



SECTION 8



Mobile Application

Introduction

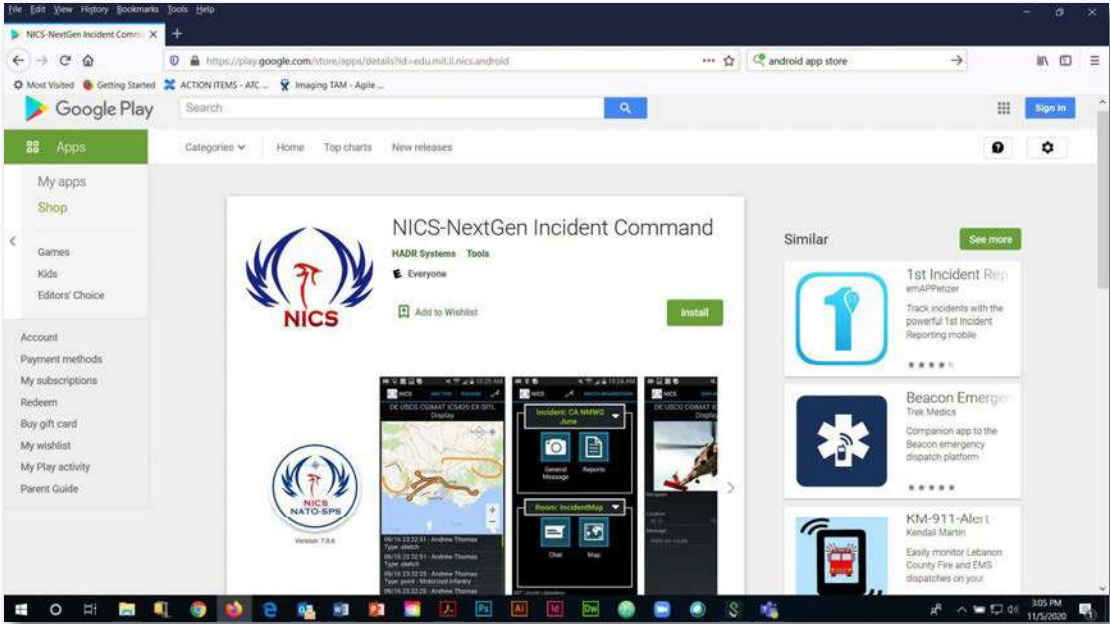
The Next Generation Incident Command System (NICS) also supports a robust Android mobile application that provides additional tools to the first responders operating in the field. These tools allow the responders to communicate via chat message, send field reports, update/draw on the incident map, and gain overall situational awareness of the incident as it unfolds.

The App can be downloaded for free from the Google Play Store by following the link below:

<https://play.google.com/store/apps/details?id=edu.mit.ll.nics.android>

System Requirements

- Current Version 7.0.7 (as of the writing of this document)
- Download Size 19M
- Requires Android 5.1 and up



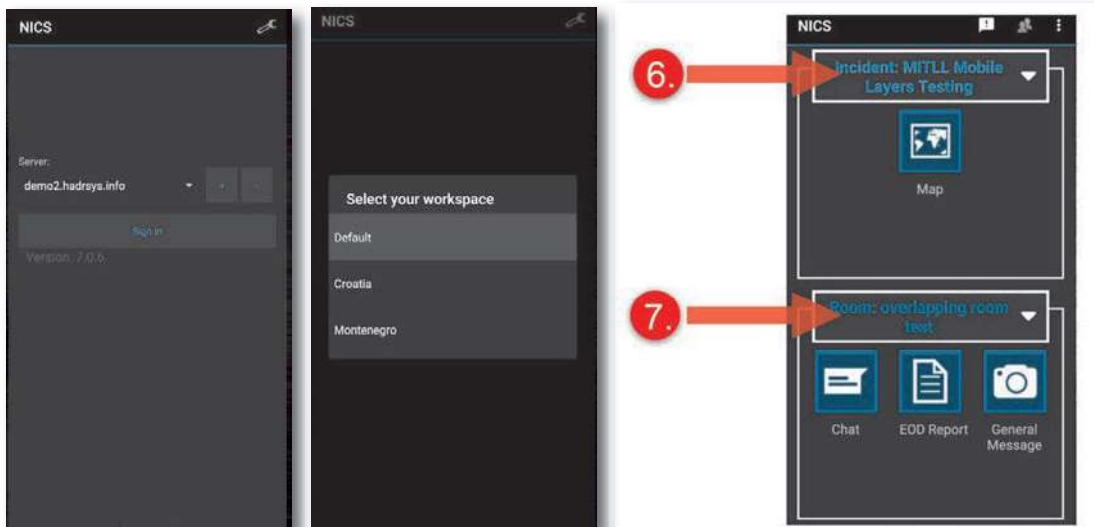


Getting Started

After downloading/installing the NICS mobile app, select the app icon on your mobile device (i.e., Cell phone, Android tablet, etc.) to open the app and you will be presented with the loading/splash screen. For the most up to date features, ensure you have the latest version installed.

Once the app has loaded you will be presented with the first part of the login process.

1. Select the server in which your organization is operating, or add a new server
2. Select the sign in button
3. Enter your credentials (email and password). If you have not previously registered, select the “Register” text at the bottom of the screen



If you are part of more than one workspace or organization, you will be prompted to Sign in and:

4. Select your Workspace
5. Select your Organization
6. Select an incident

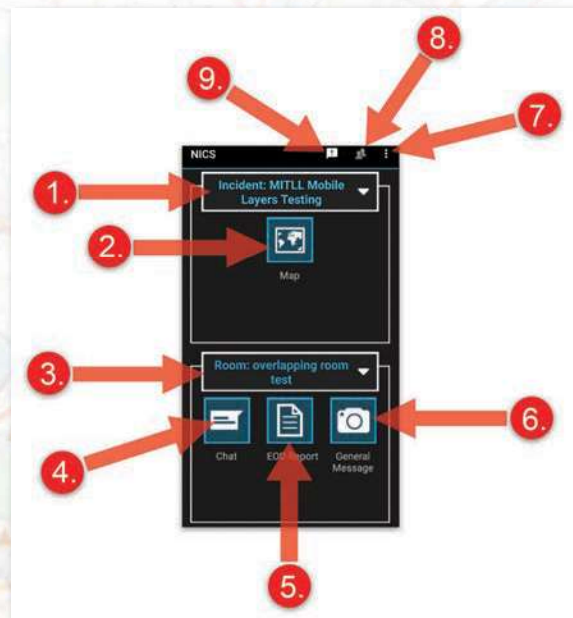
NICS is organized by named incidents. During a natural or man-made disaster multiple incidents can occur simultaneously.

7. Select a room

Within each incident, there are separate collaboration areas called Rooms. These rooms are meant to separate areas of responsibility, and to allow individual teams to collaborate on their part of a larger incident. Rooms can be open to anyone or restricted to certain users.

Overview Page, User Interface

1. Incident Selection dropdown menu
2. Map view
3. Room selection dropdown menu
4. Chat Messaging
5. Explosive Ordnance Disposal Report (EOD)
6. General Messages
7. Settings/Logout/NICS Help
8. Organization Selector
9. Broadcast Alerts






Map View

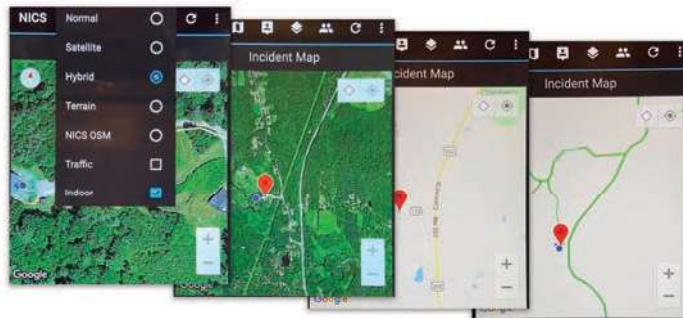
The map view provides NICS operators a working map that can be marked up with various tools to help provide situational awareness as an incident unfolds. This view is also where you can overlay multiple layers from different rooms and apply your tracking layers for real-time team/individual tracking.



Map Type

The NICS mobile app offers multiple map types. When the map view is selected, it opens to the default base map which is a Google map. To access other base maps, select the map  icon at the top of the page. This will open a popup window with the following base map options.


1. Normal
2. Satellite
3. Hybrid
4. Terrain
5. NICS OSM



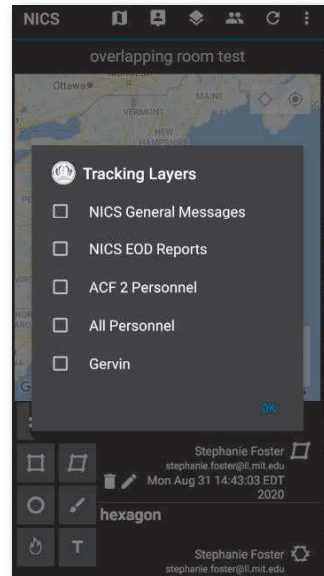
You can also indicate that you are indoors and can toggle the traffic layer on by clicking the checkbox next to the appropriate option.

Tracking Layers

Tracking Layers are created using the web app. By Enabling the tracking layer feature in the NICS mobile app the NICS user can track the locations of their fellow responders, as long as the users have the tracking enabled on their mobile device. You can also track grouped users, teams, as well as the location of reports and messages. To access the Tracking Layers feature:

1. While in the map view select the Tracking Layers  icon at the top of the screen
2. Select the checkbox next to the layer type you wish to track
3. Select the OK text at the bottom of the screen

Once a tracking layer is enabled it will appear on the map. For example, an individual would be shown as a red dot, where as an EOD report is the US Army EOD unit marker. Your organization can have the team/individual symbology updated from the web app if needed.




Room Layers

The room layers are layers that are set specifically for the selected collaboration room. The layers are added to the room on the web application. The supported layer types as of now are: GeoJSON, WFS, ArcGIS, and WMS. More types will be added in the future.

Incident Rooms


While in the map view the NICS user can overlay data from other rooms onto their current map view. To do this:

1. Select the Incident Room  Icon at the top of the page.
2. Select the check box next to the room you wish to see the data from.
3. Select the OK text at the bottom of the popup window.

You can select multiple rooms at the same time if needed.



Additional Dropdown Options

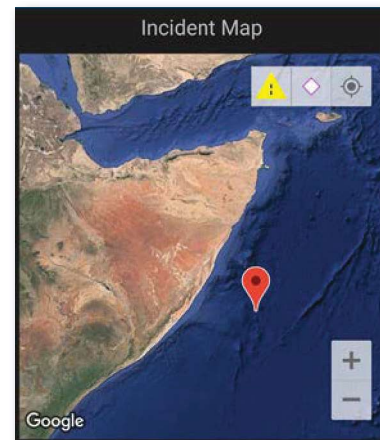
To access additional options from your map page, select the triple vertical dots/menu  icon on the top right side of the page. The following options are available:

1. Geocode Location

This option allows you to find a location using the various Geocode options:

- b. Address/Place
- c. Degrees, Minutes, Seconds
- d. Degrees, Decimal Minutes
- e. Decimal Coordinates
- f. USNG/MGRS
- g. Coordinate Reference System

Select the Geocode option you wish to use and fill out the required fields. Select the Locate button at the bottom of the popup window.



2. Show Alerts

This option will show all the current Broadcast Alerts with the poster's information, date, and time of the Alert.

3. Switch Organizations

If selected, and you have authorized access to other organizations, a list of organizations will open in a popup window. Select the organization you wish to switch to and select the OK text at the bottom of the window.

4. Settings

The settings option is the same as the settings option on the overview page. Settings are broken down into two parts:

Part 1. General Settings

a. Laser Range Finder

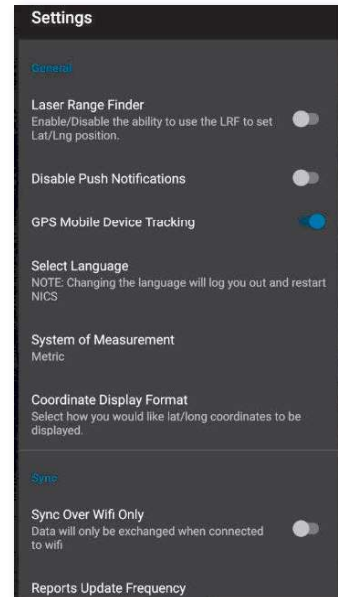
Enables/Disables the ability to use the LRF to set your Lat/Long position

b. Disable Push Notification

When disabled, push notifications will no longer display the popup notifications that a new chat or report is available.

c. GPS Mobile Device Tracking

Enables/Disables the NICS mobile app from sharing your location via the onboard GPS. If this is disabled other responders will not see your location on the tracking layers.



d. AOI Hazard Detection

e. Select Language

This setting allows the user to change the language the NICS mobile app displays. The default language is English. Currently the only available languages are:

1. English
2. Spanish
3. Montenegrin

NOTE: If the language is changed during the operation of the mobile app, the app will force a restart.

f. System of Measurement

This allows the user to switch the unit of measurement from Metric, Imperial, or Nautical.



g. Coordinate Display Format

This option lets you select how your Lat/Long coordinates are displayed while using the NICS mobile app.

Part 2. Sync Settings

a. Sync Over Wi-Fi Only

When selected data will only be exchanged when you are connected to WiFi.

b. Reports Update Frequency

Select how often your reports will be updated.

c. Map/Chat Update Frequency

Select how often your map and chat will be updated.

d. MDT Update Frequency

This is how often NICS polls for the mobile device tracking layers, which would then be updated on the map at intervals set by the WFS Layer Update Frequency.

e. WFS Update Frequency

f. Hazard Detection Update Frequency

g. Clear Local Map Data

Clears the local Database, the next data pull will then populate with the most recent data

h. Clear Local Chat Data

Clears the local Database, the next data pull will then populate with the most recent data

i. Clear Local Report Data

Clears the local Database, the next data pull will then populate with the most recent data

5. Logout

Logout will log you out of the NICS mobile app and return you to the login page.

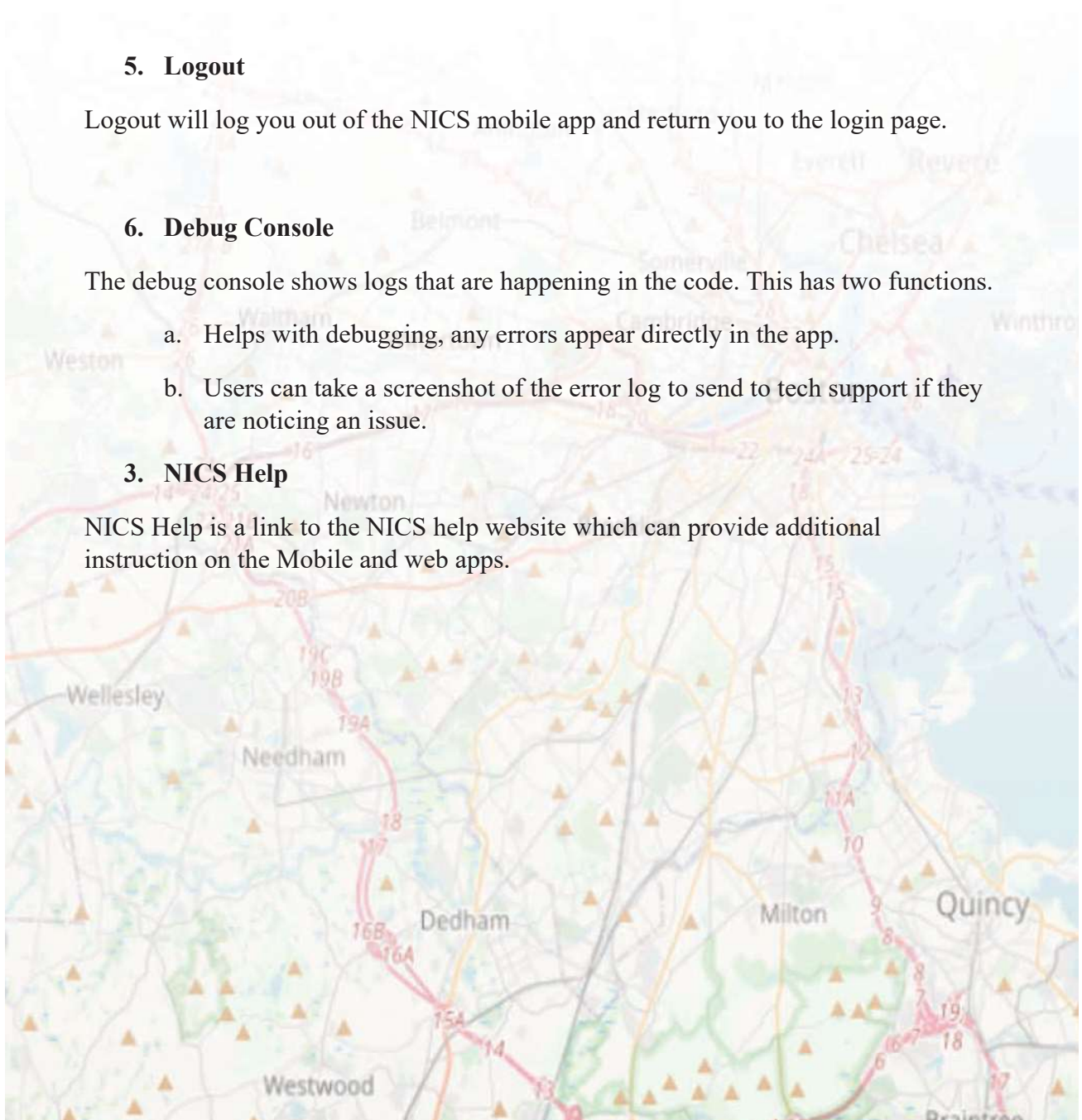
6. Debug Console

The debug console shows logs that are happening in the code. This has two functions.

- a. Helps with debugging, any errors appear directly in the app.
- b. Users can take a screenshot of the error log to send to tech support if they are noticing an issue.

3. NICS Help

NICS Help is a link to the NICS help website which can provide additional instruction on the Mobile and web apps.

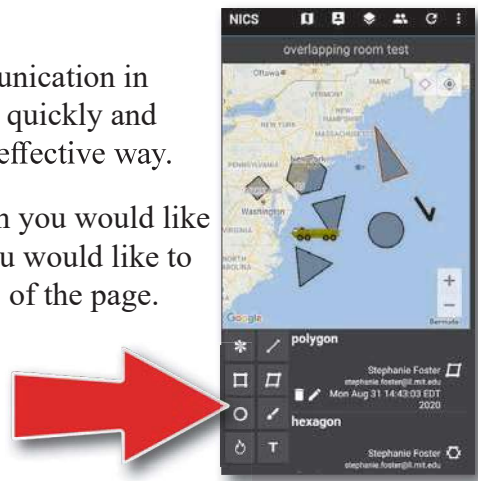




Drawing on the Map

Drawing is one of the primary methods of communication in NICS. When information needs to be transmitted quickly and efficiently, a sketch on the map is often the most effective way.

To begin drawing, open the map view in the room you would like the drawing to appear. Select the drawing tool you would like to use from the drawing tools at the bottom left side of the page.



Drawing Tool Options

ICON	TOOL	DESCRIPTION
	Symbol/Marker Placement	Add symbology to the map to help provide situational awareness
	Draw Line	Draw basic lines
	Draw Square	Adds a square to the map
	Draw Polygon	Addes a filled polygon to the map
	Draw Circle	Adds a circle to the map
	Freehand Drawing	This allows you to free draw lines / shapes on the map
	Draw Fireline	Select from a variety of fire line options
	Label	Place text on the map

Placing Symbols on the map

You can place symbols and markers onto the map via the mobile app to help provide additional situational awareness. In order to add symbols/markers to the map:

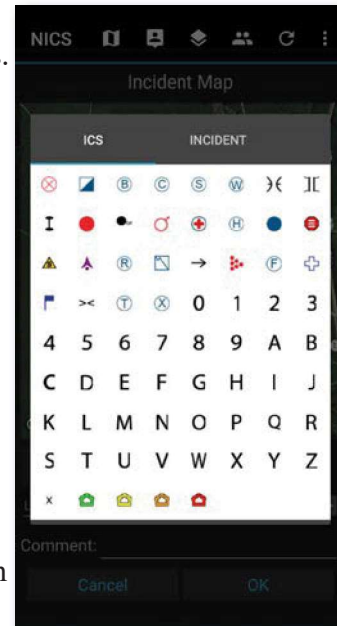
1. Select the Symbol/Marker icon 

This will open the symbol placement options at the bottom of the map.

2. Select the “Select Symbol” button to open the symbol options.

With the symbol option window open, choose the symbol you would like to place. You can scroll to see more symbols by swiping left on the icon header.

3. Place the symbol by tapping the map on the location where you would like the symbol to appear on the map. To quickly place the symbol at your current location select the location icon next to the Lat, Long.



Note: You can type the Lat, Long into the blank text fields if you have them. You can also relocate the symbol by tapping a new location before selecting the OK button.

4. You can add a comment or description that will accompany the symbol by selecting the text area labeled “Comment” and typing your comment/description.
5. Once you are satisfied with the location of the symbol, select the OK button at the bottom of the page. This will add it to the map for others to see.

Drawing a Line on the Map

There are many reasons you might need to draw lines on the map. Whether it’s a fire line or you need to convey that an area is off limits. The line tool is a quick way to do this. To place a line on the map:

1. Select the line  icon on the map page.


Note: To change the line color, before drawing your line, select the color picker button and choose your color.



2. Tap the map location where you would like the line to begin, then continue tapping out your route. If you make a mistake on the placement you can select the remove selected point button (This will remove the last point placed).
3. Once you are satisfied with the placement of your line, you can change the line thickness by moving the slider left for thinner and right for thicker. You can also add a comment to be associated with the line.
4. To commit the line to the map, select the OK button at the bottom of the page.

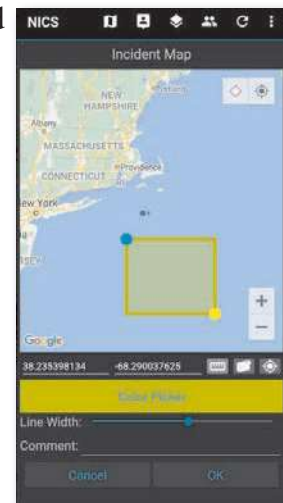
Note: You can view the total distance of the line by selecting the ruler icon next to the Lat, Long.

The Square tool can be used to mark an area on the map. To add a square to the map:

1. Select the square  tool from the tool icons at the bottom of the map view.
2. Select the color of the square by selecting the color picker button (The default color is white).
3. To begin drawing a square, tap the map where you would like the bottom left hand corner of the square to be placed.


You can adjust the width of the outer line by sliding the scroll bar to the left for thinner and right for thicker. You can add an associated comment by typing in the text area next to “Comment”.

4. To commit the square to the map select the OK button at the bottom of the page.



Draw a Polygon on the Map

The polygon tool can be used to more accurately mark an area on the map. To add a polygon layer to the map:

1. Select the polygon  tool from the tool icons at the bottom of the map page.
2. Select the color of the polygon by selecting the color picker button (The default color is white).
3. Begin drawing your polygon shape by tapping the map at each corner of the area you want the highlighted.

You can adjust the width of the outer line by sliding the scroll bar to the left for thinner and right for thicker. You can add an associated comment by typing in the text area next to “Comment”.


4. To commit the polygon to the map, select the OK button at the bottom of the page.



Note: You can view the total land area squared by selecting the ruler icon next to the Lat, Long.

Draw a Circle on the Map

To add a circle to the map:

1. Select the Circle  tool from the tool icons at the bottom of the map page.
2. Select the color of the circle you wish to place.
3. To begin drawing a circle, tap the map where you want the center of the circle. Then tap the location of the circle’s perimeter.

You can adjust the width of the outer line by sliding the scroll bar to the left for thinner and right for thicker. You can add an associated comment by typing in the text area next to “Comment”.





4. To commit the circle to the map select the OK button at the bottom of the page.

Note: You can view the total land area by selecting the ruler icon next to the Lat, Long.

Free Drawing on the Map

Having the ability to freehand draw on the map is a very powerful tool in NICS. This tool allows the user to draw polygon-like shapes with the stroke of the finger. To begin free hand drawing:

1. Select the freehand drawing tool from the tool icons at the bottom of the map page.
2. Select the color.
3. Enable drawing mode by selecting the free hand drawing icon next to the Clear Points button.
4. Using your finger, free draw the shape you want.

You can adjust the width of the outer line by sliding the scroll bar to the left for thinner and right for thicker. And can add an associated comment by typing in the text area next to “Comment”.

5. To commit the free hand drawing to the map select the OK button at the bottom of the page.

Note: You can view the total land area by selecting the ‘measurement tool toggle button’ next to the Lat, Long.

Drawing Fire lines on the Map

Like the NICS web application, the mobile app is rooted in wildfire response, and has the fire line drawing options. These options allow the user, while in the field, to draw or update the location of various types of fire lines. To access the fire line drawing tool options:

1. Select the fire line drawing icon tool from the tool icons at the bottom of the



map page.

2. Select the fire line you want to draw from the eight available options on the bottom right side of the page.
3. Like drawing a regular line, tap the start and stop points of the line.



Symbol	Name	Description
	Planned Fire Line	A fire edge that is actively burning and spreading across the landscape.
	Secondary Fire Line	A fall back secondary fire line in case the fire jumps the main fire line.
	Completed Fire Line	A line indicating a control line has been completed around the fire, and any associated spot fires, which can reasonably be expected to stop the fire's spread.
	Fire Spread Prediction	The predicted area of the spread of the fire.
	Management Action Point	Management Action Points (M.A.P.s) are clearly specified incident conditions that, when reached, prompt a predefined modification to existing fire management actions, or trigger the implementation of new strategies and/or tactics.
	Completed Dozer Line	Completed fire line constructed by the front blade of a dozer. The map symbol for this line is often interpreted to encompass a fire line created by all mechanical means.
	Proposed Dozer Line	Proposed fire line constructed by the front blade of a dozer. The map symbol for this line is often interpreted to encompass a fire line created by all mechanical means.
	Uncontrolled Fire Edge Line	A fire edge that is actively burning and spreading across the landscape.

You can add a comment that will be associated with the fire line by selecting the comment text area and adding your comment.

Note: You can view the total land area by selecting the ruler icon next to the Lat, Long.

Adding Labels to the Map

To add a Label to the map view:

1. Select the Label icon tool **T** from the tool icons at the bottom of the map page
2. Select the blank text area next to the Label title.
3. Enter the text by using the Android keyboard that opens and press the return key when completed.
4. Tap the map where you would like the text to appear.

You can adjust the text size and color by using the text size buttons (small, Medium, and large) and the color picker button.

A more in-depth comment can be associated with the label by selecting the comment text area and adding your comment.

5. To commit your label/text to the map, select the OK button at the bottom of the page.



Chat Messaging

One of the key features of the NICS mobile app is the ability to message other NICS users cross-platform. This ensures that communication is shared all in one place and is accessible to the appropriate personnel responding to an incident. To send a Chat message:

1. Select the Chat icon on the main page.
2. Tap the Enter chat message ... text at the bottom of the page.
3. Type your message.
4. Select the Send button at the bottom right side.





Explosive Ordinance Disposal Report (EOD)

Explosive Ordinance Disposal (EOD) reports allow the NICS operators in the field using the mobile device to send EOD tasking reports to everyone in the incident. The EOD form is modeled off a typical EOD report that would be filled out on a desktop application. You can provide your team's information along with your location. You can fill out an EOD task form, which is a more in-depth description of the task that was performed by the team. You can also add as many Unexploded Ordnance (UXO) reports as needed that are relevant to the EOD form. You can upload an image or capture one from the onboard camera on your mobile device (Cell phone or tablet) for more context.

To view the EOD report board:

1. Select the EOD report icon on the overview page.

A list of reports will open in a new page, with the most recent report located at the top of the page. The report header will consist of:

- Sender's email address
- Date and time the message was sent

2. Select the report you wish to see.

Once the report is displayed you have the option of copying the report as a new report by selecting the **COPY AS NEW REPORT** text at the top of the screen.

If you choose to copy as a new report you can update or change the text, and upload or capture new photos if needed. Once you have made your changes, select the submit button at the bottom of the screen to send the report.

If you choose not to send as a new report, select the back arrow at the bottom of the screen to close the message and return to the previous page of listed messages.

If you need to create a new message.

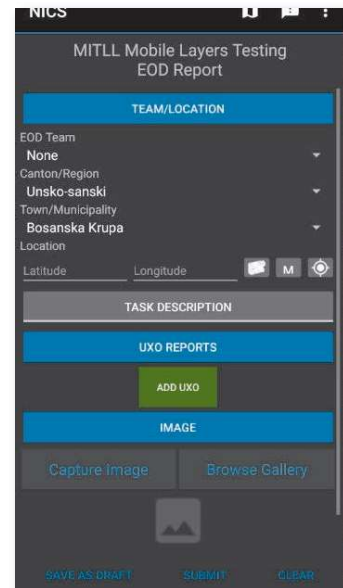
1. Select the plus (+) symbol at the top of the page.
2. Select the first tab to input team and location information.

(You can toggle all of the tabs to show and hide them)

- a. Select the EOD team from the dropdown.
- b. Select the Canton/Region from the dropdown.

- c. Select the Town/Municipality from the dropdown.
- d. Add your location data.

You can quickly obtain your current location by selecting the small location icon next to the latitude and longitude fields on the page. This will fill in the blank latitude and longitude fields for you. If you wish to indicate a different location than your current location, you can manually type the location into the Lat/Long fields or select the (M) icon which will bring up a map view. Find the location you want associated with the message (zooming in and out of the map using the two-finger method), tap the desired location, then select the confirm button that appears in the upper left side of the map.



- 3. Select the second tab to input the task description.
 - a. Select the task type from the dropdown.
 - b. Enter a MAC ID into the text field.
 - c. Enter the Medevac Point Time Distance into the text field.
 - d. Enter the Contact Person into the text field.
 - e. Enter the Contact Phone into the text field.
 - f. Enter the Contact Address into the text field.
 - g. Enter the Remarks/Opis into the text field.
 - h. Enter the Expended Resources into the text field.
 - i. Enter the Directly Involved in the Realization of the Task into the text field.
- 4. Select the third tab to add UXO reports.
 - a. To add a UXO report, click the green button and fill out the form.
 - i. Select a UXO Type from the dropdown.
 - ii. Enter the Model into the text field.



- iii. Enter the Caliber in mm into the text field.
 - iv. Enter the Quantity into the text field.
 - b. You can delete individual UXO reports by clicking the red button below each one.
 - c. You can add as many UXO reports as you need by clicking the green button. The forms will be added to the bottom for you to fill out.
5. Capture an image if needed by selecting the capture Image button, which will open the camera app on your phone or tablet.
 6. Take the photo and select the check mark if the photo is what you wanted. If the photo is not what you wanted, select the trash can icon to delete it and take a new photo.
 7. If you wish to upload an image that is already stored on your mobile device, select the browse gallery button and browse your photo gallery to select an image.
 8. Once completed, select the Submit button to send the message.

General Messages

General Messages allow the NICS operators in the field on the mobile app to send situational reports to everyone responding to the incident, and is associated with the rooms the sender is in. You can provide a location associated with the message, along with the message text, and the option to upload an image either captured by the onboard camera, or one already on your mobile device (Cell phone or tablet).

To view the general message board:

3. Select the general message icon on the overview page.

A list of messages will open in a new page, with the most recent message located at the top of the page. The message header will consist of:

- Sender's email address
- Date and time the message was sent

4. Select the message you wish to see.

Once the message is displayed you have the option of copying the message as a new report by selecting the COPY AS NEW REPORT text at the top of the screen.

If you choose to copy as a new report you can update or change the text, and upload or capture new photos if needed. Once you have made your changes, select the submit button at the bottom of the screen to send the report.

If you choose not to send as a new report, select the back arrow at the bottom of the screen to close the message and return to the previous page of listed messages.

If you need to create a new message.

9. Select the plus (+) symbol at the top of the page.

10. Add your location data.

You can quickly obtain your current location by selecting the small location icon next to the Lat/Long fields on the page. This will fill in the blank latitude and longitude fields for you. If you wish to indicate a different location than your current location, you can manually type the location into the Lat/long fields or select the (M) icon which will bring up a map view. Find the location you want associated with the message (zooming in and out of the map using the two-finger method), tap the desired location, then select the confirm button that appears in the upper left side of the map.

11. Enter your message in the message field.

12. Capture an image, if needed, by selecting the capture Image button, which will open the camera app on your phone or tablet.

13. Take the photo and select the check mark if the photo is what you wanted. If the photo is not what you wanted, select the trash can icon to delete it and take a new photo.

14. If you wish to upload an image that is already stored on your mobile device, select the browse gallery button and browse your photo gallery to select an image.

15. Once completed, select the Submit button to send the message.



Settings/Logout/NICS Help

For Settings, see Settings section in Additional Dropdown Options

Logout will log you out of the NICS mobile app and return you to the login page.

NICS Help is a link to the NICS help website which can provide additional instruction on the Mobile or the web apps.

Organization Selector

This is where you select the organization you work for.

Broadcast Alerts

This will open the Broadcast Alert popup window showing all un-cleared Alerts.

AOI/ Hazard Detection Service

Alerting on an Area of Interest (AOI) allows the NICS Web based users to designate an area by drawing on the map or uploading a datalayer and identifying the drawing or datalayer as a hazardous area. This area will appear on the map for both the web based users as well as mobile app users. If a responder enters the AOI/Hazard area they will receive an alert notification/warning that they have entered a hazardous area.

The warning will appear in a popup notification. If the responder selects the notification, the map will open and zoom to the hazard. While the responder remains in the hazard area the map view will have a red box around it, and an alert icon will be in the upper right-hand corner of the map.

AOI/Hazardous areas are added in the web app. See section 6 Side Panel, AOI Hazard Detection.

