



Welcome to this presentation titled **Deploy Incident Maps To Mobile Devices Using QR Codes.**



The **Avenza Maps** app has become an important tool for incident personnel because it lets them view GPS-enabled incident maps on their Android and iOS mobile devices, even when WiFi or cellular data service are not available.

Mobile maps are especially useful when visibility is poor, or when personnel are unfamiliar with local features and travel routes, or are inexperienced navigating by reference to paper maps.

QR codes are an easy way to deploy mobile maps to Avenza, and that is the subject of this presentation.

Objectives

Five steps to deploy mobile maps using QR codes:

- **Create incident maps compatible with Avenza Maps app**
- **Post mobile maps to NIFC FTP folder**
- **Create QR codes that reference URL of map or map folder**
- **Distribute QR codes**
- **Use Avenza Map's QR code scanner to install maps**



The objectives of this presentation are to describe five tasks necessary to deploy incident maps to mobile devices using QR codes. The five tasks are:

1. Create incident maps that are compatible with the Avenza Maps app.
2. Post mobile maps to a NIFC FTP folder.
3. Create QR codes that reference the URL of mobile maps, or of mobile map folders.
4. Distribute QR codes so others can retrieve and install mobile maps.
5. Use Avenza Map's QR code scanner to install mobile maps.

Let's examine each of these steps in more detail.

Create incident maps compatible with Avenza Maps app

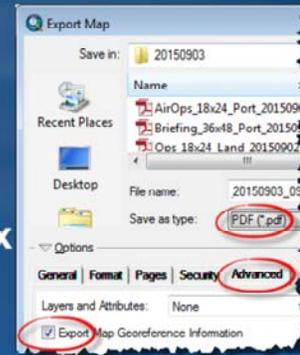
Export maps in georeferenced PDF format

On Export Map dialog:

- Save as type “PDF”

On Advanced tab:

- Export Map Georeference Information checkbox



The first step is to create incident maps that are compatible with the Avenza Maps app by exporting them in a **georeferenced PDF format**.

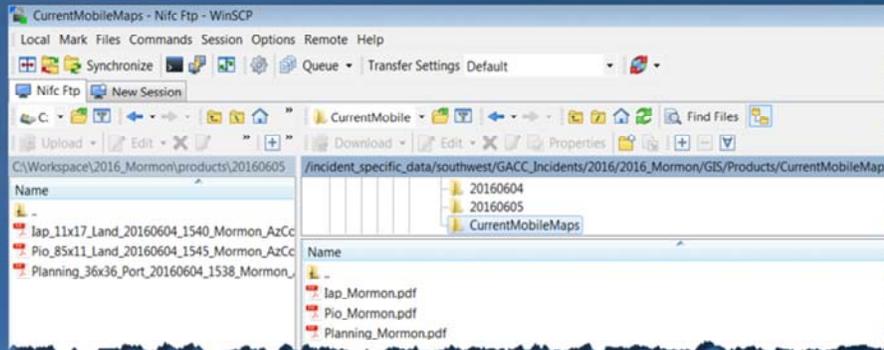
To do so:

Select PDF from the Save as type dropdown list in ArcMap's Export Map dialog.

Then, place a check mark in the **Export Map Georeference Information** checkbox on the Export Map dialog's Advanced tab.

Post Mobile Maps To A NIFC FTP Folder

- **Connect to NIFC FTP folder using WinSCP or FileZilla**
- **Create a CurrentMobileMaps folder within Products folder**
- **Upload maps to current period's date-stamped Products folder**
- **Upload mobile maps to CurrentMobileMaps folder and rename**



The second step is to post mobile maps to the incident's NIFC FTP mobile maps folder, as follows:

1. Use WinSCP or FileZilla to connect to the incident's NIFC FTP directory tree.
2. Create a CurrentMobileMaps folder within the incident's Products folder, as illustrated here.
3. Upload each period's incident maps to that period's date-stamped Products folder.
4. And then, upload each period's subset of maps appropriate for mobile use to the CurrentMobileMaps folder, and re-name them with a simplified name that will persist from one period to the next.

Create QR Code From Map URL

- Create QR code from URL of map or map folder
- Use online QR code generators or script tool



The image illustrates the process of creating a QR code from a map URL. It is divided into four numbered steps:

- 1**: A browser interface for TinyURL. The 'URL' field contains `http://tinyurl.com/jsfcnza`. A green button labeled '3 Create QR code' is visible at the bottom.
- 2**: The QR code is generated and displayed in the center.
- 3**: The QR code is ready for download. A green button labeled '4 Download' is visible below the QR code.
- 4**: A dialog box titled 'Generate QR Code 2016' is shown. It contains the following fields:
 - Specify a target URL: `http://tinyurl.com/jsfcnza`
 - Specify a folder for the output QR code image: `C:\Workspace\2015_FamilyPeakComplex\documents\QrCodes`
 - Specify a name for the QR code image: `FamilyPeak_PioQr`
 - Specify the dimension (pixels) of the QR code image: `150`
 - Specify short header text for the QR code image: (optional) `Family Peak - PIO Map`
 - Specify short footer text for the QR code image: (optional) `Use Avenza Maps app`



The third step is to create QR codes that reference the NIFC FTP URL of each mobile map, or of the mobile map folder.

To do so, you can use a browser to determine the URL of a mobile map, or of a mobile map folder.

If desired, the URL may be shortened using TinyURL, BitLy, or similar URL shortening services.

Then, use an online QR code generator or the **GenerateQrCode** toolbox script tool to generate a QR code from the URL.

Distribute QR Codes

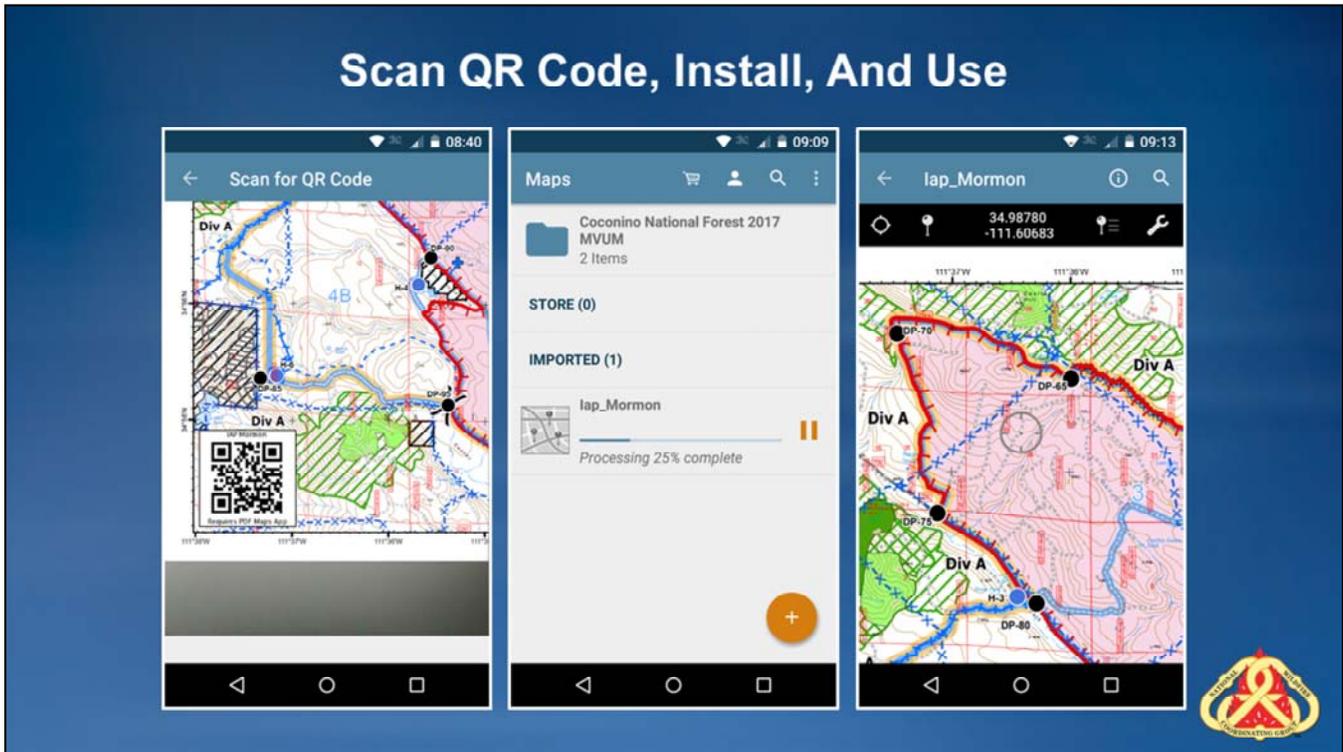
The image illustrates three methods for distributing QR codes for incident maps:

- Map Legend:** A map legend for 'Operations Map Sucker Creek Fire MT-HNF-164' (As of 26-Aug-2015) includes a QR code in the bottom right corner.
- Incident Action Plan (IAP):** A 'Tres Lagunas Fire Incident Action Plan' for Wednesday June 5, 2013, includes a QR code at the bottom center.
- Public Information Sites:** A photograph shows two people examining a map on a bulletin board, with a QR code visible on the map.



Once created, QR codes can be distributed in many ways. For instance:

1. You can include a companion QR code in the legend of each hardcopy map product for which there is a corresponding mobile map, as in the example at left.
2. You can also include relevant QR codes in the daily Incident Action Plan (IAP). Anyone receiving an IAP could then retrieve current mobile maps, if desired.
3. Other options are to post relevant QR codes near briefing areas, on camp bulletin boards, and at public information sites.
4. Finally, you can post relevant QR codes in online content so remote users can retrieve mobile maps.



Finally, use Avenza Map's QR code scanner to install mobile maps.

1. Open the Avenza Maps app on an Android or iOS mobile device.
2. Press the “+” icon on the **Maps** page to download or import a map, and scan the QR code.
3. The map will download directly to Avenza Maps in situations where the QR code encodes an individual map's URL.
4. However, if the QR code encodes the URL of a folder containing mobile maps, users will have to select a map from among those in the folder, wait for it to open in a browser, or in a PDF viewer, and then redirect it to Avenza Maps using an “Open In...” or “Open With...” option.
5. Procedures and icons may vary somewhat between Android and iOS devices. The examples illustrated here are from an Android phone.

Working With QR Codes

Review:

- Create incident maps compatible with Avenza Maps app
- Post mobile maps to NIFC FTP folder
- Create QR codes that reference URL of map or map folder
- Distribute QR codes
- Use Avenza Map's QR code scanner to install maps



This presentation described five tasks necessary to deploy incident maps to mobile devices using QR codes. Let's review those five points:

1. Create incident maps that are compatible with the Avenza Maps app.
2. Post mobile maps to a NIFC FTP folder.
3. Create QR codes that reference the URL of mobile maps, or of mobile map folders.
4. Distribute QR codes so personnel can retrieve and install mobile maps.
5. Use Avenza Map's in-app QR code scanner to install mobile maps.