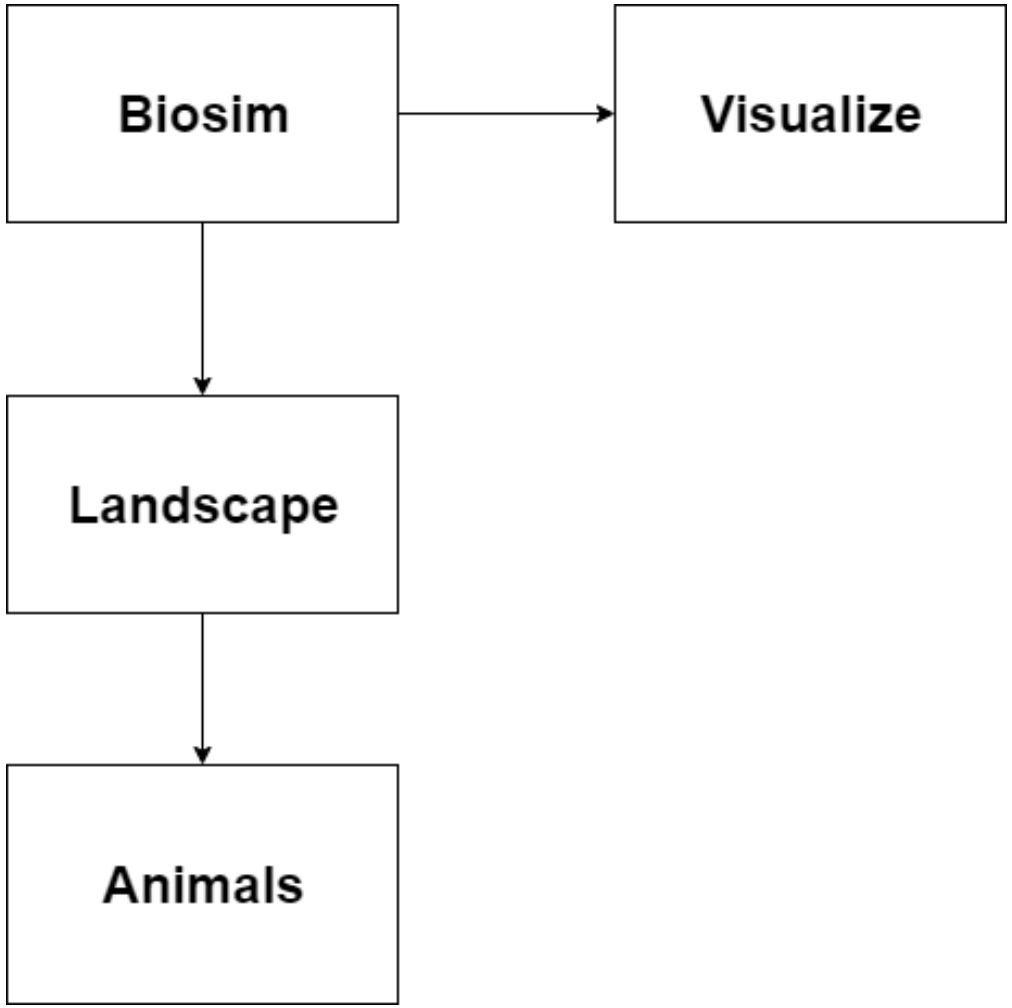
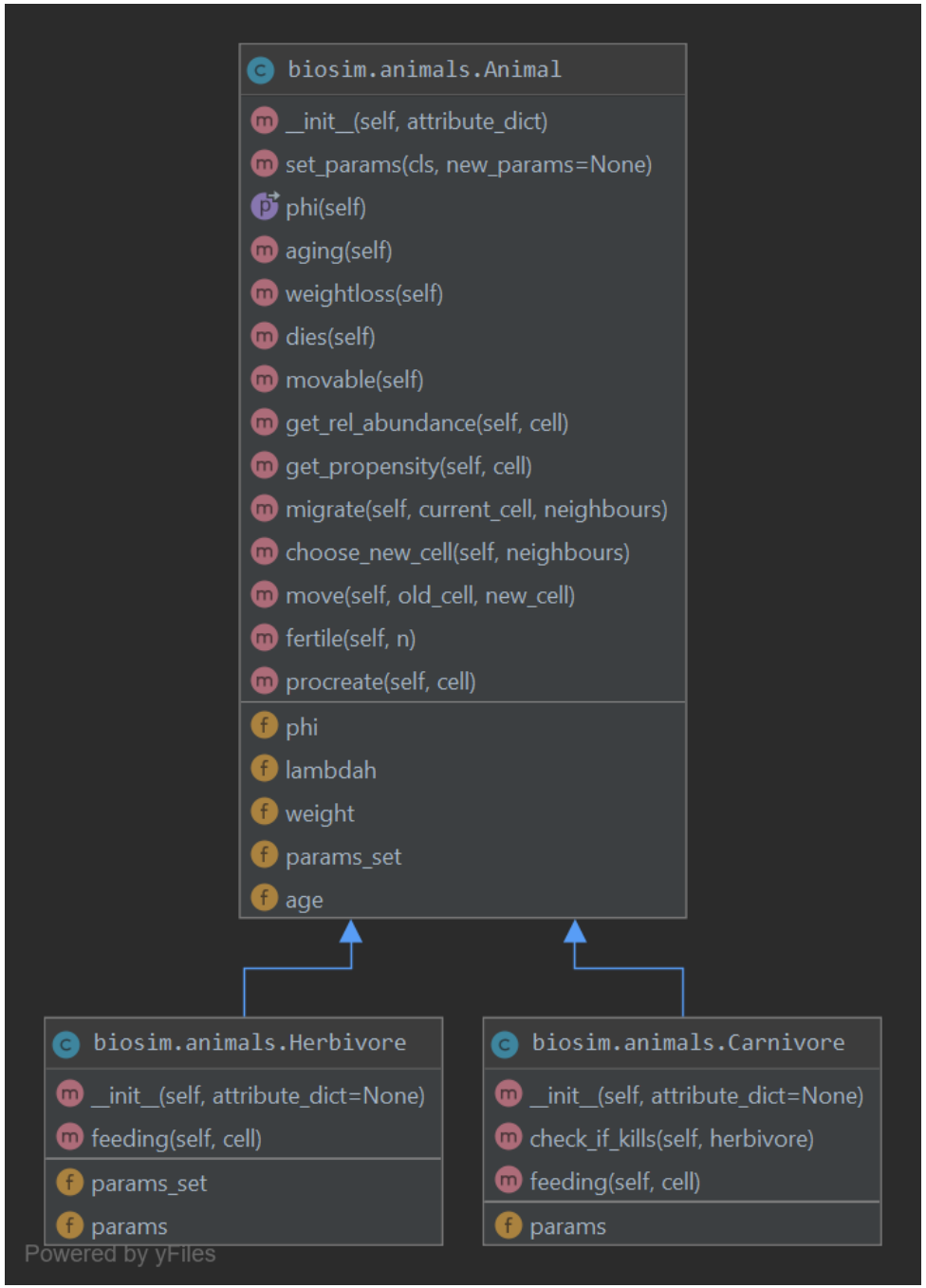
Modellering av økosystemet Rossumøya

Av Nina Mariann Vesseltun og Trude Haug Almestrand

Klasser



Animal:


biosim.animals.Animal
__init__(self, attribute_dict)
set_params(cls, new_params=None)
phi(self)
aging(self)
weightloss(self)
dies(self)
movable(self)
get_rel_abundance(self, cell)
get_propensity(self, cell)
migrate(self, current_cell, neighbours)
choose_new_cell(self, neighbours)
move(self, old_cell, new_cell)
fertile(self, n)
procreate(self, cell)
phi
lambdah
weight
params_set
age
biosim.animals.Herbivore
__init__(self, attribute_dict=None)
feeding(self, cell)
params_set
params
biosim.animals.Carnivore
__init__(self, attribute_dict=None)
check_if_kills(self, herbivore)
feeding(self, cell)
params
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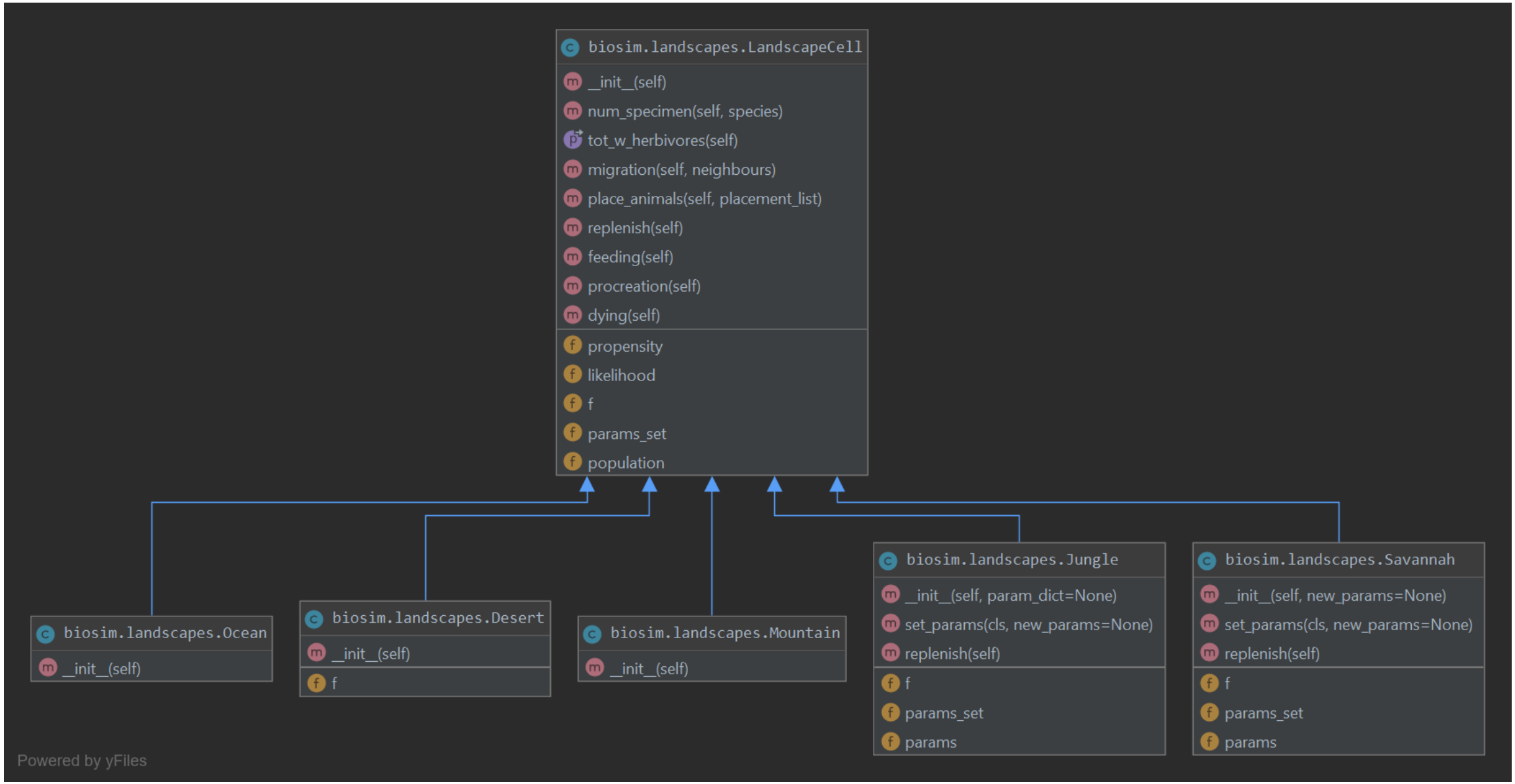
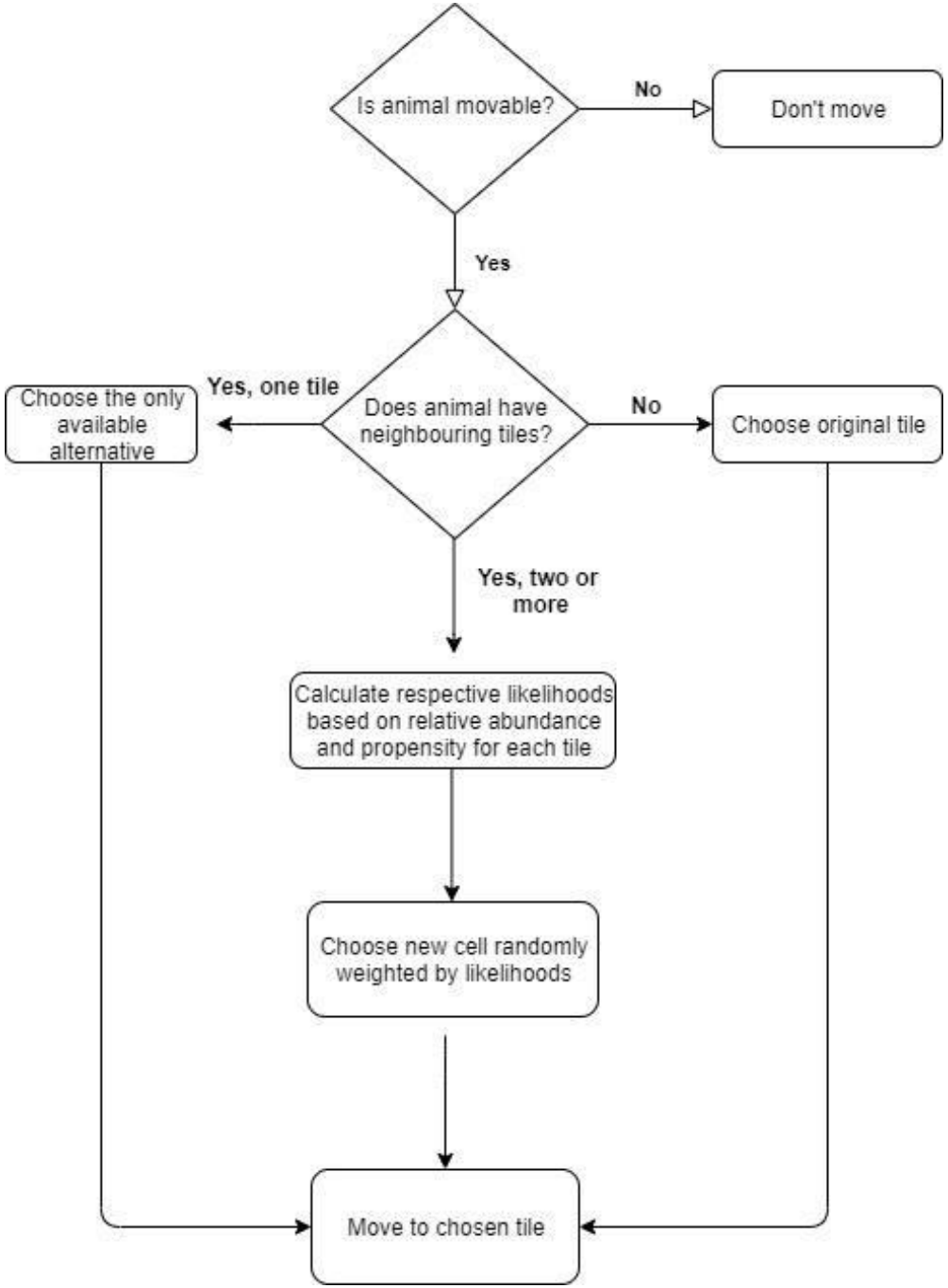
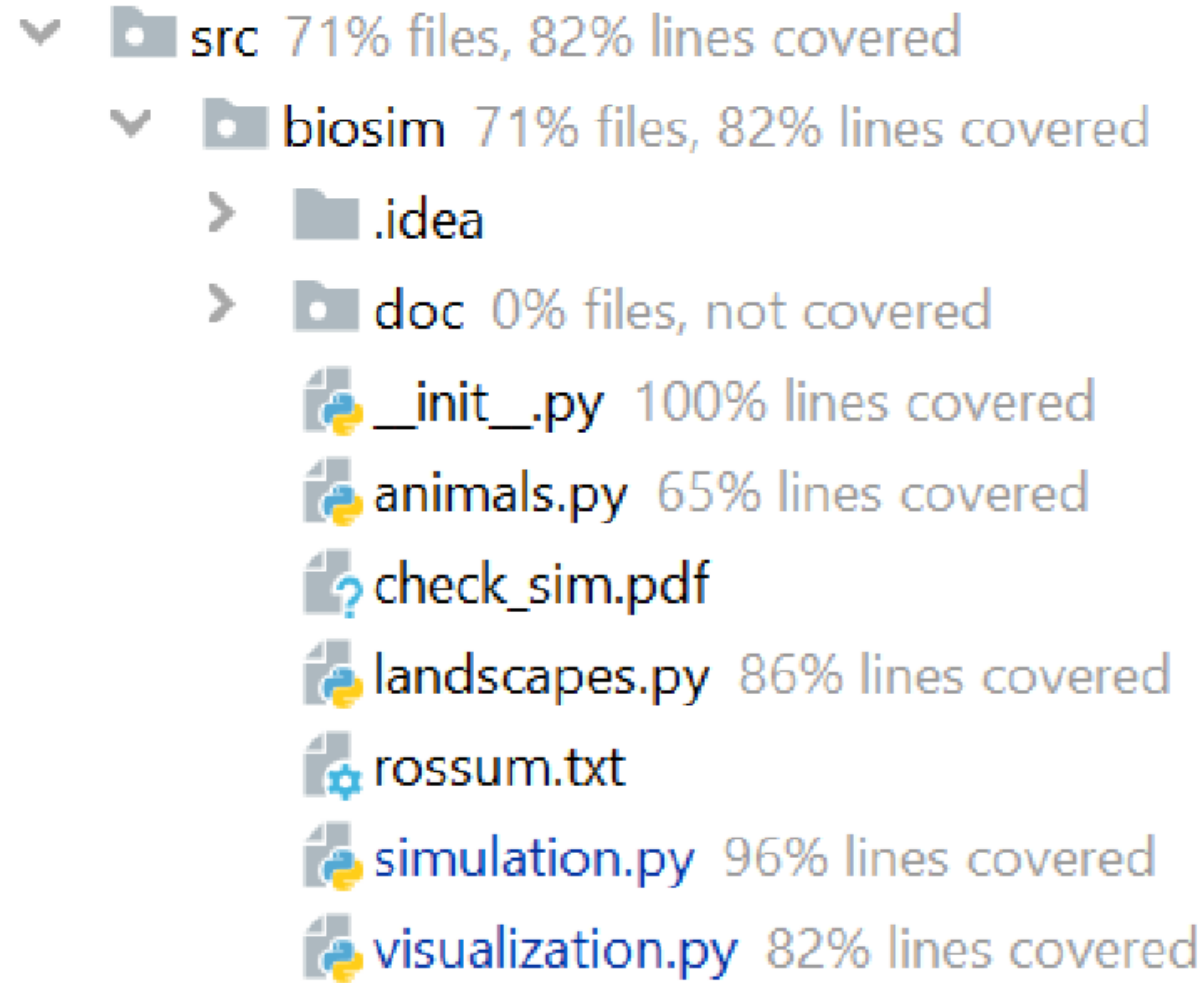
Landscape


biosim.landscapes.LandscapeCell
__init__(self)
num_specimen(self, species)
tot_w_herbivores(self)
migration(self, neighbours)
place_animals(self, placement_list)
replenish(self)
feeding(self)
procreation(self)
dying(self)
propensity
likelihood
f
params_set
population
biosim.landscapes.Ocean
__init__(self)
biosim.landscapes.Desert
__init__(self)
f
biosim.landscapes.Mountain
__init__(self)
biosim.landscapes.Jungle
__init__(self, param_dict=None)
set_params(cls, new_params=None)
replenish(self)
f
params_set
params
biosim.landscapes.Savannah
__init__(self, new_params=None)
set_params(cls, new_params=None)
replenish(self)
f
params_set
params
Powered by yFiles

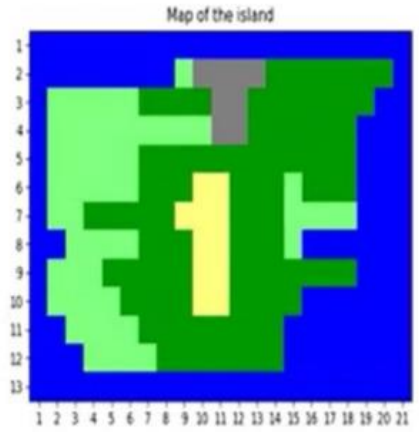
Migration

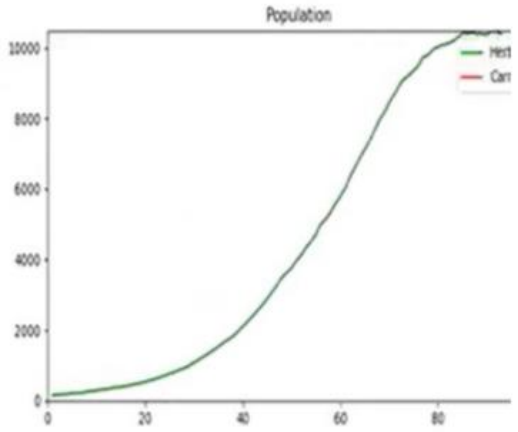

Is animal movable?
No
Don't move
Yes
Does animal have neighbouring tiles?
Yes, one tile
Choose the only available alternative
No
Choose original tile
Yes, two or more
Calculate respective likelihoods based on relative abundance and propensity for each tile
Choose new cell randomly weighted by likelihoods
Move to chosen tile

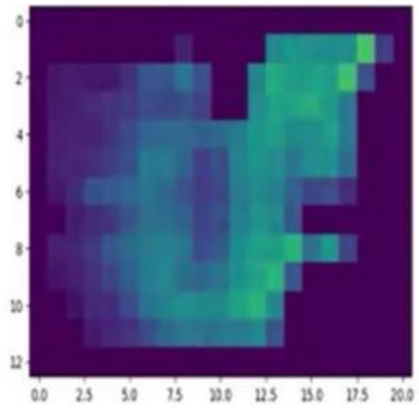
Testing


src 71% files, 82% lines covered
biosim 71% files, 82% lines covered
.idea
doc 0% files, not covered
__init__.py 100% lines covered
animals.py 65% lines covered
check_sim.pdf
landscapes.py 86% lines covered
rossum.txt
simulation.py 96% lines covered
visualization.py 82% lines covered

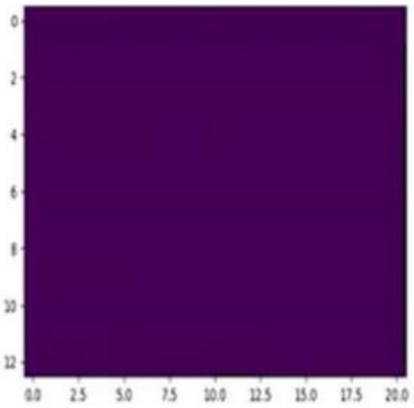
Visualisering



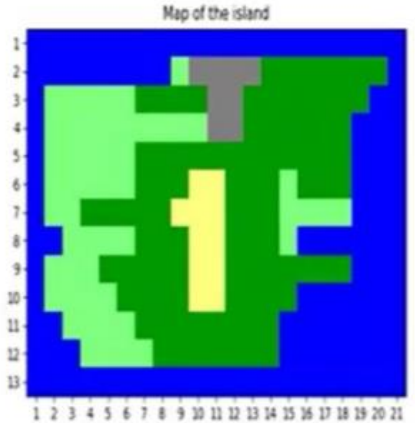


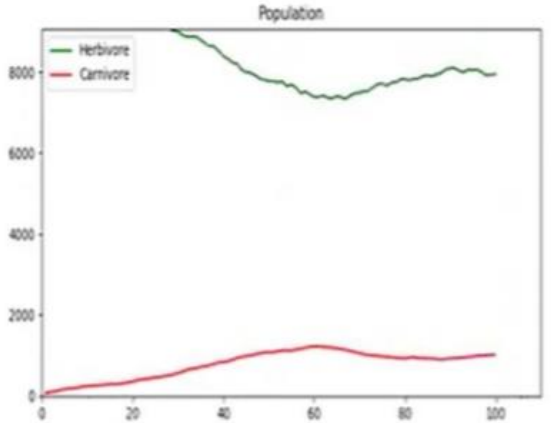


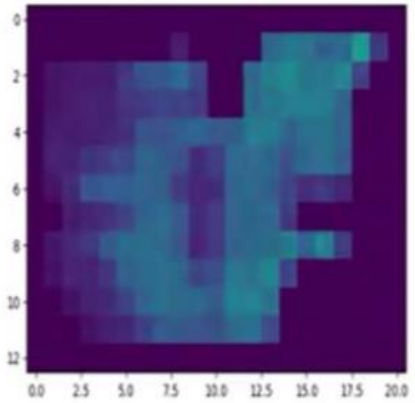
Herbivore density map



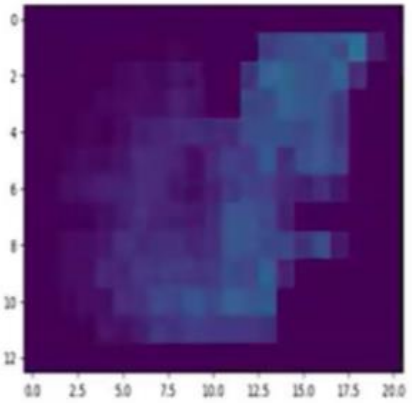
Carnivore density map





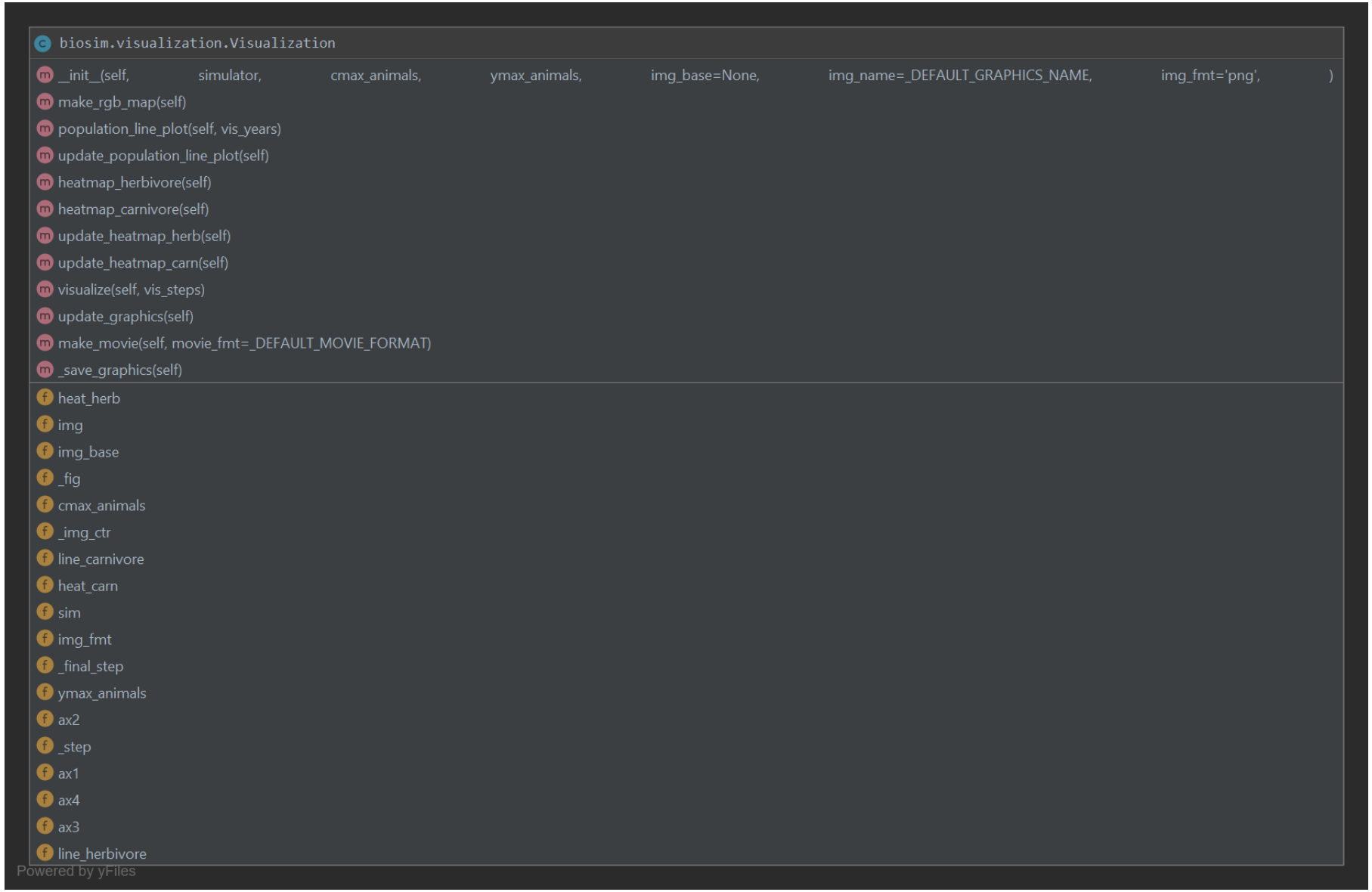


Herbivore density map

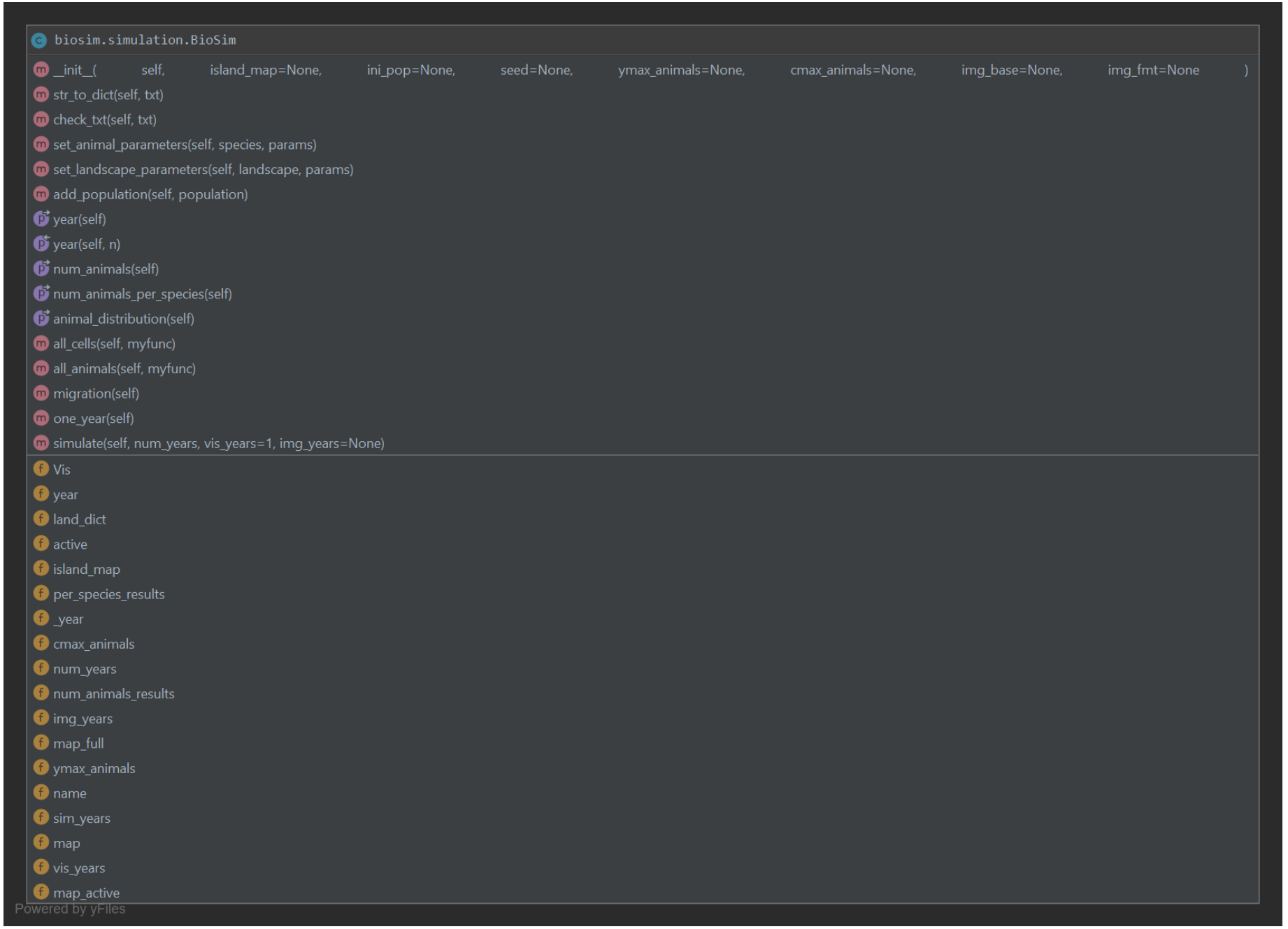


Carnivore density map

Visualisering



BioSim:


biosim.simulation.BioSim
__init__(self, island_map=None, ini_pop=None, seed=None, ymax_animals=None, cmax_animals=None, img_base=None, img_fmt=None)
str_to_dict(self, txt)
check_txt(self, txt)
set_animal_parameters(self, species, params)
set_landscape_parameters(self, landscape, params)
add_population(self, population)
year(self)
year(self, n)
num_animals(self)
num_animals_per_species(self)
animal_distribution(self)
all_cells(self, myfunc)
all_animals(self, myfunc)
migration(self)
one_year(self)
simulate(self, num_years, vis_years=1, img_years=None)
Vis
year
land_dict
active
island_map
per_species_results
_year
cmax_animals
num_years
num_animals_results
img_years
map_full
ymax_animals
name
sim_years
map
vis_years
map_active
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