

QR Code Functionality for Wildland Fire Mapping

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Mobile GIS applications for iPhones, iPads, and other smart devices are a new and progressive way of taking and obtaining geographic information in the field in digital formats. Users with smartphones or tablets can download free applications quickly and easily which enable increased functionality and mobility. This document will discuss a workflow that has proven effective on the Halstead Fire.

Section I-Website Creation

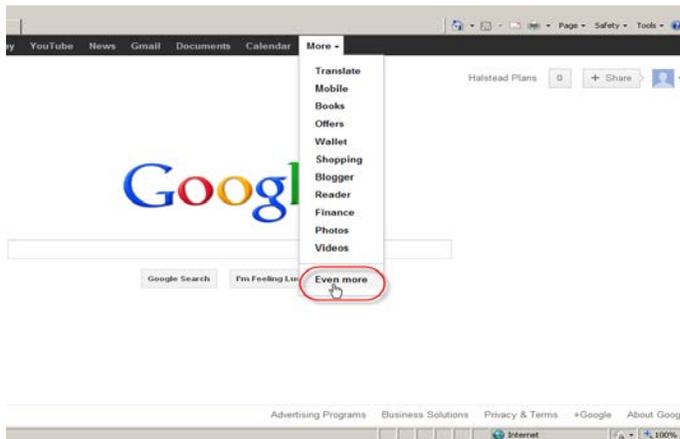
Section II-QR Creation

Section III-QR Codes in ArcMap and Export Settings

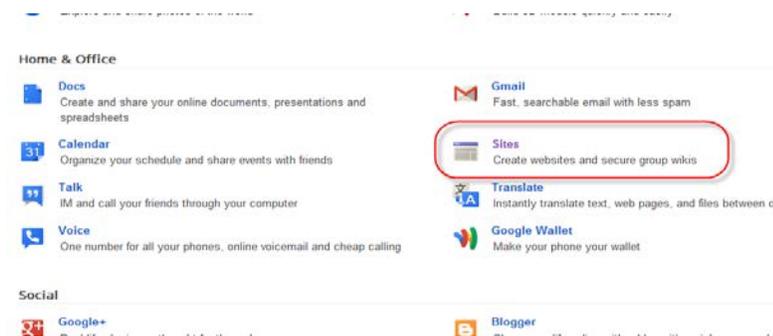
Section IV-User Device Settings

Section I – Website Creation

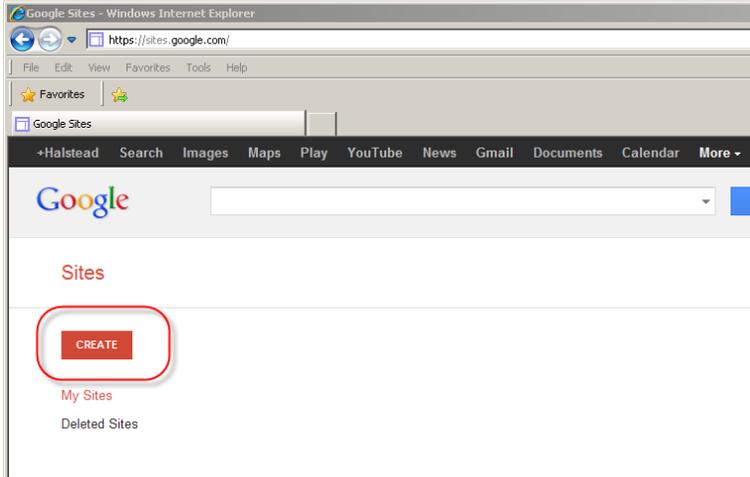
Most incidents setup an incident or even sectional email address using gmail. This is the starting point for utilizing QR codes easily. When logged in, use the drop down menu “More” and select “Even More”



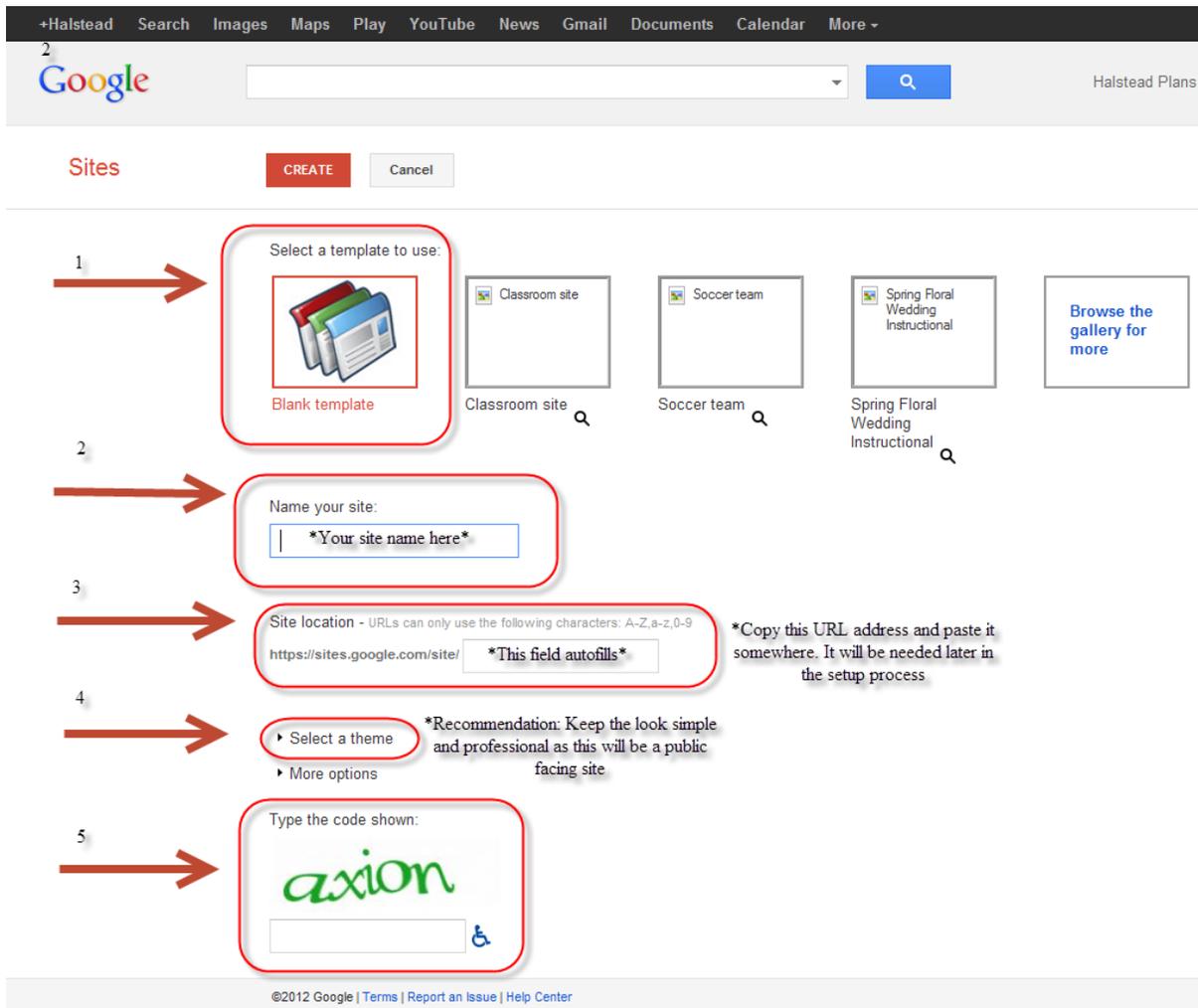
Scroll down to and select “Sites”



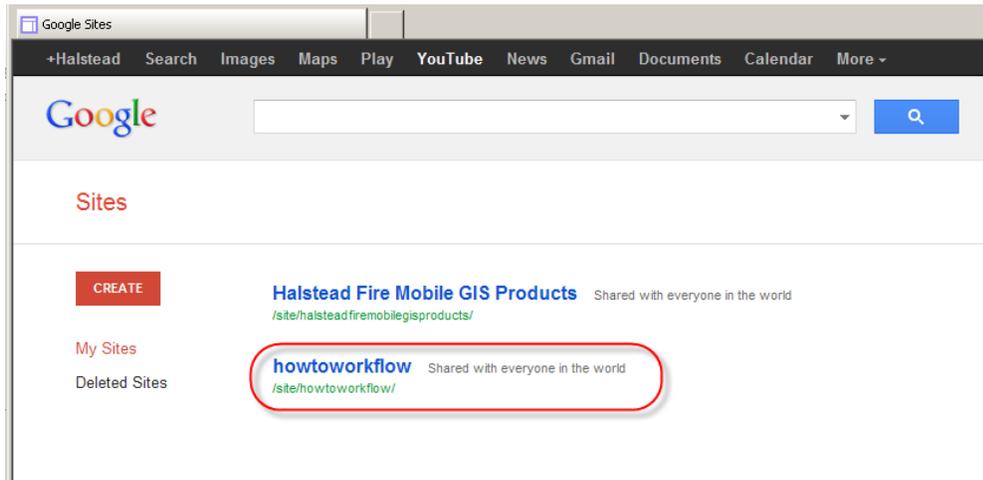
Select "Create"



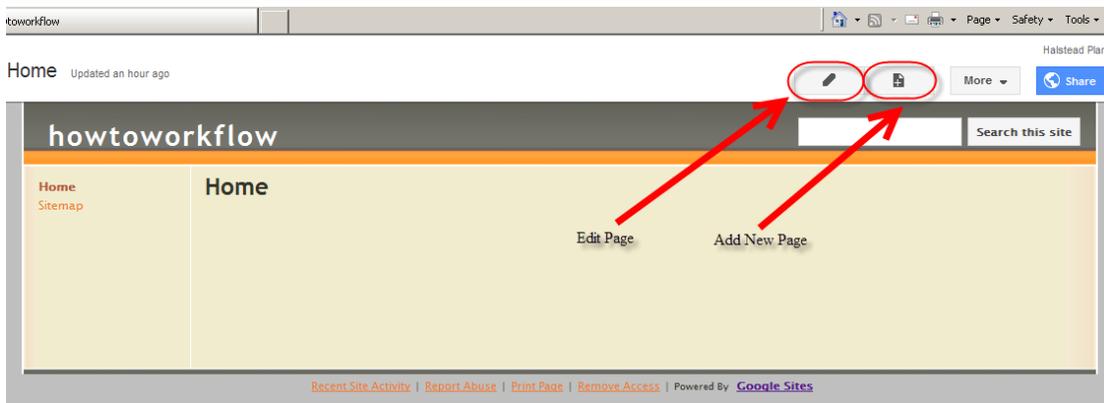
Create the basic look and feel of the website in the following page:



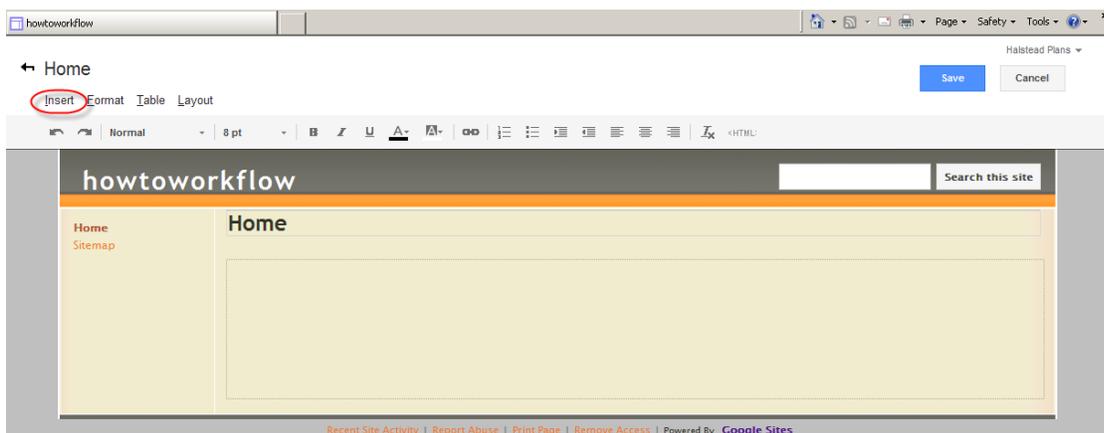
Hit "Create" at the top of the page when all the fields have been satisfied
Return to the "Sites" page to view and manage the different active sites that have been created



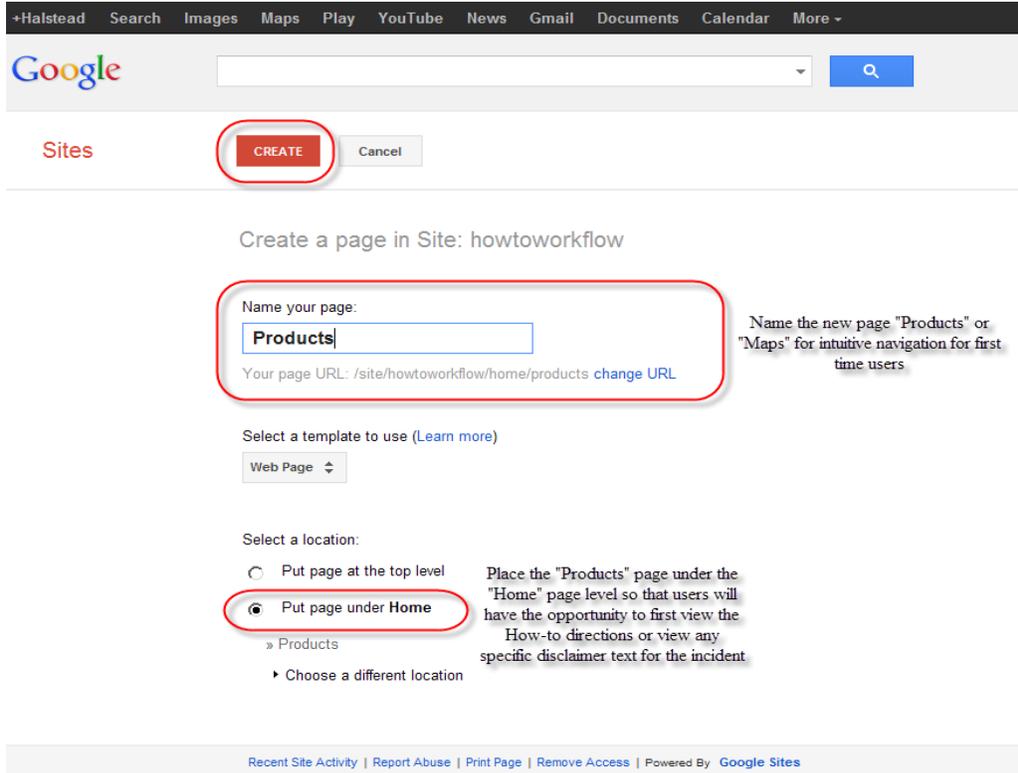
When the administrator is logged into the webpage there are a number of options for how to edit the site.



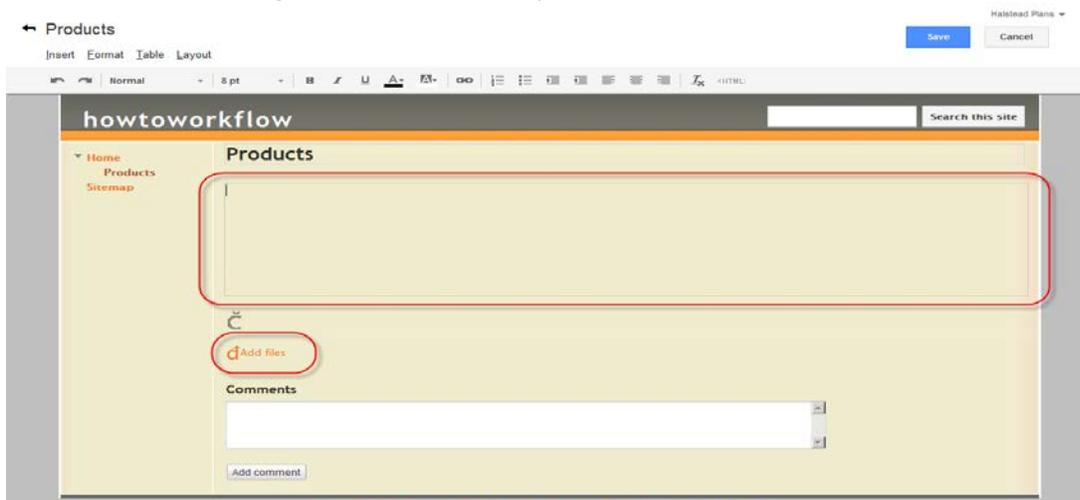
In "Edit Page" it is nice to put a picture of some sort to dress up the page and it is advisable to post a short "how-to" section for new users.

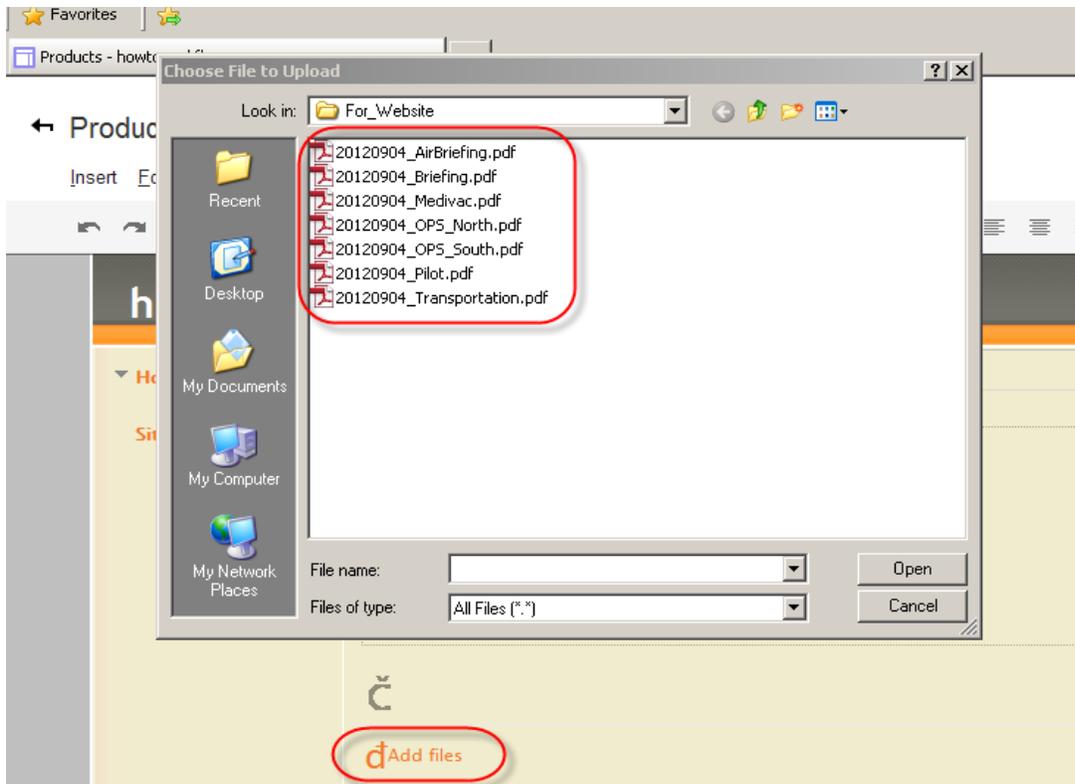


By clicking on the “New Page” button, a page creation setup page will open up. Enter a new name for the page such as “Products” or “Maps” since this will be the new page that users will go to in order to download and consume the products posted to the site. Select the radio button next to “Put page under Home”



After hitting “Create” at the top of the page, the new page will pop up in an editable form. It will also have an “Add files” button near the bottom. This will open a windows explorer dialog box where the administrator can navigate to and select the products that will be available to users.





Inside each dated folder for products in the incident database it is helpful to create a directory to house the products that will be posted to the website with shortened names so that mobile phone users with limited viewing extents will easily be able to identify what products are available to them on the site. (seen above and below)

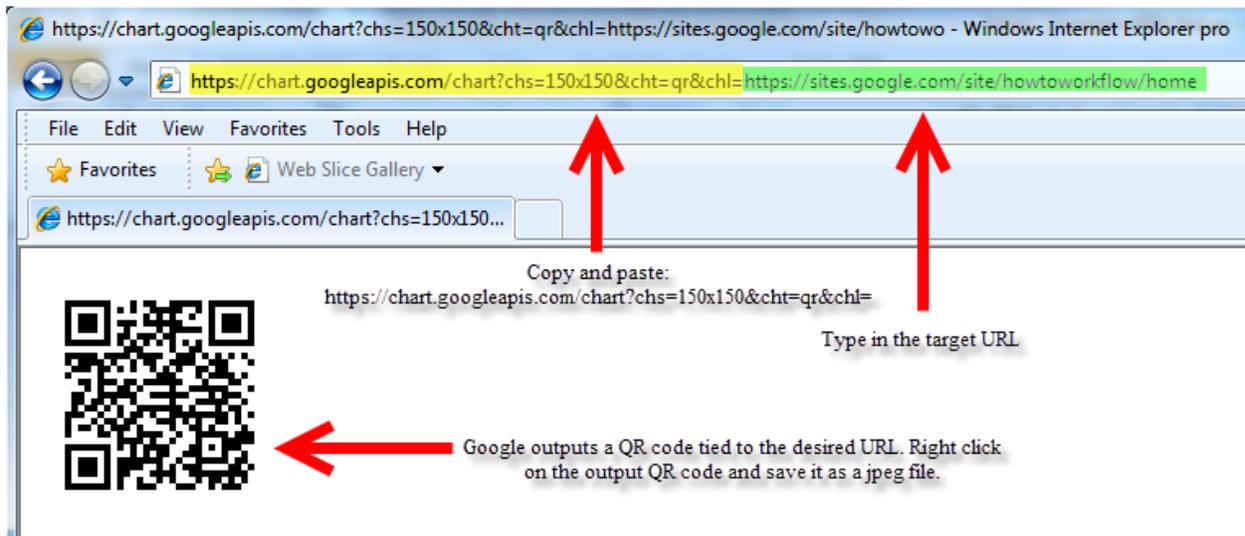


Section II – QR Creation

To create the QR code, simply google a QR code generator or another option is to utilize Google Charts. The creation of QR codes is a supported chart type. Simply copy and paste the following text into the internet browser navigation bar WITHOUT hitting enter:

“<https://chart.googleapis.com/chart?chs=150x150&cht=qr&chl=>”

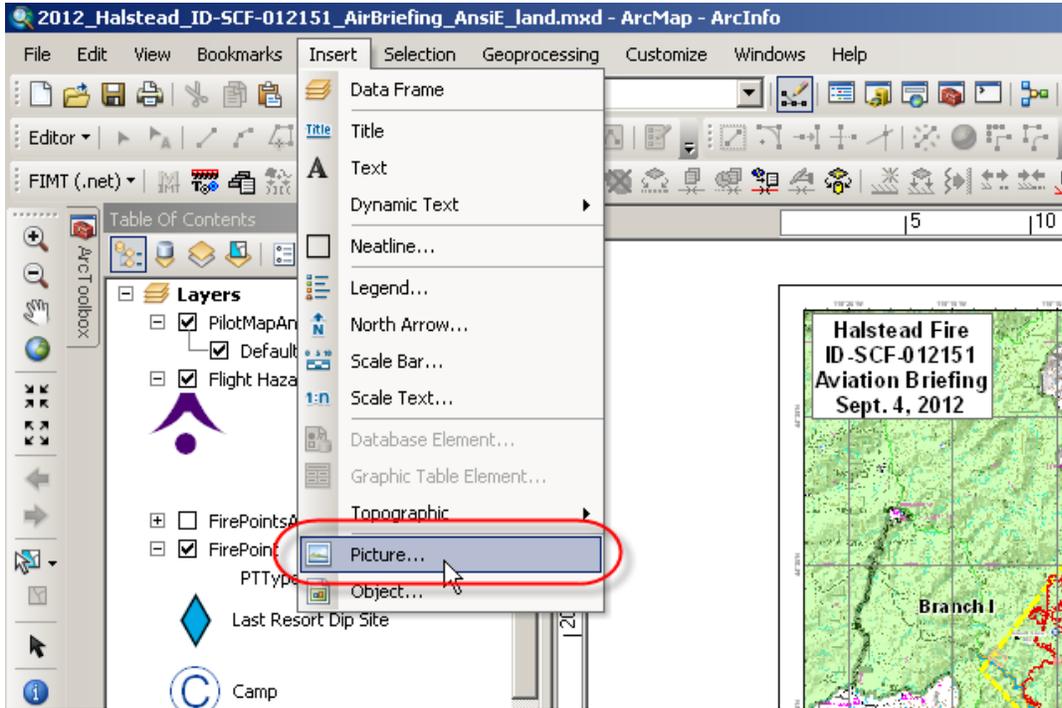
Once pasting the above text string, then type in the URL address of the target page at the end of the text string. Hit enter and the browser will load a page with the generated QR code. Right click on the image and save it as a JPEG file. The image can now be added to word documents, spreadsheets, maps, or any other form of media that is being published by the incident.



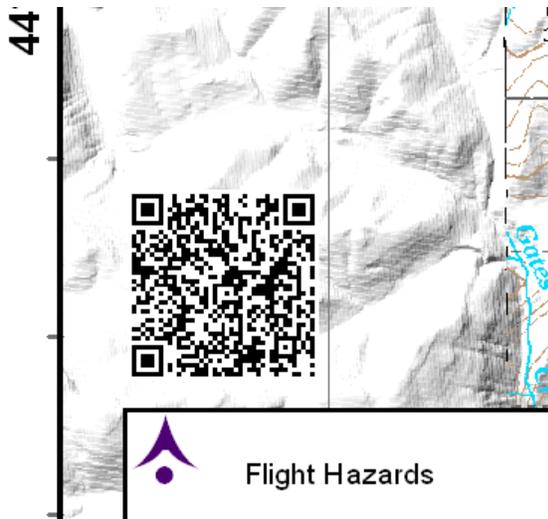
*A special thanks to Carl Beyerhelm for submitting this workflow for QR code generation

Section III – QR Codes in ArcMap and Export Settings

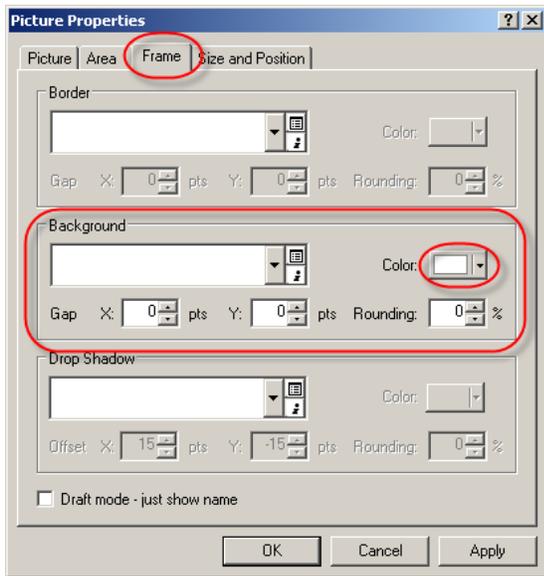
To insert the QR code into the maps, open up the mxd and use the “Insert” menu tab and select “Picture...”. Navigate to the stored location of the QR code and open it up in the map. Resize and place as needed.



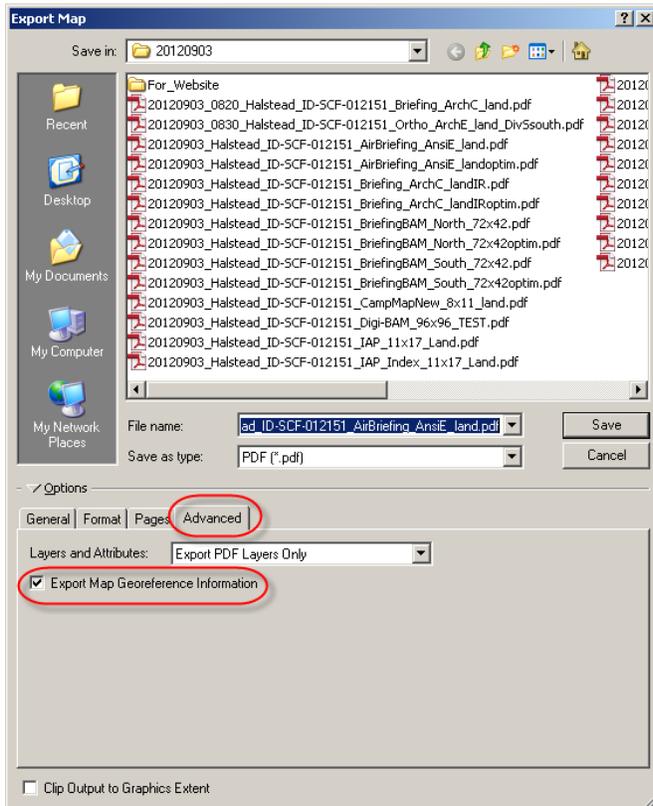
A size of about an inch to an inch and a half is suitable for users to be able to properly scan the QR code.



Right click on the QR code and go to the frame tab in properties. In the “Background” section, set the background color to white so that user’s devices will be able to easily detect the QR code



In the export settings, it is important to ensure that the checkbox for “Export Map Georeference Information” is checked so that users with iPads and iPhones with 3G service will be able to utilize the full functionality of the mapping applications.



Section IV – User Device Settings

The many different devices that people will be carrying to try and access the products on the website will present the greatest challenge to supporting functionality. Generally speaking there will be two different types of smart devices to work with; Apple products such as iPads and iPhones, and generically, non-apple products such as Droids, Samsungs, etc.

For Android operating platforms:

A beta version of Avenza PDF Maps has been released and is available for install at:

<http://www.pdf-maps.com/android/beta>

Users must have devices that have the Android 4 operating system or newer. Avenza also advises that user's devices possess a minimum of 1 GB of RAM in order to properly process larger files.



Avenza PDF Maps
Get the app, get the map.™

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PDF Maps (beta) for Android



Device requirements:

PDF Maps for Android requires the device to have Android 4.0 or higher installed. We also recommend that users have a minimum of 1 GB RAM as processing some PDF maps can be very memory intensive. If your device is lower than 4.0 we apologize for any inconvenience.

Known issues and limitations:

- Device must have Android 4.0 or higher.
- Device must have 1 GB RAM or higher.
- If you are having issues processing a PDF, try using a GeoTIFF instead.
- The Avenza Map Store is not accessible yet.

Features coming soon:

- KML file import
- Attributes (data collection)
- Access to the Avenza Map Store

Your participation and feedback in this pre-release process is an integral part of ensuring a timely and bug-free release. As such we are relying on you to communicate your findings to us and help us complete the product and release it in full functional form as quickly as possible. Please use the link in the app to send us your feedback or email support@avenza.com

[Continue to PDF Maps beta for Android Registration](#)



Register for PDF Maps beta for Android

Avenza is proud to announce that a **PDF Maps beta** release is now available for Android. We have been working diligently to get support on Android and are pleased to offer a public beta of PDF Maps for the popular mobile platform.

Complete the registration form below to gain access into the beta program. You will be kept up to date and notified about new beta releases, important information about the app, and where you can report issues.

Full Name *

E-mail *

Device Brand *
- Select -

Other device brand

Device Model *

Android Version *
- Select -

Multiple Devices

Using PDF Maps for *
- Select -

What is your potential use of PDF Maps? *
Recreation Maps (ie Hiking, Biking) [x]
Travel Maps [x]
Transit Maps
Nautical Maps

Hold Ctrl or Command to select multiple items

Other potential use

How did you hear about PDF Maps? *
- Select -

Consent for crash logs
If you are running PDF Maps beta and the application crashes, some information will be automatically transferred to Avenza. Only diagnostic information about your device and the application crash report will be sent to Avenza. No personal information will be sent.

▶ [NON DISCLOSURE AGREEMENT](#)

Consent *
 I agree and understand

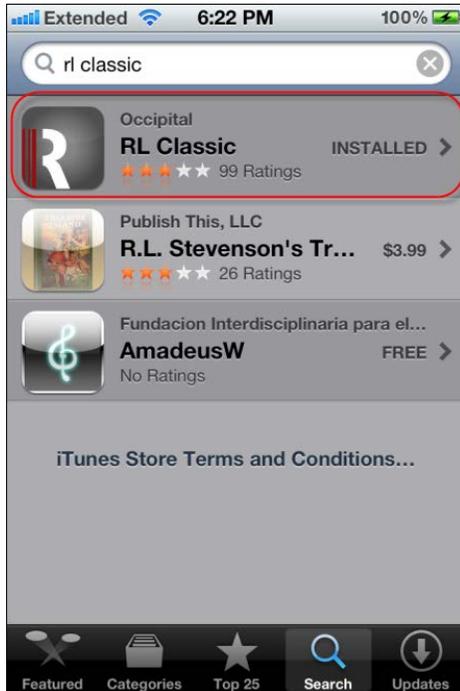
CAPTCHA
This question is for testing whether you are a human visitor and to prevent automated spam submissions.

*Users of Droids and Samsungs will need to go to the appropriate App Store (Droid app store is called "Play House"). Any QR Scanner application available will be suitable to scan the QR codes on the maps and IAP booklets.

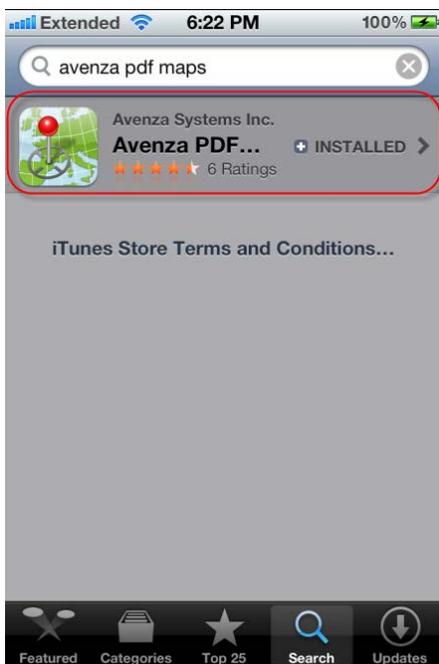
**Another workflow that may be helpful for users with devices that are not running Android 4.0 or newer is to utilize the maps as reference documents using a PDF reader app. Map products may still be referenced in a PDF reader without the positional awareness functionality using "Adobe Reader". It is a free app that would allow users to view, pan, and zoom around on downloaded and cached map products.

For the Apple platforms:

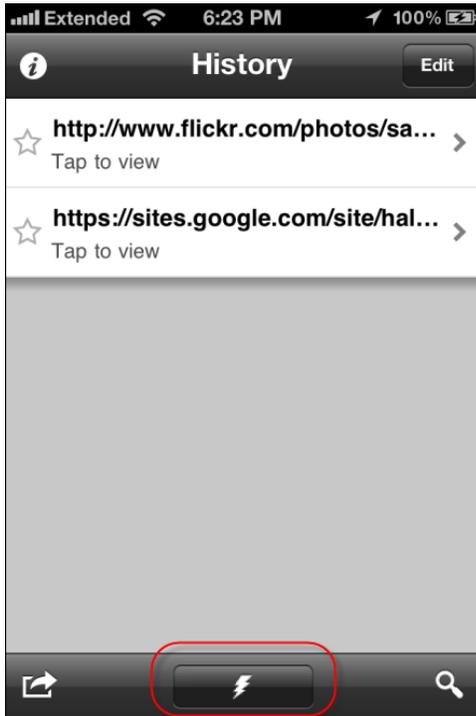
The user will need to download two applications to fully take advantage of the georeferencing functionality of the maps. The user will need to go to the App Store and search out the QR scanner “RL Scanner” and install it on their device.



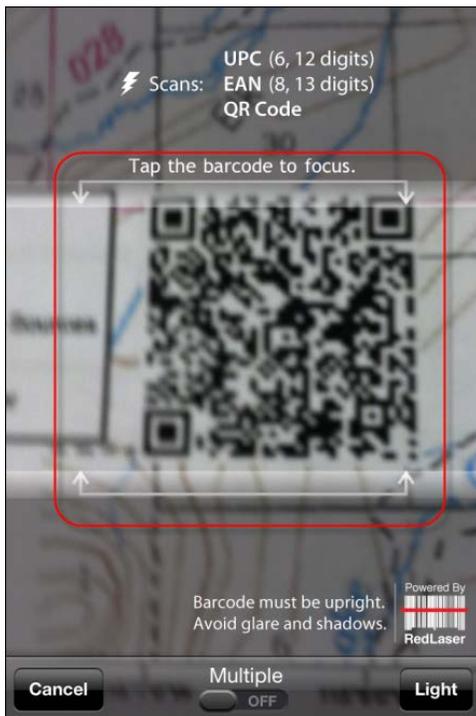
The other application that the user will need to download is “Avenza PDF Maps”



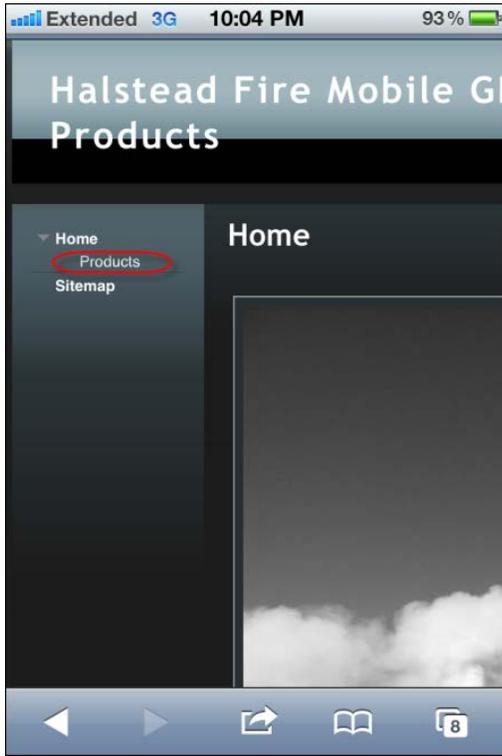
In order to get to the website using an iPhone or iPad, start by opening RL Classic and hitting the button shaped like a lightning bolt.



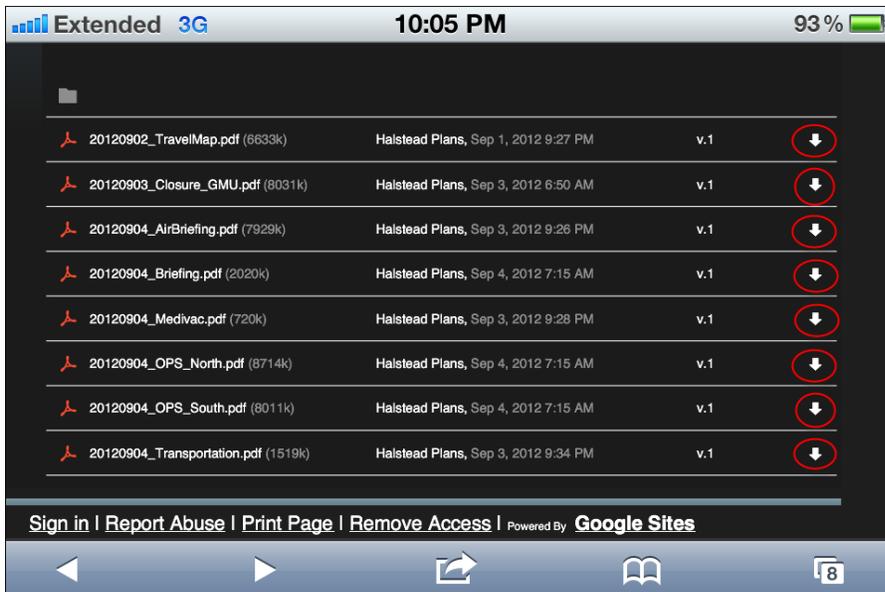
Next, position the QR code within the scanner box and allow the scanner to acquire the image properly.



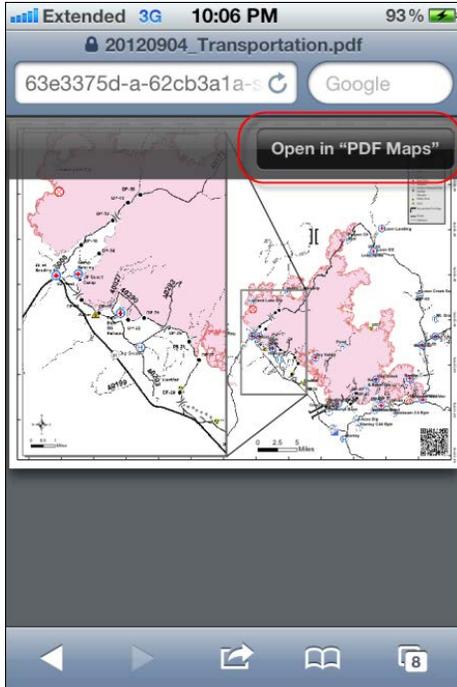
When the scanner has made the link to the website select the link to the “Products” page



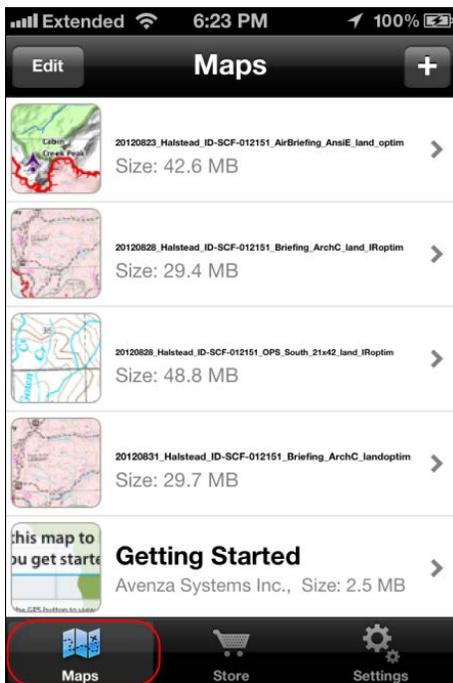
In the “Products” page will be a list of all the different products that are available to the users. Users will select the small arrow pointing down at the right hand side of the screen for each file that they wish to download.



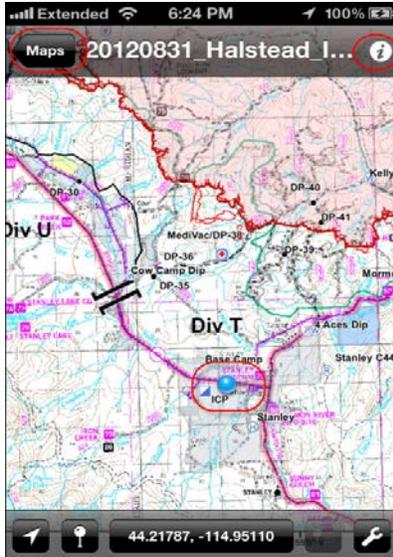
When the map has opened up, there will be a button that appears in the upper right hand corner that will either read “Open In” or “Open in “PDF Maps””. If the it reads “Open In”, press the button and select “PDF Maps” from the drop down menu. This will automatically launch Avenza PDF Maps and begin the processing of the map.



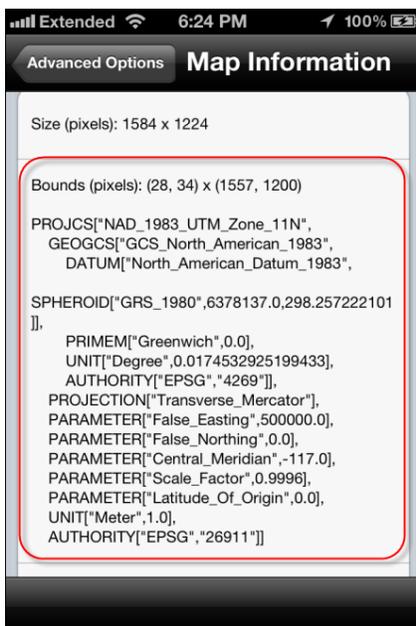
When the map is done processing, it will appear in the “Maps” list along with any other products downloaded.



Select the desired product from the maps list and the product will load up. A blue pin will identify the location of the device on the map surface if the device is within the map extent. To return to the map list, select the “Maps” button in the upper left hand corner. For map information select the “i” in the upper right hand corner.



In the map information there is information such as the title of the map, details, an option to delete the map, and also an “Advanced Options” button. In the advanced options, select the “Map Information” button to view the map geographic referencing information. If this area is blank and there is no blue pin denoting the location of the device on the map even if the device is within the maps geographic extent, then there is no georeferencing information embedded in the map and the positional functionality will not be available. *This will always be the case for iPad and iPod Touch users without 3G coverage because those devices do not possess the GPS functionality required to utilize the georeferencing information embedded in the map.



**It recommended that users utilize access to WiFi networks whenever possible during the downloading of applications and map products for the fastest download times. It is not required but advisable.

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