EJScreen Report API Instructions

1. Introduction

The EJScreen Report API is used to build queries to return the data in JSON for the EJScreen report and a URL that can be used to hyperlink the EJScreen report. It is a RESTful API. An interactive tool is also provided to make it easier to use the API and build the necessary parameters to retrieve the data for an EJScreen report. Users can select the input parameters and submit the request. The tool will display the returned EJScreen data as well as the syntax that developers need for submitting requests directly to the API in applications.

EJScreen Report API tool: https://ejscreen.epa.gov/mapper/ejscreenapi1.html

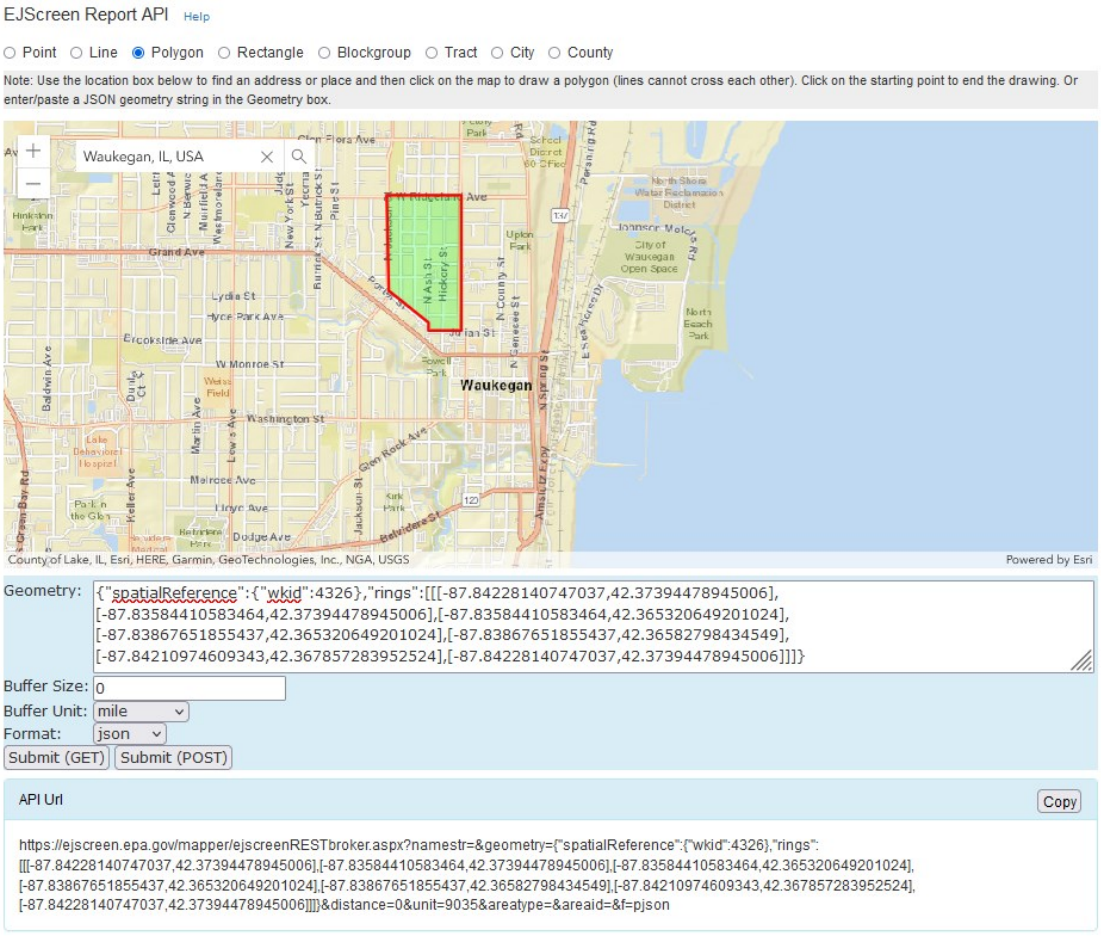

Figure 1. EJScreen Report API tool

2. Steps to Build a Query and Retrieve Data

Follow these steps to build a query and retrieve EJScreen data and the report from the interactive tool.

1. Select a location input type for the area of interest by selecting one of the radio buttons. The input type can be a geometry or a known-geography. Geometry types allow input of any arbitrary shape, while known-geography types are census unit areas that are denoted by an ID code.
   - Geometry types: point, line, polygon, rectangle area
   - Known-geography types: Census blockgroup, Census tract, city, county

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2. In the search box on the map, enter a location or address. Click the map to obtain values for the input type chosen in the previous step, as follows:
   - Point: Click the map to obtain a single latitude/longitude point location.
   - Line: Click a series of points on the map to draw a line. Double-click to end the drawing.
   - Polygon: Click a series of points on the map to draw a polygon. Double-click to end the drawing.
   - Rectangle: Click the map at the location of one corner of a rectangle and drag the mouse to draw a box. Release the mouse at the opposite corner of the rectangle to finish.
   - Blockgroup, Tract, City, or County: Click the map to retrieve the entity ID (FIPS Code) for each type of selected known-geography.
3. Geometry parameter: When any input is finalized, the Geography text box will be automatically populated with the correct values for the API parameters. Although this box can be manually populated, it is recommended that the user interact with the map as described in previous steps to obtain or update the geometry.
4. Buffer Size: Enter a size for the buffer, which is the distance from the input location that will be included for the report. The buffered area plus the original location constitutes the study area. For a Point or Line input, the Buffer Size cannot be zero (0). For all other types, a Buffer Size of 0 can be entered; this will include the study area only, with no additional buffer.
5. Buffer Unit: Choose the distance unit (mile or kilometer) represented by the Buffer Size.
6. Format: Two options are available for the results format, JSON and Report.
   - Select *json* to return the EJScreen values for the study area in JSON format. This format is typically used by other applications to read and display information as needed.
   - Select *report* to generate a URL that can be used as a hyperlink to an EJScreen report as if it would be generated by running the EJScreen application.
7. Submit: Click one of the Submit buttons to submit the parameters and return the data. Two buttons are provided to send the parameters via the two standard HTTPS request methods, GET and POST.
   - Click *Submit (GET)* to send a single URL that includes all parameters. The URL will be displayed in a box labeled API Url, and the JSON results will be displayed in a box labeled Results.
   - Click *Submit (POST)* to send all the parameters to the API endpoint as a POST method. The endpoint and all parameters will be displayed in a box labeled API Url, and the JSON results will be displayed in a box labeled Results.
8. Copy: Click a *Copy* button to copy the content in the box below to the clipboard.

Note: If the format type is report, the Results section will show a full EJScreen report. If the format type is json, a link labeled Field Description will be displayed next to the Results header. Clicking the link will display the field description page (See Appendix A for details).

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3. Use Cases

The following illustrate two examples of how to use the EJScreen Report API.

3.1. Use Case #1: Generate an EJScreen report around a point of interest using the JSON option.

1. Select the radio button for input type of *Point*.
2. In the search box, type “Baton Rouge, Louisiana”. The map will zoom to the area of Baton Rouge, Louisiana.
3. Click on the map to pinpoint the location. The Geometry text box below the map will display the latitude and longitude coordinates for the point in JSON.
4. In the Buffer Size field, enter “1”.
5. From the Buffer Unit dropdown list, select *mile*.
6. From the Format dropdown list, select *json*.
7. Click the *Submit (GET)* button.

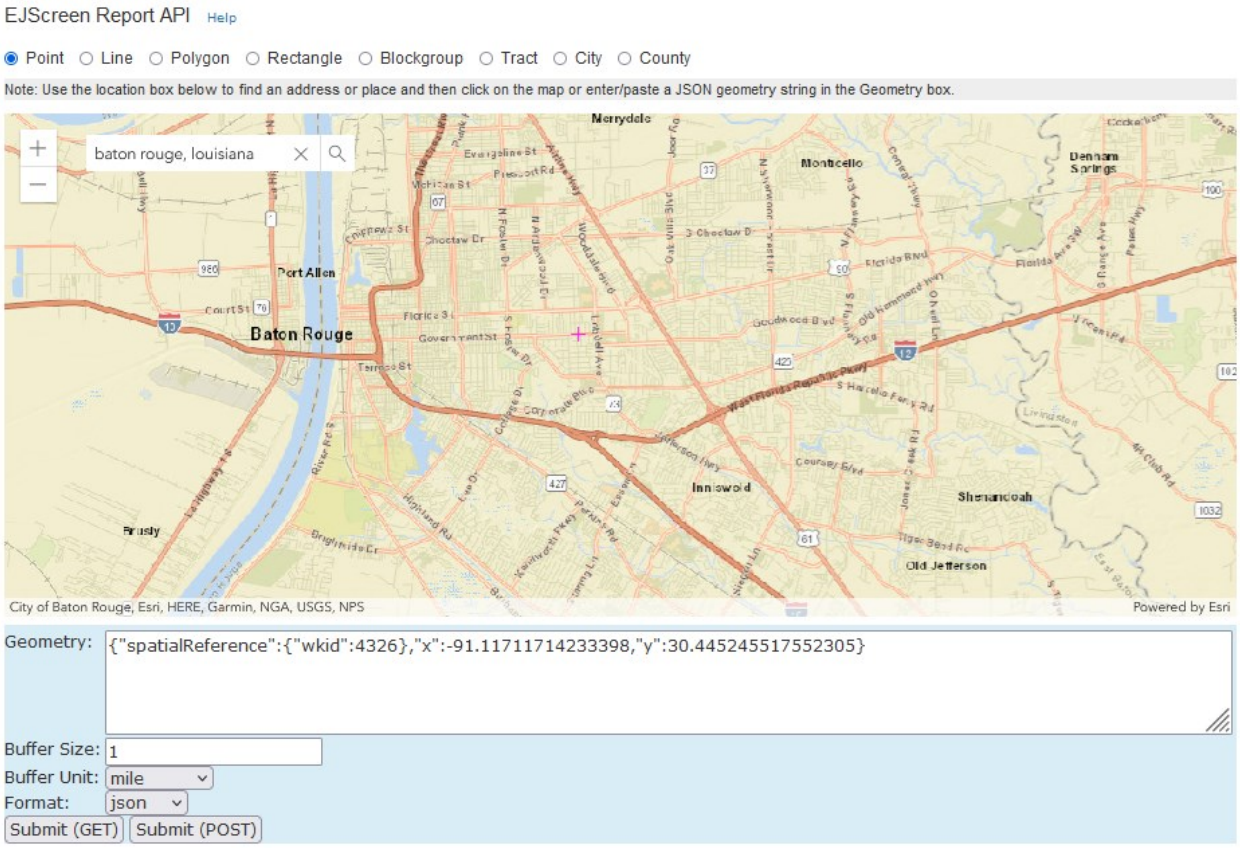

Figure 2. Use Case #1 Steps

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The results will be generated in the JSON format and displayed in the Results section.

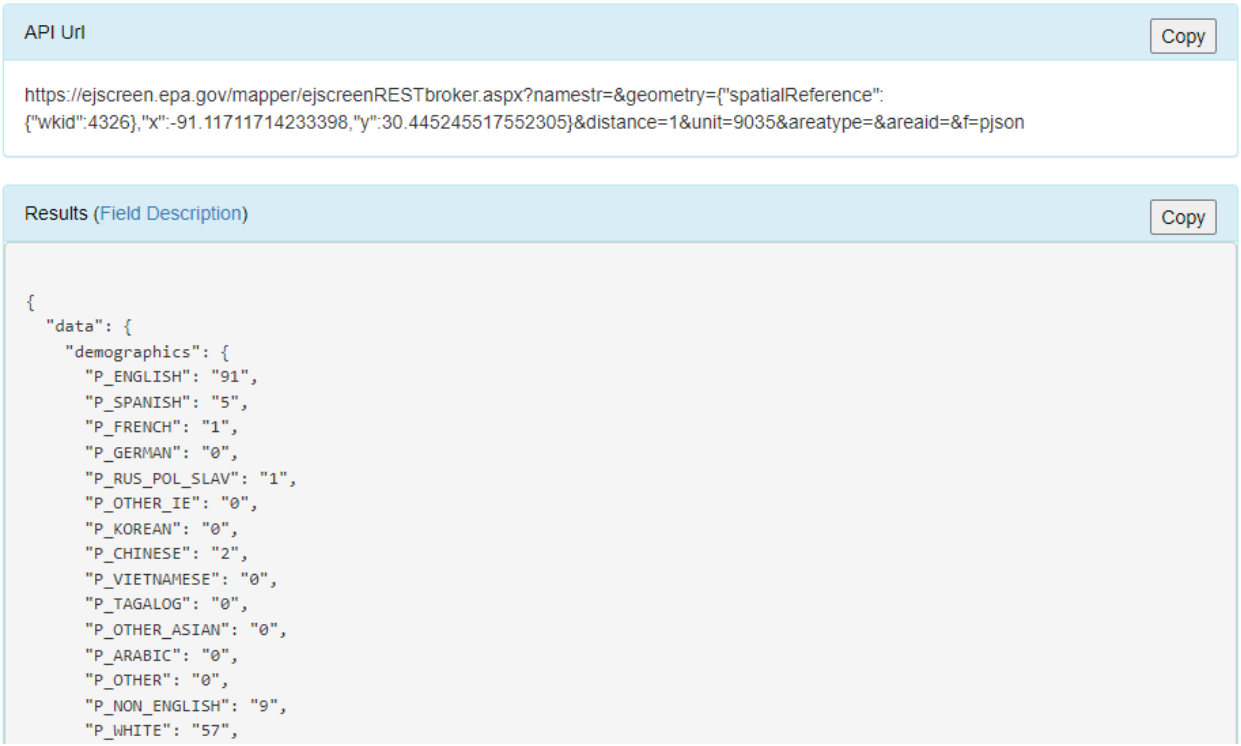

Figure 3. Use Case #1 Results

For the json format, click the Field Description hyperlink next to the Results header. The field descriptions will be displayed.

The RESTful URL shown in the API Url box is what is needed to fetch the EJScreen report data in JSON for the selected point location with one mile of buffer.

3.2. Use Case #2: Generate an EJScreen report for a Census blockgroup using the report option.

1. Select the radio button for input type of *Blockgroup*.
2. In the search box, type “Baton Rouge, Louisiana”. The map will zoom to the area of Baton Rouge, Louisiana.
3. Click on the map to select a specific blockgroup. The selected blockgroup will be highlighted on the map. The FIPS Code text box below the map will display the ID for the selected blockgroup.
4. From the Format dropdown list, select *report*.
5. Click the *Submit (GET)* button.

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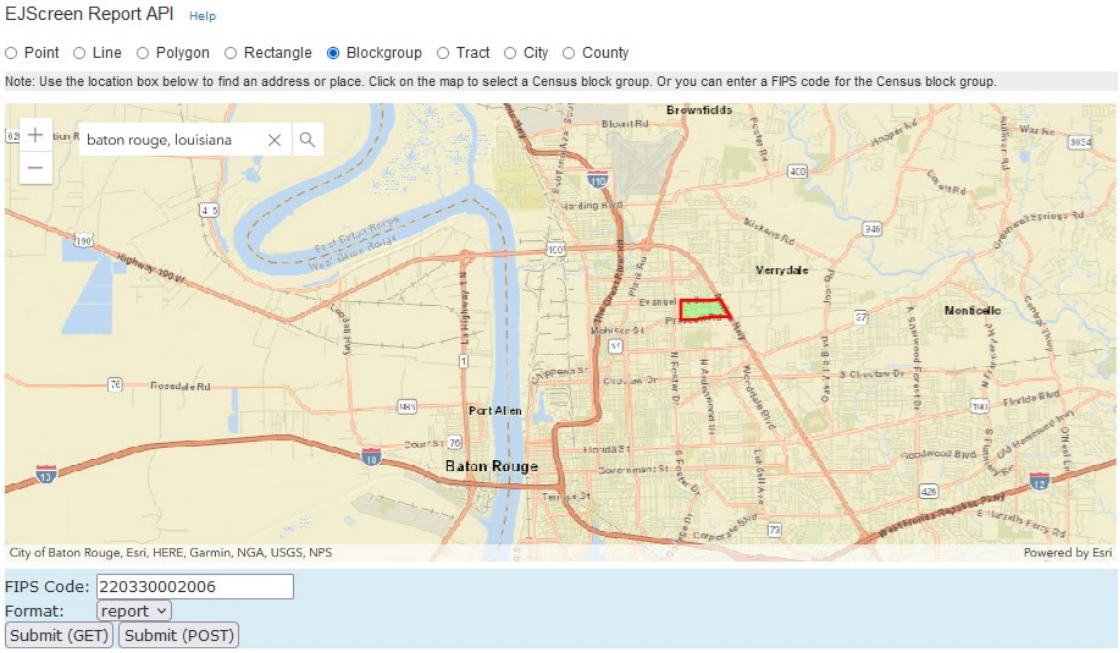

Figure 4. Use Case #2 Steps

The results will be generated in report format and displayed in the Results section.

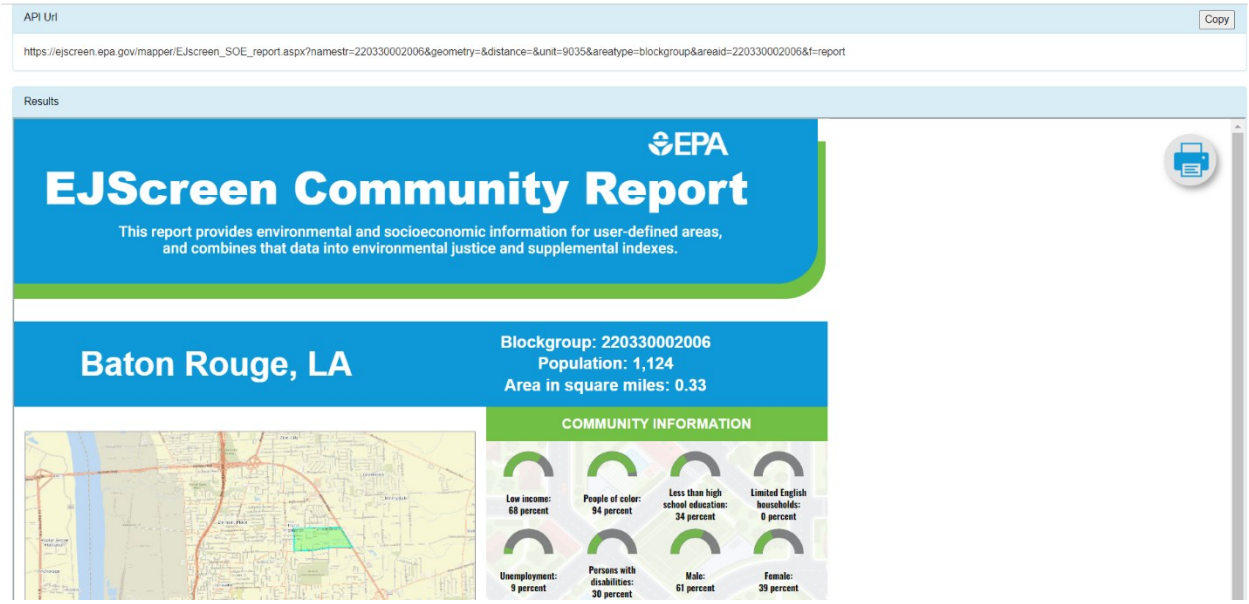

Figure 5. Use Case #2 Results

The URL shown in the API Url box is what is needed to call the EJScreen report for the selected Census blockgroup, as shown in the Results box.

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Appendix A: Field Descriptions

An EJScreen report contains various sections of information, ranging from EJ Indexes to Socioeconomic Indicators. Please visit this webpage for all the data element descriptions - https://ejscreen.epa.gov/mapper/ejsoefielddesc1.html.