

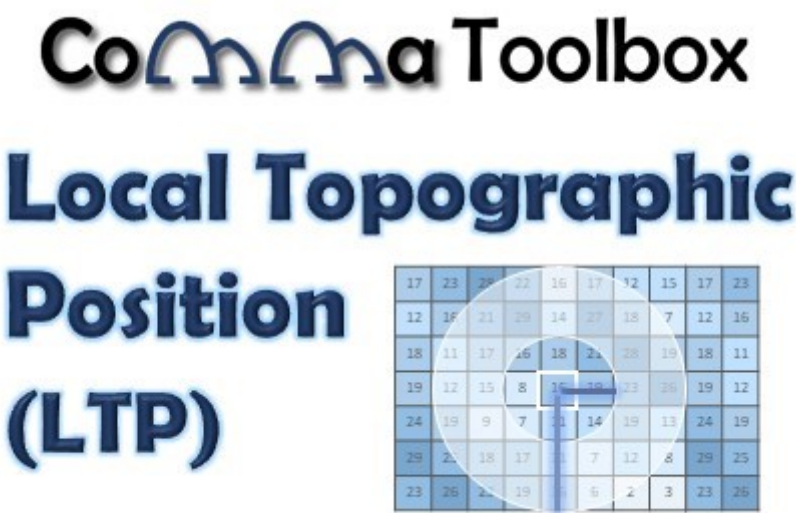
Median LTPs

Title Median LTPs

Description

The “**Median Local Topographic Position**” tool allows the calculation of local topographic position index metrics based on the absolute and relative median of the neighbourhood.

Illustration



Usage

The “**Median Local Topographic Position**” tool allows the calculation of the following local topographic position index metrics :

- **Median Bathymetry Position Index (M-BPI):** measures the vertical position of a pixel relative to the median elevation (M) of a user-defined neighbourhood.
- **Minimum Median Bathymetry Position Index (minM-BPI):** first calculates a minimum value surface running a convolution for a window defined as 1/4 of a user-defined neighbourhood. Subsequently, it measures the M-BPI of the minimised surface.
- **Maximum Median Bathymetry Position Index (maxM-BPI):** first calculates a maximum value surface running a convolution for a window defined as 1/4 of a user-defined neighbourhood. Subsequently, it measures the M-BPI of the maximised surface.
- **Directional Median Bathymetry Position Index (dirM-BPI):** divides a given filter circle into N “bow tie” sectors, allocates data points inside the filter circle to each sector based on their relative position within the circle, estimates a median for each sector, and returns the lowest of these N medians.

Syntax

MFil_calculator_ (inputDEM, filt_type, {inner_radius}, outer_radius, outRas)

Parameter	Explanation	Data Type
inputDEM	Dialog Reference	Raster Layer

The DEM that will be used as input.
There is no python reference for this parameter.

filt_type	Dialog Reference Type of position index to be calculated: <ul style="list-style-type: none">• Median Bathymetry Position Index• Minimum Median Bathymetry Position Index• Maximum Median Bathymetry Position Index• Directional Median Bathymetry Position Index There is no python reference for this parameter.	String
inner_radius (Optional)	Dialog Reference The Inner radius of the annulus-shaped neighbourhood, that will be included in the LTP calculation. This can also be referred to as skip distance and is the distance in cells to the internal circle, after which the cell values will be included in processing the neighbourhood. There is no python reference for this parameter.	Long
outer_radius	Dialog Reference The outer radius of circle or annulus-shaped neighbourhood, that will be included in the LTP calculation. This can also be referred to as search distance and is the distance in cells to the external outline circle, after which the cell values will not be included in the analysis neighbourhood. There is no python reference for this parameter.	Long
outRas	Dialog Reference Output raster name. There is no python reference for this parameter.	Raster Dataset

Code Samples

There are no code samples for this tool.

Tags

Data Preparation

Credits

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

CoMMa Toolbox may be freely distributed, modified and used commercially under the terms of its GNU LGPLv3 license.

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