

SESAM framework

STEPS

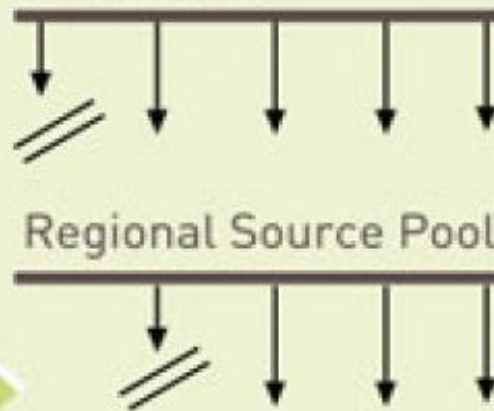
1 Species Source Pool (SSP)

2 Habitat suitability models (S-SDM)

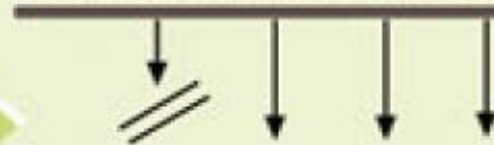
3 Macroecological constraints (MEM)

4 Ecological assembly rules (EARs)

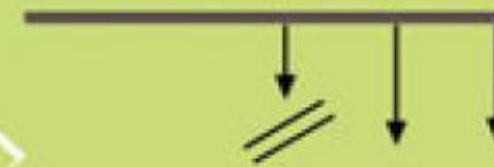
SPECIES PRODUCTION (global pool)



Regional Source Pool



Local Source Pool



REALIZED ASSEMBLAGE

of analytical unit

All species N

WORLD:
 2×10^5
plant species

Evolutionary history & Dispersal filtering (DF)

European Alps:
4500 species

$$N_1 = N - DF$$

Local study area:
800 species

Abiotic Habitat Filtering (HF)

$$N_2 = N_1 - HF$$

Alpine grasslands on
acidic bedrock:
80 species

Biotic Filtering (BF)

$$N_3 = N_2 - BF$$

Extant community:
50 species

How many species? Assumes community saturation

Which species?