

# Explaining the variables required to run the ‘Figure 5’ script and ‘pABRASIONmodel’ package

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## 1 Introduction

This file is part of a GitHub repository ([github.com/clavarini/lavarini\\_et\\_al\\_2018a](https://github.com/clavarini/lavarini_et_al_2018a)) from a research paper written by Lavarini et al. [2018 a]. The reader can find an illustrative version of the files required to run the ‘Figure5.py’ script as well as the ‘pABRASIONmodel’ package. The reason why there are only illustrations rather than the files themselves is the impossibility of uploading files larger than 25 MB on GitHub.

All files used in the code are from the Marsyandi river watershed, Himalaya, and is freely available in ‘[opentopography.org](https://opentopography.org)’.

### 1.1 Elevation file

The elevation file used in our work has a \*.dbf file extension (Table 1). It was originally a 90 m SRTM DEM that was later converted to \*.dbf in ArcGIS 10 environment. The data used in the code is structured as follows:

Table 1: Example of an elevation file used. grid\_code represents elevation, x and y are north and east axis in UTM coordinates.

grid_code	x	y
6290	225453	3200248
6238	225363	3200158
6266	225453	3200158
6237	225543	3200158

### 1.2 Flow accumulation file

The flow accumulation file used in our work has a \*.dbf file extension (Table 2). It was extracted from the same SRTM DEM in ArcGIS 10 environment. The data used in the code is structured as follows:

Table 2: Example of a flow accumulation file used. grid\_code represents flow accumulation, x and y are north and east axis in UTM coordinates.

grid_code	x	y
0	225453	3200248
0	225363	3200158
0	225453	3200158
0	225543	3200158

### 1.3 Lithology file

The lithology file used in our work has a \*.dbf file extension (Table 3 ). It was extracted from the same SRTM DEM in ArcGIS 10 environment. The data used in the code is structured as follows:

Table 3: Example of a lithology file used. grid\_code represents elevation, x and y are north and east axis in UTM coordinates, and RASTERVALU is the code assigned to each lithology (as there are 5 lithologies, the numbers range from 1 to 5).

grid_code	x	y	RASTERVALU
6290	225453	3200248	1
6238	225363	3200158	1
6266	225453	3200158	1
6237	225543	3200158	1

### 1.4 Flow length file

The flow length file used in our work has a \*.dbf file extension (Table 5 ). It was extracted from the same SRTM DEM in ArcGIS 10 environment. The data used in the code is structured as follows:

Table 4: Example of a flow length file used. grid\_code represents flow length, x and y are north and east axis in UTM coordinates.

grid_code	x	y
0	225453	3200248
0	225363	3200158
0	225453	3200158
0	225543	3200158

## 2 Reference

C. Lavarini, M. Attal, C. A. da Costa Filho and L. Kirstein, 2018, Does pebble abrasion influence detrital age population statistics? A numerical investigation

of natural datasets, Journal of Geophysical Research: Earth Surface, submitted.