

GEOSPATIAL CORE

The vision of the Methodology and Advanced Analytics Resource Center's (MAARC) Geospatial Core is to formalize, refine, and build community capacity for a geospatial framework for modeling substance use disorder resource distribution dynamics in justice populations and their communities. We bring a socioecological approach to modeling the factors driving the opioid epidemic and leverage open source and/or free geographic information systems (GIS) tools and spatial data science techniques. In addition to conducting research and providing consulting services to Justice Community Overdose Innovation Network (JCOIN) hubs, we generate comprehensive data products for the entire U.S., develop coding resources, host technical workshops, and more.

SUPPORT SERVICES

Access & spatial variable calculations:

If you have resource data at the address level, you may need to convert them to a continuous measure (e.g. provider density, travel time to nearest provider) linked to a census tract, zip code, or county measure for further analysis. We can discuss the options based on your research goals and provide resources for your team to calculate spatial variables using code and no-code options.

Research design:

If your data are highly spatially autocorrelated, meaning the measures are highly dependent on location or display "clustering" behaviors, you may need to update your regression approach. Alternatively, perhaps you need expert guidance on adding questions to capture neighborhood factors in your individual-level surveys. Or perhaps you need to link community measures to your data and don't know where to start, or need to brainstorm how your team is defining "access" in your study. We provide consultations for discussing your options and provide resources for next steps.

Mapping data & generating spatial visualizations:

The team has a variety of resources to skill-up your team and learn how to make maps and spatial visualizations. From the workshop series in R to a library of options for mapping with Python or open GIS apps like QGIS to doing exploratory spatial data analysis in GeoDa, we're happy to help.

DATA & CODING RESOURCES

The Geospatial Core manages multiple data and coding resources, like the [Opioid Environment Policy Scan \(OEPS\) Data Ecosystem](#). OEPS brings hundreds of measures across spheres of socioecological influence (cont.)

GEOSPATIAL CORE

MAARC 2.0

to characterize the multidimensional risk environmental impacting opioid use and opioid-use-related harms. Data are available at multiple spatial scales, including state, county, zip code, and Census-tract levels, making it easier to capture structural factors impacting health. Grab social or economic measures from the Census, precalculated access and environmental measures, and more.

GEOSPATIAL CONSORTIUM & COMMUNITY OF PRACTICE

The Geospatial Consortium & Community of Practice (GCCP), launched in 2025, is a collaboration of researchers and practitioners that meet regularly to share, discuss, and learn how geospatial methods, tools, and models can be used to build understanding and develop resources for the opioid epidemic. [Learn more & join!](#)

CONTACT US

Reach out to the Geospatial Core Co-Lead Marynia Kolak (mkolak@illinois.edu) with questions. To initiate a consultation or custom data request, please use the [MAARC TA Request Form](#). You may also access the form by scanning the below QR code:

