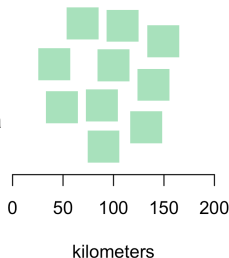
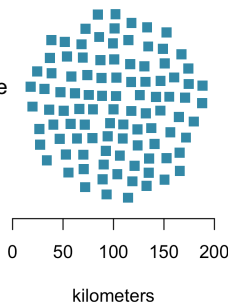


## (a) Simulation scenarios

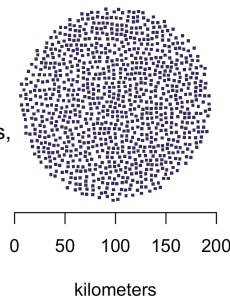
“Very large fire”  
scenario:  
10 fire events,  
each 100,000 ha



“Moderately large fire”  
scenario:  
100 fire events,  
each 10,000 ha

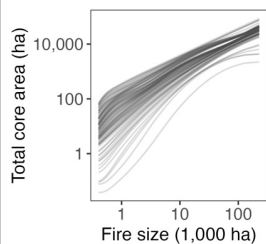


“Smaller fire”  
scenario:  
1,000 fire events,  
each 1,000 ha



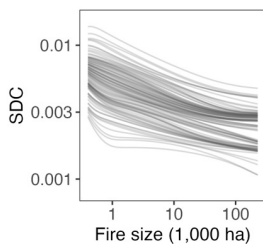
## (b) Core areas

Simulate core area  
 $core \sim qr(\text{fire size})$

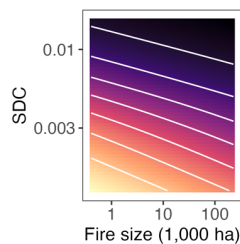


## (c) Distance-to-seed (DTS) distributions

Simulate SDC  
 $SDC \sim qr(\text{fire size})$

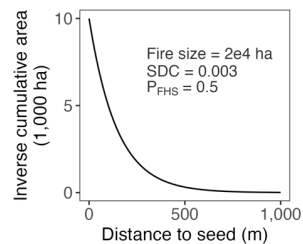


Simulate forested and high-severity proportion ( $P_{FHS}$ )  
 $PFHS_s \sim \text{gam}(SDC, \text{fire size})$



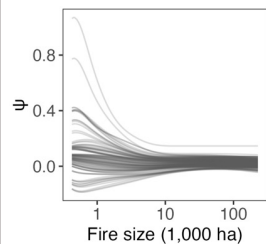
Calculate DTS distribution as area

$$A_{dts} = \frac{\text{fire size} \times P_{FHS}}{10SDC \times dts}$$

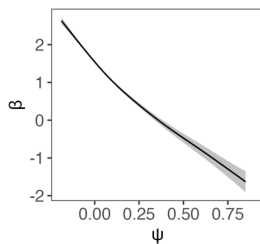


## (d) Patch size distributions

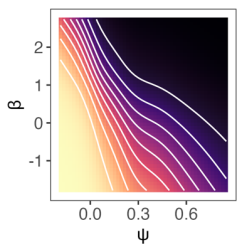
Simulate  $\psi$   
 $\psi \sim qr(\text{fire size})$



Simulate  $\beta$   
 $\beta \sim \text{gam}(\psi)$



Simulate high-severity proportion ( $P_{HS}$ )  
 $P_{HS} \sim \text{gam}(\psi, \beta, \text{fire size})$



Sample patches until total area equals high-severity area (fire size  $\times P_{HS}$ )  
 $p(x) \sim \text{tlnorm}(\psi, \beta, \text{fire size})$

