

Example

Abstraction



Detail

$$\frac{dX(t)}{dt} = S(X, t) - C(X, t)X(t)$$

Nonlinear kinetics

$$\frac{dX(t)}{dt} = BU(t) - A\xi(t)KX(t)$$

Globally Fixed value

Static vegetation
distribution

$$f(\text{PFT})$$

Fixed value with
vegetation type

$$f(\text{DV})$$

$$f(\text{trait})$$

Level of complexity

- 1 Mass balance, Rate heterogeneity
Time-dependent drivers
- 2 Plant allocation, Environmental modifier,
Donor pool-controlled transfer
- 3 Mortality rate varies with plant
functional type (PFT)
- 4 Mortality rate varies with dynamic
vegetation (DV), such as ED, PPA, FATES
- 5 Connecting plant and microbial traits to
rate of mortality or decomposition

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