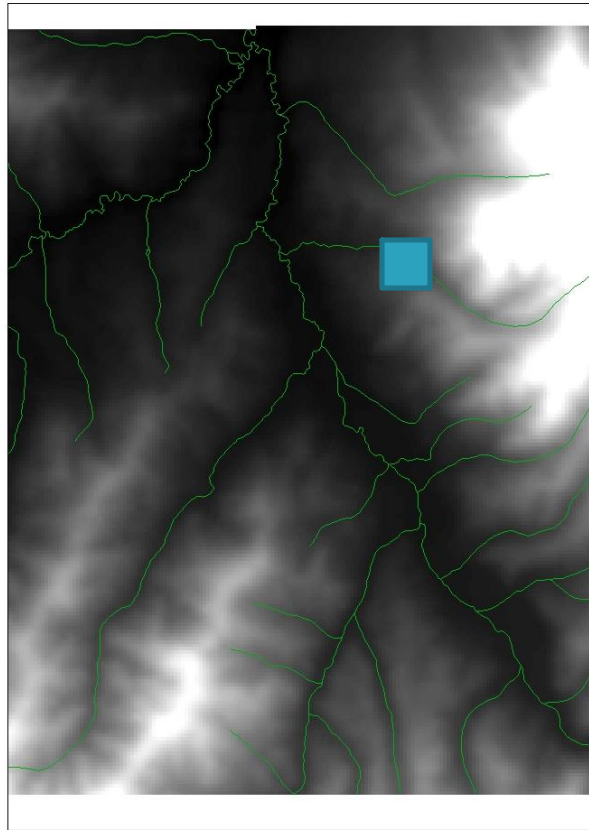


Watershed Delineation: Normalized Excavation

Daniel “smooth drop” Lyvers

Normalized Excavation:



■ = Localized area in which we set the customized excavation depth for each stream pixel to the topographic minimum.

The local area is set to a specific distance, say, 150 m. So, Normalization Distance(m)= 150. Find the minimum stream depth and set the local area portion of the stream to that depth.

If need be, you can adjust the Normalized excavation depth incrementally.

Ex.= excavation (smooth drop)
Depth (m) = (original elevation minus local minimum) + 2 or + 10. and compare to see if your needs are met.

This method helps resolve boundary distortions created in stream burning method. However, it does not solve parallel stream issue!

References

Baker, Matthew E., Jordan, Thomas E., Weller, Donald. 2006. *Comparison of Automated Watershed Delineations: Effects on Land Cover Areas, Percentages, and Relationships to Nutrient Discharge*.

Li, Z., Zhu, Q, Gold, C. 2004. *Digital Terrain Modeling: Principles and Methodology*. CRC Press.

Questions:

- 1) T/F Normalized excavation uses the minimum elevation of a local area for stream excavation.
- 2) Does Normalized Excavation correct the issue of parallel streams?
- 3) T/F Boundary distortions, as seen in stream burning, are resolved using Normalized Excavation?
- 4) Is it ever necessary to go beyond the minimum depth excavation when using the normalized excavation method?