User Manual for the python module *CalMorph*

-> The function **CalMorph.py** is an user-developed module and calculates a set of morphometric properties of a drainage basin.

-> Though user should have a basic knowledge of python, the function can be used nonetheless by following the steps listed below and referring the screenshots in the *Illustrations.docx* file.

-> The main file **CalMorph.py** can act as a module, which has be called every time any of the functions in the module are to be used. The file has to be saved in the directory where default python (version 2.7 or higher) classes and modules for ArcGIS desktop version 10.1 or higher, is installed and saved in your system. In our system, it is C:\Python27\ArcGIS10.2.

(**Note**: The module can only be imported and used iff it is saved properly)

-> Before using the function user has to correctly delineate a drainage basin and extract corresponding DEM file using the shape of the basin. Along with that, user has also to prepare the flow direction, flow accumulation, stream order and stream feature file from that specific DEM. The methods are pretty standard and are available in Arcmap->Spatial Analyst->Hydrology toolbox.

-> Following are the step by step details for using one of the function *StrCount* from **CalMorph.py**, which can be used to calculate the number of streams corresponding to each Strahler order. For the screenshots of the steps, please refer the *Illustrations.docx*.

1. Open the python window in the Arcmap.
2. Import the module **CalMorph**.
3. For the function *StrCount*, only one input parameter is required, i.e. the stream feature layer.
4. The function returns a python dictionary (refer *Illustrations.docx*), whose keys and items are the Strahler orders and corresponding stream frequencies respectively.