Professional discussion on mathematics in ecology

- url: https://dynamicecology.wordpress.com/2014/10/20/what-math-should-ecologists-teach/

- “Here’s my list of topics that a very well-trained mathematical ecologist would need (beyond a 1st year calculus sequence):

1. Multivariate calculus simplified (partial derivatives, volume integrals)
2. Matrix algebra and eigenvectors
3. Dynamical systems (equilibrium analysis, cycling and chaos)
4. Basic probability theory and stochastic processes (especially Markov chains with brief coverage of branching processes and master equations)
5. Optimization theory focusing on simple calculus based optimization and Lagrange multipliers (and numerical optimization) with brief coverage of dynamic programming and game theory”

How computers help us

An equation published by me

$$\frac{1}{N_1}\frac{dN_1}{dt} = r_1 - \alpha_1 N_1^{\theta_1} + \beta_1 N_2$$

$$\frac{1}{N_2}\frac{dN_2}{dt} = r_2 - \alpha_2 N_2^{\theta_2} + \beta_2 N_1 .$$