

2024 GRA Research Group Report

Integrative Research Group

1) Research Group Overview

GROUP LEADERSHIP

Co-Chairs:

- Jean-François Soussana (INRAE—National Research Institute for Agriculture, Food and Environment, France)
- Pamela Josse (Agriculture and Agri-Food Canada)
- Nadia Bouhafs (Department of Agriculture, Fisheries and Forestry, Australia)

Support Team:

- Robin Daniel (INRAE—National Research Institute for Agriculture, Food and Environment, France)
- Stephanie Helm (Department of Agriculture, Fisheries and Forestry, Australia)

GROUP MEMBERS

Argentina, Australia, Bangladesh, Belgium, Bolivia, Brazil, Cameroon, Canada, Chile, China, Colombia, Costa Rica, Cote d'Ivoire, Democratic Republic of Congo, Denmark, Ecuador, Egypt, Finland, France, Germany, Ghana, Indonesia, Ireland, Italy, Japan, Kenya, Lithuania, Malaysia, Malawi, Mexico, Morocco, the Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Panama, Paraguay, Peru, Philippines, Senegal, South Africa, South Korea, Spain, Sri Lanka, Sweden, Switzerland, Thailand, Tunisia, United Kingdom, United States of America, Uruguay, Viet Nam, Zambia, Zimbabwe

MOST RECENT GROUP MEETING

Meeting date and location: None since last report.

Attended by Alliance member countries: N/A

Participating partner organisations: N/A

NEXT GROUP MEETING

Meeting date and location:

Informal meeting planned alongside the International Research Symposium on Agricultural Greenhouse Gas Mitigation: From Research to Implementation

Other information:

Two Network meetings to be held alongside the International Research Symposium on Agricultural Greenhouse Gas Mitigation: From Research to Implementation:

- Inventory and NDC network meeting
- Circular Food Systems network meeting

GROUP COORDINATION AND COMMUNICATIONS

Regular teleconference:

Quarterly Zoom call with Co-chairs and Network Leads + ad-hoc calls on specific issues

Email updates/ Newsletters:

Regular email communications. Individual networks have newsletters but currently no IRG newsletter.

Social media presence: N/A

Participation in other Research Groups and Networks:

Regular engagement with other research groups through Co-chairs and Network Leads meetings organised by GRA Secretariat.

RESOURCING

Travel support to attend meetings: N/A

Funding for activities: No funding provided

WEBSITE PROMOTION

N/A

2) Networks' Information and Updates

Network name	Network coordinators	Network Update
Soil Carbon International Research Consortium	Dr Suzanne Reynders (INRAE – France)	<p>The Soil Carbon International Research Consortium was officially launched during the Soil mission Week the 21 November 2023 within the frame of ORCaSa (2022-2025) a Horizon Europe project.</p> <p>The Soil Carbon IRC will act as a vehicle for advancing the aims of the GRA IRG Soils Carbon Sequestration Network and is engaging with new members with the help of its regional nodes Ambassadors so as to build a large community. It aims at providing better access to research, methods and practices related to soil carbon and advance carbon solutions through research funding, harmonisation of research activities and knowledge sharing.</p> <p>The IRC includes universities and research organisations, national and international initiatives or programmes, national and international R&D agencies, development agencies, foundations, policymakers, private companies and NGOs.</p> <p>The Soil Carbon IRC develops 3 main services for its members.</p>

Network name	Network coordinators	Network Update
		<ul style="list-style-type: none"> - A harmonised MRV framework to raise awareness and develop scientific knowledge and methods on how to Measure, Report, and Verify soil carbon stock changes in various contexts of application (Offsetting, Insetting, NDC's, CAP...). - The Impact4Soil platform to drive cooperation and knowledge sharing on soil carbon at an international level. 5 modules: maps (vizualization of carbon stock and evolution over time), scientific evidence (from metanalysis), practices (from verified sources), data (from scientific repositories), network of initiatives and stakeholders. - A Research alignment and calls program through an aligned Strategic Research and Innovation Agenda considering all types of land use in each region; and through programming activities of funders to facilitate international collaboration between projects for the Soil Carbon IRC members. <p>Past and future workshops:</p> <ul style="list-style-type: none"> - Policy Workshop on International Carbon Certification Schemes (26 September 2024, Brussels/Belgium) - Soil Carbon for African agriculture - ORCaSa side event (30 July 2024, Rwanda) - Monitoring Cropland Soil Organic Carbon (SOC) stock changes - Joint workshops ORCaSa/MARVIC (24 and 25 April 2024 - Online)
Indigenous Research Network Update	<p>Led by New Zealand and Samoa</p> <p>Katerina Porou (NZ) Shiloh Babbington (NZ) Ruta-Rae Aickin (Samoa)</p>	<p>20 May 2024 - Held the Second Annual meeting and Field trip in Samoa alongside the Pacific Oceans and Climate Conference. The meeting was attended by 68 participants in person and 10 participants virtually, representing 21 different countries. The meeting was followed by a field trip and workshop to discuss the development of a flagship project for the Network.</p> <p>14 August 2024 - Indigenous Research Network: The Power of Inclusivity. Workshop held alongside APEC in Peru. The Workshop was led by New Zealand and co-sponsored by Australia, Canada, Peru, and The United States. Aligned with the APEC PPFS Food Security Roadmap Towards 2030. Empowering young indigenous voices in climate decisions and actions.</p>

Network name	Network coordinators	Network Update
		Indigenous Research Network Newsletter
Inventory and Nationally Determined Contributions (NDC) Network	<p>Ngonidzashe Chirinda, (Mohammed VI Polytechnic University, Morocco)</p> <p>Mai Van Trinh, (Institute for Agricultural Environment, Vietnam)</p> <p>Natalie Doran-Browne, (Agricultural Research Advisors, Australia)</p> <p>Andrea Pickering, (NZ Agricultural Greenhouse Gas Research Centre, New Zealand)</p>	<ul style="list-style-type: none"> - Global Research Alliance Agriculture Inventory Training Programme (GRAIT), a co-ordination initiative of international capability building programmes, launched alongside the Pacific Oceans Pacific Climate Change Conference in Apia, Samoa in May. https://graindc.org/grait/ - I&NDC standalone website designed, developed and published (www.graindc.org). - Monthly co-lead meetings. - Quarterly Who's Counting newsletter (February and May), with Issue 13 due out by the end of August. https://graindc.org/resources/newsletters/ Also various community updates in between newsletters. - Research ideas being worked on <ul style="list-style-type: none"> o Reducing enteric fermentation emissions through feeding papaya seeds and mango (skin and seeds) to cattle. o Incorporating Animal Health metrics into national agriculture inventories (Harry Clark leading). Possible partial funding from the Global Methane Hub. o Guidance on incorporating mitigation technologies into National inventories. - Initial meeting held with inventory compilers from Australia, Ireland, the UK and US - Joint initiative with MPI under the Network. Online Teams environment set up for further discussion by the EPA of Ireland. - Two workshops held on agricultural inventory capability building with Fiji – this included collaborative training between Andrea Pickering and Natalie Doran-Browne for the first workshop. - Andrea Pickering continues to attend project meetings, in her role as Network co-lead, on developing a protocol for including mitigation actions in Agricultural Lifecycle Analysis to ensure any linkages with the Network are identified.

Network name	Network coordinators	Network Update
Farm To Regional Scale Integration Network	Nina Grassnick (Thünen-Institute), Claus Deblitz (Thünen-Institute), Yelto Zimmer (agri benchmark)	<ul style="list-style-type: none"> - Organized Session "Opportunities and challenges of farm-level GHG accounting" at DAFA conference "Agriculture research and climate change", March 2024 - Support of project proposal for MACSUR SciPolNet project --> project start expected end of 2024 - Support of organizing the AgriGHG-2024 symposium taking place in October 2024, Berlin (Germany) - Finalizing paper on "Opportunities and challenges of farm-level GHG accounting" --> paper submission to "Science of the Total Environment" planned for September 2024 <p>Activities in collaboration with agri benchmark:</p> <ul style="list-style-type: none"> - GHG Baseline for selected countries in the agri benchmark Beef Network (Emifa-flagship Project) - GHG balances for typical crop farms (will be finalized by the end of 2024) - GHG policies in selected countries re. crop production

3) Research Group Activities

CURRENT

CURRENT ACTIVITIES					
Activity Name	Outcomes	Members involved	Partners/others involved (if relevant)	Existing funding is provided through	Please categorise output as one or more of the following: Capability Building (CB), Research (R), Guidance (G), Policy Support (PS), potential co-benefit with respect to climate change adaptation and resilience (MAC)
Strategic Research and Innovation Agenda covering all soil types	Write a revised Strategic Research and Innovation Agenda (SRIA) based on CIRCASA SRIA and including soils in pastures, forests and public areas for recreation.	INRAE (Delphine Derrien, Laure Bamière)	CIRAD (Julien Demenois) ORCaSa regional nodes (CSU, FARA, EMBRAPA, SFI, CSIRO)	ORCaSa – Horizon Europe projet	<ul style="list-style-type: none"> ● Research (R) ● Guidance (G) for funders ● potential co-benefit with respect to climate change adaptation and resilience (MAC)
New multi-ecosystem MRV methodological framework	Build a multi-ecosystem MRV framework based on previous ones and considering new initiatives for possible improvement/clarification	INRAE - Cesbio (Eric Ceschia)	ISRIC (Fenny Van Egmond)	ORCaSa – Horizon Europe projet	<ul style="list-style-type: none"> ● Capability Building (CB), ● Research (R), ● Policy Support (PS), ● potential co-benefit with respect to climate

CURRENT ACTIVITIES					
Activity Name	Outcomes	Members involved	Partners/others involved (if relevant)	Existing funding is provided through	Please categorise output as one or more of the following: Capability Building (CB), Research (R), Guidance (G), Policy Support (PS), potential co-benefit with respect to climate change adaptation and resilience (MAC)
	Build a new methodological framework for cropland meeting user requirements and preparing a technological breakthrough for MRV of SOC stock changes by the IRC.				change adaptation and resilience (MAC)

FUTURE

Future activities to be determined following the outcome of restructure

4) Additional Information

CLIMATE CHANGE ADAPTATION CO-BENEFITS

- SRIA goal: Inform widely relevant priority goals and measures that align with broader European and international research in the area of Soil Organic Carbon (SOC) and to allow partners to jointly promote the generation of new relevant knowledge.

- New multi-ecosystem MRV methodological framework

POTENTIAL COLLABORATION WITH OTHER RGS/PARTNERS

N/A

ISSUES TO BE ADDRESSED AT THE NEXT GRA COUNCIL MEETING

- Potential IRG restructure
- Nina Grassnick will step back as co-lead of the Farm To Regional Scale Integration Network --> new co-lead is needed

KEY PUBLICATIONS PRODUCED BY NETWORKS

AgriCarbon-EO v1.0.1: large-scale and high-resolution simulation of carbon fluxes by assimilation of Sentinel-2 and Landsat-8 reflectances using a Bayesian approach,
<https://doi.org/10.5194/egusphere-2023-48>