The purpose of this project is to automate TOPNET data preparation steps in R. Series of R script will automate the whole work.

***Watersheddelineation.R:***

Input:

1. DEM,
2. outlet shape file

Output:

1. Delineated Watershed
2. Wetness index and distance distribution in a txt file(distribution.txt)
3. reachlink,nodelink,reachareas and reach properties information in a txt file (rchlink.txt,nodelink.txt,rchareas.txt,rchproperties.txt)
4. basin parameter information in a txt file (basinpars.txt)

Process summary:

***Soildata.R:***

Input:

1. Delineated watershed (generated from Watersheddelineation.R)

Output:

1. soil properties ( ksat, dth1,dth1,soildepth etc) map in tif format

Process summary:

***Climatedata.R:***

Input:

1. Bounding box of the watershed

Output:

1. Time series of rainfall, temperature(max, min, dew) in a txt format

***Parameterfile.R:***

Input:

1. annual rainfall, rain gauge shape file

Output:

1. rainweights for each of the basin in watershed
2. Copied watermanagement file and all other input files in TOPNETRUN folder

***TOPNET\_RUN.R***

Input:

1. All input parameters

Output:

1. TOPNET model output
2. Visualize results in different plot