FarmBox

The farmer's toolbox for climate change mitigation

CSA Simulator

A short tutorial on how to use the platform.

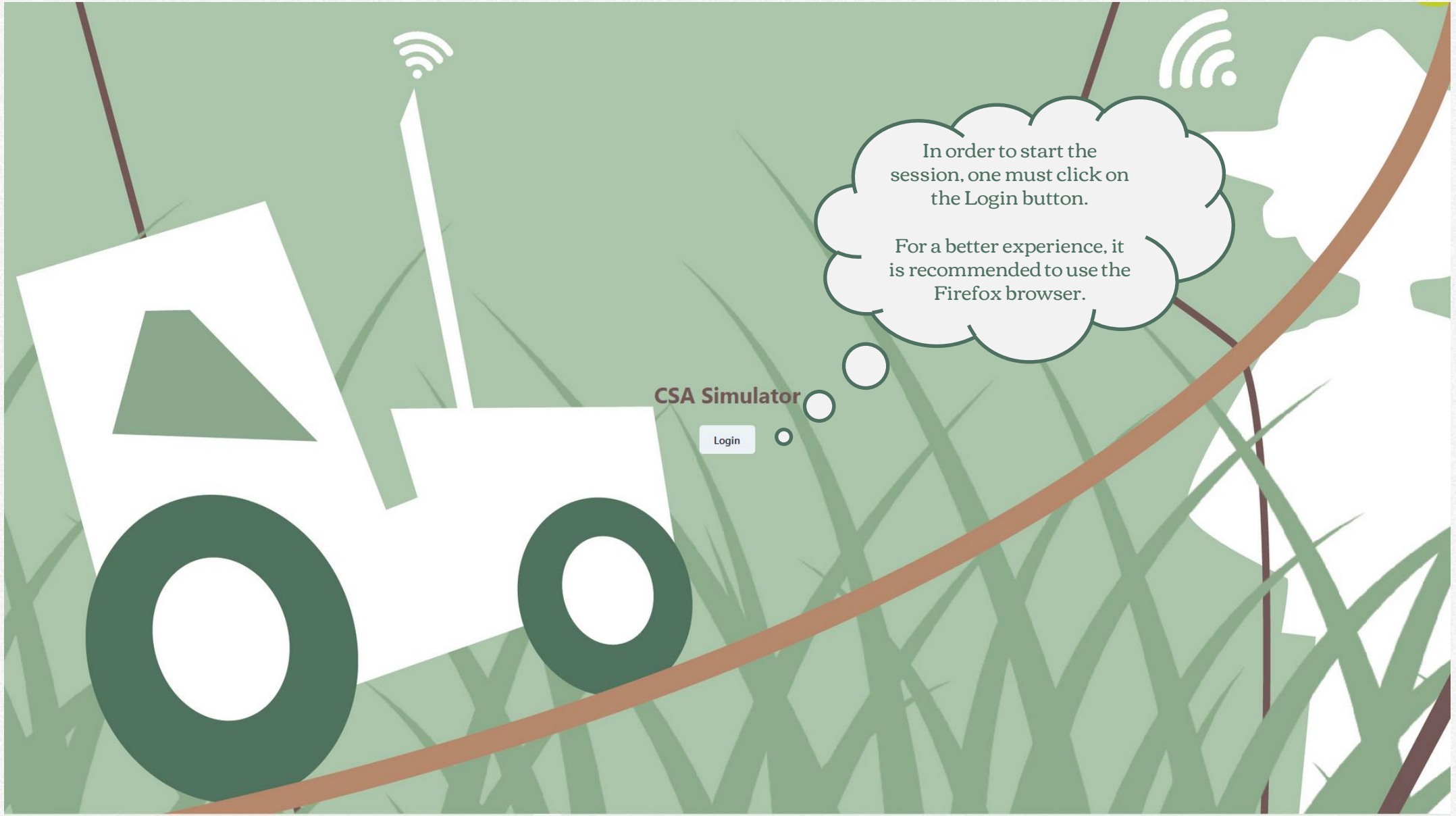
Introduction

This presentation serves as a concise instructional manual detailing the utilization of a web-based application designed for the purpose of simulating and implementing proficient agronomic practices that are associated with Climate Smart Agriculture.

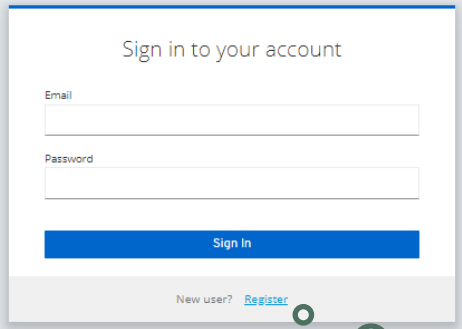
It specifically emphasizes the utilization of conservation agriculture as a tool for climate mitigation.

Register an account

How to register a user and request activation

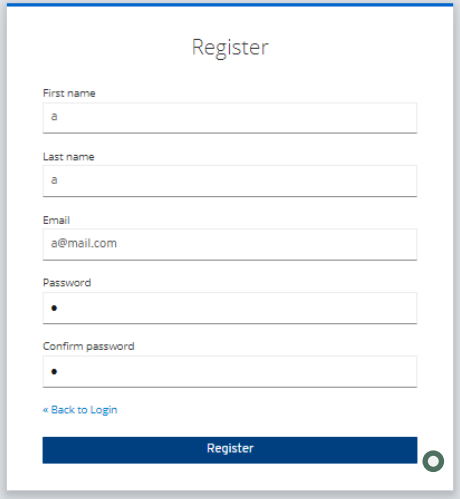

In order to start the session, one must click on the Login button.
For a better experience, it is recommended to use the Firefox browser.
CSA Simulator
Login

UPTOEARTH



To create an account, click on the Register button..

UPTOEARTH



Kindly provide your details and click on the Register option.


Simulator Environment
Home
Logout
If the system was able to gather the necessary information, this webpage will be displayed. To finish registering, you must click on the Logout button..
Welcome
Please select a dashboard

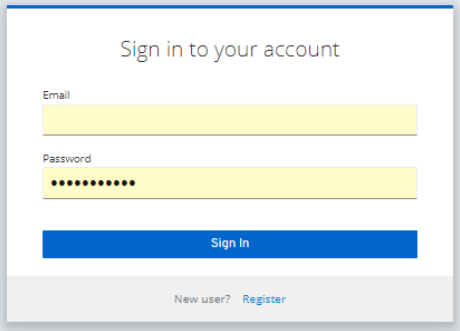

Once you've finished registering, you'll need to email helpdesk@uptoearth.eu to request activation and let them know which educational module you want to take.

Getting Started

How to Access and Navigate the Web Application


In order to start the session, one must click on the Login button.
CSA Simulator
Login

UPTOEARTH

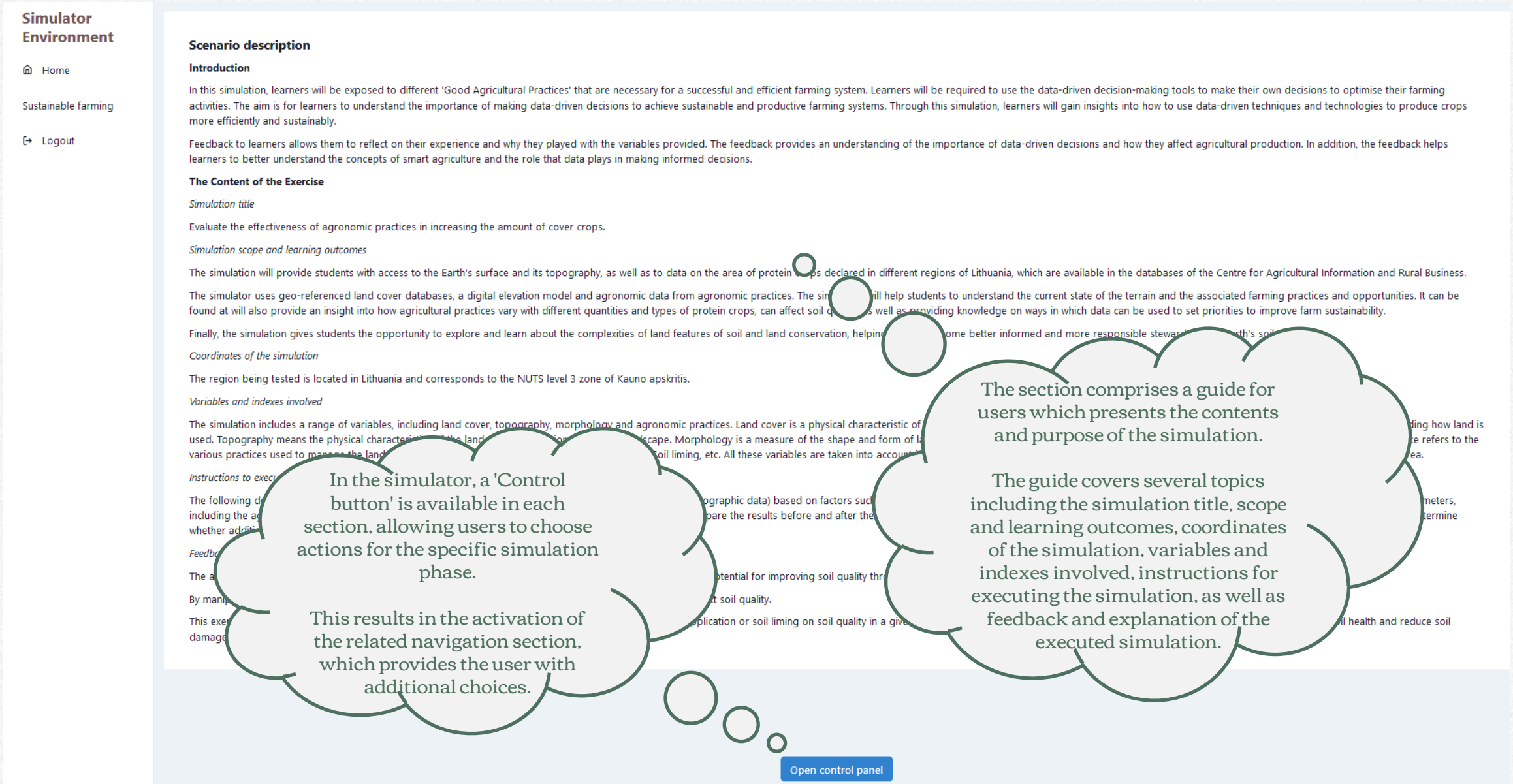


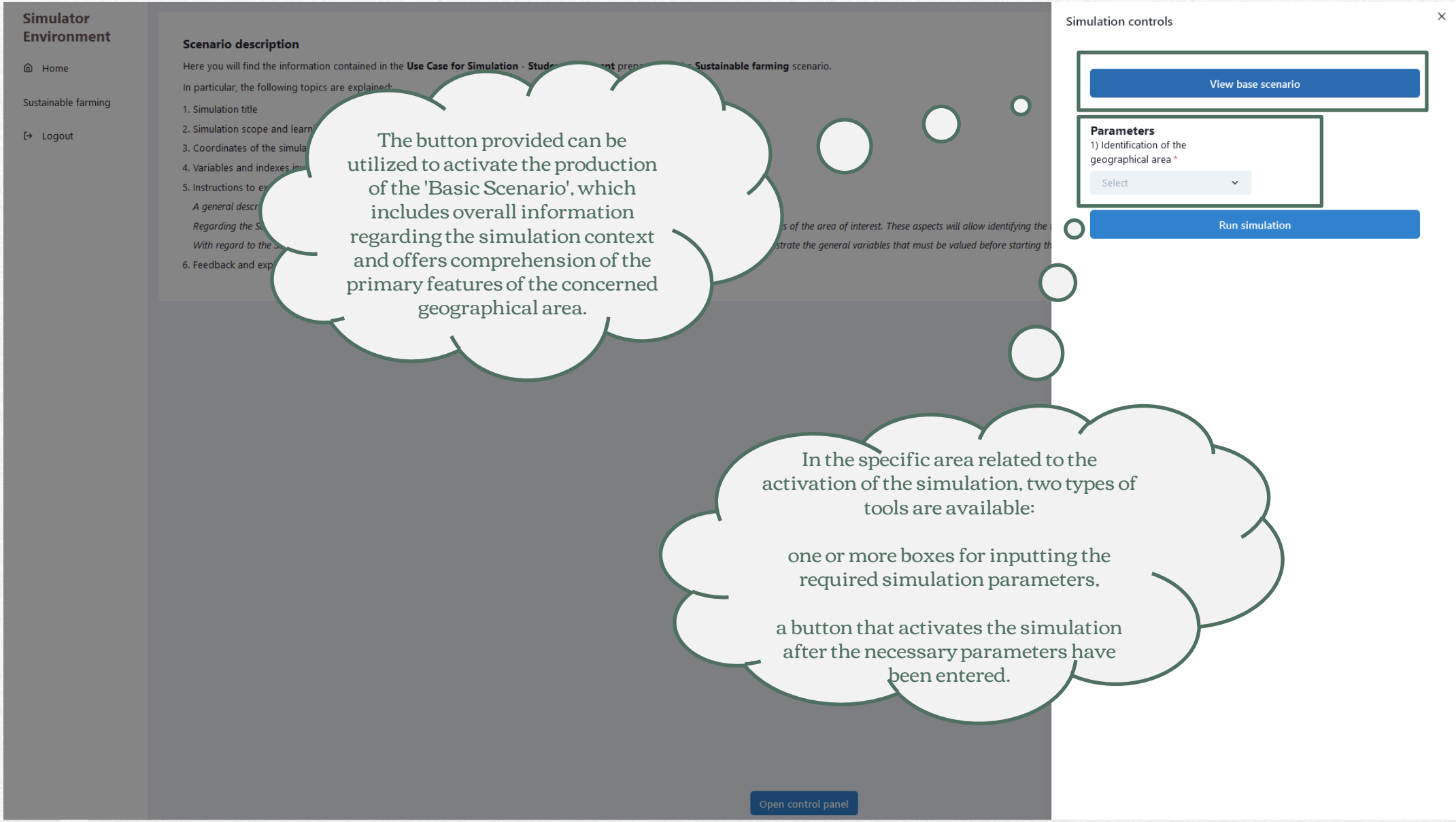
On this page, the credentials that were previously received are to be entered.


Simulator Environment
Home
Sustainable farming
Logout
The section on the left-hand side includes all navigation buttons for the application,
Particularly those used to choose the active case study for the simulation.
Welcome
This is your personal bulletin board.
Here you will find general messages regarding the operation of the CSA Simulator.
For a better visual experience and proper functionality, you gotta use Firefox as your browser.
Please select a dashboard
In the central area, a customized message with various indications is displayed for the user.
In this particular case, an application maintenance notice is included that could potentially cause some problems for the user.
https://uptoearth.online/csa/dashboard/carl_sf

Setting up your simulation

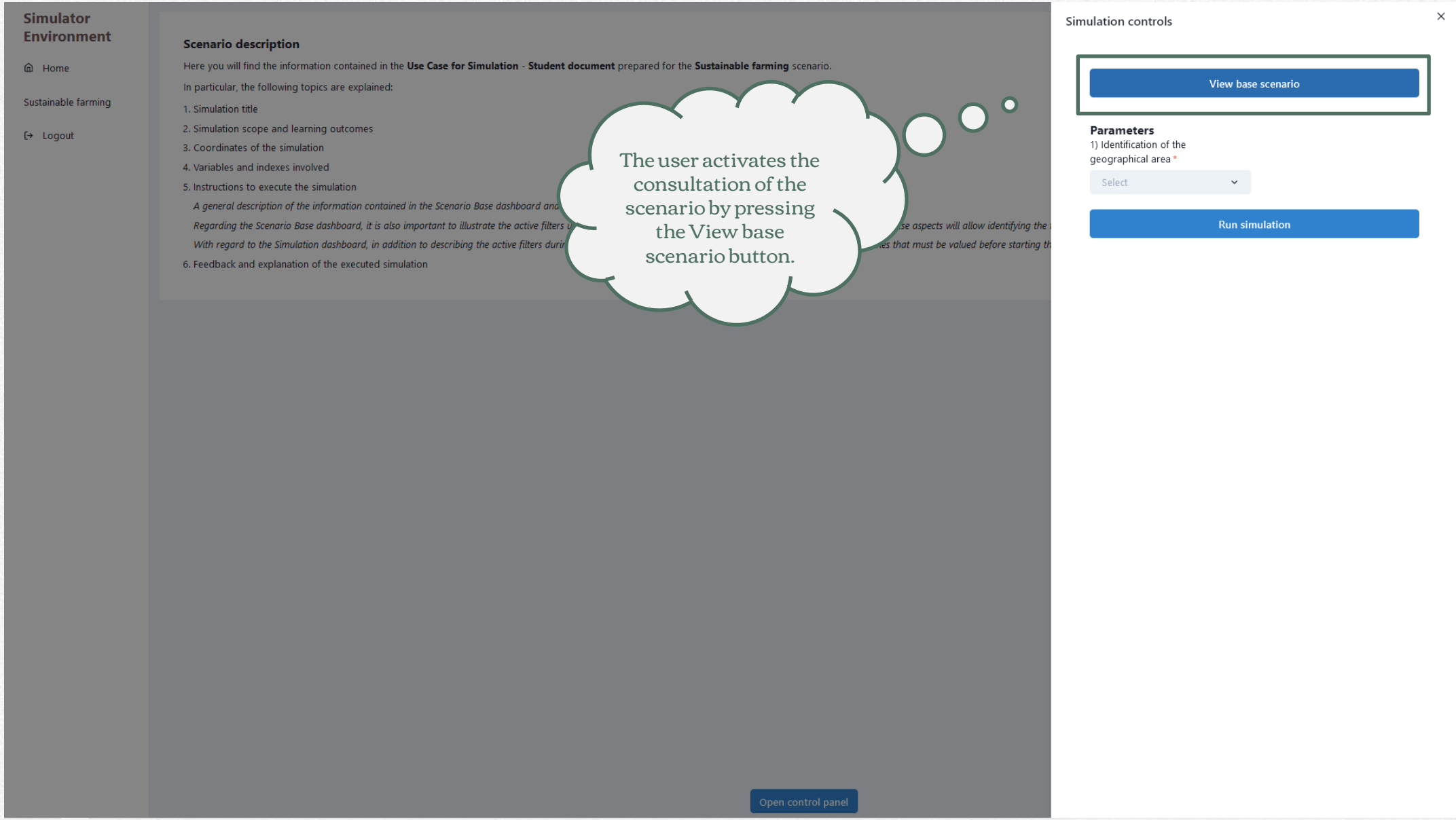
Choosing the right parameters for your use case simulation.


Simulator Environment
Home
Sustainable farming
Logout
Scenario description
Introduction
In this simulation, learners will be exposed to different 'Good Agricultural Practices' that are necessary for a successful and efficient farming system. Learners will be required to use the data-driven decision-making tools to make their own decisions to optimise their farming activities. The aim is for learners to understand the importance of making data-driven decisions to achieve sustainable and productive farming systems. Through this simulation, learners will gain insights into how to use data-driven techniques and technologies to produce crops more efficiently and sustainably.
Feedback to learners allows them to reflect on their experience and why they played with the variables provided. The feedback provides an understanding of the importance of data-driven decisions and how they affect agricultural production. In addition, the feedback helps learners to better understand the concepts of smart agriculture and the role that data plays in making informed decisions.
The Content of the Exercise
Simulation title
Evaluate the effectiveness of agronomic practices in increasing the amount of cover crops.
Simulation scope and learning outcomes
The simulation will provide students with access to the Earth's surface and its topography, as well as to data on the area of protein crops declared in different regions of Lithuania, which are available in the databases of the Centre for Agricultural Information and Rural Business.
The simulator uses geo-referenced land cover databases, a digital elevation model and agronomic data from agronomic practices. The sim ill help students to understand the current state of the terrain and the associated farming practices and opportunities. It can be found at will also provide an insight into how agricultural practices vary with different quantities and types of protein crops, can affect soil q s well as providing knowledge on ways in which data can be used to set priorities to improve farm sustainability.
Finally, the simulation gives students the opportunity to explore and learn about the complexities of land features of soil and land conservation, helpin ome better informed and more responsible stewar rth's soil
Coordinates of the simulation
The region being tested is located in Lithuania and corresponds to the NUTS level 3 zone of Kauno apskritis.
Variables and indexes involved
The simulation includes a range of variables, including land cover, topography, morphology and agronomic practices. Land cover is a physical characteristic of ding how land is used. Topography means the physical characteri the land scape. Morphology is a measure of the shape and form of l e refers to the various practices used to manage the land oil liming, etc. All these variables are taken into accoun rea.
Instructions to execu
The following d ographic data) based on factors such meters, including the a pare the results before and after the termine whether addi
Feedbo
The a otential for improving soil quality thr
By manip t soil quality.
This exe plication or soil liming on soil quality in a give l health and reduce soil damage
Open control panel
In the simulator, a 'Control button' is available in each section, allowing users to choose actions for the specific simulation phase.
This results in the activation of the related navigation section, which provides the user with additional choices.
The section comprises a guide for users which presents the contents and purpose of the simulation.
The guide covers several topics including the simulation title, scope and learning outcomes, coordinates of the simulation, variables and indexes involved, instructions for executing the simulation, as well as feedback and explanation of the executed simulation.

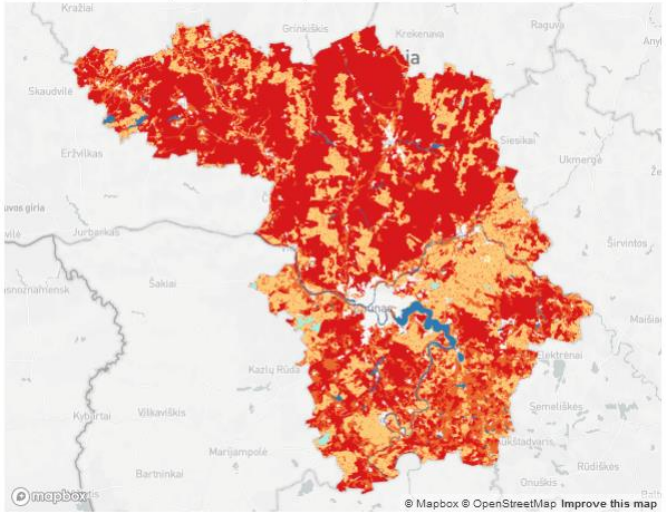

Simulator Environment
Home
Sustainable farming
Logout
Scenario description
Here you will find the information contained in the Use Case for Simulation - Stud nt pre Sustainable farming scenario.
In particular, the following topics are explained:
1. Simulation title
2. Simulation scope and learn
3. Coordinates of the simula
4. Variables and indexes in
5. Instructions to ex
A general descr
Regarding the Sc s of the area of interest. These aspects will allow identifying the
With regard to the S strate the general variables that must be valued before starting th
6. Feedback and exp
Open control panel
Simulation controls
View base scenario
Parameters
1) Identification of the geographical area *
Select
Run simulation
The button provided can be utilized to activate the production of the 'Basic Scenario', which includes overall information regarding the simulation context and offers comprehension of the primary features of the concerned geographical area.
In the specific area related to the activation of the simulation, two types of tools are available:
one or more boxes for inputting the required simulation parameters,
a button that activates the simulation after the necessary parameters have been entered.

Base Scenario

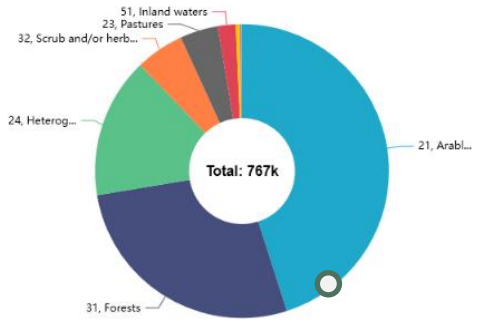
Understand the geographical reference area: what you need to know.


Simulator Environment
Home
Sustainable farming
Logout
Scenario description
Here you will find the information contained in the Use Case for Simulation - Student document prepared for the Sustainable farming scenario.
In particular, the following topics are explained:
1. Simulation title
2. Simulation scope and learning outcomes
3. Coordinates of the simulation
4. Variables and indexes involved
5. Instructions to execute the simulation
A general description of the information contained in the Scenario Base dashboard and
Regarding the Scenario Base dashboard, it is also important to illustrate the active filters u
se aspects will allow identifying the
With regard to the Simulation dashboard, in addition to describing the active filters duri
es that must be valued before starting th
6. Feedback and explanation of the executed simulation
The user activates the consultation of the scenario by pressing the View base scenario button.
Open control panel
Simulation controls
View base scenario
Parameters
1) Identification of the geographical area *
Select
Run simulation

A - Land cover context (no artificial surface)



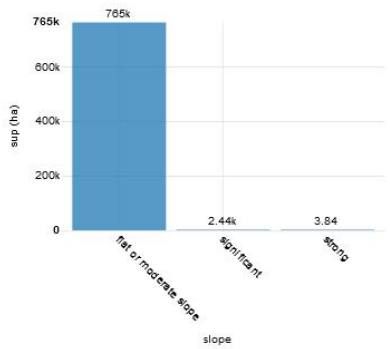
A - Distribution of land cover (ha)



A - General information on land cover

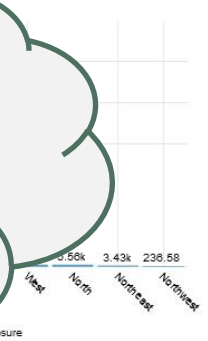
code_18	l3_desc	Sup tot (ha)	% Sup tot
211	Non-irrigated arable land	345,726	45.063%
222	Fruit trees and berry plantations	1,324	0.173%
231	Pastures	32,167	4.193%
242	Complex cultivation patterns	76,379	9.956%
243	Land principally occupied by agriculture, with significant areas of natural vegetation	42,136	5.492%
311	Broad-leaved forest	61,503	8.016%
312	Coniferous forest	54,003	7.039%
313	Mixed forest	94,002	12.253%
321	Natural grasslands	453	0.059%
322	Moors and heathland	320	0.042%
324	Transitional woodland-shrub	40,182	5.237%
333	Sparsely vegetated areas	380	0.050%
411	Inland marshes	318	0.042%
412	Peat bogs	3,135	0.409%
511	Water courses	4,699	0.612%
512	Water bodies	10,477	1.366%
Totals		767,203	

A - Soil Slope level



A - Soil Texture

A - Soil Exposure



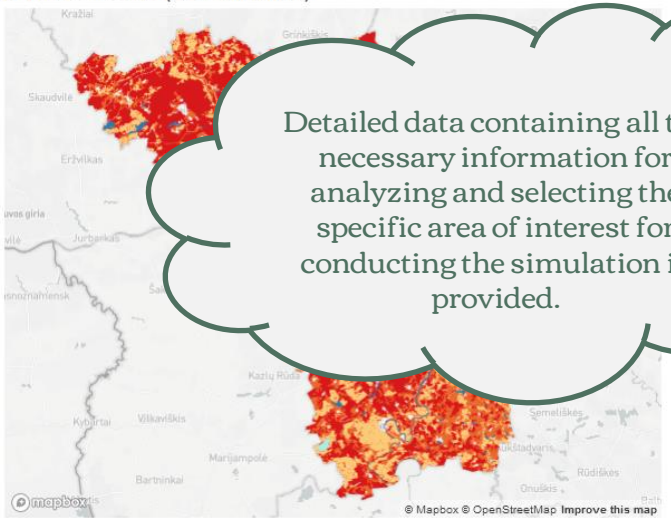
The main features of the area of interest can be provided through summary data, along with graphical reports and georeferenced information on a map.

A - Distribution of Arable land vs Agricultural area (%)

lau_name	arable_land_ha	agricultural_areas_ha	% Sup vs Sup Tot
Kėdainių rajono savivaldybė	102,803	116,507	88.2%
Raseinių rajono savivaldybė	88,203	111,921	78.8%
Kauno rajono savivaldybė	59,886	84,056	71.2%
Jonavos rajono savivaldybė	33,712	46,188	73.0%
Prienų rajono savivaldybė	30,283	68,201	44.4%
Kaišiadorių rajono savivaldybė	28,305	63,785	44.4%
Birštono savivaldybė	2,331	5,323	43.8%
Kauno miesto savivaldybė	203	1,751	11.6%
Totals			56.9%

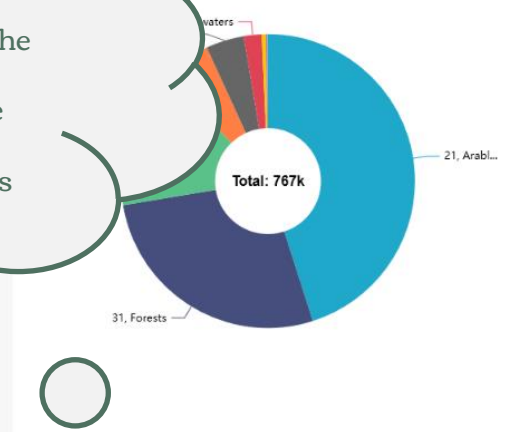
Open control panel

A - Land cover context (no artificial surface)



Detailed data containing all the necessary information for analyzing and selecting the specific area of interest for conducting the simulation is provided.

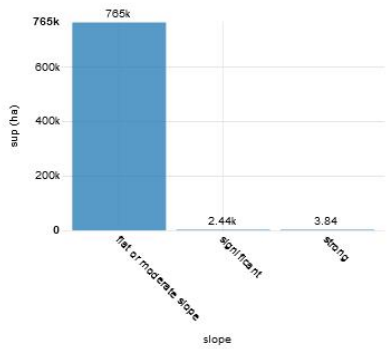
A - Distribution of land cover (ha)



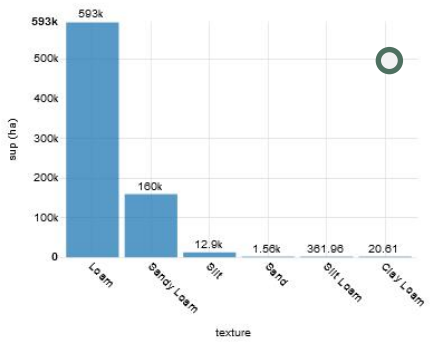
A - General information on land cover

code_18	l3_desc	Sup tot (ha)	% Sup tot
211	Non-irrigated arable land	345,726	45.063%
222	Fruit trees and berry plantations	1,324	0.173%
231	Pastures	32,167	4.193%
242	Complex cultivation patterns	76,379	9.956%
243	Land principally occupied by agriculture, with significant areas of natural vegetation	42,136	5.492%
311	Broad-leaved forest	61,503	8.016%
312	Coniferous forest	54,003	7.039%
313	Mixed forest	94,002	12.253%
321	Natural grasslands	453	0.059%
322	Moors and heathland	320	0.042%
324	Transitional woodland-shrub	40,182	5.237%
333	Sparsely vegetated areas	380	0.050%
411	Inland marshes	318	0.042%
412	Peat bogs	3,135	0.409%
511	Water courses	4,699	0.612%
512	Water bodies	10,477	1.366%
Totals		767,203	

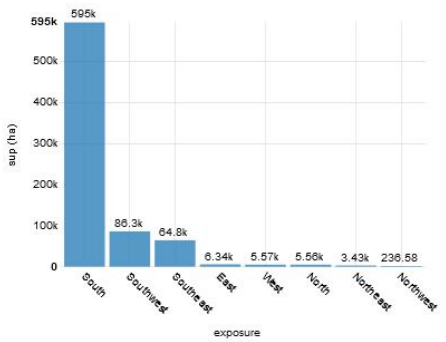
A - Soil Slope level



A - Soil Texture



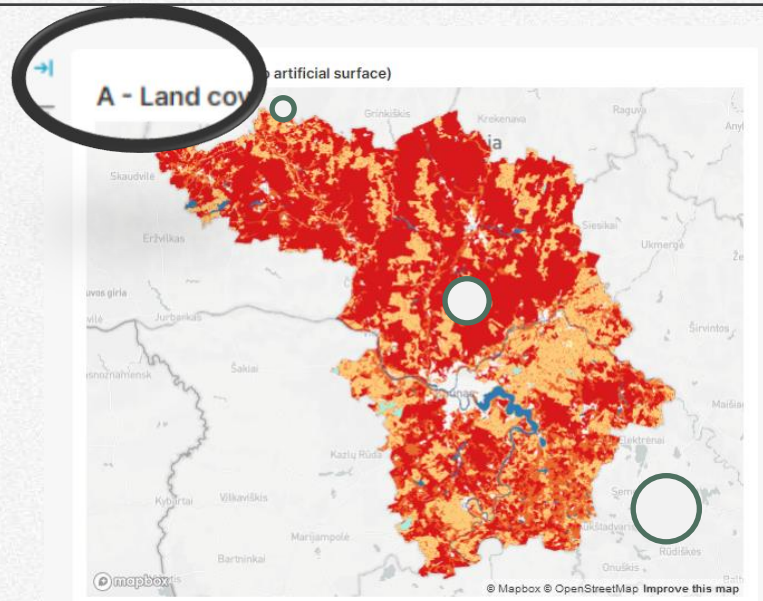
A - Soil Exposure



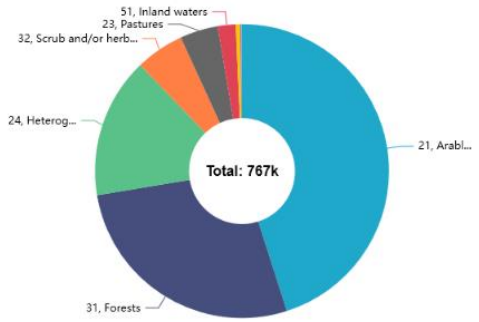
A - Distribution of Arable land vs Agricultural area (%)

lau_name	arable_land_ha	agricultural_areas_ha	% Sup vs Sup Tot
Kėdainių rajono savivaldybė	102,803	116,507	88.2%
Raseinių rajono savivaldybė	88,203	111,921	78.8%
Kauno rajono savivaldybė	59,886	84,056	71.2%
Jonavos rajono savivaldybė	33,712	46,188	73.0%
Prienų rajono savivaldybė	30,283	68,201	44.4%
Kaišiadorių rajono savivaldybė	28,305	63,785	44.4%
Birštono savivaldybė	2,331	5,323	43.8%
Kauno miesto savivaldybė	203	1,751	11.6%
Totals			56.9%

Open control panel



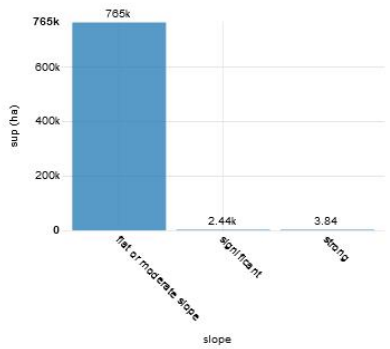
A - Distribution of land cover (ha)



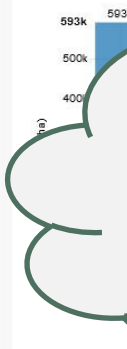
A - General information on land cover

code_18	l3_desc	Sup tot (ha)	% Sup tot
211	Non-irrigated arable land	345,726	45.063%
222	Fruit trees and berry plantations	1,324	0.173%
231	Pastures	32,167	4.193%
242	Complex cultivation patterns	76,379	9.956%
243	Land principally occupied by agriculture, with significant areas of natural vegetation	42,136	5.492%
311	Broad-leaved forest	61,503	8.016%
312	Coniferous forest	54,003	7.039%
313	Mixed forest	94,002	12.253%
321	Natural grasslands	453	0.059%
322	Moors and heathland	320	0.042%
324	Transitional woodland-shrub	40,182	5.237%
333	Sparsely vegetated areas	380	0.050%
411	Inland marshes	318	0.042%
412	Peat bogs	3,135	0.409%
511	Water courses	4,699	0.612%
512	Water bodies	10,477	1.366%
Totals		767,203	

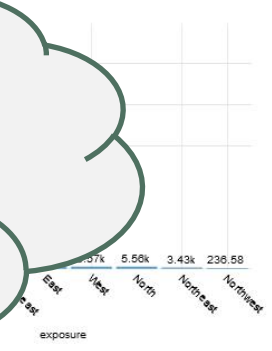
A - Soil Slope level



A - Soil Texture



A - Soil Exposure

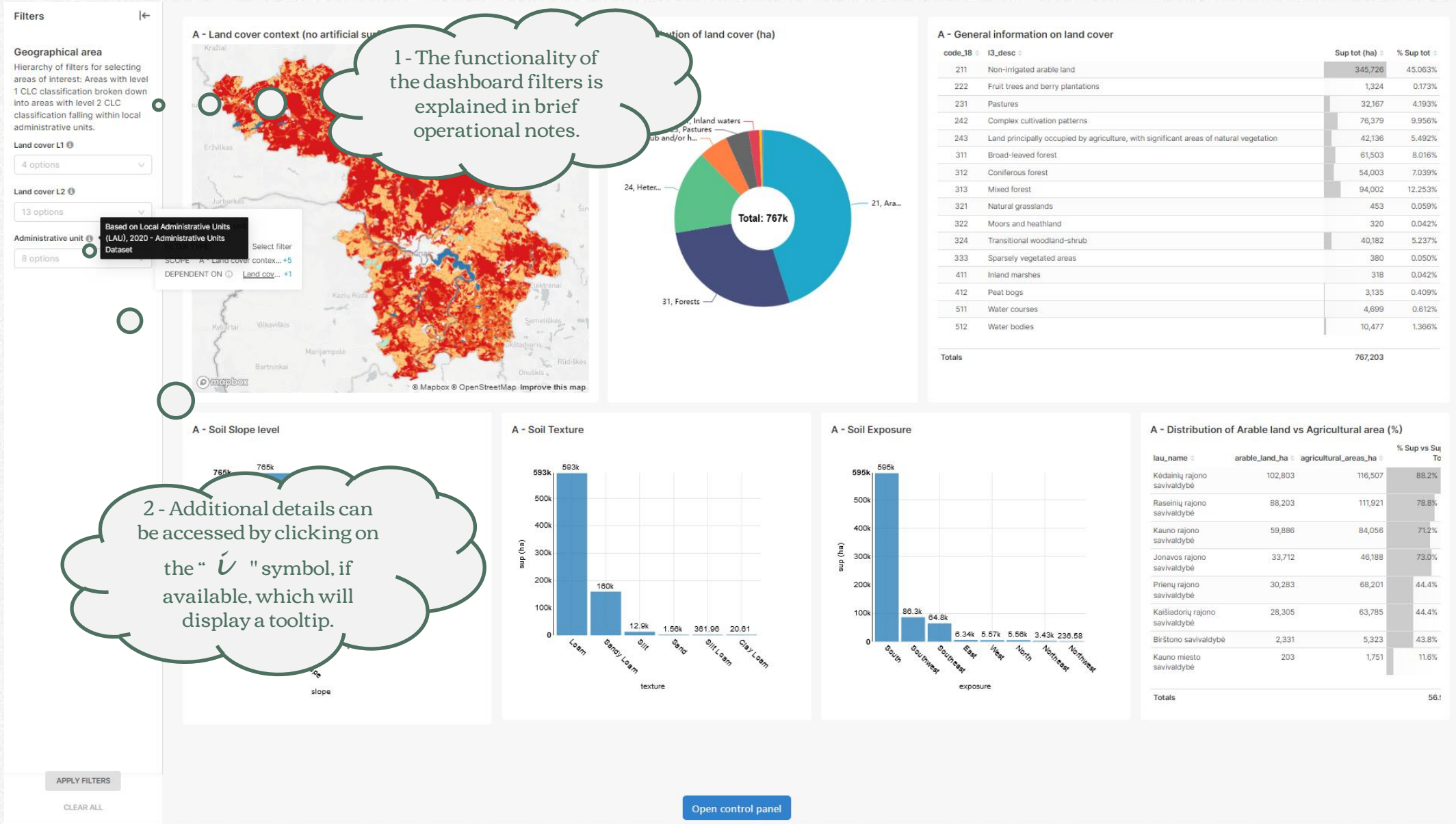


A - Distribution of Arable land vs Agricultural area (%)

lau_name	arable_land_ha	agricultural_areas_ha	% Sup vs Sup Tot
Kėdainių rajono savivaldybė	102,803	116,507	88.2%
Raseinių rajono savivaldybė	88,203	111,921	78.8%
Kauno rajono savivaldybė	59,886	84,056	71.2%
Jonavos rajono savivaldybė	33,712	46,188	73.0%
Prienų rajono savivaldybė	30,283	68,201	44.4%
Kaišiadorių rajono savivaldybė	28,305	63,785	44.4%
Biržtono savivaldybė	2,331	5,323	43.8%
Kauno miesto savivaldybė	203	1,751	11.6%
Totals			56.9%

The 'Filters' section can be activated by clicking on the button, which enables the analysis of the area of interest to be deepened by examining only the territories that meet the criteria entered for the various classification features identified.

Open control panel


Filters
Geographical area
Hierarchy of filters for selecting areas of interest: Areas with level 1 CLC classification broken down into areas with level 2 CLC classification falling within local administrative units.
Land cover L1
4 options
Land cover L2
13 options
Administrative unit
8 options
Based on Local Administrative Units (LAU), 2020 - Administrative Units Dataset
APPLY FILTERS
CLEAR ALL
A - Land cover context (no artificial su
© Mapbox © OpenStreetMap Improve this map
ution of land cover (ha)
Total: 767k
21, Ara...
31, Forests
24, Heter...
Inland waters
Pastures
A - General information on land cover
code_18 | l3_desc | Sup tot (ha) | % Sup tot
211 | Non-irrigated arable land | 345,726 | 45.063%
222 | Fruit trees and berry plantations | 1,324 | 0.173%
231 | Pastures | 32,167 | 4.193%
242 | Complex cultivation patterns | 76,379 | 9.956%
243 | Land principally occupied by agriculture, with significant areas of natural vegetation | 42,136 | 5.492%
311 | Broad-leaved forest | 61,503 | 8.016%
312 | Coniferous forest | 54,003 | 7.039%
313 | Mixed forest | 94,002 | 12.253%
321 | Natural grasslands | 453 | 0.059%
322 | Moors and heathland | 320 | 0.042%
324 | Transitional woodland-shrub | 40,182 | 5.237%
333 | Sparsely vegetated areas | 380 | 0.050%
411 | Inland marshes | 318 | 0.042%
412 | Peat bogs | 3,135 | 0.409%
511 | Water courses | 4,699 | 0.612%
512 | Water bodies | 10,477 | 1.366%
Totals | 767,203
1 - The functionality of the dashboard filters is explained in brief operational notes.
2 - Additional details can be accessed by clicking on the " i " symbol, if available, which will display a tooltip.
A - Soil Slope level
765k
slope
A - Soil Texture
593k
160k
12.9k
1.56k
361.96
20.61
Loam
Sandy Loam
Silt
Sand
Silt Loam
Clay Loam
sup (ha)
texture
A - Soil Exposure
595k
86.3k
64.8k
6.34k
5.57k
5.56k
3.43k
236.58
South
Southwest
Southeast
East
West
North
Northeast
Northwest
exposure
A - Distribution of Arable land vs Agricultural area (%)
lau_name | arable_land_ha | agricultural_areas_ha | % Sup vs Su
Kėdainių rajono savivaldybė | 102,803 | 116,507 | 88.2%
Raseinių rajono savivaldybė | 88,203 | 111,921 | 78.8%
Kauno rajono savivaldybė | 59,886 | 84,056 | 71.2%
Jonavos rajono savivaldybė | 33,712 | 46,188 | 73.0%
Prienų rajono savivaldybė | 30,283 | 68,201 | 44.4%
Kaišiadorių rajono savivaldybė | 28,305 | 63,785 | 44.4%
Birštono savivaldybė | 2,331 | 5,323 | 43.8%
Kauno miesto savivaldybė | 203 | 1,751 | 11.6%
Totals
Open control panel

Filters

Geographical area

Hierarchy of filters for selecting areas of interest: Areas with level 1 CLC classification broken down into areas with level 2 CLC classification falling within local administrative units.

Land cover L1

4 options

Land cover L2

13 options

Administrative unit

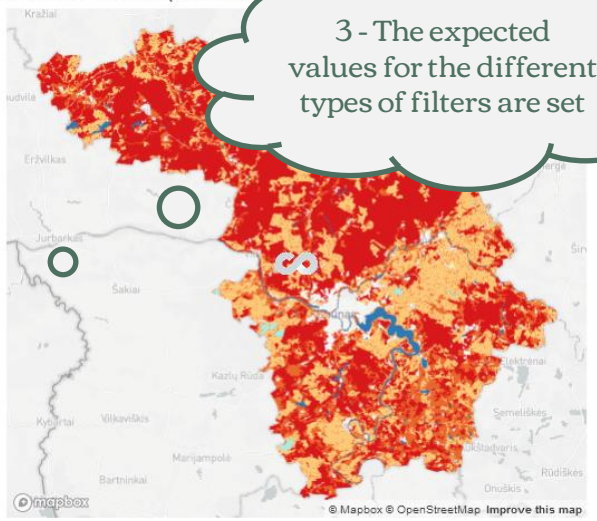
Birštono savivaldybė ×

APPLY FILTERS

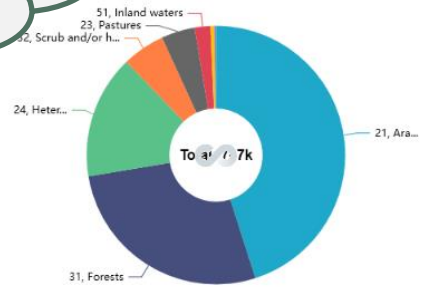
CLEAR ALL

3 - The expected values for the different types of filters are set

A - Land cover context (no artificial s



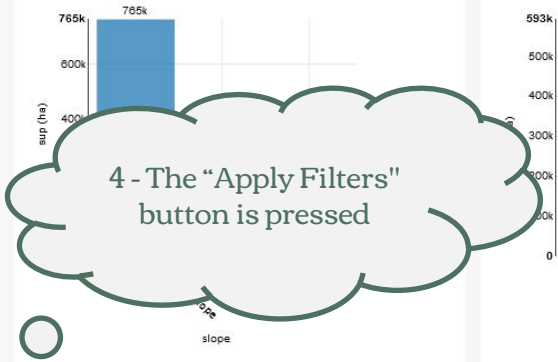
lution of land cover (ha)



A - General information on land cover

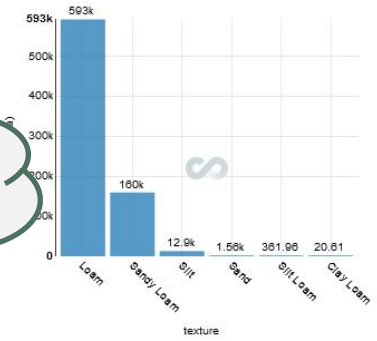
code_18	l3_desc	Sup tot (ha)	% Sup tot
211	Non-irrigated arable land	345,726	45.063%
222	Fruit trees and berry plantations	1,324	0.173%
231	Pastures	32,167	4.193%
242	Complex cultivation patterns	76,379	9.956%
243	Land principally occupied by agriculture, with significant areas of natural vegetation	42,136	5.492%
311	Broad-leaved forest	61,503	8.016%
312	Coniferous forest	54,003	7.039%
313	Mixed forest	94,002	12.253%
321	Natural grasslands	453	0.059%
322	Moors and heathland	320	0.042%
324	Transitional woodland-shrub	40,182	5.237%
333	Sparsely vegetated areas	380	0.050%
411	Inland marshes	318	0.042%
412	Peat bogs	3,135	0.409%
511	Water courses	4,699	0.612%
512	Water bodies	10,477	1.366%
Totals		767,203	

A - Soil Slope level

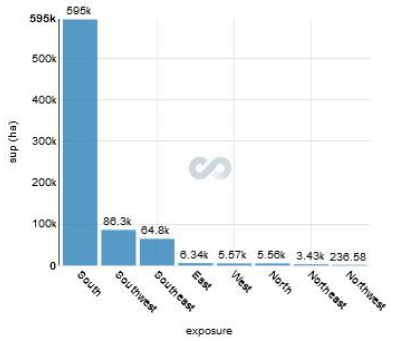


4 - The “Apply Filters" button is pressed

A - Soil Texture



A - Soil Exposure

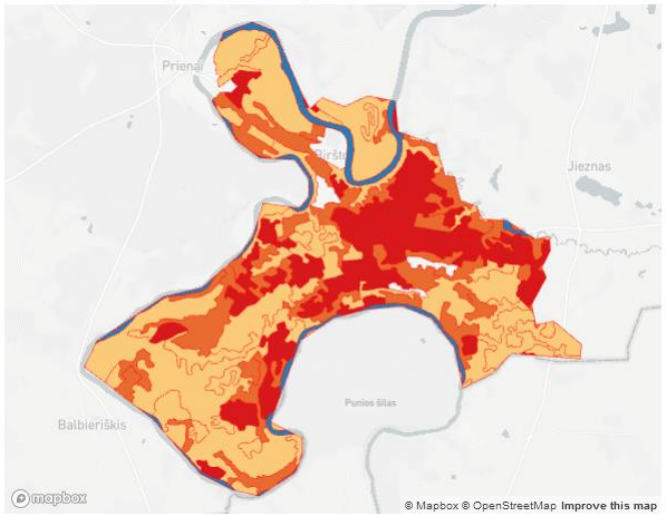


A - Distribution of Arable land vs Agricultural area (%)

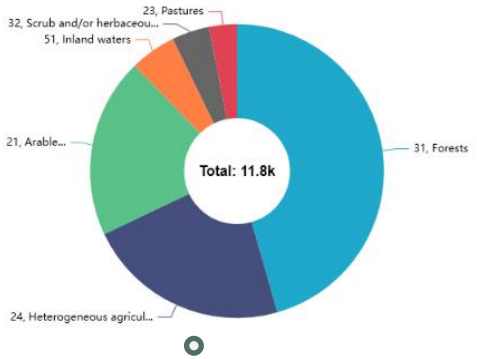
lau_name	arable_land_ha	agricultural_areas_ha	% Sup vs Su To
Kėdainių rajono savivaldybė	102,803	116,507	88.2%
Raseinių rajono savivaldybė	88,203	111,921	78.8%
Kauno rajono savivaldybė	59,886	84,056	71.2%
Jonavos rajono savivaldybė	33,712	46,188	73.0%
Prienų rajono savivaldybė	30,283	68,201	44.4%
Kaišiadorių rajono savivaldybė	28,305	63,785	44.4%
Birštono savivaldybė	2,331	5,323	43.8%
Kauno miesto savivaldybė	203	1,751	11.6%
Totals			56.!

Open control panel

A - Land cover context (no artificial surface)



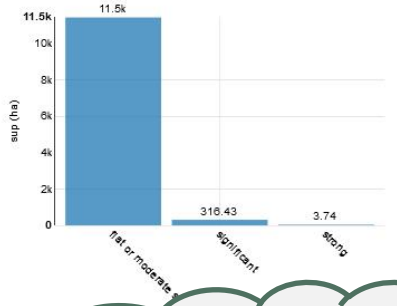
A - Distribution of land cover (ha)



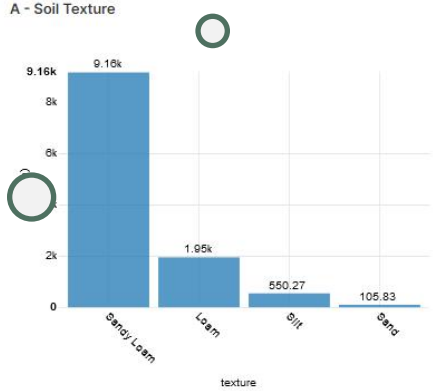
A - General information on land cover

code_18	l3_desc	Sup tot (ha)	% Sup tot
211	Non-irrigated arable land	2,331	19.801%
231	Pastures	360	3.061%
242	Complex cultivation patterns	1,558	13.232%
243	Land principally occupied by agriculture, with significant areas of natural vegetation	1,074	9.121%
311	Broad-leaved forest	117	0.990%
312	Coniferous forest	3,843	32.645%
313	Mixed forest	1,406	11.939%
324	Transitional woodland-shrub	488	4.142%
511	Water courses	597	5.069%
Totals		11,773	

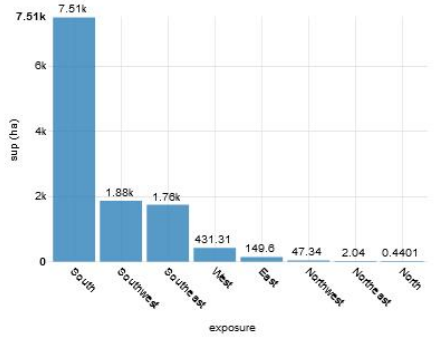
A - Soil Slope level



A - Soil Texture



A - Soil Exposure



A - Distribution of Arable land vs Agricultural area (%)

lau_name	arable_land_ha	agricultural_areas_ha	% Sup vs Sup Tot
Kėdainių rajono savivaldybė	102,803	116,507	88.2%
Raseinių rajono savivaldybė	88,203	111,921	78.8%
Kauno rajono savivaldybė	59,886	84,056	71.2%
Jonavos rajono savivaldybė	33,712	46,188	73.0%
Prienų rajono savivaldybė	30,283	68,201	44.4%
Kaišiadorių rajono savivaldybė	28,305	63,785	44.4%
Birštono savivaldybė	2,331	5,323	43.8%
Kauno miesto savivaldybė	203	1,751	11.6%
Totals			56.9%

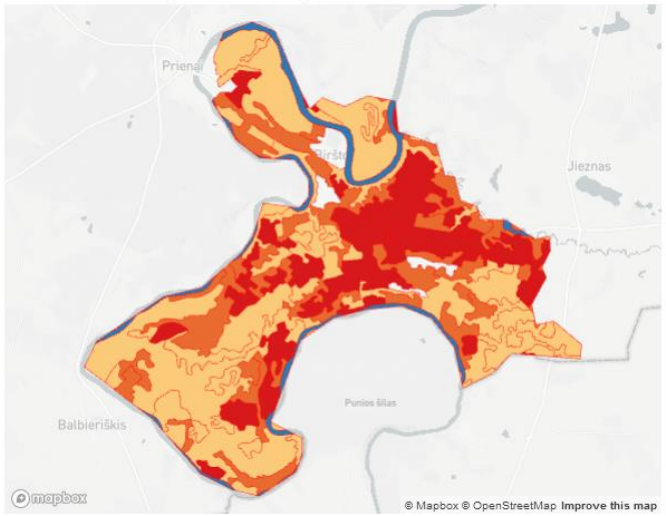
5 - The new information present in the dashboard is consulted

Open control panel

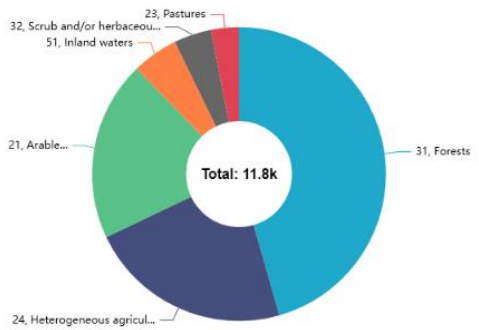
Simulation Scenario

Initiate the simulation and observe the results.

A - Land cover context (no artificial surface)



A - Distribution of land cover (ha)

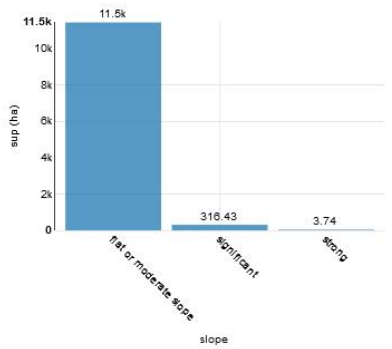


A - General information on land cover

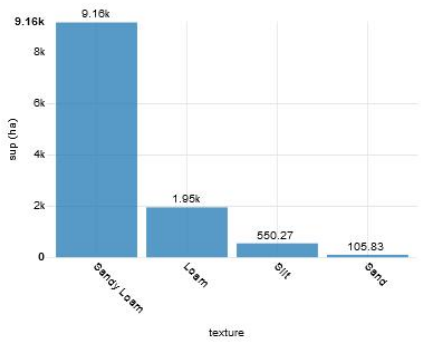
code_18	l3_desc	Sup tot (ha)	% Sup tot
211	Non-irrigated arable land	2,331	19.801%
231	Pastures	360	3.061%
242	Complex cultivation patterns	1,558	13.232%
243	Land principally occupied by agriculture, with significant areas of natural vegetation	1,074	9.121%
311	Broad-leaved forest	117	0.990%
312	Coniferous forest	3,843	32.645%
313	Mixed forest	1,406	11.939%
324	Transitional woodland-shrub	488	4.142%
511	Water courses	597	5.069%
Totals		11,773	

To activate the simulation, the user can press button Open control panel which will grant access to the navigation control section.

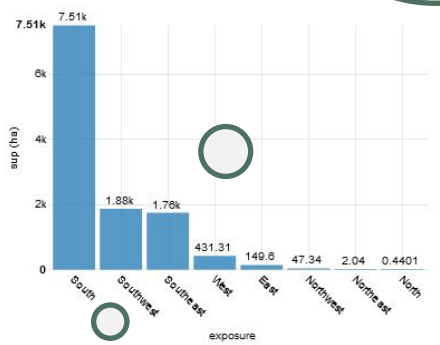
A - Soil Slope level



A - Soil Texture



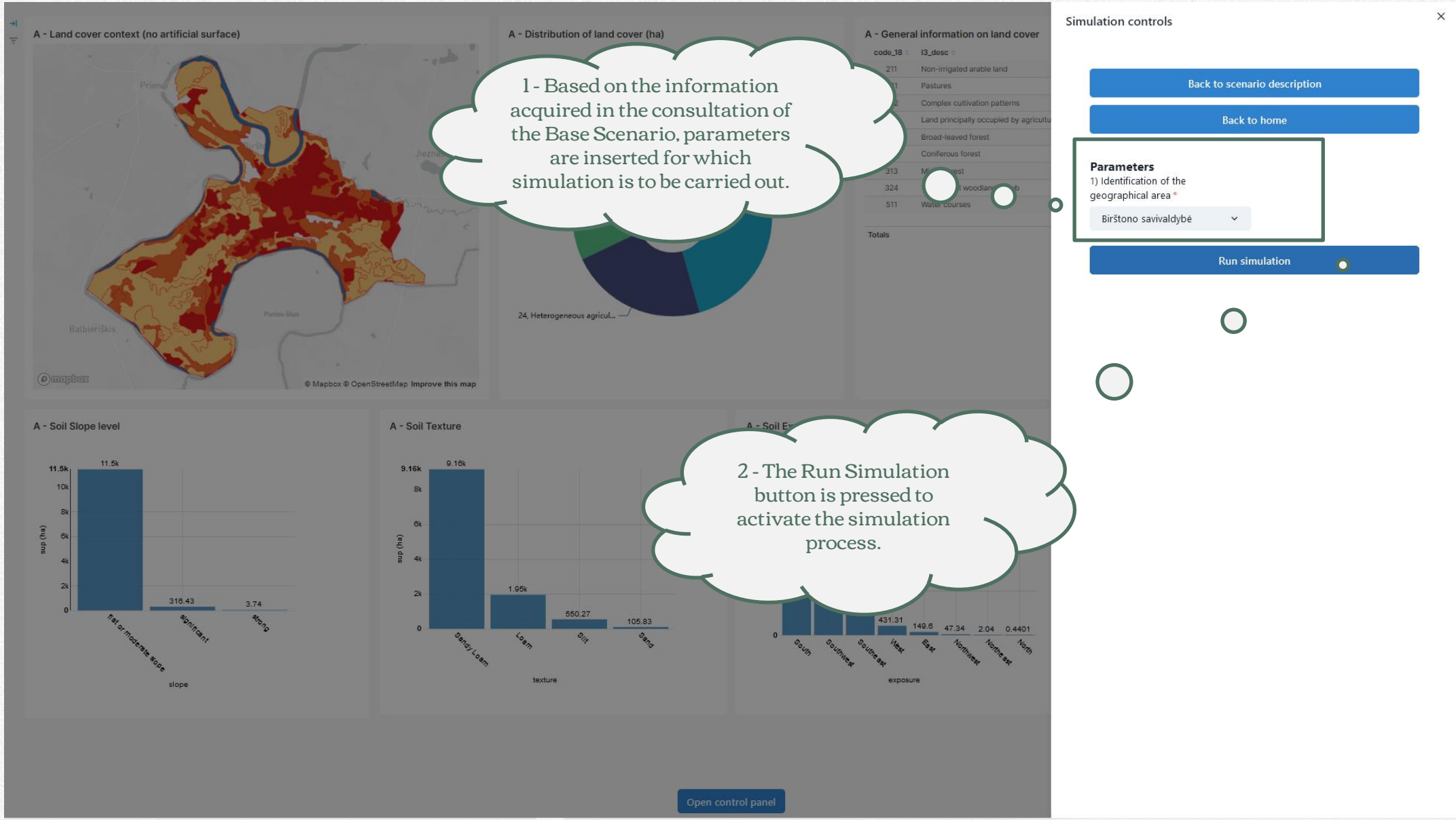
A - Soil Exposure



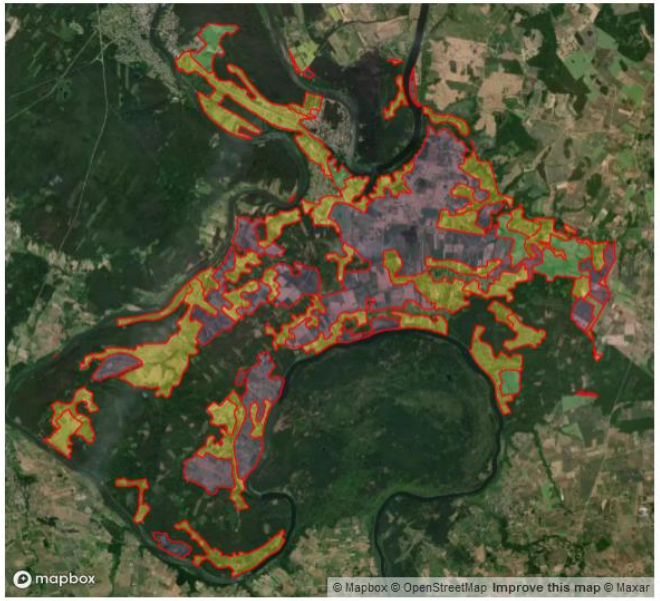
...ion of Arable land vs Agricultural area (%)

lau_name	arable_land_ha	agricultural_areas_ha	% Sup vs Sup Tot
Kėdainių rajono savivaldybė	102,803	116,507	88.2%
Raseinių rajono savivaldybė	88,203	111,921	78.8%
Kauno rajono savivaldybė	59,886	84,056	71.2%
Jonavos rajono savivaldybė	33,712	46,188	73.0%
Prienų rajono savivaldybė	30,283	68,201	44.4%
Kaišiadorių rajono savivaldybė	28,305	63,785	44.4%
Birštono savivaldybė	2,331	5,323	43.8%
Kauno miesto savivaldybė	203	1,751	11.6%
Totals			56.9%

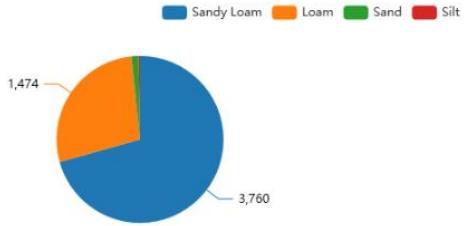
Open control panel


A - Land cover context (no artificial surface)
A - Distribution of land cover (ha)
A - General information on land cover
code_18
l3_desc
211 Non-irrigated arable land
Pastures
Complex cultivation patterns
Land principally occupied by agricultu
Broad-leaved forest
Coniferous forest
313
324
511 Water courses
Totals
24, Heterogeneous agricul...
© Mapbox © OpenStreetMap Improve this map
1 - Based on the information acquired in the consultation of the Base Scenario, parameters are inserted for which simulation is to be carried out.
Simulation controls
Back to scenario description
Back to home
Parameters
1) Identification of the geographical area *
Birštono savivaldybė
Run simulation
A - Soil Slope level
11.5k
316.43
3.74
sup (ha)
flat or moderate slope
significant
strong
slope
A - Soil Texture
9.16k
1.95k
550.27
105.83
Sandy Loam
Loam
Silt
Sand
texture
2 - The Run Simulation button is pressed to activate the simulation process.
431.31
149.6
47.34
2.04
0.4401
South
Southwest
Southeast
West
East
Northwest
Northeast
North
exposure
Open control panel

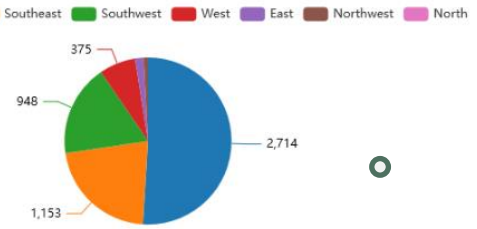
Carl - Geographical context (simulator)



Carl - Soil Texture (ha)



Carl - Soil exposure (ha)



Carl - Simulation Parameter: Area of interest

lau_name
Birštono savivaldybė

Carl - General information on LA

l2_desc	code_18	
Arable land	211	No
Pastures	231	Pa
Heterogeneous agricultural areas	242	Comple
Heterogeneous agricultural areas	243	Land principally occupied by agriculture, with significant areas of natural vegetation
Totals		5,323

1 - Section where the simulation results are presented.

Carl - Average SOC content (dg / kg)

897.84

Pre-simulation data (Soil Grids, 2020 Dataset)

Carl - Average SOC content recalculate (dg / kg)

905.76

Post-simulation data

Carl - Five-year change in SOC content (%)

4.4%

Variation in %

Impact of agronomic practices on soil carbon sequestration

Carl - Soil Ph acidic (avg pH x 10)

53.84

Carl - Soil Ph acidic (ha)

3,580

Pre-simulation data (Soil Grids, 2020 Dataset)

Carl - Soil acidity reduction target (avg pH x 10)

6.16

Carl - Lime Product Required (t x ha)

1.23

Post-simulation data (when liming is applied to the soil)

Impact of agronomic practices on soil acidity reduction.

Open control panel

Filters

Aim to achieve

The addition of compost and manure and soil liming can have positive impacts on both soil carbon sequestration and rebalancing the acidity of agricultural soils. Compost and manure can increase soil organic matter content, which helps sequester carbon in the soil, and also rebalance soil acidity by increasing basic cations. Soil liming can also rebalance soil acidity and improve soil structure, leading to increased plant growth and biomass production, which contributes to carbon sequestration.

Land cover

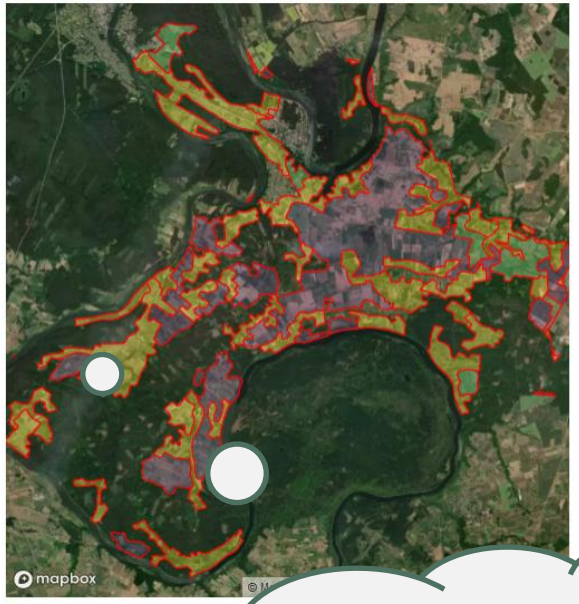
Arable land

- Arable land ✓
- Heterogeneous agricultural ...
- Pastures

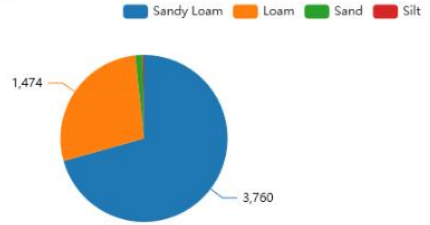
APPLY FILTERS

CLEAR ALL

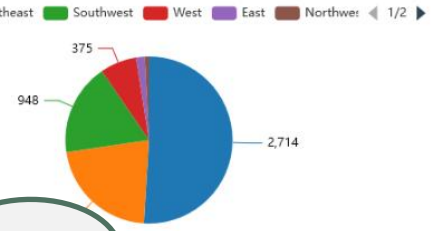
Carl - Geographical context (simulator)



Carl - Soil Texture (ha)



Carl - Soil exposure (ha)



Carl - Simulation Parameter: Area of interest

lau_name
Birštono savivaldybė

Carl - General information on LAU (simulator)

l2_desc	code_18	l3_desc	Tot Sup (ha)	% Tot Sup
Arable land	211	Non-irrigated arable land	2,331	43.793%
Pastures	231	Pastures	360	6.771%
Heterogeneous agricultural areas	242	Complex cultivation patterns	1,558	29.265%
Heterogeneous agricultural areas	243	Land principally occupied by agriculture, with significant areas of natural vegetation	1,074	20.172%
Totals			5,323	

2 - "Filters" section that allows for a more in-depth analysis of the simulated area (the same instructions already provided for the Base Scenario dashboard apply).

Carl - Average SOC conte... kg)

897.84

Pre-simulation data (Soil Grids, 2020 Dataset)

Post-simulation data

Variation in %

Impact of agronomic practices on soil carbon sequestration

Carl - Soil Ph acidic (avg pH x 10)

...84

Carl - Soil Ph acidic (ha)

3,580

Pre-simulation data (Soil Grids, 2020 Dataset)

Carl - Soil acidity reduction target (avg pH x 10)

6.16

Carl - Lime Product Required (t x ha)

1.23

Post-simulation data (when liming is applied to the soil)

Impact of agronomic practices on soil acidity reduction.

Open control panel

Filters

Aim to achieve

The addition of compost and manure and soil liming can have positive impacts on both soil carbon sequestration and rebalancing the acidity of agricultural soils. Compost and manure can increase soil organic matter content, which helps sequester carbon in the soil, and also rebalance soil acidity by increasing basic cations. Soil liming can also rebalance soil acidity and improve soil structure, leading to increased plant growth and biomass production, which contributes to carbon sequestration.

Land cover

Arable land

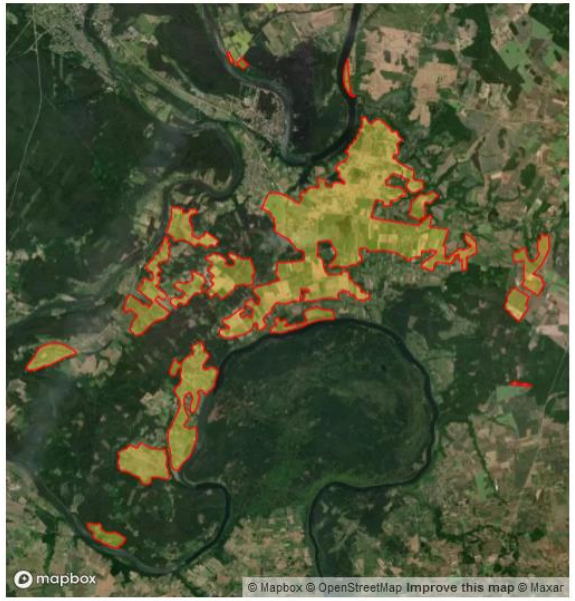
Agronomic practice

Soil liming

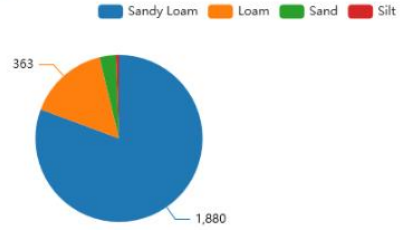
APPLY FILTERS

CLEAR ALL

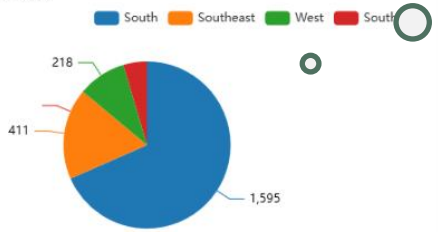
Carl - Geographical context (simulator)



Carl - Soil Texture (ha)



Carl - Soil exposure (ha)



Carl - Simulation Parameter: Area of interest

lau_name
Birštono savivaldybė

Carl - Ge

l2_desc
Arable land
Totals

The contents of the dashboard after applying the filters.

Carl - Average SOC content (dg / kg)

815.33

Pre-simulation data (Soil Grids, 2020 Dataset)

Carl - Average SOC content recalculate (dg / kg)

818.3

Post-simulation data

Carl - Five-year change in SOC content (%)

1.8%

Variation in %

Impact of agronomic practices on soil carbon sequestration

Carl - Soil Ph acidic (avg pH x 10)

49.84

Carl - Soil Ph acidic (ha)

796

Pre-simulation data (Soil Grids, 2020 Dataset)

Carl - Soil acidity reduction target (avg pH x 10)

10.16

Carl - Lime Product Required (t x ha)

2.03

Post-simulation data (when liming is applied to the soil)

Impact of agronomic practices on soil acidity reduction.

Open control panel

Filters

Aim to achieve

The addition of compost and manure and soil liming can have positive impacts on both soil carbon sequestration and rebalancing the acidity of agricultural soils. Compost and manure can increase soil organic matter content, which helps sequester carbon in the soil, and also rebalance soil acidity by increasing basic cations. Soil liming can also rebalance soil acidity and improve soil structure, leading to increased plant growth and biomass production, which contributes to carbon sequestration.

Land cover

Arable land

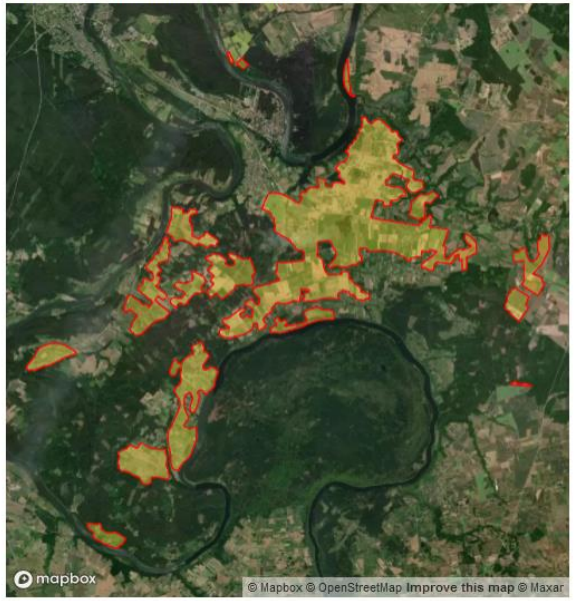
Agronomic practice

Soil liming

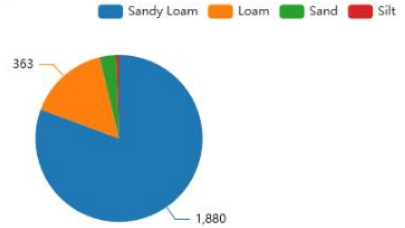
APPLY FILTERS

CLEAR ALL

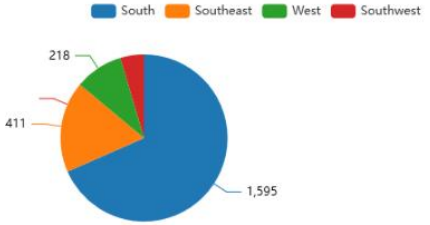
Carl - Geographical context (simulator)



Carl - Soil Texture (ha)



Carl - Soil exposure (ha)



Carl - Simulation Parameter: Area of interest

lau_name
Birštono savivaldybė

Carl - General information on LAU (simulator)

l2_desc	code_18	l3_desc	Tot Sup (ha)	% Tot Sup
Arable land	211	Non-irrigated arable land	2,331	100.000%
Totals			2,331	

Carl - Average SOC content (dg / kg)

Carl - Average SOC content recalculate (dg / kg)

18.3

Carl - Five-year change in SOC content (%)

1.8%

Carl - Soil Ph acidic (avg pH x 10)

49.84

Carl - Soil Ph acidic (ha)

796

Carl - Soil acidity reduction target (avg pH x 10)

10.16

Carl - Lime Product Required (t x ha)

2.03

To repeat the simulation, the user can press button Open control panel which will grant access to the navigation control section.

Post-simulation d

Variation in %

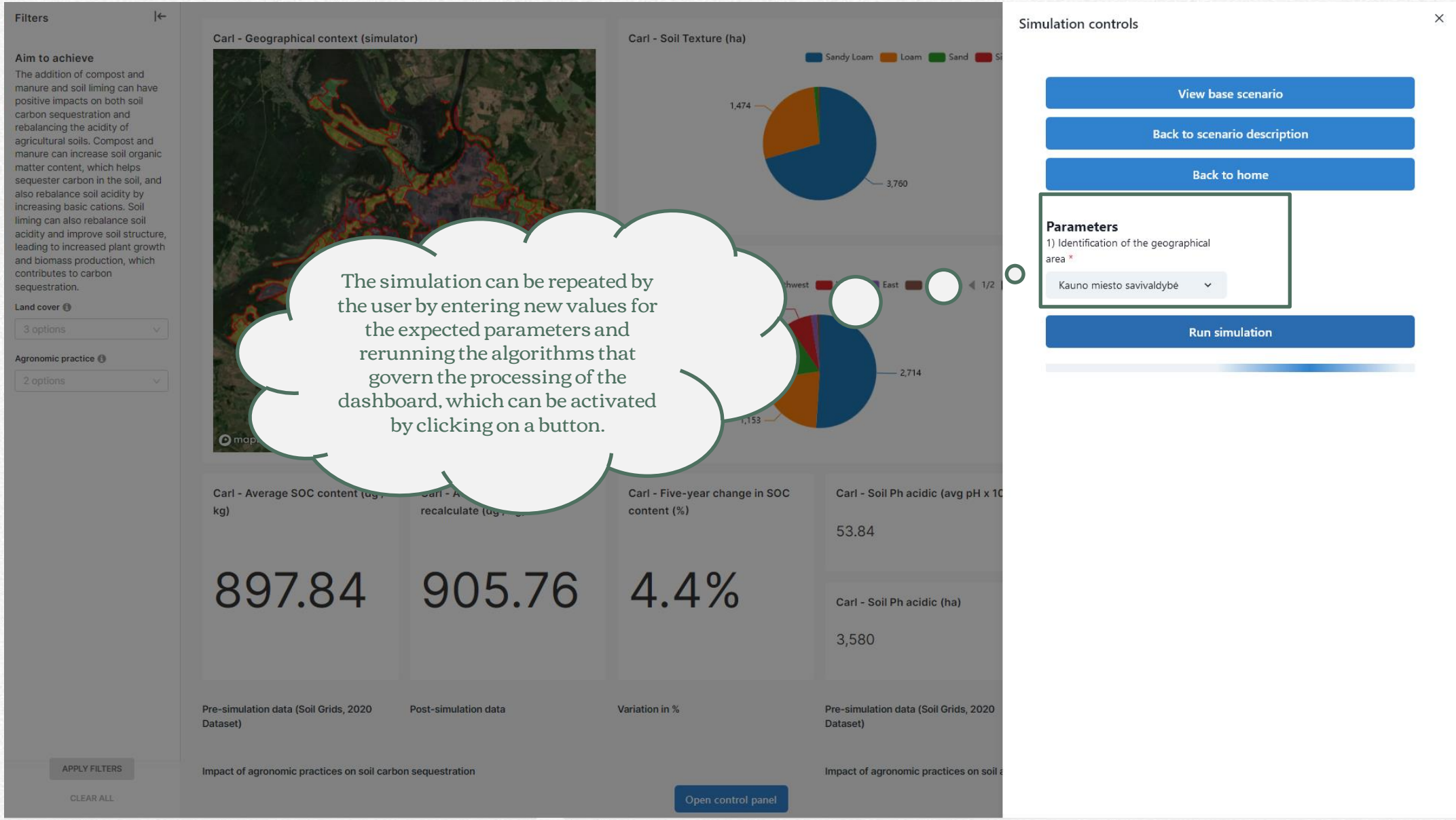
Pre-simulation data (Soil Grids, 2020 Dataset)

Post-simulation data (when liming is applied to the soil)

Impact of agronomic practices on soil carbon sequestration

Open control panel

Impact of agronomic practices on soil acidity reduction.


Filters
Aim to achieve
The addition of compost and manure and soil liming can have positive impacts on both soil carbon sequestration and rebalancing the acidity of agricultural soils. Compost and manure can increase soil organic matter content, which helps sequester carbon in the soil, and also rebalance soil acidity by increasing basic cations. Soil liming can also rebalance soil acidity and improve soil structure, leading to increased plant growth and biomass production, which contributes to carbon sequestration.
Land cover
3 options
Agronomic practice
2 options
APPLY FILTERS
CLEAR ALL
Carl - Geographical context (simulator)
Carl - Soil Texture (ha)
Sandy Loam
Loam
Sand
1,474
3,760
East
1/2
2,714
1,153
The simulation can be repeated by the user by entering new values for the expected parameters and rerunning the algorithms that govern the processing of the dashboard, which can be activated by clicking on a button.
Carl - Average SOC content (ug / kg)
897.84
Carl - A recalculate (ug / kg)
905.76
Carl - Five-year change in SOC content (%)
4.4%
Carl - Soil Ph acidic (avg pH x 10
53.84
Carl - Soil Ph acidic (ha)
3,580
Pre-simulation data (Soil Grids, 2020 Dataset)
Post-simulation data
Variation in %
Pre-simulation data (Soil Grids, 2020 Dataset)
Impact of agronomic practices on soil carbon sequestration
Impact of agronomic practices on soil
Open control panel
Simulation controls
View base scenario
Back to scenario description
Back to home
Parameters
1) Identification of the geographical area *
Kauno miesto savivaldybė
Run simulation

Filters

Aim to achieve

The addition of compost and manure and soil liming can have positive impacts on both soil carbon sequestration and rebalancing the acidity of agricultural soils. Compost and manure can increase soil organic matter content, which helps sequester carbon in the soil, and also rebalance soil acidity by increasing basic cations. Soil liming can also rebalance soil acidity and improve soil structure, leading to increased plant growth and biomass production, which contributes to carbon sequestration.

Land cover

3 options

Agronomic practice

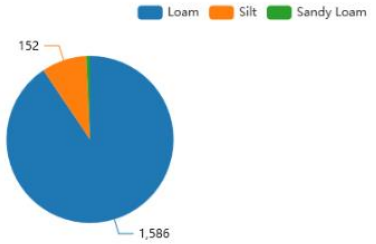
2 options

APPLY FILTERS

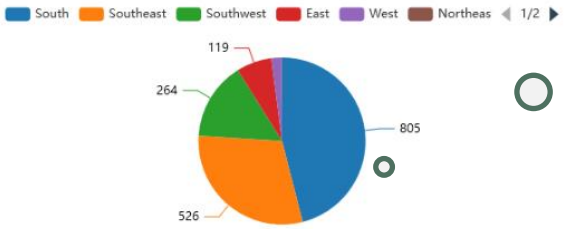
CLEAR ALL

Carl - Geographical context (simulator)

Carl - Soil Texture (ha)



Carl - Soil exposure (ha)



Carl - Simulation Parameter: Area of interest

lau_name
Kauno miesto savivaldybė

Carl - General inform

l2_desc				
Arable land				
Permanent crops				
Pastures	23			
Heterogeneous agricultural areas	242	Compl		
Heterogene agricultur	243	Land principally occupied by agriculture, with significant areas of natural vegetation	391	22.325%
Totals			1,751	

1 - Section where the simulation results are presented.

Carl - Average SOC content (dg / kg)

785.87

Pre-simulation data (Soil Grids, 2020 Dataset)

Carl - Average SOC content recalculate (dg / kg)

794.88

Post-simulation data

Carl - Five-year change in SOC content (%)

5.7%

Variation in %

Carl - Soil Ph acidic (avg pH x 10)

44.09

Carl - Soil Ph acidic (ha)

727

Pre-simulation data (Soil Grids, 2020 Dataset)

Carl - Soil acidity reduction target (avg pH x 10)

15.91

Impact of agronomic practices on soil acidity reduction.

Carl - Lime Product Required (t x ha)

3.18

Post-simulation data (when liming is applied to the soil)

Impact of agronomic practices on soil carbon sequestration

Open control panel

End of simulation session

What to do to close the simulator application.

Filters

Aim to achieve

The addition of compost and manure and soil liming can have positive impacts on both soil carbon sequestration and rebalancing the acidity of agricultural soils. Compost and manure can increase soil organic matter content, which helps sequester carbon in the soil, and also rebalance soil acidity by increasing basic cations. Soil liming can also rebalance soil acidity and improve soil structure, leading to increased plant growth and biomass production, which contributes to carbon sequestration.

Land cover

3 options

Agronomic practice

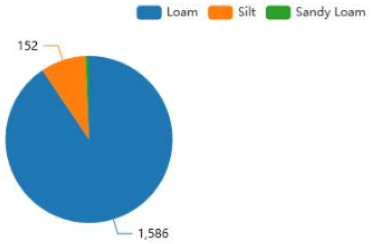
2 options

APPLY FILTERS

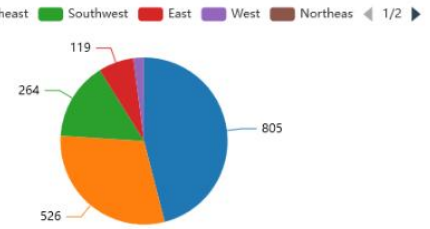
CLEAR ALL

Carl - Geographical context (simulator)

Carl - Soil Texture (ha)



Carl - Soil exposure (ha)



Carl - Simulation Parameter: Area of interest

lau_name
Kauno miesto savivaldybė

Carl - General information on LAU (simulator)

l2_desc	code_18	l3_desc	Tot Sup (ha)	% Tot Sup
Arable land	211	Non-irrigated arable land	203	11.615%
Permanent crops	222	Fruit trees and berry plantations	37	2.123%
Pastures	231	Pastures	221	12.627%
Heterogeneous agricultural areas	242	Complex cultivation patterns	898	51.310%
Heterogeneous agricultural areas	243	Land principally occupied by agriculture, with significant areas of natural vegetation	391	22.325%
Totals			1,751	

Carl - Average SOC content (dg / kg)

Carl - Average SOC content recalculate (dg / kg)

94.88

Carl - Five-year change in SOC content (%)

5.7%

Carl - Soil Ph acidic (avg pH x 10)

44.09

Carl - Soil Ph acidic (ha)

727

Carl - Soil acidity reduction target (avg pH x 10)

15.91

Carl - Lime Product Required (t x ha)

3.18

To conclude the simulation, the user can press button Open control panel which will grant access to the navigation control section.

Post-simulation

Variation in %

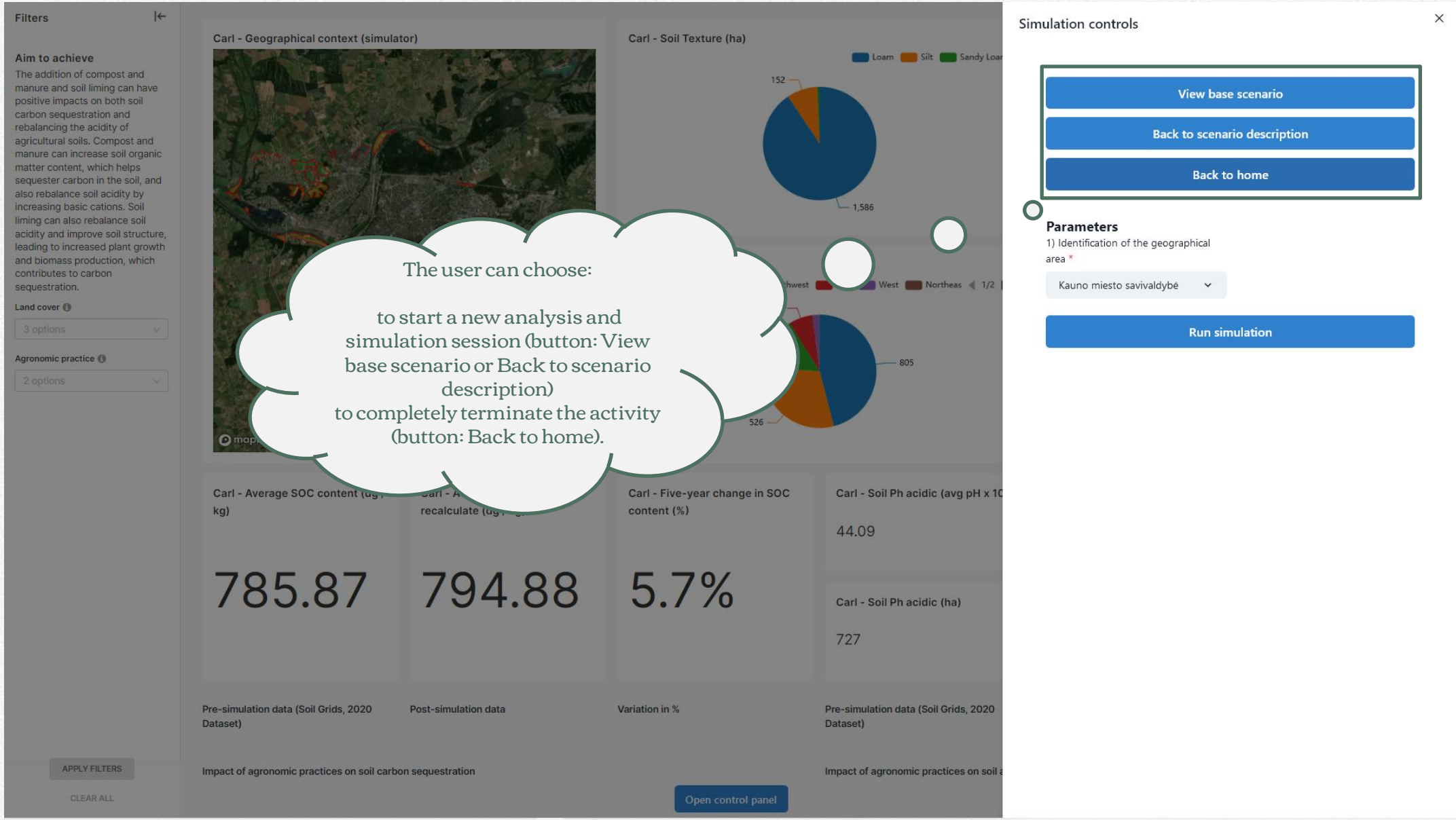
Pre-simulation data (Soil Grids, 2020 Dataset)

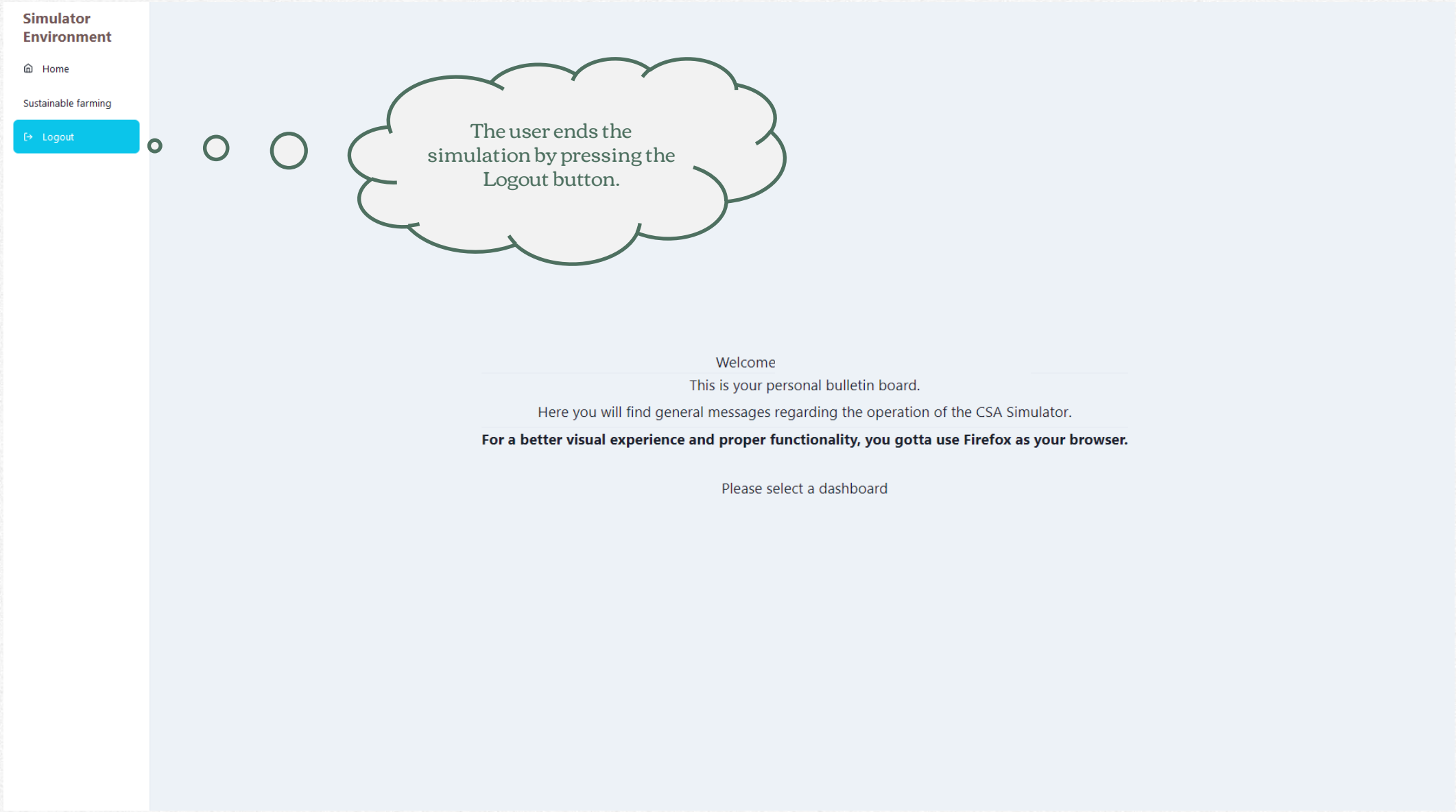
Post-simulation data (when liming is applied to the soil)

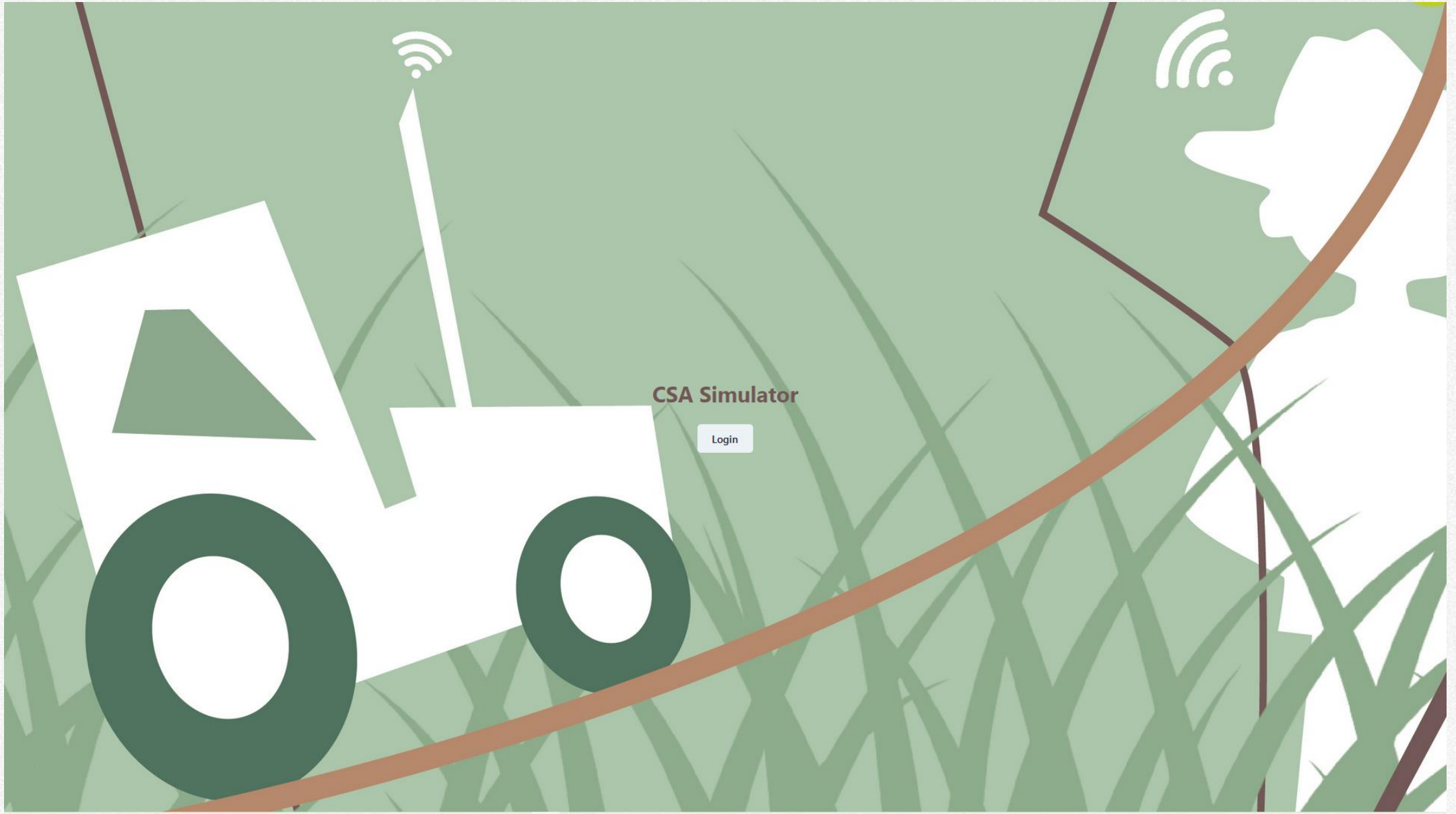
Impact of agronomic practices on soil carbon sequestration

Open control panel

Impact of agronomic practices on soil acidity reduction.


Filters
Aim to achieve
The addition of compost and manure and soil liming can have positive impacts on both soil carbon sequestration and rebalancing the acidity of agricultural soils. Compost and manure can increase soil organic matter content, which helps sequester carbon in the soil, and also rebalance soil acidity by increasing basic cations. Soil liming can also rebalance soil acidity and improve soil structure, leading to increased plant growth and biomass production, which contributes to carbon sequestration.
Land cover
3 options
Agronomic practice
2 options
APPLY FILTERS
CLEAR ALL
Carl - Geographical context (simulator)
Carl - Soil Texture (ha)
Loam
Silt
Sandy Loam
152
1,586
805
526
West
Northeas
1/2
The user can choose:
to start a new analysis and simulation session (button: View base scenario or Back to scenario description)
to completely terminate the activity (button: Back to home).
Carl - Average SOC content (
kg)
785.87
794.88
Carl - Five-year change in SOC content (%)
5.7%
Carl - Soil Ph acidic (avg pH x 10
44.09
Carl - Soil Ph acidic (ha)
727
Pre-simulation data (Soil Grids, 2020 Dataset)
Post-simulation data
Variation in %
Pre-simulation data (Soil Grids, 2020 Dataset)
Impact of agronomic practices on soil carbon sequestration
Impact of agronomic practices on soil
Open control panel
Simulation controls
View base scenario
Back to scenario description
Back to home
Parameters
1) Identification of the geographical area *
Kauno miesto savivaldybė
Run simulation


Simulator Environment
Home
Sustainable farming
Logout
The user ends the simulation by pressing the Logout button.
Welcome
This is your personal bulletin board.
Here you will find general messages regarding the operation of the CSA Simulator.
For a better visual experience and proper functionality, you gotta use Firefox as your browser.
Please select a dashboard


CSA Simulator
Login

FarmBox

The farmer's toolbox for climate change mitigation

Thanks for your attention!