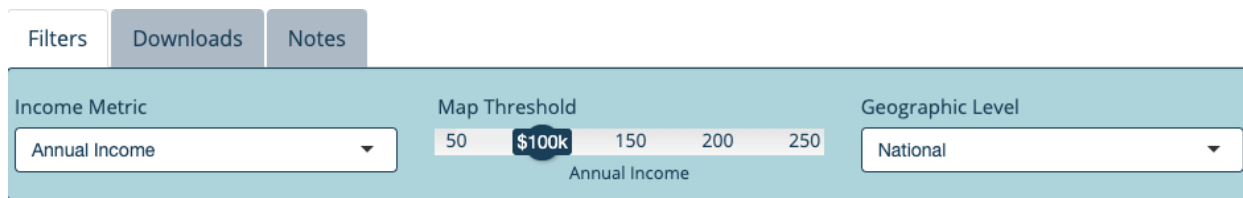


# Solar Demographics Tool

The Solar Demographics Tool is an interactive data dashboard that allows users to visualize and download data presented in the 2021 version of the Berkeley Lab report “Income Trends among U.S. Residential Rooftop Solar Adopters,” available for download at [solardemographics.lbl.gov](http://solardemographics.lbl.gov).

## FILTERS

Most of the tool’s interactive features are found in the bottom of the viewing pane on the “Filters” tab:



On the filters tab, users can customize visualizations along several dimensions.

### Income Metric

This drop-down menu allows the user to select the metric that will be used to generate a map and two plots. The tool allows users to select one of five metrics: annual income; area median income; adopter income bias; state income percentiles; and federal poverty level. See Table on Page 3 of this document for definitions of these metrics.

### Map Threshold

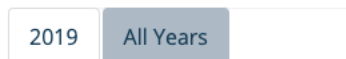
This sliding scale allows users to select the threshold level that will be used to plot the map.

### Geographic Level

This drop-down menu allows users to select the geographic level for the map and plots: national; state; and county.

### Current year vs. all years

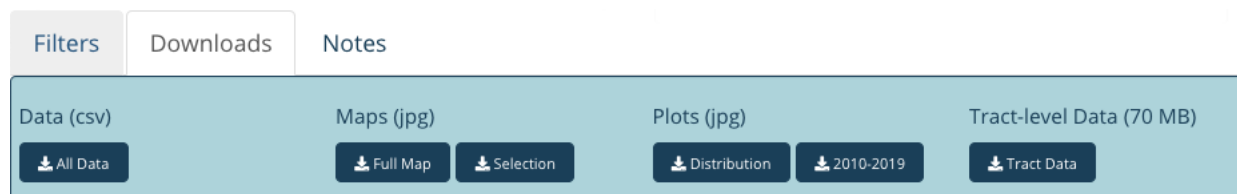
Users can also toggle between viewing plots based on data for the most recent year or based on data for all years by using the tabs above the map:



Note that the user’s selection on the map determines the output for the plot.

## DOWNLOADS

The app allows the user to download various elements from the dashboard using the Downloads tab:



### Data

The user can download summary statistics of the underlying data. When the geographic level is National, a state-level data set is available. When the geographic level is State, the user can download a data set for the selected state or a full state-level data set. When the geographic level is County, the user can download a data set for the selected county or a full county-level data set.

### Maps

The user can download various maps. The user-selected income metric and threshold will determine the inputs for the map. The “Full Map” option allows the user to download a map of the contiguous U.S. and Hawaii (no data are available for Alaska). The “Selection” option allows the user to download the map view that is currently displayed in the application.

### Plots

The application displays two plots: a static plot restricted to the most recent year’s data (top right) and a temporal plot displaying trends over time (bottom right). The user can download the current year data plot through the first button under the “Plots” option. The user can download the temporal plot through the second button under the “Plots” option.

### Tract-level data

The user can download tract-level data that are not visualized in the tool. The file is about 70 MB and may be slow to download depending on the user’s internet connection.

## OTHER NOTES

- Map based on systems installed in the most recent year.
- Maps and plots are based on minimum sample sizes of 100 for states and 30 for counties, but data are available down to sample sizes of 10 in the downloads.
- The map and the plots are interactive. The user can mouseover the plots to see the underlying estimates.
- The plots have a zoom feature that allows the user to zoom into specific parts of each plot. To reset the axes, the user can double-click on the plot or click the home icon in the top right of each plot.
- Suggested citation: Berkeley Lab. Solar Demographics Tool.

The table below describes the five income metrics in more depth and how the threshold and geographic level determine the map and plot outputs.

Income Metric	Description	Map Output	Plot Output
Annual income	Household income (\$/year).	% of PV adopters by geographic level below the threshold income level.	% of PV adopters in the selected state/county by income bins.
Area Median Income (AMI)	AMI is the median income at the county level. <sup>1</sup>	% of PV adopters by geographic level below the threshold % of AMI.	% of PV adopters in the selected state/county in bins of % of AMI.
Adopter income bias	The difference between a PV adopter's income and her respective county's median income (\$/year)	% of PV adopters by geographic level below the threshold bias level.	% of PV adopters in the selected state/county in income bias bins.
State income percentiles	State income percentiles (20% increments). <sup>1</sup>	% of PV adopters by geographic level below the threshold percentile.	% of PV adopters in the selected state/county by percentile.
Federal poverty level	Federal poverty level for 3-person household in 2018. <sup>2</sup>	% of PV adopters by geographic level below the threshold % of the federal poverty level.	% of PV adopters in the selected state/county in bins of % of federal poverty level.

<sup>1</sup> Based on U.S. Census data. <sup>2</sup> Based on definitions from U.S. Department of Health & Human Services.