

Drumlin Extraction Toolbox for ArcGIS (v1.0)

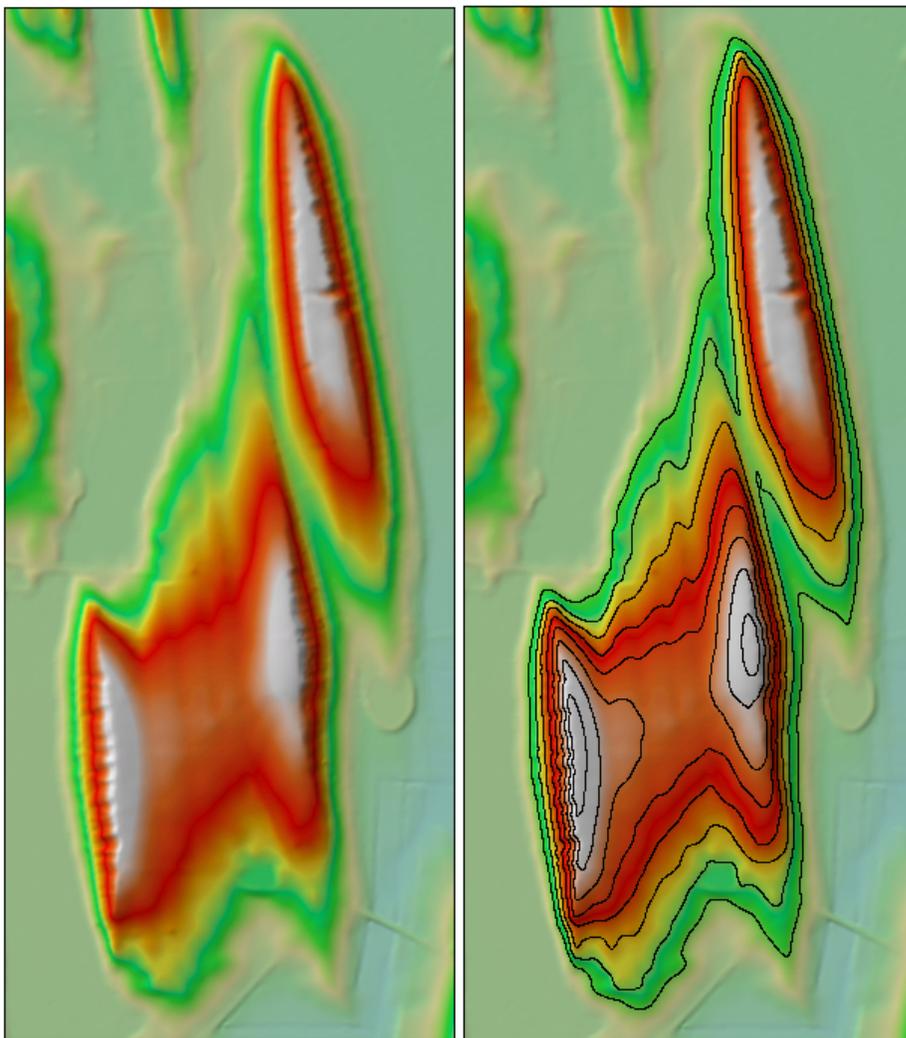
About this document

This document provides details on a drumline extraction toolbox that delineates hierarchical drumlins from a LiDAR DEM using a contour tree algorithm. Geometric properties such as drumlin size, height, length, width, volume, etc., can also be derived. The program has been tested on ArcGIS 10.4.1 with numpy v1.11.3.

NOTE: This program is for testing purposes, and subject to change. Please send feedback to Dr. Qiusheng Wu (<https://wetlands.io>)

Data

1-m LiDAR DEM and shaded relief.



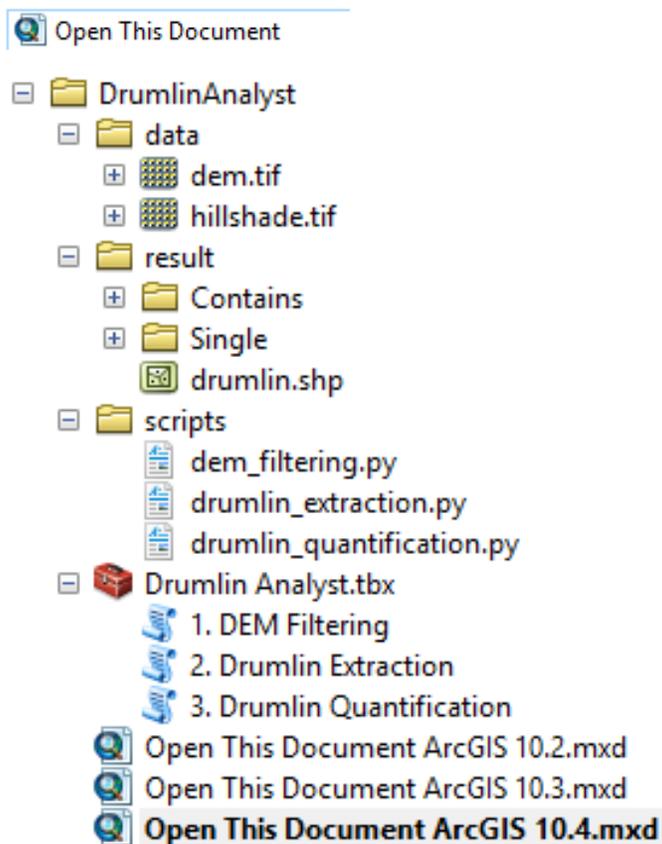
Usage

Given below are instructions on how to derive hierarchical drumlins using the toolbox.

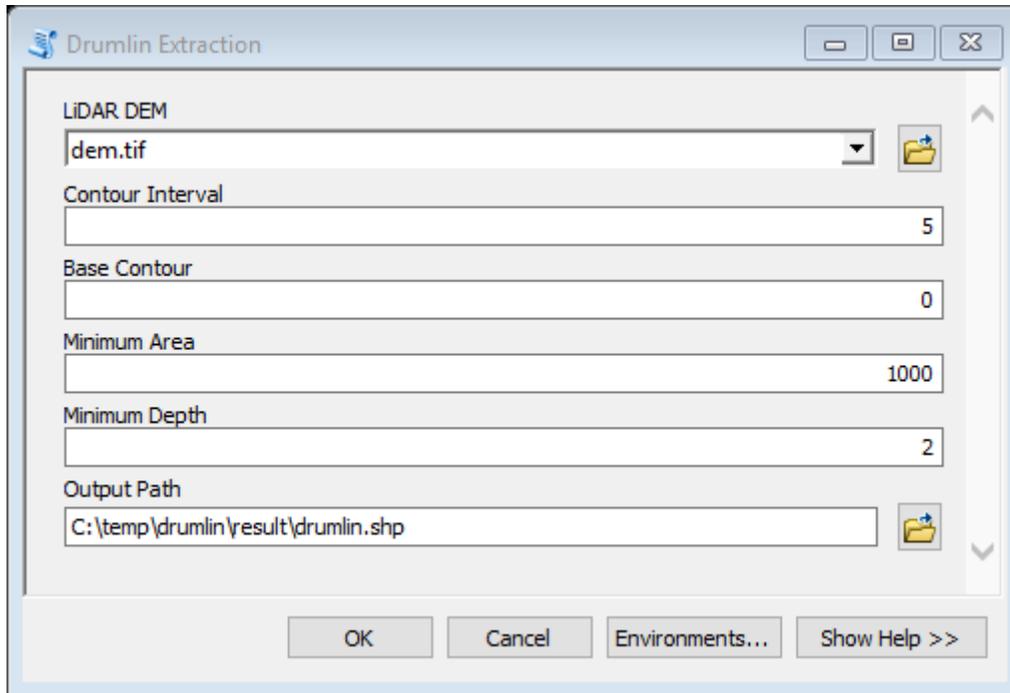
- **Toolbox file structure**

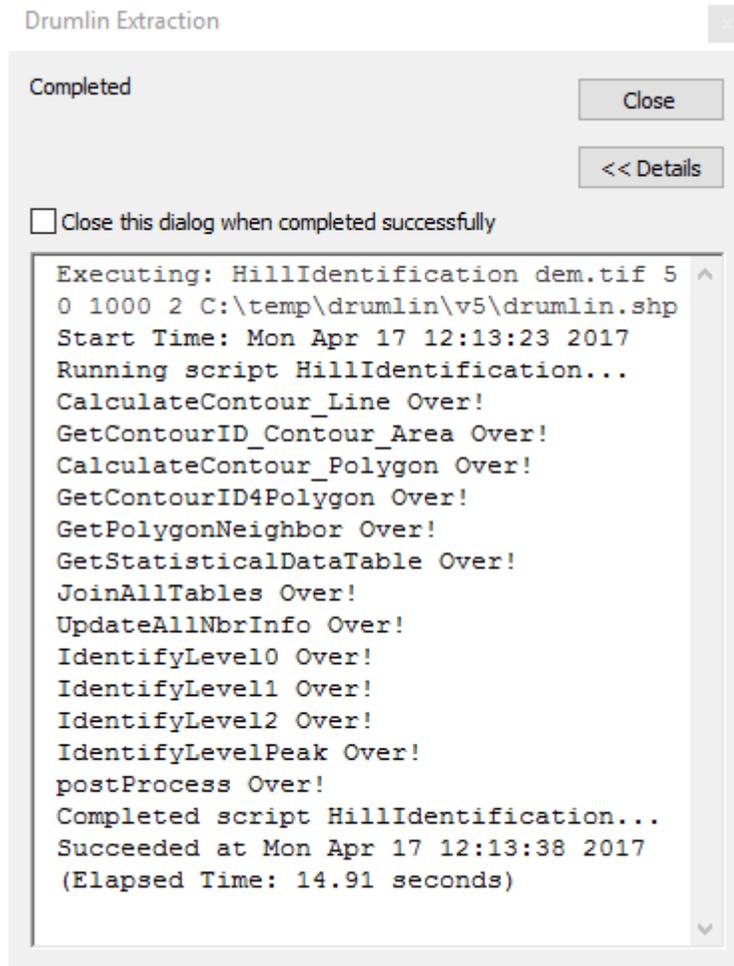
Name	Date modified	Type	Size
data	6/5/2017 3:47 PM	File folder	
result	6/5/2017 3:47 PM	File folder	
scripts	6/5/2017 3:47 PM	File folder	
Drumlin Analyst.tbx	6/5/2017 3:42 PM	ArcGIS Toolbox	33 KB
Open This Document ArcGIS 10.2.mxd	6/5/2017 3:50 PM	ArcGIS ArcMap D...	297 KB
Open This Document ArcGIS 10.3.mxd	6/5/2017 3:50 PM	ArcGIS ArcMap D...	297 KB
Open This Document ArcGIS 10.4.mxd	6/5/2017 3:50 PM	ArcGIS ArcMap D...	297 KB
Tutorial.docx	6/5/2017 3:42 PM	Microsoft Word D...	908 KB

- **Open the ArcMap Document.** The testing data and toolbox should be automatically loaded.

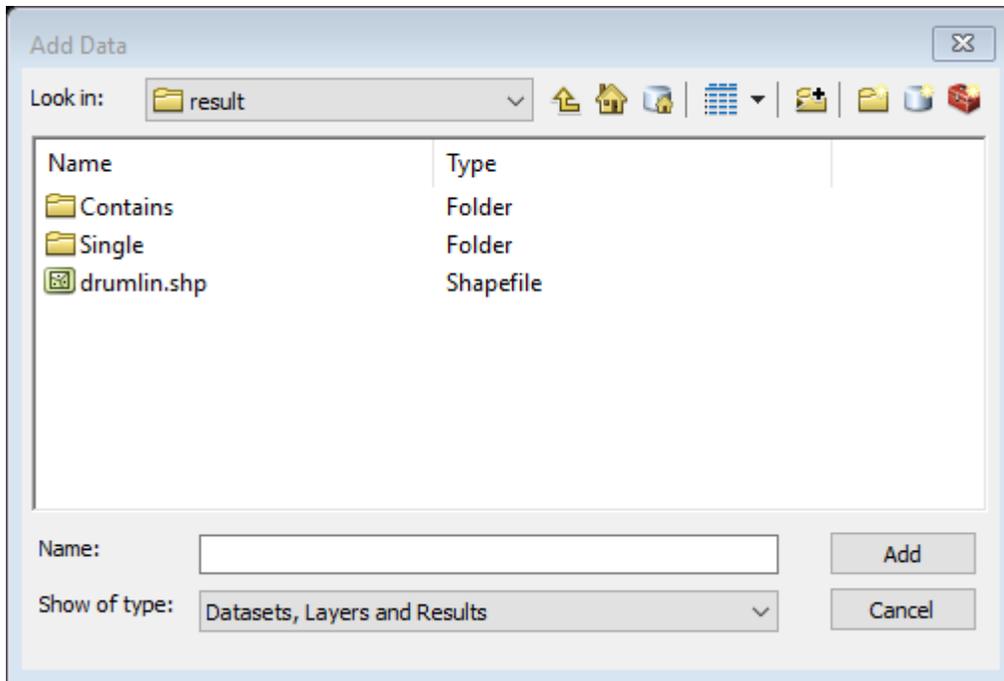


- **Extract drumlin hierarchy.** The results can be saved as Shapefile or Geodatabase Feature Dataset.

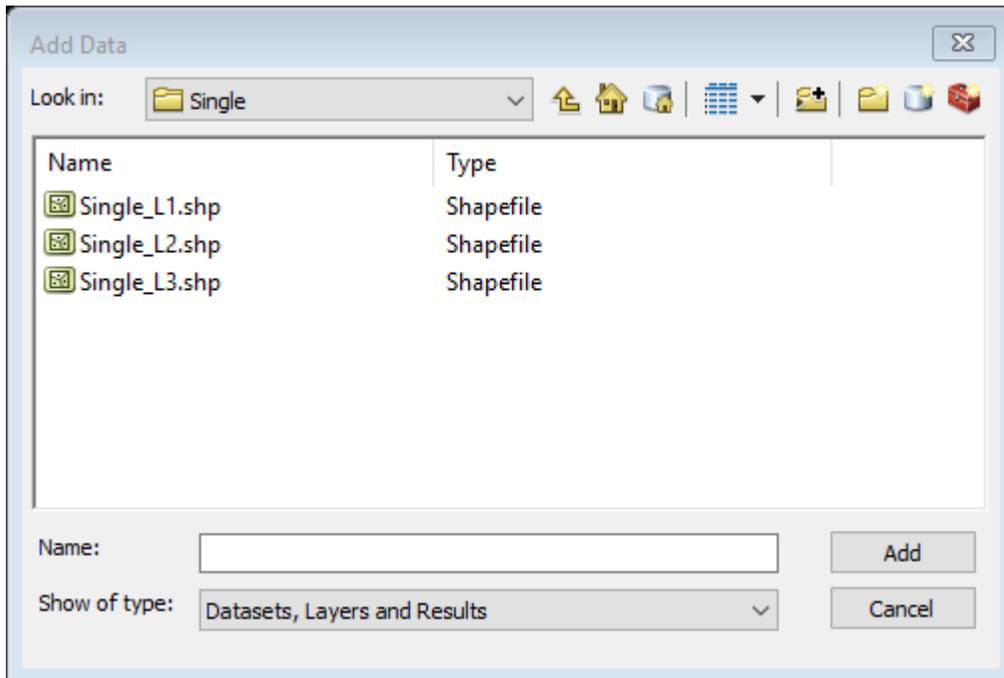




- Drumlin extraction results.



- **Polygons for each individual drumlin level**



- **Polygons for combined drumlin levels.** For example, Contain_L2.shp is the union of Single_L1.shp and Single_L2.shp, Contain_L3.shp is the union of Contain_L2.shp and

Single_L3.shp, and so on.

