Processing Elevation Data

- The reason we process elevation data for hydro work is because of limitations in dates, it is static, does not evolve, matching to linear line work due to scale, processing errors, interpretation errors, lack of ground truth, and artificial versus real peaks and sinks.
- Line work or streams comes from the USGS hydrography website.
- High resolution NHD is the 1:24K linework.
- Braids or artificial paths from NHD will not match the elevation data.
- Sinks are depressions in the DEM where water gets trapped, it prohibits calculating future flow direction grid values.
- A sink occurs when all neighboring cells are higher than the processing cell, sometimes they are natural features!
- Flow direction assigns values to overland flow from the elevation surface.
- Flow accumulation allocates each cell with a drainage area total from the flow direction grid.
- The number of FAC cells multiplied by the cell size squared provides drainage area in meters squared.
- “Burning in of streams” to the DEM should only be done of mapping purposes and not for modeling true overland flow paths from the elevation.
- Matching drainage area to the start of streams can only be best done with field work calibration.

Student Notes:

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