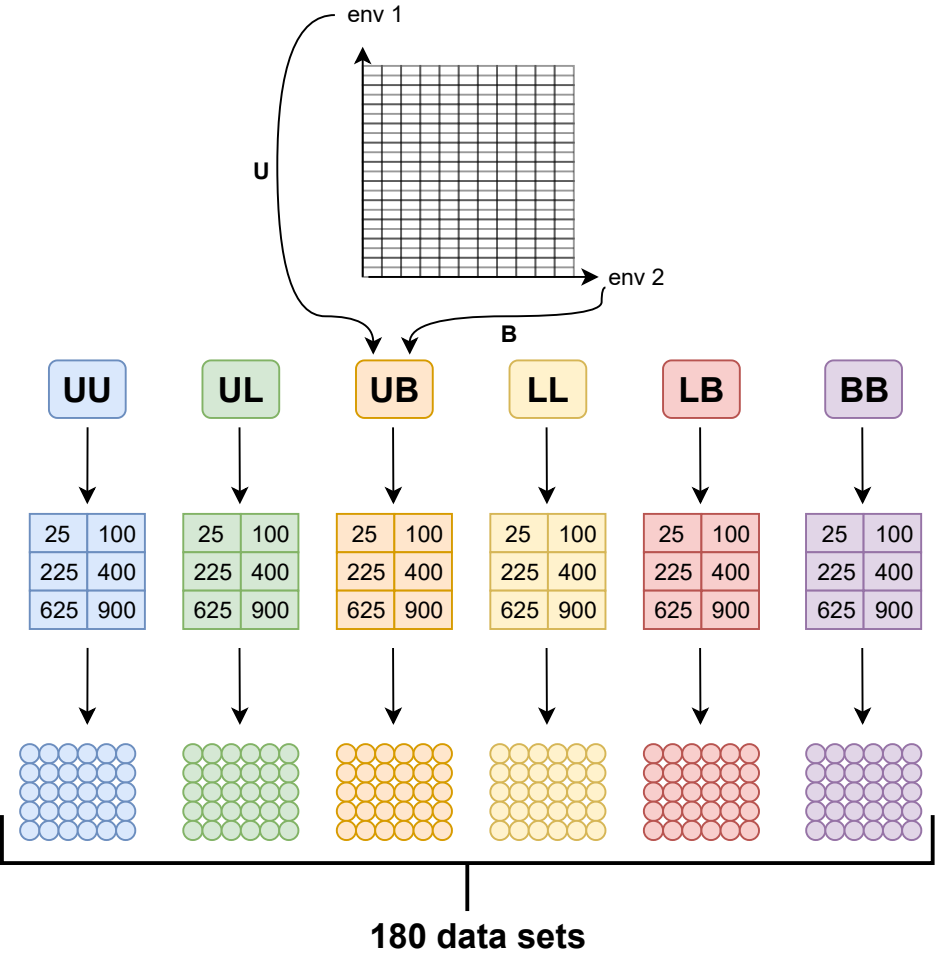

Environmental Gradients

The basis for this simulation are two environmental gradients: *env1* and *env2*. Both have 100 distinct values and together they span a grid of 10.000 unique combinations.

Simulated Communities

Communities consist of nine species all of which respond to both environmental gradients. Abundance responses to the gradients follow three shapes: unimodal (U), linear (L) or bimodal (B). Within one community all species show the same response shape to an environmental gradients. For all six resulting combinations, abundances were simulated for all 10.000 sites.

Sampled Communities

Each of the six communities is sampled with six different sample sizes, ranging from 25 to 900.

Noise Variables

For each of the 36 samples (6 communities x 6 sample sizes) five different matrices with environmental variables are created. They all have *env1* and *2* in common, but differ in the two randomly created noise variables, which are added to all.