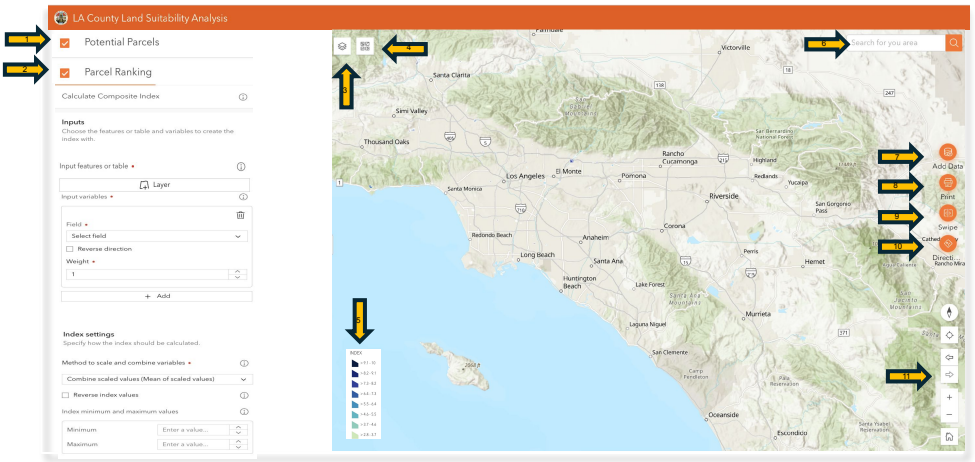
Land Suitability Web Tool Quick Reference Guide

https://experience.arcgis.com/experience/ecfb0ac4be57454680eb2411805e7263/

Introduction: Capstone project from the University of Michigan, School of Environment and Sustainability Masters students in collaboration with Los Angeles County Sustainability Office related to identifying potential sites for urban agriculture



About Composite Index Tool

It combines various factors to create a single number that measures complex subjects like social vulnerability or business innovation, using a three-step process of preparing the data, combining it, and refining the final index.

Potential Parcels
1 Parcels meet the pre-requisite criteria (273 parcels)

Parcel Ranking
2 Default Composite Index, weighting every factors as 1

Layer
3 Individual set of geographic data on a map

Basemap
4 Background map providing context for additional layers

Legend
5 Key explaining symbols or colors on a map

Search
6 Tool to find specific locations or features on a map

Add data
7 Function to incorporate additional geographic information onto a map

Print
8 Capability to create a physical or digital copy of a map

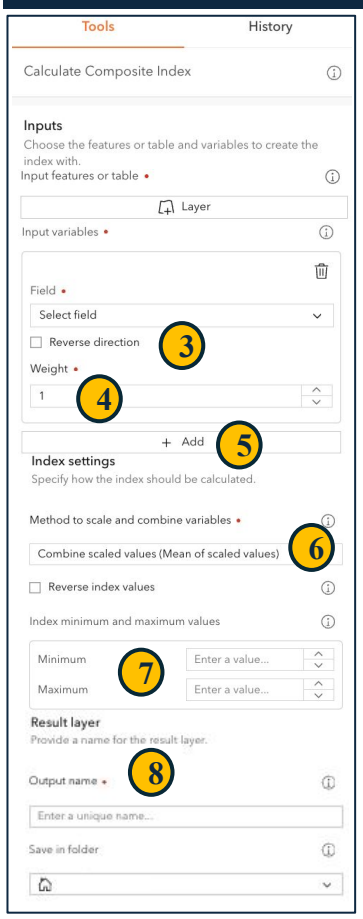
Swipe
9 Tool to compare two layers or datasets

Direction
10 Guidance provided for navigation

Basic Functions
11 Essential operation or capability of a widget or tool

: Compass
: Location
: Move Left
: Move Right
: Zoom in
: Zoom out
: Home

Composite Index Tool



Layer
1 Selecting of **Potential Parcels**

Field
2 Provision of nine factors; select one for analysis in each field.

Below_FPL	Population Below Poverty Line
Housing _Fe	Not feasible for housing
Low_Food_A	Distance to Low Food Access Populations
NEAR_COMMU	Distance to Community Centers
NEAR_GROCE	Distance to Grocery stores
NEAR_PARK_	Distance to Nearest Park
Perm_Area	Impermeable Area (sq-ft)
PolBurdSc_	Pollution Burden Score
Population	Pollution within 2 Miles

Reverse direction
3 Consider the meaning of low and high values in each variable and ensure they are consistent with each other.

Example: In a social vulnerability index, locations with lower median incomes are more vulnerable, but locations with low percentages of people without insurance are less vulnerable; the direction of these variables are opposed in the context of the purpose of the index

☐ check the **Reverse Direction**

Weight
4 Assignment of significance to each factor

The weight assigned to each factor determines its relative importance in the composite index. Factors deemed more influential receive higher weights, while those considered less significant are assigned lower weights. This weighting process allows index customization based on the analysis's priorities and objectives

Add
5 Capability to incorporate numerous factors for analysis

Methods to scale
6 Selection of the most appropriate scaling method

- Combine scaled values (Mean of scaled values)
- Combine ranks (Mean of percentiles)
- Combine raw values (Mean of raw values)
- Compound scaled values (Geometric mean of scaled values)
- Compound ranks (Geometric mean of percentile)
- Compound raw values (Geometric mean of raw values)
- Highlight extremes (Count of values above 90th percentile)

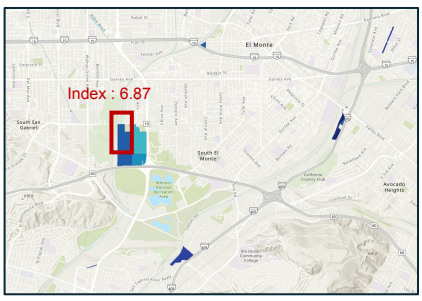
Minimum and maximum
7 Specification of the value range

Result layer
8 Output depicting the composite index

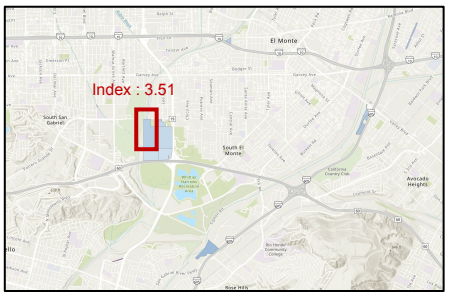
The result layer represents the culmination of the composite index analysis, visually depicting the combined effects of the selected factors on the map. This layer provides a comprehensive overview of the potential parcels, highlighting areas of interest based on the composite index values. It serves as a valuable tool for decision-making, enabling stakeholders to identify and prioritize parcels with the most favorable characteristics for their intended use or development.

Use Case

As an urban farmer, I aim to secure a parcel of land as close to the grocery store. This proximity would facilitate easy commercialization of my produce. Additionally, I prioritize selecting a location with minimal pollution to ensure the sustainability and health of my farming endeavors.



Selecting the field of **Distance to Grocery Stores** and **Pollution Burden Score** in the reverse direction.



Initially, it seems promising, but it can rapidly change depending on the use case.

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