



Citizen Science: From Data to Action

Join us to discover how citizen-generated data on soils, food and a changing climate can create positive change in the world.

GROW Observatory MOOC on FutureLearn

Link: <https://www.futurelearn.com/courses/grow-from-soil-to-data>

Authors: Mel Woods, Naomi van der Velden, Gerid Hager, Raquel Ajates, Karoly Kovacs, Alice Ambler

Year: 2019



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Course Description

How can citizen science create positive change in the world? Join this online course to discover soil and food growing data and results generated by citizen scientists like you who are collaborating with the GROW Observatory. Become familiar with datasets, learn to identify patterns, errors and insights that can create change from the local to the global. You will explore the potential of art to communicate complex scientific data and concepts and become one of the first to experience the work of GROW's artist in residence.

What topics will you cover?

- Overview of different sources of citizen science generated datasets in the GROW Observatory including soil sensor data.
- Analysis of results submitted by GROW participants over the growing season to investigate the effectiveness of a polyculture vs monoculture experiment.
- Identifying trends and patterns in datasets as well as reflecting on the different insights you can gain from individual and collective experiment results.
- The role and potential of art in communicating complex scientific concepts and data.
- Creating positive change through citizen science: from the local to the global.

Learning on this course

On every step of the course, you can meet other learners, share your ideas, and join in with active discussions in the comments.

What will you achieve?

By the end of the course, you'll be able to...

- Explore methods for analysing data from growing sites collected by growers like you.
- Engage in activities using citizen generated data to identify patterns and errors in soil and food growing data.
- Describe key research principles and their importance in designing and analysing robust citizen science experiments for your growing site and your community.
- Design strategies for moving from insights from datasets to positive change making.
- Identify the level of change citizen science experiments can generate in local, national and international spheres, including participatory governance channels.
- Explore the role and potential of art in communicating complex scientific concepts and data.

Who is the course for?

This course is for you if you are interested in any of the following subjects: soil, food growing, agriculture, ecosystems and the environment, technology, earth observation, sensors, environmental governance. Participants won't need any prior experience, but it might be of particular relevance to small farmers, community and urban growers, gardeners, land managers, allotment growers, fab lab users, environmental NGOs, people interested in food production and citizen science, as well as teachers in science and environment-related subjects.



Course Outline

WEEK 1: Harvesting insights from your growing plot

Welcome to GROW

1.1 The GROW Observatory

Video

1.2 Welcome to the course

Video

1.3 Welcome to Week 1

Video

1.4 GROW glossary

Article

Understanding different sources of data

1.5 Different sources of citizen generated soil data in GROW

Video

1.6 Individual vs. collective results

Article

1.7 Data quality: spotting errors

Article

1.8 Data quality: Natural variations and differences

Article

1.9 Spot the error

Poll

Recording your growing experiment data by hand and analysing the data

1.10 Recording and analysing your experiment data

Article

1.11 Preparing your experiment data

Article

1.12 Using a dataset: Part 1

Video

1.13 Using a dataset: Part 2

Video

1.14 Predicting patterns and results

Article

Growing in the cloud: sensors and apps

1.15 Making the most of the internet to improve your growing and soil

Video

1.16 Soil sensors

Article

1.17 What can you use sensor data for?

Video

1.18 Preparing your sensor data

Video



1.19 Soil sensor data

Video

1.20 Hands on with soil sensor data

Article

1.21 Spot the error

Quiz

1.22 Results: differences, trends and patterns using sensor and app data

Video

Summary

1.23 The GROW quiz

Quiz

1.24 Keep GROWing

Video

WEEK 2: GROW participant-generated data: the results so far!

Using citizen-generated data I: GROW's Great Living Soils Experiment

2.1 GROW's Great Living Soils Experiment

Article

2.2 Your results from the GROW's Great Living Soils Experiment

Article

2.3 Exploring variation in the GROW Great Experiment results

Article

2.4 What next for the GROW experiment?

Discussion

Using citizen-generated data II: GROW Places validating Sentinel-1

2.5 What are GROW Places?

Video

2.6 Data collected in GROW Places: Part 1

Article

2.7 Data collected in GROW Places: Part 2

Article

2.8 GROW Places: your results

Video

The GROW Observatory app

2.9 Mobile apps and food growing

Article

2.10 Introducing the GROW Observatory app

Video

2.11 Contributing to GROW's shared harvesting and planting data

Discussion



Data and art in GROW

2.12 Data and art: a case study

Video

2.13 GROW Observatory Art Residency

Article

2.14 GROW Artist in Residence showreel

Video

2.15 Sharing your artistic ideas

Discussion

Summary

2.16 The GROW quiz

Quiz

2.17 Keep GROWing

Video

WEEK 3: Implementing insights from data: Decision making and creating positive change

Creating impact with citizen generated open data

3.1 Welcome to Week 3

Video

3.2 New insights and new questions!

Article

3.3 Accessing other open data sources

Article

3.4 Defining what positive change you wish to create

Discussion

How GROW is creating positive change

3.5 GROW's Great Living Soils Experiment: Potential impacts

Video

3.6 Potential impacts of GROW Places

Video

3.7 GROW Observatory's gridded product

Video

3.8 Creating impact at the global level: How GROW is contributing to the Sustainable Development Goals

Article

Tools to move from data to action

3.9 Organise to create change

Article

3.10 What are the main gaps and barriers to convert data into action?

Video



3.11 Monitoring what change or progress has been made: Community Level Indicators

Discussion

Participatory governance: Creating positive change at the global level

3.12 Introduction to participatory governance

Article

3.13 Participatory governance in the European context

Article

3.14 Creating impact at the international level: Participatory Governance e-channels in Europe

Article

3.15 Participatory Governance: inform policy that matters to you

Video

Your GROW future

3.16 The GROW quiz

Quiz

3.17 Keep GROWing

Video

3.18 What next? Be part of the GROW Observatory

Article

3.19 Congratulations! Keep in touch and be inspired!

Discussion