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Free Trial

Weekly Challenge

Solve the challenge, share your solution and summit the ranks of our Community!

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IDEAS WANTED
We're actively looking for ideas on how to improve Weekly Challenges and would love to hear what you think!
SUBMIT FEEDBACK ▸

‹ Weekly Challenge

Challenge #113: Interpolating Spatial Grid Values

ChristineB
Alteryx Alumni (Retired)

So many different solutions to last week's Challenge have been posted here!

This week's Challenge riffs off a process typically used in spatial analysis with raster inputs: interpolation. In this Challenge, you are provided with two inputs: a polygon representing the island of Maui (hey, there's still snow in the forecast here in CO...can you blame me for picking a beachy location?) and a table of values representing the elevation measurements for 500 m x 500 m grid cells (much like a Digital Elevation Model). However, some grid cells contain a value of 0. We'll use some spatial tools to interpolate, or estimate, the values of the cells containing 0 from a "nearest neighborhood" or surrounding cell values.

First, build a 500 m x 500 m grid around the island of Maui.   Then, interpolate the missing value using the average of the known measurements from the surrounding cells, or "neighborhood". Use a neighborhood of the 8 nearest surrounding cells in a unique cardinal direction (see example below; a neighborhood of a cell containing a 0 is outlined in blue. In this example, the new interpolated value of the center cell would be 61.5). Should a missing value be located on the edge, use only the nearest cells in a unique cardinal direction, even if 8 values are not used for the calculation.

Hint: Grid cell Grd37_68 is column 37, row 68. The Grid tool starts with column 0.

📎 **challenge_113_start_file.yxmd** ⬇

📎 **challenge_113_solution.yxzp** ⬇

Difficult Join Preparation Spatial Spatial Analysis Transform

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ACE ggruccio
ACE Emeritus

Fun spatial exercise!

📎 **challenge_113_gg_finish.yxmd** ⬇

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I opted for a non-spatial technique.
EDIT: I added a spatial technique as well.

▷ Spoiler

🔗 **challenge_113_start_file.yxmd** ⬇

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David-Carnes
11 - Bolide

It's a good challenge when I start with a sheet of paper and pencil to figure out the logic, before any tools get dropped onto a canvas.

▷ Spoiler

🔗 **David-Carnes_113.yxmd** ⬇

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leesin
7 - Meteor

🔗 **challenge_113_complete.yxmd** ⬇

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Inactive User
Not applicable

🔗 **challenge_113_ryan_lambert.yxmd** ⬇

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kat
12 - Quasar

▷ Spoiler

🔗 **Challenge #113.yxmd** ⬇

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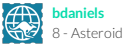
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mmongeon
8 - Asteroid

Here's my submission.
This was a great way for me to get more familiar with some of the Spatial tools, thanks!

▷ Spoiler

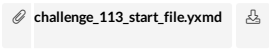🔗 **challenge_113_mongeon_complete.yxmd** ⬇

bdaniels
8 - Asteroid

Slowly but surely learning how to use spatial tools

▷ Spoiler

🔗 **challenge_113_start_file.yxmd**   ⬇

ACE **NicoleJohnson**
15 - Aurora

My solution! Included both a spatial and a non-spatial solution :) Fun one!

▷ Spoiler

Cheers,
NJ

🔗 **challenge_113_NicoleJohnson.yxmd**   ⬇

All forum topics   ‹   ›

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