

Emergency Management Operations Documentation 1.3

Introduction to Emergency Management Operations

Emergency Management Operations can be used to manage incident operations and maintain situational awareness during emergency response and recovery phases.

The solution provides an integrated suite of role-based apps that helps emergency response personnel (for example, duty officers, field operations, incident commanders, and public information officers) share information as they perform the unique tasks required to accomplish incident objectives. Emergency Management Operations is typically implemented by emergency management agencies that want to use shared information during emergency response and recovery operations.

The Emergency Management Operations solution delivers a set of capabilities that help you to identify an emergency incident, define the impact, allocate resources, and communicate status to internal and external stakeholders.

Requirements

The Emergency Management Operations solution requires the following:

- ArcGIS Online
- ArcGIS Pro 3.0 or later (Basic, Standard, or Advanced)

Information products

Emergency Management Operations includes the following information products:

Item	Description	Minimum user type
Situational Awareness Viewer	An ArcGIS Web AppBuilder app that can be used by emergency management personnel to understand the impact of an incident on public infrastructure and human populations	Editor
Operations Response	An ArcGIS Web AppBuilder app used by emergency management personnel to understand the status of emergency facilities and response teams	Editor
Incident Status Dashboard	An ArcGIS Dashboards app used by emergency management personnel to monitor response activities and measure progress on incident objectives	Viewer
Incident Briefing	A Portfolio app used by emergency management personnel to brief key stakeholders during an incident or event	Viewer

Public Information	A Nearby app used by the public to review authoritative information and understand the status of an incident or event	Not required
Emergency Management Maps	An ArcGIS Pro project used by mapping technicians to create a standard set of briefing and response maps	GIS Professional Basic
Emergency Response Volunteer Survey	An ArcGIS Survey123 form used by the general public to volunteer for emergency response activities.	Not required
Emergency Response	An ArcGIS Hub site used by emergency management agencies to share incident information with key stakeholders.	Not required

Configure Emergency Management Operations

Emergency Management Operations can be used to manage incident operations and maintain situational awareness during emergency response and recovery phases.

In this topic, you'll learn how to configure the Emergency Management Operations solution to meet specific needs in your organization.

Load data

The Emergency Management Operations solution includes a series of facility layers needed to support emergency response activities:

- Emergency Facilities—Police and fire
- Industrial Facilities—Factories, utilities
- Commercial Facilities—Shopping centers and businesses
- Medical Facilities—Hospitals and clinics
- Educational Facilities—Schools

You can load data into the solution using the update data button in ArcGIS Online or ArcGIS Enterprise. Optionally, in ArcGIS Pro you can use the [Append](#) tool or [Update Features With Incident Records](#) tool.

In some cases, you may already have this information in ArcGIS or another mapping system. Review the layers provided with the solution and determine what source data you want to load. If you do not have an inventory of facility information in your ArcGIS organization, you may have them in a spreadsheet or another system you can export to a spreadsheet. After you have created a spreadsheet for each facility type, you can load the data into the facility layers provided with the solution.

To load data from a spreadsheet, complete the following steps:

1. Sign in to your ArcGIS organization and browse to the feature layer that you want to populate.

Note: Some of the feature layers have a suffix added such as **public**. These are layer views of the original source feature layer. These layer views are used to share information with the public without showing all the details or allowing the public to edit the layers. The original source layers do not have a suffix.

2. From the item page, click **Update Data**.
3. Follow the steps in the **Update layer** wizard to load your data.

Tip: For more information about uploading data, see [Manage hosted feature layers—Append data to layers](#).

Configure Public Information app

The Public Information app can be used by the public to review authoritative information and understand the status of an incident or event. Directions to the nearest facility can be enabled so users can quickly find the facility they are looking for.

Configure directions

Optionally, the Public Information app can be configured to provide directions to the nearest facility.

This configuration draws routes and provides directions using the [ArcGIS Online World Route Service](#). This service requires authorization to consume premium content as it consumes credits. [Learn more about credit usage when creating simple routes.](#)

Follow the steps below to enable directions.

1. If necessary, sign in to your ArcGIS organization and browse to the Public Information app.
2. From the item page, click **Configure**.
Close the **Welcome to the App Setup Page** splash page, if necessary.
3. Click **Nearby > Options** and turn on the **Show directions** toggle button.
4. Check the check box next to the **Local Incidents**, **Open Shelters** and **Road Blocks** layers.
5. Click **Publish**.
6. Click **Confirm**.
The **Authorize premium content** window appears with information related to authorization.
7. Click **Authorize**.
8. Click **Launch**.

Modify volunteer survey

The Emergency Management Operations solution includes a Emergency Response Volunteer Survey that can be used by the general public to volunteer for emergency response activities. Review the preconfigured questions and align the survey with your organizational policies and desired outcomes.

To modify the Emergency Response Volunteer Survey, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Emergency Response Volunteer Survey.
2. Open the item page and click **Open in Survey 123 > Manage in Survey123 website**.
3. Click the **Design** tab.
4. Make your edits to the survey and save the changes.
5. Click **Publish** twice.


Configure the Emergency Response site

The Emergency Management Operations solution includes the Emergency Response ArcGIS Hub site. This site can be configured with your organization's branding and used to share emergency information with the public.

Update with organizational information

After deploying the Emergency Management Operations solution, the Emergency Response Hub site layout requires a few updates to fit your local context.

To update the site with your organizational information, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Emergency Response site.
2. From the item page, click **Configure**.
3. At the top of the site, hover over the animated message and click the edit pencil , and then click **Edit in HTML**.
4. Update the existing text to the message that you want promote with the community.


Tip: The existing code is

```
<span><strong>Flood Warning</strong> in effect. More than 5" of rain expected in next 24 hours. Visit the Emergency Map for more information on local road closures.</span>
```

Note: You can remove an animated banner when a warning period has expired or there is nothing to report. In edit mode, point to the animated banner. On the right, in the vertical toolbar, click the edit pencil. In the side panel, scroll to **Row CSS Class** and delete the word **warning**. When you are ready to enable the animated banner, type `warning` in the **Row CSS Class** text box, and then, if necessary, repeat the previous step to modify the message.

5. Scroll to the statistics section listed under the title of the website.

The **Road Closures** and **Evacuation Notices** statistics cards are linked to the layers used in the Public Information map. These stats automatically update as incident information is maintained using the Emergency Management Operations solution.

6. Scroll to any additional sections that you want to update, hover over the card, and click the edit pencil  that appears in the horizontal toolbar, and then edit the content with information specific to your organization.
7. In the side panel, click **Footer**.
A custom footer is provided. In most cases, you will need to update it with your organization's branding, contact information, and social media references.
8. Click the **HTML** text box.
The **HTML** window appears.
9. Make the necessary changes and click **Apply**.
10. Click **Save**.

11. Click the **Save** drop-down arrow and click **Publish Draft**.

Share items with the public

Several layer views, maps and apps included in the Emergency Management Operations solution must be shared with everyone so they can be accessed by the public on the Emergency Response site.

To share items with the public, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Emergency Management Operations folder.
2. Next to each of the following items, check the check box:

Name	Item type
EmergencyShelters_public	Feature layer (hosted, view)
Evacuations_active_public	Feature layer (hosted, view)
IncidentLocations_active_public	Feature layer (hosted, view)
RoadClosures_active_public	Feature layer (hosted, view)
Public Information	Web Map
Public Information	Web Mapping Application
EmergencyResponseVolunteer_fieldworker	Feature layer (hosted, view)
Emergency Response Volunteer Survey	Form
Emergency Response	Hub Site Application
Emergency Response	Hub Initiative

Note: You will only have a Hub Initiative item if your organization has ArcGIS Hub Premium.

3. Click **Share**.
4. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
5. Click **Update**.

Use Emergency Management Operations

The Emergency Management Operations solution delivers a set of capabilities that help you to identify an emergency incident, define the impact, allocate resources, and communicate status to internal and external stakeholders.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note: Use your organization's data or configured apps to follow these workflows.

Assess impact

The Situational Awareness Viewer can be used by emergency management personnel to understand the impact of an incident on public infrastructure and human populations. Situational Awareness Viewer includes incident information used in a suite of related emergency operations solutions essential to maintaining situation awareness.

In this workflow, you will assume the role of a duty watch officer responsible for assessing the incident impact and sharing that information with other users in the EOC.

Define an incident area

The incident area can be defined by selecting an existing incident, weather warning area, or storm report from Active Incidents and Warnings. An incident can also be created by creating a buffer around a point, line, or polygon.

To define the incident area using the sample data, complete the following steps:

1. In a browser, from the Emergency Management Operations solution, view the Situational Awareness Viewer.
2. From the **Active Incidents and Warnings** list, click an incident perimeter.

Note: You can also define an incident area by clicking any existing polygon.

3. Click the more options button in the lower right corner of the pop-up window and choose **Set Location** to define the incident area.

The **Understand Impact** widget will open at the bottom of the screen with the impact of a one-mile buffer around the flooding incident.

Note: The point, line, and polygon icons can be used to create another incident area by specifying a buffer distance around another location. This can be useful for accidents, chemical spills, tornado paths, wildfires, or any other type of incident.

4. Click the **Save** button in the Situation Awareness panel at the bottom of the screen to save the incident location in the Incident layer.
A pop-up will appear allowing you to enter parameters for this incident.

5. Enter an incident number, name, type, then click **Done**.

Identify potential impact

After the incident area has been defined, the impact to population, facilities, and infrastructure can be determined.

To identify the potential impact of an incident using a previously defined area, complete the following steps:

1. To determine the potential impact to the population, select the **Potential impact** tab in the Situation Awareness panel at the bottom of the screen.
The estimated potential impact to vulnerable populations in the incident area is displayed by age group.
2. To further understand the impact to population, select the **Special Needs** tab.
This tab displays a list of residents who have registered for assistance during an emergency.
3. To determine the impact to facilities, select the **Schools, Shelters, and Hospitals** tabs. Each tab displays the number of facilities in the incident area.
4. To determine the impact to road infrastructure, select the **Road Closures** tab. This tab displays the number of Road Closures in the incident area.
5. Click the Incident tab, then click the **Download** button to download all the incident information into a CSV file.

Note: This CSV file can be given to the emergency management staff or volunteer coordinators.

6. Click the **Print** button to create a report of the potential impacted facilities, infrastructure, and human populations. In the properties window, enter a title, orientation, page size, and any comments, then click **OK**.

Note: This report can be printed or saved electronically to share with emergency management staff.

7. The **Snapshot** button can be used to create a time-stamped folder in your ArcGIS organization containing a map and feature layers. The map and feature layers can be used for after-action reports or other analysis.

Note: The **Snapshot** button is enabled when deployed in your organization and is enabled.

8. Close the Situational Awareness Viewer app.

Understand operational needs

After the incident area has been defined and the impact has been determined, the operations personnel can plan and assign response activities. The Operations Response app can be used by emergency management personnel to understand the status of emergency facilities and response teams.

In this workflow, you will assume the role of the operations section personnel responsible for locating and assigning emergency response resources.

Find resources near an incident

Operations response begins by identifying the incident area and finding nearby resources to support tactical operations. You can search for an address or place to find a given location to help plan response activities near that location.

To locate resources near an incident, complete the following steps:

1. In a browser, from the Emergency Management Operations solution, view the Operations Response app.
2. In the search box, type an address.
3. Click the more options button in the lower right corner of the search result pop-up window.
4. Choose **Set Location** to define the incident area and specify a buffer distance of 1 mile.
5. Click the **MRP Deployments** tab to display a list of mission-ready packages within the specified buffer.
6. Click the **Response Facilities**, **Road Closures**, and **Schools, Shelters** tabs to find other resources.
7. Click the **Incident** tab, then click the **Download** button on the left side and open the CSV file to see the list of resources.

Note: This information can be shared with other agencies or saved for an after-action report.

8. Explore other methods of defining incident boundaries by using the line tool to locate a linear incident such as a train derailment along the train tracks and use a buffer distance of 1 mile to see the impact area.
9. Click the **Start Over** button to remove the selected incident area, if necessary.

Locate response teams assigned to an incident

Mission teams that have been assigned to response activities can be located on the map with attributes and symbology for each type of response team. These locations and attributes can then be updated from the field as teams change or complete assignments.

To locate a response team assigned to an incident, complete the following steps:

1. Click the **Add Resources** widget in the upper right corner to view the resource that can be assigned to this incident.
2. In the Search Templates box, type Emergency to see a list of resources with that name.
3. Select **Emergency Medical Services** to add a point on the map near the point of the incident address.
4. In the Add Resources list for Mission Ready Packages, add the following attributes:

Parameter	Value
Name	EMS 1
MRP Type	medical
MRP Status	Acceptance of Mission
MRP Description	public requested assistance
NIMS Resource	Medical/Public Health System Assessment Team
NIMS Discipline	Emergency Medical Services
NIMS Resource Kind	Team/Equipment
NIMS Type	III

Leave the remaining attributes blank for now and close the Resources widget.

5. Use the **Directions** widget to get directions from the incident location to the nearest hospital.
6. Click the **Print** button in the Directions widget to print a map of the route with directions.

Note: Operations Response can be used on a mobile device or printed directions can be sent to a mobile device if necessary.

7. Click **Clear** to clear the directions from the map.

Visualize incident status

As the incident unfolds, it is important for incident commanders to monitor response activities as they occur in real time. Typically, the county or state Emergency Operations Center displays the incident status on a big screen so all command staff can monitor events and make informed decisions.

In this workflow, you will assume the role of the incident command personnel responsible for monitoring the status of the incident and emergency response activities.

Monitor incident status

The Incident Status Dashboard can be used by emergency management staff to monitor response activities in the Emergency Operations Center and measure progress toward the incident objectives.

To monitor the status of an incident, complete the following steps:

1. In a browser, from the Emergency Management Operations solution, view the Incident Status Dashboard app.

Note: The Incident Status Dashboard is designed to be a passive dashboard, meaning no interaction is necessary since it typically will be viewed on a big screen in the Emergency Operations Center.

2. Review the number of Active Incidents and Weather Warnings on the left side of the dashboard. As the active incidents increase, so does the demand on resources.
3. Review the number of Open Shelters and Shelter Occupancy on the right side of the dashboard. Each green symbol on the map indicates both the location and status of shelters. Closed shelters will appear in red. As the shelter occupancy increases past 75 percent, the gauge will turn red, indicating additional shelters will need to be opened to meet the demand.
4. Review the indicators at the bottom of the screen.
 - MRPs Deployed indicates the number of Mission Ready Packages that have been assigned or deployed. An MRP type describes a specific capability that has been developed, trained, and equipped to respond to a unique incident or situation.
 - Road Closures indicates the number of road closures within the current map extent.
 - PODs indicate the number of Points of Distribution where public safety agencies can distribute critical supplies to the public.
5. After you are done reviewing the information, close the Incident Status Dashboard.

Brief key stakeholders

During an incident, emergency management personnel must provide key decision makers with accurate and current information that communicates the scope of the emergency incident, the status of operational response, and resource availability. Using digital maps to brief key stakeholders ensures clear communication across all command levels and enables effective executive-level decision-making.

In this workflow, you will play the role of the incident command staff who is responsible for conducting the incident briefing. The briefing is conducted using a series of interactive apps in the Incident Briefing app.

To brief key stakeholders during an incident, complete the following steps:

1. In a browser, from the Emergency Management Operations solution, view the Incident Briefing app.
2. Review information in the **Incident Briefing Introduction** tab to see how the briefing app can be used.
3. Click **View maps**.
4. Click the **Situational Awareness** tab to see active incidents and warnings.

Note: The Situational Awareness app is embedded in the Incident Briefing app to provide an interactive map showing the status of the incident. You can select an active incident to show the current situation and impact to the community.

5. Click the **Operations Response** tab to see current emergency response activities.

Note: Questions often arise during an incident briefing such as how many teams are currently deployed or how many roads are closed. Because the Operations Response is embedded in the Incident Briefing app, questions such as this can be quickly answered with current information.

6. Click the **Incident Status** tab to see the overall picture of the current situation.
7. Close the **Incident Briefing** app when done reviewing.

Locate incident information

Citizens need access to information before, during, and after an incident to assess their personal risk and determine when to act. The Emergency Response site and Public Information app can be used by the public to review authoritative information and understand the status of an incident or event.

In this workflow, you will assume the role of a resident or member of the public that is interested in obtaining information about a current incident and volunteering to help if your skills are needed.

Find an open shelter

Follow the steps below to learn more about the incident and locate an open shelter:

1. In a browser, from the Emergency Management Operations solution, view the Emergency Response site.
2. Scroll to the Emergency Map and click **Launch app** to open the Public Information app.
3. In the **Public Information** pane, drag and use the buffer distance slider to set a distance of 3 miles.
The slider allows a user to define a distance once an address is entered or a location is identified on the map.
4. In the **Public Information** pane under **Search for an address or locate on map**, search for an address.
5. Click the **Expand All** button to review all the incident information near the specified address.
6. Scroll down the list of incident information to review the local incidents, evacuation notices, and weather warnings.
7. Click **Open Shelter** to review additional information about the selected shelter.
8. Close the Public Information app when you are done reviewing the incident information.

Volunteer to help

Follow the steps below to volunteer to help during an emergency incident.

1. In a browser, from the Emergency Management Operations solution, view the Emergency Response site.
2. Scroll to the **Volunteer to help** section.
3. Click the **Volunteer** button.

4. Complete the survey and click **Submit**.

Produce emergency maps

Often, field support personnel don't have access to the internet or real-time maps on devices during an emergency incident. Therefore, it may be necessary to produce paper maps of the current situation quickly. Emergency Management Maps can be used by emergency management mapping technicians to update the data sources with local incident data, share maps and data, and create standard hard copy briefing and response maps.

In this workflow, you will assume the role of a mapping technician supporting an emergency incident.

Configure a project

Emergency Management Maps is an ArcGIS Pro project used by mapping technicians to create a standard set of briefing and response maps. It can be used to update source data for the current incident which can be used in the other apps that are part of the Emergency Management Operations solution.

Follow the steps below to configure the Emergency Management Maps project.

1. In a browser, sign in to your ArcGIS Online organization, and then click **My Contents**.
2. Locate the Emergency Management Operations folder.
3. Download the Emergency Management Maps desktop application template.
4. Start the ArcGIS Pro application and [open the project package from the active portal](#).
5. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
6. In the **Catalog** pane, expand the **Using your data** task group.
7. Click the **Update data sources** task and follow the instructions to update the ArcGIS Pro project to reference hosted feature layers.
8. Click the **Append your data** task and follow the instructions to add your data to the existing data schemas provided with the project.
9. Click the **Use existing geodatabase** task and follow the instructions to source layers with your data or published web layers.
10. Click the **Use Esri Demographic data** task and follow the instructions to use data included in ArcGIS Living Atlas of the World.

Share incident maps

Some situations require sharing data and maps with other people within the organization. After you resource the data in the previous workflow, you can share layers and maps with your data. You can also share the desktop application template with other mapping technicians.

Follow the steps below to share an incident map.

1. In the tasks panel, expand the **Share with your organization** task group.
2. Click **Share Layers** and follow the task instructions to publish your data as a web layer.

3. Click **Remap layer to use published layers** to replace layers in the project with the new published layers.
4. Click **Share maps** to share the maps as web maps with your organization after referencing web layers in the project maps.
5. Click **Create Shared Map Package** to create a map package that can be shared with other people in your organization to edit data and create map books.

Create a map book

One way to deliver standard hard copy briefing and response maps to field personnel is in the form of a map book. The map book can be either a series of the same map with individual pages covering the geographic extent of the incident or a collection of different maps with the same extent.

Follow the steps below to create an incident map book.

1. In the tasks panel, expand the **Create map books** task group.
2. Click **Create a field reference map series** and follow the task instructions to create a map series with pages of different extents of the same map.
3. Click **Create an incident map book** and follow the task instructions to create an incident map book with different maps of the same extent.

Emergency Management Maps contains several layouts that will be used to create the incident map book in PDF format so that you can print the map book or send it by email.

Archive an incident

After the incident or event is over and operational features in the map are ready to be archived, the Operations Response app can be used to update the active incident flag and archive incident data quickly and efficiently. When you archive an incident, the features are no longer visible in the app but will continue to be stored in the associated feature layers. This allows you to manage multiple incidents from a single app and allows you to access your archived data from the associated feature layers for after-action analysis or reporting.

Follow the steps below to archive incident data and prepare for the next event.

1. In a browser, from the Emergency Management Operations solution, view the Operations Response app.
2. Click the **Archive Incidents** widget to view the operational layers available to be archived.
3. Check the check boxes next to the layers to be archived.
4. Click one of the **Drawing** tools, and then select the features on the map.
5. From the **Active Incident** drop-down list, choose **No**, and then click **Save**.
6. Close the Operations Response app.