Disease metapop simulation

Test of persistence in bat populations

Goal: Using what data we have on Pteropus rufus population dynamics in the Mangoro River Valley and underlying transmission dynamics, can we generate pathogen persistence?

LITERATURE SEARCH

* Pathogen persistence in bat populations
* Bat disease dynamics
* Bat disease simulations

DATA:  
- subpopulation count

* Subpopulation connectivity from telemetry data

MODEL:

* Best SIR model from Brook et al

STEPS  
1. Understand how disease model works

2. make it stochastic

3. make it a metapopulation model

4. use telemetry data to figure out subpopulation connectivity

5. add subpopulation connectivity estimates into model

6. simulate!

- disease persistence

7. if persistence not achieved, tweak parameters to find persistance

STEP 1: Understand how the model works