

LandSense WeObserve

Steffen Fritz,

Myroslava Lesiv, Linda See, Ian McCallum, Juan-Carlos, Christoph Perger, Dmitry Schepaschenko, Anatoly Shvidenko, Inian Moorthy, Carl Salk, Martina Duerauer, Mathias Karner, Tobias Sturn, Christopher Dresel, Dahlia Domian, Antonia Dunwoody, Olha Danylo, Juan-Carlos Laso Bayas

**Earth Observations Group
Ecosystems Service and Management (ESM)**

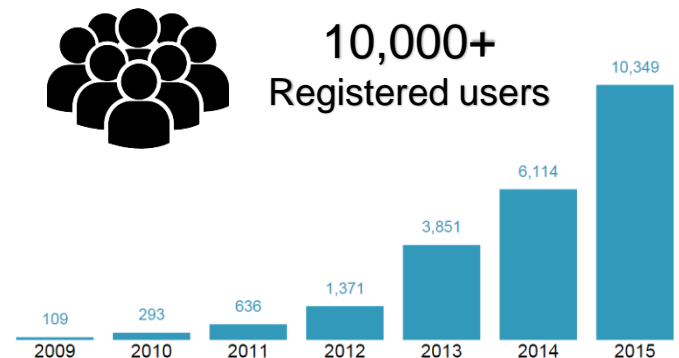
Geo-Wiki Engagement Platform

Geo-Wiki is an open platform that provides citizens with the means to engage in environmental monitoring by providing feedback on existing spatial information overlaid on satellite imagery or by contributing entirely new data.

The screenshot displays the Geo-Wiki website interface. On the left, there is a navigation menu with sections for 'GEO-Wiki' (Home, News, Publications, Downloads, Sources) and 'Games' (Picture Pile, FAQ). The main content area is titled 'Get involved now!' and features several project highlights: 'Picture Pile' (Sort pictures and win great prizes!), 'FotoQuest Austria' (Join FotoQuest Austria and explore the outdoors!), 'Geo-Wiki pictures' (Capture different landscapes using your smartphone), and 'LACO-Wiki' (Discover the new web portal to validate your map products). Below this is a section 'Visualize and provide feedback!' with sub-sections for 'Land Cover', 'SIGMA', 'Livestock', 'Biomass', 'AusCover', and 'Risk'. On the right side of the interface, there is a login form with fields for Email and Password, a 'Remember me next time?' checkbox, and a 'Register here!' link. Below the login form is an 'Administration' section with a link to 'Smartphone Legends' and a 'Tweets' section showing a tweet from @picturepile about the Picture Pile project.



<http://www.geo-wiki.org/>



Auto-Refresh: Off On

Refresh



Evaluation

Homepage

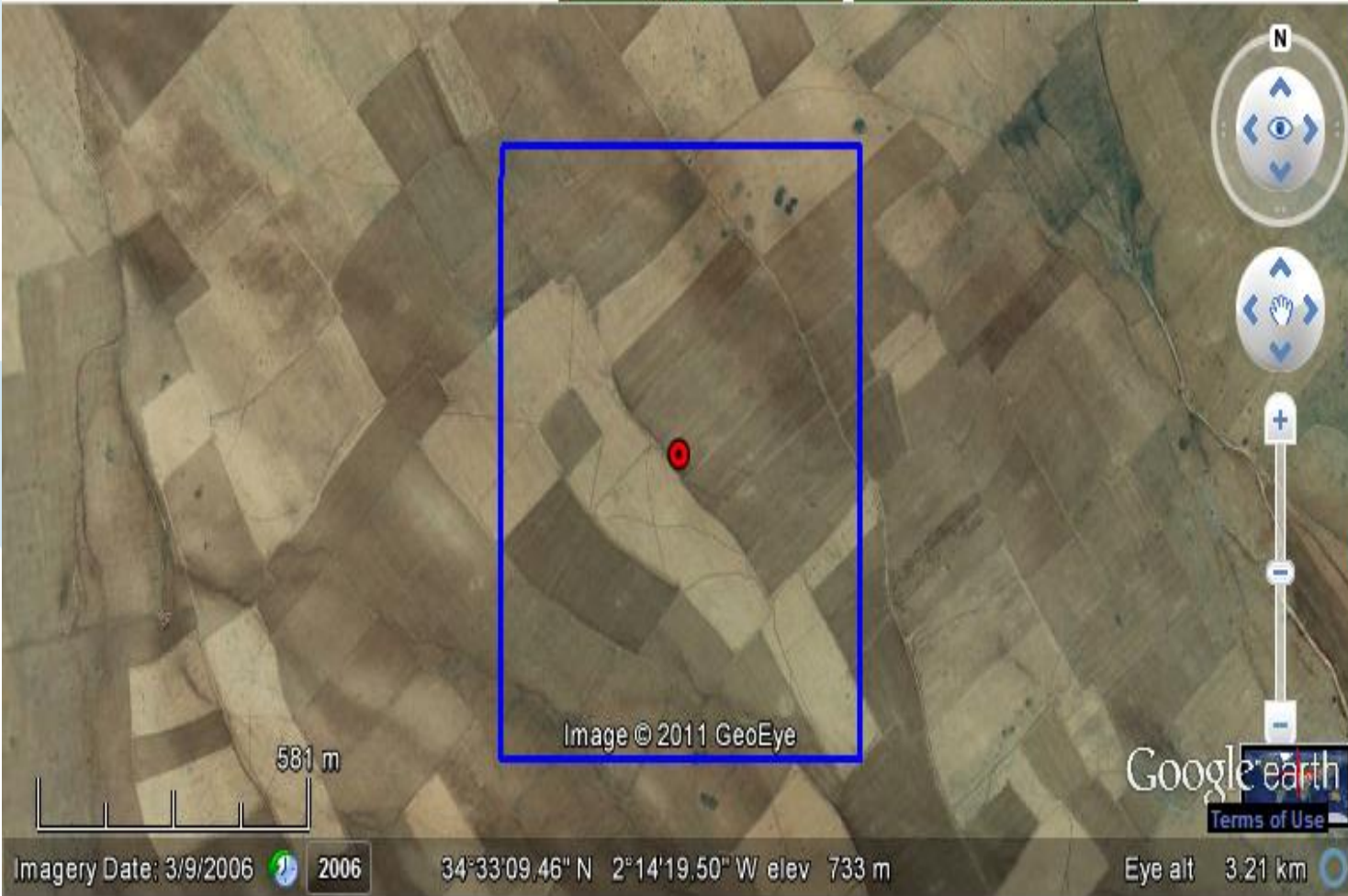
geolms@leeds.ac.uk

View Profile

Logout

View Ranking

Invite a Friend



Please classify the polygon:

Competition Instructions

Human impact: 50 %



Confidence: **Sure**



Land cover type:

-Choose from below-

Confidence: **Sure**



Land abandoned? 50 %



Confidence: **Sure**



More information about validation:

Google Image Date:



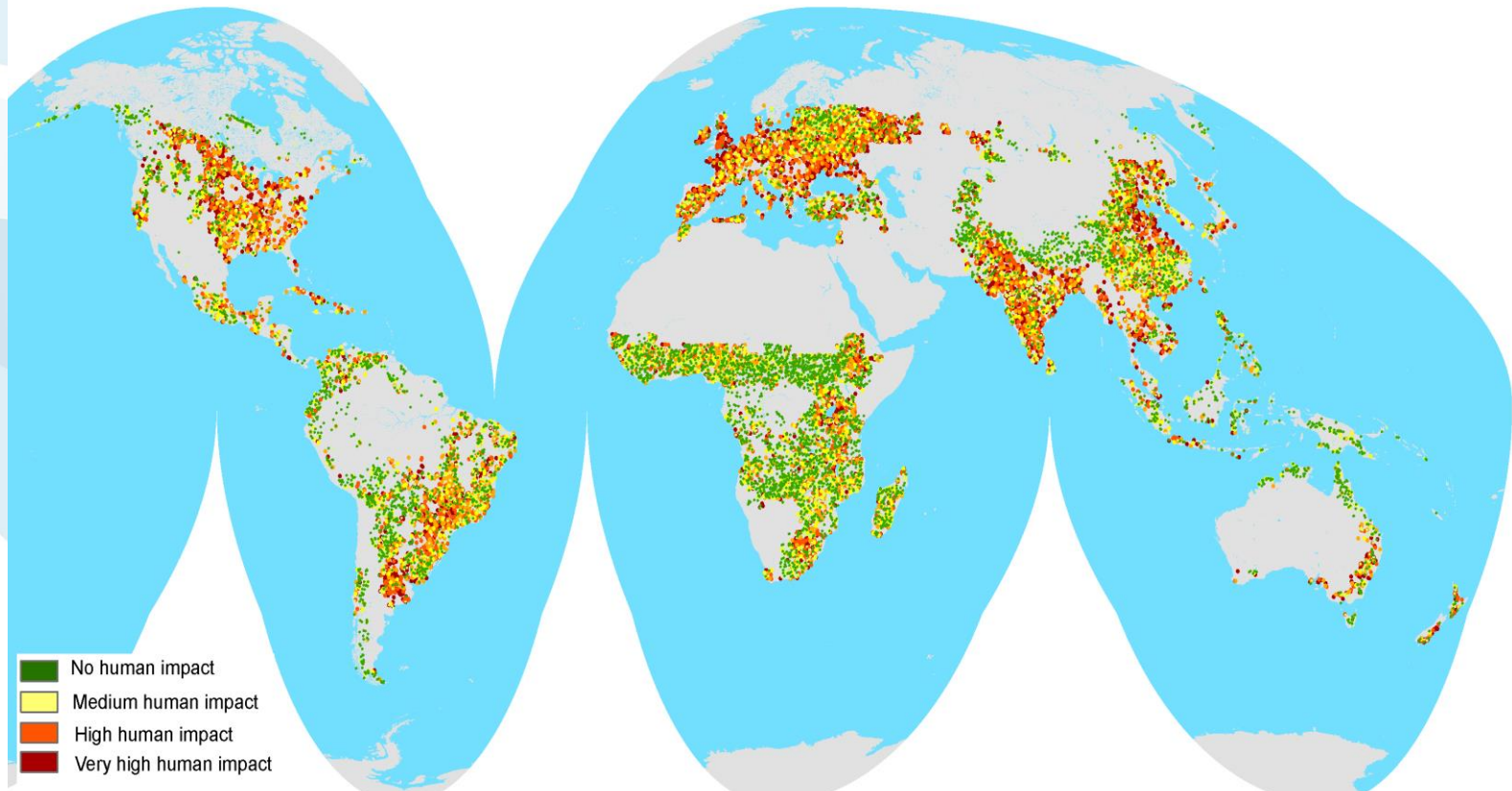
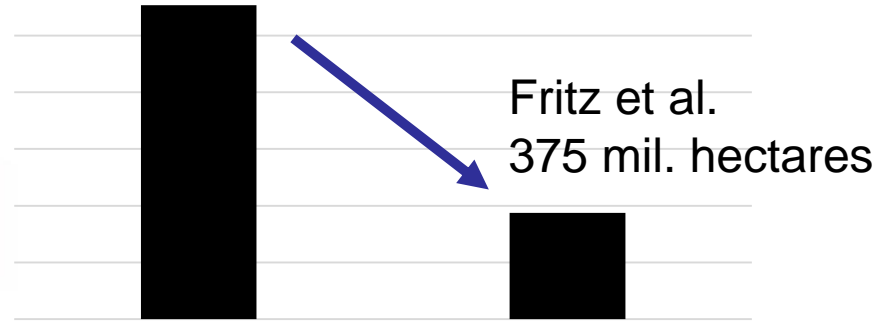
Imagery Date: 3/9/2006 2006

34°33'09.46" N 2°14'19.50" W elev 733 m

Eye alt 3.21 km

Downgrading recent estimates of land availability using crowdsourcing

Cai et al., 2011
1107 mil. hectares



Fritz et al, 2013, Environmental Science and technology

Picture pile - Cropland Capture

<http://geo-wiki.org/oldgames/croplandcapture>



GEO-Wiki

About Cropland Capture

By 2050 we will need to feed more than 2 billion additional people on the Earth. By playing Cropland Capture, you will help us to improve basic information about where cropland is located on the Earth's surface. Using this information, we will be better equipped at tackling problems of future food security and the effects of climate change on future food supply.

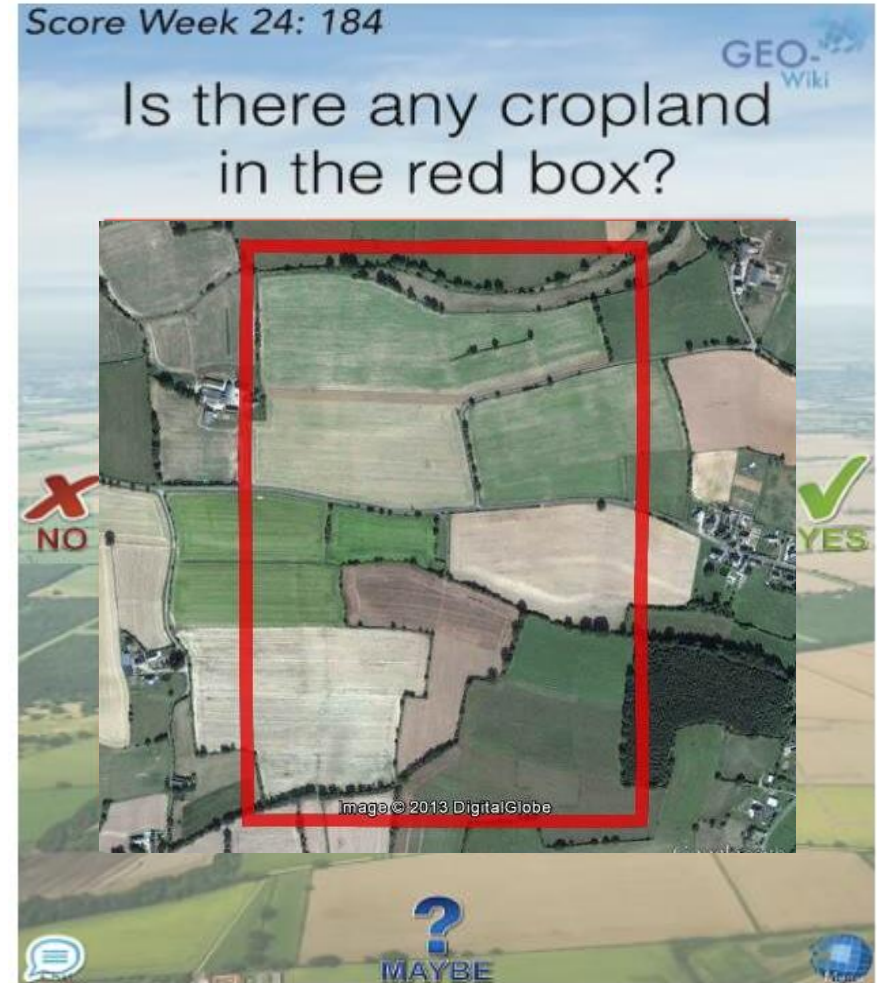
Get involved and contribute to a good cause! Help us to identify cropland area!

Continue What is cropland? What is NOT cropland?

Win Prizes !!!

FAQ

Icons: globe, chat, YouTube, Twitter, Facebook



Score Week 24: 184

GEO-Wiki

Is there any cropland in the red box?

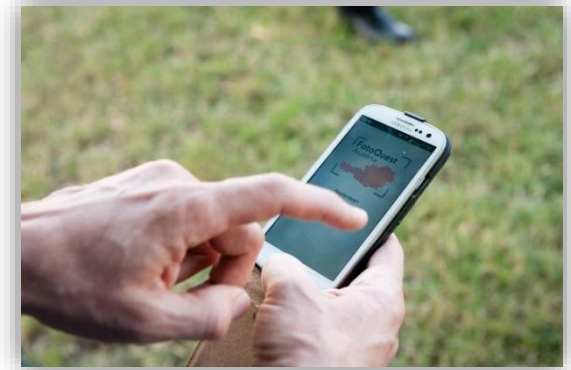
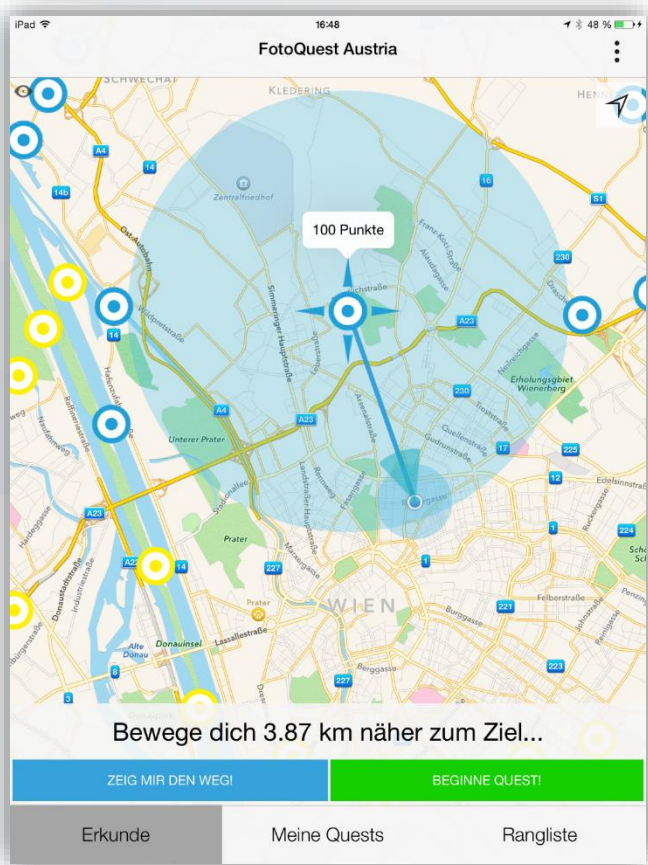
NO YES

image © 2013 DigitalGlobe

MAYBE

FotoQuest Austria

FotoQuest Go







THE NEXT GENERATION OF SATELLITE IMAGERY SERVICE

Browse. Pick. Enhance. Expose.

[ABOUT HUB](#)

[REQUEST TRIAL](#)

Try our WMS/WMTS service



LandSense

A Citizen Observatory and Innovation Marketplace
for Land Use and Land Cover Monitoring

Motivation

- Improving the quality of remotely- sensed LULC products
- Uncovering the potential of EO for citizen in the field of LULC
- Lowering cost and extension of in-situ component of LULC monitoring and management
- Business innovation and bringing technologies to market

LandSense

17 Partner Institutions

9 Countries

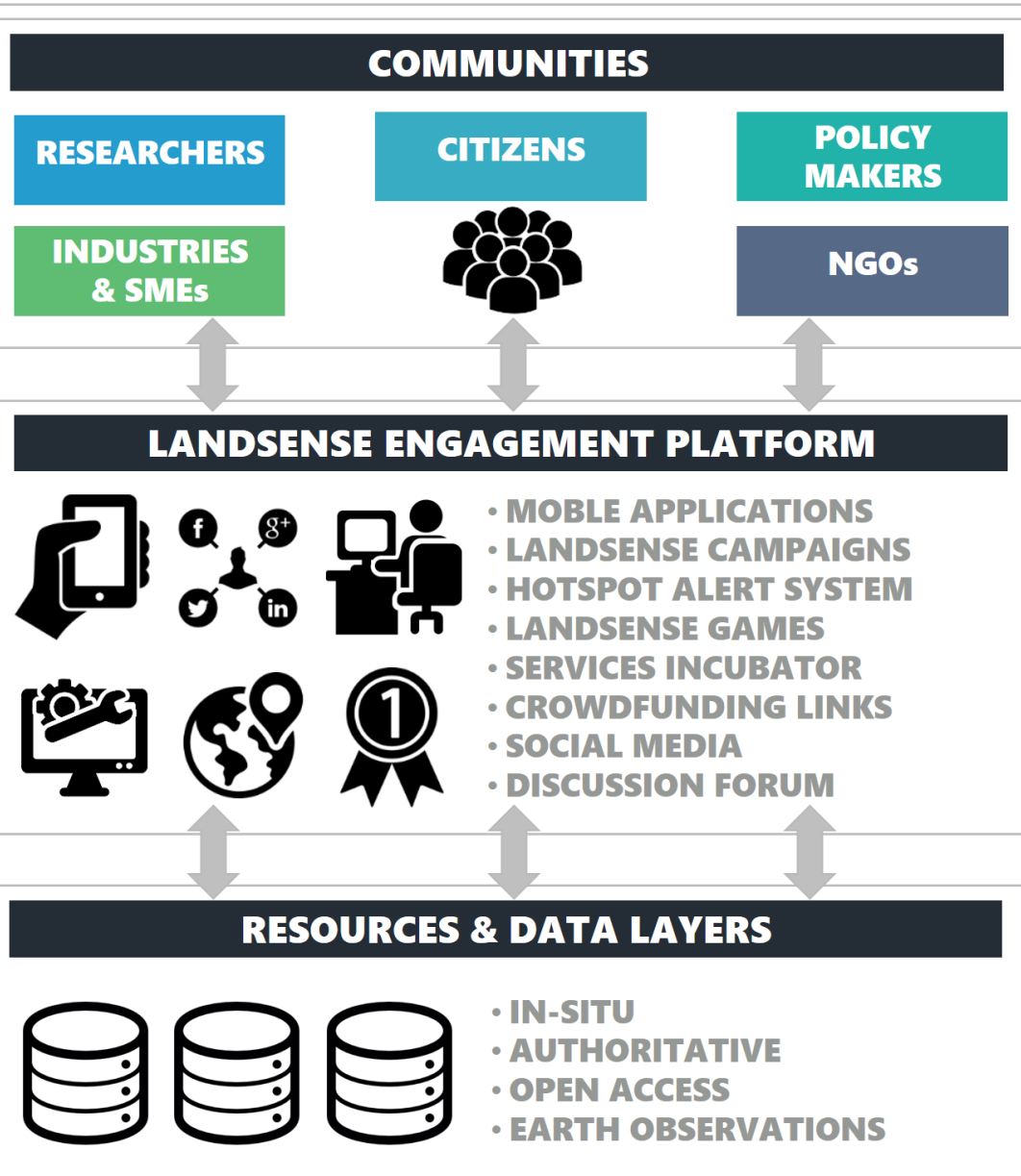
5 Research institutes, 5 SMEs, 3 NGOs,
3 Public Authorities, 1 Professional Network



September 2016



LandSense CO concept



LANDSENS SERVICES

**LANDSENSE
DEMONSTRATION CASES**

LandSense Services



LandSense Campaigner



Farmland Support



Change Detector



Quality Assurance & Control

[What is GROW?](#)

[How can I get involved?](#)

GROW
OBSERVATORY

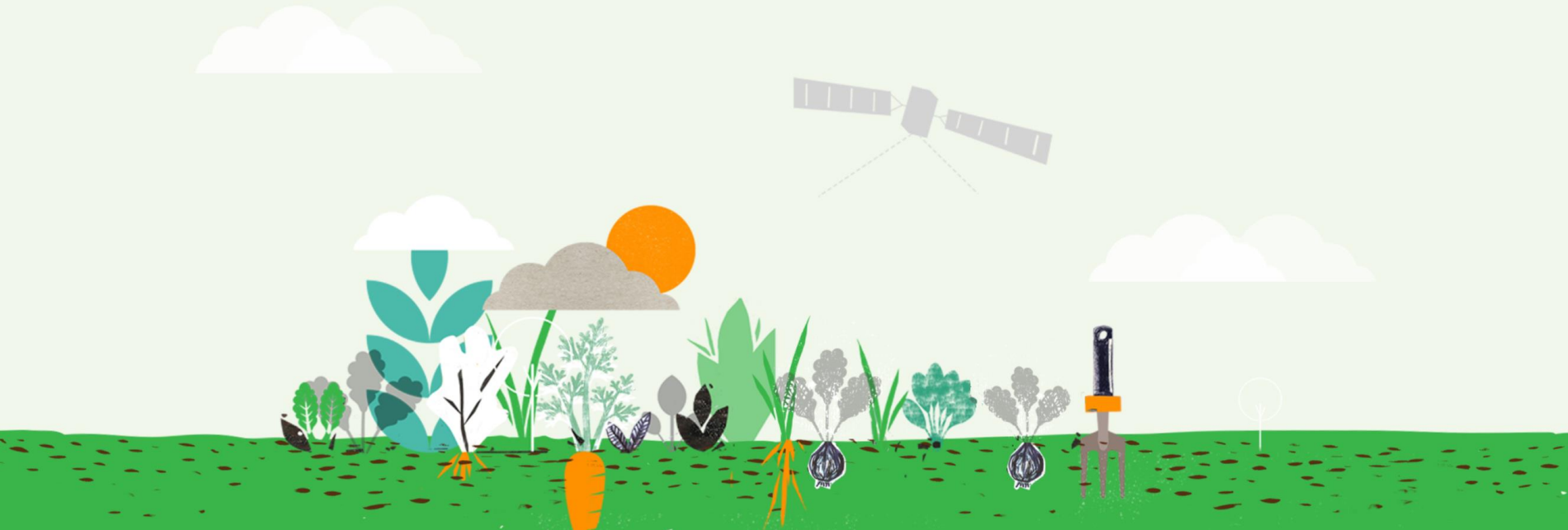
[Latest](#)

[Get in touch!](#)

[Login / Register](#)

We are coming together to

GROW Food. GROW Soil. GROW Science.



We bserve



AN ECOSYSTEM OF CITIZEN OBSERVATORIES FOR ENVIRONMENTAL MONITORING

7 Partners including 4 current H2020 Citizen Observatories



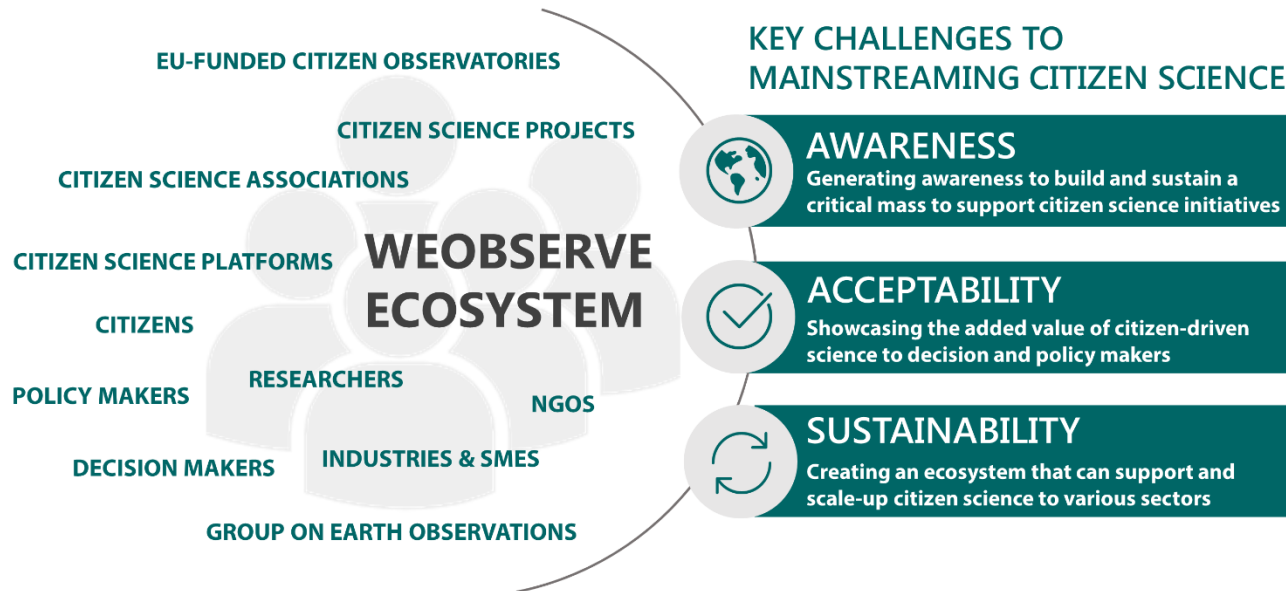
VISION

Citizen observatories are an integral component of managing environmental challenges and empowering resilient communities



MISSION

Move citizen science into the mainstream by building a sustainable ecosystem of citizen observatories and related activities



IMPACTS



- Connect key stakeholders in citizen science and build a knowledge base
- Extend the geographical coverage and use of citizen science for environmental monitoring
- Foster the uptake of citizen-science results for evidence-based decision making
- Promote downstream applications for citizen science data within SMEs and businesses
- Demonstrate the added value of citizen observatories for GEOSS and Copernicus

Lessons learned - Quality

- The quality of CO based data can be improved over the lifetime of the project and depends on
 - Clarity of the tasks
 - Difficulty of the task
 - In build near real time learning and training
 - Feedback and communication
 - Multiple Observations?
- Fit for purpose question is really important, e.g. calibration or validation

Lesson learned

- Quality is key – need to make a real effort to understand the uncertainties of CS data
- Co-design is essential – not easy to work with public authorities
- Be open about it what CS can do and cannot do
- Fun versus usefulness of data – gamification
- Think about scalability – harmonization issue
- Try to make as much open as possible

Summary

- There is massive potential for CS
- Citizen Science and Crowdsourcing projects need to be attractive / incentives need to be clear
- Mainstreaming CS will have multiple benefits

Thanks!

fritz@iiasa.ac.at

Steffen Fritz, Linda See, Ian McCallum, Christoph Perger, Dmitry Schepaschenko, Myroslava Lesiv, Inian Moorthy, Anatoly Shvidenko, Carl Salk, Martina Duerauer, Mathias Karner, Tobias Sturn, Christopher Dresel, Dahlia Domian, Antonia Dunwoody, Olha Danylo, Juan-Carlos Laso

Earth Observations Group

Ecosystems Service and Management (ESM)