERIC will blur the Map and display a spinning wheel while new data is being loaded. This will occur when the Map is zoomed or panned, or when the layer visibility is changed. This provides visual feedback to indicate that the page is busy. It is advisable to wait until the spinning wheel has disappeared before interacting with the Map again.

The underlying map data is from OpenStreetMap: <http://www.openstreetmap.org/>.

2.2 Zoom Controls

Clicking on the [+] button will cause the Map to zoom in. Clicking on the [-] button will cause the Map to zoom out. The [+] and [-] buttons can be clicked multiple times to continue to adjust the zoom level.

2.3 Mini Map

The Mini Map shows the extent of the current main Map area as a red dotted rectangle. It is particularly useful when zoomed into a small region in the main Map area. The Mini Map may also be used to pan the main Map by dragging the red dotted rectangle or clicking somewhere outside the red rectangle.

2.4 Map Scale

The Map Scale is a small line indicator representing the current map scale of the Map. Both km (kilometres) and mi (miles) units are shown.

2.5 Toolbar

The Toolbar runs across the top of the screen and contains all of the menus and buttons used to interact with the Map View interface. The contents of this toolbar may change depending on the browser's window size. If the window is small, for example when viewing on a mobile device, then several buttons and menus will be combined into a single menu button on the Toolbar.

2.6 ERIC Menu

Clicking on the ERIC Menu button will display a drop down menu as shown below.



The menu is partitioned by the features offered. The first section contains links to the Data Registry which is explained in section 3.1 and the online Help (this document) and also erickenquiries@csiro.au which launches your email application with the "To" and "Subject" fields already filled in. Use this to send feedback or enquiries to the CSIRO ERIC development team.

The second section contains a link to the Acknowledgements page which lists all of the 3rd party data sources and software libraries used. There are also links to the standard CSIRO copyright and legal notice and disclaimer pages.

Click on the ERIC Menu button again to hide the drop down menu.

2.7 Select Tools



The *Look*, *Select* and *Draw* tools can be used to select one or more items on the Map. Only one of these can be active at a time. The active tool is the one that is “pressed”. In the screenshot above, the *Look* tool is active.

2.7.1 LOOK

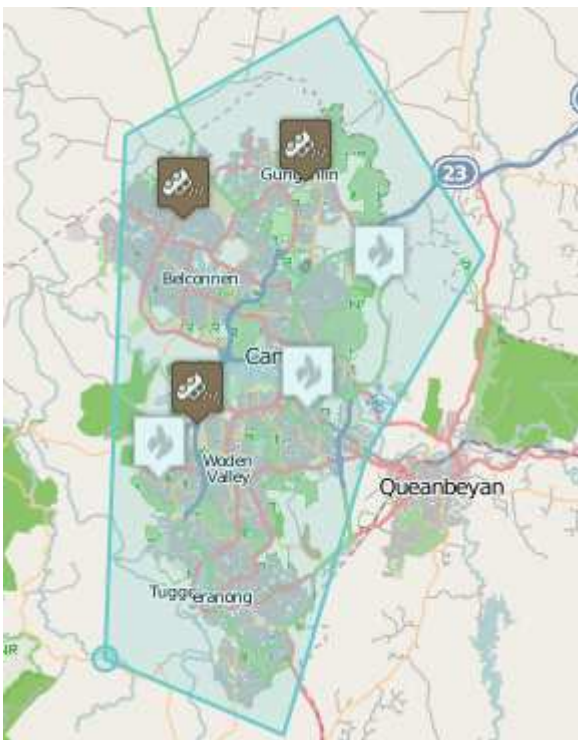
The *Look* tool allows you to zoom and pan the map as well as select single items on the map, for example an event icon or statistical region polygon. When an item is selected, information about that item is displayed in the Info Sidebar.

2.7.2 SELECT

The *Select* tool allows you to select multiple regions at once, click each region to select/deselect. You cannot however zoom and pan the map.

2.7.3 DRAW

The *Draw* tool allows you to create a custom region or “drawing” which can then be used to select multiple regions and events. When the *Draw* tool is active, you will see a blue circle at the tip of your mouse cursor. Click on the Map to start drawing by adding a corner; click again to add another corner, double-click to make the final corner and finish the drawing. The following screenshot shows an example of using the *Draw* tool.

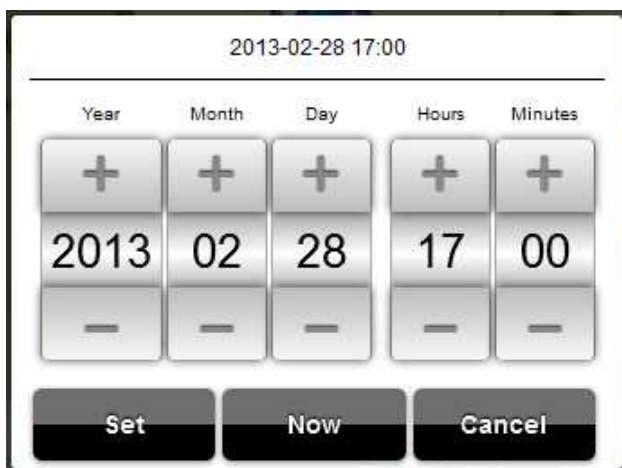


The ‘Save’ button, which only appears when *Draw* is active, lets you name and save the drawing to the “Last Drawing” layer in the Region & Stats menu, described below. This layer always shows the most recent drawing saved by any user.

When you change back to the *Look* or *Select* tools, the drawing will remain even if you haven't saved it. You can then select the drawing's polygon like any other region. If you refresh the page without saving, the drawing will be lost.

2.8 Date Controller

The Date Controller can be used to either monitor current events, indicated by "NOW", or you can select a date and time in the past to view the events that were active at that particular time. Clicking on the Date Controller toolbar button, which will either be "NOW" or a timestamp, will display the Date Controller window, as shown below.



The Date Controller window displays the date and time 2013-02-28 17:00. It features five columns for Year, Month, Day, Hours, and Minutes. Each column has a '+' button above a numeric display and a '-' button below it. The current values are 2013, 02, 28, 17, and 00. At the bottom are three buttons: Set, Now, and Cancel.

Year	Month	Day	Hours	Minutes
+	+	+	+	+
2013	02	28	17	00
-	-	-	-	-
Set Now Cancel				

Use the [+] and [-] buttons to adjust the date and time displayed, or click on the *Now* button to set the date and time to be the current time. When happy with the date and time selected, click on the *Set* button. This will close the Date Controller window and cause ERIC to refresh its Map to display events from the date and time selected.

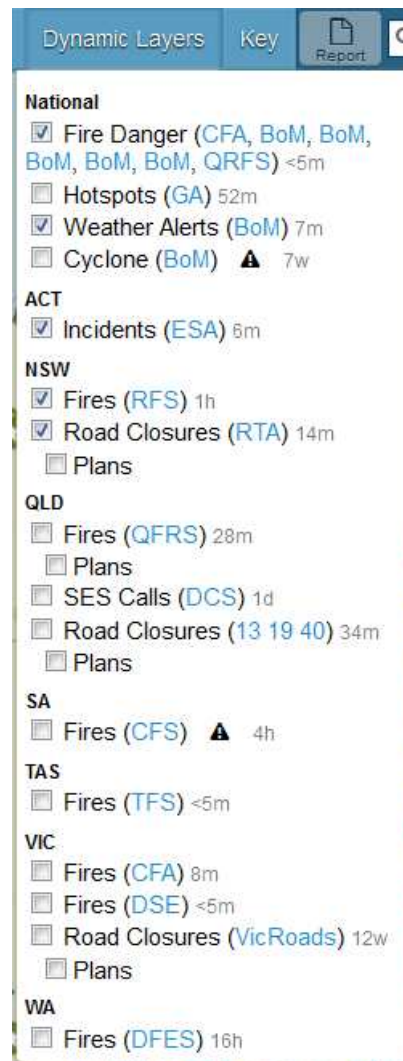
2.9 Layer Controls



The Layer Controls are used to turn on/off the Map layers. Note that some layers are only available when zoomed into an appropriate level. For example the Postcodes layer cannot be turned on when viewing the whole of Australia.

The weather, roads and fire buttons are shortcuts to turn on/off all of the related dynamic event layers.

The following show the drop down lists of both Region & Stats and Dynamic Layers. The tick boxes show what layers are currently visible. To close a drop down list, click on its button above again.



2.9.1 REGION & STATS LAYERS

Clicking on the Region & Stats Layers button will show a drop down list of all available ABS statistical layers. You'll notice that some layers are greyed out; this indicates that they cannot be turned on at the current Map zoom level.

2.9.2 DYNAMIC LAYERS

Clicking on the Dynamic Layers button will show a drop down list of all available dynamic layers, such as weather warnings and current incidents. This is shown below. These are grouped by state for easier navigation and include links to the original data sources. An indication of how current the layer data is also shown beside the layer name. This is the amount of time since the data was updated at the source. A warning icon  is shown beside layers where there has been a problem retrieving updates from the data source.

2.10 Map Key

Clicking on the Map Key button will display a panel showing descriptions for each icon that may be present on the map. Fire danger rating colours are also explained. Click on the Map Key button again to close the panel.



2.11 Share Button

Clicking on the Share Button will display a variety of options for sharing the current ERIC map view. This is shown below.



The options include Twitter, Facebook, Tumblr, email or link. Each option will generate a simple message to post. For example the following message is generated for Twitter:

Look what I found on Eric! http://eric.csiro.au?zoom=5&date=2013-06-28T06:08:00.371Z&lat=-3336510.2759728&lon=16974482.976567&bounds=13843622.298442,-5635736.0864708,20105343.654692,-1037284.4654748&SA4&fire_danger&bom&esa&rfs&qfrs&qses&qldroads&cfs&tfs&cfa&fesa #eric #australia

2.12 Search Tool



The Search Tool allows searching for place names. Places you can search for include: Towns, businesses, libraries, roads, landmarks, cities and LGAs. Enter a place name to search for in the text box and press the Enter key. If a matching place is found, the Map will zoom to that location. If more than one matching place is found the Map will zoom to the first one found and then you can click on the arrow buttons to move to the next one found and so on. Click on the “Done” button when finished searching.

2.13 Map Icons

Items belonging to visible map layers may be represented by icons on the map. The item may be selected by clicking on its map icon. This will cause the Info Sidebar to display detailed information for the selected item. When there is a cluster of icons situated very closely on the map, they are grouped together as a single icon and the small green number on the icon will indicate how many items that icon represents.



For example:  indicates that there are two events close together. Clicking on this icon will display information for both events in the Info Sidebar.

The Map Key defines what each icon represents.

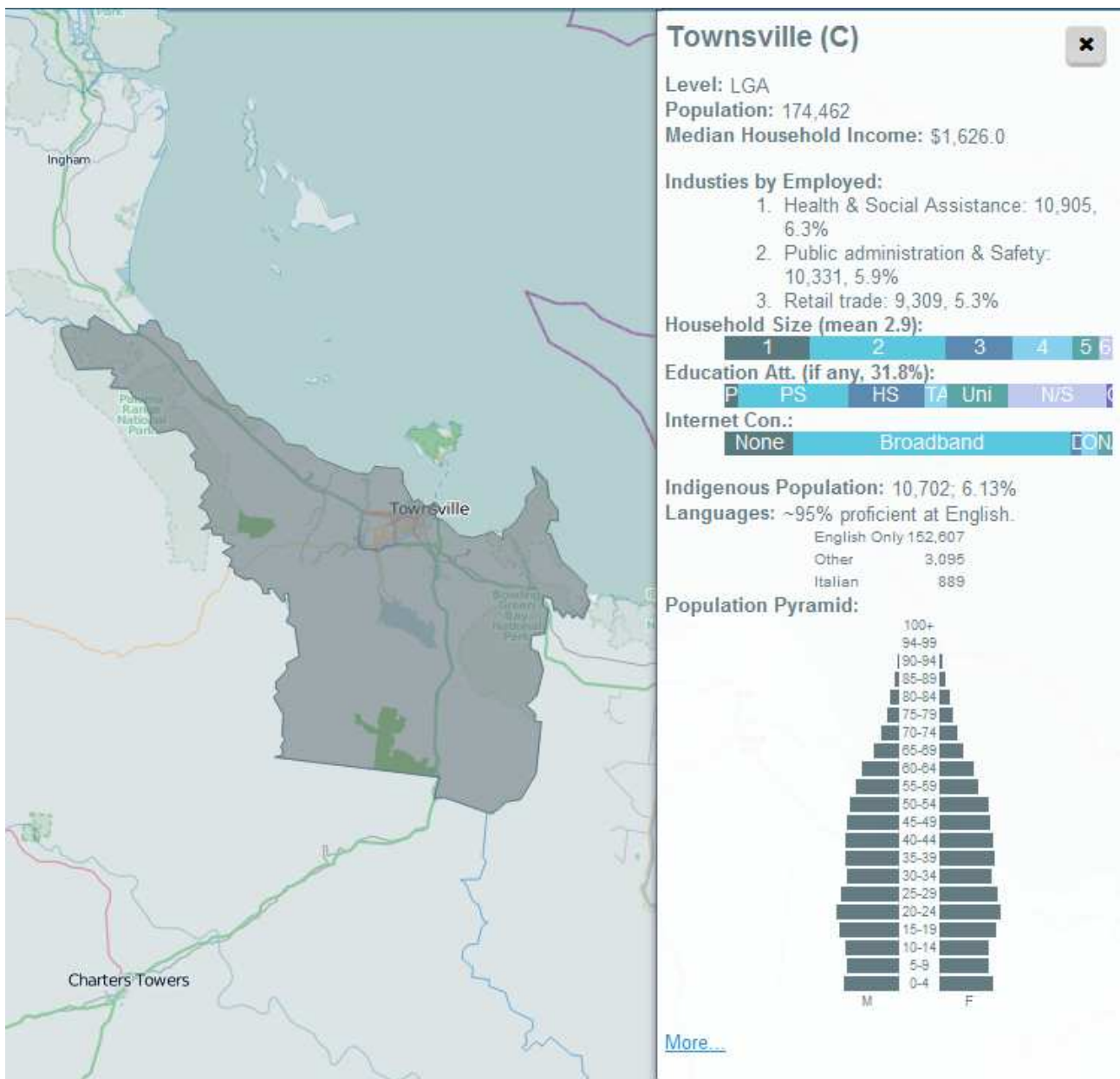
2.14 Map Polygons

Some layers are represented by polygons on the map. These include statistical layers and some events where the affected region is defined by a polygon, for example a weather warning or bushfire footprint. Simply click inside the polygon to select the related item. The Info Sidebar will then display the detailed information for that item.

2.15 Info Sidebar

The Info Sidebar appears when one or more Map items are selected. The information displayed is dependent on the item(s) selected. It can contain information on multiple events/regions. Click on the [X] button at the top right of the Info Sidebar to close it. The following are some examples of the Info Sidebar showing different content. The selected map item is highlighted on the map.

The first is an example of the LGA region “Townsville (C)” being selected on the map. The Info Sidebar contains some summary ABS Census statistics for the selected region.

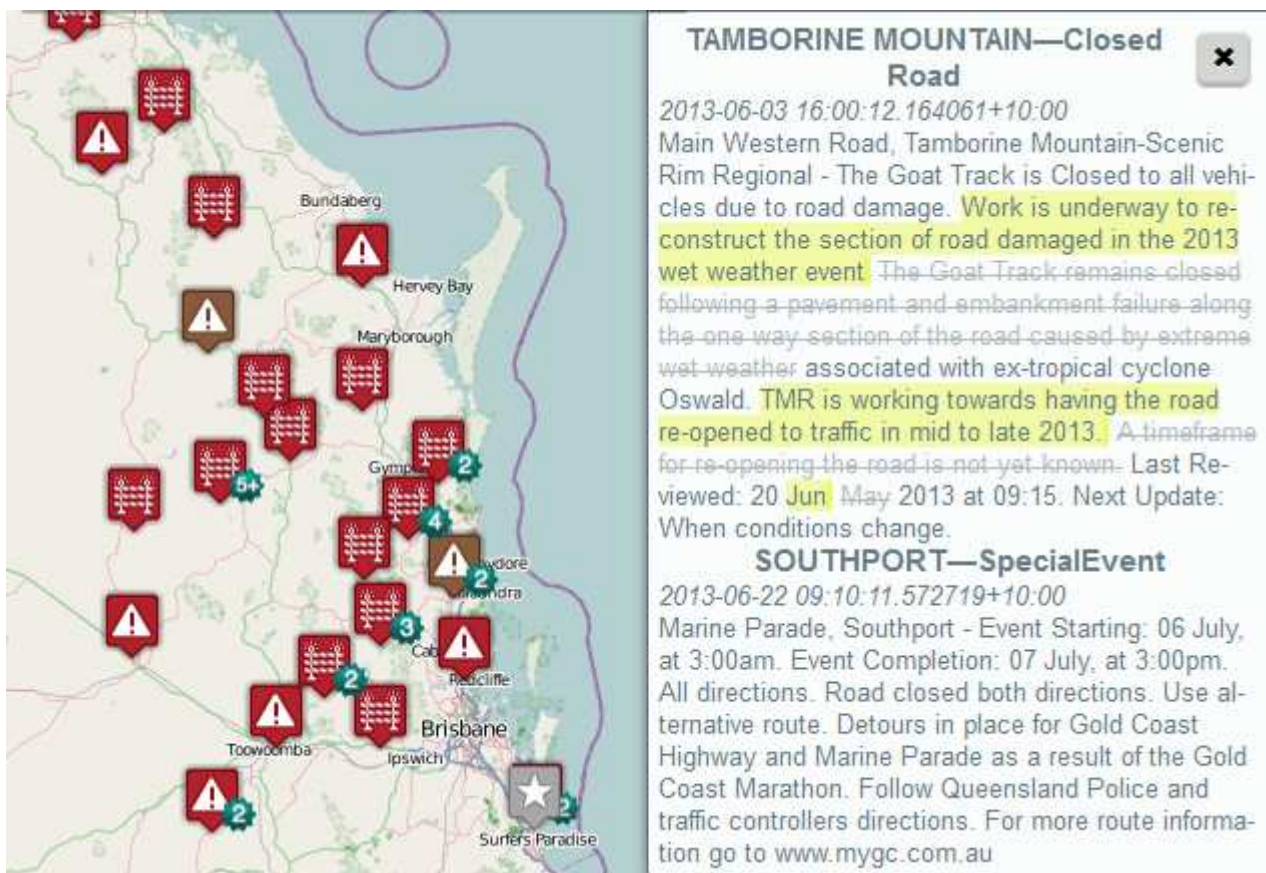


The next example is showing the result of clicking on a Fire Advice map icon. The selected icon is indicated

by the grey star icon.



The last example shows the effect of selecting multiple event icons on the map. You'll also notice that the information displayed in the sidebar for the road closed event highlights what has been updated from the previously published event information.



3 Other Interfaces and Features

3.1 Data Registry

A listing of all ERIC data sources can be shown by selecting the Data Registry option from the ERIC menu. This will open a new web page with a complete listing of all data sources used within the ERIC system. There are two categories of data: static and dynamic. Static data is not regularly updated, although as new releases become available, for example updated ABS Census data, they are downloaded again and ERIC is updated to use this new version. The most recent download date is recorded as the "When obtained" date. Dynamic data is updated regularly and usually contains current information about ongoing incidents or current weather warnings. ERIC checks these data sources for updates approximately every 10 minutes, so that any new developments are reported within the system promptly. Most ERIC data has been downloaded from each custodian's public web site, this is indicated by the "How obtained" value. Where possible direct links to the data downloads are listed, along with links to any metadata information and associated copyright and licence material.

The registry may also be accessed directly via the following URL: <http://eric.csiro.au/registry/registry>.

The following is a sample of the information listed on the registry page.

131940 QLD Road Closures

Description: Road Closures
Custodian: 131940
How obtained: download
Category: dynamic
Started retrieving: 10-10-2012
copyright: [Copyright](#)
data: [JSON data](#)
metadata: [Web page](#)

ACT Emergency Services Agency Incidents

Description: Fire and Vehicle Incidents
Custodian: ACT ESA
How obtained: download
Category: dynamic
Started retrieving: 06-09-2012
copyright: [Copyright](#)
data: [RSS data](#)
licence: [CC by 3.0 AU](#)
licence: [Legal Code](#)
metadata: [Web page](#)
metadata: [Incident map](#)

Australian Bureau of Statistics 2011 Census data

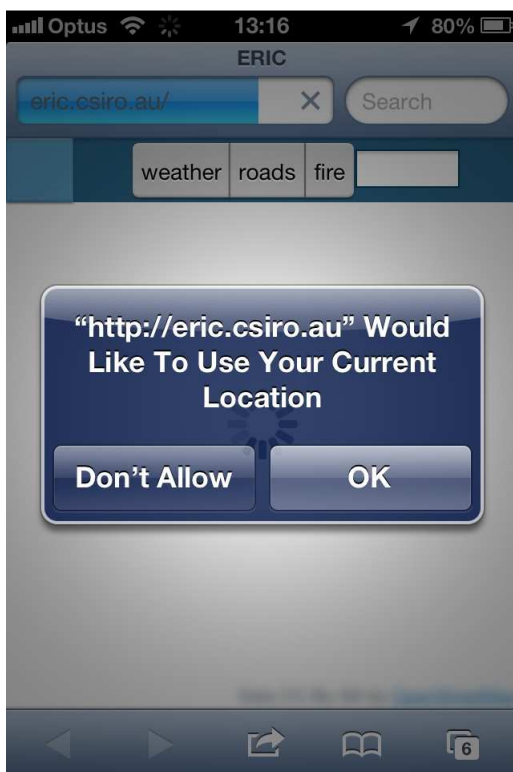
Description: Basic Community Profile, Third Release
Custodian: ABS
How obtained: download
Category: static
When obtained: 28-03-2013
Created on: 28-03-2013
copyright: [copyright](#)
data: [DataPack](#)
licence: [CC BY 2.5](#)
licence: [Creative Commons Legal Code Attribution 2.5 Australia](#)

3.2 Mobile Use

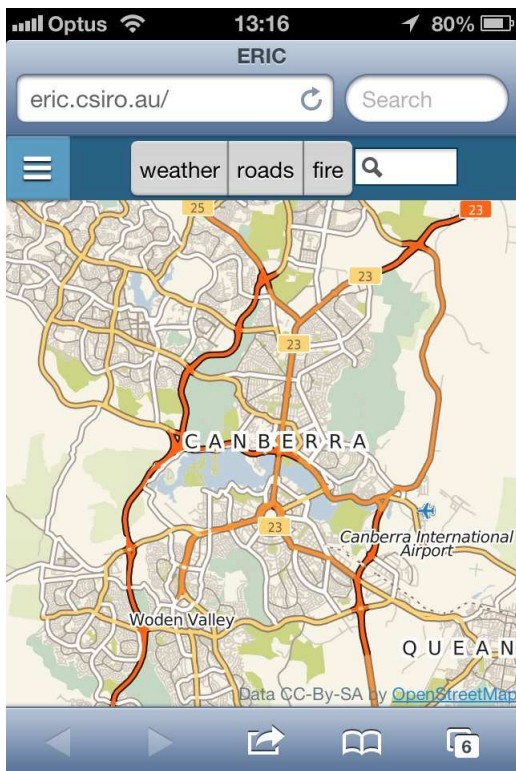
The ERIC tool may be accessed via a browser on mobile devices such as an iPad or iPhone. However, due to the limited screen sizes, the user interface will appear differently. The following sections show examples of what you are likely to be presented with when using ERIC on a mobile device.

3.2.1 iPhone Interface

To access ERIC on your iPhone, open your browser and enter the ERIC URL. The first thing you will notice is that you are asked if the ERIC web site can use your current location, as is shown in the screen below. Selecting “OK” will zoom the initial map to your location, this is normal for most iPhone mapping apps. You can choose “Don’t Allow” which will initially display the entire map of Australia.



After selecting Don’t Allow or OK, the main Map View interface will load, as shown in the next screen.



You will notice that quite a bit of screen space is taken up by the iPhone Safari browser's top and bottom panels. A trick to get Safari to hide these is to launch ERIC via your home screen. To set this up, click on the  button. You will then be presented with the following screen.

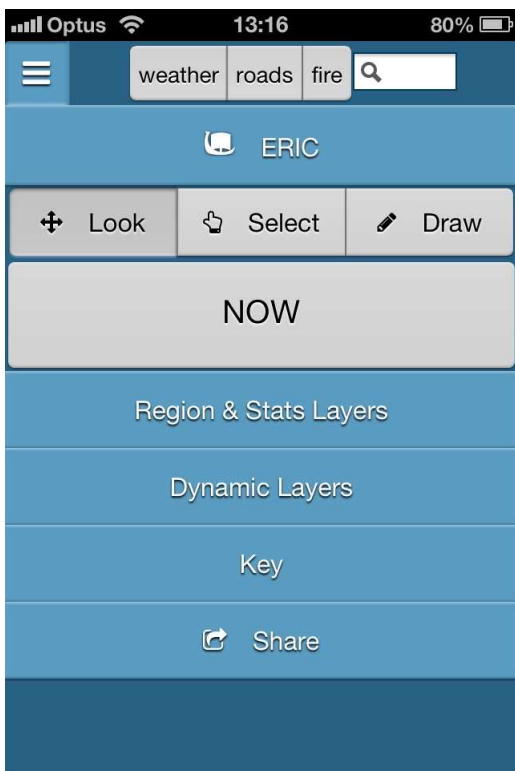


Tap on the "Add to Home Screen" icon, in the following screen modify the name "ERIC" if you want to and then tap on the "Add" button in the top right. An ERIC icon will now appear on your iPhone's home screen. The ERIC tool can then be launched from your home screen by tapping on its icon. Loading ERIC this way will provide more screen real estate as shown in the next screen.



You will notice that there are far fewer buttons on the top Toolbar than there are when view on a desktop

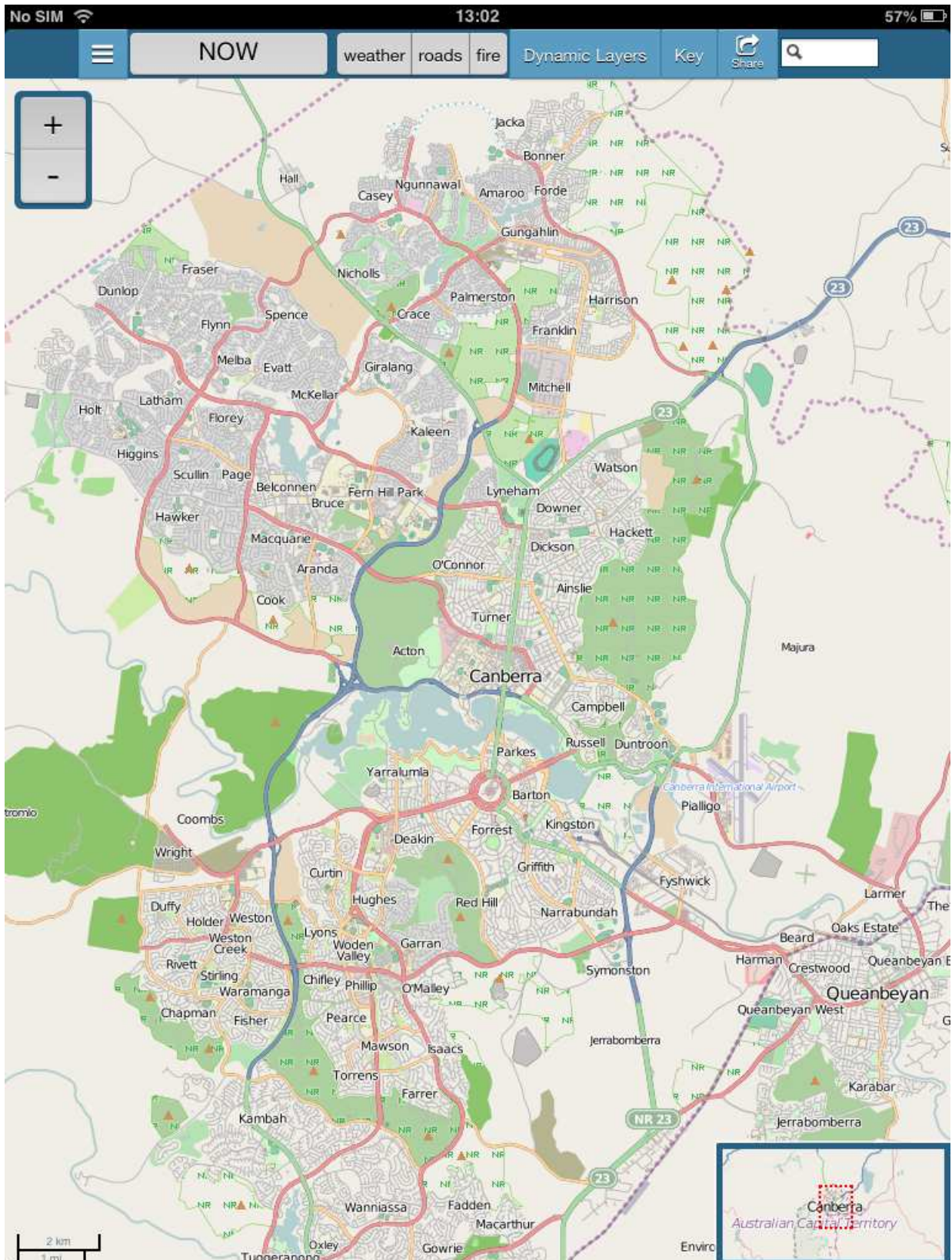
browser. The missing ones can all still be accessed however via the  toolbar button. The following screen shows the effect of tapping this button.



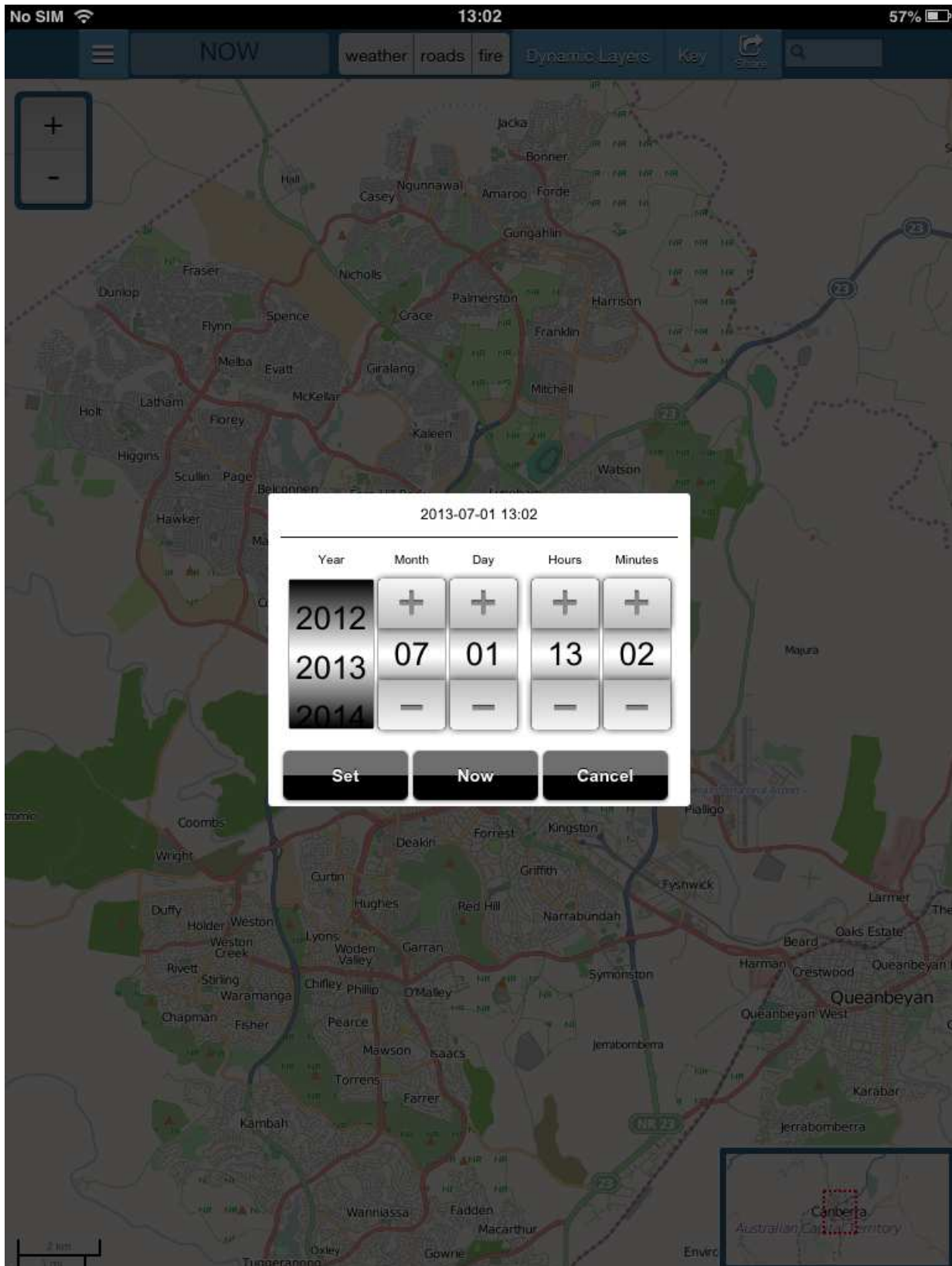
3.2.2 iPad Interface

The iPad interface is a bit of a cross between the iPhone and the desktop interfaces. With its larger screen

size it is able to show most of the normal toolbar items, some however are still accessed via the button. The following screens show examples of using ERIC on an iPad.

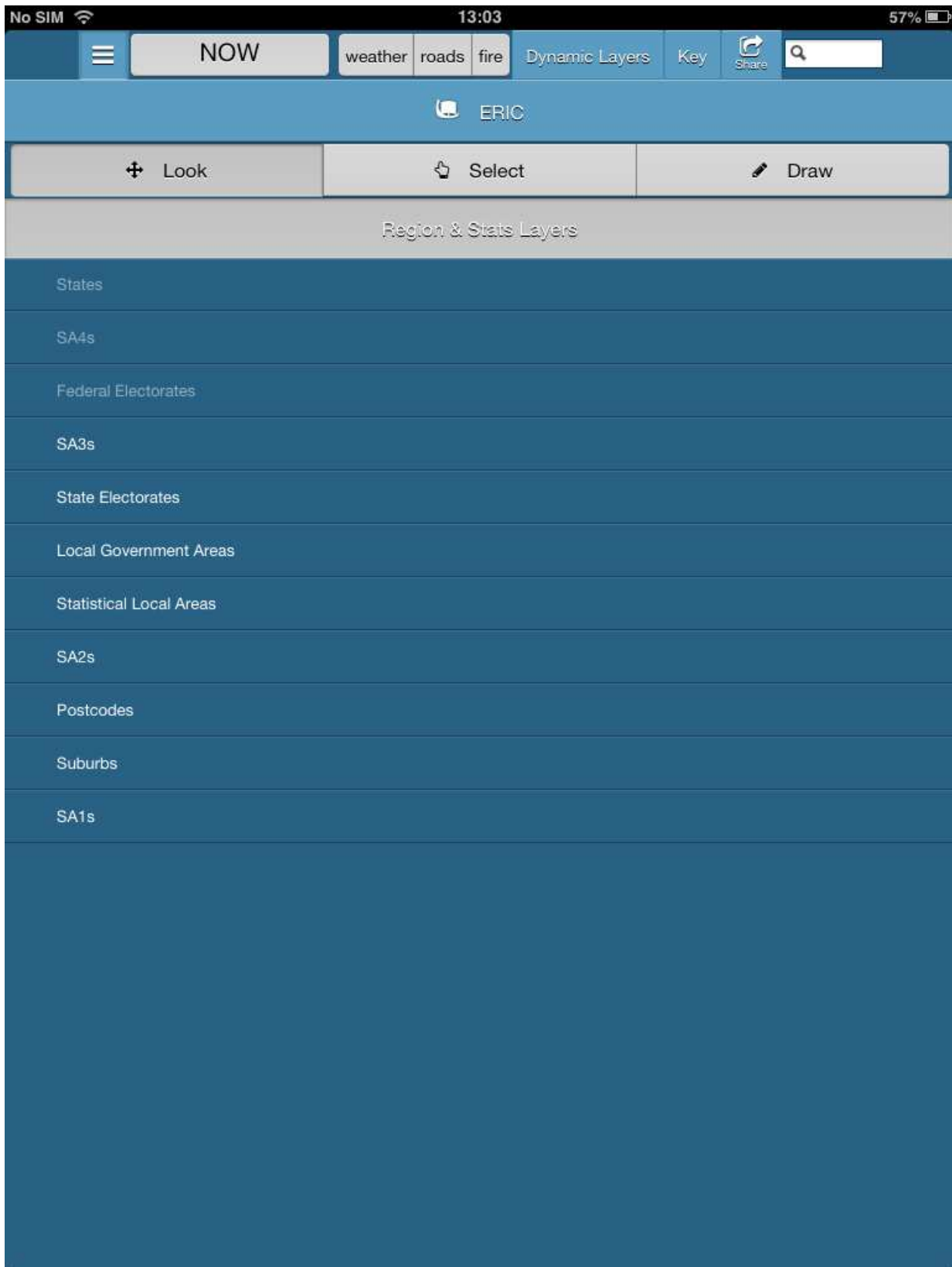


The Date Controller behaves in much the same manner as the desktop version.





The following screen shows how to access the Region & Stats Layers via the  button. Tap on the Region & Stats Layers button and the list of layers will be shown. Tap each layer to turn it on/off.



Appendix A - Glossary

The following is a glossary of acronyms and terms used within this User Guide and within the ERIC tool.

Term	Definition
ABS	Australian Bureau of Statistics
Authentication	The process of logging on with username and password.
BOM	Bureau of Meteorology
CFA	Country Fire Authority
Checkboxes	Provides a list of options for the user to select: zero, one, or several.
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Data source	The origin of data used in ERIC. For example the department, ABS, GA or web feeds.
Drop down list	Allows the user to choose one value from a list.
Dynamic Layer	See layer: information obtained from web feeds.
Emergency Event	See event: when the event is an emergency situation, for example, fire, flood etc.
Emergency Management team	The Emergency Management team within the Human Services Face to Face Channel Operations and Emergency Management Branch.
EMC	Emergency Management Coordinator
ERIC	Emergency Response Intelligence Capability
ERIC Menu	The left most menu on the ERIC bar containing the 'longboat' icon.
ESA	Emergency Situation Awareness
Event	An incident or situation that occurs in a particular place during an interval of time.
GA	Geoscience Australia
GeoJSON	A format for encoding a geographic data structures, based on JSON.
Geospatial object	The representation of an object on the Earth's surface as a spatial entity defined as a point, line or polygon, or collection of these.
GUI	Graphical User Interface
HSDRA	Human Services Delivery Research Alliance
Human Services	Australian Government Department of Human Services
Icon	An element (a picture or symbol) that represents another feature of the GUI.
ICT	Information and Communications Technologies
Info sidebar	Similar to a popup, but appears over the Map View by sliding in and out of view.
JSON	JavaScript Object Notation
Layer	A separate collection of geospatial objects. A layer usually has the same geospatial type (point, line or polygon) and represents related real world entities, such as roads, rivers, suburbs, postal regions.

Term	Definition
LGA	Local Government Area
Map icon	See icon: a visual indicator on the map representing a object or event at a location.
Map icon cluster	See Map icon: a map icon with a number in the lower right corner indicating the number of aggregate map icons being represented.
Map key	A panel showing descriptions for the map icons.
Map scale	The small line indicator representing the current map scale, in kilometres and miles.
Map View	The main map interface of the ERIC web site.
Mini map	The smaller map at the lower right hand corner of the Map View.
Open Street Map	The geographic elements in the Map View which provides street map, terrain and satellite imagery backdrops for Australia. Similar to a Google Map.
Pan	Move the map view to a new location, a combination of north, south, east or west.
PDF	Portable Document Format
Polygon	A sequence of points connected by straight lines describing a region. There are many further definitions enforcing 'correct' polygons where the lines do not cross, points are not repeated and the first and last points are coincident.
PoP	Points of Presense
Popup	A separate window that displays information to the user.
PPRR	Preparation, Preparedness, Response and Recovery
Registry	A listing of all ERIC data sources
RFS	Rural Fire Service
RSS	Rich Site Summary / Really Simple Syndication
SA1	ABS Statistical Area Level 1
SA2	ABS Statistical Area Level 2
SA3	ABS Statistical Area Level 3
SA4	ABS Statistical Area Level 4
SitRep	Situation Report
Static Layer	See layer: contains preloaded data for display in the Map view.
Tab	A single component in a collection of choices organised together. Only one tab may be active at a time.
Text box	Allows the user to enter data.
Toolbar	A collection of user interface menus and buttons.
URL	Uniform Resource Locator
Web Feed	A source of dynamic data about emergency events in ERIC.
Zoom	Move the map view to be closer (zoom in) or further away (zoom out).
Zoom control	The GUI element to allow the user to zoom.
Zoom level	The current state of the zoom as displayed on the Map view.

Appendix B - Acknowledgements

The development of ERIC and the supporting research has been funded under the CSIRO - Australian Government Department of Human Services Human Services Delivery Research Alliance (HSDRA).

This “Public ERIC: User Guide” is a subset of the full “ERIC: User Guide” which describes the ERIC tool that was developed for the Emergency Management team of the Australian Government Department of Human Services. *Robinson B, Wise C, Power R (2013) ERIC: User Guide. CSIRO, Australia.*

ERIC collects and displays data from a number of external data sources and also makes use of many third party software applications and libraries. These are all acknowledged in this appendix. Hyperlinks to the data custodians and third party software creators are also provided.

B.1 Data Sources

Please see the ERIC [Data Registry](#) for details on exact datasets used and licence conditions.

- [131940 QLD Traffic and Travel Information](#)
- [ACT Emergency Services Agency](#)
- [Australian Bureau of Statistics](#)
The statistical boundaries and Census data displayed within ERIC is based on Australian Bureau of Statistics data.
- [Bureau of Meteorology](#)
- [Geoscience Australia](#)
The Hotspot fires mapping layer is based on Geoscience Australia data.
- [NSW Rural Fire Service](#)
- [NSW Transport Roads and Maritime Services](#)
- [QLD Department of Community Safety](#)
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- [SA Country Fire Service](#)
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- [TAS Fire Service](#)
Disclaimer: This information is extracted from the Tasmania Fire Service's Fire Incident Response Management (FIRM) system. This information is not necessarily 'real time' information, but is provided as a general indication of current activity. During outages of the TFS Website members of the public should refer to their [ABC Local Radio](#) for bushfire information and updates.
- [VicRoads](#)
VicRoads is acknowledged as the copyright owner of the Victorian Road Closure data used by ERIC.

B.2 Third Party Software

The following third party software applications and libraries are used by ERIC.

Web Server

- [Apache](#)
- [Tomcat](#)
- [mod_wsgi](#)
- [Python](#)
- [wkhtmltopdf](#)

Python Libraries

- [Flask](#)
- [Werkzeug](#)
- [LXML](#)
- [Beautiful Soup](#)
- [Pycopg2](#)
- [simplejson](#)
- [pyKML](#)
- [feedparser](#)
- [pytz](#)
- [Python-Markdown](#)
- [libxrender1](#)
- [Xvfb](#)

Java Libraries

- [JSON](#)
- [JExcelAPI](#)

JavaScript Libraries

- [OpenLayers](#)
- [jQuery](#)
- [jQuery UI](#)
- [spin.js](#)
- [jquery-cookie](#)

Database

- [PostgreSQL](#)
- [PostGIS](#)
- [GDAL](#)

Mapping

- [OpenStreetMap](#)
- [Map Icons](#)

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