

Notes on N-sink raster conversion

General Notes

- need two rasters
 - relative load/removal
 - * this will be the trick for all of this
 - * Q's idea for lakes:
 - All lake pixels == 0
 - outlet of lake (along artificial flowpath) has removal
 - flow path (are we doing this just for a single flow path or ALL possible flow paths)
- Use flow path to get load/removal values along flow path
 - First pixel is starting relative load
 - Convert to vector with [1] = initial load and [n] = end of flow path
 - use `cumprod()` to get total reduction
 - What to use for flow path?
 - * Can we force `gdistance::shortestPath()` some how?
 - * Might need to dig into TauDEM
- Other notes:
 - `raster::terrain()` returns flow direction
 - not clear if flow accumulation is available (won't need for individual path)
 - * `gdistance::accCost()` might work
- Output from tool
- a flow path with:
 - total removal
 - summarized removal by class
- Watershed map of removal from all possible flow paths
- Possible source datasets
- NHD Plus
 - Streams
 - Look for rasters
 - * Burnt in DEM
 - * See what's available.

Notes for 2017-11-21

- Look at NHD+ to see what data layers we can still
- flow direction
- what else is there?
- Want to use because streams already burnt into DEM.
- Works for US (fine for now)
- Jeff wants to work with existing ArcGIS server application to see what it does
- <http://clear.uconn.edu/projects/nsink/index.htm>
- Meet with Q to go over on Monday Nov 27.