Likely Extent of Agricultural Drainage Tool

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This map identifies agricultural areas that are likely to have been drained for crop production, usually through subsurface tile drainage, in the Midwestern United States. These areas were identified based on the natural drainage condition of the soil, using the 2018 gSSURGO data from the USDA Natural Resources Conservation Service. Only agricultural land is included, based on the 2011 National Land Cover Database.

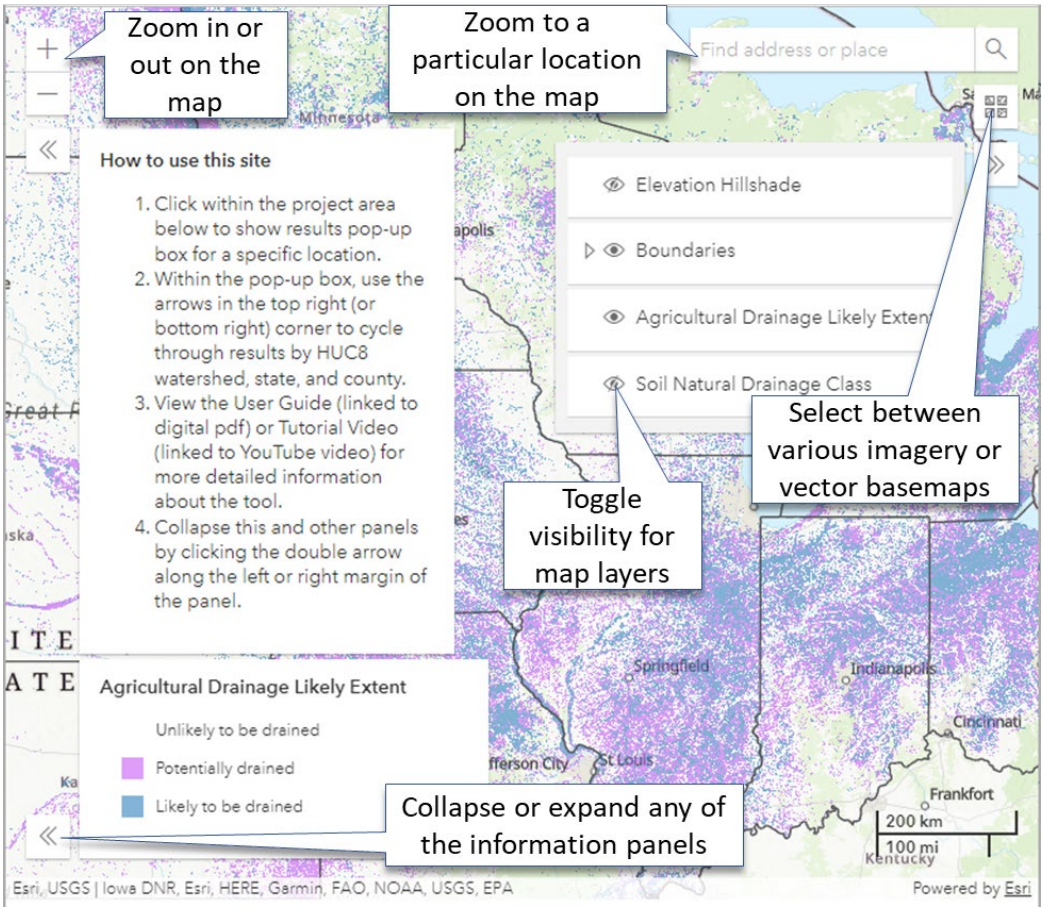
- Very poorly to poorly drained soils are assumed to have at least some form of artificial drainage installed to support agricultural land use, and therefore classified as "likely to be drained".
- Somewhat poorly drained soils are classified as "potentially drained", as these soils are often included whenever drainage improvements or upgrades are made in the field.
- Moderately well drained to excessively drained soils are classified as "unlikely to be drained" as these soils are not likely to suffer from excess soil water conditions, and therefore not likely to be artificially drained.

Field assessment is needed when determining the actual drained conditions of a particular area of interest.

Getting Started:

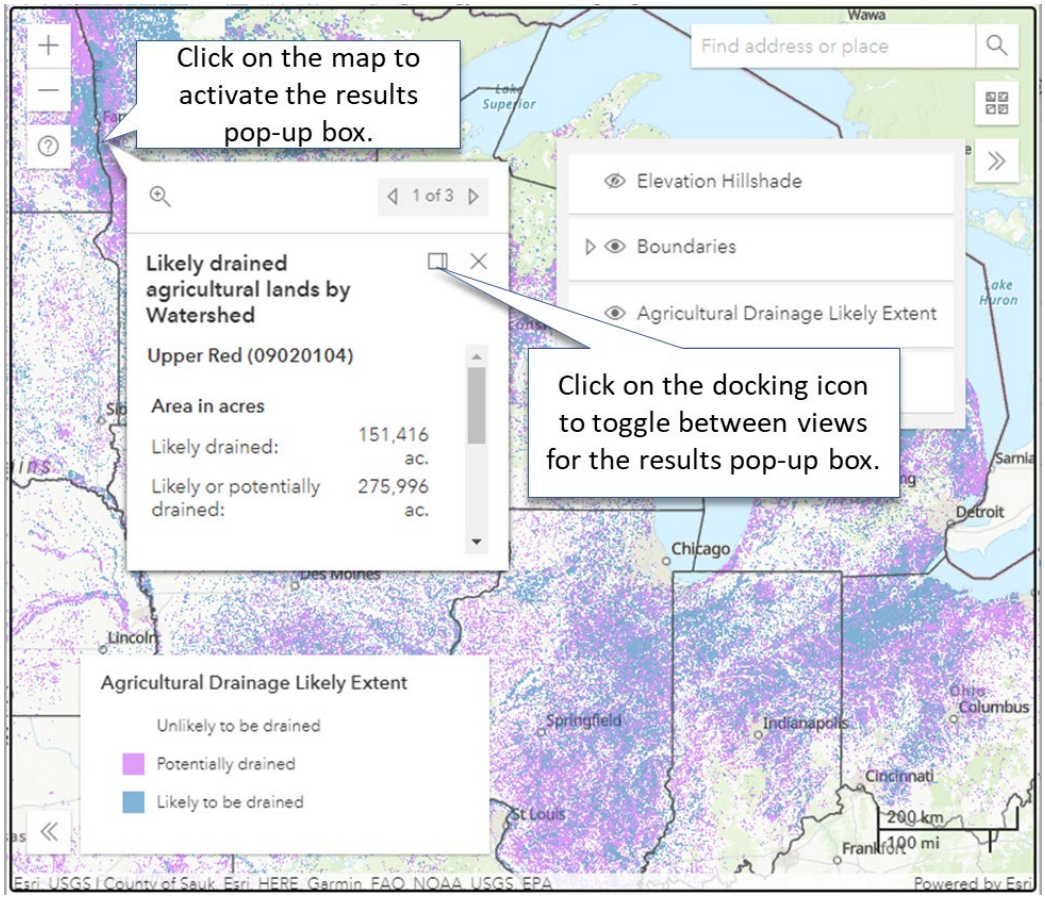
The map window contains useful elements to help you visualize and interact with the map. You can:

- Zoom in and out or to a particular location,
- Select a different basemap, and
- Turn on/off map layers, legends, or information panels. Boundaries are available for HUC 8 Watersheds, Counties, and States.



Once you have located your area of interest, click on the map to activate the results pop-up box.

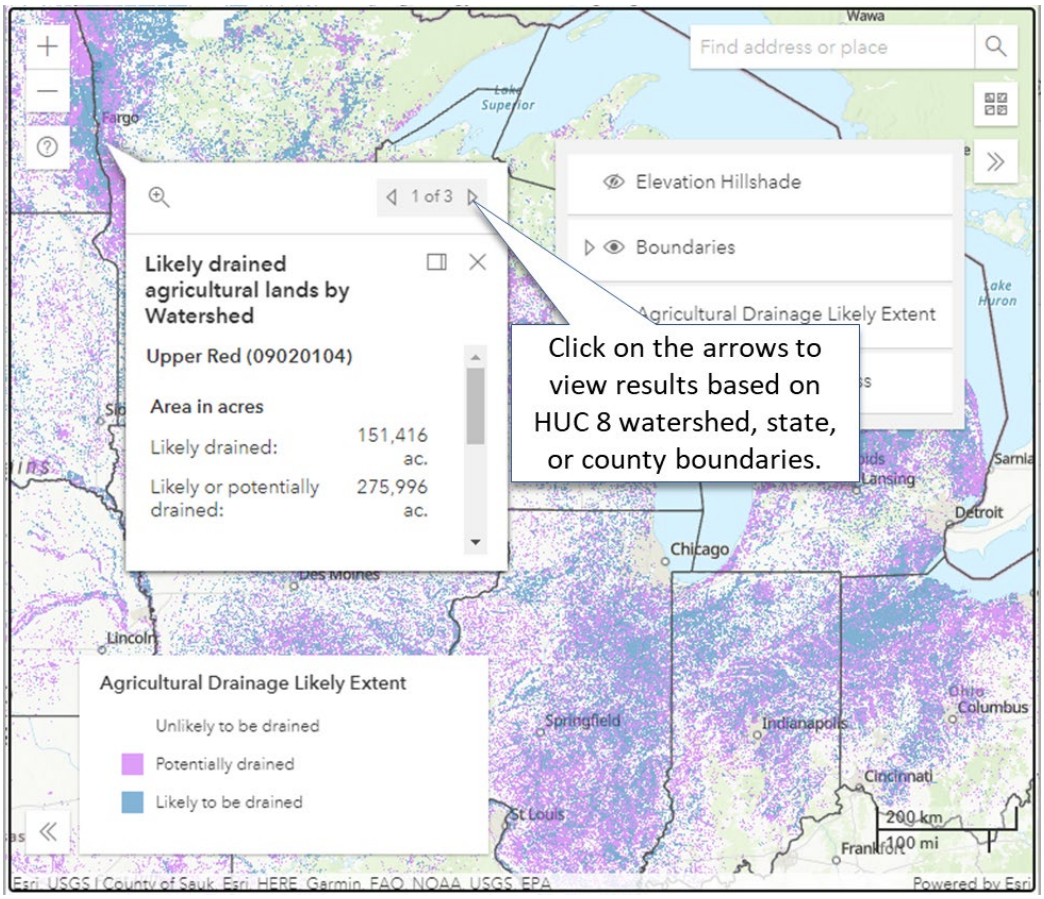
User Tip: The results pop-up box can be docked along the side of the map window if preferred. This will lock the location of the pop-up box in the top right corner of the map window. Simply click on the docking icon again to go back to the original view.



Within the results pop-up box, the arrows in the top (or bottom) right corner of the box allow you see results based on HUC 8 watershed, state, or county boundaries for the location selected on the map. Results have been calculated in three ways:

- Total area (acres) of each drainage classification within the boundary of interest (e.g., watershed, state, or county)
- Percent of each drainage classification within the boundary of interest, based on the total area of the boundary
- Percent of each drainage classification within the boundary of interest, based on the total area of agricultural lands within the boundary

Within the results pop-up box, the classification titled, “Likely or potentially drained”, represents the sum of both the blue and purple areas on the map within the boundary of interest.



For More Information:
A companion video is available to provide users with an understanding of how to navigate this tool. The video may be accessed at https://youtu.be/iMgYoI8GU5g.

The results used by this tool may be downloaded from the Purdue University Research Repository at https://purr.purdue.edu/publications/3966/1. The published dataset includes a 30 m resolution raster layer of the likely extent of drained agricultural lands in the U.S. Midwest based on soil and land use, and a file geodatabase with tables summarizing the extent by state, county, and HUC8 watershed boundary. Map layers may also be accessed as a REST service at https://mapsweb.lib.purdue.edu/arcgis/rest/services/Ag.

This tool was developed as part of the Transforming Drainage project. To see more drainage tools and learn more about the project, please visit our website at: https://transformingdrainage.org/tools.

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