Geo-sampling

This document walks you through different scenarios in the package.

First Scenario

First buffer around a road network then sample.

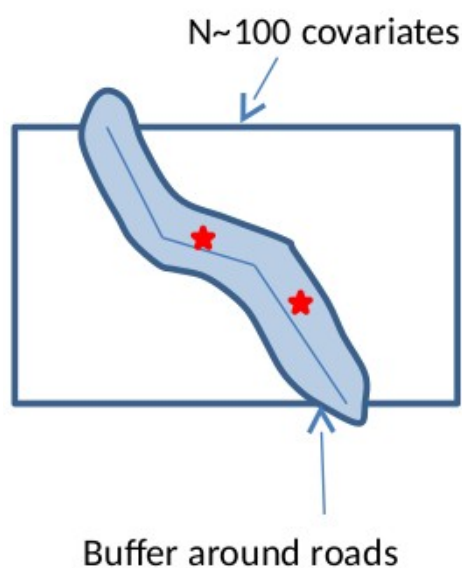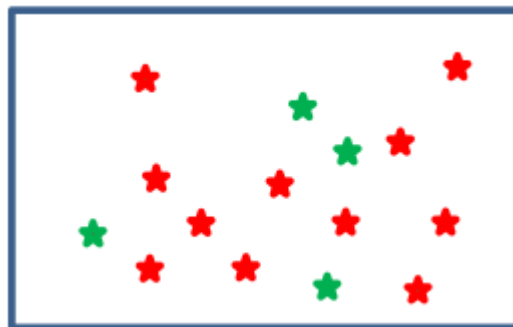```
46 lines (36 sloc)   2.45 KB   Raw   Blame   History   ✏ 🗑

  1   # A text file containing address of each input .tif covariate in one line (insert # in the begining of a line to exclude the cov
  2   covariate_file = "/home/masoud/GA_data/GA-cover2/sirsam_covariates_Na.txt" # For Sirsam dataset
  3   #covariate_file = "/short/ge3/jrw547/GA-cover2/sirsam_covariates_Na.txt" # For Sirsam dataset (in NCI)
  4   #covariate_file = "/g/data1a/ge3/john/jobs/national/geochem/RF_Wii/weathering_index_LHC.txt" # For national dataset
  5
  6   # Where your input data (shapefile) exist
  7   input_data = "/home/masoud/GA_data/GA-cover2";
  8   #input_data = "/short/ge3/jrw547/GA-cover2"
  9   #input_data = "/g/data/ge3/covariates/Sites/geochem"
 10
 11   exp_folder = "."   # Output folder. Where you want to store the results
 12   no_samples = c(32 , 64) # Number of output samples. Try different values or for example use seq(20,50,10) to have 20 30 40 50 s
 13
 14   source("buffer_Sample.R")
 15   source("sample_clhs.R")
 16
 17   #First scenario: Buffering along the roads and then sampling
 18   width = 0.005 # Buffer size
 19   road_shapefile_name = "Roads_Sir_Sam" # Line segments
 20   Buffer_Sample(covariate_file, input_data, road_shapefile_name, exp_folder, no_samples, width)
 21
 22   #Second scenario: Sample when target points are available
 23   #shapefile_name = "geochem_sites" # Traget points shapefile. It should be without extension.
 24   #shapefile_name = "NGSA_IM_TOS" # For national dataset
 25   #sample_clhs(covariate_file, input_data, shapefile_name, exp_folder, no_samples)
 26
```

## Second Scenario

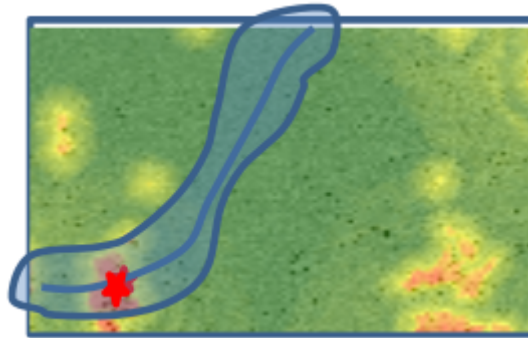Intersect the input covariates with existing target points then sample.



```
 16
 17   #First scenario: Buffering along the roads and then sampling
 18   #width = 0.005 # Buffer size
 19   #road_shapefile_name = "Roads_Sir_Sam" # Line segments
 20   #Buffer_Sample(covariate_file, input_data, road_shapefile_name, exp_folder, no_samples, width)
 21
 22   #Second scenario: Sample when target points are available
 23   shapefile_name = "geochem_sites" # Traget points shapefile. It should be without extension.
 24   #shapefile_name = "NGSA_IM_TOS" # For national dataset
 25   sample_clhs(covariate_file, input_data, shapefile_name, exp_folder, no_samples)
 26
 27   #Third scenario: Similar to the first scenario but with an existing model used for weighting the inputs
 28   #width = 0.005 # Buffer size
 29   #existing_model = "./sirsam_Na_original_prediction.tif"
 30   #road_shapefile_name = "Roads_Sir_Sam" # Line segments
 31   #Buffer_Sample(covariate_file, input_data, road_shapefile_name, exp_folder, no_samples, width, existing_model)
 32
 33   #Fourth scenario: Similar to the second scenario but with an existing model used for weighting the inputs
 34   #existing_model = "./sirsam_Na_original_prediction.tif"
 35   #shapefile_name = "geochem_sites" # geochem_sites_log Traget points
 36   #source("sample_clhs_existing_model.R")
 37   #sample_clhs(covariate_file, input_data, shapefile_name, exp_folder, no_samples, existing_model)
 38
```
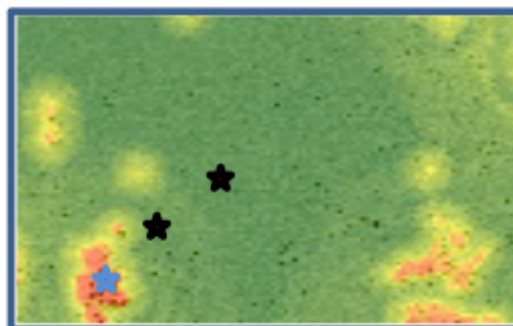
# Third Scenario

Similar to the first scenario but there is an existing prediction model for weighting.



```
16
17   #First scenario: Buffering along the roads and then sampling
18   #width = 0.005 # Buffer size
19   #road_shapefile_name = "Roads_Sir_Sam"  # Line segments
20   #Buffer_Sample(covariate_file, input_data, road_shapefile_name, exp_folder, no_samples, width)
21
22   #Second scenario: Sample when target points are available
23   #shapefile_name = "geochem_sites" # Traget points shapefile. It should be without extension.
24   #shapefile_name = "NGSA_IM_TOS"  # For national dataset
25   #sample_clhs(covariate_file, input_data, shapefile_name, exp_folder, no_samples)
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27   #Third scenario: Similar to the first scenario but with an existing model used for weighting the inputs
28   width = 0.005 # Buffer size
29   existing_model = "./sirsam_Na_original_prediction.tif"
30   road_shapefile_name = "Roads_Sir_Sam" # Line segments
31   Buffer_Sample(covariate_file, input_data, road_shapefile_name, exp_folder, no_samples, width, existing_model)
32
33   #Fourth scenario: Similar to the second scenario but with an existing model used for weighting the inputs
34   #existing_model = "./sirsam_Na_original_prediction.tif"
35   #shapefile_name = "geochem_sites" # geochem_sites_log Traget points
36   #sample_clhs(covariate_file, input_data, shapefile_name, exp_folder, no_samples, existing_model)
37
```

Fourth Scenario

Similar to the second scenario but there is an existing prediction model for weighting.

```
21 
22  #Second scenario: Sample when target points are available
23  #shapefile_name = "geochem_sites" # Traget points shapefile. It should be without extension.
24  #shapefile_name = "NGSA_IM_TOS"  # For national dataset
25  #sample_clhs(covariate_file, input_data, shapefile_name, exp_folder, no_samples)
26 
27  #Third scenario: Similar to the first scenario but with an existing model used for weighting the inputs
28  #width = 0.005 # Buffer size
29  #existing_model = "./sirsam_Na_original_prediction.tif"
30  #road_shapefile_name = "Roads_Sir_Sam"  # Line segments
31  #Buffer_Sample(covariate_file, input_data, road_shapefile_name, exp_folder, no_samples, width, existing_model)
32  
    #Fourth scenario: Similar to the second scenario but with an existing model used for weighting the inputs
    existing_model = "./sirsam_Na_original_prediction.tif"
35  shapefile_name = "geochem_sites" # geochem_sites_log Traget points
36  sample_clhs(covariate_file, input_data, shapefile_name, exp_folder, no_samples, existing_model)
37
```

Running in the NCI

To run the Run_Scripts.R in the NCI environment, you can run:

qsub Run_NCI.sh