

What is the Suitability Modeler?

ArcGIS Pro 3.1

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Available with Spatial Analyst license.

A suitability model is used to identify the best location to site things or areas to preserve. For example, you can use a suitability model to determine the best location to build a shopping center, housing development, or ski resort. You can also use it to find the best areas for parks, endangered wildlife habitat, or flood control.

Determining the best locations to site or preserve is based on the features at each location, for example, the slope, how far it is from a road or stream, and land use type. These features are the criteria. Through transforming and weighting the criteria, a suitability map is created. The suitability map identifies the relative preference of each location based on the features at the location.

Once the suitability map is created, the spatial requirements for the best areas to site or preserve are defined. These spatial requirements can include the total area needed, the number of areas required, and the allowable size and distance between the areas. The optimal areas or regions meeting these spatial requirements are derived from the suitability map.

Suitability Modeler

The Suitability Modeler in ArcGIS Pro is an interactive, exploratory environment for creating and evaluating a suitability model.

In general, constructing a suitability model is a nonlinear, iterative process. The Suitability Modeler provides analytical feedback at each stage of the suitability modeling process and allows seamless back and forth movement between each stage of the model development. What you learn in one stage of the process may influence decisions you make in another.

You can do the following with the Suitability Modeler:

- Create a suitability model in an intuitive, integrated framework.
- Make informed decisions when selecting model parameters with the immediate feedback provided by the interaction between charts, panes, and maps.
- Explore how the input criteria and specified parameters affect the final suitability map and the areas identified for the siting or preservation.

Because of the exploratory and interactive nature of the Suitability Modeler, you can justify each step of your modelling process. As a result, you will be more confident in the model output leading to better decisions.

Access and requirements

You access the Suitability Modeler on the Analysis tab in ArcGIS Pro when the ArcGIS Spatial Analyst extension license is available. You can run the Suitability Modeler on ArcGIS Pro locally.

[Learn how to enable the Spatial Analyst extension](#)

If you have an ArcGIS Enterprise portal that has an ArcGIS Image Server configured for raster analytics, you can run the suitability and locate steps of the suitability modeling workflow using ArcGIS Pro as a client to the servers. Alternatively, you can share a Suitability Modeler model to servers creating a Suitability Model portal item. When the portal item is run, both the suitability and locate steps are implemented as a single process.

Running a model using ArcGIS Pro as a client or through the portal item allows you to use web imagery layers as input source rasters, perform the processing on the server, and share the results as web imagery layers.

Learn more about the following at the links provided:

- Use [ArcGIS Image Server on ArcGIS Enterprise](#).
- [Configure and deploy raster analytics](#) for ArcGIS Enterprise.
- Run the [suitability and locate steps on servers](#).

- [Share and run a suitability model on servers](#)

What's next

Start with [Suitability modeling workflow](#) to learn the general steps for creating a suitability model.

See [Implement the suitability modeling workflow](#) to create a simple suitability model.

Learn more about the [suitability modeling framework](#).

Related topics

- [What is the ArcGIS Spatial Analyst extension?](#)
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