Multispec Colony Identification (Step 1)

Title Multispec Colony Identification (Step 1)

Description

This tool creates polygons that represent colonies based on the multispectral reflectance value of penguin guano. This is a user-friendly tool because it can be used with any multispectral imagery. The user identifies pixels that contain guano in the multispec image, the values of those pixels are averaged to create the threshold for selecting the guano. This tool is followed by a tool where the user can select the colonies that this tool correctly identifies.

Usage

This tool can be used to identify potential penguin colonies using the multispectral reflectance value of the guano.

Syntax

MultiSpecColoniesStep1 (Input_File, Guano_Threshold, {Guano_Values})

Parameter	Explanation	Data Type
Input_File	Dialog Reference The input multispectral image that you would like the tool to analyze. This needs to be a raster image. Python Reference The input multispectral image that you would like the tool to analyze. This needs to be a raster image.	Raster Dataset
Guano_Threshold	Dialog Reference This is the value that will be used as a threshold to select all the pixels that potentially show guano. The next parameter will calculate this value but having you click on pixels that contain the lower values of guano and averaging the values. So if you prefer to examine the image yourself and choose a value, enter it here. If you prefer to use the next parameter to calculate the threshold then leave this value as 0, which is the default value. Python Reference This is the value that will be used as a threshold to select all the pixels that potentially show guano. The next parameter will calculate this value but having you click on pixels that contain the lower values of guano and averaging the values. So if you prefer to examine the image yourself and choose a value, enter it here. If you prefer to use the next parameter to calculate the threshold then leave this value as 0, which is the default value.	String
Guano_Values (Optional)	Dialog Reference Make sure that your NIR image layer (the input) is displayed in the map for this step. Using the feature set tool, zoom in to the point where you can distinguish individual raster cells and then click on many cells that represent the range of possible guano reflectance values. This is easiest to achieve if you click along the edge of the colony. It is preferable to click more cells on the lower end of the range to ensure that the threshold is low enough to cover the whole colony. It would be better for the threshhold to be too low than too high.	Feature Set

You should create at least 20 points.

An example of these points is shown in the tool sidebar image.

Python Reference
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Code Samples

There are no code samples for this tool.

Side-panel Help Illustration

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Tags

penguins, multispectral imagery, user input, UAV, automated

Credits

Clara Bird, Duke Marine Robotics and Remote Sensing Lab, Duke University, 2018.

Use limitations

There are no access and use limitations for this item.

You are currently using the Item Description metadata style. Change your metadata style in the Options dialog box to see additional metadata content.