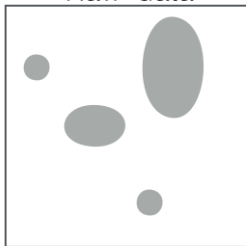
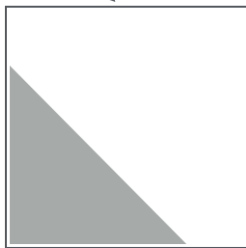
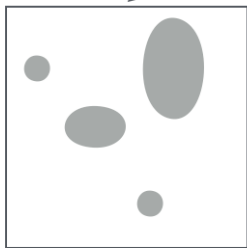


'Raw' data



retain raw data

convert to percent  
cover data



fit vital rate regressions  
(growth, survival, recruitment)

fit quad-based  
population model

*IPM*

*QBM*

validate with one-step-ahead forecasts  
(based on fits with forecast year excluded)

forecast future population states  
under perturbed climate