



# FarmBox

**The farmer's toolbox  
for climate change  
mitigation**

Simulador de agricultura climáticamente  
inteligente

Un breve tutorial sobre cómo utilizar la plataforma.



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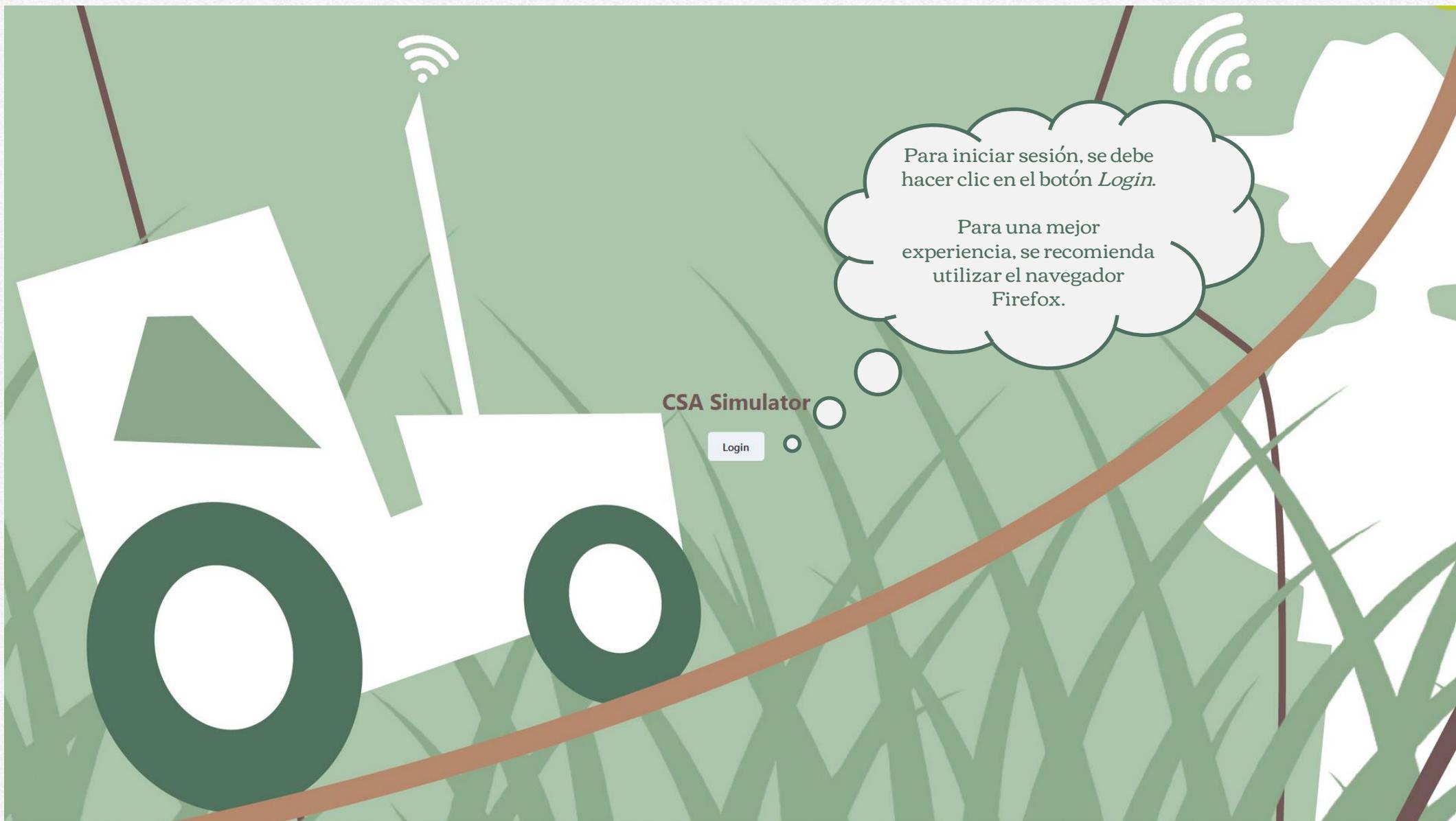
## Introducción

*Esta presentación sirve como un manual de instrucciones conciso que detalla la utilización de una aplicación basada en la web diseñada con el propósito de simular e implementar prácticas agronómicas competentes que están asociadas con la agricultura climáticamente inteligente.*

*Enfatiza específicamente la utilización de la agricultura de conservación como una herramienta para la mitigación del clima.*

## **Crear una cuenta**

*Cómo registrar un nombre de usuario y solicitar su activación*



Para iniciar sesión, se debe hacer clic en el botón *Login*.

Para una mejor experiencia, se recomienda utilizar el navegador Firefox.

CSA Simulator

Login

## UPTOEARTH

Sign in to your account

Email

Password

Sign In

New user? [Register](#)

Para crear una cuenta,  
pulsas el botón *Register*.

## UPTOEARTH

Register

First name

Last name

Email

Password

Confirm password

[← Back to Login](#)

Proporciona tus datos  
y haz clic en la opción  
*Register.*

## Simulator Environment

Home

Logout

Si el sistema pudo recopilar la información necesaria, se mostrará esta página web. Para terminar de registrarte, debes hacer clic en el botón *Logout*.

Welcome

Please select a dashboard



Una vez que hayas terminado de registrarte, deberás enviar un correo electrónico a [helpdesk@uptoearth.eu](mailto:helpdesk@uptoearth.eu) para solicitar la activación y hacerles saber en qué módulo educativo deseas participar.

# Cómo empezar

*Cómo acceder y navegar por la aplicación web*



## UPTOEARTH

Sign in to your account

Email

Password

Sign In

[New user?](#) [Register](#)

En esta página, debes introducir las mismas credenciales que has proporcionado anteriormente.

## Simulator Environment

Home

Sustainable farming

Logout

El menú del lado izquierdo incluye todos los botones de navegación para la aplicación.

En especial, los que se utilizan para elegir el caso práctico activo para la simulación.

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

En el centro se muestra un mensaje personalizado con varias indicaciones para la persona usuaria.

En este caso particular, se incluye un aviso de mantenimiento de la aplicación que podría causar algunos problemas.

## **Configurar tu simulación**

*Elegir los parámetros correctos para tu simulación del caso práctico.*

## Simulator Environment

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### 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 developed 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 simulation will 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 quality as 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, helping them to become better informed and more responsible stewards of the soils.

##### 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 used. Topography and Morphology is a measure of the shape and form of land, etc. All these variables are taken into account in agronomic practices. Land cover is a physical characteristic of the land.

##### Instructions to

The following instructions include when to use the simulation and how to compare the results before and after the simulation.

##### Feedback

The simulation provides feedback on the potential for improving soil quality through the use of cover crops.

By manipulating the variables, users can see the effect on soil quality.

This simulation demonstrates the effect of application or soil liming on soil quality in a specific region.

En el simulador, encontramos un botón de control en cada sección, lo que permite elegir acciones para la fase de simulación específica.

Esto activa la sección de navegación relacionada, que proporciona a la persona usuaria opciones adicionales.

El menú contiene una guía para usuarios que presenta el contenido y el propósito de la simulación.

La guía cubre varios temas que incluyen el título de la simulación, el alcance y los resultados de aprendizaje, las coordenadas de la simulación, las variables e índices involucrados, las instrucciones para ejecutar la simulación, así como los comentarios y la explicación de la simulación ejecutada.

Open control panel

**Simulator Environment**

- Home
- Sustainable farming
- Logout

**Scenario description**

Here you will find the information contained in the **Use Case for Simulation - Student** and **Sustainable farming** scenario.

In particular, the following topics are explained:

1. Simulation title
2. Simulation scope and learning objectives
3. Coordinates of the simulation area
4. Variables and indexes involved
5. Instructions to experiment
6. Feedback and experimental results

**Simulation controls**

**View base scenario**

**Parameters**

1) Identification of the geographical area \*

Select

**Run simulation**

Open control panel

El botón se puede utilizar para activar la producción del *Base Scenario*, que incluye información general sobre el contexto de simulación y ofrece comprensión de las características principales del área geográfica en cuestión.

En el área específica relacionada con la activación de la simulación tenemos disponibles dos tipos de herramientas:

- una o más cajas para introducir los parámetros de simulación necesarios;
- un botón que activa la simulación después de que se hayan introducido los parámetros necesarios.

## **Base Scenario**

*Entender el área geográfica de referencia: lo que necesitas saber.*

## Simulator Environment

Home

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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*

*With regard to the Simulation dashboard, in addition to describing the active filters durin*

6. Feedback and explanation of the executed simulation

La persona usuaria activa la consulta del escenario pulsando el botón *View base scenario*.

### Simulation controls

View base scenario

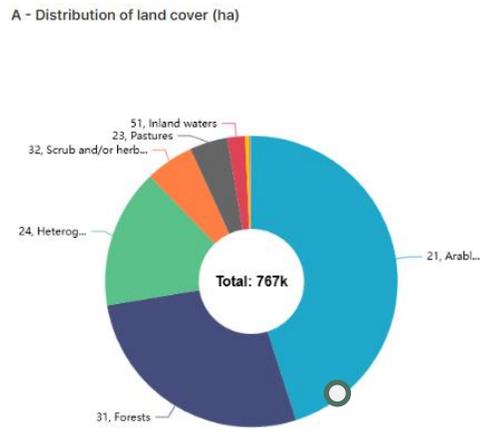
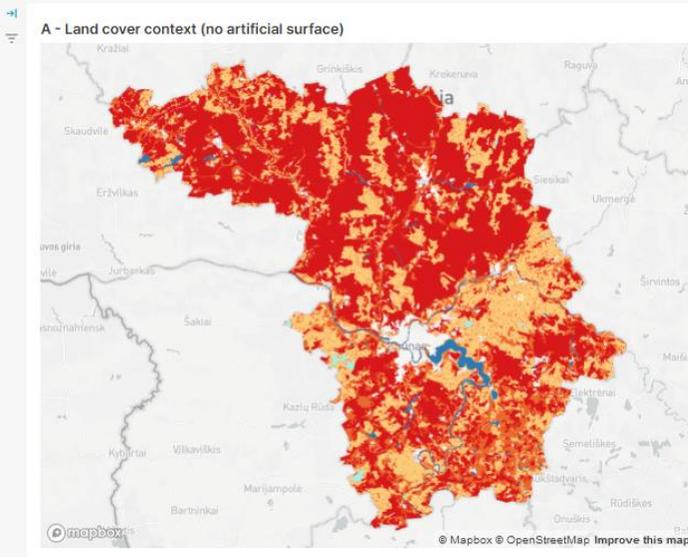
#### Parameters

1) Identification of the geographical area \*

Select

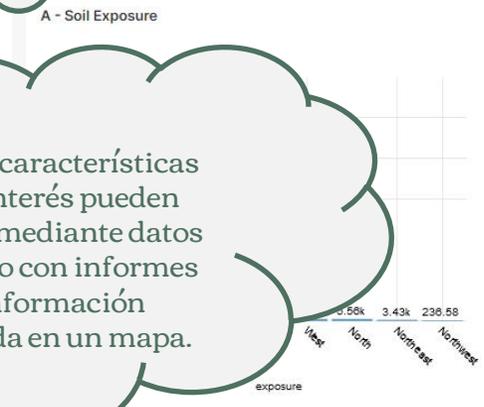
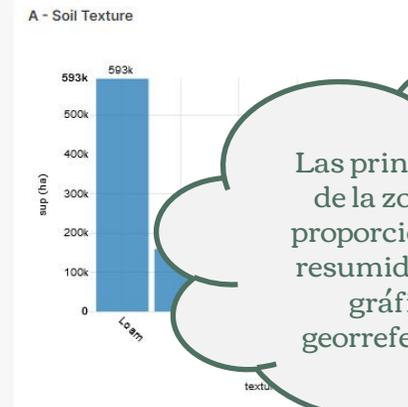
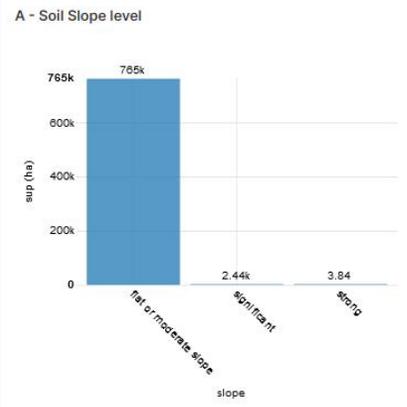
Run simulation

Open control panel



### A - General information on land cover

code_18	i3_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%
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243	Land principally occupied by agriculture, with significant areas of natural vegetation	42,136	5.492%
311	Broad-leaved forest	61,503	8.016%
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322	Moors and heathland	320	0.042%
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412	Peat bogs	3,135	0.409%
511	Water courses	4,699	0.612%
512	Water bodies	10,477	1.368%
<b>Totals</b>		<b>767,203</b>	



Las principales características de la zona de interés pueden proporcionarse mediante datos resumidos, junto con informes gráficos e información georreferenciada en un mapa.

### 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%
<b>Totals</b>			<b>56.9%</b>

Open control panel

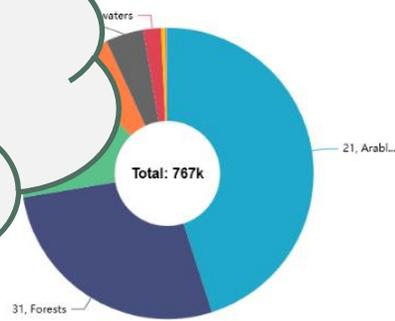


A - Land cover context (no artificial surface)



Se proporcionan datos detallados con toda la información necesaria para analizar y seleccionar el área específica de interés para realizar la simulación.

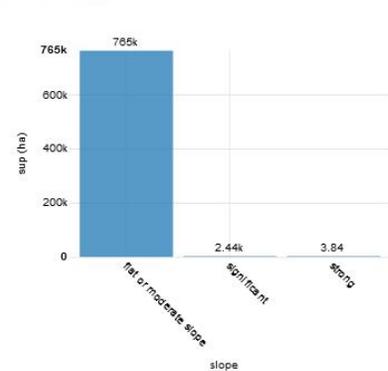
A - Distribution of land cover (ha)



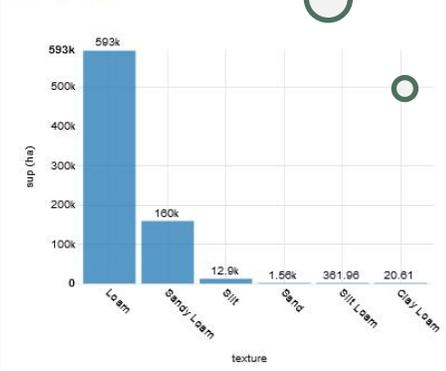
A - General information on land cover

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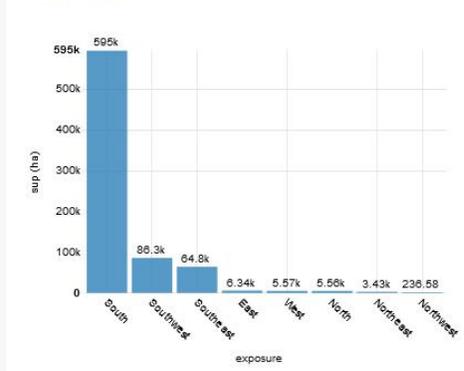
A - Soil Slope level



A - Soil Texture



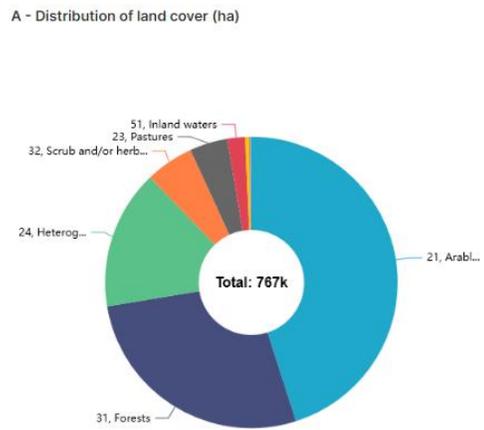
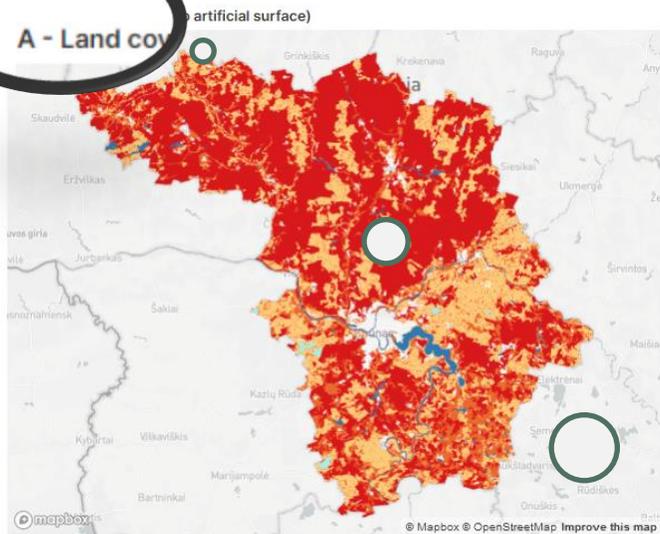
A - Soil Exposure



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

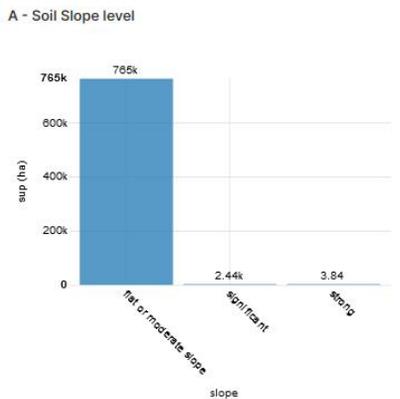
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Open control panel



### A - General information on land cover

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La sección *Filters* se puede activar haciendo clic en el botón, lo que permite profundizar en el análisis del área de interés, examinando solo los territorios que cumplen con las características de clasificación identificadas.

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

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<b>Totals</b>			<b>56.9%</b>

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

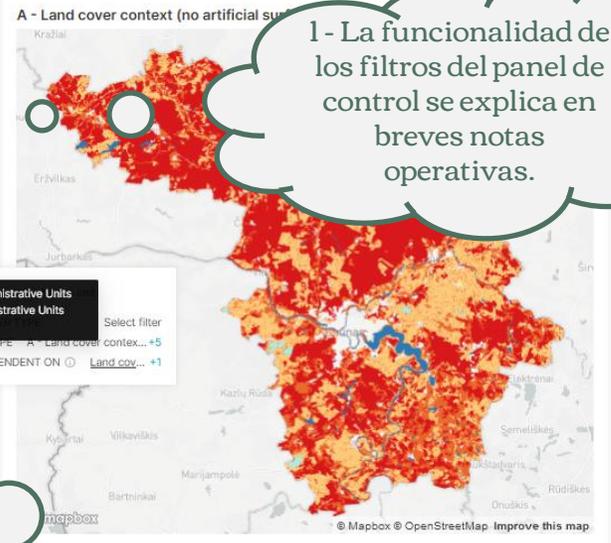
**Land cover L2** ⓘ  
13 options

**Administrative unit** ⓘ  
8 options

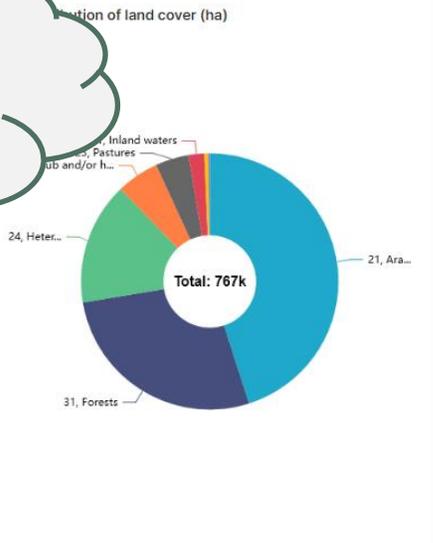
Based on Local Administrative Units (LAU), 2020 - Administrative Units Dataset

Select filter

DEPENDENT ON: Land cov... +1



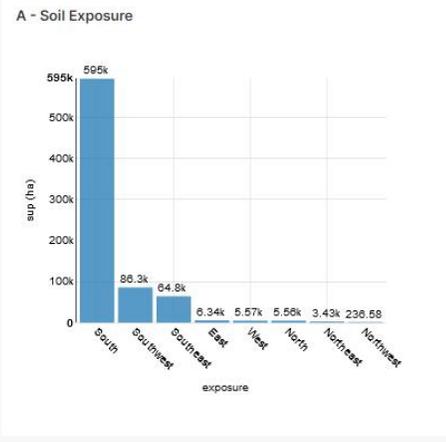
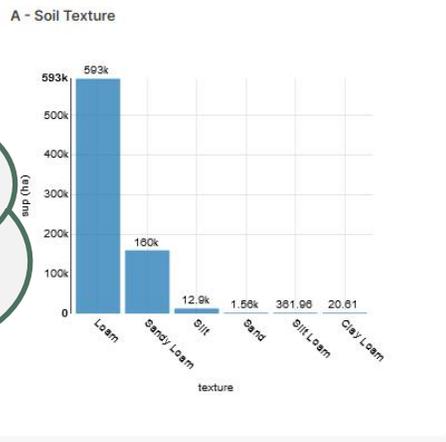
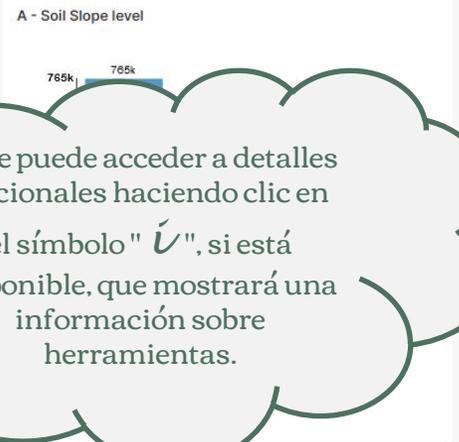
1 - La funcionalidad de los filtros del panel de control se explica en breves notas operativas.



**A - General information on land cover**

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<b>Totals</b>		<b>767,203</b>	

2 - Se puede acceder a detalles adicionales haciendo clic en el símbolo "i", si está disponible, que mostrará una información sobre herramientas.



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

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APPLY FILTERS

CLEAR ALL

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

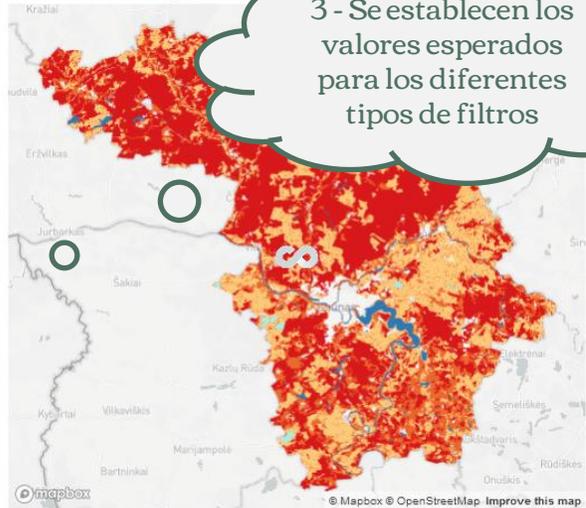
Land cover L2

13 options

Administrative unit

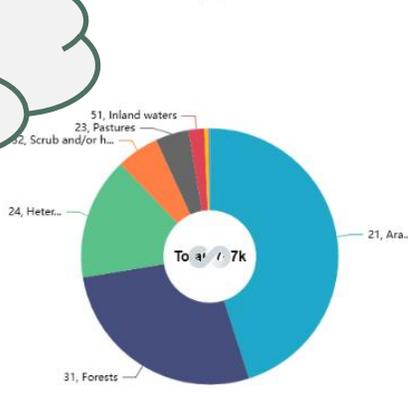
Birštono savivaldybė x

A - Land cover context (no artificial s... Distribution of land cover (ha)



3 - Se establecen los valores esperados para los diferentes tipos de filtros

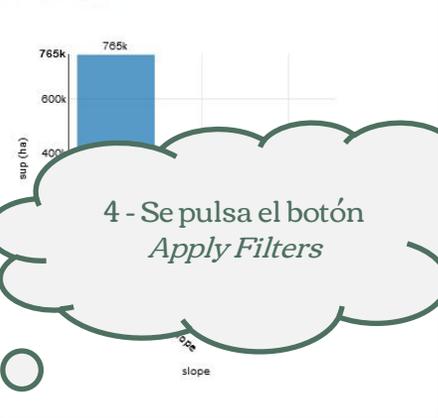
Distribution of land cover (ha)



A - General information on land cover

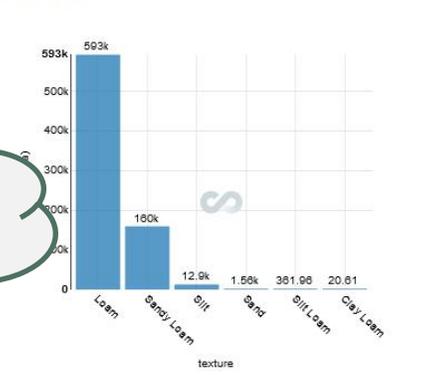
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A - Soil Slope level

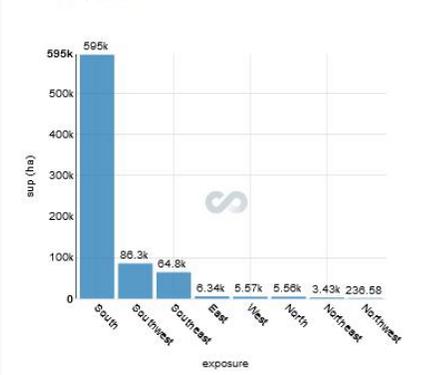


4 - Se pulsa el botón *Apply Filters*

A - Soil Texture



A - Soil Exposure



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

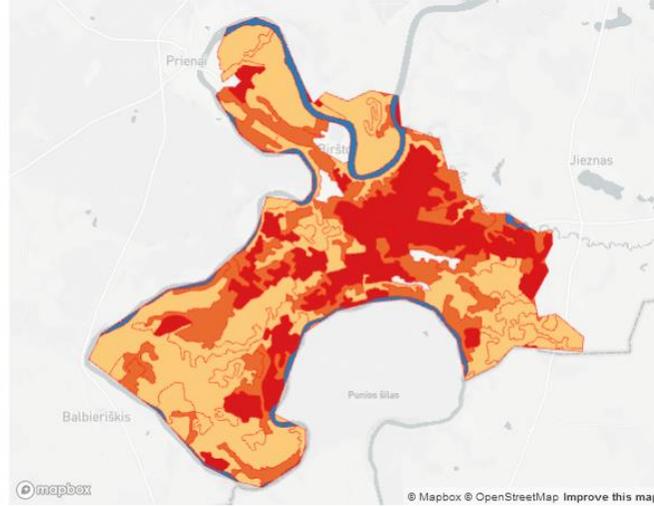
lau_name	arable_land_ha	agricultural_areas_ha	% Sup vs Su
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APPLY FILTERS

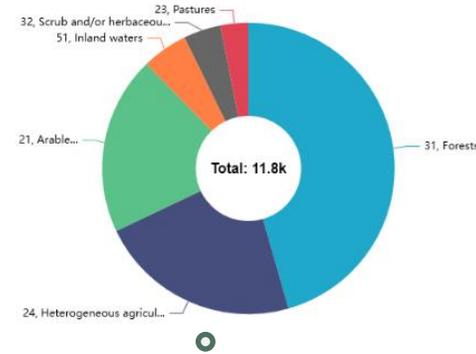
CLEAR ALL

Open control panel

A - Land cover context (no artificial surface)



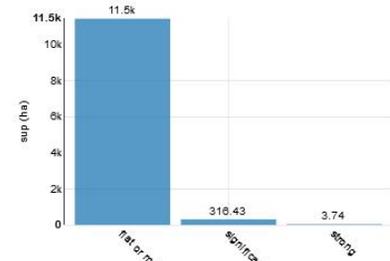
A - Distribution of land cover (ha)



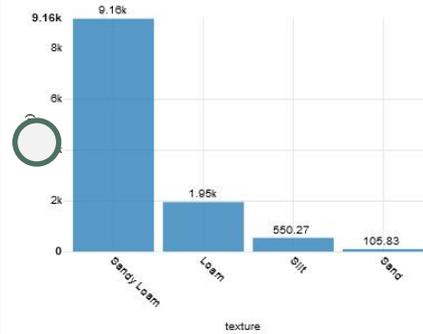
A - General information on land cover

code_18	I3_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%
<b>Totals</b>		<b>11,773</b>	

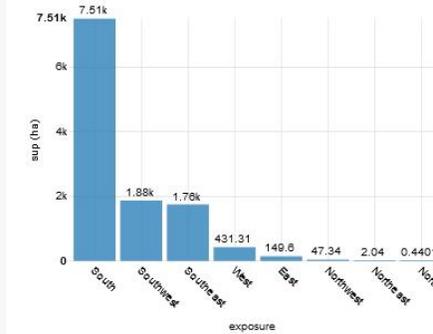
A - Soil Slope level



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%
<b>Totals</b>			<b>56.9%</b>

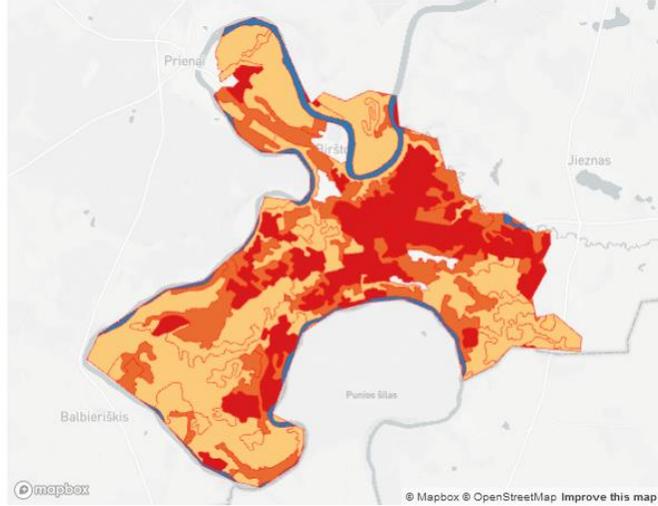
5 - Se consulta la nueva información presente en el panel de control

Open control panel

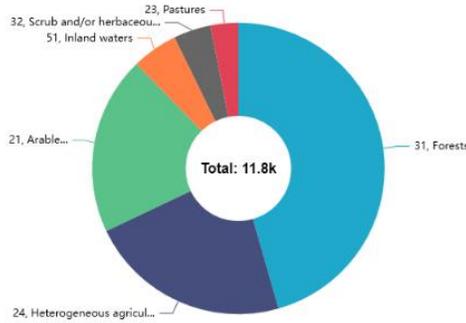
## **Simulation Scenario**

*Iniciar la simulación y observar los resultados.*

A - Land cover context (no artificial surface)



A - Distribution of land cover (ha)

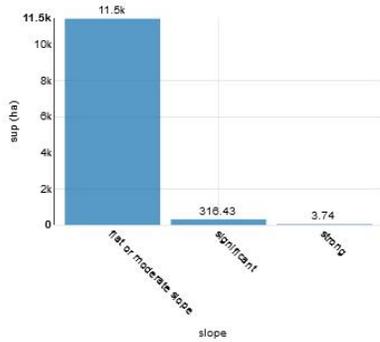


A - General information on land cover

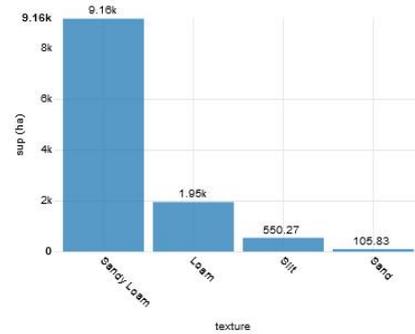
code_18	I3_desc	Sup tot (ha)	% Sup tot
211	Non-irrigated arable land	2,331	19.801%
231	Pastures	360	3.061%
242	Complex cultivation patterns	1,558	13.232%
243	Land principally occupied by agriculture, with significant areas of natural vegetation	1,074	9.121%
311	Broad-leaved forest	117	0.990%
312	Coniferous 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	

Para activar la simulación, la persona usuaria puede pulsar el botón *Open control panel* que permitirá acceder a la sección de control de navegación.

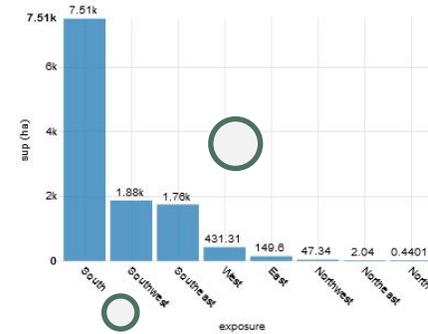
A - Soil Slope level



A - Soil Texture



A - Soil Exposure



Comparison 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

**1 - En base a la información adquirida en la consulta del *Base Scenario*, se insertan parámetros para los cuales se va a realizar la simulación.**

**2 - Se pulsa el botón *Run simulation* para activar el proceso de simulación.**

**Simulation controls**

- Back to scenario description
- Back to home
- Parameters**
  - 1) Identification of the geographical area \*
  - Birštono savivaldybė
- Run simulation

**A - Land cover context (no artificial surface)**

**A - Distribution of land cover (ha)**

code_18	I3_desc
211	Non-irrigated arable land
311	Pastures
321	Complex cultivation patterns
322	Land principally occupied by agriculture
323	Broad-leaved forest
324	Coniferous forest
313	Mixed forest
324	Woodland
511	Water courses

Totals

24. Heterogeneous agricul...

**A - Soil Slope level**

slope	sup (ha)
flat or moderate slope	11.5k
significant	316.43
strong	3.74

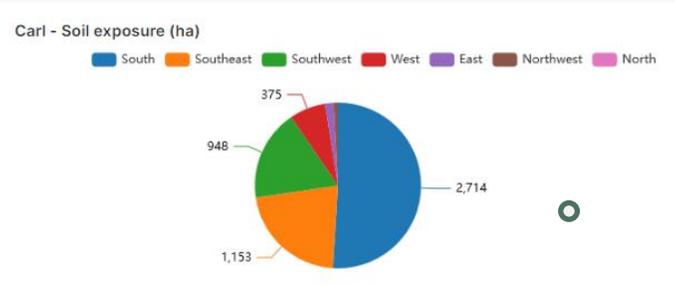
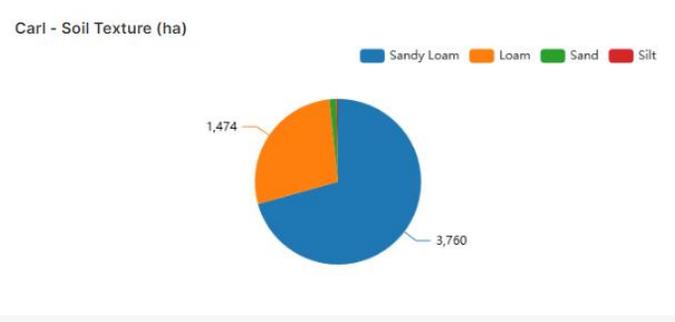
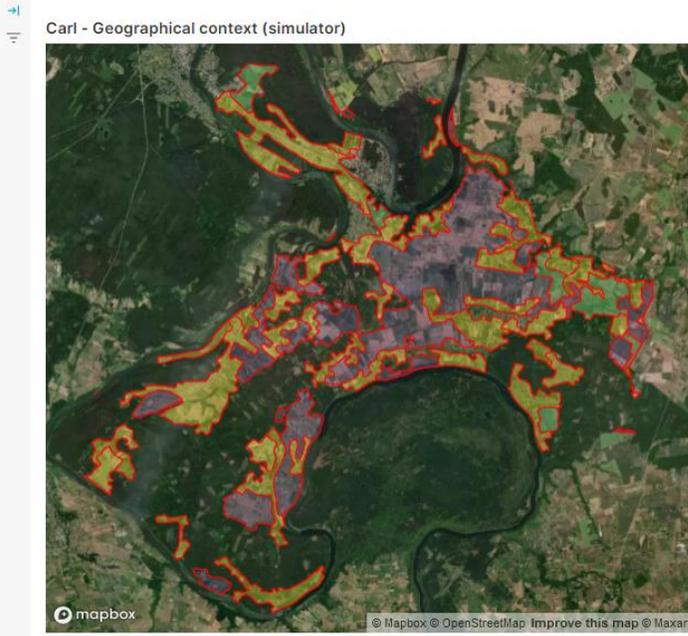
**A - Soil Texture**

texture	sup (ha)
Stagny Loam	9.16k
Loam	1.95k
Silt	550.27
Sand	105.83

**A - Soil Exposure**

exposure	sup (ha)
South	431.31
Southwest	149.6
South east	47.34
West	2.04
East	0.4401
Northwest	
Northeast	
North	

Open control panel



Carl - Simulation Parameter: Area of interest

lau\_name : Birštono savivaldybė

Carl - General information on Land Use

I2_desc	code_18	Area (ha)	Percentage (%)
Arable land	211	-	-
Pastures	231	-	-
Heterogeneous agricultural areas	242	-	-
Heterogeneous agricultural areas	243	-	172%
Totals		5,323	

1 - Sección donde se presentan los resultados de la simulación.

Carl - Average SOC content (dg / kg)

Pre-simulation data (Soil Grids, 2020 Dataset)

897.84

Carl - Average SOC content recalculate (dg / kg)

Post-simulation data

905.76

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

Variation in %

4.4%

Carl - Soil Ph acidic (avg pH x 10)

Pre-simulation data (Soil Grids, 2020 Dataset)

53.84

Carl - Soil Ph acidic (ha)

3,580

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

6.16

Carl - Lime Product Required (t x ha)

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

1.23

Impact of agronomic practices on soil carbon sequestration

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** ⓘ

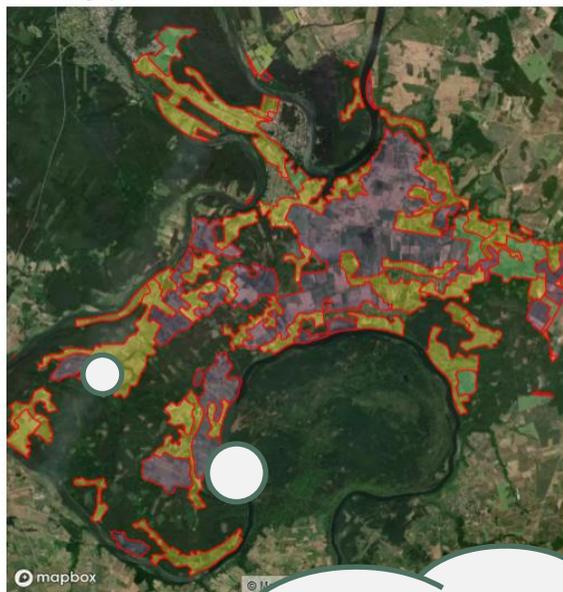
Arable land

Arable land ✓

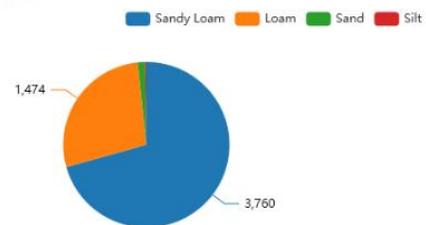
Heterogeneous agricultural ...

Pastures

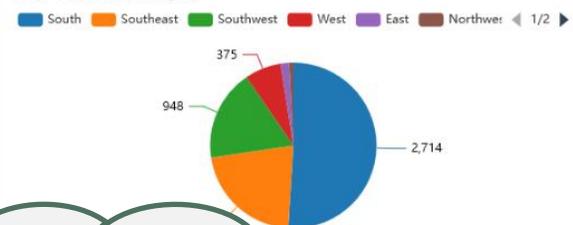
Carl - Geographical context (simulator)



Carl - Soil Texture (ha)



Carl - Soil exposure (ha)



Carl - Simulation Parameter: Area of interest

lau\_name :  
 Birštono savivaldybė

Carl - General information on LAU (simulator)

I2_desc	code_I8	I3_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%
<b>Totals</b>			<b>5,323</b>	

Carl - Average SOC content (kg)

897.8

Carl - Soil Ph acidic (avg pH x 10)

8.4

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

6.16

Carl - Lime Product Required (t x ha)

1.23

Carl - Soil Ph acidic (ha)

3,580

2 - Sección *Filters* que permite un análisis más profundo del área simulada (se aplican las mismas instrucciones ya proporcionadas para el panel de control de *Base Scenario*).

Pre-simulation data (Soil Grids, 2020 Dataset)

Post-simulation data

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

Impact of agronomic practices on soil acidity reduction.

APPLY FILTERS

CLEAR ALL

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

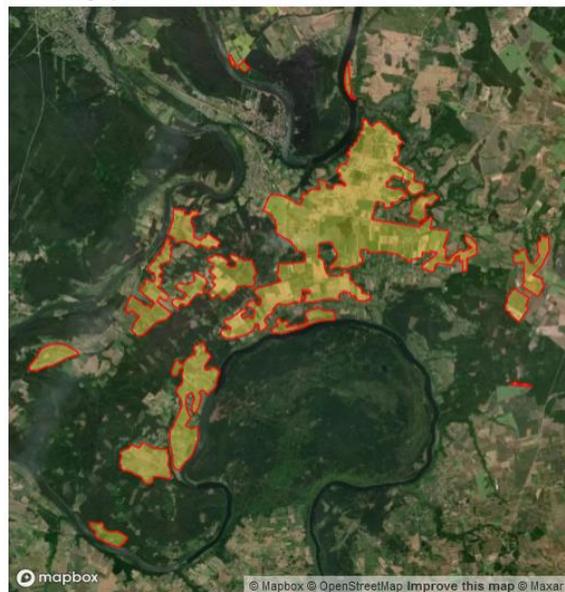
Agronomic practice

Soil liming

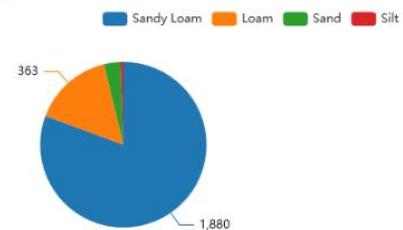
APPLY FILTERS

CLEAR ALL

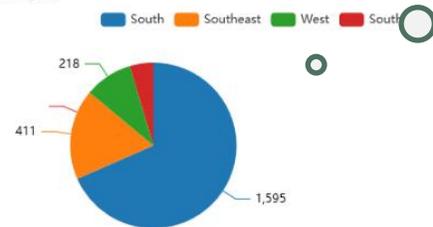
Carl - Geographical context (simulator)



Carl - Soil Texture (ha)



Carl - Soil exposure (ha)



Carl - Simulation Parameter: Area of interest

lau\_name  
Birštono savivaldybė

Carl - Gen

I2\_desc

Arable land

Totals

El contenido del panel de control después de aplicar los filtros.

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 %

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

Impact of agronomic practices on soil acidity reduction.

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 carbon sequestration

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.

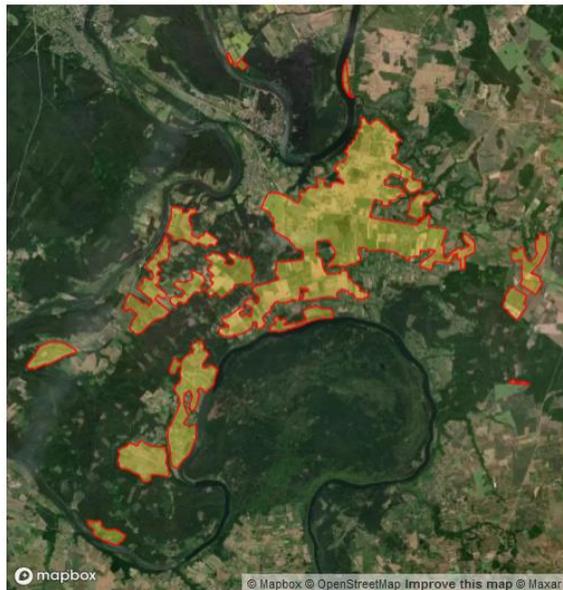
Land cover

Arable land

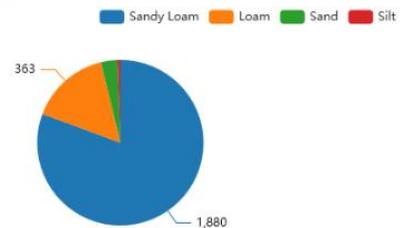
Agronomic practice

Soil liming

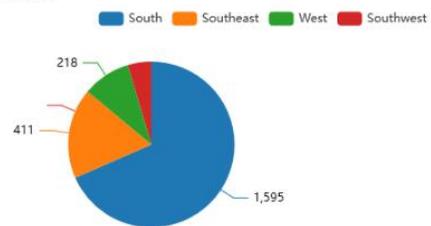
Carl - Geographical context (simulator)



Carl - Soil Texture (ha)



Carl - Soil exposure (ha)



Carl - Simulation Parameter: Area of interest

lau\_name

Birštono savivaldybė

Carl - General information on LAU (simulator)

I2_desc	code_18	I3_desc	Tot Sup (ha)	% Tot Sup
Arable land	211	Non-irrigated arable land	2,331	100.000%
Totals			2,331	

Carl - Average SOC content calculate (dg / kg)

8.3

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

Para repetir la simulación, la persona usuaria puede pulsar el botón *Open control panel* que permitirá acceder a la sección de control de navegación.

APPLY FILTERS

CLEAR ALL

Impact of agronomic practices on soil carbon sequestration

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 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.

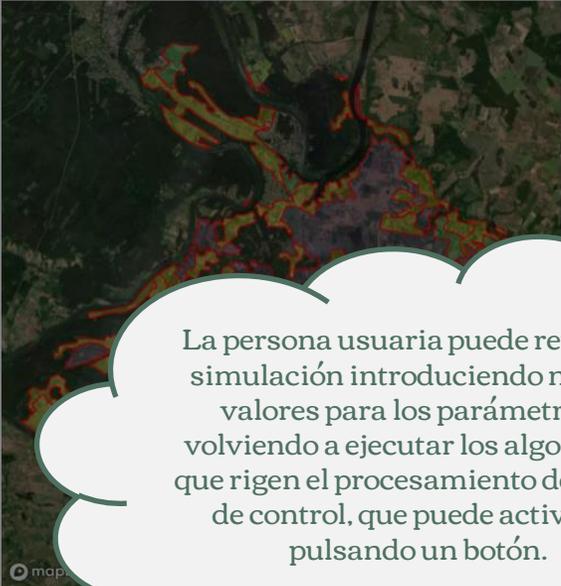
**Land cover** |  
3 options ▾

**Agronomic practice** |  
2 options ▾

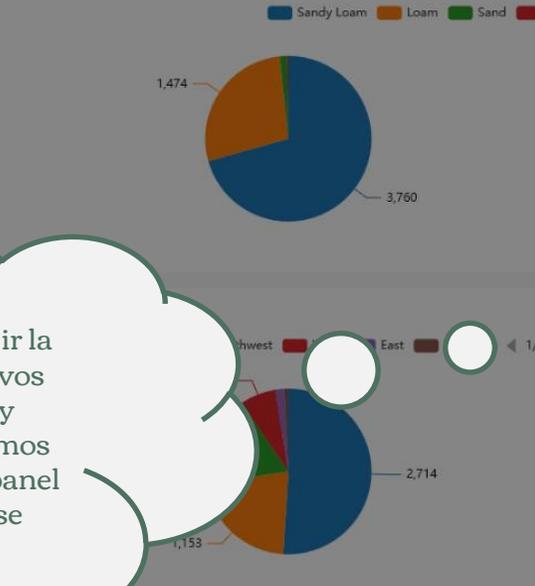
APPLY FILTERS

CLEAR ALL

Carl - Geographical context (simulator)



Carl - Soil Texture (ha)



Carl - Average SOC content (ug / kg)

897.84

Pre-simulation data (Soil Grids, 2020 Dataset)

Carl - Average SOC content (ug / kg) recalculate (ug / kg)

905.76

Post-simulation data

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

4.4%

Variation in %

Carl - Soil Ph acidic (avg pH x 10)

53.84

Pre-simulation data (Soil Grids, 2020 Dataset)

Carl - Soil Ph acidic (ha)

3,580

Pre-simulation data (Soil Grids, 2020 Dataset)

Impact of agronomic practices on soil carbon sequestration

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

La persona usuaria puede repetir la simulación introduciendo nuevos valores para los parámetros y volviendo a ejecutar los algoritmos que rigen el procesamiento del panel de control, que puede activarse pulsando un botón.

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.

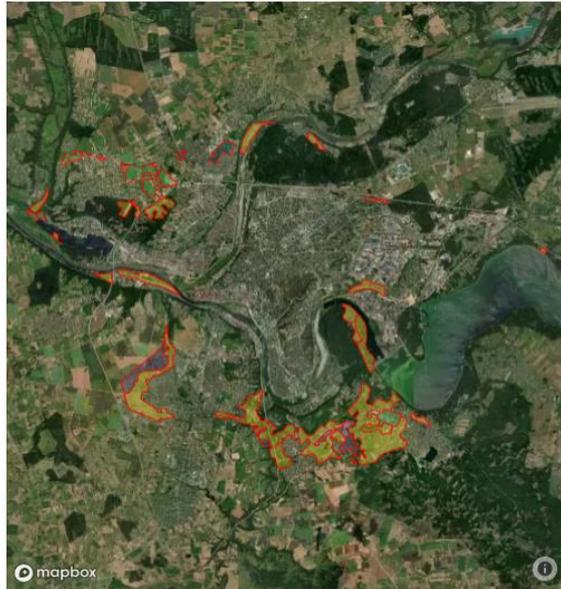
Land cover

3 options

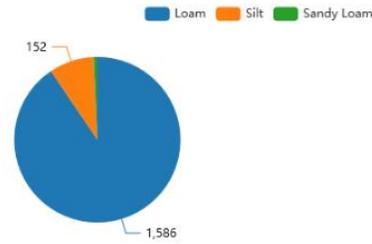
Agronomic practice

2 options

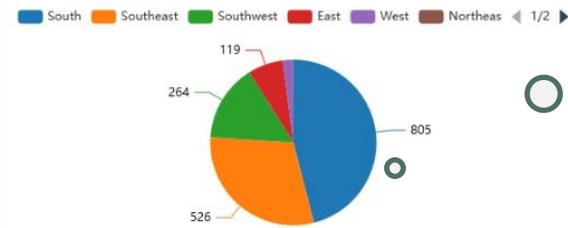
Carl - Geographical context (simulator)



Carl - Soil Texture (ha)



Carl - Soil exposure (ha)



Carl - Simulation Parameter: Area of interest

lau\_name  
Kauno miesto savivaldybė

Carl - General information

l2\_desc

Arable land

Permanent crops

Pastures

Heterogeneous agricultural areas

Heterogeneous agricultural areas

Totals

1 - Sección donde se presentan los resultados de la simulación.

243	Land principally occupied by agriculture, with significant areas of natural vegetation	391	22.325%
<b>Totals</b>		<b>1,751</b>	

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)

APPLY FILTERS

CLEAR ALL

Impact of agronomic practices on soil carbon sequestration

Open control panel

## **Finalizar la sesión de simulación**

*Qué hacer para cerrar la aplicación del simulador.*

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.

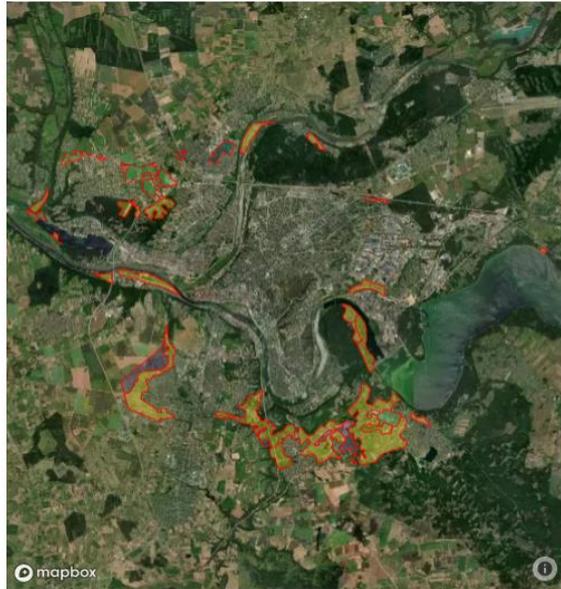
Land cover

3 options

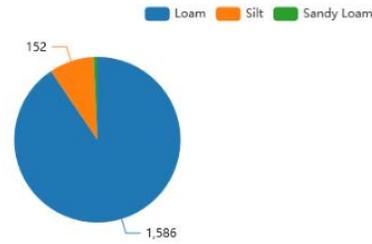
Agronomic practice

2 options

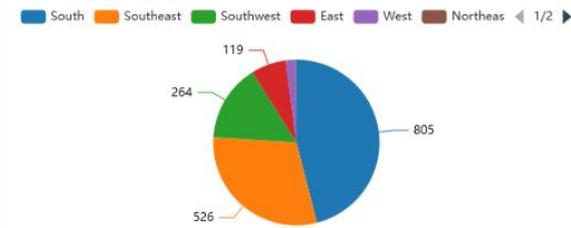
Carl - Geographical context (simulator)



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)

I2_desc	code_I8	I3_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%
<b>Totals</b>			<b>1,751</b>	

Carl - Average SOC content (calculate) (dg / kg)

4.88

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

Para concluir la simulación, la persona usuaria puede pulsar el botón *Open control panel* que permitirá acceder a la sección de control de navegación.

APPLY FILTERS

CLEAR ALL

Impact of agronomic practices on soil carbon sequestration

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 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** ⓘ  
3 options ▾

**Agronomic practice** ⓘ  
2 options ▾

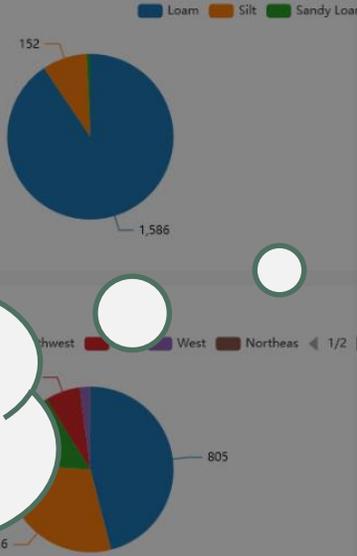
APPLY FILTERS

CLEAR ALL

**Carl - Geographical context (simulator)**



**Carl - Soil Texture (ha)**



Soil Texture	Area (ha)
Loam	1,586
Silt	152
Sandy Loam	805

**Carl - Average SOC content (ug / kg)**  
785.87

**Carl - Average SOC content (recalculate) (ug / kg)**  
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

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

La persona usuaria puede elegir:

iniciar una nueva sesión de análisis y simulación (botón: *View base scenario*)

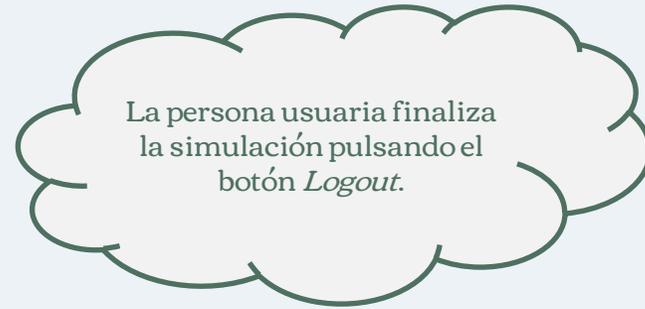
terminar completamente la actividad (botón: *Back to home*).

## Simulator Environment

🏠 Home

Sustainable farming

🔗 Logout



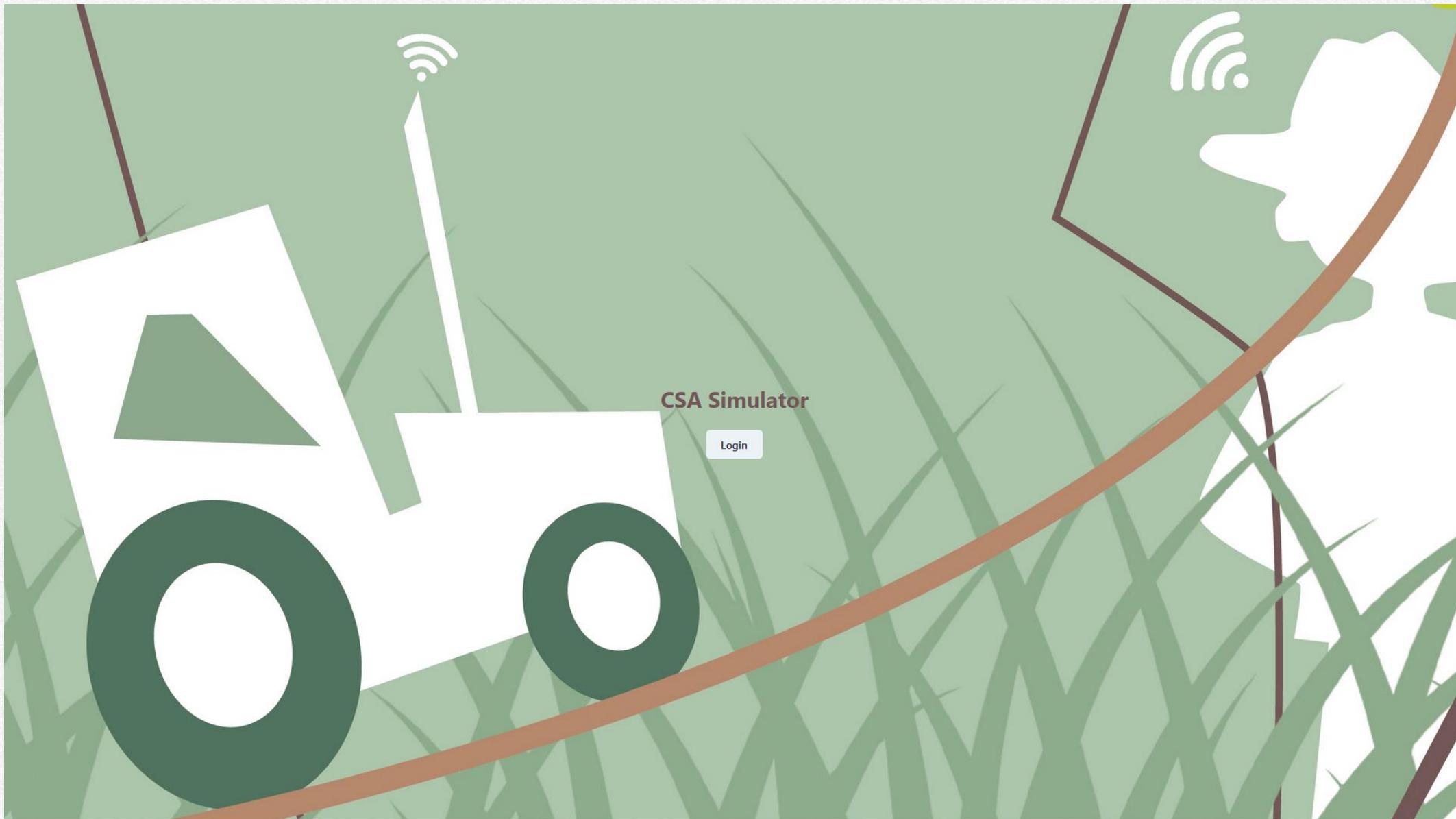
Welcome

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

¡Gracias por tu atención!

