From: (Paniw, 2017; Merow, 2014, Ellner and Rees, 2016)

n(z,t): size distribution of adults in t

(1-p_b(z)): probability of not flowering according to size

s(z): probability survival according to size

G(z',z) probability of growing to size z' in t+1 according to size z in t

n(z',t+1): size distribution of adults in t+1

* Note: $1 - (goCont + goSB)$ is the fraction of year t seeds that die; i.e. do not go into the seedbank and do not germinate in year $t+1$

* Note: $1 - (outSB + staySB)$ is the fraction of year t seedbank seeds that die; i.e. do not go into leave or stay in the seedbank to year $t+1$

P_b(z): probability of flowering according to size

b(z): number of seeds produced according to size

goCont: probability of a seed produced in year t germinates to the continuous stage; (viab.rt * germ.rt)

c_0(z'): size distribution of new establishments in t+1

γ: fraction of seedbank seeds that leave the seedbank (**outSB**); (germ.rt * 0.9)

δ: fraction of year t seeds that go into the seedbank (**goSB**); (viab.rt * (1-germ.rt)

S_B: seeds that stay in the seedbank to year $t+1$ (**staySB**); (1-germ.rt)*decay.rt

B(t): size of seedbank in t

B(t+1): size of seedbank in $t+1$