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STORING CARBON IN AGRICULTURAL SOILS THROUGH A COLLABORATIVE APPROACH INVOLVING FARMERS, AN AGRIFOOD COMPANY AND RESEARCH



Anne-Marie JOLIET, Eric CESCHIA, Suzanne REYNDERS

FAO webinar "Monitoring Systems and Tools for Healthy Soils"

22 march 2022



KEY FIGURES



European leader
IN POPCORN
40% MARKET SHARE



210 million
OF MICROWAVE POPCORN
BAGS PER YEAR



57.000 tons
HARVEST EVERY YEAR



65 M€
TURNOVER



250 farmer
partners



3 activities:
MICROWAVE,
BULK & MULTIGRAM



90% Export:
>50 COUNTRIES



Area production
>95% SOUTH WEST
FRANCE



Research &
innovation



NATURELLEMENT POPCORN PROJECT



5 partners

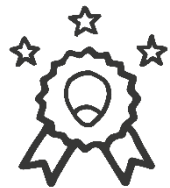
Objectives:



Increase soil fertility through natural process by increasing soil carbon storage (cover crop, no till)



Enabling a higher revenue for farmers reducing their carbon footprint



Meet consumers' and industry's demands for sustainability, climate mitigation and agroecology



Farmer's testimony



« Natais talks a lot about **innovative practices** and I was seduced by the idea of soil coverage. In my opinion, we must look further into agriculture and not stop at today's practices.

Cover crops is the future! »

Thierry Dussac –Popcorn producer



SCIENTIFIC PARTNERSHIP WITH MUTUAL BENEFITS



- Rewarding their environmental services such as sustainable carbon storage in their fields
- Benefit of a better societal image

- Co-construction process ensures that the tools meet the user requirements
- Benefit from the data provided by farmers & Natais company to improve models

- Famers association to advocate for the positive role of farmers in climate mitigation



- Development of a soil ornanic carbon monitoring methods, thanks to modelling and remote sensing



- Stand out from competitors (selling argument)
- Support local and sustainable production



TOOLS FOR MONITORING CARBON STORAGE

2012

2022

2024

2025

Farmers inquiry

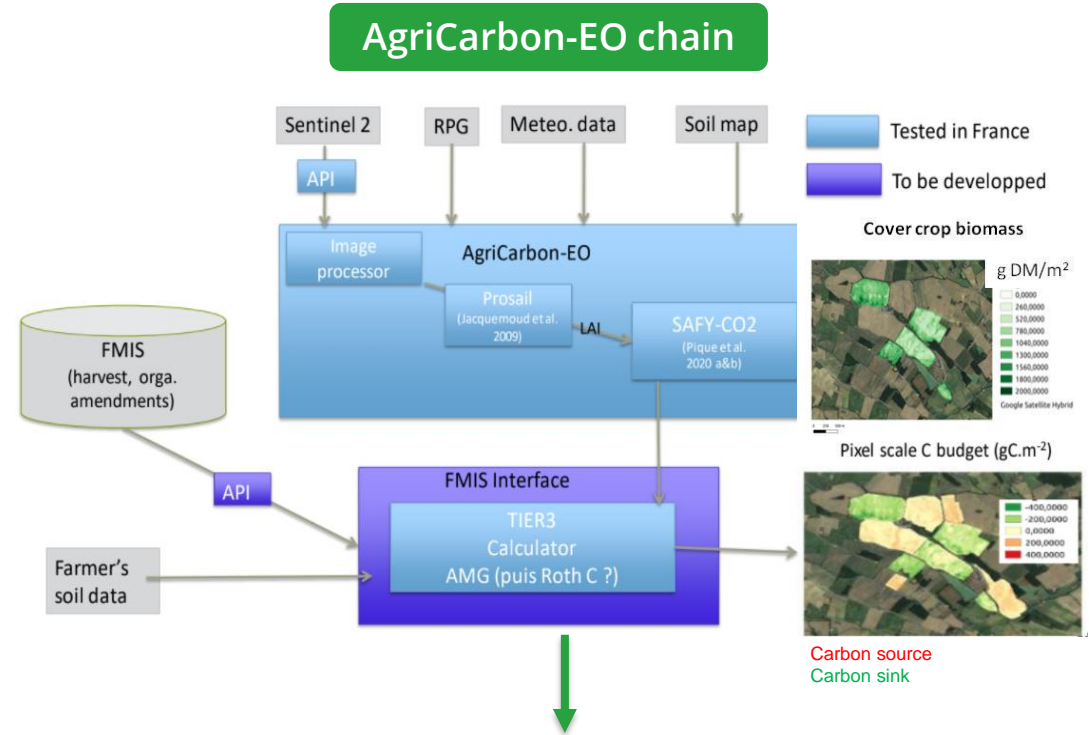
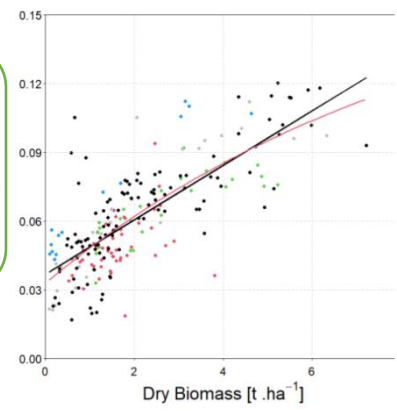
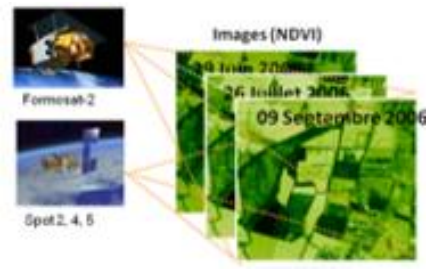
Cover cro: Yes/No

Fixed Bonus paid by Nataïs

Calculation of biomass using satellite

Empirical relation between vegetation index and biomass

Bonus paid by Nataïs according to additional C storage by cover crops

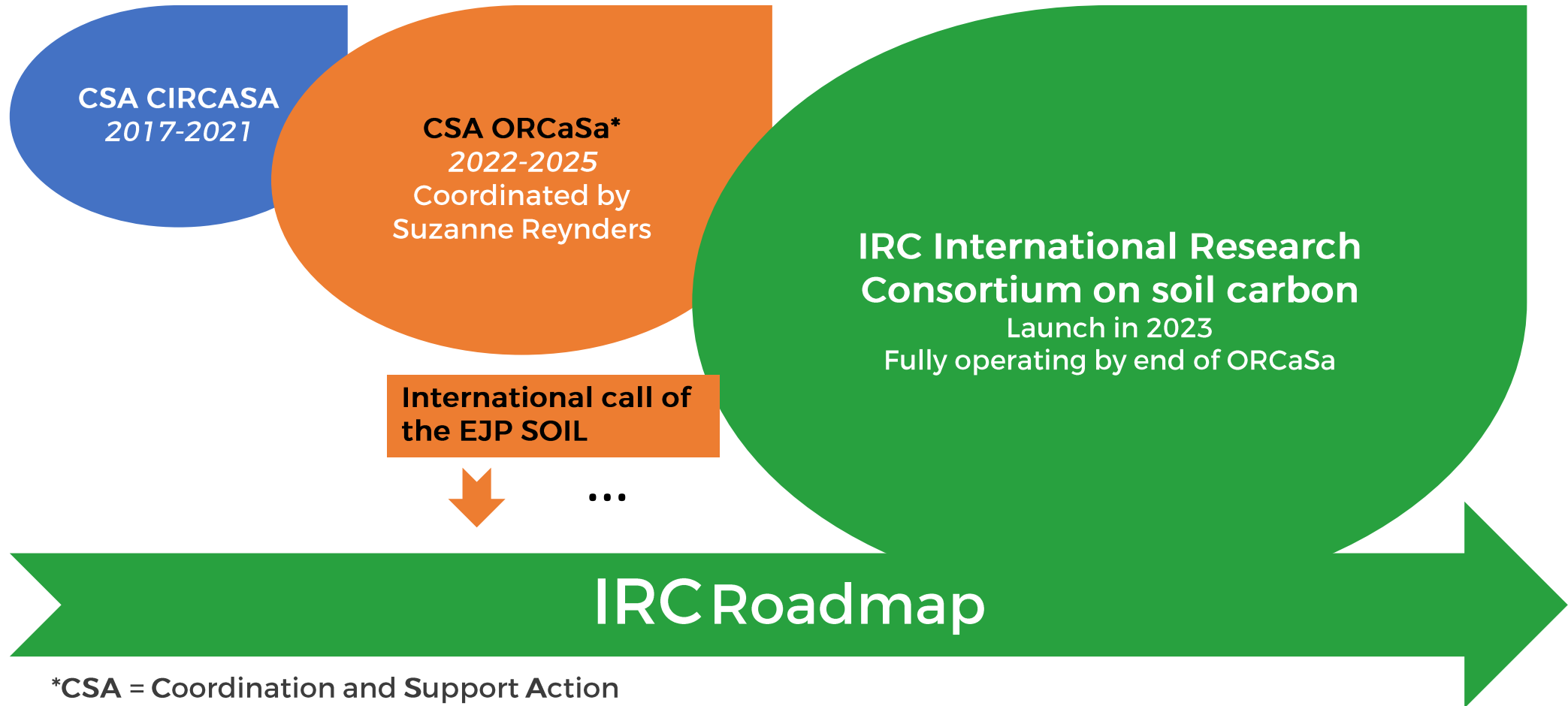


Annual Carbon budget

Carbon payment for farmers (→ international Carbon market)



ROADMAP: FROM CIRCASA TOWARDS A FULLY OPERATING INTERNATIONAL RESEARCH CONSORTIUM (IRC) ON SOIL CARBON



*CSA = Coordination and Support Action

*ORCaSa: Operationalising International Research Cooperation on Soil Carbon (funded by EC)
EJP Soil : European Join Program on Soil : Launches an international call in the coming months



MAIN OBJECTIVES OF THE INTERNATIONAL RESEARCH CONSORTIUM ON SOIL CARBON

What was done in the last 3 years :

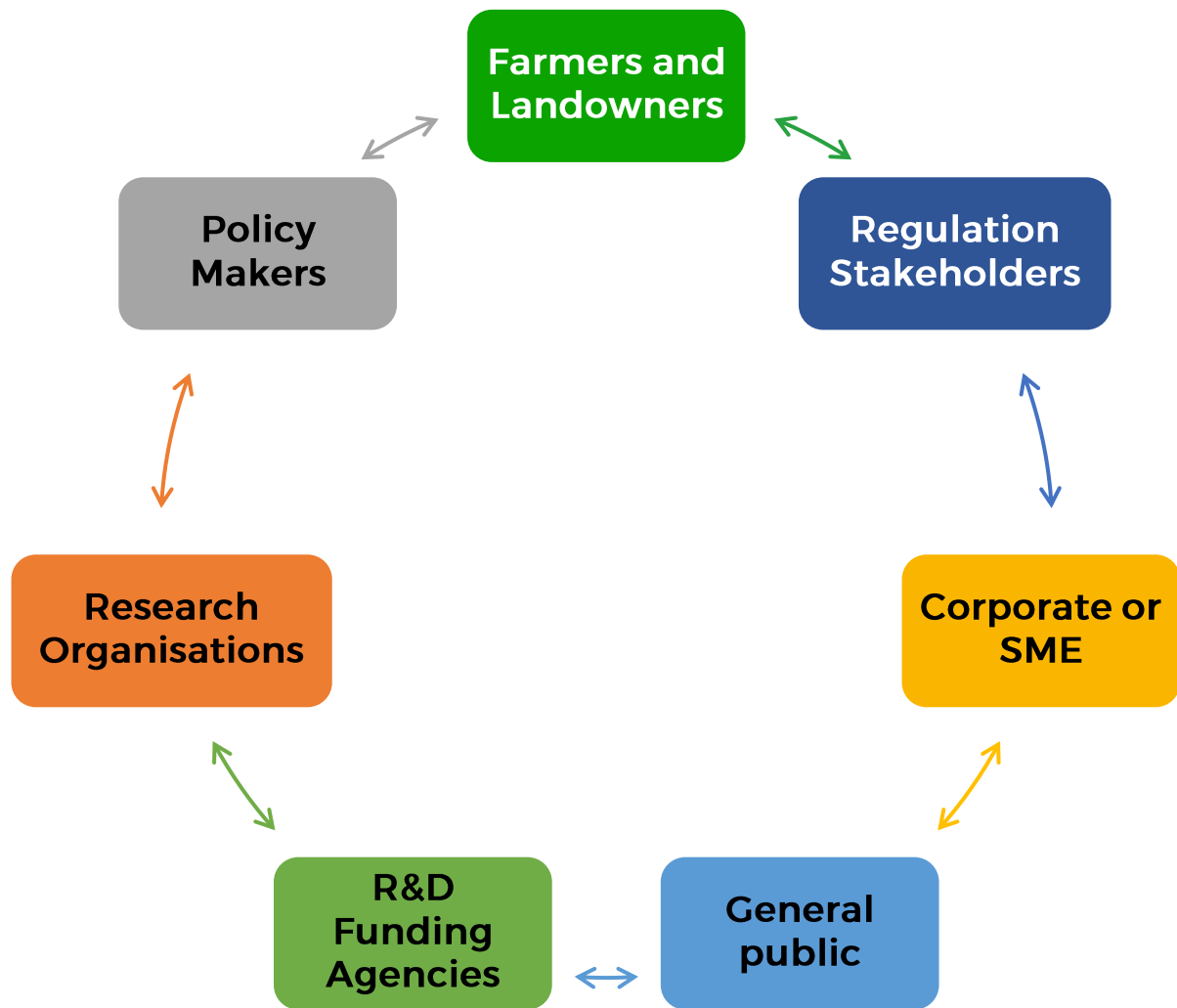
- an initial strategic research and innovation agenda on AG Soils
- an initial community of 100 stakeholders and 500 scientists

Next steps for the IRC :

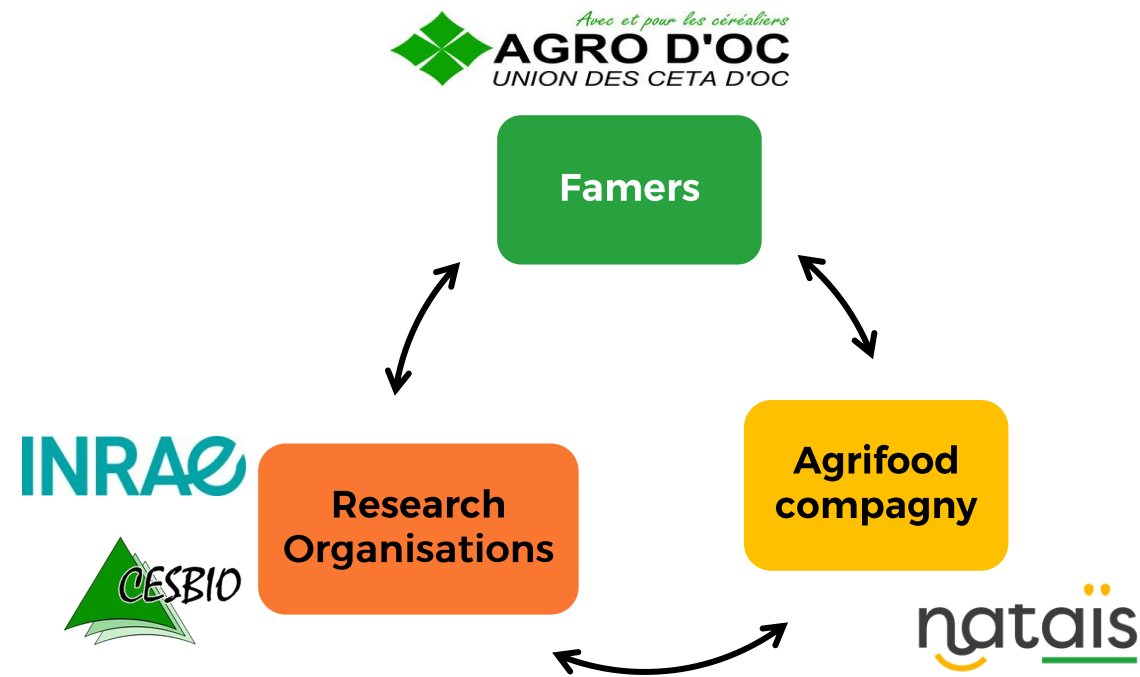
- **To join and coordinate Europe's research and Innovation forces on soil carbon with those around the globe**
- **To create synergies with existing initiatives (EJP soil, Soil Health and Food Mission, FAO and GSP ...,**
- **To align international research cooperation,**
- **To facilitate synergies between programs,**
- **To enlarge the Strategic Research Agenda to non-Ag soils & implement it**
- **To better share best practices and knowledge through a Knowledge Platform**
- **To enable low-cost disruptive monitoring tools (e.g. building on AgriCarbon-EO)**



ACTORS IN THE IRC

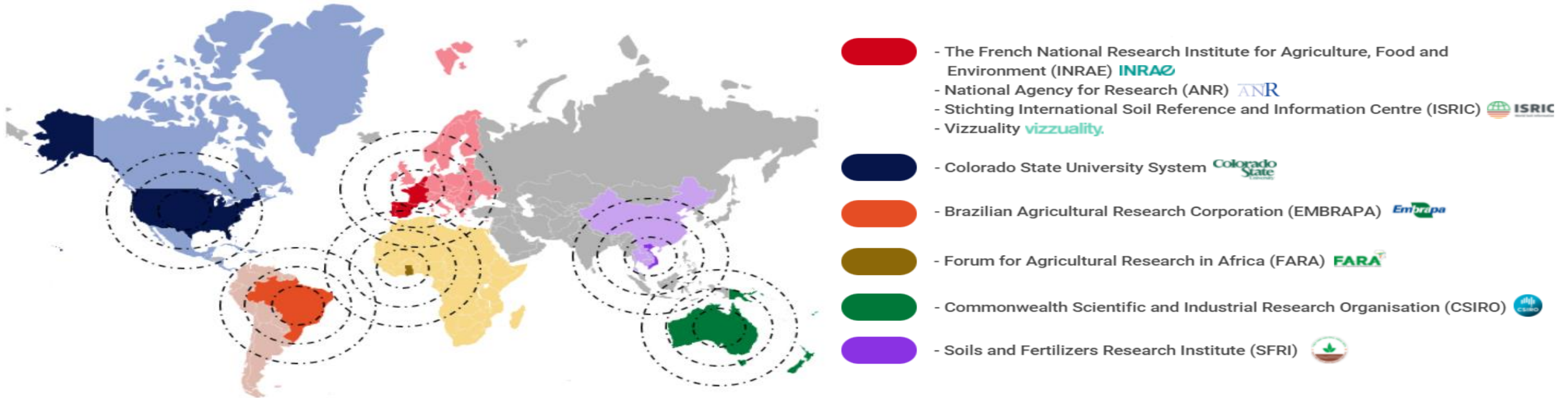


EXAMPLE OF COLLABORATION BETWEEN THESE ACTORS





ORCASA'S REGIONAL NODES FOR THE IRC ON SOIL CARBON



Connection with Asian Partners are most welcome 😊
We are willing to enlarge the IRC scope and welcome future IRC General Assembly Members signing a “declaration of intent”



THANKS FOR YOUR ATTENTION



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- INRAE Senior scientist at CESBIO
- Lecturer in Ecology at the University of Toulouse III
- Former PI of the Auradé and Lamasquère ICOS sites
- Former Co-PI of the Spatial Regional Observatory



Suzanne Reynders
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- PI of the ORCaSa/IRC project
- [EIT Climate-KIC governing board member](#)
- PI of [EIT C-KIC project carbon farming](#)
- PI of study : [recommendations for drafting a low carbon label method and evaluation of business models for carbon farming](#)
- 12 years experience Climate Change and Agriculture