Outline Overview of TREX Set-Up Guides

01. Data Resources and Data Acquisition Procedures

1. Digital Elevation Model and land cover data
2. Soil data
3. Hydrography data
4. Imagery
5. Stream geometry
6. Precipitation
7. Other information and data sources

02. Common GIS Operations

1. Clipping data to a mask
2. Raster to ASCII Conversion (to export data as an input to TREX)
3. ASCII to Raster Conversion (to visualize TREX files in the GIS)

03. Watershed Delineation

1. Preprocess raw DEM data
2. Create a depressionless raster
3. Flow direction
4. Flow accumulation
5. Watershed outlet – Pour Points
6. Watershed delineation
7. Clipping data
8. Create watershed mask raster

04. Stream Network Delineation

- *DEM-Based (Topographic) Approach*

    1. Fill pits
    2. Calculate D8 flow direction
    3. Calculate D8 contributing area
    4. Calculate grid network and flow path lengths
    5. Calculate stream network raster
    6. Stream reach and watershed grid

- *Hydrography-Based Approach (Imposing Stream Lines onto a Watershed)*

    1. Create stream line raster.
    2. Create "Deep Canyon" raster
    3. Calculate flow directions for "Deep Canyon" raster
    4. Create flow path raster using deep canyon raster divided by stream lines raster
    5. Fill pits using flow path raster as the optional inputs
    6. Calculate D8 flow direction using the verified flow path grid as the optional inputs
    7. Calculate D8 contributing area
    8. Calculate grid network and flow path lengths
    9. Calculate stream network raster
    10. Stream reach and watershed grid

05. Link and Node Grid File Generation

1. Program purpose and general description
2. Description and organization of Input File
3. Program sequence and dependencies in GIS processing for TREX Input
4. Program execution
5. Program and source code

6. Additional resources
7. References
8. Contact Information

06. Channel Properties File Generation

1. Program purpose and general description
2. Description and organization of Input File
3. Bank height adjustment
4. Program sequence and dependencies in GIS processing for TREX Input
5. Program execution
6. Program and source code
7. Additional resources
8. References
9. Contact Information

07. Soil Reclassification

1. Add soil data downloaded from NRCS Soil Mart to workspace.
2. Clip soil data to watershed boundary
3. Convert soil shape file to raster grid
4. Reclassify soil data

08. Land Use Reclassification

1. Add land use DEM downloaded from NED to workspace.
2. Clip land use data to watershed boundary:
3. Resample land use raster
4. Reclassify land use data

09. Get_Precip Preprocessor (Precipitation Data Formatting Procedures)

10. Time Series Input

11. Creating a TREX Executable File for Windows

1. Launch the Visual Studio (.Net or Express) application.
2. Create a new project.
3. Choose a project type and template.
4. Select the project settings.
5. Add source code files to the project.
6. Add header files to the project.
7. Select the project configuration.
8. Delete one of the trex-*.c files from the list of source files
9. Build an executable.
10. Set the working directory for program operation within Visual Studio