Next steps

15 January, 2022

Contents

Simulate landscape patterns

- Implement function to calculate distance through GRASS
- Implement function to calculate density through GRASS, using r.mfilter and r.resamp.filter
- Appendix A: compare patterns (cum_inf vs nearest_inf) using focal and dist; parameters to be decided;
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- ~~Implement exp decay distance~~ - OK!
- ~~Calculate distance between points~~ - OK!
- Allow calc_dist to calculate distance for multiple parameters (different methods or different parameters for exp) - **not priority!**
- Set a reasonable set of landscapes to tell a history: from random to clustered, plus regular
  - ~~v1. log dist vs density~~; OK!
  - ~~v1.2 sqrt dist vs density~~; OK!
  - ~~v1.3 exp decay dist vs density~~; OK!
  - ~~v2. dist for all features, exp_decay dist, then min and sum~~; OK!
  - ~~v2.2 dist for all features, bartlett dist, then min and sum~~; OK!
  - ~~v3. exp_decay dist vs exp_decay filter~~; OK!
  - multiple scenarios with NLMR, H and a cutoff - then calculate nearest dist and focal
- Chat with Bram, 2021-12-13
  1) ~~Try script 2 with tent shape (Bartlett):~~
     ~~pmin(ZOI - linear decay, 0)/ZOI instead of distance decay~~; - OK!

2) Simulate script02 for different realizations (n.clusters, cluster.width), to have more variation in mean_isol and the other measures and a more clear relationship between them and the correlation;
3) Surface parameter, put a threshold to determine the number of pixels using NLMR (instead of using to define weights);

- ~~Simulate points and check correlation~~ - OK!
- See best form to represent this (using dist_points, or ZOI, or what)

Re-do analysis for reindeer GPS points

Write manuscript sections

Methods

- Conceptual part
- Landscape patterns
- Case study for reindeer

Notes

- xx % of the studies still use only the distance to the nearest feature. Many other (yy%) also use densities or spatial filters derived from the variables, with the main purpose of analyzing the scale of effect / ZoI of the infrastructure of variable (and possibly the joint effect at multiple scales). Here we present an additional reason for using desnity-related measures, which is the possibility to represent the cumulative influence of same-type infrastructure in space.
- We only do simulations for point infrastructure; it is harder to simulate real case scenarios for lines and polygons, but the insights from the point scenarios should hold true for these other cases.
- Maybe instead of saying that one measure is better than the other, the comparison distance vs cumm effect might be used to test if the effects of multiple infrastructure of the same type accumulate over space or not.