



GeoPlanner: Web-based site suitability analysis with Weighted Raster Overlay Services

Rob Stauder

Tom Wayson @tomwayson



Weighted Raster Overlay in GeoPlanner

Tom Wayson @tomwayson

WRO

Weighted Raster Overlay



What is Weighted Raster Overlay?

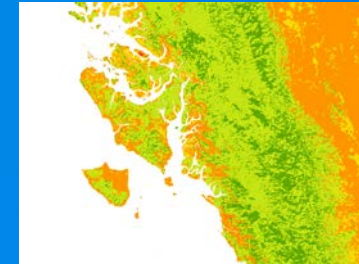
System Requirements



Rasters



1. **Classify**
2. **Weight**
3. **Combine**



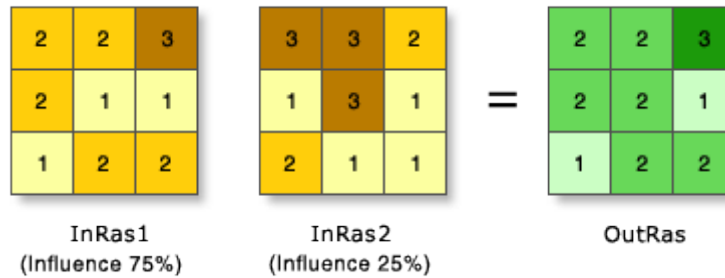
Output

What Kinds of Questions Can WRO Help Answer?

- Where is fire risk highest in the forest?
- Where are the best locations for growing grapes?
- Which locations are suitable for a new housing development?

How Does Weighted Overlay Work?

Overview



WRO in GeoPlanner

Uses power of raster functions

Doesn't write to disk so it's fast fast fast

Doesn't consume credits

Leverages the image service histogram capability to show charts

The background features a vibrant blue gradient. On the left side, there are several overlapping geometric shapes: a large purple triangle pointing upwards, a yellow triangle pointing downwards, and a dark purple triangle pointing downwards. The yellow triangle contains a faint, light-colored map of a region, possibly a state or county. The word "Demo" is centered in the blue area.

Demo



Modelling Your Own Data in GeoPlanner

Rob Stauder

Use Your Data

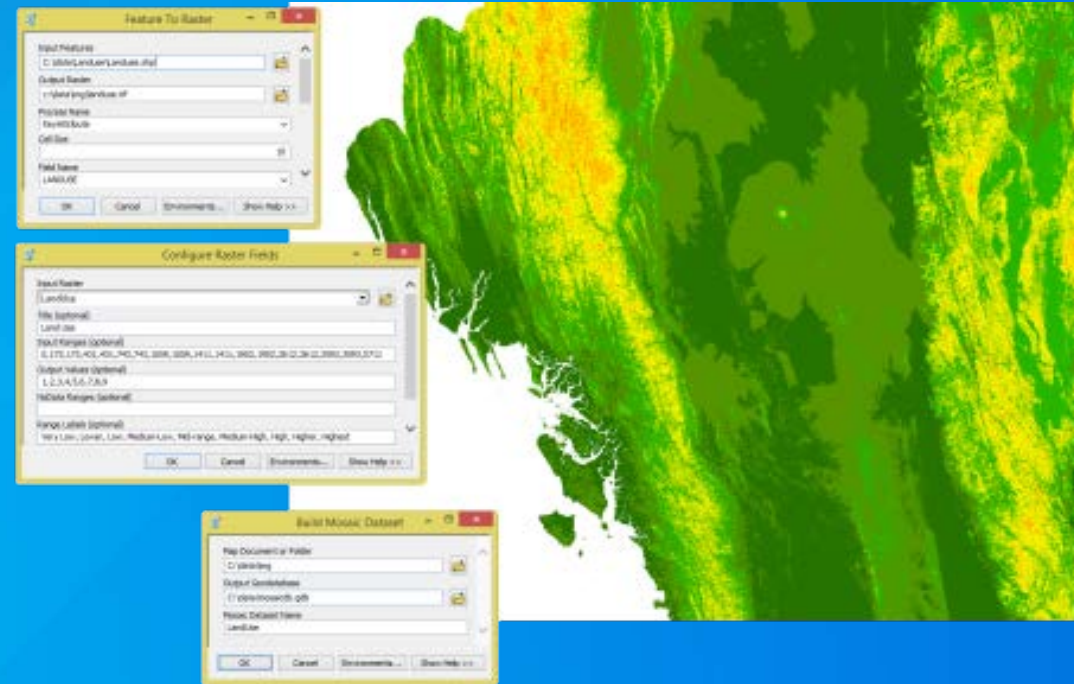
Build your own weighted overlay
service



Build a Weighted Overlay Service

System Requirements

- ArcGIS Desktop 10.3.1
- Weighted Overlay Service Toolbox
- ArcGIS Server 10.3.1
- ArcGIS Online
- GeoPlanner for ArcGIS



Build a Weighted Overlay Service

Process Overview



Prepare
Data



Build
Mosaic



Share
Service



Add Item

Build a Weighted Overlay Service

Prepare your data – Convert to TIF

Raster



Vector



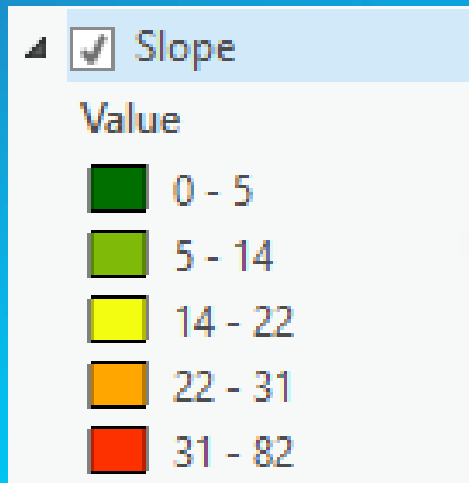
.tif

No Data



Build a Weighted Overlay Service

Prepare your data – Map data values to a suitability scale



In Data Ranges (deg)	Suitability Value
0 - 5	9
5 - 14	7
14 - 22	5
22 - 31	3
31 - 82	1

Build a Weighted Overlay Service

Prepare your data – Map data values to a suitability scale

Suitability Value	Slope Values Included
9	0 – 4
7	5 – 13
5	14 – 21
3	22 – 30
1	31 - 82

Min inclusive
Max exclusive

Input Ranges (optional)

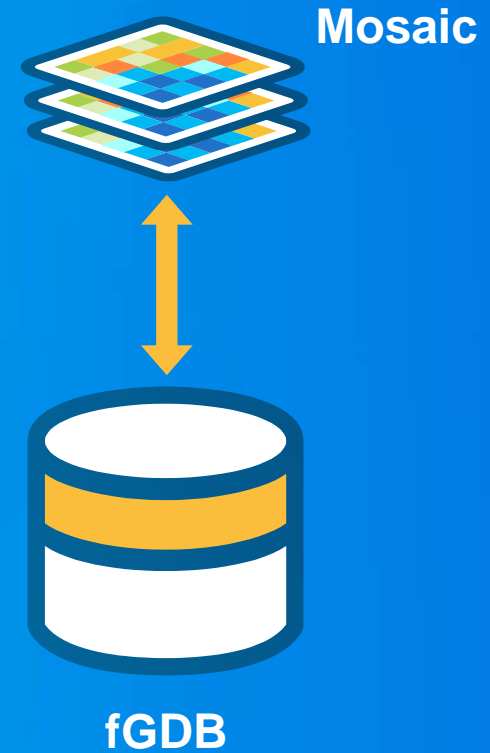
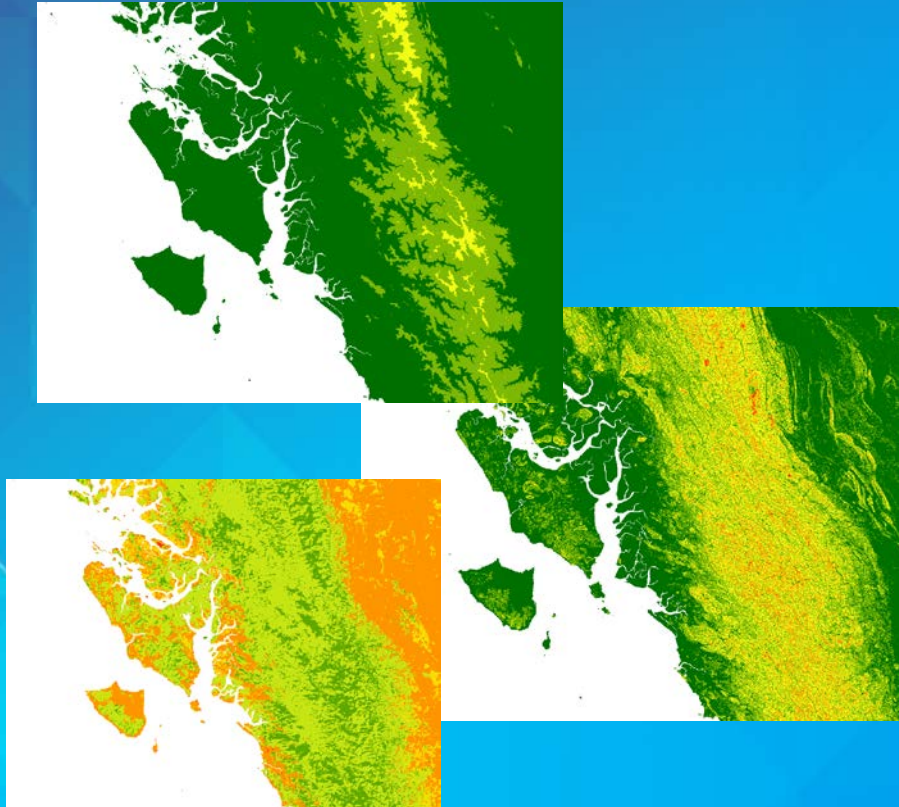
0,5,5,14,14,22,22,31,31,82

Output Values (optional)

9,7,5,3,1

Build a Weighted Overlay Service

Build a mosaic dataset



Build a Weighted Overlay Service

Share the mosaic dataset as a service



Mosaic



ArcGIS
Server



Image
Service



Service
URL

Build a Weighted Overlay Service

Add as Item to ArcGIS Online



Service
URL

A screenshot of the "Item from the web" dialog box. It prompts the user to "Reference an item on the Web." The "Type" is set to "ArcGIS Server web service". The "URL" field contains `http://bigbubba:6080/arcgis/rest/services/Nepal/Barpak/ImageServer`. The "Title" field contains "Barpak". The "Tags" field contains "weightedOverlayService", which is highlighted with a red box. There are "ADD ITEM" and "CANCEL" buttons at the bottom.

Add Item

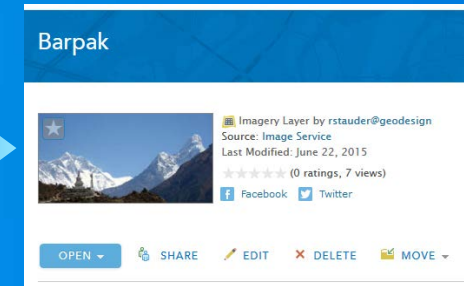
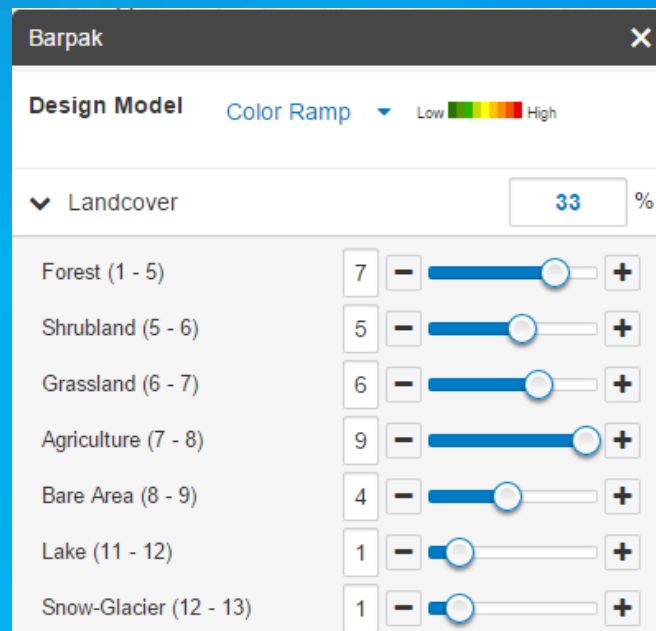
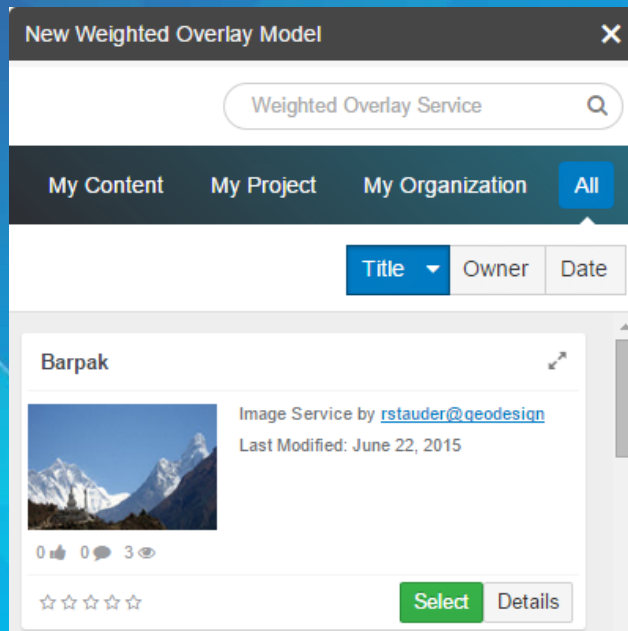


Image
Service Item

Discover and use in GeoPlanner



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Demo



Understanding our world.