

MiEJScreen

USER GUIDE

INTRODUCTION

The Michigan Department of Environment, Great Lakes, and Energy's (EGLE) Office of the Environmental Justice Public Advocate, in cooperation with the Interagency Environmental Justice Response Team Data and Research Workgroup, has developed MiEJScreen, an interactive mapping tool, in response to the dedicated advocacy of community members and the 2018 recommendations from the Michigan Environmental Justice Workgroup. Best practices for EJ screening tools around the nation were used to create this resource.

This document introduces MiEJScreen and walks through how to start using the tool. The MiEJScreen page on the Office of the Environmental Justice Public Advocate website and *MiEJScreen Technical Report* provide many more details on the data and methods behind the tool.









EGLE MIEJSCREEN WEB APPLICATION







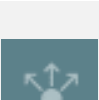
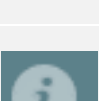
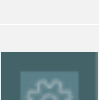
MiEJScreen is an environmental justice mapping and screening tool that provides EGLE with a state-wide consistent dataset and approach that combines environmental, health, and demographic indicators in maps and reports. This can provide detailed information on the challenges communities face and the extent to which they may be candidates for further review, including additional consideration, analysis, or outreach.

The screening tool has Census tract resolution, and provides a number of capabilities, including color coded mapping and the ability to generate a standard report for a selected area. Users should keep in mind that screening tools have substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas, such as Census tracts. Also, in many cases, data on the full range of environmental impacts and demographic factors in any given location will not be available directly through this tool, and its initial results should be supplemented with additional information and local knowledge.

To access the application, navigate to the Office of the Environmental Justice Public Advocate website at Michigan.gov/EnvironmentalJustice.

WIDGET SUMMARY

Icon	Name	Function
	Search Address	The “Search Address” bar at the top left corner lets you search for a street address, place name, Census Tract ID, or latitude, longitude coordinate pair.
	Legend	The “Legend” button displays a key of the symbols and layers used on the map. Clicking the checkbox for a layer from the layer list or context layers will turn that layer on or off on the map and legend.
	Bookmarks	The “Bookmarks” button shows shortcuts to specific areas of interest in the map. This button also allows you to create new bookmarked locations.
	MiEJScreen Report	<p>The “MiEJScreen Report” button lets users filter the map to show only what is near your current location.</p> <p>Once a location is entered, clicking “report” will generate a report of all indicator percentile values and some demographic data for the census tracts within the chosen buffer zone. The user can then download the report as a spreadsheet and print the report in a pdf format using the toolbar in the upper-right corner of the reports page.</p>
	Side by Side Map Viewer	This button allows users to look at two layers side by side.
	Zoom In & Out	The “Zoom In & Out” buttons can be used to zoom in or out of the map. Alternately, your computer mouse wheel also lets you zoom in and out, while left clicking and dragging lets you pan around the map.
	Default Extent	The “Default Extent” button takes you back to the original extent (zoom) of the map.
	My Location	The “My Location” button brings up your current location on the map. For this widget to work, you may need to allow “egle.maps.arcgis.com” to use your current location.
	Previous & Next Extent	The “Previous & Next Extent” buttons allow you to toggle between the different extents (zoom) that you have used on the map.
	Layer List	The “Layer List” button displays a key of the symbols used on the map. It also lets you choose which information you want to see. Clicking the checkbox for a layer will turn that layer on or off on the

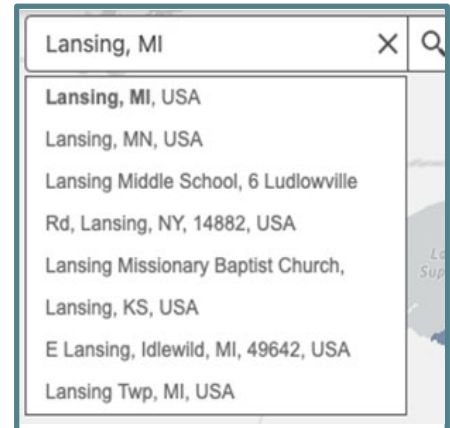
Icon	Name	Function
		map. The default layer is the MiEJScreen composite score which combines all other indicators included in the tool.
	Basemap Gallery	The "Basemap Gallery" button allows you to choose what your background map looks like. The default base map is the Light Gray Canvas. Choosing an option will automatically switch it on the map.
	EJ Context Layers	The "EJ Context Layers" allow you to overlay additional data relevant to environmental justice in Michigan on the map.
	Glossary	This button defines key terms relevant to MiEJScreen. Users will find definitions for all indicators and layers available in the "Layer List" and "EJ Context Layers" buttons, as well as layer source information.
	Print	The "Print" button lets you export the map in a variety of layouts and formats. Follow the prompts after opening this menu.
	Add Data	The "Add Data" button at the top right corner lets you add data to the map by searching for GIS services, entering URLs, or uploading local files.
	Filter	The "Filter" button allows the user to filter the data based on certain parameters. For example, you could filter the map to show only communities where the percentile for a specific indicator is greater than a certain value.
	Share	The "Share" button provides access to a sharable link and the ability to embed the MiEJScreen web app in a website. Clicking on Link options or Embed options brings up subpages with the ability to specify the parameters for the map that you share.
	About	The "About" button provides a summary about MiEJScreen, a disclaimer, and a contact to submit feedback to.
	How to Use This Map	The "How to use this Map" button shows an overview of the other MiEJScreen buttons included in this table.

WIDGET ADVANCED GUIDANCE



Search Address

Entering a street address, place name, Census Tract ID, or latitude, longitude coordinate pair in the search bar at the top left corner allows the user to bring that location up on the map.



1. The application will list possible matches for the input. Select the **Search icon**, use the enter key on the keyboard, or click an entry from the list.
2. The map display will zoom to that location if found.
3. If no matches are found for the input location, the map will remain unchanged.

The same process applies if a user would like to enter coordinates to view to a location. Simply enter values for the **latitude** and **longitude** of the desired location in that order.

NOTE: It is important that coordinates are written in this format: 42.095, -86.129



Legend

This button displays a key of the symbols and layers used on the map.



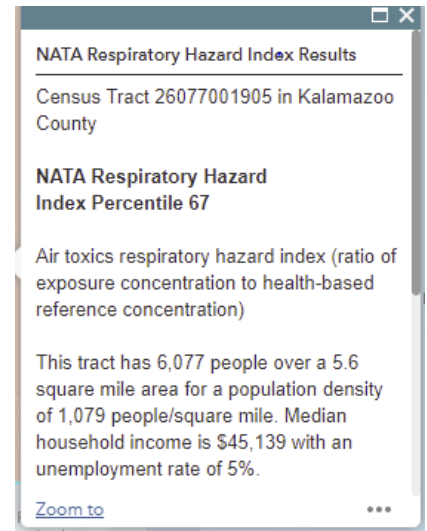
Layers

The “Layer List” button displays a key of the symbols used on the map and lets you choose which information you want to see. Click the checkbox to turn that layer on or off on the map and legend. The default layer is the MiEJScreen composite score which combines all other indicators included in the tool.

The **Environmental Conditions Sub Score** combines the 1) Environmental Exposure and 2) Environmental Effects layers which include several indicators that fall under these categories. Individual indicator layers that are included in the categories will be labeled with the relevant category number and a letter. For example, the 1f) Traffic Density layer is the last indicator listed under the Environmental Exposure category.

The **Populations Characteristics Sub Score** combines the 3) Sensitive Populations and 4) Socioeconomic Factors layers, which include several indicators that fall under these categories. Individual indicator layers that are included in the categories will be labeled with the relevant category number and a letter. For example, the 3a) Asthma layer is the first indicator listed under the Sensitive Populations category.

Once a layer is turned on, click anywhere on the map to see additional information in that Census Tract. This will bring up a pop-up window displaying a description of that layer and a list of attributes.



EJ Context Layer

This button allows users to overlay additional data relevant to environmental justice in Michigan on the map. These layers are separated into two lists:

1. **Additional Environmental Justice Layers** which include data sets that provide important information mostly on environmental conditions and some population characteristics. Context layers with an * before their names were used to create some of the Environmental Effects category indicator layers
2. **Geographic Feature Layers** which include the locations and boundaries of important markers such as Tribal Areas, Congressional Districts or other base geographic layers.

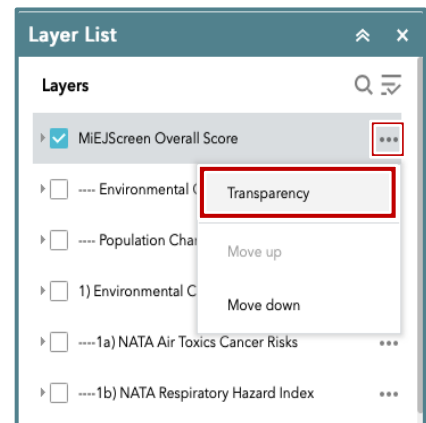
The default settings for this map have County Boundaries turned on; this is located under the Geographic Features list.

Note: Several layers in this list appear in a grey font where the majority are black. The grey font signals that these layers are only visible at certain extents on the map, this is called scale-dependency. Specifically, zooming in on the map will allow the layer features to be viewed. At these smaller scales the grey font will also turn black to indicate its visibility.

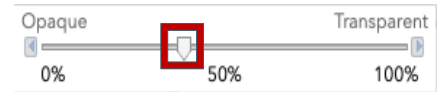
Transparency

While the color scheme for all indicator layers is the same, **changing the transparency** in the layer list will also change transparency in the legend.

All these category layers or individual indicator layers share the same color scheme. Users can change the transparency of these colors by selecting the **ellipses** icon next to the relevant layer and selecting Transparency.



The default transparency is set to 40%. By dragging the slider, users can make the indicator colors more transparent as the slider moves to the right and less transparent to the left end of this line.



Also found in the ellipsis icon is the option to move layers up or down in the list.



Print

This button allows the user to export the map in a variety of layouts and formats in either the whole map or a specific section of the map. Follow the prompts after opening this menu. Once you are ready to print and you select “Print” within the pop-up, a document will be listed within the pop-up. Click on this icon to bring up the map you wish to print in a new tab. You can download and print it from your computer.

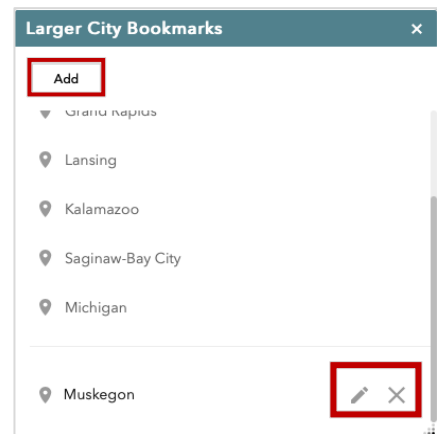


Bookmarks

This button shows shortcuts to larger cities or specific areas of interest in the map. It also allows the user to create new bookmarked locations.

Current bookmarks include Detroit, Flint, Grand Rapids, Lansing, Kalamazoo, Saginaw-Bay City, and the original extent view of Michigan.

To add your own bookmarked location, select the **Add** button at the top of the pop-up menu once you have navigated to your desired location. This allows you to bookmark the current extent or view of the map. This can be **edited** or **deleted** using the symbols to the right of your new bookmark.



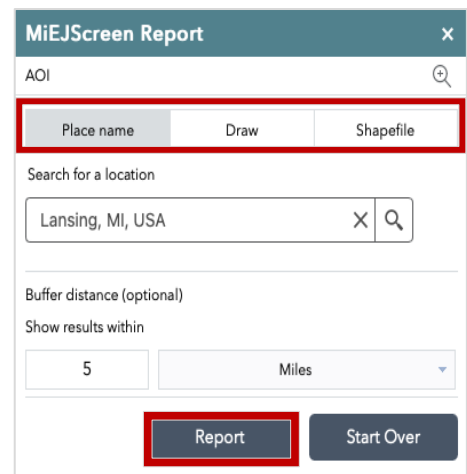
MiEJScreen Report

This button allows the user to generate a report of the MiEJScreen data for a desired location or area.

There are multiple ways for a user to select a location or area to generate a report:

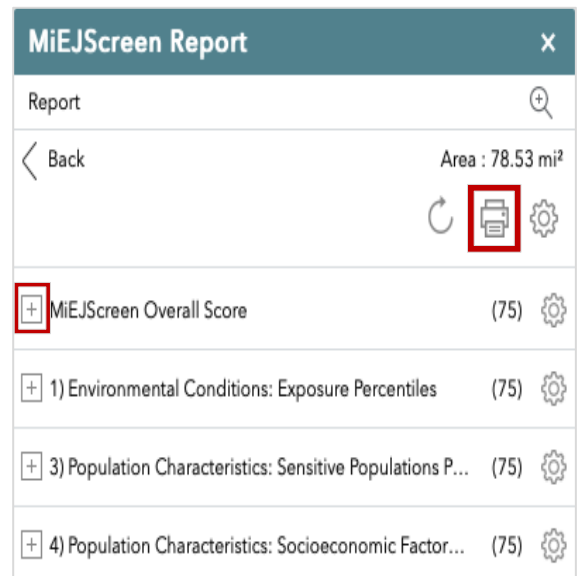
Users can enter an address or a location in the search bar under the **Place name** tab of the MiEJScreen report pop-up.

Users can select the area they want to create a report for by using the different icons located in the **Draw** tab. Users can place a pin on the map using the Point icon, or draw an area with the Polyline, Extent, Circle, or Polygon icons. Additionally, users may upload a zipped shapefile from their computer by selecting the **Shapefile** tab.



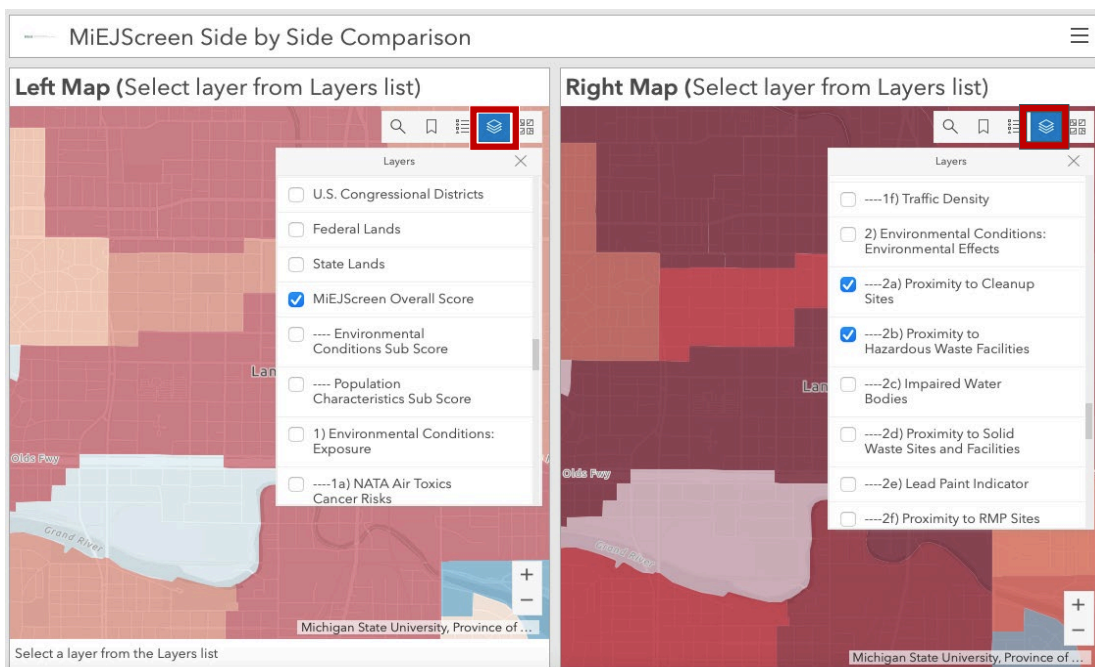
Users have the option to include the surrounding area of their chosen location or area in their report by choosing a buffer distance. To do this, enter the number and unit of distance you wish to consider.

Once a location is entered and a buffer zone is chosen, selecting the **Report** button will generate a report of all indicator percentile values and some demographic data for the census tracts within the chosen area and buffer zone. To view the result in the pop-up, select the different headers or the + icon next to them to view relevant data. The user can then download the report as a spreadsheet and print the report in a PDF format using the toolbar in the upper-right corner of the reports page. To do this, select the **Print** icon followed by a layout when prompted. This will open a new tab in your browser with the report data in the spreadsheet layout you have chosen. You can add comments, review the area of interest information, and title your report before printing.



Side by Side Map Viewer

This button allows users to compare two different map layers for a location on side-by-side maps. To open the viewer, select the **“MiEJSscreen Side by Side Comparison”** hyperlink. This will open a new tab in your browser. Once the Side-by-Side Map Viewer tool has been opened, **Left Map** and **Right Map** windows will be shown. Changing the extent (zoom) or chosen location of either map will replicate this extent on the other.

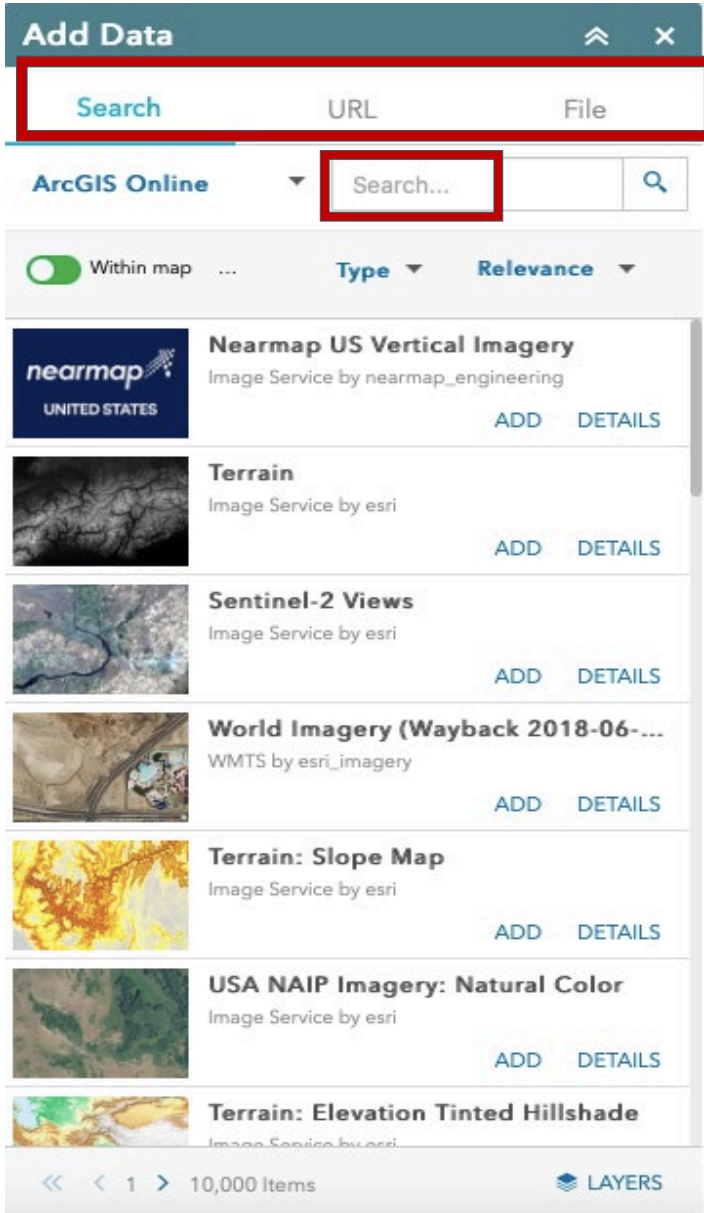


To change the layers represented in either map, select from the **“Layers”** icon to turn on or off desired layers. Layers are available from both the **“EJ Context Layers”** and **“Layer List.”**



Add Data

This button allows the user to add data to the map by searching for layers in ArcGIS Online or ArcGIS Enterprise content, entering URLs, or uploading local files.



Under the **Search** tab of the Add Data pop-up, users can add data to MiEJScreen either from their own content on ArcGIS, their organization, or ArcGIS Online.

The **URL** tab offers users the option to add data via a web address. A drop-down menu under “Type” specifies the type of data to be added, with several web service and file types to choose from. Users can click the **Sample URLs** label to view acceptable web addresses. Once a web address is entered under “URL,” selecting the **Add** button will layer this data onto the tool.

The **File** tab allows users to add a variety of file types to the map from their computers (zipped shapefiles, CSV, KML, GPX or GeoJSON). Selecting the **Browse** button in the pop-up allows users to choose a file from those saved on the computer they are on.

For more information on the kind of files that can be added, select the **question mark** icon found in the upper right corner of this pop-up.

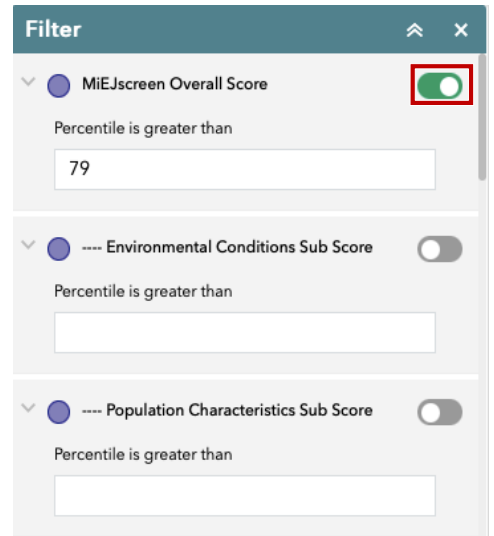
The “Generalize” feature for web display checkbox is turned on by default. For display efficiency, it is recommended that this stays on.

Once data layers have been added, they will appear as the first available layer in both the **“Layer List”** and **“EJ Context Layers”** widgets. Here the layers can be switched on or off by selecting the checkbox next to the layer name. Additionally, added layers will be displayed in the **Layers** button found at the bottom right corner of the “Add Data” pop-up; you are able to delete these here.



Filter

This button allows users to filter one of the layers to show it above a certain percentile. For example, you could filter the map to show only communities where the percentile for a specific indicator is greater than a certain value. To do this, use the toggle switch next to the relevant layer to turn it on or off. Then enter a value between 1 and 100 for which you want to view the layer percentiles greater than. As a note, the number input will not be included in the results. For example, if you wanted to see results for the MiEJScreen Overall score greater than or equal to 80, you would input the number 79. The layers available for this tool include all of those found in the “**Layer List**” button.

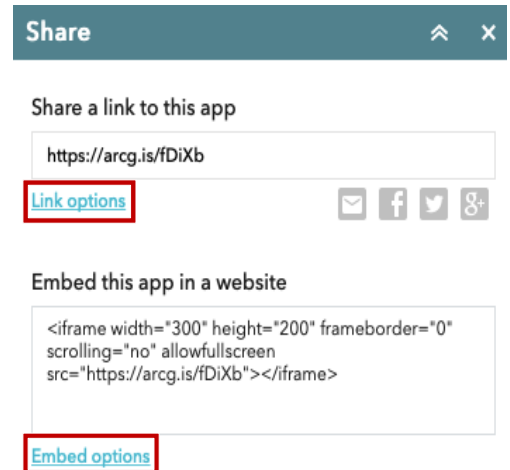


Share

This button provides access to a shareable link and the ability to embed the MiEJScreen web app in a website. This widget can also be useful for saving a map that users wish to return to later.

Click on **Link options** or **Embed options** to bring up subpages to specify the parameters for the map that you share.

Below the shareable link, users are also able to share the map link via the email, Facebook, Twitter, or Google currents icons through their personal accounts



More Information

Visit the [Office of Environmental Justice Public Advocate website](https://www.michigan.gov/EnvironmentalJustice) at [Michigan.gov/EnvironmentalJustice](https://www.michigan.gov/EnvironmentalJustice) for more information, including the MiEJScreen technical report and fact sheet. Email EGLE at EGLE-EnvironmentalJustice@Michigan.gov with any questions.

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