Fencing tool

Title Fencing tool

Description

This tool creates an artificial containing "fence" around the perimeter of the input DEM, allowing the delineation of landforms that are at the boundary of the dataset and that otherwise would be considered, by the **"Boundary-based Delineation"** tool, as unconfined.

It must be used in conjunction with the **"Filter and Clip"** tool.

The output DEM, i.e. the DEM with the confining fence, may not be appropriated as input to neighbourhood analysis tools (such as LTP tools).

Illustration

Usage

This script assists the feature delineation tools by creating a buffer around the Input Raster. For targeted features with positive relief, the minimum value of the input DEM will be used for the artificial fence set by the buffer, whereas for negative targeted features, it will use the maximum value. This artificial fence should allow the delineation of landforms only partially captured within the dataset and that otherwise would be considered, by the "**Boundary-based Delineation**" tool, as unconfined.

If this tool is used, it must be followed by the "Filter and Clip" tool. Without it, the artificial containing fence will confine the full dataset and the delineation tools will be unable to recognise the targeted features. The "Filter and Clip" will introduce NoData pixels within the dataset that will prevent the delineation of the full dataset as one single confined feature.

The output DEM of this tool, i.e. the DEM with the confining fence, may not be appropriated as input to neighbourhood analysis tools (such as LTP tools). The extreme values at around the perimeter of the DEM will affect the derivative values near the boundaries of the raster layer. The impact of the extreme value will depend on the value range of the initial DEM and the size of the window of analysis set by the neighbourhood defined.

Syntax

Fencing_ (inputDEM, in_fill_direc, workspace, outRas)

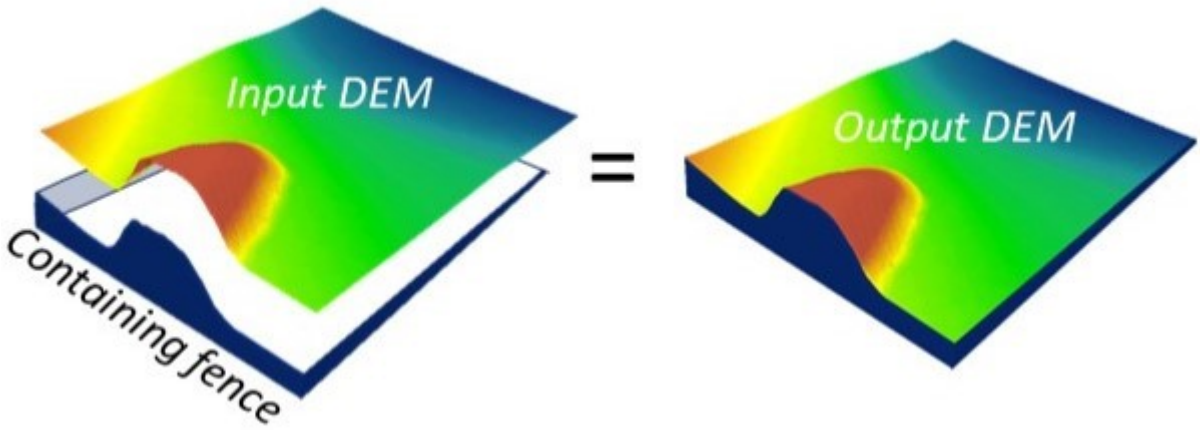
Parameter	Explanation	Data Type
inputDEM	Dialog Reference The DEM that will be used as input.	Raster Layer

	There is no python reference for this parameter.	
in_fill_direc	Dialog Reference The vertical relief of the targeted features will define the value used for the artificial containing fence. For positive features (e.g., mounds and drumlins), it will be the minimum value of the input DEM, whereas for negative features (e.g., pockmarks, sinkholes) it will be the maximum value of the input DEM. There is no python reference for this parameter.	String
workspace	Dialog Reference The location where the output raster will be stored. ***Geodatabases cannot be used in this version of the CoMMa Toolbox.*** There is no python reference for this parameter.	Workspace
outRas	Dialog Reference Output raster name. There is no python reference for this parameter.	String

Code Samples

There are no code samples for this tool.

Side-panel Help Illustration



Tags

Data Preparation; Pre-processing;

Credits

Arosio, R., Gafeira, J. & De Clippele, L. (2023) CoMMa Toolbox - Version 1.0 (https://github.com/ricarosio/CoMMa/tree/main)

Riccardo Arosio (University College Cork) and Joana Gafeira (British Geological Survey) conceived the original idea of the new ArcGIS Pro based on a previous toolbox created by Joana Gafeira, the BGS Seabed Mapping Toolbox (Gafeira, J., 2017). Riccardo Arosio wrote the Python scripts while Joana Gafeira and Laurence De Clippele performed extensive testing.
The tools development was mainly funded by INFOMAR through the Irish Marine Institute's research grant PDOC 19/08/03. The British Geological Survey and iAtlantic have also supported the creation of the toolbox.

Use limitations

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