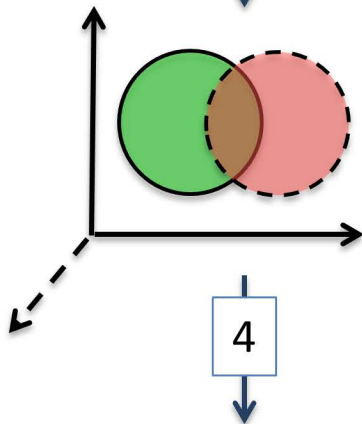
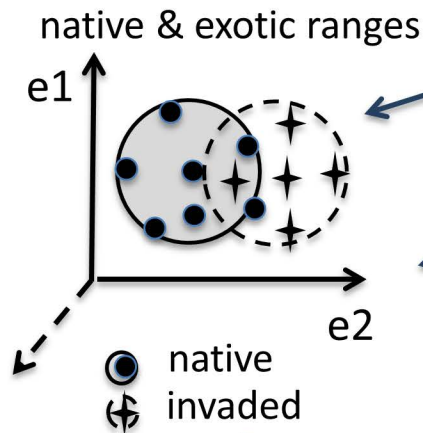


## Ordination



Niche change measures  
based on **observations**

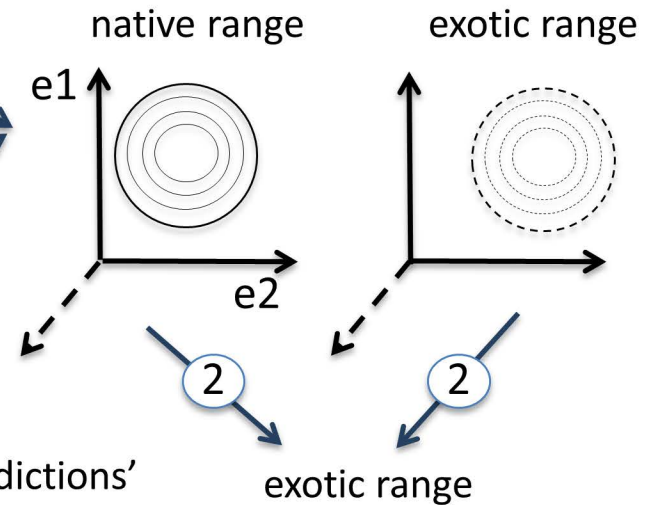
species  
observations

Environmental  
maps

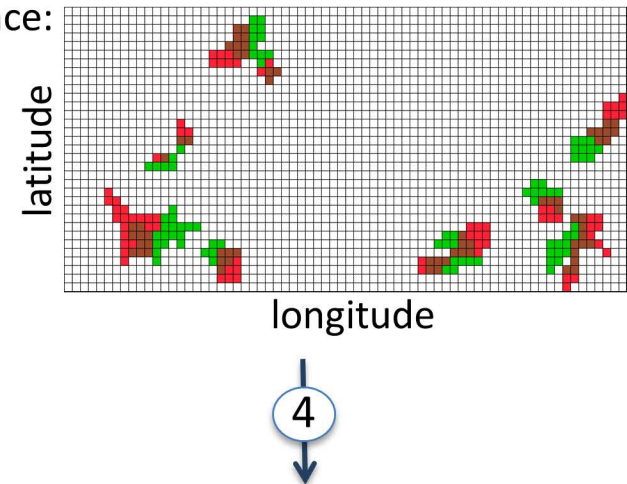
Identifying niche  
change components

- Unfilling ( $\upsilon$ )
- Stability ( $\sigma$ )
- Expansion ( $\epsilon$ )

## Reciprocal ENMs



3 Predictions'  
difference:



Niche change measures  
based on **spatial predictions**