Le Corum, Montpellier, France

16-18 March 2015

CLIMATE-SMART Agriculture 2015

Full programme

CLIMATE SMART Agriculture 2015

Third Global Science Conference

#CSA15

http://csa2015.cirad.fr

http://csa2015.cirad.fr

CONTENTS

Welcome to Montpellier, Welcome to CSA 2015!

On behalf of Agropolis International, CIRAD, INRA and IRD, it is our pleasure to welcome you to Montpellier, home to a large scientific community in the fields of agriculture, food, biodiversity and the environment, with about 2700 research scientists and lecturers.

CSA 2015 is the third international conference in a successful series on Climate-smart agriculture (CSA) that was launched by Wageningen University and Research in the Netherlands, in 2011. It then moved to the University of California, Davis, USA in 2013. Over these four years, the concept of climate-smart agriculture has spread worldwide. It is now attracting the attention of many scientists, policy makers, developers, farmers, as well as other stakeholders including the public. Yet, we all know that the scientific validity of the concept needs to be fostered. To simultaneously achieve food security, adaptation and mitigation is not an easy task. Skills from all disciplines, at all scales and in diverse environments, are required.

Such is the objective of the Montpellier CSA 2015 Conference: confront expert knowledge to update the CSA science foundation, showcase key scenarios for agriculture and food systems, identify priorities for action, interface with the policy context and design a roadmap for future research on CSA.

When putting together this event over the past months, we were greatly encouraged by the huge interest from the global scientific community, with about 700 high-quality abstracts submitted, clearly showing that the global challenge of CSA is both vibrant and increasingly addressed. Strong support was also received from different organizers and sponsors, allowing us to invite many keynote speakers and fund the participation of more than 50 young researchers from developing countries. Let us warmly thank all those who made this possible.

Many people have to be thanked for working hard towards the preparation of the conference: the Organizing Committee and the Communication Committee did a wonderful job on all organizational matters: ranging from choosing the venue, to searching for sponsors, organizing social events, publicizing the conference and many more tasks which are necessary to make such an event a success. The contribution and sound advice from CCAFS and the CGIAR Consortium, Wageningen University and Research, the University of California Davis, FAO and GFAR made it possible to structure a world-class event. In addition to financial contributions from all the institutions quoted here, special thanks are due to the French Ministry of Agriculture, Agrifood and Forestry and to the French Ministry of Foreign Affairs and International Development who generously supported the conference, as well as to the *Région Languedoc-Roussillon,* the *Montpellier Méditerranée Métropole*, Agropolis Fondation (Labex Agro) and Labex Cemeb.

The CSA 2015 International Scientific Committee deserves warm thanks for designing the scientific program, identifying session topics and keynote speakers as well as selecting oral and poster contributions and their allocation to the different parallel sessions. Several staff from our institutions worked hard and cannot be thanked one by one. We are very grateful to all.

We very much hope that you will enjoy your stay in Montpellier and benefit from exciting scientific interactions.

Dr Jean-François Soussana, INRA, Chair, CSA Scientific Committee
Dr Patrick Caron, CIRAD, Chair, CSA Organizing Committee

Committees

Scientific Committee

Jean-François Soussana, Chair, INRA, France
Martial Bernoux, IRD, France
Mercedes Bustamante, UnB, Brasil
Bruce Campbell, CCAFS, Denmark
Harry Clark, NZAGRC, New Zealand
Sandra Diaz, UNC, Argentina
Arona Diedhiou, IRD, Sénégal
Hongmin Dong, CCAS, China
Vincent Gitz, HLPE/FAO
Mark Howden, CSIRO, Australia
Bernard Hubert, Agropolis International, France
Saleemul Huq, IIED, Bangladesh
Louise Jackson, UC Davis, USA
Peter Langridge, U. Adelaide, Australia
Leslie Lipper, FAO, Italy
Hermann Lotze-Campen, PIK, Germany
Peter Minang, ICRAF, Cameroon
Eddy Moors, WUR, The Netherlands
Jerry Nelson, IFPRI, USA
Úrsula Oswald Spring, CRIM, Mexico
Martin Parry, Imperial College London, UK
John Porter, U. Copenhagen, Denmark
Mirjam Pulleman, WUR, The Netherlands
Marta G. Rivera Ferre, UVIC, Spain
Cynthia Rosenzweig, GISS, USA
Pete Smith, U. Aberdeen, UK
Emmanuel Torquebiau, CIRAD, France
Maria Isabel Travasso, INTA, Argentina
Joachim Von Braun, U. Boon, Germany
Robert Zougmoré, CGIAR/ICRISAT, Mali

Organizing Committee

Patrick Caron, Chair, CIRAD, France
Jean-Luc Chotte, Co-Chair, IRD, France
Bruce Campbell, CCAFS, Denmark
Irina Carpusca, INRA Transfert, France
Mathias Ginet, Ministère de l'Agriculture, de l'Agroalimentaire et de la Forêt, France
Bernard Hubert, Agropolis International, France
Ludovic Larbodière, Ministère de l'Agriculture, de l'Agroalimentaire et de la Forêt, France
Josette Lewis, UC DAVIS, USA
Leslie Lipper, FAO, Italy
Harry Palmier, GFAR, Italy
Jean-François Soussana, INRA, France
Emmanuel Torquebiau, CIRAD, France
Jan Verhagen, WUR, The Netherlands
Alain Vidal, CGIAR Consortium, France
Claire Weill, INRA, France

Local Organizing Committe

Brigitte Cabantous, Agropolis International, France
Chantal Carrasco, CIRAD, France
Jean-Luc Chotte, IRD, France
Nathalie Curiallet, CIRAD, France
Géraldine Lett, CIRAD, France
Michelle Tigny, IRD, France
Emmanuel Torquebiau, CIRAD, France

Communication Group

Nathalie Curiallet, CIRAD, France
Dominique Fournier, INRA, France
Anne Hébert, CIRAD, France
Géraldine Lett, CIRAD, France
Béatrice Louvet-Bacle, CIRAD, France
Vanessa Maedu, CIAT-CCAFS
Christine Riou, INRA, France
Valérie Rotival, IRD, France
Pineda Sherwin, CGIAR Consortium, France
Emmanuel Torquebiau, CIRAD, France
Nathalie Villeméjeanne, Agropolis International, France
Jérémy Zuber, INRA, France

Website and Communication

Nathalie Curiallet, CIRAD, France
Philippe Radigon, CIRAD, France

Design

Delphine Guard, CIRAD, France

Host institutions

CIRAD
www.cirad.fr
Contact: **Emmanuel Torquebiau**
Chargé de mission Changement Climatique
Climate Change Correspondent
CIRAD TA B 115 / 02
34398 Montpellier CX5
France
emmanuel.torquebiau@cirad.fr

INRA
www.inra.fr
Contact: **Claire Weill**
Chargée de mission Changement Climatique
Climate Change Correspondent
INRA, 147 rue de l'Université 75338
Paris Cedex 07
France
claire.weill@paris.inra.fr

IRD
www.ird.fr
Contact: **Jean-Luc Chotte**
Director of UMR 210 Ecologie Fonctionnelle & Biogéochimie des sols & des Agro-écosystèmes
Place Viala (Bt. 12), F-34060 Montpellier cedex 2
France
Jean-Luc.Chotte@ird.fr

AGROPOLIS INTERNATIONAL
www.agropolis.org
Contact: **Bernard Hubert**
President of Agropolis International
1000, Avenue Agropolis - 34394 Montpellier Cedex 5
France
secretariat-presidence@agropolis.fr

WAGENINGEN UR
www.wageningenur.nl
Contact: **Jan Verhagen**
Wageningen UR
Plant Research International
Business Unit Agrosystems Research
PO Box 616
6700 AP Wageningen
The Netherlands
jan.verhagen@wur.nl

CGIAR Consortium
www.cgiar.org
Contact: **Alain Vidal**
Strategy Director a.i. & Senior Partnerships Advisor
CGIAR Consortium
1000, avenue Agropolis
34394 Montpellier Cedex 5
France
a.vidal@cgiar.org

CCAFS
www.ccafs.cgiar.org
Contact: **Bruce Campbell**
Program Director
CCAFS Coordinating Unit
University of Copenhagen
Faculty of Science, Department of Plant and Environmental Sciences
Rolighedsvej 21, DK-1958
Frederiksberg C
Denmark
b.campbell@cgiar.org

University of California DAVIS
www.ucdavis.edu
Contact: **Josette Lewis**
Associate Director
World Food Center
One Shields Avenue
Davis, CA 95616
530-752-7172
One Shields Avenue
Davis CA 95616
USA
jolewis@ucdavis.edu

FAO
www.fao.org
Contact: **Leslie Lipper**
Senior Environmental Economist
FAO
ESA Division
Viale delle Terme di Caracalla
00153 Rome
Italy
Leslie.Lipper@fao.org

PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

Organizers

cirad

INRA SCIENCE & IMPACT

IRD Institut de recherche pour le développement

AGROPOLIS INTERNATIONAL

WAGENINGEN UR For quality of life

CGIAR Research Program on Climate Change, Agriculture and Food Security CCAFS

UCDAVIS UNIVERSITY OF CALIFORNIA

Food and Agriculture Organization of the United Nations

agreenium Science for food security and sustainable agriculture

In partnership with

Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE
MINISTÈRE DES AFFAIRES ÉTRANGÈRES ET DU DÉVELOPPEMENT INTERNATIONAL
MINISTÈRE DE L'AGRICULTURE, DE L'AGROALIMENTAIRE ET DE LA FORÊT

la Région Languedoc Roussillon

Montpellier méditerranée métropole

agropolis fondation

CeMEB

Montpellier and its surroundings

Montpellier has become over the past decades, a major hub for research on agriculture, environment and sustainable development issues. Montpellier is also one of the oldest University cities in France (XIIIth Century). It is located on a hilly ground, 10 kilometers inland from the Mediterranean Sea coast. The medieval center, the so-called *Ecusson*, gives the city its unique and intimate feeling.



Public transport (*TAM*)

Tickets can be bought from the automatic machines at each tramway station. The tramway Line 1, decorated in blue with white swallows, connects the northern part of the city with the *Odysseum* terminal on the southeast side. Line 2, decorated in a flower-power theme, goes from east to west. The colorful Line 3, designed by the famous fashion designer Christian Lacroix, goes from west to east, arriving near the seaside at Perols. From there, you can rent a bike or take a short walk (around 20 minutes) to get to the beach. The golden Line 4, also designed by Christian Lacroix, is only for downtown. About 30 bus lines are connected to the tramway lines to offer a comprehensive network that will transport you in and around Montpellier. *Le Corum* conference centre is at walking distance from *Le Corum* and *Comédie* tramway Stations.

TAM Ticket fares:
One-way ticket: € 1.50
1-day pass: € 4.00
7-days pass: € 6.00
10-ride pass: € 10.00

Vélomagg' bicycle service

The *Vélomagg'* service offers bicycles just the way you want them: available and inexpensive. For your riding pleasure, 50 automatic bike stations with over 2,000 bicycles are available in Montpellier and in the *Métropole* area. Service is open 24/7. All you need is personal identification and you can rent a bicycle to ride the streets of the city and outlying area. You can buy tickets at the *Esplanade* bike station (next to Montpellier Tourist Office).

Restaurants

A large variety of restaurants, cafés and bars can be found all over Montpellier, with a very large selection available at walking distance from *Le Corum* conference centre. Some of them are open late at night. Prices for a menu usually start at €12 for lunch and €20 for dinner.

Places of interest in Montpellier

1 Crowne Plaza Montpellier Corum ****
2 Mercure Montpellier Centre ****
3 Ibis Montpellier Centre ***
4 Ibis Montpellier Centre Comédie ***
5 Citadines Antigone Montpellier **
6 Best Western Hotel Eurociel ***
7 Océania Le Métropole ****

Food and drink areas

Getting around

Montpellier is the ideal place to stay and take advantage of both the seashore of Southern France and the many hidden treasures in the hinterlands of the *Région Languedoc-Roussillon*. Discover major UNESCO World heritage sites, scenic villages and landscapes, vineyards and vast natural areas such as the Camargue marshland and the Cévennes mountains.

Natural sites

Camargue marshes, with pink flamingos, ranches with black bulls and white horses,
Cévennes mountains, great for biking, mountain biking or bushwalking,

Pyrénées mountains, between Spain, Andorra and Ariège,
Mediterranean coastline, with many swamps near Montpellier, rocks and cliffs when getting near the Spanish boarder, in the scenic **Côte Vermeille**.

Historic cities

Nîmes, living Roman history (45 kms from Montpellier),
Sète, the fascinating birthplace of famous musician Georges Brassens and poet Paul Valéry, located between the Mediterranean Sea and the **Thau lagoon**, famous for its oyster farms (30 kms),
Pézenas, Molière's hometown (60 kms),
Aigues-Mortes, the medieval city of Saint Louis (30 kms),
Collioure, capital of Fauvism painting (190kms).

UNESCO World heritage sites

The colossal walled city of **Carcassonne**, a magnificent medieval city with its ramparts, the Basilique de St Nazaire and Château Comtal,
The **Pont du Gard,** an impressive Roman aqueduct,
The **Canal du Midi,** a beautiful canal with a succession of straitslocks and tunnels,
The medieval **Abbaye de Gellone**, located in the beautiful village of Saint-Guilhem-le-Désert on the route to Saint Jacques de Compostelle,
The **Causses** (elevated calcareous plateaux) and the unique Cirque de Navacelles.

Social program

The **Welcome cocktail** will be held at *Le Corum* on **Monday, 16 March, 19:00-21:00.**

The **Gala dinner** will be held at the *Chateau de Pouget* on **Tuesday, 17 March, 18:30-24:00.** Buses will leave at 18:30 from *Le Corum*, Level 0. The *Chateau de Pouget* is a magnificent castle, dating back to the 12th century, renovated in the 18th century and surrounded by vineyards. It is is located mid-way between Montpellier and Nîmes.

Post-conference visits

Visit 1: ***Climate change adaptation in viticulture and enology at the INRA experimental wine farm of Pech Rouge:***
Innovation technologies for Climate Change adaptation in Viticulture and Enology,
New management and enological practices for the improvement of wine quality and adaptation to Climate Change.– **Departure from Tramway station *Occitanie* at 08:30.**

Visit 2: ***Agroforestry and climate change in a Mediterranean setting at the INRA Restinclières experimental farm:***
The Restinclières plots are the most mature agroforestry plots under uninterrupted study in Europe. They allow understanding the behaviour of Agroforestry systems on the long term, including the impact of Climate Change – **Departure from Tramway station *Occitanie* at 08:45.**

Visit 3: ***Montpellier's research infrastrcutures tour:***
Quarantine facilities for studies on tropical plant pathogens and related hosts (UMR DIADE & IPME)
Regional genotyping technology platform (UMR AGAP)
European Ecotron (CNRS)
Quarantine Ecotrop Platform (UMR ECO & SOLS)
Montpellier Plant Phenotyping Platforms (UMR LEPSE) – **Departure from Tramway station *Occitanie* at 09:00.**

Insurance

French health care does not cover visitors to France. Please ensure that you have a suitable insurance coverage in the event of illness or accident. The Organizing Committee will not accept liability for personal injuries sustained by, or for loss or damage to property belonging to the participants.

Practical information about *Le Corum*

Venue

Le Corum conference centre, Esplanade Charles De Gaulle, BP 2220, 34000 Montpellier – Tel: +33 0(4) 67 61 67 61
It is located in the city centre of Montpellier, a few minute's walk from *Corum* and *Comédie* tramway stations.


Registration

Participants should check in at the Welcome desk, Level 0 – Tel: +33 (0)4 67 61 66 64.
Open on Sunday 15 March, from 16:00 to 18:30 – Monday 16 March: from 7:30 to 19:00 – Tuesday 17 March: from 8:00 to 18:30 – Wednesday 18 March: from 8:00 to 18:30.
Media delegates are expected to check in at the Welcome desk, Level 0.
Badges are required for admission to all conference sessions, to the exhibition hall and the lunch area.

Preview room

Located in **Room Sully 3bis,Level 1.**
Sunday 15 March: open from 16:00 to 18:30.
Monday 16 March to Wednesday 18 March: open from 8:00 to 19:00.
It will not be possible to upload presentations directly in the conference lecture room (Auditorium Pasteur) nor in any of the parallel sessions rooms.

Abstracts

Abstracts for oral and poster presentations are available on the website and on the memory stick.

Poster exhibitions

It is located in the **Exhibition hall, Level 0.** It will remain accessible throughout the conference
Poster presenters should register at the Welcome desk at their arrival, where they will be allocated a display panel. Please note: **Posters for Sessions L1, L2 and L3 will be exposed on Monday, Tuesday and Wednesday respectively.**

Internet access

Wifi will be accessible in the Pasteur Auditorium, in Parallel Sessions rooms and in the Exhibition Hall, Level 0. **Access code: csa15 – Password: csa15.**

A Cyber Café will be available during the whole conference next to the Welcome desk at Level 0.

Catering information

Participants will be served a lunch box everyday at Level 3, upon presentation of their badges. Coffee breaks will be served at Level 0.

Participants are kindly asked **not to take food or beveradges to the sessions rooms.**

Messages

A message board is located adjacent to the Welcome desk at Level 0. Messages may be left at the Welcome desk or pinned to the board. No responsibility will be taken to deliver messages personally, so please check this board at regular intervals.

Cloakroom

It is located next to the Welcome desk at Level o.

Lost property

Please report any lost property to the Welcome desk, Level 0.

Smoking

Le Corum is a designated non-smoking venue.

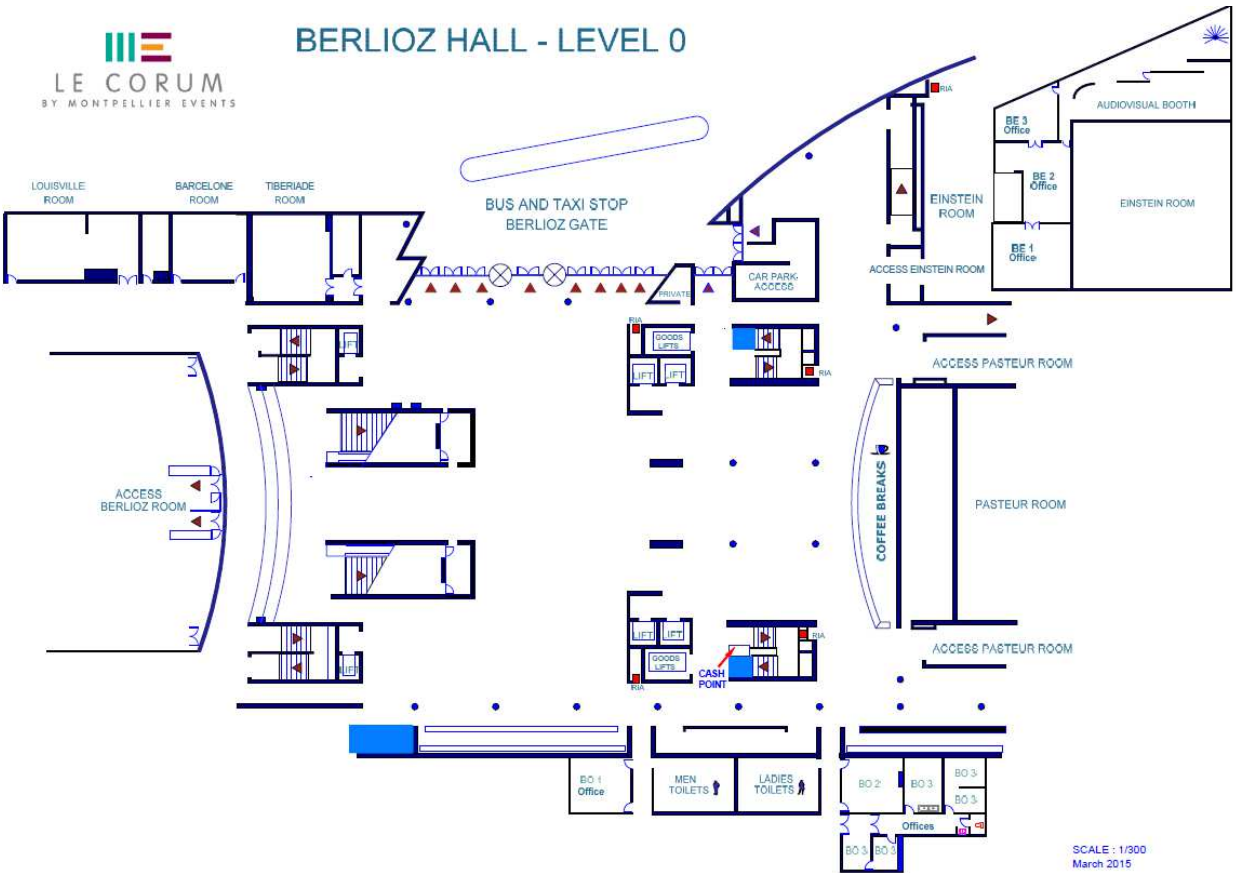
Taxis in Montpellier

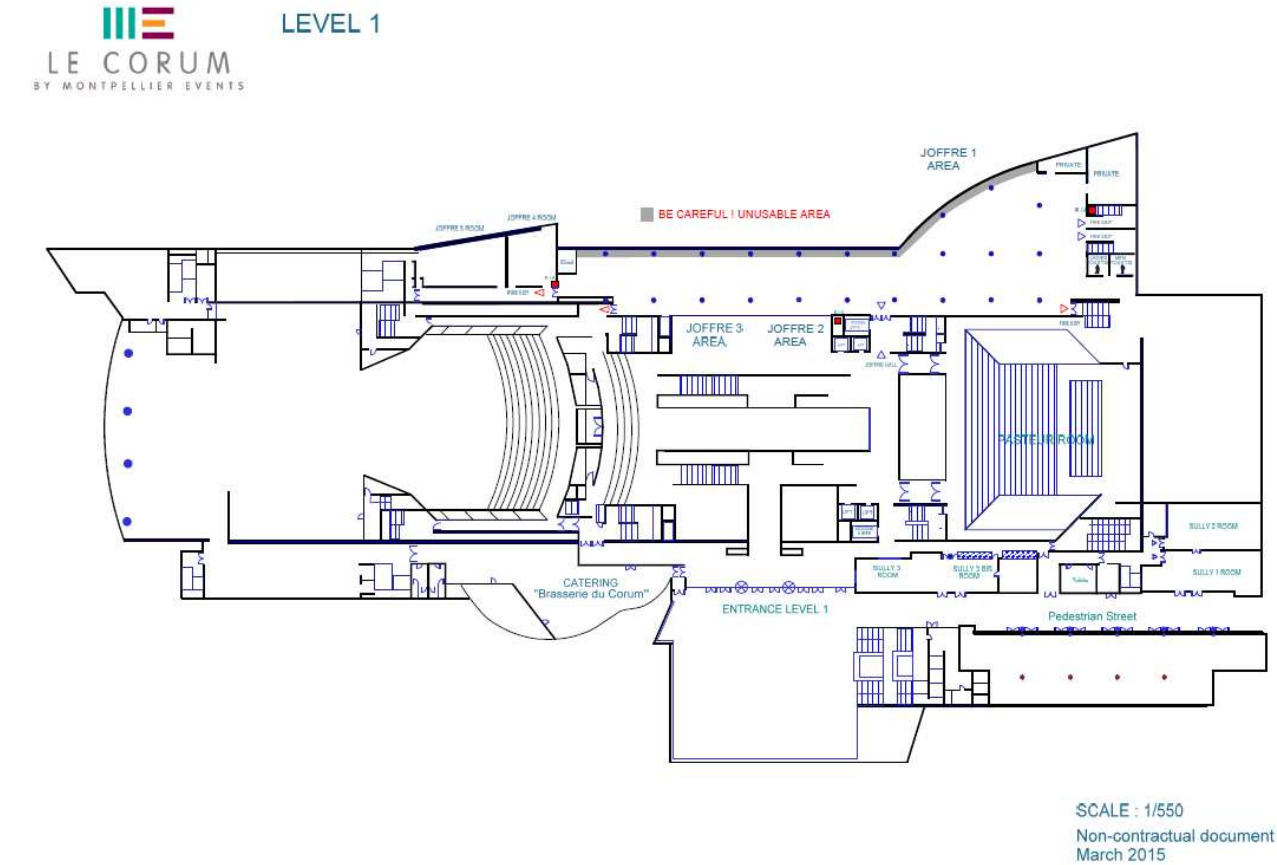
Taxi Tram – Tel: +33(0)4 67 58 10 10
Allo Taxi 34 – Tel: +33(0)4 67 81 42 74
Taxi Bleu – Tel: +33(0)4 67 03 20 00
Taxi Radio du Midi – Tel: +33(0)4 67 10 00 00

Doctor

Montpellier Emergency Hospital
Hôpital Lapeyronie, Avenue Charles Flahaut
Tel: 04 67 33 81 67 or 04 67 33 81 68
Alternatively, please contact *Le Corum* Reception desk for any assistance – Tel: +33(0)4 67 61 67 61

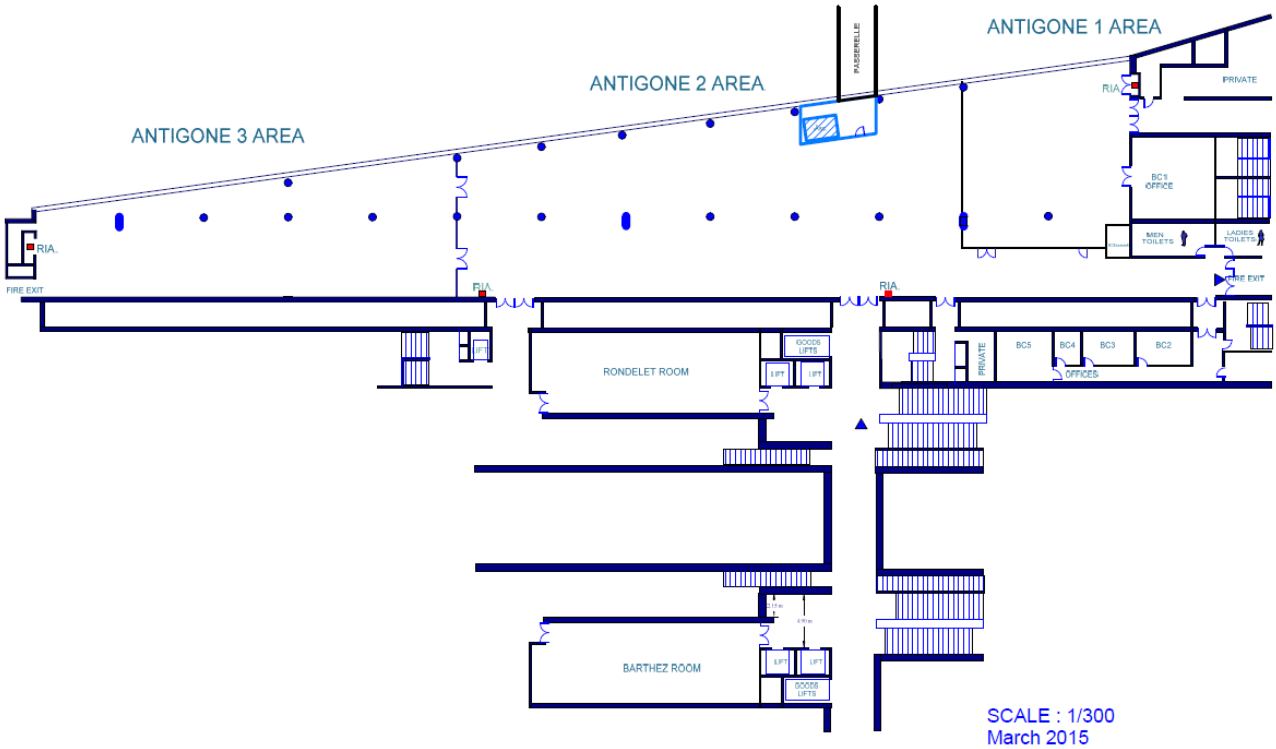
Maps of *Le Corum*





LE CORUM
BY MONTPELLIER EVENTS

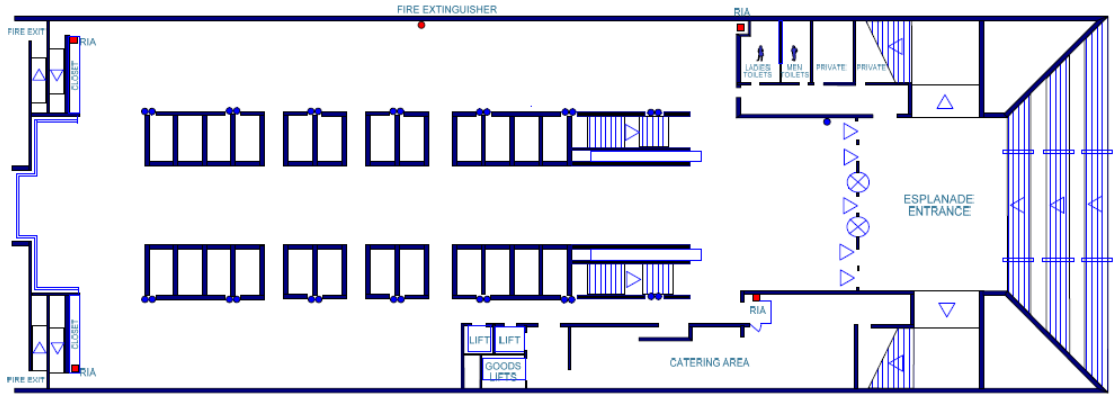
ANTIGONE HALL - LEVEL 2
Gross Surface = 1.440 sq m



SCALE : 1/300
March 2015
Height to the celling = 3.35 m

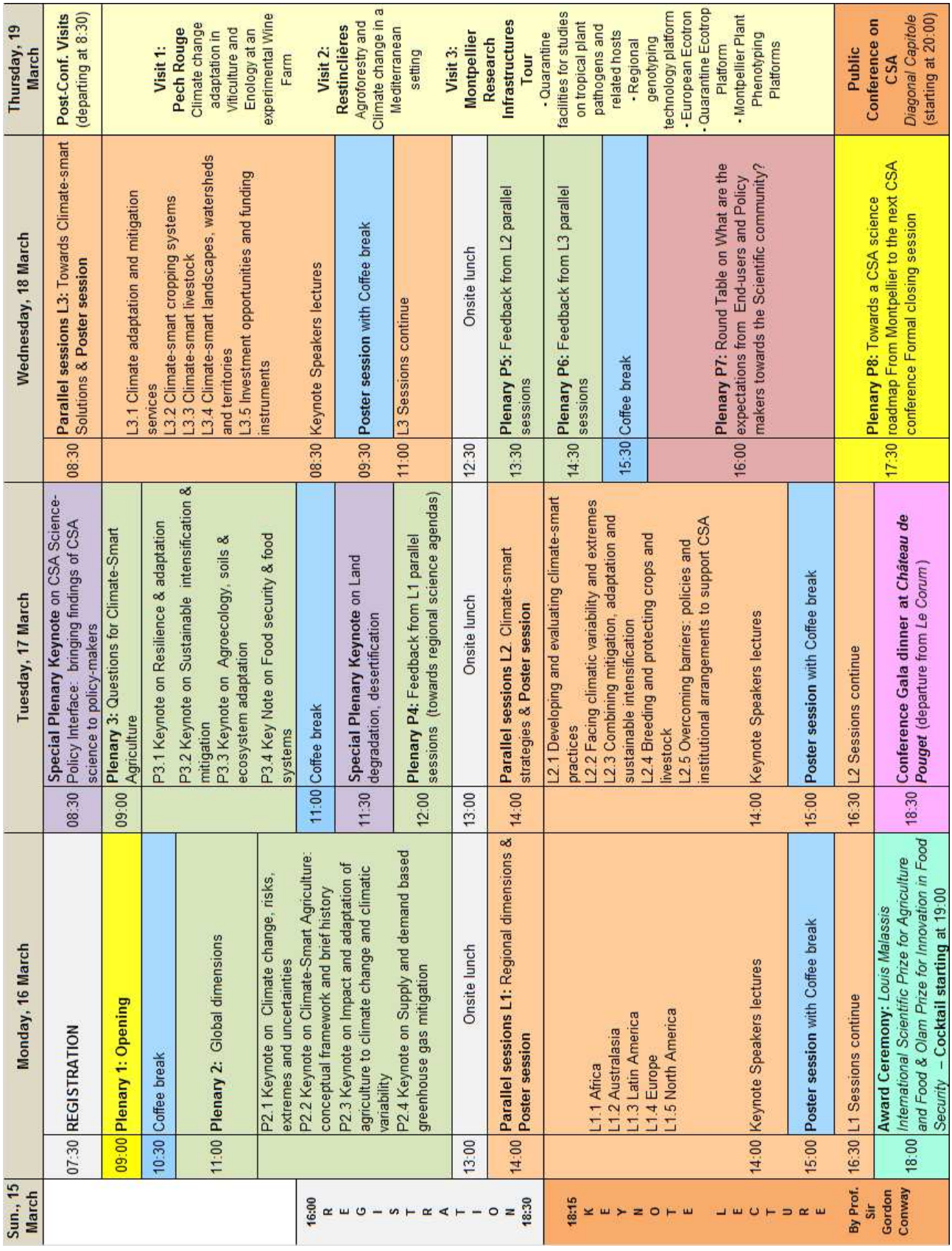
LE CORUM
BY MONTPELLIER EVENTS

LEVEL 3 - ESPLANADE LOUNGES



Scale: 1/300
March 2015
Height to the celling = 3.37 m

Program overview



Detailed schedule

Sunday 15 March 2015	
16:00–18:30	**Registration**
18:15–19:45	**Keynote lecture** ***"We are all in the same boat: food production and food security under threat by climate change"*** **by** **Professor Sir Gordon Conway**, Director, Agriculture for Impact, Imperial College London AUDITORIUM EINSTEIN

Monday 16 March 2015	
07:30–09:00	**Registration**
09:00–10:30	**Plenary 1: Opening Ceremony – AUDITORIUM PASTEUR** **Anne-Marie Descôtes,** Director General for Global Affairs, Development and Partnerships, French Ministry of Foreign Affairs and International Development **Damien Alary,** President of Région Languedoc-Roussillon (tbc) **Philippe Saurel,** President of Montpellier Méditerranée Métropole and Mayor of Montpellier, (tbc) **Mihail Dumitru,** The Deputy Director General, DG Agriculture and Rural Development, European Commission, **Michel Eddi**, President Managing Director of CIRAD **François Houllier,** President Managing Director of INRA **Michel Laurent,** President of IRD **Bernard Hubert,** President of Agropolis International **Ren Wang,** Assistant Director-General of the Agriculture and Consumer Protection Department at the FAO **Juan Lucas Restrepo Ibiza,** Chair of the Global Forum on Agricultural Research (GFAR) and Executive Director of CORPOICA,Colombia **Franck Rijsberman,** CEO, CGIAR Consortium, Montpellier, France **Linda Katehi,** Chancellor, University of California, Davis **Prof. dr. M.J. Kropff,** Vice chairman of the Executive Board of Wageningen UR, Rector Magnificus, Wageningen University **Patrick Caron,** Director General for Research and Strategy, CIRAD
10:30–11:00	**Coffee Break – Level 0**
11:00–13:00	**Plenary 2: Global Dimensions – AUDITORIUM PASTEUR** **Chair: Jean-François Soussana** **Hervé le Treut** (IPSL): Climate-Change: from global alert to local studies **Ren Wang** (FAO): Climate-Smart agriculture: conceptual framework and brief history **Mark Howden** (CSIRO): From climate adaptation assessment to action and back again: a food system perspective **Pete Smith** (University of Aberdeen): Supply and demand based greenhouse gas mitigation
13:00–14:00	**Onsite Lunch Break – Level 3**

14:00–18:00	**Parallel sessions L1: Regional Dimensions & Poster Session**
	Parallel session L.1.1: Africa – ROOM SULLY 1 **Chair: James Kinyangi**
14:00–15:00	*Keynotes* **Maggie Opondo** (University of Nairobi): Engendering climate resilient agricultural livelihoods in Africa **Richard Munang** (UNEP): The imperative for Ecosystem based Adaptation Approaches for Improved Food Security and Climate Resilience in Africa: Implications for Policy
15:00–16:30	*Poster Session & Coffee Break*
16:30–18:00	*Oral presentations* **Tantely Razafimbelo** (Antananarivo University): Climate smart practices impact soil organic carbon storage in Madagascar **Katrien Descheemaeker** (Wageningen University and Research): A modelling framework to assess climate change and adaptation impact on heterogeneous crop-livestock farming communities **Henderson Ben** (CSIRO): Closing yield gaps to increase food supply and mitigate GHG emissions for African smallholders **KindieTesfaye** (CIMMYT): Potential for taking climate smart agricultural practices to scale: Examples from Sub-Saharan Africa
	Parallel session L.1.2: Australasia – ROOM SULLY 2 **Chair: Frédéric Gay**
14:00–15:00	*Keynotes* **Pramod Aggarwal** (CGIAR, CCAFS): Climate-smart agriculture in South Asia: Opportunities and constraints in scaling out **Imelda Bacudo** (GAP-CC): Promotion of Climate Resiliency for Food Security in the Association of Southeast Asian Nations: Regional Policy Making and Funding Opportunities
15:00–16:30	*Poster Session & Coffee Break*
16:30–18:00	*Oral presentations* **Tu Trinh Quang** (RIA): Integrated rice-shrimp as a smart strategy to cope with climate change in the Mekong Delta, Vietnam **Guillaume Lacombe** (IWMI): Changing rainfall pattern in Northeast Thailand and implications for cropping systems adaptation **Norman Uphoff** (Cornell University): A review of contributions that the System of Rice Intensification (SRI) can make to climate-smart agriculture **Sikka Ak** (Indian Council of Agricultural Research): Development of climate resilient villages
	Parallel session L.1.3: Latin America – ROOM SULLY 3 **Chair: Mirjam Pulleman**
14:00–15:00	*Keynotes* **Pauline Aldunce** (*Universidad de Chile*): Are we adapting to climate change? The case of the Chilean agricultural sector **Maureen Arguedas-Marín** (CATIE): Economic valuation of mangrove´s ecosystem services in Gulf of Nicoya, Costa Rica
15:00–16:30	*Poster Session & Coffee Break*
16:30–18:00	*Oral presentations* **Michel Schlaifer** (ECLAC): The experience in policy dialogue for agriculture and climate change in LAC countries: an overview **Cecilia Turin** (International Potato Center): Implications of losing the complementariness of gender roles on CSA strategies in the Peruvian Altiplano **Milagro Saborio-Rodriguez** (CATIE): How do coffee farmers adapt to perceived changes in climate? Evidence from Central America

	Claudia Bouroncle (CATIE): Practices and enabling conditions for climate-smart agriculture: current status in seven countries in Latin America
	Parallel session L.1.4: Europe – ROOM RONDELET **Chair: Jean-François Soussana**
14:00–15:00	*Keynotes* **Patrik Kolar** (European Commission): FACCE-JPI: an European partnering initiative to tackle food security and climate change–one of the greatest societal challenges **Niels Gøtke** (Nordic Joint Committee for Agricultural and Food Research & FACCE JPI)
15:00–16:30	*Poster Session & Coffee Break*
16:30–18:00	*Oral presentations* **Stefan Fronzek** (Finnish Environment Institute): Wheat yield sensitivity to climate change across a European transect for a large ensemble of crop models **Vera Eory** (SRUC): Economic assessment of greenhouse gas mitigation on livestock farms **Natalie Trapp** (Universität Hamburg): Agricultural Adaptation to Climate Change in the European Union **R.M. Rees** (Scotland's Rural College): Legume supported cropping systems for Europe (Legume Futures)
	Parallel session L.1.5: North America – ROOM BARTHEZ **Chair: Cynthia Rosenzweig**
14:00–15:00	*Keynotes* **Charles Walthall** (USDA ARS): Building Climate Smart, Sustainable, Intensive Agriculture For the 21st Century and Beyond **Louise Jackson** (UC Davis): Scientific Article Summarizing the 2013 CSA Global Science Conference in North America
15:00–16:30	*Poster Session & Coffee/Tea Break*
16:30–18:00	*Oral presentations* **Raj Khosla** (Colorado State University): The 4-R nutrient stewardship and its role in climate smart agriculture **Brenda V. Ortiz** (Aubrun University): From climate variability to climate change: building adaptive capacity among row crop farmers in the Southeastern USA **Samuel Sandoval Solis** (University of California, Davis): Climate Smart Agriculture and Water Management in California **Bruno Basso** (Michigan State University East Lansing): Dealing with climate and yield variability: the role of precision agricultural technologies and crop models
18:00–19:00	**Award Ceremony:** ***Louis Malassis International Scientific Prize for Agriculture and Food & Olam Prize for Innovation in Food Security*** **– AUDITORIUM PASTEUR** LOUIS MALASSIS INTERNATIONAL SCIENTIFIC PRIZE OLAM 25 YEARS
19:00–20:30	**Cocktail – Hall, Level 0**

Tuesday 17 March	
8:30–9:00	**Special Plenary Keynote on CSA Science-Policy interface: Bringing findings of CSA science to policy-makers – AUDITORIUM PASTEUR** **Amadou Allahoury** (Niger President Office, HLPE): Bringing findings of "CSA science" to policy makers
9:00–11:00	**Plenary 3: Key Questions for Climate-Smart Agriculture – AUDITORIUM PASTEUR** **Chair: Jean-Luc Chotte** **Holger Meinke** (University of Tasmania): Adaptation, Resilience and Climate Smart Agriculture – from concepts to action **Mercedes Bustamante** (University of Brasilia): Sustainable intensification and mitigation **Pablo Tittonell** (Wageningen University and Research): Agroecology *is* climate smart **Sonja Vermeulen** (CCAFS) **and John Porter** (NRI): Climate-smart food systems
11:00–11:30	Coffee Break – Level 3
11:30–12:00	**Special Plenary Keynote on Land degradation, Desertification – AUDITORIUM PASTEUR** **Bill Payne** (University of Nevada): The Tragedy of the Commons Revisited: Land Degradation and Desertification on Public Lands
12:00–13:00	**Plenary P4 Feedback from L1 parallel sessions – AUDITORIUM PASTEUR** **Peter Minang and Jean-Luc Chotte**
13:00–14:00	Onsite Lunch Break – Level 3
14:00–18:00	**Parallel sessions L2: Climate-smart Strategies & Poster Session**
14:00–15:00	**Parallel session L2.1: Developing and evaluating climate-smart practices – ROOM SULLY 1** **Chair: Munyaradzi Chitakira** *Keynotes* **Bruce Campbell** (CCAFS): Developing and evaluating climate-smart practices and services **Hongmin Dong** (Chinese Academy of Agricultural Sciences): Climate-smart agriculture practices and its evaluation
15:00–16:30	*Poster Session and Coffee Break*
16:30–18:00	*Oral presentations* **Byomkesh Talukder** (Wilfrid Laurier University): Rain water-based integrated agricultural system: A model for ensuring food security and adaptation in coastal Bangladesh **Hidalgo D. Medina** (Commonwealth Scientific and Industrial Research Organization): Additive impacts of climate-smart agriculture practices in mixed crop-livestock systems in Burkina Faso **Ijeoma Emenanjo** (The World Bank Group): Developing Indicators for Climate-Smart Agriculture (CSA) **Jan Verhagen** (Wageningen UR): Towards metrics to track and assess climate smart agriculture

	Parallel session L2.2: Facing climatic variability and extremes – ROOM SULLY 2 **Chair: Arona Diedhiou**
14:00–15:00	*Keynotes* **Robert Zougmoré** (CCAFS, ICRISAT): Facing climatic variability and extremes **Thierry Lebel** (IRD): Rainfall modifications in the context of climate change: the puzzle of the tropical regions
15:00–16:30	*Poster Session & Coffee Break*
16:30–18:00	*Oral presentations* **Festo Massawe** (University of Nottingham Malaysia Campus): The potential for underutilised crops to improve food security in the face of climate change **David Leclère** (IIASA): Changes in climate variability and potential for impacts of droughts on agricultural markets **Jean-Louis Durand** (INRA): How precisely do maize crop models simulate the impact of climate change variables on yields and water use? **Anne Mottet** (FAO): Modeling livestock production under climate constraint in the African drylands to identify interventions for adaptation
	Parallel session L2.3: Combining mitigation, adaptation and sustainable intensification – ROOM SULLY 3 **Chair: Louise Jackson**
14:00–15:00	*Keynotes* **Kenneth Cassman** (University of Nebraska–Lincoln): *Ex-Ante* Evaluation of Climate-Smart Agriculture Options **Lini Wollenberg** (University of Vermont, CCAFS): Will sustainable intensification get us to 2 degrees Celsius?
15:00–16:30	*Poster Session & Coffee/Tea Break*
16:30–18:00	*Oral presentations* **Monika Zurek** (Climate Focus): Climate readiness in smallholder agricultural systems: Lessons learned from REDD+ **Ulrich Kleinwechter** (IIASA): Assessing low emissions agricultural pathways under alternative climate policy regimes **Laurence Jassogne** (IITA): Climate-smart coffee systems in East Africa **Paresh Shirsath** (IWMI-New Delhi): Prioritizing Climate-Smart Agricultural Interventions at Multiple Spatial and Temporal Scales
	Parallel session L2.4: Breeding and protecting crops and livestock – ROOM RONDELET **Chair: Kenneth Cassman**
14:00–15:00	*Keynotes* **Jean-Christophe Glaszmann** (CIRAD): Plant breeding for climate-smart agriculture **Renaud Lancelot** (CIRAD): What impact of climate change on animal health?
15:00–16:30	*Poster Session & Coffee/Tea Break*
16:30–18:00	*Oral presentations* **Jos van Boxtel** (Arcadia Biosciences): Reducing nitrogen run-off and emission, and increasing rice productivity in African rice production environment **Sunil Archak** (ICAR-National Bureau of Plant Genetic Resources): Utilization of ex situ collections and climate analogues for enhancing adaptive capacity to climate change **Denis Laloë** (Inra/AgroParisTech): Adaptation of Mediterranean bovine livestock to climate constraints. Genetic diversity and breeding systems **François Tardieu** (INRA, LEPSE): Towards genotypes adapted to climate change via combination of phenotyping and modelling: The projects DROPS and Phenome

	Parallel session L2.5: Overcoming barriers: policies and institutional arrangements to support CSA – ROOM BARTHEZ **Chair: Allison M. Chatrchyan**
14:00–15:00	*Keynotes* **Leslie Lipper** (FAO): Policies and institutional arrangements to support CSA **Laurent Sédogo** (WASCAL): Policies and institutions conducive for enhancing the transfer to CSA in Africa
15:00–16:30	*Poster Session & Coffee Break*
16:30–18:00	*Oral presentations* **Myriam Layaoen (**Philippin Rice Research Institute): Schools as climate smart agriculture information hubs **Harry Clark** (NZAGRC): Advancing CSA solutions through global collaboration: the Global Research Alliance on Agricultural Greenhouse Gases **Adriana Paolantonio** (FAO): Using whole-farm models for policy analysis of climate smart agriculture **Songporne Tongruksawattana** (University of Goettingen): Climate shocks and risk attitudes among female and male maize farmers in Kenya
18:30-Till late	**Gala dinner at the *Château de Pouget***

Wednesday 18 March 2015

8:30–12:30	**Parallel sessions L3: Towards Climate-smart Solutions & Poster session**
	Parallel session L3.1: Climate adaptation and mitigation services – ROOM SULLY 1 **Chair: Eddy Moors**
08:30–09:30	*Keynotes* **Cynthia Rosenzweig** (NASA's Goddard Institute for Space Studies, AgMIP): AgMIP Contributions to Climate-Smart Agriculture **Eddy Moors** (Wageningen University and Research): Adaptation and mitigation services for climate smart agriculture
09:30–11:00	*Poster Session & Coffee Break*
11:00–12:30	*Oral presentations* **Leila Akhmiss and Abdellatif Rami** (IAV Hassan II, CHA / AGROTECH): Public-Private Partnership For Climate-Smart Irrigation Initiative in Morocco: The experience of Souss Massa Region **Vinay Sehgal** (Indian Agricultural Research Institue, New Delhi): DSS for monitoring agro-meteorological and crop conditions in India using remote sensing for agro-advisory services **Jacob van Etten** (Bioversity International): Can citizen science accelerate climate adaptation by poor farming households? **Fiona Ehrhardt** (INRA): An international intercomparison & benchmarking of crop and pasture models simulating GHG emissions and C sequestration
	Parallel session L3.2: Climate-smart cropping systems – ROOM SULLY 2 **Chair: Pramod Aggarwal**
08:30–09:30	*Keynotes* **Michael Obersteiner** (IIASA): Climate-Smart Agriculture – adaptation or transformation **Philippe Debaeke** (INRA): Designing and assessing climate-smart cropping systems in temperate and tropical agriculture
09:30–11:00	*Poster Session & Coffee Break*
1:00–12:30	*Oral presentations* **Jean-Jacques Drevon** (INRA): Phosphorus use efficiency in symbiotic N2 fixation for coupling bio-geochemical cycles in agrosystems with legumes

	Eric Penot (CIRAD): Conservation agriculture and agro-ecology practices to mitigate climatic variations in medium altitude in Madagascar **Hoyoung Kwon** (International Food Policy Research Institute): Agronomic and environmental benefits of climate-smart farming practices modeled for rice-based system in India **Philippe Vaast** (CIRAD, ICRAF): Smallholders' coffee and cocoa agroforestry systems, examples of climate-smart agriculture
08:30–09:30 09:30–11:00 11:00–12:30	**Parallel session L3.3: Climate-smart livestock – ROOM SULLY 3** **Chair: Mark Howden** *Keynotes* **Mario Herrero** (CSIRO): Climate-smart livestock systems: lessons and future research **Jean-François Soussana** (INRA): Livestock and climate change: combining mitigation and adaptation options and projecting sustainable futures *Poster Session & Coffee Break* *Oral presentations* **Petr Havlik** (IIASA): Differential climate change impacts on crop and grasslands and the relative livestock production systems competitiveness **Pierre Gerber** (FAO): Efficiency gains for enteric methane mitigation and productivity: contribution to CSA and investment opportunities **Anne Collin** (INRA): Variations in egg incubation temperature enable chicken acclimation through long-lasting changes in energy metabolism **Juan Pablo Inamagua-Uyaguar** (CATIE): Impact of feeding strategies on GHG emissions, income over feed cost and economic efficiency on milk production
08:30–09:30 09:30–11:00 11:00–12:30	**Parallel session L3.4: Climate-smart landscapes, watersheds and territories – ROOM RONDELET** **Chair: Richard Munang** *Keynotes* **John Beer** (CATIE): Climate Smart Territories; what are they and how do we evaluate progress towards this goal? **Úrsula Oswald Spring** (National Autonomous University of Mexico, UNU-EHS): Towards climate-smart landscapes and watersheds *Poster Session & Coffee Break* *Oral presentations* **Jean-Marc Blazy** (INRA): Prototyping climate-smart agricultural landscapes: a generic modelling framework and application in a tropical island **Bruno Locatelli** (CIRAD-CIFOR): Managing trade-offs in climate-smart landscapes: A global analysis at multiple levels **Peter A Minang** (ICRAF): Climate-Smart Landscapes: Multifunctionality in Practice **Adriano Venturieri** (Embrapa Amazonia Oriental): A platform for landscape ecoeficiency monitoring and jurisdictional certification in the amazon region

	Parallel session L3.5: Investment opportunities and funding instruments – ROOM BARTHEZ **Chair: Leslie Lipper**
08:30–09:30	*Keynotes* **Merylyn Hedger** (ODI): Delivering Climate Smart Agriculture: prospects from climate finance **Tim Searchinger** (Princeton University, WRI): "What Can Fund Climate Smart Agriculture?"
09:30–11:00	*Poster Session & Coffee Break*
11:00–12:30	*Oral presentations* **Ada Ignaciuk** (OECD): How to deal with trade-offs? - A manual for policymakers **Ana Iglesias** (*Universidad Politécnica de Madrid*): Exploring strategic management of agricultural systems to link mitigation and adaptation to climate change **Armine Avagyan** (FAO): Nationally appropriate mitigation actions (NAMAs) for upscaling climate-smart agriculture practices **Helen Greatrex** (IRI): A business approach to poverty reduction: weather index based insurance and climate smart agriculture
12:30–13:30	Onsite Lunch Break – Level 3
13:30–14:30	**Plenary P5: Feedback from L2 parallel sessions – AUDITORIUM PASTEUR** **Louise Jackson and Emmanuel Torquebiau**
14:30–15:30	**Plenary P6: Feedback from L3 parallel sessions – AUDITORIUM PASTEUR** **Leslie Lipper and Jean-François Soussana**
15:30–16:00	Coffee Break – Level 3
16:00–17:30	**Plenary P7 Round Table: What are the expectations from End-users and Policy-makers? – AUDITORIUM PASTEUR** **Chair: Alain Vidal** **Juan Lucas Restrepo Ibiza** (Chair, GFAR and Executive Director, CORPOICA) **Patrice Burger**, Executive Director of CARI (On behalf of the French Consortium Coordination Sud Commissions "Climate and Development" and "Food and Agriculture") **Thierry Blandinières**, Director General, INVIVO, First French Agricultural Cooperation Group **Sylla Kalilou**, Executive Secretary, ROPPA (*Réseau des organisations paysannes et des producteurs agricoles d'Afrique de l'Ouest*) – (tbc) **Leslie Lipper**, Senior Environmental Economist, Agriculture and Development Economics Division, FAO **Victor Vilallobos**, Director General, IICA (*Instituto Interamericano de Cooperación para la Agricultura*) (tbc)
17:30–18:30	**Plenary P8: Towards a CSA science roadmap From Montpellier to the next CSA conference Formal Closing session – AUDITORIUM PASTEUR** **Laurence Tubiana**, Ambassador and Special Representative of the French Government for COP21 **Ibrahim Assane Mayaki**, NEPAD Agency Chief Executive **Patrick Caron**, CIRAD, DIrector General for Research and Strategy **Jean-Luc Chotte**, IRD, Director of ECO&SOLS Research Unit Officer **Jean-François Soussana**, INRA, Scientific Director for Environment

Thursday 19 March 2015	
Day-long (lunch included)	**Post-Conference Field Trips and Research Infrastructures Tour** **Visit 1:** Climate change adaptation in Viticulture and Enology at an experimental Wine Farm **Visit 2:** Agroforestry and climate change in a Mediterranean setting **Visit 3:** Montpellier's Research Infrastructures Tour
20:00–22:00	**Public Conference on CSA (in French)** **In town at DIAGONAL CAPITOL movie theatre** 5 Rue de Verdun, 34000 Montpellier (Tramway station: *Comédie*) ***« Changement climatique et agriculture : quelles solutions pour l'avenir ? »*** **Speakers:** **Jean-Marc Touzard,** *Directeur de recherche à l'Inra, Montpellier* **Jean-François Soussana,** *Directeur scientifique Environnement à l'Inra, Paris et membre du GIEC* **Yacine Badiane NDour,** *Directrice du Laboratoire national de recherches sur les productions végétales, Isra-Institut sénégalais de recherche agricole, Dakar, Sénégal*

Side events

Side-events in Montpellier

Annual workshop of the Animal Health & Greenhouse Gas Emissions Intensity Network

Date: **Sunday, 15 March 2015 – Full day event**
Expected attendance: 20
Venue: ***Crowne Plaza Montpellier Corum* Hotel**
Contact person: Alice Willett at **animalhealthnetwork@adas.co.uk**
Website: **www.globalresearchalliance.org/**

The Animal health and Greenhouse Gas (GHG) Emissions Intensity Network of the Global Research Alliance on Agricultural Greenhouse Gases aims to bring together researchers from around the world to investigate links and synergies between efforts to reduce animal disease and possible GHG mitigation through disease control.
The second annual Network workshop will be held on Sunday 15th March 2015 (full day event) in the margins of Climate-Smart Agriculture 2015 Global Science Conference at Le Corum, Montpellier, France. The workshop will bring together relevant researchers (e.g. animal scientists, veterinary scientists, epidemiologists, economists, GHG researchers) and research funders to develop international links, share information on current research and discuss opportunities to build upon this research, and identify data requirements and expertise needed to progress work on animal health and GHG's.
For further information on the Network, please see the report of the first workshop at **http://www.globalresearchalliance.org/community/alliance-member-countries/member-country-page-united-kingdom/uk-activities-livestock-research-group/**

CSA Alliance Knowledge action group (Upon invitation

Date: **Sunday, 15 March 2015**
Expected attendance: 100
Venue: **Agropolis International**
Contact person: **Federica.Matteoli@fao.org**
For registration: **https://www.surveymonkey.com/r/KZW92X7**
Website: **http://www.climatesmartagriculture.org/**

The Knowledge Action Group (KAG) of the ACSA co-led by the FAO and CGIAR/CCAFS is organizing this workshop in order to secure inputs and organize the work on research priorities for CSA and partnerships to make these priorities possible. The activities identified at the workshop will form inputs into the development of the KAG's action plan.

Global Research Alliance on Greenhouse Gases (GRA) (Upon invitation)

Date: **Sunday, 15 March 2015**
Expected attendance: 30
Venue: ***Le Corum* (Room tbc)**
Contact person : **jan.verhagen@wur.nl**
Website: **www.globalresearchalliance.org/**

The Global Research Alliance on Agricultural Greenhouse Gases brings countries together to find ways to grow more food without growing greenhouse gas emissions.

FACCE JPI Governing Board (Upon invitation)

Date: **Tuesday, 17 March 2015**
Expected attendance: 35
Venue: ***Le Corum* (Room Louisville)**
Contact person: **Heather.Mckhann@paris.inra.fr**
Website: www.faccejpi.com/About-Us

FACCE JPI is the Joint Research Programming Initiative on Agriculture, Food Security and Climate Change

CSA and Agroecology working group (Upon invitation)

Date: **Tuesday 17th March 2015, lunch time**
Expected attendance: 20
Venue: ***Le Corum* (Room Rondelet)**
Contact person: **Florent.maraux@cirad.fr and emmanuel.torquebiau@cirad.fr**

Meeting of the Technical Advisory Committee of the Project "Knowledge and technical services in the development of "Climate Smart Agriculture" and "Agroecology" approaches", co-organized by CIRAD and FAO.

Global Alliance on CSA (GACSA): presentation (Open to all)

Date: **Tuesday, 17 March 2015 – lunch time**
Expected attendance: To be confirmed
Venue: ***Le Corum* (Room Barthez)**
Contact person: **Leslie.lipper@fao.org** and **patrick.caron@cirad.fr**
Website: **http://www.fao.org/climate-smart-agriculture/85725/en/**

GACSA seeks to improve people's food security and nutrition in the face of climate change.
Details of the meeting to be confirmed..

The Regional Multidisciplinary Platform "Rural Communities, Environment and Climate in West Africa" – PPR SREC (Open to all)

Date: **Wednesday, 18 March 2015 – lunch time**
Expected attendance: 50/60
Venue: ***Le Corum* (Room Barthez)**
Contact person : **jean-luc.chotte@ird.fr**
Website: **http://www.ppr-srec.ird.fr/**

Presentation of PPR SREC, a cross-disciplinary, regionally integrated multi-stakeholders platform for innovative approaches, education and training in West Africa, in the face of climate change and food security.

AGRINATURA: Annual Meetings and General Assembly 2015 focusing on "Building capacities to address climate change"

Upon invitation

Date: **Thursday, 19 March and Friday, 20 March 2015**
Expected attendance: 50
Venue: **IRC/Montpellier SupAgro and Agropolis International**
Contact person: **pillot@supagro.inra.fr**
Website: **http://www.agrinatura.eu/**

General Assembly and workshop of AGRINATURA, The European Alliance on Agricultural Knowledge for Development.

Animal change (Upon invitation)

To be confirmed
Date: **Thursday afternoon, 19 March 2015 and Friday morning, 20 March 2015**
Expected attendance: 100-200
Venue: **Agropolis International**
Contact person: **irina.carpusca@paris.inra.fr**
Website: *Coming soon*

Side-event in Paris

Gender Seminar and Panel (Open to all)

"Closing the gender gap in farming under climate change: New knowledge for renewed action"

Date: **Thursday, 19th March 2015, 9.00am – 2.30pm**
Expected attendance: 100-150
Venue: **CAP15, 13 Quai De Grenelle, 75015, Paris**
Website and registrations:
http://ccafs.cgiar.org/closing-gender-gap

PLENARY SESSIONS

PLENARY 1: OPENING CEREMONY
Cf. page 13

PLENARY 2: GLOBAL DIMENSIONS

Monday, 16 March 2015

11:00–13:00

AUDITORIUM PASTEUR

11:00 PLENARY KEYNOTE P2.1: CLIMATE CHANGE, RISKS, EXTREMES AND UNCERTAINTIES

Climate Change: from global alert to local studies

Le Treut Hervé
Laboratoire de Météorologie Dynamique/ Institut Pierre-Simon Laplace, Université Pierre et Marie Curie, Paris, France

11:30 PLENARY KEYNOTE P2.2: CLIMATE-SMART AGRICULTURE: CONCEPTUAL FRAMEWORK AND BRIEF HISTORY

Climate-Smart agriculture: conceptual framework and brief history

Wang Ren
Assistant Director-General, Agriculture and Consumer Protection Department, FAO

12:00 PLENARY KEYNOTE P2.3: IMPACTS AND ADAPTATION OF AGRICULTURE TO CLIMATE CHANGE AND CLIMATIC VARIABILITY

From climate adaptation assessment to action and back again: a food system perspective

Howden Mark, Crimp Steven, Lim-Camacho Lilly, Dowd Anne-Maree
CSIRO Agriculture, GPO Box 1700, Canberra, ACT 2601, Australia

12:30 PLENARY KEYNOTE P2.4: SUPPLY AND DEMAND BASED GREENHOUSE GAS MITIGATION

Supply and demand based greenhouse gas mitigation

Smith Pete
Institute of Biological Sciences & Scottish Food Security Alliance-Crops, University of Aberdeen, Aberdeen, AB24 3UU, United Kingdom

SPECIAL PLENARY KEYNOTE ON CSA SCIENCE-POLICY INTERFACE: Bringing findings of CSA science to policy-makers

Tuesday, 17 March 2015

8:30–9:00

AUDITORIUM PASTEUR

Bringing findings of "CSA science" to policy makers

Allahoury Amadou
High Level Panel of Experts on Food Security and Nutrition (HLPE), Steering Committee Member
High Commissioner for Food Security to the President of the Republic of Niger

PLENARY 3: KEY QUESTIONS FOR CLIMATE-SMART AGRICULTURE

Tuesday, 17 March 2015

9:00–11:00

AUDITORIUM PASTEUR

9:00 PLENARY KEYNOTE P3.1: RESILIENCE AND ADAPTATION

Adaptation, Resilience and Climate Smart Agriculture – from concepts to action

Meinke Holger[1,2], Baethgen Walter[3] , Meza Francisco[4],Campbell Bruce[5]
[1]*Tasmanian Institute of Agriculture, Schools of Land and Food, University of Tasmania, Hobart, TAS 7001, Australia*
[2]*Centre for Crop Systems Analysis, Wageningen University, the Netherlands*
[3]*IRI, Columbia University, New York, USA*
[4]*Pontificia Universidad Católica de Chile, Santiago, Chile*
[5]*CGIAR Research Program on Climate Change, Agriculture, and Food Security (CCAFS), c/o University of Copenhagen, Denmark*

9:30 PLENARY KEYNOTE P3.2: SUSTAINABLE INTENSIFICATION AND MITIGATION

Sustainable intensification and mitigation

Bustamante Mercedes M.C.
University of Brasilia, Brazil

10:00 PLENARY KEYNOTE P3.3: AGROECOLOGY, SOILS AND ECOSYSTEM ADAPTATION

Agroecology *is* climate smart

Pablo Tittonell[1,2]

[1]*Farming Systems Ecology, Wageningen University, the Netherlands*
[2]*Centre de coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), France*

10:30 PLENARY KEYNOTE P3.4: FOOD SECURITY AND FOOD SYSTEMS

Climate-smart food systems

Vermeulen Sonja J., Porter John R.
Department of Plant and Environmental Sciences, University of Copenhagen, Thorvaldsensvej 40, 1871 Frederiksberg C., Denmark

SPECIAL PLENARY KEYNOTE ON LAND DEGRADATION, DESERTIFICATION

Tuesday, 17 March 2015

11:30–12:00

AUDITORIUM PASTEUR

The tragedy of the commons revisited: land degradation and desertification on public lands

Payne William A.
University of Nevada, USA

PLENARY P4: FEEDBACK FROM L1 PARALLEL SESSIONS (towards regional science agendas). Cf. page 16

Tuesday, 17 March 2015

12:00–13:00

AUDITORIUM PASTEUR

PLENARY P5: FEEDBACK FROM L2 PARALLEL SESSIONS Cf page 20

Wednesday, 18 March 2015

13:30–14:30

AUDITORIUM PASTEUR

PLENARY P6: FEEDBACK FROM L3 PARALLEL SESSIONS Cf. page 20

Wednesday, 18 March 2015

14:30–15:30

AUDITORIUM PASTEUR

PLENARY P7: ROUND TABLE on What are the expectations from End-users and Policy makers towards the Scientific community?

Cf. page 20

Wednesday, 18 March 2015

16:00–17:30

AUDITORIUM PASTEUR

PLENARY P8: TOWARDS A CSA SCIENCE ROADMAP from Montpellier to the next CSA conference Formal closing session.

Cf. page 20

Wednesday, 18 March 2015

17:30–18:30

AUDITORIUM PASTEUR

PARALLEL SESSION L1 REGIONAL DIMENSIONS

Monday, 16 March 2015

14:00–18:00

ORAL PRESENTATIONS

PARALLEL SESSION L1.1 AFRICA

ROOM SULLY 1

KEYNOTE PRESENTATIONS

14:00 Engendering climate resilient agricultural livelihoods in Africa

Opondo Maggie[1], Nyasimi Mary[2]

[1]*Institute for Climate Change & Adaptation, University of Nairobi, Kenya*

[2]*International Livestock Research Institute, Nairobi, Kenya*

14:30 The imperative for ecosystem based adaptation approaches for improved food security and climate resilience in Africa: implications for policy

Munang Richard

Africa Regional Climate Change Programme Coordinator, Regional Office for Africa (ROA) - United Nations Environment Programme (UNEP)

CONTRIBUTED ORAL PRESENTATIONS

16:30 Climate smart practices impact soil organic carbon storage in Madagascar

Razafimbelo Tantely[1], Razakamanarivo Herintsitohaina[1], Rafolisy Tovonarivo[1], Rakotovao Narindra[1], Saneho Tiana[1], Andriamananjara Andry[1], Rakotosamimanana Stéphan[2], Deffontaines Sylvain[2], Virginie Falinirina[1], Laetitia Bernard[3], Dominique Masse[3], Albrecht Alain[3]

[1]*Laboratoire des Radioisotopes, Université d'Antananarivo, BP 3383, Antananarivo, Madagascar*

[2]*Agrisud International, Lot VL32M Androndra, 101 Antananarivo, Madagascar*

[3]*Institut de Recherche pour le Développement, UMR Eco&Sols, 34060 Montpellier, France*

16:45 A modelling framework to assess climate change and adaptation impact on heterogeneous crop-livestock farming communities

Descheemaeker Katrien[1], Masikati Patricia[2], Homann-Kee Tui Sabine[3], Chibwana Gama Arthur[4], Crespo Olivier[5], Claessens Lieven[6], Walker Sue[7]

[1]*Plant Production Systems, Wageningen University, PO Box 430, 6700 AK Wageningen, The Netherlands*

[2]*World Agroforestry Centre (ICRAF), Lusaka, Zambia*

[3]*International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), P O Box 776, Matopos, Bulawayo, Zimbabwe*

[4]*Lilongwe University of Agriculture and Natural Resources, P.O. Box 21,9 Lilongwe, Malawi*

[5]*Climate System Analysis Group, Environmental and Geographical Science Dept., University of Cape Town, Rondebosch, South Africa*

[6]*International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), P.O. Box 39063, 00623 Nairobi, Kenya*

[7]*Crops For the Future Research Centre, Semenyih, Selangor Darul Ehsan, Malaysia*

17:00 Closing yield gaps to increase food supply and mitigate GHG emissions for African smallholders

Henderson Ben[1], van Wijk Mark[2], Rigolot Cyrille[1], Silvestri Silvia[2], Douxchamps Sabine[2], Herrero Mario[1]

[1]*CSIRO, 306 Carmody Rd, St Lucia, 4067, Australia*

[2]*ILRI, Nairobi 00100, Kenya*

17:15 Potential for taking climate smart agricultural practices to scale: examples from Sub-Saharan Africa

Tesfaye Kindie[1], Cairns E. Jill[2], Misiko Michael[1], Stirling Clare[3], Abate Tsedeke[4], Prasanna B.M.[4], Mekuria Mulugeta[4]

[1]*International Maize and Wheat Improvement Center (CIMMYT), Addis Ababa, Ethiopia*

[2]*CIMMYT, Harare, Zimbabwe*

[3]*CIMMYT, London, United Kingdom*

[4]*CIMMYT, Nairobi, Kenya*

PARALLEL SESSION L1.2 AUSTRALASIA

ROOM SULLY 2

KEYNOTE PRESENTATIONS

14:00 Climate-smart agriculture in South Asia: opportunities and constraints in scaling out

Aggarwal Pramod

CGIAR Research Program on Climate Change, Agriculture and Food Security

International Water Management Institute, New Delhi-110012, India

14:30 Promotion of climate resiliency for food security in the association of Southeast Asian nations: regional policy making and funding opportunities

Bacudo Imelda

ASEAN-German Programme on Response to Climate Change, GAPCC

GIZ Jakarta

CONTRIBUTED ORAL PRESENTATIONS

16:30 Integrated rice-shrimp as a smart strategy to cope with climate change in the Mekong Delta, Vietnam

Trinh Q. Tu[1], Tran V. Nhuong[2], Phan T. Lam[3]

[1]*Research Institute for Aquaculture No.1 (RIA1, Dinh Bang, Tu Son, Bac Ninh, Viet Nam*

[2]*WorldFish Center (WFC, Jalan Batu Maung, Batu Maung, 11960 Bayan Lepas, Penang, Malaysia*

[3]*Research Institute for Aquaculture No.2 (RIA2), No. 116 Nguyen Dinh Chieu, District 1, Ho Chi Minh City, Viet Nam*

16:45 Changing rainfall pattern in Northeast Thailand and implications for cropping systems adaptation

Lacombe Guillaume[1], Trébuil Guy[2]

[1]*International Water Management Institute (IWMI), Southeast Asia Regional Office, PO Box 4199, Vientiane, Lao PDR*

[2]*Centre de coopération Internationale en Recherche Agronomique pour de Développement (CIRAD), UMR Innovation, 34398 Montpellier Cedex 5, France*

17:00 A review of contributions that the System of Rice Intensification (SRI) can make to climate-smart agriculture

Uphoff Norman

SRI-Rice, Cornell University, Ithaca, NY 14853, USA

17:15 Development of climate resilient villages

Sikka A.K.[1], Prasad Y.G.[2], Srinivasarao C.H.[2]

[1]*Indian council of agricultural research, New Delhi 110 012, India*

[2]*ICAR-central research institute for dryland agriculture, Santoshnagar, Hyderabad 500059, India*

PARALLEL SESSION L1.3 LATIN AMERICA

ROOM SULLY 3

KEYNOTE PRESENTATIONS

14:00 Are we adapting to climate change? The case of the Chilean agricultural sector

Aldunce Paulina, Lillo G.

Universidad de Chile, Chile

14:30 Economic valuation of mangrove´s ecosystem services in Gulf of Nicoya, Costa Rica

Arguedas-Marín Maureen, Cifuentes Miguel, Mercado Leida, Bouroncle Claudia

Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), 7170 CATIE, Turrialba, 30501 Costa Rica

CONTRIBUTED ORAL PRESENTATIONS

16:30 The experience in policy dialogue for agriculture and climate change in LAC countries: an overview

Schlaifer Michel[1], Rodriguez Adrián[2], Meza Laura[3]
[1]*French Embassy – ECLAC, Santiago, Chile*
[2]*ECLAC, Agricultural Development Unit, Santiago, Chile*
[3]*FAO, Santiago, Chile*

16:45 Implications of losing the complementariness of gender roles on CSA strategies in the Peruvian Altiplano

Turin Cecilia[1,2], Valdivia Roberto[1], Quiroz Roberto[1,2], Mares Victor[1,2]
[1]*International Potato Center (CIP), Global Program on Crop Systems Intensification and Climate Change (CSI-CC), Lima, Peru*
[2]*CGIAR Research Program on Climate Change, Agriculture and Food Security (CRP CCAFS)*

17:00 How do coffee farmers adapt to perceived changes in climate? Evidence from Central America

Saborio-Rodriguez Milagro[1,2], Alpizar Francisco[1], Harvey Celia[3], Martínez Ruth M.[3], Vignola Raffaele[1]
[1]*CATIE, Apdo 7170, Turrialba, Costa Rica*
[2]*University of Costa Rica, 11501, San Pedro de Montes de Oca, Costa Rica*
[3]*Conservation International, Arlington, VA 22202, USA*

17:15 Practices and enabling conditions for climate-smart agriculture: current status in seven countries in Latin America

Bouroncle Claudia[1], Corner-Dolloff Caitlin[2], Halliday Andrew[3], Nowak Andreea[2], Zavariz Beatriz[2], Argote Karolina[2], Baca Maria[4] Fallot Abigail[1,5], Le Coq Jean-Francois[5]
[1]*CATIE-Climate Change and Watershed Program; 30501 Turrialba, Costa Rica*
[2]*CIAT-DAPA, Cali, Colombia*
[3]*CATIE, consultant*
[4]*CIAT-DATA, consultant*
[5]*CIRAD UMR ART-DEV, 34000 Montpellier, France*

PARALLEL SESSION L1.4 EUROPE

ROOM RONDELET

KEYNOTE PRESENTATIONS

14:00 EU-funded research & innovation activities in support to Climate Smart Agriculture

Kolar Patrik
Head of Unit "Agri-food Chain", DG Research and Innovation, European Commission, Pl. Rogier 16, BE-1049 Brussels, Belgium

14:30 FACCE-JPI: a European partnering initiative to tackle food security and climate change – one of the greatest societal challenges

Gøtke Niels
Chair of the FACCE-JPI Governing Board

CONTRIBUTED ORAL PRESENTATIONS

16:30 Wheat yield sensitivity to climate change across a European transect for a large ensemble of crop models

Pirttioja Nina[1], Carter Timothy R.[1], Fronzek Stefan[1], Bindi Marco[2], Hoffmann Holger[3], Palosuo Taru[4], Ruiz-Ramos Margarita[5], Tao Fulu[4], Trnka Miroslav[6,7], Acutis Marco[8], Asseng Senthold[9], Baranowski Piotr[10], Basso Bruno[11], Bodin Per[12], Buis Samuel[13], Cammarano Davide[14], Deligios Paola[15], Destain Marie-France[16], Dumont Benjamin[16], Ewert Frank[3], Ferrise Roberto[2], François Louis[16], Gaiser Thomas[3], Hlavinka Petr[6,7], Jacquemin Ingrid[16], Kersebaum Kurt Christian[17], Kollas Chris[17], Krzyszczak Jaromir[10], Lorite Ignacio J.[18], Minet Julien[16], Minguez M. Ines[5], Montesino Manuel[19], Moriondo Marco[20], Müller Christoph[21], Nendel Claas[17], Öztürk Isik[22], Perego Alessia[8], Rodríguez Alfredo[5],. Ruane Alex C.[23,24], Ruget Françoise[13], Sanna Mattia[8], Semenov Mikhail[25], Slawinski Cezary[10], Stratonovitch Pierre[25], Supit Iwan[26], Waha Katharina[21], Wang Enli[27], Wu Lianhai[28], Zhao Zhigan[27,29], Rötter Reimund P.[4]
[1]*Finnish Environment Institute (SYKE), 00250 Helsinki, Finland*
[2]*University of Florence, 50144 Florence, Italy*
[3]*INRES, University of Bonn, 53115 Bonn, Germany*
[4]*Luke Natural Resources Institute, 00790 Helsinki, Finland*

[5]Universidad Politecnica de Madrid, 28040 Madrid, Spain
[6]Institute of Agrosystems and Bioclimatology, Mendel University in Brno, Brno 613 00, Czech Republic
[7]Global Change Research Centre AS CR, 603 00 Brno, Czech Republic
[8]University of Milan, 20133 Milan, Italy
[9]University of Florida, Gainesville, FL 32611, USA
[10]Institute of Agrophysics, Polish Academy of Sciences, 20-290 Lublin, Poland
[11]Michigan State University, East Lansing, MI 48824, USA
[12]Lund University, 223 62 Lund, Sweden
[13]INRA, UMR 1114 EMMAH, F-84914 Avignon, France
[14]James Hutton Institute, Invergowrie, Dundee, DD2 5DA, Scotland
[15]University of Sassari, 07100 Sassari, Italy
[16]Université de Liège, 4000 Liège, Belgium
[17]Leibniz Centre for Agricultural Landscape Research (ZALF), 15374 Müncheberg, Germany
[18]IFAPA Junta de Andalucia, 14004 Córdoba, Spain
[19]University of Copenhagen, 2630 Taastrup, Denmark
[20]CNR-IBIMET, 50145 Florence, Italy
[21]Potsdam Institute for Climate Impact Research, 14473 Potsdam, Germany
[22]Aarhus University, 8830 Tjele, Denmark
[23]NASA Goddard Institute for Space Studies, New York, NY 10025, USA
[24]Columbia University Center for Climate Systems Research, New York, NY 10025, USA
[25]Rothamsted Research, Harpenden, Herts, AL5 2JQ, United Kingdom
[26]Wageningen University, 6700 AA Wageningen, The Netherlands
[27]CSIRO Agriculture Flagship, 2601 Canberra, Australia
[28]Rothamsted Research, North Wyke, Okehampton EX20 2SB, United Kingdom
[29]China Agricultural University, 100094 Beijing, China

16:45 Economic assessment of greenhouse gas mitigation on livestock farms

Eory Vera[1], Faverdin Philippe[2], O'Brien Donal[3]
[1]Scotland's Rural College (SRUC), Land Economy, Environment & Society, EH9 3JG, Edinburgh, United Kingdom
[2]INRA, UMR Physiologie, Environnement et Génétique pour l'Animal et les Systèmes d'Élevage, F-35000 Rennes, France
[3]Teagasc, Animal & Grassland Research and Innovation Centre, Moorepark, Fermoy, Co Cork, Ireland

17:00 Agricultural adaptation to climate change in the European Union

Trapp Natalie, Schneider Uwe A.
Universität Hamburg, KlimaCampus, Research Unit Sustainability and Global Change, Grindelberg 5, 20144 Hamburg, Germany

17:15 Legume supported cropping systems for Europe (Legume Futures)

Rees R.M.[1], Stoddard, F.[2], Iannetta, P.[3], Williams, M.[4], Zander, P.[5], Murphy-Bokern, D.[6], Topp, C.F.E.[1], Watson, C.A.[1]
[1]Scotland's Rural College, Edinburgh EH9 3JG, United Kingdom
[2]Department of Agricultural Sciences, 00014 University of Helsinki, Finland
[3]James Hutton Institute, Dundee, United Kingdom
[4]Department of Botany, Trinity College Dublin, Ireland
[5]Leibniz Centre for Agricultural Landscape Research (ZALF), 15374 Müncheberg, Germany
[6]Lohne, 49393 Germany

PARALLEL SESSION L1.5 NORTH AMERICA

ROOM BARTHEZ

KEYNOTE PRESENTATIONS

14:00 Building climate smart, sustainable, intensive agriculture for the 21st century and beyond

Walthall Charles[1], Hatfield Jerry[2], Schneider Sally[3], Boggess Mark[4]
[1]National Program Leader, Natural Resources & Sustainable Agriculture Systems Research
[2]Laboratory Director & Supervisory Plant Physiologist, National Laboratory for Agriculture & Environment

[3]*Deputy Administrator, Natural Resources & Sustainable Agriculture Systems Research*
[4]*Center Director, U.S. Dairy Forage Research Center, USDA Agricultural Research Service*

14:30 Scientific article summarizing the 2013 CSA Global Science Conference in North America

Jackson Louise E.[1], Steenwerth K.L.[2]
[1]*Department of Land, Air and Water Resources, University of California Davis, USA*
[2]*Crops Pathology and Genetics Research Unit, Agricultural Research Service, United States Department of Agriculture (ARS/USDA), USA*

CONTRIBUTED ORAL PRESENTATIONS

16:30 The 4-R nutrient stewardship and its role in climate smart agriculture

Khosla Raj, Longchamps Louis, Reich R.
Department of Soil & Crop Sciences, Colorado State University, Fort Collins, CO, USA

16:45 From climate variability to climate change: building adaptive capacity among row crop farmers in the Southeastern USA

Ortiz Brenda V.[1], Fraisse Clyde[2], Dourte Daniel[2], Bartels Wendy-Lin[2], Zierden David[3], Knox Pam[4], Risse Mark[4], Vellidis George[4], Templeton Scott[5], Thomas Michel[6]
[1]*Auburn University, Crop, Soil, and Environmental Sciences Department, 36849, Auburn, Alabama, USA*
[2]*University of Florida, Biological and Agricultural Engineering Department, Gainesville, Florida, USA*
[3]*Florida State University, Center for Ocean-Atmospheric Prediction Studies (COAPS), 32310, Tallahassee, Florida, USA*
[4]*University of Georgia, Crop and Soil Sciences Department, 30602, Athens, Georgia, USA*
[5]*Clemson University, Department of Economics, 29631, Clemson, South Carolina, USA*
[6]*Florida A&M University, Department of Agribusiness, 32307, Tallahassee, Florida, USA*

17:00 Climate-Smart Agriculture and Water Management in California

Sandoval Solis Samuel
University of California, Davis One Shields Avenue Davis, California - CA 95616, USA

17:15 Dealing with climate and yield variability: the role of precision agricultural technologies and crop models

Basso Bruno[1], Robertson G. Philip[2], Hatfield Jerry[3]
[1]*Department of Geological Sciences and W.K. Kellogg Biological Station, Michigan State University East Lansing, Michigan 48823, USA*
[2]*Department of Plant, Soil and Microbial Sciences and W.K. Kellogg Biological Station, Michigan State University East Lansing, Michigan 48823, USA*
[3]*National Laboratory for Agriculture and Environment, Ames, Iowa 50011, USA*

POSTER SESSION 1

Monday, 16 March 2015

15:00 – 16:30

EXHIBITION HALL, LEVEL 0

L1.1 AFRICA

1. Is conservation agriculture a climate-smart option for smallholders in sub-Saharan Africa?

Bruelle Guillaume[1], Naudin Krishna[2], Scopel Eric[2], Corbeels Marc[2], Torquebiau Emmanuel[2], Penot Eric[3], Rabeharisoa Lilia[4], Mapfumo Paul[5], Tittonell Pablo[6]

[1]*FOFIFA, DP SPAD, 101, Antananarivo, Madagascar*
[2]*CIRAD, UPR AÏDA, 34398, Montpellier, France*
[3]*CIRAD, UMR Innovation, 34398, Montpellier, France*
[4]*Université d'Antananarivo, LRI, 101, Antananarivo, Madagascar*
[5]*University of Zimbabwe, SOFECSA, 00263, Harare, Zimbabwe*
[6]*Wageningen University, FSE, 6708 PB, Wageningen, the Netherlands*

2. From time uncertainties to climate-smart agriculture in the Sudano-Sahelian zone of Cameroon

Fofiri Nzossie Eric Joël[1], Bring[2], Temple Ludovic[3], Wakponou Anselme[4]

[1]*Département de géographie, Université de Ngaoundéré BP 454, Cameroon*
[2]*Département de géographie, Université de Ngaoundéré BP 454, Cameroon*
[3]*Cirad, UMR Innovation, B15, 73 rue JF. Breton 34398 Montpellier, France*
[4]*Département de géographie, Université de Ngaoundéré, BP 454, Cameroon*

3. Feeding Ethiopia in changing context: from diagnosis to exploration of climate smart options

Mezegebu Getnet[1,2,3], Martin van Ittersum[1], Katrien Descheemaeker[1], Huib Hengsdijk[2]

[1]*Plant Production Systems group, Wageningen University, P.O. Box 430, 6700 AK Wageningen, the Netherlands*
[2]*Plant Research International, Wageningen University and Research, P.O. Box 616, 6700 AP Wageningen, the Netherlands*
[3]*Ethiopian Institute of Agricultural Research, Melkassa Research Centre, P.O. Box 436, Nazareth, Ethiopia*

4. Macroalgae as biostimulants of growth and enhance tolerance to Moroccan wheat plants cultivated under salt stress

Latique Salma, Chernane Halima, Mansouri Mounir, El Kaoua Mimoun

Cadi Ayyad University /Department of Biology, Laboratory of Biotechnology, Valorization and Protection of Agro-Resources, Marrakech, Morocco

5. Improving the resilience of fishery stakeholders to the climate change effects. Case of Saint-Louis, Senegal

Diallo Aminata[1], Sarr Benoit[2], Thiao Djiga[3], Sall Moussa[4]

[1]*Centre for Oceanographic Research Dakar,Thiaroye, Senegal (up to october 2014), Fann Résidence, Dakar, Senegal*
[2]*Agro meteorologist Engineer and Coordinator of Master Climate Change and Sustainable Development Program, Scientific Coordinator of the Global Alliance against Climate Change Project (Regional Centre AGRYMET), Niger*
[3] *Researcher and statistician at the Centre for Oceanographic Research Dakar / Thiaroye, Senegal*
[4] *Regional Coordinator of the MOLOA to the Ecological Monitoring Centre*

6. Comparative assessment of maize, finger millet and sorghum for household food security under increasing climatic risk

Rurinda Jairos[1,2,3], Mapfumo Paul[2,3], van Wijk T. Mark[1,4], Mtambanengwe Florence[2,3], Rufino C. Mariana[4], Chikowo Regis[2,3], Giller E. Kenneth[1]

[1]*Plant Production Systems, Wageningen University, P.O. Box 430, 6700AK Wageningen, The Netherlands*
[2]*Department of Soil Science and Agricultural Engineering, University of Zimbabwe, P.O. Box MP167, Mount Pleasant, Harare, Zimbabwe*
[3]*Soil Fertility Consortium for Southern Africa (SOFECSA), CIMMYT, Southern Africa, P.O. Box MP 163, Mount Pleasant, Harare, Zimbabwe*
[4]*International Livestock Research Institute (ILRI), Box 30709, Nairobi 00100, Kenya*

7. Choice and risks of management strategies of farming calendar: application to corn production in Southern Benin

Alle C. S. Ulrich[1], Baron Christian[2], Guibert Hervé[2], Agbossou K. Euloge[1], Afouda A. Abel[1]

[1]*Université d'Abomey - Calavi, Republic of Benin*

[2]*CIRAD, France*

8. Land cover changes along tropical highland agroforestry systems: call for an improved climate adaptation

Matokeo Arbogast[1], Lyimo James[1], Lelong Camille[2], Majule Amos[1], Masao Catherine[1], Mathé Pierre-Etienne[3], Vaast Philippe[4], Williamson David[4,5]

[1]*Institute of Resource Assessment, University of Dar es Salaam, P.o.Box 35 097 Dar es Salaam, Tanzania*

[2]*Cirad-TETIS, Maison de la Télédétection, 34093 Montpellier Cedex 5, France*

[3]*CEREGE, Aix-Marseille Université, BP 80, 13 545 Aix-en-Provence cedex 04, France*

[4]*CRAF, p.o. box 30 677-00100 Nairobi, Kenya*

[5]*Eco&Sols, Montpellier SupAgro-Cirad-INRA-IRD, 34060 Montpellier cedex 2, France*

[6]*LOCEAN, Université Pierre et Marie Curie-IRD-CNRS-MNHN, Centre IRD France Nord, 93 143 Bondy cedex, France*

9. Ecological intensification for a climate smart agriculture: applications from Senegal and Burkina Faso

Masse Dominique[1], Ndour-Badiane Ndèye Yacine[2], Hien Edmond[3], Akpo Léonard-Elie[4], Diatta Sekouna[4], Bilgo Ablassé[5], Hien Victor[5], Diédhiou Ibrahima[6], Ndiaye-Cissé Mame Farma[2], Tall Diouf Laure[2], Ndienor Moussa[2], Founoune Mboup Hassna[3], Feder Frédéric[7], Médoc Jean-Michel[7], Lardy Lydie[1], Assigbetsé Komi[1], Cournac Laurent[1]

[1]*LMI IESOL, UMR Eco&Sols, Institut de Recherche pour le Développement, BP 1386 Centre ISRA IRD Bel Air, Dakar, Senegal*

[2]*LMI IESOL, LNRPV, Institut Sénégalais de Recherche Agricole, Centre ISRA IRD Bel Air, Dakar, Senegal*

[3]*LMI IESOL, UFR SVT, Université de Ouagadougou, Ouagadougou, Burkina Faso*

[4]*LMI IESOL, Département de Biologie Végétale, Université Cheikh Anta Diop, Dakar, Senegal*

[5]*LMI IESOL, Département GRN/SP, Institut Nationale de l'Environnement et de la Recherche Agricole. Ouagadougou, Burkina Faso*

[6]*LMI IESOL, Ecole Nationale des Sciences Agronomiques, Université de Thiès, Thiès, Senegal*

[7]*LMI IESOL, UPR Recyclage et risques, CIRAD, Dakar, Senegal*

10. Incorporating climate change into agricultural research and advisory services in Africa

Lamboll Richard[1], Morton John[1], Kisauzi Dan[2], Ohiomoba Ifidon[3], Demby Dady[3], Mangheni Margaret[4], Moumouni Ismail[5], Parkinson Verona[6], Suale David[7], Nelson Valerie[1], Quan Julian[1]

[1]*Natural resources Institute, University of Greenwich, ME4 4TB, United Kingdom*

[2]*African Forum for Agricultural Advisory Services (AFAAS), P.O. Box 34624, Kampala, Uganda*

[3]*The Forum for Agricultural Research in Africa (FARA), 12 Anmeda Street, Roman Ridge, Accra, Ghana*

[4]*Agricultural Extension/ Education Department, Makerere University, P.O. Box, 7062, Kampala, Uganda*

[5]*University of Parakou, BP 123, Parakou, Benin*

[6]*AGEMA Consultancy Services, C.P 437, Quelimane, Mozambique*

[7]*Independent consultant and AFAAS Sierra Leone, P O Box 7, Freetown, Sierra Leone*

11. Developing community-based climate smart agriculture through participatory action research in West Africa: lesson learnt

Akponikpe P.B. Irenikatche[1], Bayala Jules[2], Zougmore Robert[3]

[1]*Université de Parakou (UP), Faculté d'Agronomie (FA), Unit of Environmental Soil Physics and Hydraulics (ESPH), 03 BP 351 Université, Parakou, Bénin*

[2]*World Agroforestry Centre, West Africa and Central Regional Office - Sahel Node, BP E5118, Bamako, Mali*

[3]*CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), ICRISAT Bamako, BP 320 Bamako, Mali*

12. Indigenous Climate Smart Agriculture (iCSA); local knowledge pool from urban vegetable farmers

Kweku Oduro Koranteng

Dept. of Public Admin and Health Services, Uni of Ghana Business Sch., Ghana

13. Mitigation of climate change through soil organic carbon sequestration in smallholder farming systems of Zimbabwe

Mujuru Lizzie[1], Mureva Admore[1], Velthorst Eef, J.[2], Hoosbeek Marcel R.[2]

[1]*Bindura University of Science Education, Dept. of Environmental Science, P. bag 1020, Bindura, Zimbabwe*

[2]*Wageningen University, Dept. of Environmental Sciences, Earth System Science, P.O. Box 47, 6700 AA Wageningen, The Netherlands*

14. Climate-smart intensification of West-Africa's cocoa systems

van Asten Piet[1], Jassogne Laurence[1], Vaast Philippe[2] Laderach Peter[3], Schroth Götz[4], Lundy Mark[3], Asare Richard[5], Muilerman Sander[5], Ruf R.[6], Snoeck Didier[6], Koko Louis[7], Anim-Kwapong Gilbert[8], Rossing Walter[9], Gockwoski James[5], Giller Ken[9], Six Johan[10], Vanlauwe Bernard[11]

[1]*IITA, Kampala, Uganda*

[2]*ICRAF, Nairobi, Kenya*

[3]*CIAT, Cali, Colombia*

[4]*Rainforest Alliance, Wageningen, the Netherlands*

[5]*IITA, Accra, Ghana*

[6]*CIRAD, Montpellier, France*

[7]*CNRA, Abidjan, Cote d'Ivoire*

[8]*CRIG, Kumasi, Ghana*

[9]*WUR, Wageningen, the Netherlands*

[10]*ETH, Zurich, Switzerland*

[11]*IITA, Nairobi, Kenya*

15. Effect of oil and addition of enzymes on fibre digestion, methane production and performance of sheep

Booyse Maruzaan, Hassen Abubeker

Department of Animal and Wildlife Sciences, University of Pretoria, Pretoria 0002, South Africa

16. Drought and adaptation strategies of rural maize-legume farmers in Kenya and Tanzania

Muricho Geoffrey[1], Tongruksawattana Songporne[1], Mutheu Judith[2]

[1]*International Maize and Wheat Improvement Center (CIMMYT), Nairobi, Kenya*

[2]*African Economic Research Consortium, Nairobi, Kenya*

17. Biochar as an opportunity for climate-smart agriculture in small-holder farming systems in Kenya

Sundberg Cecilia[1], Karltun Erik[1], Mahmoud Yahia[2], Nyberg Gert[1], Njenga Mary[3], Roobroeck Dries[4], Röing de Nowina Kristina[4]

[1]*Swedish University of Agricultural Sciences 750 07 Uppsala Sweden*

[2]*Lund University, Sweden*

[3]*World Agroforestry Centre, ICRAF, UN Avenue, Nairobi, Kenya*

[4]*International Institute of Trobical Agriculture (IITA) Nairobi, Kenya*

18. Farmers' perceptions of rainfall and agronomic trends in Allada plateau in southern Benin

Alle Cayossi S. Ulrich[1], Guibert Hervé[2], Baron Christian[2], Agbossou Euloge K.[1], Afouda Abel A.[1]

[1]*Université d'Abomey Calavi, Bénin*

[2]*CIRAD, France*

19. Climate and maize storage losses from insect pests in East and Southern Africa

De Groote Hugo, Gitonga Zachary, Sonder Kai, Mugo Stephen, Tefera Tadele

CIMMYT, PO Box 1041-00621 Nairobi, Kenya

20. Maize-based farm household typology and vulnerability to climate shocks in Kenya

Tongruksawattana Songporne[1], Lopez-Ridaura Santiago[2], Tesfaye Kindie[3], Frelat Romain[2], Gitonga Zachary[1]

[1]*International Maize and Wheat Improvement Center (CIMMYT), Nairobi, Kenya*

[2]*International Maize and Wheat Improvement Center (CIMMYT), El Batan, Mexico*

[3]*International Maize and Wheat Improvement Center (CIMMYT), Addis Ababa, Ethiopia*

21. Changing crop practices to address climate related risks among rural farmers in Nyando, western Kenya

Recha John, Kinyangi James, Radeny Maren

CGIAR Research Program on Climate Change, Agriculture and Food Security, East Africa Region, International Livestock Research Institute, P. O. Box 30709 - 00100 Nairobi, Kenya

22. Establishing an operational dialogue between researchers and decision-makers for adaptation to climatic changes in Mali

Sogoba Bougouna[1], Ba Allassane[2], Zougmore Robert[3], Samake Oumar B.[4]

[1]*ONG AMEDD, BP: 212, Koutiala, Mali*

[2]*Conseiller spécial du premier ministre du Mali ; BP: 2357, Bamako, Mali*
[3]*ICRISAT, BP:320 Bamako, Mali*
[4]*ONG AMEDD, BP:212, Koutiala, Mali*

23. Women involvement in agricultural water management: example from supplemental irrigation in the Burkinabe Sahel

Bologo/Traoré Maïmouna[1], Fossi Sévère[2], Zougouri Sita[3], Bado Eulalie[1,3]
[1]*International Institute for Water and Environmental Engineering (2iE), Department of Managerial Sciences, 00226, Ouagadougou, Burkina Faso*
[2]*International Institute for Water and Environmental Engineering (2iE), Department of Hydraulics and Sanitation, 00226, Ouagadougou, Burkina Faso*
[3]*University of Ouagadougou, Department of Sociology, 00226, Ouagadougou, Burkina Faso*

24. Assessing potential climate change impacts in smallholder systems in Burkina Faso

Medina Hidalgo Daniela[1,] Herrero Mario[1], De Voil P.[3], Douxchamps Sabine[4], Thornton Phillip[6], Van Wijk Mark[5], Rodriguez Daniel[3], Prestwidge Di[1], Henderson B.[1], Rigolot Cyrille[1,2]
[1]*Commonwealth Scientific and Industrial Research Organization, St Lucia, QLD 4067, Australia*
[2]*INRA, UMR 1273 Metafort, F-63122 Saint Genes Champanelle, France*
[3]*University of Queensland, Queensland Alliance for Agriculture and Food Innovation (QAAFI), Toowoomba, Australia*
[4]*International Livestock Research Institute (ILRI), Ouagadougou, Burkina Faso*
[5]*International Livestock Research Institute (ILRI), PO Box 30709-00100, Nairobi, Kenya*
[6]*CGIAR Research Programme on Climate Change, Agriculture and Food Security, (CCAFS), PO Box 30709-00100, Nairobi, Kenya*

25. Micro-level appraisal of success stories of pro-poor climate adaptation and mitigation field experiences

Bockel Louis[1], Bernoux Martial[2], Zingg Felix[1], Grewer Uwe[1], Chotte Jean-Luc[2]
[1]*Agriculture Development Economics Division (ESA) FAO Via delle Terme di Caracalla, 00153 Roma, Italy*
[2]*UMR Eco&Sols IRD, 2 Place Viala, 34060 Montpellier, France*

26. Economic analysis of effect of flood on income distribution among farmers in Edo State, Nigeria

Osasogie Daniel Izevbuwa[1], Alabi Reuben Adeolu[2]
Department of Agricultural Economics and Extension, Ambrose Alli University, PMB 14, Ekpoma, Edo State, Nigeria

27. Identifying farm-level hotspots to target greenhouse gas measurements in smallholder crop-livestock systems

Ortiz Gonzalo Daniel[1], Rosenstock Todd S.[2], Vaast Philippe[3], Oelofse Myles[1], de Neergaard Andreas[1], Albrecht Alain[3]
[1]*University of Copenhagen, Department of Plant and Environmental Sciences, Thorvaldsensvej 40, 1871 Frederiksberg C, Denmark*
[2]*World Agroforestry Centre ICRAF, East & Southern Africa Regional Programme, United Nations Avenue, GigiriPO Box 30677, Nairobi, 00100, Kenya*
[3]*Affiliation of author 3 and 6. CIRAD, UMR 210 Eco&Sols - Batiment 122 Place Viala F-34060 Montpellier cedex 2, France*

28. Intensification test on maize production in the Sudano-Sahelian zone: techniques, soils, climate and economic conditions

Guibert Hervé[1], Olina Bassala Jean-Paul[2], Vunyingah Michael[2]
[1]*Cirad, UPR Aïda, F-34000, Montpellier, France*
[2]*Irad, Po Box 415, Garoua, Cameroon*

29. Profile of climate smart agricultural technologies in the dry Guinea savannah and forest zones in Ghana

Botchway V. A. [1], Karbo N.[1], Zougmore R.[2], Sam K. O.[1]
[1]*CSIR-Animal Research Institute, Accra, Ghana*
[2]*ICRISAT, Bamako, Mali*

30. Contribution to the valorisation of forest species potentialities in promoting climate smart agriculture in Madagascar

Andriampiolazana Manony[1], Randevoson Finaritra[1], Rajoelison Gabrielle[1], Cailleau Guillaume[2], Verrecchia Eric[2], Razakamanarivo Herintsitohaina[3]
[1]*Département des Eaux et Forêts, Ecole Supérieure des Sciences Agronomiques- Université d'Antananarivo, BP 175 - Tanà 101 Madagascar*
[2]*Faculté des géosciences et de l'environnement, Institut des dynamiques de la surface terrestre -*

Université de Lausanne, Quartier UNIL-Mouline, CH-1015 Lausanne, Switzerland
[3]*Laboratoire des Radioisotopes - Université d'Antananarivo, Route d'Andraisoro BP 3383, Madagascar*

31. Optimizing rhizosphere microbiology and hydrology of shrub-intercropping for buffering climate change in the Sahel

Dick Richard[1], Diédhiou Ibrahima[2], Dossa Ekwe[3] , Kizito Fred[4], Chapuis-Lardya Lydie[5,6], Badiane Ndourb Yacine[7], Debenport Spencer J.[1], McSpadden Gardener Brian B.[1], Assigbetsea Komi B.[5,6], Bright Matthew[1], Schreiner Paul[8], Founoune Mboupc Hassna[7], Bayala Roger[7], Diallo Ndeye Hélène[7]
[1]*The Ohio State University, Columbus, Ohio, USA*
[2]*Université de Thiès, Thiès, Senegal*
[3]*International Fertilizer Development Corporation, Lome, Togo*
[4]*International Water Management Institute, Accra, Ghana*
[5]*Institut de Recherche pour le Développement, IRD, UMR Eco&Sols, Dakar, Senegal*
[6]*LMI IESOL Intensification Ecologique des Sols cultivés en Afrique de l'Ouest, Dakar, Senegal*
[7]*Institut Sénégalais de Recherches Agricoles, ISRA Dakar, Senegal*
[8]*United States Department of Agriculture, Agricultural Research Service, Corvallis, Oregon, USA*

32. Native shrub management on soil nematofauna: optimization and adaptation to climate change of Sahelian agroecosystems

Diakhate Sidy[1,2], Mboup Hassna Founoune[2], Ndour Yacine Badiane[1,2], Chapuis-Lardy Lydie[3], Dick Richard P.[4]
[1]*Institut Sénégalais de Recherches Agricoles, ISRA-LNRPV Laboratoire National de Recherches sur les Productions Végétales, Dakar, Senegal*
[2]*LMI IESOL Intensification Ecologique des Sols cultivés en Afrique de l'Ouest, Dakar, Senegal*
[3]*Institut de Recherche pour le Développement, IRD, UMR Eco&Sols, Place Viala Bat 212 Montpellier, France*
[4]*The Ohio State University, Columbus, Ohio, USA*

33. Optimal rice cropping systems under uncertainty: case of West Africa Rice Sector Development Hubs

Lokossou Jourdain[1], Arouna Aminou[2], Atacolodjou Annick[3]
[1]*University of Abomey-Calavi, Benin*
[2]*AfricaRice Centre, Benin*
[3]*Catholic University of West Africa, Benin*

34. Effects of intensification of maize and rice production in Tanzania on productivity and environmental impacts

Brentrup Frank, Mtengeti Ephraim
Yara International ASA, Research Centre Hanninghof, Hanninghof 35, 48249 Duelmen, Germany

35. Small farming food versus ethanol sugarcane: global constraints and local opportunities for irrigation in Ghana

Dumas Patrice[1], Brunelle Thierry[1], Souty François[1], Bibas Ruben[1], Méjean Aurélie[1], Lazar Attila[2], Black Emily[2], Vianna Cuadra Santiago[3], Vidale Pier Luigi[2], Verhoef Anna[2], Wade Andrew[2]
[1]*CIRED (CIRAD, ENPC, CNRS, EHESS, AgroParisTech), Nogent-sur-Marne, France*
[2]*University of Reading, Reading, United Kingdom*
[3]*EMBRAPA, Brazil*

36. Nutritive quality of dominant forage species in response to simulated drought in sub-tropical native pasture

Talore D.G.[1], Hassen A.[1], Tesfamariam E.H.[2]
[1]*Department of Animal and Wildlife Sciences, University of Pretoria, Private bag 0083, South Africa*
[2]*Department of Plant Production and Soil Sciences, University of Pretoria, Private bag 0002, Pretoria, South Africa*

37. Variability of effects of compost on nodulation, N acquisition and yield of cowpea in sub-Saharan areas of Burkina Faso

Zongo Koulibi Fidèle[1], Clermont-Dauphin Cathy[2], Drevon Jean Jacques[3], Blavet Didier[2], Masse Domunique[2], Hien Edmond[1,2]
[1]*UO, Université de Ouagadougou, UFR-SVT, 03 BP 7021, Ouagadougou, Burkina Faso*
[2]*IRD, UMR Eco&Sols, 1 Place Viala, Montpellier, France*
[3]*INRA, Eco&Sols, 1 Place Viala, Montpellier, France*

38. Potentials of medicinal plants extracts on digestibility, in vitro methane gas production of Eragrostis curvula forage

Akanmu Abiodun Mayowa, Hassen Abubeker

Department of Animal and Wildlife Sciences, University of Pretoria, Pretoria 0002, South Africa

39. Food security patterns at farm household level: key drivers and options for climate-smart agricultural interventions

Wichern Jannike[1], Descheemaeker Katrien[1], van Wijk Mark[2], Giller Ken[1]

[1]*Wageningen UR, Plant Production Systems, 6708 PB Wageningen, The Netherlands*

[2]*International Livestock Research Institute, 00100 Nairobi, Kenya*

40. Analysis of the impact of climate changes in the last thirty years on the second generation of cocoa in Côte d'Ivoire

Kassin Koffi Emmanuel[1], Yao Guy Fernand[1], Diedhiou Arona[2], Koko Louis Kan Anselme[3], Assiri Assiri Alexis[3], Kouamé Brou[1], Konaré Abdourahamane[4], Kouassi Koffi Nazaire[5], Yoro Gballou René[1]

[1]*National Center of Agronomic Research (CNRA), Central Laboratory of Soil, Water and Plants, Sustainable Management of Soil and Water Control Program, 01 633 BP 01 Bouaké, Ivory Coast*

[2]*Institute of Research for Development (IRD), University of Grenoble Alpes, LTHE, BP 53, 38041 Grenoble Cedex 9, France*

[3]*National Center of Agronomic Research (CNRA), Cocoa Program, BP 808 Divo, Ivory Coast*

[4]*Félix Houphouët-Boigny University of Cocody, UFR SSMT, Laboratory of Atmospheric Physics and Fluid Mechanics (LAPA-MF), 22 BP 582 22 Abidjan, Ivory Coast*

[5]*National Center of Agronomic Research (CNRA), Central Laboratory of Biotechnology (LCB), 01 BP 1740 Abidjan 01, Ivory Coast*

41. Carbon footprinting of the Irish potato production systems in Zimbabwe

Svubure Oniward[1,2], Struik Paul C.[2], Haverkort Anton J.[3,4], Steyn Martin J.[4]

[1]*Chinhoyi University of Technology, Department of Irrigation and Water Engineering, PB 7724, Chinhoyi, Zimbabwe*

[2]*Centre for Crop Systems Analysis, Wageningen University and Research Centre, 6700 AK Wageningen, the Netherlands*

[3]*Plant Research International, Wageningen University and Research Centre, 6700 AP, Wageningen, the Netherlands*

[4]*Department of Plant Production and Soil Science, University of Pretoria, Pretoria 0002, South Africa*

42. Farmers' access to agrometeorological services in Ido local government area of Oyo state, Nigeria

Ewebiyi I.O.[1], Olayemi O.O.[2], Osikabor B.[2], Aluko, O.J.[2], Samuel O.F.[2]

[1]*Department of Agricultural Science, College of Science and Information Technology, Tai- Solarin University of Education, Ijebu ode, Ogun state, Nigeria*

[2]*Department of Agricultural Extension and Management, Federal College of Forestry, Forestry Research Institute of Nigeria, Ibadan, Oyo state, Nigeria*

43. Impact of dry-wet cycles on carbon mineralization of tropical soils

Yemadje Pierrot Lionel[1,2], Guibert Hervé[1], Bernoux Martial[2], Deleporte Philippe[3], Chevallier Tiphaine[2]

[1]*CIRAD, UPR AIDA, F-34398 Montpellier, France*

[2]*IRD, UMR Eco&Sols, Campus SupAgro Bâtiment 12, 2 place Viala, 34060 Montpellier Cedex 2, France*

[3]*CIRAD, UMR Eco&Sols, Campus SupAgro Bâtiment 12, 2 place Viala, 34060 Montpellier Cedex 2, France*

44. Impact of climate change and desertification on agriculture and food security in Côte d'Ivoire

Kassin Koffi Emmanuel[1], Yao Guy Fernand[1], Diedhiou Arona[2], Kouamé Brou[1], Konaré Abdourahamane[3], Kouassi Koffi Nazaire[4], Yoro Gballou René[1]

[1]*National Center of Agronomic Research (CNRA), Central Laboratory of Soil, Water and Plants, Sustainable Management of Soil and Water Control Program, 01 633 BP 01 Bouaké, Ivory Coast*

[2]*Institut de Recherche pour le Développement (IRD), Université de Grenoble Alpes, LTHE, BP 53, 38041, Grenoble Cedex 9, France*

[3]*Félix Houphouët-Boigny University of Cocody, UFR SSMT, Laboratory of Atmospheric Physics and Fluid Mechanics (LAPA-MF), 22 BP 582 22 Abidjan, Ivory Coast*

[4]*National Center of Agronomic Research (CNRA), Central Laboratory of Biotechnology (LCB), 01 BP 1740 Abidjan 01, Ivory Coast*

45. Exploring institutional dimension of climate-smart agriculture in Nigeria

Fanen Terdoo[1], Olalekan Adekola[2]

[1]*Department of Geography and Environmental Science, University of Reading, United Kingdom*
[2]*Department of Geography, Modibbo Adama University of Technology, Yola, Adamawa State, Nigeria*

46. Critical reflection on knowledge and narratives of conservation agriculture in Zambia

Whitfield Stephen, Dougill, Andrew J., Dyer Jen C., Kalaba, Felix K., Leventon Julia, Stringer Lindsay C.
Sustainability Research Institute, University of Leeds, Leeds, LS2 9J, United Kingdom

47. Positive effect of climate change on cotton and rice in Africa and Madagascar

Gerardeaux Edward[1], Krishna Naudin[1], Ramanantsoanirina Alan[4], Dusserre Julie[1], Oetli Pascal[2], Oumarou Palai[3], Sultan Benjamin[2]
[1]*CIRAD, Avenue Agropolis - TA B-102 / 02 - 34398 Montpellier Cedex 5, France*
[2]*LOCEAN, IRD, Université Pierre et Marie Curie Boite 100, 4 Place Jussieu, 75252 Paris Cedex 5, France*
[3]*Sodecoton, 3Centre Régional de Recherche Agricole de Maroua, BP 33 Maroua, Cameroon*
[4]*Fofifa, Antsirabe, Madagascar*

48. Modeling potential impact of climate change on sorghum and cowpea yields in semi-arid areas of Kenya

Kitinya Kirina Thomas[1], Onwonga Richard N.[2], Kironchi Geoffrey[2], Mbuvi Joseph P.[2]
[1]*SNV Netherlands Development Organization-Cambodia, Premier Office Centre (POC), #184, Street 217 (Monireth), PO Box 2590, Phnom Penh, Cambodia*
[2]*Land Resource Management and Agricultural Technology (L.A.R.M.A.T), College of Agriculture and Veterinary Sciences, University of Nairobi, P.O. Box 29053-00625, Nairobi, Kenya*

49. Gender analysis of adaptation strategies of water stress among crop farmers in Asa local government area of Kwara State

Samuel O.F.[1], Aluko O.J.[1], Adejumo A.A.[2]
[1]*Department of Agricultural Extension and Management, Federal College of Forestry Ibadan, Forestry Research Institute of Nigeria, P.M.B 5087, Dugbe, Ibadan, Nigeria*
[2]*Department of Agricultural Extension and Rural Development, University of Ibadan, Nigeria*

50. Matching uses and functional traits of companion trees in cocoa agroforests: a win-win scheme toward resilient systems

Saj Stéphane[1,2], Jagoret Patrick[3]
[1]*UMR System, CIRAD, Direction Régionale, BP 2572, Yaoundé, Cameroon*
[2]*IRAD, Programme Plantes stimulantes, Direction Nkolbisson, Yaoundé, Cameroon*
[3]*UMR System, CIRAD, Bât 27, 2 place Viala, 34060 Montpellier Cedex 2, France*

51. Water requirements for potato production under climate change

Farag A.A.[1], Abdrabbo M.A.[1], Gad EL-Moula[1], Manal M.H.[1], McCarl B. A.[2]
[1]*Central laboratory for Agricultural Climate (CLAC), Agricultural Research Centre, Giza, Egypt*
[2]*Department of Agricultural Economics Texas A&M University, Texas, USA*

52. How smart is Climate Smart Agriculture (CSA)? – Lessons from Northern Nigeria

Adekola Olalekan[1], Terdoo Fanen[2]
[1]*Department of Geography, Modibbo Adama University of Technology, Yola, Adamawa State, Nigeria*
[2]*Department of Geography and Regional Planning, Federal University Dutsin-Ma, Katsina State, Nigeria*

53. Integrating climate smart agriculture for food security: the role of private sector investment in Africa

Kalimunjaye Samuel[1,2], Olobo Maurice[1], Kisenyi Vincent[1], Essegu J.F.[2], Okatono Isaac[1]
[1]*Uganda Christain University Mukono P.O.Box 4 Mukono Faculty of Business and Administration, Uganda*
[2]*National Agricultural Research Organisation/National Forestry Reseources Research Institute P.O.Box 1752 Kampala, Uganda*

54. Climate variability and Impacts on the population of leaf miner, a pest of the Oil Palm in Nigeria

Aneni Thomas, Aisagbonhi Charles
Nigerian Institute for Oil Palm Research (NIFOR), Entomology Division, 30001, Benin-City, Nigeria

L1.2 AUSTRALASIA

55. The agro-potential of Western Siberia territories in a changing climate

Nikitich Polina[1,2,3], Bredoire Felix[4,5], Alvarez Gaël[6], Barsukov Pavel[7], Bakker Mark[8], Buée Marc[9], Derrien Delphine[1], Fontaine Sebastien[6], Kayler Zachary[10], Rusalimova Olga[7], Vaishlya Olga[2], Zeller Bernd[1]

[1]*INRA Nancy-Lorraine - Biogeochemistry of Forest Ecosystems, Champenoux, France*

[2]*Tomsk State University, Tomsk, Russia*

[3]*Université de Lorraine, Vandoeuvre les Nancy, France*

[4]*INRA Bordeaux-Aquitaine - UMR 1391 ISPA, Villenave d'Ornon, France*

[5]*Université de Bordeaux, Bordeaux, France*

[6]*INRA Clermont - UREP, Clermont Ferrand, France*

[7]*Institute of Soil Sciences and Agrochemistry, Novosibirsk, Russia*

[8]*Bordeaux Sciences Agro, UMR 1391 ISPA, Gradignan, France*

[9]*INRA Nancy-Lorraine - Interactions Arbres-Microorganismes, Champenoux, France*

[10]*Institute for Landscape Biogeochemistry - ZALF, Müncheberg, Germany*

56. Ecological intensification through conservation agriculture in Cambodia: impact on SOC, N and enzymatic activities

Tivet Florent[1,2], Hok Lyda[3,4], Boulakia Stéphane[1], de Moraes Sá João Carlos[5], Kong Rada[2], Leng Vira[2], Briedis Clever[5]

[1]*Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), UR AIDA/CSIA, Avenue Agropolis, 34398 Montpellier, France*

[2]*Ministry of Agriculture, Forestry and Fisheries, General Directorate of Agriculture, Conservation Agriculture Service Centre, Phnom Penh, Cambodia*

[3]*Department of Soil Science, Faculty of Agronomy, Royal University of Agriculture, P.O. Box 2696, Phnom Penh, Cambodia*

[4]*Department of Natural Resources and Environmental Design, North Carolina A&T State University, Greensboro, NC 27411, USA*

[5]*Department of Soil Science and Agricultural Engineering, State University of Ponta Grossa, Av. Carlos Cavalcanti 4748, Campus de Uvaranas, 84030-900, Ponta Grossa, PR, Brazil*

57. Net ecosystem exchange of carbon dioxide and methane in rice fields of northern Indo-Gangetic Plains

Bhatia A.[1], Kumar A.[1], Jain N.[1], Mishra S.V.[1], Sehgal V. K.[2], Pathak H.[1]

[1]*Centre for Environment Science and Climate Resilient Agriculture (CESCRA), IARI, New Delhi-110012, India*

[2]*Division of Agricultural Physics, IARI, New Delhi-110012, India*

58. Are tree plantations climate-smart? The case of rubber tree plantations and the natural rubber commodity chain

Gay F.[1], Angthong S.[2], Bessou C.[3], Bottier C.[4], Brauman A.[5], Chambon B.[3], Chantuma P.[6], Gohet E.[3], Lacote R.[3], Liengprayoon S.[7], Poonpipope K.[8], Thaler P.[1], Thanisawanyangkura S.[9], Vaysse L.[4], Winsunthorn S.[10], Sainte-Beuve J.[4]

[1]*CIRAD, UMR Eco&Sols, 34060, Montpellier, France*

[2]*ORRAF, 10700, Bangkok, Thaïland*

[3]*CIRAD, UPR Performances des systèmes de pérenne, 34398, Montpellier, France*

[4]*CIRAD, UMR IATE, 34060, Montpellier, France*

[5]*IRD, UMR Eco&Sols, Montpellier, France*

[6]*DOA, RRIT, 10900, Bangkok, Thailand*

[7]*Kasetsart University, Faculty of Agro-Industry, 10900, Bangkok, Thailand*

[8]*Kasetsart University, Faculty of Agriculture, 10900, Bangkok, Thailand*

[9]*Kasetsart University, Faculty of Science, 10900, Bangkok, Thailand*

[10]*PSU, Faculty of Science and Industrial Technology, 84000, Surat Thani, Thailand*

59. Potential integrated agricultural technologies for climate-smart villages of Southeast Asia

Campilan Dindo

International Center for Tropical Agriculture - Asia Region, c/o Agricultural Genetics Institute, Pham Van Dong, Tu Liem District, Hanoi, Vietnam

60. Enhancing productivity and livelihoods among smallholder irrigators through Biochar and fertilizer amendments

Macedo, Jenkins[1], Souvanhnachit, M.[2], Rattanavong, S.[3], Maokhamphiou, B.[4], Sotoukee, T.[4], Pavelic, P.[4], Sarkis, M.[1], Downs, T.[1]

[1]*Department of International Development, Community, and Environment, Clark University, Worcester, MA. USA*

[2]*Department of Water Resources Engineering, National University of Laos, Vientiane, Lao PDR*
[3]*Independent Consultant, Washington DC, USA*
[4]*International Water Management Institute Vientiane, Lao PDR*

61. Climate change and agriculture in India

Jha Anil Kumar
Govt. Girls P.G. College, Morar, (Jiwaji University), Gwalior, Madhya Pradesh, India

62. A suitability assessment for "alternate wetting and drying": targeting priority areas for mitigation in rice production

Sander Bjoern Ole[1], Wassmann Reiner[1], Nelson Andrew[1], Palao Leo[1], Wollenberg Eva[2]
[1]*International Rice Research Institute (IRRI), Los Baños, Philippines*
[2]*University of Vermont, Burlington, Vermont, USA*

L1.3 LATIN AMERICA

63. Learning to face the challenges posed by climate change to Andean agriculture: teaching the farmers of the future

Quiroz Roberto, Valdivia Roberto, Turin Cecilia, León-Velarde Carlos, Mares Victor
International Potato Center (CIP), Lima 12, Lima, Peru

64. Comparison between a Tier 3 and Tier 2 approach to estimate enteric methane emission in Brazilian beef cattle

Bannink André[1], Geraldo de Lima Jacqueline[2], Van Den Pol-Van Dasselaar Agnes[1], Menezes Santos Patricia[3], Resende Siqueira Gustavo[4], Barioni Luis[5]
[1]*Wageningen UR Livestock Research, PO Box, 65, 8200 A Lelystad, Netherlands*
[2]*University of São Paulo, Avenida Pádua Dias, 11, 13418-900, Piracicaba, Brazil*
[3]*Embrapa Southeast Livestock, Rodovia Washington Luiz, km 234, 13560-970 São Carlos, Brazil*
[4]*São Paulo Agency of Agribusiness Technology, Rui Barbosa avenue, 35, 14.770-000, Colina, São Paulo, Brazil*
[5]*Embrapa Informática Agropecuária, Avenida André Tosello, n209, Barão Geraldo, 60411-308, Campinas, Brazil*

65. Effect of climate variability and climate change in the agricultural sector of Panama.

Martiz Graciela
Ministry of Agricultural Development, Environmental Unit, Panama

66. Adaptation of small coffee producers to climate change in Nicaragua

Sepúlveda Norvin
CATIE, Km 8 carretera a Masaya (MAGFOR), codigo 10000, Managua, Nicaragua

67. Can CO_2 fertilization compensate for progressive climate change impacts on coffee productivity?

Ovalle-Rivera Oriana[1], Van Oijen, Marcel[2], Läderach Peter[3], Roupsard Olivier[4], Rapidel Bruno[5]
[1]*CATIE, Division de Posgrado, 7170, Turrialba, Costa Rica*
[2]*CEH, Edinburgh, United Kingdom*
[3]*CIAT, Managua, Nicaragua*
[4]*CIRAD, UMR Eco&Sols, Montpellier, France, and CATIE, DID-PAAS, Turrialba, Costa Rica*
[5]*CIRAD, UMR SYSTEM; Montpellier, France, and CATIE, DID-PAAS, Turrialba, Costa Rica*

68. Agricultural practices, agroecological integrated farms and sustainable indigenous territorial development in Honduras

Juan Medina[1], Edwin Torres[2]
[1]*CATIE, The Tropical Agricultural Research and Higher Education Center, Tegucigalpa, Honduras*
[2]*FUNACH, Action Aid Foundation Honduras. Victoria, Yoro, Honduras*

69. Methane emission efficiency as a function of grazing management in Southern Brazilian grazing systems

Savian Jean V.[1], Cezimbra Ian M.[1], Filho William S.[1], Bonnet Olivier J.F.[1], Neto Armindo B.[14], Schons Radael M.T.[1], Tischler Marcelo R.[1], Nunes Pedro A.A.[1], Almeida Gleice M.[1], Araújo Bárbara[1], Barro Raquel[1], Genro Teresa C.M.[2], Berndt Alexandre[2], Barioni Luis G.[2], Bayer Cimelio[1], Carvalho Paulo C.F.[1]
[1]*Grazing Ecology Research Group, Faculty of Agronomy, Federal University of Rio Grande do Sul, 91501-970, Porto Alegre, Brazil*
[2]*Brazilian Agricultural Research Corporation (EMBRAPA), Brazil*

70. Technological options to increase resilience of production systems to extreme climate events

Bolaños Benavides Martha Marina., Ospina P. Carlos Eduardo, Rodríguez B. Gonzalo Alfredo,

Martínez M. Juan Carlos, Galindo P. Julio Ricardo, Ayarza Miguel.
Corporación Colombiana de Investigación Agropecuaria CORPOICA, Colombia

71. Supporting dairy family farmers of Pernambuco state (Brazil) to develop a climate-smart agriculture

Fages Marjolaine[1], Le Guen Roger[1], Côrtes Cristiano[2], Silva de Melo Airon Aparecido[3]
[1]*Groupe ESA, Laboratoire LARESS, 49 007, Angers, France*
[2]*Groupe ESA, Laboratoire URSE, 49 007, Angers, France*
[3]*Universidade Federal Rural de Pernambuco, Unidade Acadêmica de Garanhuns, CEP 55292-270, Garanhuns/PE, Brazil*

72. Energy efficiency of beef cow herds with different calving season in the south-east of Buenos Aires province, Argentina

Ricci Patricia[1], Aello, Mario S.[2], Arroquy José Ignacio[3], Rearte Daniel[4]
[1]*Instituto Nacional de Tecnología Agropecuaria (INTA), Animal Nutrition Group, 7620, Balcarce, Argentina*
[2]*Universidad Nacional de Mar del Plata, Facultad de Ciencias Agrarias, Animal Nutrition Group, 7620, Balcarce, Argentina*
[3]*CITSE- CONICET, FAyA-UNSE, and INTA, 4200, Animal Production Group, Santiago del Estero, Argentina*
[4]*Labintex, Agropolis International, F-34394, Montpelier, France*

73. Does diversification in smallholder coffee landscapes help to face climate change risk? Answers from Nicaragua

van Zonneveld, Maarten[1], Gonzalez Daysi[2], Guevara Ramon[3], Fallot Abigail[4]
[1]*Bioversity International, CATIE 7170 Turrialba, Costa Rica*
[2]*Research Platform on Production and Conservation in Partnership (RP-PCP), CATIE 7170, Turrialba, Costa Rica*
[3]*Independent consultant, Managua, Nicaragua*
[4]*Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), CATIE 7170 Turrialba, Costa Rica*

74. Ensuring climate smart agriculture is gender-smart: lessons from Latin America

Twyman Jennifer[1], Bernier Quinn[2], Muriel Juliana[1], Paz Liliana[3], Ortega Luis[3]
[1]*Centro Internacional de Agricultura Tropical (CIAT), KM 17 Recta Cali-Palmira, Cali, Colombia*
[2]*International Food Policy Research Institute, 2033 K St, NW, Washington, DC 20006-1002, USA*
[3]*EcoHabitats, Popayan, Colombia*

75. Do local perceptions converge to climatological data? Case studies in three Brazilian biomes

Litre Gabriela[1], Nasuti Stephanie[1], Lindoso Diego[1], Saito Carlos[1], Henke Carlos[1], Da Silva Carolina Joana[2], Eiro Flavio[3]
[1]*Centro de Desenvolvimento Sustentável - CDS, Campus Universitário Darcy Ribeiro - Gleba A - Asa Norte – Brasília-DF, CEP 70.904-970, Brazil*
[2]*Universidade do Estado de Mato Grosso, Av. Tancredo Neves, 1095 - Cavalhada II, 78200-000 - Cáceres - Mato Grosso, Brazil*
[3]*ERIS-CMH, 48 bd Jourdan, 75014 Paris, France*

76. Does carbon storage of pastures contribute to a climate smart cattle farming after Amazonian deforestation?

Blanfort Vincent[1], Stahl Clément[1,2], Fontaine Sébastien[3], Picon-Cochard Catherine[3], Freycon Vincent[4], Blanc Lilian[4], Bonal Damien5, Soussana Jean-François[3], Lecomte Philippe[1], Klumpp Katja[3]
[1]*CIRAD, UMR 112 Tropical and Mediterranean Animal Production Systems, Campus international de Baillarguet, 34398 Montpellier, France*
[2]*INRA, UMR 0745 Ecofog, Campus agronomique, 97379 Kourou, France*
[3]*INRA, UR 874, Grassland Ecosystem Research Team, 63100 Clermont-Ferrand, France*
[4]*CIRAD, UR 105 "Biens et services des écosystèmes forestiers tropicaux", 34398 Montpellier, France*
[5]*INRA, UMR 1137 EEF, 54280 Champenoux, France*

77. Socio-economic scenarios to develop and test agricultural adaptation policies in Central America and the Andes

Veeger Marieke, Vervoort Joost
University of International Cooperation (UCI), De la Rotonda El Farolito, 200m este y 150m norte, Barrio Escalante, San José, Costa Rica

78. Future climate change impacts on maize production in the Cerrado of Brazil

Silva Fernando Macena[1], Affholder François[2], Corbeels Marc[1,2]

[1]*Embrapa-Cerrados, 73310-970, Planaltina, DF, Brazil*
[2]*CIRAD, Agroécologie et intensification durable des cultures annuelles, 34398 Montpellier, France*

79. Agro-Climatic forecasting system for better decision making in Latin America

Giraldo Diana, Barrios Camilo, Arango David, Obando Diego
International Center for Tropical Agriculture (CIAT), Climate and crop modeling team in DAPA. Km 17, Recta Cali-Palmira, Valle Del Cauca, Colombia

80. LivestockPlus: supporting low emission development for livestock sector in Costa Rica and Colombia

Rao Idupulapati[1], Jenet Andreas[2], Tapasco Jeimar[1], Chirinda Ngonidzashe[1], Rosenstock Todd[3], Twyman Jennifer[1], Laderach Peter[1], Peters Michael[1], Arango Jacobo[1], Hyman Glenn[1], Barahona Rolando[4], Nelson Vivas[5], Camilo Plazas[6], Mauricio Chacon[7]
[1]*CIAT, Cali, Colombia*
[2]*CATIE, Turrialba, Costa Rica*
[3]*ICRAF, Nairobi, Kenya*
[4]*National University, Medellin, Colombia*
[5]*University of Cauca, Popayan, Colombia*
[6]*University of Llanos, Villavicencio, Colombia*
[7]*Ministry of Agriculture and Livestock, San José, Costa Rica*

81. Venezuelan agriculture N management challenges and proposed alternatives

Pérez Tibisay, Marquina Sorena
Centro de Ciencias Atmosféricas y Biogeoquímica. IVIC. Apartado. 20632, Caracas 1020A, Venezuela

82. Nitrous oxide emission factors for sheep and cattle excreta in two subtropical Brazilian grazing systems

Bastos Diego F.[1], Schirmann Janquieli[1], Magiero Emanuelle C.[1], Carvalho Paulo C.F.[2], Bayer Cimelio[1]
[1] *Department of Soil Science and Graduate Program on Soil Science, Faculty of Agronomy, Federal University of Rio Grande do Sul, 91540-000, Porto Alegre, RS, Brazil*
[2] *Grazing Ecology Research Group, Faculty of Agronomy, Federal University of Rio Grande do Sul, 91501-970, Porto Alegre, Brazil*

83. Sustainability of rice cultivation in an important producing area of Cuba under climatic scenarios

Rodriguez Baide Joysee M.[1], van den Berg Maurits[1], Soto Carreño Francisco[2], Maqueira Lopez. Lazaro A.[3], Vázquez Montenegro Ranses J.[4]
[1]*European Commission. Joint Research Centre, Institute for Environment and Sustainability, Monitoring Agricultural ResourceS Unit, Ispra, Italy*
[2]*Instituto Nacional de Ciencias Agrícolas, Mayabeque, Cuba*
[3]*Instituto Nacional de Ciencias Agrícolas, Los Palacios, Cuba*
[4]*Centro de Meteorología Agrícola, Instituto de Meteorología, La Habana, Cuba*

L1.4 EUROPE

84. Innovation for Climate Smart Agriculture in Europe

Touzard Jean-Marc
INRA, UMR 0951 "Innovation", 2 place Viala, F-34060 Montpellier Cedex 01, France

85. Nitrogen and water as inputs in farm bio-economic models: creating an operational modeling framework at the EU level

Humblot Pierre, Petsakos Thanasis, Jayet Pierre-Alain
INRA, UMR Economie Publique, Avenue Lucien Bretignières, F-78850 Thiverval Grignon, France

86. « PigChange »: a project to evaluate the consequences of climate change and mitigation options in pig production

Renaudeau David[1], Gourdine Jean Luc[2], Hassouna Melynda[3], Robin Paul[3], Gilbert Hélène[4], Riquet Juliette[4], Dourmad Jean Yves[1]
[1]*INRA, UMR 1348 PEGASE, F35590 St-Gille, France*
[2]*INRA, UR 143 URZ, F97170 Petit Bourg, France*
[3]*INRA, UMR 1069 SAS, F35000 Rennes, France*
[4]*INRA, UMR 1388 GenPhySE, F31326 Toulouse, France*

87. Assessing the economic GHG abatement potential from the EU-15 dairy sector and underlying uncertainties

Koslowski Frank[1], Eory Vera[1], van den Pol-van Dasselaar Agnes[2], Fofana Abdulai[1], de Haan Michel[2], Lesschen Jan Peter[3], Moran Dominic[1]

[1]*Land Economy, Environment & Society Research Group, Scotland's Rural College, Edinburgh EH9 3JG, Scotland, United Kingdom*
[2]*Wageningen UR Livestock Research, Postbus 338, 6700 AH Wageningen, the Netherlands*
[3]*Alterra, Wageningen UR, P.O. Box 47, 6700AA Wageningen, the Netherlands*

88. Concerted action for climate smart livestock systems: research & innovation priorities in climate changing Europe

Scholte Martin C.Th.[1,2,3]
[1]*Board of Directors Wageningen UR*
[2]*President Animal Task Force*
[3]*Co-chair GRA Livestock Research Group*

89. An observatory of aromatic and medicinal plants as a possible indicator of the climatic changing evolution conditions

Hoxha Valter[1], Ilbert Hélène[2]
[1]*UMR TETIS (Mixed Unit of Territories Research, Environment, Remote Sensing and Spatial Information) - House of Remote Sensing - 500 rue Jean-François Breton 34093 Montpellier Cedex 5, France*
[2]*UMR1110 MOISA (Markets, Organizations, Institutions and Operators Strategies). Campus Montpellier SupAgro / INRA 2 place Pierre Viala 34060 Montpellier Cedex 2, France*

90. The knowledge hub FACCE MACSUR: Modelling agriculture with climate change for food security

Köchy Martin, Banse Martin
Thünen Institute for Market Analysis, Bundesallee 50, 38116 Braunschweig, Germany

91. Can functional complementarity of plant strategies enhance drought resilience in associations of Mediterranean grasses?

Barkaoui Karim[1], Bristiel Pauline[2], Birouste Marine[2], Roumet Catherine[2], Volaire Florence[3]
[1]*CIRAD, UMR SYSTEM, 2 place Pierre Viala, 34060, Montpellier Cedex 2, France*
[2]*CEFE UMR 5175, Université de Montpellier – Université Paul Valéry –19 EPHE, 1919 route de Mende, 34293 Montpellier Cedex 5, France*
[3]*INRA, USC 1338, CEFE UMR 5175, Université de Montpellier – Université Paul Valéry –19 EPHE, 1919 route de Mende, 34293 Montpellier Cedex 5, France*

92. Incremental adaptation in crop management for integrated assessments of climate change impacts in Europe

Webber Heidi[1], Britz Wolfgang[2], Zhou G.[1], de Vries Wim[3], Wolf Joost[4], Ewert Frank[1]
[1]*INRES, University of Bonn, Bonn, Germany*
[2]*ILRI, University of Bonn, Bonn, Germany*
[3]*Alterra, Wageningen University, Wageningen, the Netherlands*
[4]*Plant Production Systems, Wageningen University, Wageningen, the Netherlands*

93. Sensitivity of maize to climate change in Denmark: an analysis using impact response surface approach

Ozturk Isik, Sillebak K. Ib, Olesen E. Jørgen
Department of Agroecology, Aarhus University, Blichers Alle 20 DK-8830, Tjele, Denmark

94. Is it possible to reduce greenhouse gas emissions without reducing production? An assessment of 26 technical options

Pellerin Sylvain[1], Bamière Laure[2], Angers Denis[3], Béline Fabrice[4], Benoît Marc[5], Butault Jean-Pierre[6], Chenu Claire[7], Colnenne-David Caroline[8], De Cara Stéphane[2], Delame Nathalie[2], Doreau Michel[5], Dupraz Pierre[9], Faverdin Philippe[10], Garcia-Launay Florence[10], Hassouna Melynda[11], Hénault Catherine[12], Jeuffroy Marie-Hélène[8], Klumpp Katja[13], Metay Aurélie[14], Moran Dominic[15], Recous Sylvie[16], Samson Elisabeth[11], Savini Isabelle[17], Pardon Lénaic[17]
[1]*INRA, UMR ISPA, 33882 Villenave d'Ornon, France*
[2]*INRA, UMR Eco-Pub, 78850 Thiverval-Grignon, France*
[3]*Agriculture et Agroalimentaire Canada, Québec (Québec), G1V2J3, Canada*
[4]*IRSTEA, UR GERE, 35044 Rennes, France*
[5]*INRA, UMR Herbivores, 63122 Saint-Genes-Champanelle, France*
[6]*INRA, UMR LEF, 54042 Nancy, France*
[7]*AGROPARISTECH, UMR IEES, 75005 Paris, France*
[8]*INRA, UMR Agronomie, 78850 Thiverval-Grignon, France*
[9]*INRA, UMR SMART, 35011 Rennes, France*
[10]*INRA, UMR PEGASE, 35590 Saint Gilles, France*
[11]*INRA, UMR SAS, 35042 Rennes, France*
[12]*INRA, UR USS, 45075 Orléans, France*
[13]*INRA, UR Ecosytème Prairial, 63039 Clermont-Ferrand, France*
[14]*SUPAGRO, UMR SYSTEM, 34060 Montpellier, France*

[15]SRUC, Land Economy and Environment Research, EH9 3JG, Edinburgh, United Kingdom
[16]INRA, UMR FARE, 51686 Reims, France
[17]INRA, DEPE, 75338 Paris, France

95. Agroforestry for a climate-smart agriculture – a case study in France

Cardinael Rémi[1,4], Chevallier Tiphaine[1], Germon Amandine[3], Jourdan Christophe[2], Dupraz Christian[3], Barthès Bernard[1], Bernoux Martial[1], Chenu Claire[4]
[1]IRD, Umr Eco&Sols, 34060 Montpellier, France
[2]CIRAD, Umr Eco&Sols, 34060 Montpellier, France
[3]INRA, Umr System, 34060 Montpellier, France
[4]AgroParisTech, IEES, 78850 Thiverval-Grignon, France

96. Impacts of climate and socio-economic change at farm and landscape level in the Netherlands: climate smart agriculture?

Reidsma Pytrik[1], Bakker Martha M.[2], Kanellopoulos Argyris[1,3], Alam Shah J. [4], Paas Wim[1,5], Kros Johannes[6], de Vries Wim[6,7]
[1]Plant Production Systems Group, Wageningen University, P.O. Box 430, 6700 AK Wageningen, the Netherlands
[2]Land Use Planning Group, Wageningen University. P.O. box 47, 6700 AA Wageningen, the Netherlands
[3]Operational Research and Logistics Group, Wageningen University, Hollandseweg 1, 6706 KN Wageningen, the Netherlands
[4]School of GeoSciences, University of Edinburgh, Drummond Street, Edinburgh EH8 9XP, United Kingdom
[5]Farming Systems Ecology Group, Wageningen University, P.O. Box 430, 6700 AK Wageningen, the Netherlands
[6]Alterra Wageningen UR, P.O. box 47, 6700 AA Wageningen, the Netherlands
[7]Environmental Systems Analysis Group, Wageningen University, P.O. Box 47, 6700 AA Wageningen, the Netherlands

97. Sustainability of agriculture: can climate change adaptations attract youth into agriculture?

Betigül Onay Özman
YADA Foundation (Yaşama Dair Vakıf), Turkey

L1.5 NORTH AMERICA

98. A research program to address agricultural stakeholders' concerns regarding the evolution of crop pests associated with climate change

Blondlot Anne[1], Gagnon Annie-Ève[2], Bourgeois Gaétan[3], Brodeur Jacques[4], Mimee Benjamin[3] and colleagues
[1]Ouranos, Montreal, Quebec, Canada
[2]Centre de recherche sur les grains (CÉROM), Saint-Mathieu-de-Beloeil, Quebec, Canada
[3]Agriculture and Agri-Food Canada, Saint-Jean-sur-Richelieu, Quebec, Canada
[4]Institut de recherche en biologie végétale, Université de Montréal, Montreal, Quebec, Canada

99. Bioenergy crop impacts on soil carbon sequestration, soil biophysical properties and N_2O emissions in Manhattan, Kansas

McGowan Andrew[1], Yishak Elias[2], Rice Charles[1]
[1]Department of Agronomy: Kansas State University, 66506, Manhattan, United States
[2]Department of Mechanical Engineering: University of Maryland, 20742, College Park, United States

100. Understanding farm level N_2O emissions in California systems

Decock Charlotte[1], Verhoeven Elizabeth[1], Pereira Engil[1], Garland Gina[1], Kennedy Taryn[2], Suddick Emma[3], Burger Martin[4], Horwath Willam[4], Six Johan[1]
[1]ETH Zurich, Department of Environmental Systems Science, 8092 Zurich, Switzerland
[2]University of California Davis, Department of Plant Sciences, 95616 Davis, California, USA
[3]Woods Hole Research Center, 02540-1644 Falmouth, Massachusetts, USA
[4]University of California Davis, Department of Land, Air and Water Resources, 95616 Davis, California, USA

101. A transdisciplinary approach for climate smart management of maize

Wright Morton Lois, Arritt Raymond, the CSCAP Team
Iowa State University, Ames, Iowa 50011, USA

PARALLEL SESSION L2 CLIMATE-SMART STRATEGIES

Tuesday, 17 March 2015

14:00–18:00

ORAL PRESENTATIONS

PARALLEL SESSION L2.1 DEVELOPING AND EVALUATING CLIMATE-SMART PRACTICES

ROOM SULLY 1

KEYNOTE PRESENTATIONS

14:00 Developing and evaluating climate-smart practices and services

Campbell Bruce M.[1], Corner-Dolloff C.[2], Girvetz E.H.[3], Rosenstock T.[4]

[1]*CIAT, c/o University of Copenhagen, Copenhagen, Denmark*

[2]*CIAT, Cali, Colombia*

[3]*CIAT, Nairobi, Kenya*

[4]*ICRAF, Nairobi, Kenya*

14:30 Climate-smart agriculture practices and its evaluation

Dong Hongmin

Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences, Beijing 100081, China

CONTRIBUTED ORAL PRESENTATIONS

16:30 Rain water-based integrated agricultural system: a model for ensuring food security and adaptation in coastal Bangladesh

Talukder Byomkesh[1], Blay-Palmer Alison[1], van Loon Gary[2]

[1]*Department of Geography and Environmental Studies, Wilfrid Laurier University, Waterloo, Canada*

[2]*School of Environmental Studies, Queen's University, Kingston, Canada*

16:45 Additive impacts of climate-smart agriculture practices in mixed crop-livestock systems in Burkina Faso

Rigolot Cyrille[1,2], De Voil P.[3], Douxchamps Sabine[4], Prestwidge Di[1], Van Wijk Mark[5], Thornton Phillip[6], Henderson B.[1], Medina Hidalgo D.[1], Rodriguez Daniel[3], Herrero Mario[1]

[1]*Commonwealth Scientific and Industrial Research Organization, St Lucia, QLD 4067, Australia*

[2]*INRA, UMR 1273 Metafort, F-63122 Saint Genes Champanelle, France*

[3]*University of Queensland, Queensland Alliance for Agriculture and Food Innovation (QAAFI), Toowoomba, Australia*

[4]*International Livestock Research Institute (ILRI), Ouagadougou, Burkina Faso*

[5]*International Livestock Research Institute (ILRI), PO Box 30709-00100, Nairobi, Kenya*

[6]*CGIAR Research Programme on Climate Change, Agriculture and Food Security, (CCAFS), PO Box 30709-00100, Nairobi, Kenya*

17:00 Developing indicators for Climate-Smart Agriculture (CSA)

Rawlins Maurice Andres, Heumesser Christine, Emenanjo Ijeoma, Zhao Yuxuan, Braimoh Ademola

The World Bank Group, 1818 H St. NW, Washington DC, USA

17:15 Towards metrics to track and assess climate smart agriculture

Verhagen Jan, Huib Hengsdijk, Sjaak Conijn, Annemarie Groot, Nico Polman, Theun Vellinga, Eddy Moors

Wageningen UR, droevendaalsesteeg 4, 6708 pb, Wageningen, the Netherlands

PARALLEL SESSION L2.2
FACING CLIMATIC VARIABILITY AND EXTREMES

ROOM SULLY 2

KEYNOTE PRESENTATIONS

14:00 Facing climatic variability and extremes

Zougmoré Robert[1], Rao K.P.C.[2], Diedhiou Arona[3]
[1]*ICRISAT-Mali, BP 320 Bamako Mali*
[2]*ICRISAT Ethiopia, PO Box 5689, Addis Ababa, Ethiopia*
[3]*Université de Grenoble, BP 53, 38041, Grenoble Cedex 9, France*

14:30 Rainfall modifications in the context of climate change: the puzzle of the tropical regions

Lebel Thierry, Vischel Théo
LTHE, IRD & Université de Grenoble, BP 53, 38041, Grenoble Cedex 9, France

CONTRIBUTED ORAL PRESENTATIONS

16:30 The potential for underutilised crops to improve food security in the face of climate change

Massawe Festo[1], Mayes Sean[1,2], Cheng A.[1], Chai, H.H.[1], Cleasby P.[1], Symonds R.[1]; Ho W.K.[2], Siise Aliyu[1], Wong Q.[1], Kendabie P.[3], Yanusa Y.[4], Azman R.[2], Azam-Ali Sayed N.[2]
[1]*University of Nottingham Malaysia Campus, Malaysia*
[2]*Crops for the Future, Malaysia*
[3]*University of Nottingham, United Kingdom*
[4]*Bayero University Kano, Nigeria*

16:45 Changes in climate variability and potential for impacts of droughts on agricultural markets

Leclère David, Havlík Petr
International Institute for Applied System Analysis (IIASA), Ecosystem Services Management program (ESM), Laxenburg, Austria

17:00 How precisely do maize crop models simulate the impact of climate change variables on yields and water use?

Durand Jean-Louis[1], Bassu Simona[2], Brisson Nadine[2], Boote Kenneth[3], Lizaso Jon[4], Jones James W.[5], Rosenzweig Cynthia[6], Ruane Alex C.[6], Adam Myriam[7], Baron Christian[8], Basso Bruno[9,10], Biernath Christian[11], Boogaard Hendrik[12], Conijn Sjaak[13], Corbeels Marc[14], Deryng Delphine[15], de Sanctis Giacomo[16], Gayler Sebastian[17], Grassini Patricio[18], Hatfield Jerry[19], Hoek Steven[12], Izaurralde Cesar[20], Jongschaap Raymond R .[13], Kemanian Armen R.[21], Kersebaum K. Christian[22], Kim Soo-Hyung[23], Kumar Naresh S.[24], Makowski David[2], Müller Christoph[25], Nendel Claas[22], Priesack Eckart[11], Pravia Maria Virginia[21], Sau Federico[4], Shcherbak Iurii[9,10], Tao Fulu[26], Teixeira Edmar[27], Timlin Dennis[28], Waha Katharina[24]
[1]*Unité de Recherche Pluridisciplinaire sur la Prairie et les Plantes Fourragéres, INRA, BP 80006, Lusignan, 86600, France*
[2]*Unité d'Agronomie, INRA-AgroParisTech, BP 01, Thiverval-Grignon, 78850, France*
[3]*Department of Agronomy, University of Florida, P.O. Box 110500, Gainesville, FL 32611, USA*
[4]*Department Produccion Vegetal, Fitotecnia, University Politécnica of Madrid, Madrid, 28040, Spain*
[5]*Department of Agricultural & Biological Engineering, University of Florida, P.O. Box 110570, Gainesville, FL 32611, USA*
[6]*Climate Impacts Group, NASA Goddard Institute for Space Studies, 2880 Broadway, New York, NY 10025, USA*
[7]*UMR AGAP/PAM, CIRAD, Av. Agropolis, Montpellier, France,*
[8]*CIRAD, UMR TETIS, 500 rue J-F. Breton, Montpellier, F-34093, France*
[9]*Department of Geological Sciences, Michigan State University, East Lansing, MI, USA*
[10]*Department Crop Systems, Forestry and Environmental Sciences, University of Basilicata, Potenza, Italy*
[11]*Institute für Bodenökologie, Helmholtz Zentrum München, Ingolstädter Landstraße 1, D-85764, Neuherberg, Germany*
[12]*Centre for Geo-Information, Alterra, P.O. Box 47, Wageningen, 6700AA, the Netherlands*
[13]*WUR-Plant Research International, Wageningen University and Research Centre, P.O. Box 16, 6700AA, Wageningen, the Netherlands*
[14]*CIRAD-Annual Cropping Systems, C/O Embrapa-Cerrados Km 18, BR 020 - Rodovia Brasília/Fortaleza, CP 08223, CEP 73310-970, Planaltina, DF, Brazil*
[15]*Tyndall Centre for Climate Change research and School of Environmental Sciences, University of East Anglia, Norwich, NR4 7TJ, United Kingdom*

[16]Unité AGROCLIM, INRA, Domaine st Paul Site Agroparc, Avignon Cedex 9, Avignon, 84914, France
[17]Water & Earth System Science (WESS) Competence Cluster, c/o University of Tübingen, Tübingen, 72074, Germany
[18]Department of Agronomy and Horticulture, University of Nebraska-Lincoln, 178 Keim Hall-East Campus, Lincoln, NE 68503-0915, USA
[19]USDA-ARS National Soil Tilth Laboratory for Agriculture and the Environment, 2110 University Boulevard, Ames, IA 50011, USA
[20]Pacific Northwest National Laboratory and University of Maryland, 5825 University Research Court Suite 3500, College Park, MD 20740, USA
[21]Department of Plant Science, The Pennsylvania State University, 247 Agricultural Sciences and Industries Building, University Park, PA 16802, USA
[22]Institute of Landscape Systems Analysis, ZALF, Leibniz-Centre for Agricultural Landscape Research, Eberswalder Str. 84, D-15374, Muencheberg, Germany
[23]School of Environmental and Forest Sciences, University of Washington, Seattle, WA 98195-4115, USA
[24]Indian Agricultural Research Institute, Centre for Environment Science and Climate Resilient Agriculture, New Delhi 110012, India
[25]Potsdam Institute for Climate Impact Research, Telegraphenberg A 31, P.O. Box 60 12 03, D-14412, Potsdam, Germany
[26]Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, 100101, China
[27]Sustainable Production, The New Zealand Institut for Plant & Food Research Limited, Lincoln, Canterbury, New Zealand
[28]Crop Systems and Global Change Laboratory, USDA/ARS, 10300 Baltimore avenue, BLDG 001 BARC-WEST, Beltsville, 20705-2350 MD, USA

17:15 Modeling livestock production under climate constraint in the African drylands to identify interventions for adaptation

Mottet Anne[1], Conchedda Giulia[1], de Haan Cees[2], Msangi S.[3], Ham Frédéric[4], Lesnoff Matthieu[5], Fillol, Erwann[4], Ickovicz Alexandre[6], Cervigni Raffaello[2], Gerber Pierre[1]
[1]FAO, 1Viale delle Terme di Caracalla 00153 Rome, Italy
[2]World Bank, 1818 H St NW, Washington, DC 20433, USA
[3]IFPRI, 2033 K Street, NW, Washington, DC 20006, USA
[4]ACF West Africa Regional Office, Yoff Toundoup, RYA lot No. 11, Dakar, Senegal
[5]CIRAD, Campus de Baillarguet, TA C-112 / A, 34398 Montpellier Cedex 5, France
[6]CIRAD, Campus Montpellier SupAgro-INRA, 2, place P. Viala, 34060 Montpellier cedex 1, France

PARALLEL SESSION L2.3 COMBINING MITIGATION, ADAPTATION AND SUSTAINABLE INTENSIFICATION

ROOM SULLY 3

KEYNOTE PRESENTATIONS

14:00 Ex-ante evaluation of Climate-Smart Agriculture options

Cassman Kenneth[1], van Ittersum M. K.[2], Hochman Z.[3], McIntosh P.[3], Grassini P.[1], Yang H.[1], van Bussel L.G.J.[2], Guilpart N.[1], Van Wart J.[1], Claessens L.[4], Boogaard H.[2], de Groot H.[2], Wolf J.[2], van Oort P.[5]
[1]Univ. of Nebraska, USA
[2]Wageningen University, the Netherlands
[3]CSIRO, Australia
[4]ICRISAT, Kenya
[5]AfricaRice

14:30 Will sustainable intensification get us to 2 degrees Celsius?

Wollenberg Lini[1], Richards Meryl[1], Havlik Petr[2], Smith Pete[3], Carter Sarah[4], Herold Martin[4]
[1]CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), Gund Institute for Ecological Economics, University of Vermont, USA
[2]International Institute for Applied Systems Analysis (IIASA), Austria
[3]University of Aberdeen, United Kingdom
[4]Wageningen University and Research Centre, the Netherlands

CONTRIBUTED ORAL PRESENTATIONS

16:30 Climate readiness in smallholder agricultural systems: Lessons learned from REDD+

Zurek Monika, Streck Charlotte, Roe Stephanie, Haupt Franziska with contributions from Wollenberg Lini and de Pinto Alex
Climate Focus, Sarphatikade 13, 1017 WV Amsterdam, the Netherlands

16:45 Assessing low emissions agricultural pathways under alternative climate policy regimes

Kleinwechter Ulrich[1], Havlik Petr[1], Levesque Antoine[1], Forsell Nicklas[1], Zhang Yuquan W.[1], Fricko Oliver[2], Riahi Keywan[2], Obersteiner Michael[1]
[1]*International Institute for Applied Systems Analysis (IIASA), Ecosystems Services and Management Program, Schloßplatz 1, 2361 Laxenburg, Austria*
[2]*International Institute for Applied Systems Analysis (IIASA), Energy Program, Schloßplatz 1, 2361 Laxenburg, Austria*

17:00 Climate-smart coffee systems in East Africa

Jassogne Laurence[1], van Asten Piet[1], Laderach Peter[2], Craparo S.[7], Liebig Theresa[2], Rahn Eric[2], Baca Maria[2], Graefe S.[3], Whitbread Anthony[3], Nibasumba Anaclet[4], Ampaire Edidah [1], Kagezi Godfrey[5], Vaast Philippe[6]
[1]*International Institute of Tropical Agriculure (IITA), P.O.7878, Kampala, Uganda*
[2]*International Center of Tropical Agriculture (CIAT), Cali, Columbia*
[3]*Goettingen University, Goettingen, Germany*
[4]*Institut des Sciences Agronomiques du Burundi (ISABU), Bujumbura, Burundi*
[5]*National Coffee Research Institute (NaCORI), Mukono, Uganda*
[6]*World Agroforestry Centre (ICRAF - CIRAD), Nairobi, Kenya*
[7]*University of Witwatersrand (WITS), South Africa*

17:15 Prioritizing climate-smart agricultural interventions at multiple spatial and temporal scales

Shirsath Paresh B.[1], Dunnett Alex[2], Aggarwal Pramod K.[3], Ghosh J.[4], Joshi Pramod K.[4], Thornton Phillip[5], Pal B.[6]
[1]*PDF- Climate Change Adaptation, CCAFS, IWMI-New Delhi, India*
[2]*CCAFS, IWMI-New Delhi, India*
[3]*CCAFS-South Asia, IWMI-New Delhi, India*
[4]*IFPRI, New Delhi, India*
[5]*Theme Leader – Data and Tools, CCAFS*
[6]*ISEC, Bengaluru, India*

PARALLEL SESSION L2.4 BREEDING AND PROTECTING CROPS AND LIVESTOCK

ROOM RONDELET

KEYNOTE PRESENTATIONS

14:00 Plant breeding for climate-smart agriculture

Glaszmann Jean Christophe
UMR Amélioration Génétique et Adaptation des Plantes (Agap-DDSE), CIRAD, France

14:30 What impact of climate change on animal health?

Lancelot Renaud, Guis Hélène, Lefrançois Thierry
Cirad, INRA, UMR CMAEE, France

CONTRIBUTED ORAL PRESENTATIONS

16:30 Reducing nitrogen run-off and emission, and increasing rice productivity in African rice production environment

van Boxtel Jos[1], Selvaraj Michael[2], Dartey Kofi[3], Lamo Jimmy[4], Asante Maxwell[3], Lu Zhongjin[1], Ishitani Manabu[2], Addae Prince[5], Sanni Kayode[5]
[1]*Arcadia Biosciences, Davis CA 95618, USA*
[2]*CIAT, AA6713 Cali, Colombia*
[3]*CSIR- CRI, PO Box 3785, Kumasi, Ghana*
[4]*NARO-NaCRRI, Box 7084, Kampala, Uganda*
[5]*AATF, PO Box 30709, Nairobi, Kenya*

16:45 Utilization of ex situ collections and climate analogues for enhancing adaptive capacity to climate change

Archak Sunil[1], Semwal D.P.[1], Pandey Sushil[1], Mittra Sarika[2], Mathur P.N.[2], Agarwal Pramod[3], Bansal K.C.[1]
[1]*ICAR-National Bureau of Plant Genetic Resources, Pusa Campus, New Delhi 110 012, India*

[2]*Bioversity International, Pusa Campus, New Delhi 110 012, India*
[3]*IWMI, Pusa Campus, New Delhi 110 012, India*

17:00 Adaptation of Mediterranean bovine livestock to climate constraints. Genetic diversity and breeding systems

Flori Laurence[1,2], Moazami-Goudarzi Katayoun[1], Lecomte Philippe[3], Moulin Charles-Henri[3,4], Thévenon Sophie[2], Alary Véronique[3], Casabianca François[5], Lauvie Anne[5], Boushaba Nadjet[6], Saïdi-Mehtar Nadhira[6], Boujenane Ismail[7], Araba Abdelillah[7], Menni Dalal[7], Pineau Olivier[8], Ciampolini Roberta[9], Casu Sara[10], ElBeltagy Ahmed[11], Osman Mona-Abdelzaher[11], Rodellar Clemen[12], Martinez Amparo[13], Delgado Juan-Vicente[13], Landi Vincenzo[13], Hadjipavlou Georgia[14], Ligda Christina[15], Gautier Mathieu[16], Laloë Denis[1]
[1]*INRA/AgroParisTech, GABI, 78352 Jouy-en-Josas, France*
[2]*Cirad, INTERTRYP, 34000 Montpellier, France*
[3]*Cirad, SELMET, 34000 Montpellier, France*
[4]*Montpellier SupAgro, SELMET, 34000 Montpellier, France*
[5]*INRA, LRDE, 20250 Corte, France*
[6]*Université des Sciences et de la Technologie d'Oran, Département de Génétique Moléculaire Appliquée, 31000 Oran, Algeria*
[7]*Institut Agronomique et Vétérinaire Hassan II, Département de Productions et de Biotechnologies Animales, 10101 Rabat, Morocco*
[8]*La Tour du Valat, 13104 Arles, France*
[9]*Dipartimenta di Scienze Veterinarie, LBG, 56124 Pisa, Italy*
[10]*Agris Sardegna, Settore Genetica e Biotecnologie, 07100 Sassari, Italy*
[11]*APRI, Animal Breeding and Genetics, Cairo, Egypt*
[12]*Facultad de Veterinaria, Lagenbio, 50013 Zaragoza, Spain*
[13]*Animal Breeding Consulting SL, Laboratorio de Genetica Molecular Aplicada, 14071 Cordoba, Spain*
[14]*Agricultural Research Institute, 1010 Lefkosia, Cyprus*
[15]*Veterinary Resarch Institute, NAGREF, 57001 Thessaloniki, Greece*
[16]*INRA/IRD/Cirad/Montpellier SupAgro, CBGP, 34988 Montferrier-sur-Lez, France*

17:15 Towards genotypes adapted to climate change via combination of phenotyping and modelling: The projects DROPS and Phenome

Tardieu François
INRA, LEPSE, 34060 Montpellier, France

PARALLEL SESSION L2.5 OVERCOMING BARRIERS: POLICIES AND INSTITUTIONAL ARRANGEMENTS TO SUPPORT CSA

ROOM BARTHEZ

KEYNOTE PRESENTATIONS

14:00 Overcoming barriers: policies and institutional arrangements to support CSA

Lipper Leslie
FAO Rome, Via delle Terme di Caracalla, Rome, Italy

14:30 Policies and institutions conducive for enhancing the transfer to CSA in Africa

Sedogo Laurent[1], Lamers John[2], William Fonta[3]
[1]*Executive Director WASCAL Accra, Ghana*
[2]*Coordinator of the Core Research Program of WASCAL, ZEF- University of Bonn, Germany*
[3]*Research Coordinator, WASCAL Competence Center Ouagadougou, Burkina Faso*

CONTRIBUTED ORAL PRESENTATIONS

16:30 Schools as climate smart agriculture information hubs

Manalo Jaime IV A., Layaoen Myriam G., Balmeo Katherine P., Berto Jayson C., Frediles Christina A., Saludez Fredierick M.
Development Communication Division, Philippine Rice Research Institute, Maligaya, Science City of Munoz, Nueva Ecija 3119, Philippines

16:45 Advancing CSA solutions through global collaboration: the Global Research Alliance on Agricultural Greenhouse Gases

Clark Harry[1], Scholten Martin[2]
[1]*NZAGRC, Tennent Drive, Private Bag 11008, Palmerston North 4442, New Zealand*
[2]*Wageningen UR, Droevendaalsesteeg 4, 6708 PB Wageningen, the Netherlands*

17:00 Using whole-farm models for policy analysis of climate smart agriculture

Paolantonio Adriana[1], Branca Giacomo[1], Arslan Aslihan[1], Cavatassi Romina[1], Cacho Oscar[2]

[1]*Agricultural Development Economics Division, Food and Agriculture Organization of the UN, Viale delle Terme di Caracalla, Rome 00153, Italy*

[2]*University of New England, Armidale NSW 2350, Australia*

17:15 Climate shocks and risk attitudes among female and male maize farmers in Kenya

Wainaina Priscilla[1], Tongruksawattana Songporne[2], De Groote Hugo[2], Gunaratna Nilupa[3]

[1]*Department of Agricultural Economics and Rural Development; Georg-August-University of Goettingen, Germany*

[2]*International Maize and Wheat Improvement Center (CIMMYT), Nairobi, Kenya*

[3]*Department of Global Health and Population, Harvard School of Public Health, Massachusetts, USA*

POSTER SESSION 2

Tuesday, 17 March 2015

15:00 – 16:30

EXHIBITION HALL, LEVEL 0

L2.1 DEVELOPING AND EVALUATING CLIMATE SMART PRACTICES

1. Climate Smart Management Options for Improving the Soil Fertility and Farm Productivity in the Middle Hills of Nepal

Shrestha Shiva Kumlar, Shrestha A., Bishwakarma B. K., Allen R.

Sustainable Soil Management Programme (SSMP), HELVETAS Swiss Intercooperation Nepal, GPO Box 688, Kathmandu, Nepal

2. Linking an ecological based system and social resilience to build Climate Smart village model in Niger

Tougiani Abasse[1], Adamou Basso[1], Boureima Moussa[1], Jules Bayala[2] and Robert Zougmore[3]

[1]*Institut National de Recherche Agronomique du Niger, BP429, Niamey, Niger*

[2]*World Agroforestry research Centre, Sahel Node, Samanko, BP: E5118, Bamako, Mali*

[3]*Programme CCAFS Afrique de l'Ouest, ICRISAT PO Box 320 Bamako, Mali*

3. Agriculture, climatic risks and food security in disaster-prone coastal landscape of Bangladesh

Ronju Ahammad

Charles Darwin University, Australia

4. Assessing economic benefits of the use of climate seasonal forecasts within cowpea and sesame sectors in Burkina Faso

Ouédraogo Mathieu[1], Barry Silamana[2], Kagambega Levy[2], Somé Léopold[2], Zougmoré Robert[1]

[1]*The CGIAR Research Program on Climate Change, Agriculture and Food Security, West Africa Region, ICRISAT, BP 320, Bamako, Mali*

[2]*Institut de l'Environnement et de Recherches Agricoles (INERA), 04 BP 8645 Ouagadougou 04, Burkina Faso*

5. Measurement of climate change and its effect: comparison between an objective method and population perceptions

Azeufouet Alain Simplice[1], Fofiri Nzossie Eric Joël[2], Bring Christophe[2]
[1]*Ministère de l'Agriculture et du développement rural / DESA, BP. 294 issea Yaoundé, Cameroon*
[2]*Département de géographie, Université de Ngaoundéré BP 454, Cameroon*

6. A set of indicators to evaluate policies for climate smart agriculture

Bonati Guido, Altobelli Filiberto
Istituto Nazionale di Economia Agraria, Via Nomentana 41, 00161 Roma, Italy

7. Developing and evaluating CSA practices at country level: lessons learned from Malawi

Phiri George[1], Lipper Leslie[2], Asfaw Solomon[3], Cattaneo Andrea[4], Cavatassi Romina[5], Paolantino Adriana[3], McCarthy Nancy[6], Spairani Alessandro[7], Branca Giacomo[8], Grewer Uwe[9], Mann Wendy[10]
[1]*CSA Technical Coordinator, FAO, Malawi*
[2]*Senior Environmental Economist, FAO Rome, Viale delle Terme di Caracalla, Rome, Italy*
[3]*Economist, FAO Rome, Italy*
[4]*CSA Project Leader, FAO Rome, Italy*
[5]*CSA Project Coordinator, FAO Rome, Italy*
[6]*LEAD Analytics, Washington DC, USA*
[7]*CSA project officer, FAO Rome, Italy*
[8]*University of Tuscia, Viterbo, Italy*
[9]*Agricultural Mitigation Consultant, FAO Rome, Italy*
[10]*Senior Policy Consultant, FAO Rome, Italy*

8. Developing and evaluating CSA practices at country level: lessons learned from the Zambian experience

Kokwe Misael[1], Lipper Leslie[2], Arslan Aslihan[3], Cattaneo Andrea[4], McCarthy Nancy[5], Spairani Alessandro[6], Branca Giacomo[7], Grewer Uwe[8], Mann Wendy[9]
[1]*CSA Technical Coordinator, FAO Zambia, FAO Representation Hse 5, Addis Ababa Drive, Ridgeway 10101 LUSAKA, Zambia*
[2]*Senior Environmental Economist, FAO Rome, Via delle Terme di Caracalla, Rome, Italy*
[3]*Natural Resource Economist, FAO Rome, Italy*
[4]*CSA Project Leader, FAO Rome, Italy*
[5]*LEAD Analytics, Washington DC, USA*
[6]*CSA project officer, FAO Rome, Italy*
[7]*University of Tuscia, Viterbo, Italy*
[8]*Agricultural Mitigation Consultant, FAO Rome, Italy*
[9]*Senior Policy Consultant, FAO Rome, Italy*

9. Millet and sorghum leaf pruning and transplantation as adaptation techniques to rainfall variability in the Sahel

Alhassane A., Traore S.B., Sarr B., Lawali M. N., Seybou O. A. B, Chaibou B.
Centre Régional AGRHYMET, PO Box 11011, Niamey, Niger

10. CSA menus of practices in the MICCA pilots

Rioux Janie, Rosenstock Todd, Kirui Josephine, Mpanda Mathew, Massoro Erasto, Karttunen Kaisa
Food and Agriculture Organization of the UN, Viale delle Terme di Caracalla, Rome 0015, Italy

11. Sustainability of broiler production in the context of climate change – Evaluation of new incubation strategies

Nyuiadzi Dzidzo[1,10], Méda Bertrand[1], Travel Angélique[2], Berri Cécile[1], Bignon Laure[2], Leterrier Christine[3,4,5,6], Guilloteau Laurence[7], Coustham Vincent[1], Dusart Léonie[2], Mercerand Frédéric[8], Delaveau Joël[8], Grasteau Sandrine[1], Tona Kokou[9], Bouvarel Isabelle[2], Collin Anne[1]
[1]*INRA, UR83 Recherches Avicoles, F-37380, Nouzilly, France*
[2]*Institut Technique de l'Aviculture, F-37380, Nouzilly, France*
[3]*INRA, UMR85 Physiologie de la Reproduction et des Comportements, F-3738, Nouzilly, France*
[4]*CNRS, UMR7247, F-37380, Nouzilly, France*
[5]*Université François Rabelais de Tours, F-37000, Tours, France*
[6]*IFCE, F-37380, Nouzilly, France*
[7]*INRA Val-de-Loire, F-37380, Nouzilly, France*
[8]*INRA, UE1295 Pôle d'Expérimentation Avicole de Tours, F-37380, Nouzilly, France*
[9]*Centre d'Excellence Régionale sur les Sciences Aviaires (CERSA), University of Lome, B.P. 1515, Lomé, Togo*
[10]*Institut Togolais de Recherche Agronomique (ITRA), BP 1163, Lomé, Togo*

12. An analytical framework for Climate-Smart Agriculture at the community level

Chandra Alvin, McNamara Karen, Dargusch Paul
School of Geography Planning and Environmental Management, University of Queensland, St Lucia Campus, Brisbane, QLD 4072, Australia

13. Are cropping practices developed by Sub-Saharan farmers climate-smart? Case study of millet cropping system in Senegal

Tall Laure[1], Mbengue Medoune[2], Ndour B. Yacine[1], Masse Dominique[2], Clermont-Dauphin Cathy[3]
[1]*Institut Sénégalais de Recherches Agricoles (ISRA), Laboratoire National sur les productions végétales (LNRPV), Dakar, Senegal*
[2]*Institut de Recherche pour le Développement (IRD), LMI IESOL, Dakar, Senegal*
[3]*Institut de Recherche pour le Développement (IRD), UMR Eco&Sol, Montpellier, France*

14. Namibia specific climate smart agricultural land use practices: a budding vehicle for improving ecosystem services

Kuhn Nikolaus J., Naanda Martha Talamondjila, Bloemertz Lena
Physical Geography and Environmental Change, Department of Environmental Sciences, University of Basel (UNIBAS), Klingelbergstrasse 27, 4056 Basel, Switzerland

15. A two-dimension evaluation of CSA practices. Evaluating practices by indicators and reduce non-observable variable bias

Maldonado Jorge[1], Gómez John[1], Corner-Doloff Caitlin[2], Lizarazo Miguel[2]
[1]*Universidad de los Andes, Bogotá, Colombia*
[2]*International Center for Tropical Agriculture (CIAT), Decision and Policy Analysis, Cali, Colombia*

16. Balancing complexity and usability when modelling farm scale production and greenhouse gas emissions

Hutchings Nicholas, Kristensen Ib
Dept of Agroecology, Aarhus University, Blichers Alle 1, 8830 Tjele, Denmark

17. An impact assessment of distinct agricultural climate protection measures for the implementation on 10 000 Swiss farms

Prechsl Ulrich E., Alig Ceesay Martina, Wolff Veronika, Gaillard Gérard
Agroscope, Institute for Sustainability Sciences, Reckenholzstrasse 191, CH-8046 Zurich, Switzerland

18. How biodiversity-agriculture integration meets environmental expectations in a changing climate: a gender perspective

Chitakira Munyaradzi
Department of Environmental Sciences, University of South Africa, Johannesburg 1710, South Africa

19. Analysing constraints to the improvement of cattle productivity via trypanosomosis treatment in West Africa

MacLeod Michael[1], Eory Vera[1], Wint G.R.W.[2], Shaw Alexandra P.M.[3], Gerber Pierre[4], Cecchi Giuliano[5], Mattioli Raffaele C.[4], Robinson Tim P.[6]
[1]*Land Economy, Environment and Society Group, SRUC, Edinburgh, EH9 3JG, United Kingdom*
[2]*Environmental Research Group Oxford (ERGO), Department of Zoology, South Parks Road, Oxford, OX1 3PS, United Kingdom*
[3]*AP Consultants, 22 Walworth Enterprise Centre, Duke Close, Andover, SP10 5AP, United Kingdom*
[4]*Food and Agriculture Organization of the United Nations (FAO), Animal Production and Health Division. VialedelleTerme di Caracalla, 00153 Rome, Italy*
[5]*Food and Agriculture Organization of the United Nations, Sub-regional Office for Eastern Africa, CMC Road, P.O. Box 5536, Addis Ababa, Ethiopia*
[6]*Livestock Systems and Environment (LSE), International Livestock Research Institute (ILRI), P.O. Box 30709, 00100 Nairobi, Kenya*

20. Emission of N_2O from soil received saline and sodic water: effects of compost and gypsum applications

Dheri Gurmeet Singh[1], Lal Rattan[2]
[1]*Department of Soil Science, Punjab Agricultural University, Ludhiana-141004, India*
[2]*Carbon Management and sequestration Center, The Ohio State University, Columbus, USA*

21. Climate-Smart Agriculture livelihood options for displaced population on Yap Island

Krishnapillai Murukesan V.
Cooperative Research and Extension, College of Micronesia-FSM, Yap Campus, Colonia, Yap, FM 96943, Federated States of Micronesia

22. Evaluating the cost-effectiveness of development investments

Luedeling Eike[1], De Leeuw Jan[2], Rosenstock Todd S.[2] Lamanna Christine[2], Shepherd Keith[2]

[1]*World Agroforestry Centre and Center for Development Research (ZEF), University of Bonn, Walter-Flex-Str. 3, 53113 Bonn, Germany*
[2]*World Agroforestry Centre, PO Box 30677, 00100, Nairobi, Kenya*

23. MAPA project: resilient agro-climatic adaptation models for livestock production systems in Boyacá, Colombia

López-Cepeda Michael, Bolaños-Benavides Martha, García-Gómez Gustavo
CORPOICA (Colombian Corporation of Agricultural Research), Tibaitatá Investigation Center. Postcode: P.O. Box 344300. Bogotá, Colombia

24. Assessing the determinants of adaptation strategies at farm level: the case of wine growers in South-East France

Graveline Nina, Grémont Marine
BRGM, 1039, avenue de Pinville. 34000 Montpellier, France

25. Determinants of adoption of climate smart agriculture in coastal Bangladesh

Saroar Md Mustafa
Urban and Rural Planning Discipline, Khulna University, Khulna 9208, Bangladesh

26. Evolution of soil functional diversity after changes in management practices and effects on N_2O emissions

Recous Sylvie[1], Léonard Joël[2], Alavoine Gonzague[1], Amossé Joël[2,3], Bertrand Michel[3], Boizard Hubert[2], Brunet Nicolas[2], Chauvat Matthieu[4], Cheviron Nathalie[5],Cluzeau Daniel[6], Coudrain Valérie[1,5], Dequiet Samuel[7], Duparque Annie[8], Duval Jérôme[2], Hedde Mickaël[5], Maron Pierre-Alain[7], Peyrard Céline[2], Philippot Laurent[7], Mary Bruno[2]
[1]*INRA, UMR URCA FARE, 2 Esplanade Roland Garros, F-51100 Reims, France*
[2]*INRA, UR AgroImpact, Laon, France*
[3]*INRA, UMR AgroParisTech Agronomie, Thiverval-Grignon, France*
[4]*University of Rouen, ECODIV laboratory, Mont-Saint-Aignan, France*
[5]*INRA, UR PESSAC, Versailles, France*
[6]*Université de Rennes, UMR CNRS Ecobio, Rennes, France*
[7]*INRA, UMR AGROECOLOGIE, Dijon, France*
[8]*AgroTranfert Ressources et Territoires, Estrées-Mons, France*

27. Opportunities and challenges in China's irrigation water–energy nexus

Cremades Roger[1], Rothausen Sabrina G.S.A.[2], Conway Declan[3], Wang Jinxia[4], Zou Xiaoxia[5], Li Yu'e[5]
[1]*International Max Planck Research School on Earth System Modeling (IMPRS-ESM), Hamburg, Germany, and; Research Unit, Sustainability and Global Change, University of Hamburg, Germany*
[2]*Department of Geography, University of Copenhagen, Copenhagen, Denmark*
[3]*Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science, London, United Kingdom*
[4]*Center for Chinese Agricultural Policy, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, 100101, P.R. China*
[5]*Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences, 100081 Beijing, P.R. China*

28. A climate smart strategy to reduce risks and increase resilience of agricultural production systems in Colombia

Ayarza Miguel Angel, Rojas Edwin, Aguilera Elizabeth, Bolaños Martha, Arce Blanca, Rodríguez Gonzalo, Martínez Juan Carlos, Bautista Luis
Corporacion Colombiana de Investigacion Agropecuaria, Corpoica, Km 14, via Bogota-Mosquera, Bogota, Colombia

29. Interpretation of GHG emissions from mixed crop, grassland and ruminant systems using the FarmSim model

Carozzi Marco[1], Martin Raphaël[2], Klumpp Katja[2], Borras David[2], Eza Ulrich[2], Rumpel Cornelia[3], Créme Alexandra[3], Le Roux Xavier[4], Poly Frank[4], Chabbi Abad[3], Massad Raia Silvia[1]
[1]*INRA, AgroParisTech, UMR 1091 Environnement et Grandes Cultures, 78850 Thiverval- Grignon, France*
[2]*INRA, UR 0874 UREP Unité de Recherche sur l'Ecosystème Prairial, 63100 Clermont-Ferrand, France*
[3]*BIOEMCO, UMR 7618, CNRS-INRA-ENS-Paris 6, bât EGER, 78850 Thiverval-Grignon, France*
[4]*Université de Lyon, INRA, CNRS, Université Lyon 1, Microbial Ecology Centre (UMR 5557 CNRS, USC 1364 INRA), Villeurbanne, France*

30. DAYCENT parameterization and uncertainty assessment for modelling Swiss crops

Necpalova Magdalena, Lee Juhwan, Six Johan
ETH-Zurich, Sustainable Agroecosystems, Tannenstrasse 1, 8092 Zurich, Switzerland

31. The yield response of intercrop system to rainfall changes on the southern slopes of Mt. Kenya in Embu

Kanampiu Fred[1], Njeru M.James[1], Kitonyo Onesmus[2], Micheni Alfred[3]
[1]*International Maize and Wheat Improvement Centre, P.O. Box 1041-00621, Nairobi, Kenya*
[2]*The University of Adelaide, Adelaide SA 5005, Australia*
[3]*Kenya Agricultural Research Institute, P.O. Box 27-60100, Embu, Kenya*

32. Rain water harvest technology as a tool for climate smart agriculture for small holder farmer in Bangladesh

Abdullah Hasan Muhammad, Ahamed Tofayel, Miah Md Gisahuddin, Rahman Mezanur
Department of Agroforestry and Environment, Bangabandhu Sheikh Mujibur Rahman Agricultural University, Gazipur-1706, Bangladesh

33. Greenhouse gases emission efficiency of alternative tillage practices in wheat farming systems of Bangladesh

Aravindakshan Sreejith[1], Tittonell Pablo[1], Krupnik T.J.[2], Scholberg J.M.S.[1], Groot J.C.J.[1], Rossi Frederick[2]
[1]*Farming Systems Ecology Group, Wageningen University, 6708PB, Wageningen, the Netherlands*
[2]*International Maize and Wheat Improvement Center (CIMMYT), Bangladesh Country Office, Dhaka, 1212, Bangladesh*

34. Enabling synergies between development, climate change and conservation through land use practices portfolio approach

Duguma Lalisa A., Minang Peter A.
World Agroforestry Centre, P.O .Box 30677 -00100 Un Avenue Gigiri, Nairobi, Kenya

35. Coffee agroforestry systems in Peru – a double dividend for biodiversity and small scale farmers?

Jezeer Rosalien E.[1], Verweij Pita A.[1], Boot Rene G.A.[2]
[1]*Utrecht University, Copernicus Institute of Sustainable Development, Section of Energy and Resources, 3584 CS, Utrecht, the Netherlands*
[2]*Tropenbos International, 6701 AN Wageningen, and Utrecht University, department of Biology, Section of Ecology & Biodiversity, 3584 CH Utrecht, the Netherlands*

36. Soil carbon input by below- and above-ground biomass in rainfed cropping systems in the highlands, Madagascar

Laingo Irintsoa Rasolofo[1], Naudin Krishna[2], Botoela Odom[1], Razafimbelo Tantely[3]
[1]*FOFIFA Ampandrianomby, BP 1690 Antananarivo 101, Madagascar*
[2]*UPR AIDA, CIRAD, F-34398 Montpellier, France*
[3]*Laboratoire des Radio-Isotopes (LRI), Université d'Antananarivo, BP3383, Antananarivo 101, Madagascar*

37. Climate Smart livestock development in natural and improved savannas of an extensive ranch in central Africa (RDC)

Lecomte Phillipe[1], Duclos A.[1,2], Juanes Xaveir[1], Ndao Séga[3], De Crem Ph.[4], Vigne Mathieu[1], Blanfort Vincent[1]
[1]*CIRAD, UMR Selmet, Montpellier, France*
[2]*UMRH Clermont, France*
[3]*ISRA, CRZ Kolda, Senegal*
[4]*Orgaman-JVL, Kinshasa, RD Congo*

38. Targeting CSA in Southern Tanzania under multiple uncertainties

Lamanna Christine[1], Rosenstock Todd S.[1,2], Luedeling Eike[3]
[1]*World Agroforestry Centre (ICRAF), Nairobi, Kenya*
[2]*CGIAR Research Program on Climate Change, Agriculture, and Food Security (CCAFS), Nairobi, Kenya*
[3]*World Agroforestry Centre (ICRAF), Bonn, Germany*

39. Opportunities and limitations of emissions intensity as a metric for climate change mitigation from the livestock sector

Schulte Rogier P.O.[1], Reisinger Andy[2], Clark Harry[2], Donnellan Trevor[1], Lanigan Gary[1]
[1]*Teagasc, Wexford, Co. Wexford, Ireland*
[2]*New Zealand Agricultural Greenhouse Gas Research Centre, Palmerston North 4442, New Zealand*

40. Climate smart agriculture from field to farm scale: a model based approach for Southern Africa

Berre David[1], Mutenje Munyaradzi J.[1], Corbeels Marc[2], Rusinamhodzi Leonard[3], Thierfelder Christian[1], Lopez Ridaura Santiago[4]

[1]*CIMMYT-Zimbabwe. CIMMYT Regional Office, 12.5 Km Peg Mazowe Road, P.O. Box MP163, Mt Pleasant, Harare, Zimbabwe*
[2]*CIRAD - Agroecology and Sustainable Intensification of Annual Crops (AIDA)C/O Embrapa-Cerrados, Km 18, BR 020 – Rodovia, Brasília/Fortaleza, CP 08223 CEP 73310-970, Planaltina, DF, Brazil*
[3]*CIRAD- Agroecology and Sustainable Intensification of Annual Crops (AIDA)- c/o CIMMYT Regional Office, 12.5 Km Peg Mazowe Road, P.O. Box MP163, Mt Pleasant, Harare, Zimbabwe*
[4]*CIMMYT-CCAFS, Texcoco, Mexico*

41. Mainstreaming climate smart agriculture practices through climate smart villages: scalable evidences from South Asia

Jat M.L.[1], Ridaura S.L.[2], Stirling C.M.[3], Aryal J.P.[1], Jat R.K.[4], Sidhu H.S.[5], Mittal S.[1], Sapkota T.B.[1], Sikka A.K.[6], Aggarwal P.K.[7]
[1]*International Maize and Wheat Improvement Centre (CIMMYT), NASC Complex, New Delhi-110 012, India*
[2]*International Maize and Wheat Improvement Centre (CIMMYT), El-Batan, Texcoco, Mexico*
[3]*International Maize and Wheat Improvement Centre (CIMMYT), Wales, United Kingdom*
[4]*Borlaug Institute for South Asia (BISA), CIMMYT, Pusa, Samastipur, Bihar, India*
[5]*Borlaug Institute for South Asia (BISA), CIMMYT, Ludhiana, Punjab, India*
[6]*Indian Council of Agricultural Research (ICAR), New Delhi, India*
[7]*Climate Change, Agriculture and Food Security (CCAFS), IWMI, NASC Complex, New Delhi -110 012, India*

42. Towards a scalable framework for evaluating and prioritizing climate-smart agriculture practices and programs

Corner-Dolloff Caitlin[1], Jarvis Andrew[1,2], Loboguerrero Ana Maria[2], Lizarazo Miguel[2], Nowak Andreea[1], Andrieu Nadine[1,3], Howland Fanny[1], Smith Cathy[4], Maldonado Jorge[5], Gomez John[5], Rosenstock Todd S.[6], Girvetz Evan H.[1]
[1]*International Center for Tropical Agriculture (CIAT), Decision and Policy Analysis, Cali, Colombia*
[2]*CGIAR research program on Climate Change, Agriculture, and Food Security (CCAFS), Cali, Colombia*
[3]*Centre de coopération internationale en recherche agronomique pour le développement (CIRAD), L'Unité Mixte de Recherche Innovation et Développement dans l'Agriculture et l'Agroalimentaire, Montpellier, France*
[4]*Twin Oaks Research, 16640, Flinton, PA, USA*
[5]*Universidad de los Andes, Bogotá, Colombia*
[6]*World Agroforestry Center (ICRAF), Nairobi, Kenya*

43. Repeated inputs of organic matter in the long term protect soils from global changes

Feder Frédéric[1], Diallo Falilou[2], Ntoma Rachel[2,3], Masse Dominique[2], Diome Farid[3], Akpo Léonard Elie[3]
[1]*CIRAD, UPR Recyclage et risque, BP 1386, 18524 Dakar, Senegal*
[2]*IRD, UMR 210 Eco&Sols, BP 1386, 18524 Dakar, Senegal*
[3]*UCAD, faculté des sciences et techniques, Dakar, Senegal*

44. The use of agroforestry practices by dairy farmers in Malawi

Arakelyan Irina
Scotland's Rural College (SRUC) and The University of Edinburgh, SRUC, Kings Buildings, West Mains Road, Edinburgh, EH9 3JG, United Kingdom

45. Towards climate-smart dairy value chains in Tanzania

Notenbaert An[1], Paul B.[1], Fraval S.[2], Morris J.[4], Ran Y.[5], Herrero Mario[5], Mugatha S.[2], Lannerstad M.[2], Barron J.[4]
[1]*CIAT (International Center for Tropical Agriculture), PO Box 823-00621, Nairobi, Kenya*
[2]*ILRI (International Livestock Research Institute), PO Box 30709-00100, Nairobi, Kenya*
[3]*SEI (Stockholm Environment Institute), University of York, Heslington, York YO10 5DD, United Kingdom*
[4]*SEI (Stockholm Environment Institute), PO Box 242 18, 104 51 Stockholm, Sweden*
[5]*CSIRO (Commonwealth Scientific and Industrial Research Organisation), Brisbane, Australia*

46. Adapting pest management practices in sub-Saharan horticultural cropping systems in the context of climate change

Ratnadass Alain, Chailleux Anaïs, Martin Thibaud, Simon Serge, Vayssières Jean-François
CIRAD, UPR HortSys, TA B-103/C, Campus international de Baillarguet, 34398 Montpellier Cedex 5, France

47. Promoting Climate Smart Agriculture in Nigeria: Household strategies and determinants among farmers

Ali G.A.[1], Sanni M.M.[1], Ademiju T.A.[2], Ilevbare O.E.[1]
[1]*National Centre for Technology Management (NACETEM), Federal Ministry of Science and Technology, Obafemi Awolowo University, Ile – Ife, Nigeria*
[2]*Dept. of Agricultural and Environmental Engineering, Obafemi Awolowo University, Ile-Ife, Nigeria*

48. Climate forecast, sustainable land and practices management, useful tools for implementation a climate smart village

Ndour Ndeye Yacine Badiane[1], Ndiaye Ousmane[2], Sall Moussa[1], Sanogo Diaminatou[1], Toure Katim[1], Thiam Djibril[3], Moussa Abdoulaye[4,5], Ouedraogo Mathieu[4,5], Bayala Jules[6], Zougmore Robert[4,5]
[1]*ISRA. Institut Senegalais de Recherches Agricoles, BP 3120, Bel Air, Dakar Senegal*
[2]*ANACIM. Agence National de l'Aviation Civile et de la Météologie, BP 8184, Dakar-Yoff, Senegal*
[3]*AGRECOL. Agrecol Afrique, Quartier Dixième, BP 347, Thiès, Senegal*
[4]*ICRISAT: International Crops Research Institute for the semi-arid tropics, BP 320, Bamako, Mali*
[5]*CCAFS. Regional Program Leader CCAFS West Africa, ICRISAT, BP 320, Bamako, Mali*
[6]*ICRAF. World Agroforestry Center, West and Central Africa Region ICRAF-WCA/Sahel B.P. E5118 Bamako, Mali*

49. Characterization of biochar properties derived from willow plant biomass for carbon sequestration and agricultural use

Irfan Muhammad, Lin Qimei, Li Guitong
College of Resources and Environmental Sciences, China Agricultural University, 10093 Beijing, China

50. Assessing mitigation potential of agricultural practices in tropical, developing country systems

Richards Meryl[1,2], Metzel Ruth[3], Chirinda Ngonidzache[4], Ly Proyuth[5], Nyamadzawo George[6], Quynh Vuduong[7], Shi Yuefeng[8], de Neergaard Andreas[9], Oelofse Myles[9], Wollenberg Eva[1,2], Rosenstock Todd[10]
[1]*CGIAR Research Program on Climate Change, Agriculture and Food Security*
[2]*Gund Institute, University of Vermont, Burlington VT 05405, USA*
[3]*Yale School of Management & Yale School of Forestry and Environmental Studies, New Haven CT 06511, USA*
[4]*International Center for Tropical Agriculture, Cali 6713, Colombia*
[5]*United Nations Development Programme, Phnom Penh, Cambodia*
[6]*Department of Soil Science and Agricultural Engineering, University of Zimbabwe, Harare, Zimbabwe*
[7]*Institute for Agricultural Environment, Vietnamese Academy of Agricultural Sciences, Hanoi, Vietnam*
[8]*College of Resources and Environmental Sciences, China Agricultural University, Beijing 100193, China*
[9]*Department of Plant and Environmental Sciences, University of Copenhagen, Frederiksberg C 1871, Denmark*
[10]*World Agroforestry Centre, Nairobi 00100, Kenya*

51. PERPHECLIM ACCAF Project - Perennial fruit crops and forest phenology evolution facing climatic changes

Garcia de Cortazar-Atauri Iñaki[1], Audergon Jean Marc[2], Bertuzzi Patrick[1], Anger Christel[3], Bonhomm, Marc[4], Chuine Isabelle[5], Davi Hendrik[6], Delzon Sylvain[7], Duchêne Eric[8], Legave Jean Michel[9], Pichot Christian[6], Raynal Hélène[10], Van Leeuwen Cornelis[11], PERPHECLIM Team[12]
[1]*INRA, US 1116 AGROCLIM, F-84914 Avignon, France*
[2]*INRA, UR 1052 GAFL, F-84143 Avignon, France*
[3]*INRA, UE 0995 GBFOR, F-45075 Orleans, France*
[4]*INRA, UMR 0547 PIAF, F-63039 Clermont-Ferrand, France*
[5]*CNRS, UMR 5175 CEFE, F-34293 Montpellier, France*
[6]*INRA, UR 0629 URFM, F-84914 Avignon, France*
[7]*INRA, UMR 1202 BIOGECO, F-33612 Cestas, France*
[8]*INRA, UMR 1131 SVQV, F-68000 Colmar, France*
[9]*INRA/CIRAD, UMR 1334 AGAP, F-34060 Montpellier, France*
[10]*INRA, UR 0875 MIAT, F-31326 Castanet-Tolosan, France*
[11]*Bordeaux Sciences Agro/INRA, UMR 1287 EGFV, F-33883 Bordeaux, France*
[12]*INRA, UEVT - BFP - IRHS - AGPF - HORTI - ARBO - DIASCOPE - UVV - Vassal - UEFL - Pech Rouge - EPHYSE - EEF - URGI - UEFM, France*

52. Potential for biochar to mitigate N_2O emissions is minimal at the field scale and in upland cropping systems

Verhoeven Elizabeth[1,2], Pereira Engil[1,2], Decock Charlotte[2], Suddick Emma[1,3], Angst Teri[1], Six Johan[1,2]

[1]*Department of Plant Sciences, University of California, Davis. One Shields Avenue, Davis, California, 95616, USA*
[2]*Department of Environmental Systems Sciences, Institute of Agricultural Sciences, Swiss Federal Institute of Technology, ETH-Zurich, Zurich, Switzerland*
[3]*Department of Earth, Ocean, and Atmospheric Sciences, Florida State University. Tallahassee, FL, 32306, USA*

53. Facilitating climate adaptation in irrigated agriculture with decision support systems: El Molino platform

Meza Francisco[1,2], Poblete David[1] , Vicuña Sebastian[1], Gurovich Luis[1,2], Miranda Marcelo[1,2], Melo Oscar[1,2]
[1]*Centro Interdisciplinario de Cambio Global. Pontificia Universidad Católica de Chile. Av Vicuna Mackenna 4860. Macul. Santiago, Chile*
[2]*Facultad de Agronomía e Ingeniería Forestal. Pontificia Universidad Católica de Chile. Av Vicuna Mackenna 4860. Macul. Santiago, Chile*

54. A model-based approach for adapting cropping systems to climate change

Mottes Charles[1,2], Makowski David[1,2], Doré Thierry[2,1]
[1]*INRA – UMR 211 Agronomie – F-78850 Thiverval-Grignon, France*
[2]*AgroParisTech – UMR 211 Agronomie – F-78850 Thiverval-Grignon, France*

55. Tweaking the system: optimization of mitigation strategies in smallholder flooded rice systems

de Neergaard Andreas[1], Ly Proyuth[1], Vu Quynh Duong[2], Pandey Arjun[1], Islam Syed[1], Tariq Azeem[1], Jensen Lars Stoumann[1]
[1]*University of Copenhagen, Plant and Environmental Sciences, Copenhagen, Denmark*
[2]*Institute for Agricultural Environment, Vietnamese Academy of Agricultural Sciences, Hanoi, Vietnam*

56. Effect of coated and uncoated dietary nitrate on dairy cow health and dairy product quality

Van Adrichem Peter S.J.[1], Heck Jeroen M.L.[2], Perdok Hink B.[1], Rademaker Jan L.W.[3], Newbold John R.[1]
[1]*Cargill Innovation Center, Veilingweg 23, 5334 LD Velddriel, the Netherlands*
[2]*Nederlandse Zuivel Organisatie, Benoordenhoutseweg 46, 2596 BC Den Haag, the Netherlands*
[3]*Qlip, Oostzeestraat 2a, 7202 CM Zutphen, the Netherlands*

57. Rainwater harvesting and conservation: climate smart sustainable techniques for homestead and cropland production

Botha J.J., Anderson J.J.
ARC-Institute for Soil, Climate and Water, Private Bag X01, Glen, 9360, South Africa

58. Pathways for Climate Smart Agriculture (CSA) in the drylands of Africa

Aune Jens B.[1], Adama Coulibaly[2], ElGailani Abdalla[3], Abdelrahman Ousman[3]
[1]*Department of International Environment and Development Studies, Noragric, Norwegian University of Life Sciences,1432 Aas, Norway*
[2]*Institute d'Economie Rurale, Sotuba, P.O. Box 258, Bamako, Mali*
[3]*Agricultural Research Corporation/ElObeid Research Station, ElObeid, Sudan*

59. Climate-smart agriculture: panacea, propaganda or paradigm shift?

Rosenstock Todd S.[1], Lamanna Christine[2], Tully Katherine L.[3], Corner-Dolloff Caitlin[4], Lazaro Miguel[4], Girvetz Evan H.[5]
[1]*World Agroforestry Centre (ICRAF) and CGIAR Research Program on Climate Change, Agriculture and Food Security, PO Box 30677-00110, Nairobi, Kenya*
[2]*World Agroforestry Centre (ICRAF), PO Box 30677-00110, Nairobi, Kenya*
[3]*University of Maryland, 2108 Plant Sciences Building, College Park, MD, 20742, USA*
[4]*International Center for Tropical Agriculture, Km 17, Recta Cali-Palmira, Apartado Aereo 6713, Cali, Colombia*
[5]*International Center for Tropical Agriculture, PO Box 823-00621, Nairobi, Kenya*

60. Evaluating agricultural mitigation and scaling up climate-smart practices using the FAO EX-Ante Carbon-balance Tool

Bernoux Martial[1], Bockel Louis[2], Grewer Uwe[2], François Jean-Luc[3], Rossin Nicolas[4], Braimoh Ademola[5]
[1]*IRD, UMR Eco&Sols, 34060 Montpellier, France*
[2]*FAO, ESA, 00153 Rome, Italy*

[3]AFD, ARB, Paris, France
[4]AFD, CLI, Paris, France
[5]World Bank, Washington DC, USA

61. Characterization, stability, availability of nutrients and microbial effects of kiln produced biochars

Purakayastha T.J.[1], Savita Kumari[1], Pathak H.[2]
[1]Division of Soil Science and Agricultural Chemistry, Indian Agricultural Research Institute, New Delhi 110012, India
[2]Center for Environmental Science and Climate Resilient Agriculture, Indian Agricultural Research Institute, New Delhi 110012, India

62. Effect of pyrolysis temperatures on stability and priming effects of C3 and C4 biochars applied to two different soils

Purakayastha T. J.[1], Das K.C. [2], Gaskin Julia[3], Harris Keith[2], Smith J. L.[4], Savita Kumari[1]
[1]Division of Soil Science and Agricultural Chemistry, Indian Agricultural Research Institute, New Delhi 110 012, India
[2]College of Engineering, Driftmier Engineering Center, University of Georgia, Athens GA 30602-4435, USA
[3]Department of Crop and Soil Sciences, the University of Georgia, Athens, GA 30602-4435, USA
[4]USDA-ARS, Pacific West Area Land Management and Water, Conservation Research Unit, Pullman, WA 99164-6421, USA

63. Smallholders farm carbon footprint reduced by agroecological practices (Highlands & East Coast, Madagascar)

Rakotovao Narindra[1], Razakaratrimo Joyce[1], Razafimbelo Tantely[1], Deffontaines Sylvain[2], Rakotosamimanana Stéphan[2], Jahiel Michel[3,4], Albrecht Alain[5]
[1]Laboratoire des Radioisotopes, Université d'Antananarivo, BP 3383, Antananarivo, Madagascar
[2]Agrisud International, Lot VB7 Ambatoroka, 101 Antananarivo, Madagascar
[3]Centre Technique Horticole de Tamatave, BP 11, Tamatave, Madagascar
[4]Cirad UR HortSys, BP 11, Tamatave, Madagascar
[5]Institut de Recherche pour le Développement, UMR Eco&Sols, 34060 Montpellier, France

64. Climate Smart Agriculture imperative in Nepal: prospect and challenges

Gurung Jayakumar[1], Sainjoo Snehalata[1], Regmi Punya[1], Devkota Laxmi[1], Khatri-Chhetri Arun[2], Aggarwal Pramod[2]
[1]Nepal Development Research Institute (NDRI), P.O. Box 8975, EPC 2201, Pulchowk, Lalitpur Nepal
[2]CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), International Water Management Institute – New Delhi Office, NASC Complex, CG Block, DPS Marg, PUSA | New Delhi 110012, India

65. Big data from small farms: analysis of drivers of food security across farming systems in sub Saharan Africa

van Wijk Mark T.[1], Frelat Romain[1,2], Lopez Ridaura Santiago [2], van Asten Piet[3], Djurfeldt Anders[4], Douxchamps Sabine[5], Paul Birthe[6], Ritzema Randall[7], Rodriguez Daniel[8], Giller Ken E.[9], Herrero Mario[10]
[1]ILRI, Nairobi, Kenya
[2]CIMMYT, Mexico DF, Mexico
[3]IITA, Kampala, Uganda
[4]Lund University, Lund, Sweden
[5]ILRI, Ouagadougou, Burkina Faso
[6]CIAT, Nairobi, Kenya
[7]ILRI, Addis Abeba, Ethiopia
[8]University of Queensland, Toowoomba, Australia
[9]Wageningen University, Wageningen, the Netherlands
[10]CSIRO, Brisbane, Australia

66. Participatory action research in climate-smart villages of Tanzania: fast track for new potato resilient varieties

Harahagazwe Dieudonné[1], Quiroz Roberto[2], Sayula George[3], Brush Gladness[3], Msoka Elizabeth[4], Rimoy Mary[4]
[1]International Potato Center (CIP), Production Systems and the Environment, P.O. Box 25171-00603, Nairobi, Kenya
[2]International Potato Center (CIP), Production Systems and the Environment, P.O. Box 1558, Lima 12, Peru
[3]Northern Zone Agricultural Research Institute (NZARDI), Integrated Soil Fertility Management, P.O. Box 6024, Arusha, Tanzania
[4]District Agricultural Irrigation and Cooperatives Office, Horticulture department, Lushoto, Tanzania

67. Prospects of climate smart agriculture (CSA) under low-input and rain-fed conditions in southern Africa

Rusinamhodzi Leonard[1], Thierfelder Christian[2], Berre David[2], Lopez Ridaura Santiago[3] Mkuhlani Siyabusa[2], Nyagumbo Isaiah[2], Corbeels Marc[4]
[1]*CIRAD-Annual Cropping Systems C/O CIMMYT, P.O. Box MP163, Mt Pleasant, Harare, Zimbabwe*
[2]*CIMMYT, P.O. Box MP163, Mt Pleasant, Harare, Zimbabwe*
[3]*CIMMYT, Apdo. Postal 6-641 06600 Mexico, D.F., Mexico*
[4]*CIRAD-Annual Cropping Systems C/O Embrapa-Cerrados, BR 020 – Rodovia Brasília/Fortaleza, Planaltina, DF, Brazil*

68. Climate change, promising technologies and ex ante analysis of impacts on agriculture and food security to 2050

Wiebe Keith[1], Robinson Sherman[1], Mason-D'Croz Danie[1], Islam Shahnila[1], Robertson Richard[1], Cennachi Nicola[1], Rosegrant Mark[1], Creamer Bernardo[2], Sika Gbegbelebge[3], Hareau Guy[4], Kleinwechter Ulrich[5], Nedumaran Swamikannu[6], Mottaleb Khondoker[7]
[1]*International Food Policy Research Institute, 2033 K St NW, Washington DC 20006, USA*
[2]*formerly International Center for Tropical Agriculture, Km 17, Recta Cali-Palmira, Apartado Aéreo 6713, Cali, Colombia*
[3]*International Maize and Wheat Improvement Center, Apdo. Postal 6-641 06600 Mexico, D.F., Mexico*
[4]*International Potato Center, Avenida La Molina 1895, La Molina, Apartado Postal 1558, Lima, Peru*
[5]*International Institute for Applied Systems Analysis, Schlossplatz 1, A-2361 Laxenburg, Austria*
[6]*International Crops Research Institute for the Semi-Arid Tropics, Patancheru 502324, Telangana, India*
[7]*formerly International Rice Research Institute, DAPO Box 7777, Metro Manila 1301, Philippines*

69. Strategies for developing climate resilient genotypes of rice and chickpea

Chaturvedi Ashish K., Pal Madan
Division of Plant Physiology, Indian Agricultural Research Institute, New Delhi-110012, India

70. Simulation of spot blotch in wheat as strategic decision support for adaptation practice in changing scenario

Viani Ali[1]*, Sinha P.[1], Pathak Himanshu[2], Rashmi Aggarwal[1]
[1]*Division of Plant Pathology, Indian Agricultural Research Institute, New Delhi, 110012, India*
[2]*Centre of Environmental Sciences and Climate Resilient Agriculture, Indian Agricultural Research Institute, New Delhi, 110012, India*
**Current address: Department of Plant Protection, Faculty of Agriculture, Yasouj University, Yasouj, Iran*

71. To evaluate reforestation in farms: a tool for smallholders and the sustainability of their initiatives (EvaRefo)

Mejía Nelson[1], Fallot Abigail[2,3], McTavish Heather[4,5]
[1]*ESNACIFOR, Forest Research Department, PO 2, Siguatepeque, Honduras*
[2]*CATIE 7170 30 501 Turrialba, Costa Rica*
[3]*CIRAD UPR GREEN, Campus International de Baillarguet, 34398 Montpellier Cedex 05, France*
[4]*Reventazón Model Forest Alliance, CATIE 7170 30 501 Turrialba, Costa Rica*
[5]*Cuso International, 44 Eccles St #200, Ottawa, ON K1R 7K2, Canada*

72. Backyard potted yam cultivation in Abuja, Nigeria

Adedotun Oke Michael
Foundation No Tafida Tal Avenue Compensation Layout Gwagwalada, P.O. Box 11611, Garki Abuja, Nigeria

73. Meta-analysis of the effect of dietary nitrate on enteric methane emissions in ruminants

Veneman Jolien B.[1,2], Newbold Charles J.[2]
[1]*Cargill Innovation Center, 5334 LD, Velddriel, the Netherlands*
[2]*IBERS, Aberystwyth University, SY23 3DA, Aberystwyth, United Kingdom*

74. Climate smart strategies to strengthened coffee farmers adaptive capacity to climate change

Asayehegn Kinfe[1,3], Temple Ludovic[2], Iglesias Ana[3], Pedelahore Philippe[2],Triomphe Bernard[2]
[1]*Université Montpellier, France*
[2]*CIRAD, Montpellier, France*
[3]*Universidad Politécnica de Madrid, Spain*

75. Linking agricultural adaptation strategies and food security: evidence from West Africa

Douxchamps Sabine[1], Van Wijk Mark T.[2], Silvestri Silvia[2], Moussa Abdoulaye S.[3], Quiros Carlos[2], Ndour Ndèye Yacine B.[4], Buah Saaka[5], Somé Léopold[6], Herrero Mario[2,7], Kristjanson Patricia[8], Ouedraogo Mathieu[3], Thornton Philip K.[9], Van Asten Piet[10], Zougmoré Robert[3], Rufino Mariana C.[2,11]

[1]*International Livestock Research Institute (ILRI), c/o CIFOR, 06 B.P. 9478, Ouagadougou, Burkina Faso*
[2]*International Livestock Research Institute (ILRI), PO Box 30790, Nairobi 00100, Kenya*
[3]*International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Bamako B.P. 320, Bamako, Mali*
[4]*Institut Sénégalais de Recherche Agricole (ISRA), Dakar, Senegal*
[5]*Council for Scientific and Industrial Research-Savanna Agricultural Research Institute (CSIR-SARI), P. O. Box 494, Wa, Ghana*
[6]*Institut National de l'Environnement et de Recherches Agricoles (INERA), Kaboinsé, Burkina Faso*
[7]*Commonwealth Scientific and Industrial Research Organisation (CSIRO), 306 Carmody Road, St Lucia, QLD 4067, Australia*
[8]*World Agroforestry Centre (ICRAF), United Nations Avenue, Gigiri, PO Box 30677, Nairobi 00100, Kenya*
[9]*CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), ILRI, PO Box 3079, Nairobi 00100, Kenya*
[10]*International Institute for Tropical Agriculture (IITA), Kampala, Uganda*
[11]*Centre for International Forestry Research (CIFOR), PO Box 30677, Nairobi, Kenya*

76. Quantifying greenhouse gas emissions and carbon storage at the local scale in the U.S.

Marlen D. Eve, Walsh Meg
U.S. Dept of Agriculture, Climate Change Program Office, 1400 Independence Ave SW, Rm 4407 South Building, Washington, DC 20250, USA

77. A systemic approach to evaluate shea parklands as possible smart agriculture to be intensified in Sudanese Africa

Seghieri Josiane, *et al.* (all the RAMSES project team, *i.e.*, 8 French joint research units + African partners: INRAB-Benin + INERA Burkina Faso)
- IRD - UMR HydroSciences Montpellier, Université Montpellier, 2, Place Eugène Bataillon - CC MSE, 34095, Montpellier cedex 5, France
- IRD - UMR ECO&SOLS, 2, Place Viala, Campus La Gaillarde SupAgro-INRA bât. 12, 34060 Montpellier cedex2, France
- University of Rennes 2 - UMR LETG, Place du recteur Henri Le Moal, CS 24307, 35043 Rennes cedex, France
- Université of Paris 7 - UMR LIED, 10 Rue Alice Domont et Léonie Duquet, Bâtiment Condorcet - case 7040, 75013 Paris, France
- IRD - UMR GRED, 911 Avenue Agropolis, BP 64501, 34394 Montpellier Cedex 5, France
- IRD - UMI RESILIENCES, 32 Avenue Henri Varagnat, IRD France Nord, 93140 Bondy, France
- Ecole Nationale de Formation Agronomique - UMR Dynamiques Rurales, 2 Route de Narbonne, BP 22687, 31326 Castanet Tolosan, France
- Institut National de Recherche Agronomique du Bénin (INRAB), 08 BP 0220 Cotonou, Benin
-Institut de l'Environnement et des recherches Agricoles (INERA) 03 BP. 7047, Ouagadougou, Burkina Faso

78. Participatory methodology of agricultural extension to Climate Smart Agriculture development: a case in Brazil

Guyot Marina Souza Dias
ESALQ/ UNIVERSITY OF SAO PAULO. Applied Ecology Program. Av. Pádua Dias, 11. 13418-900. Piracicaca, Brazil

L2.2 FACING CLIMATIC VARIABILITY AND EXTREMES

79. Consequences of high temperatures and drought on peach fruit production strongly depend on their period of occurrence

Adra Fatima[1], Vercambre Gilles[1], Plenet Daniel[1], Bakan Bénédicte[2], Noblet Agathe[3], Ammar Aroua[1], Mickael Maucourt[4,5], Stéphane Bernillon[3,5], Catherine Deborde[3,5], Moing Annick[3,5], Gibon Yves[3,5], Gautier Hélène[1]
[1]*INRA, UR1115 Plantes et Systèmes de culture Horticoles, Domaine St Paul, Site Agroparc, 84914 Avignon, France*
[2]*INRA, UMR 1268, B.I.A, rue de la Géraudière, BP71627 44316 Nantes, France*
[3]*INRA, UMR1332, Biologie du Fruit et Pathologie, 71 av Edouard Bourlaux, 33140 Villenave d'Ornon, France*
[4]*Univ. Bordeaux, Biologie du Fruit et Pathologie, 71 av Edouard Bourlaux, 33140 Villenave d'Ornon, France*
[5]*Plateforme Métabolome du Centre de Génomique Fonctionnelle Bordeaux, MetaboHUB, IBVM, Centre INRA Bordeaux, 71 av Edouard Bourlaux, 33140 Villenave d'Ornon, France*

80. Reducing uncertainty in prediction of wheat performance under climate change

Martre Pierre[1,2], Asseng Senthold[3], Ewert Frank[4], Rötter Reimund[5], Lobell David[6], Cammarano Davide[1], Kimball Bruce[7], Ottman Mike[8], Wall Gerard[7], White Jeffrey[7], Reynolds Matthew[9], Alderman Phillip[9], Prasad Vara[10], Aggarwal Pramod[11], Anothai Jakarat[12], Basso Bruno[13], Biernath Christian[14], Challinor Andy[15,16], De Sanctis Giacomo[17,18], Doltra Jordi[19], Fereres E.[20], Garcia-Vila Margarita[20], Gayler Sebastian[21], Hoogenboom Gerrit[12], Hunt Anthony[22], Izaurralde Cézar[23,24], Jabloun M.[25], Jones Curtis[23], Kersebaum Christian[26], Koehler Ann-Kristin[15], Müller Christoph[27], Naresh Kumar Soora[28], Nendel Claas[26], O'Leary Garry[29], Olesen Jorgen E.[25], Palosuo Taru[5], Priesack Eckart[14], Eyshi Rezaei Ehsan[2], Ruane Alex[30], Semenov Mikhail[31], Shcherbak Iruii[13], Stöckle Claudio[32], Stratonovitch Pierre[31], Streck Thilo[33], Supit Iwan[34], Tao Falu[5,35], Thorburn Peter[36], Waha Katharina[27], Wang Enli[37], Wallach Daniel[38], Wolf Joost[34], Zhao Z.[39,37], Zhu Yan[40]

[1]*INRA, UMR1095 Genetic, Diversity and Ecophysiology of Cererals (GDEC), F-63 100 Clermont-Ferrand, France*

[2]*Now at INRA, UMR759 Laboratoire d'Ecophysiologie des Plantes sous Stress Environnementaux, Place Viala, F-34 060 Montpellier, France*

[3]*Agricultural & Biological Engineering Department, University of Florida, Gainesville, FL 32611, USA*

[4] *Institute of Crop Science and Resource Conservation INRES, University of Bonn, 53115, Germany*

[5]*Plant Production Research, MTT Agrifood Research Finland, FI-50100 Mikkeli, Finland*

[6]*Department of Environmental Earth System Science and Center on Food Security and the Environment, Stanford University, Stanford, CA 94305, USA*

[7]*USDA, Agricultural Research Service, U.S. Arid-Land Agricultural Research Center, Maricopa, AZ 85138, USA*

[8]*The School of Plant Sciences, University of Arizona, Tucson, AZ 85721, USA*

[9]*CIMMYT Int. Adpo, D.F. Mexico 06600, Mexico*

[10]*Department of Agronomy, Kansas State University, Manhattan, KS 66506, USA*

[11]*CGIAR Research Program on Climate Change, Agriculture and Food Security, International Water Management Institute, New Delhi-110012, India*

[12]*Biological Systems Engineering, Washington State University, Prosser, WA 99350-8694, USA*

[13]*Department of Geological Sciences and W.K. Kellogg Biological Station, Michigan State University East Lansing, Michigan 48823, USA*

[14]*Institute of Soil Ecology, Helmholtz Zentrum München - German Research Center for Environmental Health, Neuherberg, D-85764, Germany*

[15]*Institute for Climate and Atmospheric Science, School of Earth and Environment, University of Leeds, Leeds LS29JT, United Kingdom*

[16]*CGIAR-ESSP Program on Climate Change, Agriculture and Food Security, International Centre for Tropical Agriculture (CIAT), A.A. 6713, Cali, Colombia*

[17]*INRA, US1116 AgroClim, F- 84 914 Avignon, France*

[18]*Now at European Commission Joint Research Center, via Enrico Fermi, 2749 Ispra, 21027 Italy*

[19]*Cantabrian Agricultural Research and Training Centre (CIFA), 39600 Muriedas, Spain*

[20]*IAS-CSIC and University of Cordoba, Apartado 4084, Cordoba, Spain*

[21]*WESS-Water & Earth System Science Competence Cluster, University of Tübingen, 727074 Tübingen, Germany*

[22]*Department of Plant Agriculture, University of Guelph, Guelph, Ontario, N1G 2W1, Canada*

[23]*Dept. of Geographical Sciences, Univ. of Maryland, College Park, MD 20742, USA*

[24]*Texas A&M AgriLife Research and Extension Center, Texas A&M Univ., Temple, TX 76502, USA*

[25]*Department of Agroecology, Aarhus University, 8830 Tjele, Denmark*

[26]*Institute of Landscape Systems Analysis, Leibniz Centre for Agricultural Landscape Research, 15374 Müncheberg, Germany*

[27]*Potsdam Institute for Climate Impact Research, 14473 Potsdam, Germany*

[28]*Centre for Environment Science and Climate Resilient Agriculture, Indian Agricultural Research Institute, IARI PUSA, New Delhi 110 012, India*

[29]*Landscape & Water Sciences, Department of Environment and Primary Industries, Horsham 3400, Australia*

[30]*NASA Goddard Institute for Space Studies, New York, NY 10025, USA*

[31]*Computational and Systems Biology Department, Rothamsted Research, Harpenden, Herts, AL5 2JQ, United Kingdom*

[32]*Biological Systems Engineering, Washington State University, Pullman, WA 99164-6120, USA*

[33]*Institute of Soil Science and Land Evaluation, University of Hohenheim, 70599 Stuttgart, Germany*

[34]*Plant Production Systems & Earth System Science, Wageningen University, 6700AA Wageningen, The Netherlands*
[35]*Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Science, Beijing 100101, China*
[36]*CSIRO Agriculture Flagship, Dutton Park QLD 4102, Australia*
[37]*CSIRO Agriculture Flagship, Black Mountain ACT 2601, Australia*
[38]*INRA, UMR 1248 Agrosystèmes et développement territorial (AGIR), 31326 Castanet-Tolosan Cedex, France*
[39]*Department of Agronomy and Biotechnology, China Agricultural University, Yuanmingyuan West Road 2, Beijing 100193, China*
[40]*College of Agriculture, Nanjing Agricultural University, Nanjing, Jiangsu, 210095, China*

81. Managing climate induced risks and adaptation in the agriculture sector; a case of Punjab province Pakistan

Abid Muhammad, Scheffran Jürgen
Research Group Climate Change and Security (CLISEC), Institute of Geography, University of Hamburg, KlimaCampus, Grindelberg 7, 20144 Hamburg, Germany

82. Veille Agro Climatique (VAC): a real time monitoring tool for agroclimatic conditions

Huard Frédéric, Ripoche Dominique, Persyn Benoit
INRA AgroClim, site Agroparc, 84914 Avignon Cedex 9, France

83. Modelling of extreme climate events for South Africa using historical data and general circulation models

Debusho Legesse K.[1], Diriba Tadele A.[1], Hassen Abubeker[2], Botai Joel[3]
[1]*Department of Statistics, University of Pretoria, South Africa*
[2]*Department of Animal and Wildlife Sciences, University of Pretoria, South Africa*
[3]*Department of Geography, Geoinformatics and Meteorology, University of Pretoria, South Africa*

84. Beyond incremental change: transformation to climate-smart agriculture in response to changing extremes

Dowd Anne-Maree[1], Howden Mark[2], Rickards Lauren[3], Fleming Aysha[1], Jakku Emma[1], Gaillard Estelle[1]
[1]*CSIRO Land and Water, PO Box 883, Kenmore, QLD, 4069, Australia*
[2]*CSIRO Agriculture, GPO Box 1700, Canberra, ACT, 2601, Australia*
[3]*University of Melbourne, Parkville, Victoria, 3010, Australia*

85. Strengthening the capacity of local extension services to face agroclimatic risks for production systems

Aguilera Elizabeth, Rojas Edwin, Martínez Fabio, Deantonio Leidy
Corporación Colombiana de Investigación Agropecuaria CORPOICA, Agroclimatology Unit, Postcode 250047 (A.A. 240142, Las Palmas), Mosquera, Colombia

86. Grassland manipulation experiments across climatic zones

Picon-Cochard Catherine[1], Diop Amadou Tamsir[2], Finn John[3,] Fischer F.[4], Hassen Abubeker[5], Haughey Eamon[3], Hofer Daniel[6], Lüscher Andreas[6], Nagy Zoltan[7,8], Ousmane Ndiaye [2], Pillar Valério[4], Pintér Krisztina[7], Suter Matthias[6], Talore Deribe Gemiyu[5], Tesfamariam Eyob[9], Soussana Jean-François[1]
[1]*INRA U4874, Grassland Ecosystem Research, F-63100 Clermont-Ferrand, France*
[2]*ISRA, Dakar, Senegal*
[3]*Teagasc Environment Research Centre, Johnstown Castle, Wexford, Ireland*
[4]*Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre, Brazil*
[5]*University of Pretoria, Department of Animal and Wildlife Sciences, Pretoria, South Africa*
[6]*Agroscope, Institute for Sustainability Sciences ISS, Zurich, Switzerland*
[7]*Szent István University, Institute of Botany and Ecophysiology, Gödöllő, Hungary*
[8]*Szent István University, MTA-SZIE Plant Ecology Research Group, Gödöllő, Hungary*
[9]*University of Pretoria, Department of Plant Production and Soil Science, Pretoria, South Africa*

87. Building a global framework for banana resilience and adaptation under increased weather variability and uncertainty

Staver Charles[1], Calberto German[2], Siles Pablo[3]
[1]*Bioversity International, Parc Scientifique II, Montpellier, France*
[2]*Bioversity International, Km 17, Recta Cali-Palmira, Cali, Colombia*

[3]*CIAT, Apartado Postal LM-172, Managua, Nicaragua*

88. Gauging the effects of extreme climate events on European crop yields

Ben-Ari Tamara[1], Adrian Juliette[1], Calanca Pierluigi[2], Klein Tommy[2], Van der Velde Marijn[3], Niemeyer Stefan[3], Bellocchi Gianni[4], Makowski David[1]

[1]*INRA, AgroParisTech UMR 211 Agronomie, BP 01, F-78850 Thiverval-Grignon, France*

[2]*Agroscope, Institute for Sustainability Sciences ISS, Reckenholzstrasse 191, CH-8046 Zurich, Switzerland*

[3]*European Commission, Joint Research Centre (JRC), Institute for Environment and Sustainability (IES), Via E. Fermi 2749, I-21027 Ispra (VA), Italy*

[4]*INRA, UR 874 Écosystème Prairial, 5 chemin du Beaulieu, F-63039 Clermont-Ferrand, France*

89. Development of district contingency plans as a coping strategy to face climate variability and extremes in agriculture

Yenumula Gerard Prasad[1], Cherukumalli Srinivasarao[1], Ravindrachary G.[1], Rao K.V.[1], Ramana D.B.V.[1], Rao V.U.M.[1], Venkateswarlu B.[2], Sikka A.K.[3]

[1]*ICAR- Central research institute for dyland agriculture, Santoshnagar, Hyderabad, 500059, India*

[2]*Vasantharao naik marathwada krishi vidyapeeth, Parbhani, Maharashtra, 431402, India*

[3]*Indian council of agricultural research, New Delhi, 110 012, India*

90. Why role of local institution is crucial in Climate Smart Agriculture? Some evidence from rice-wheat system of Nepal

Dhanej Thapa[1], Chhatra Mani Sharma[2]

[1]*Southasia Institute of Advanced Studies of Nepal, Nepal*

[2]*Department of Development Studies/Kathmandu University, Nepal*

91. Introducing a legume cover crop in rubber plantations is not necessarily an option for their sustainability in dry areas

Clermont-Dauphin Cathy[1,2], Suvannang Nopmanee[2], Pongwichian Pirach[2], Cheylan Vincent[1,2], Hammecker Claude[1,2], Harmand Jean-Michel[3]

[1]*IRD (Institut de Recherche pour le Développement), UMR Eco&Sols, 2 Place viala, 34060 Montpellier, France*

[2]*Land Development Department, Ministry of Agriculture and Co-Operative, Phaholyothin Road, Chatuchak, Bangkok 10900, Thailand*

[3]*CIRAD, UMR Eco &Sols, 2 Place Viala, 34060 Montpellier, France*

92. Sustainability of the Koga irrigation scheme: adaptive water management to deal with climate variability and change

Beza Berhanu Demissie, Alemseged Tamiru Haile

International Water Management Institute (IWMI), Ethiopia

93. Pearl millet yields and climate evolution across the last 20 years in central Senegal. A yield gap study

Kouakou Patrice[1,2], Muller Bertrand[1,3,5], Affholder François[2], Guissé Aliou[4], Sultan Benjamin[6]

[1]*Institut Sénégalais de Recherches Agricoles (ISRA), Centre d'Étude Régional pour l'Amélioration de l'Adaptation à la Sécheresse (CERAAS), BP 3320 Thiès Escale, Senegal*

[2]*Centre de coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), Agroécologie et Intensification Durable des cultures Annuelles (Upr AÏDA), Avenue d'Agropolis, 34398 Montpellier, Cedex 5, France*

[3]*Centre de coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), Amélioration Génétique et Adaptation des Plantes méditerranéennes et tropicales (Umr AGAP), Avenue d'Agropolis, 34398 Montpellier, Cedex 5, France*

[4]*Université Cheikh Anta Diop (UCAD), Faculté des Sciences et Techniques (FST), Avenue Cheikh Anta Diop, BP 5005 Dakar, Senegal*

[5]*AfricaRice, Station Régionale du Sahel, BP 96 Saint-Louis, Senegal*

[6]*Université Pierre et Marie Curie, Institut Pierre-Simon Laplace (IPSL), Laboratoire d'Océanographie Dynamique et de Climatologie (LODYC), 4 Place Jussieu 75252 Paris Cedex 05, France*

94. Effective adaptation strategies and risk reduction to increased climatic variability among coffee farmers in Mesoamerica

Castellanos Edwin[1], Tucker Catherine[2], Barrera Juan[3], Díaz Rafael[4]

[1]*Universidad del Valle de Guatemala, 18 ave. 11-95 zona 15 Guatemala, Guatemala*

[2]*Indiana University, Bloomington, Indiana, USA*
[3]*Colegio de la Frontera Sur, Tapachula, Chiapas, Mexico*
[4]*Universidad Nacional de Costa Rica, Heredia, Costa Rica*

95. Impact of climate change on crop production in southern Mali and the potential of adaptation strategies

Traore Bouba[1], Corbeels Marc[2], van Wijk Marc T.[3], Descheemaeker Katrien[3], Giller Ken E.[3]
[1]*IER, Institut D'Economie Rurale ; Programme Coton, Bp: 28 Koutiala, Mali*
[2]*CIRAD, Agroécologie et intensification durable des cultures annuelles, 34398 Montpellier, France*
[3]*Wageningen University, Plant Production Systems, 6708 PB Wageningen, the Netherlands*

96. Use of regional climate model output for modelling the effects of future extremes in agriculture

Christensen Ole B.[1], Fox Maule C.[1], Cornes R.[2], Goodess C.[2], Bellocchi Gianni[3]
[1]*Danish Meteorological Institute, Lyngbyvej 100, DK-2100 Copenhagen Ø, Denmark*
[2]*Climatic Research Unit, School of Environmental Sciences, University of East Anglia, Norwich, NR4 7TJ, United Kingdom*
[3]*INRA, UR 874 Écosystème Prairial, 5 chemin du Beaulieu, F-63039 Clermont-Ferrand, France*

97. Drought resistant and resilient plant functional types can maintain production in intensively managed grassland

Hofer Daniel[1,3], Suter Matthias[1], Hoekstra Nyncke J.[1,2], Haughey Eamon[2], Finn John A.[2], Buchmann Nina[3], Lüscher Andreas[1]
[1]*Agroscope, Institute for Sustainability Sciences ISS, Reckenholzstrasse 191, CH-8046 Zürich, Switzerland*
[2]*Teagasc, Environment Research Centre, Johnstown Castle, Wexford, Ireland*
[3]*ETH Zürich, Institute of Agricultural Sciences, Universitätstrasse 2, CH-8092 Zürich, Switzerland*

98. Phenotypic variation among and within thirty accessions of Onobrychis viciifolia examined under climate change scenarios

Malisch Carsten[1,2], Suter Daniel[1], Studer Bruno[2], Salminen Juha-Pekka[3], Lüscher Andreas[1]
[1]*Agroscope, Institute for Sustainability Sciences ISS, Reckenholzstrasse 191, CH-8046 Zurich, Switzerland*
[2]*ETH Zurich, Institute of Agricultural Sciences, Universitätstrasse 2, CH-8092 Zurich, Switzerland*
[3]*University of Turku, Department of Chemistry, Vatselankatu 2, FI-20014 Turku, Finland*

99. Participatory assessment of vulnerability to climate change for improved adaptations to climate smart agriculture

Guddanti Nirmala, K Ravi Shankar, Ch. Srinivasa Rao
Central Research Institute for Dryland Agriculture, Saidabad (PO), Santhoshanagar, Hyderabad, PIN 500 059, India

100. Adaptation strategies for livestock production systems in a changing environment

Marble Yvane[1], Salgado Paulo[2], Nidumolu Uday[3], Andriarimalala J.H.[4], Enjalric Gaelle[1], Tillard Emmanuel[1]
[1]*CIRAD, Mediterranean and Tropical Livestock Systems Research Unit, 97410, Saint-Pierre, La Réunion, France*
[2]*CIRAD, Mediterranean and Tropical Livestock Systems Research Unit, 110, Antsirabe, Madagascar*
[3]*CSIRO Agriculture Flagship, Agriculture & Food Security in a changing world, SA 5064, Urrbrae, Australia*
[4]*FIFAMANOR, Livestock Unit, BP 198, 110, Antsirabe, Madagascar*

101. Impact of climate extreme and variability on agriculture: a case from mountain community of eastern Nepal

Shrestha Nicky Shree[1], Dahal Piyush[2], Pradhananga Dhiraj[3]
[1]*Kathmandu University, Dhulikhel, Nepal*
[2]*The Small Earth Nepal, Kathmandu, Nepal*
[3]*Chi Chandra Multiple College, Tribhuvan University, Kathmandu, Nepal*

102. Analyses of extreme weather events and its impact to agriculture smallholders in Gandaki River Basin of Nepal Himalaya

Dahal Piyush[1], Shrestha Nicky Shree[2], Shrestha Madan Lall[3], Panthi Jeeban[1], Krakauer Nir Y[4]
[1]*The Small Earth Nepal, Naya Baneshwor, Kathmandu, Nepal*
[2]*Kathmandu University, Dhulikhel, Nepal*
[3]*Nepal Academy of Science and Technology, Kathmandu, Nepal*
[4]*The City College of the City University of New York, New York, USA*

103. Developmental competence and expression pattern of heat shock protein genes in buffalo oocytes during heat stress

Ashraf Syma[1], Dhanda Suman[2], Shah Syed Mohamad[3], Saini Neha[3], Kumar Anil[1], Goud Sridhar[1], Chauhan Manmohan[3], Upadhyay Ramesh[1]

[1]*Climate Resilient Livestock Research Center, Dairy Cattle Physiology Division, National dairy Research Institute, Karnal, 132001, Karnal, India*

[2]*Department of Biochemistry, Kurukshetra University, Kurukshetra, 13611, India*

[3]*Embryo Biotechnology Lab, ABTC, National Dairy Research Institute, 132001, Karnal, India*

104. Heat tolerance in wheat identified as a key trait for increased yield potential in Europe under climate change

Semenov Mikhail A. Stratonovitch P.

Computational and Systems Biology Department, Rothamsted Research, Harpenden, Herts, AL5 2JQ, United Kingdom

105. Is livelihood diversification Climate-Smart Agricultural strategy? Micro-evidence from Malawi

Asfaw Solomon[1], McCarthy Nancy[2], Cavatassi Romina[1], Paolantonio Adriana[1], Amare Mulubrhan[3], Lipper Leslie[1]

[1]*Food and Agricultural Organization of the United Nations, Agricultural Development Economics Division (ESA), Viale delle Terme di Caracalla, 00153 Rome, Italy*

[2]*LEAD Analytics, Inc., Washington DC, USA*

[3]*Lebnize University of Hannover, Faculty of Economics and Business Administration, Hannover, Germany*

106. Prospering rural vulnerable despite climate change: implications for "Triple Win"

Ashraf Saleem[1], Iftikhar Muhammad[2]

[1]*In-Service Agricultural Training Institute, Sargodha, Pakistan*

[2]*Institute of Agricultural Extension and Rural Development, University of Agriculture Faisalabad, Pakistan*

107. Participatory climate risk management at short-term and seasonal scales – examples from South Asia

Nidumolu Uday[1], Roth Christian[2], Howden Mark, Hochman Zvi[2], Hayman Peter[5], Raji Reddy D.[6], Lim-Camacho Lilly[3], Gaillard Estelle[4], Marambe Marambe[7]

[1]*Commonwealth Scientific & Industrial Research Organisation (CSIRO), Bldg 2, Waite Road, Urrbrae, South Australia 5064, Australia*

[2]*CSIRO EcoSciences Precinct, 41 Boggo Rd, Dutton Park, QLD 4102, Australia*

[3]*CSIRO, PO Box 883, Kenmore QLD 4069, Australia*

[4]*CSIRO, Graham Rd, Highett, Victoria 3190, Australia*

[5]*South Australian Research & Development Institute (SARDI), Hartley Grove Street, South Australia 5064, Australia*

[6]*Extension Department, Prof Jayashankar Telangana State Agricultural University, Rajendranagar, Hyderabad, India*

[7]*Faculty of Agriculture, University of Peradeniya, Peradeniya 20400, Sri Lanka*

108. Establishment of dynamic-transfer system for agro-climate knowledge and farmers' response

Fahim M. A.[1], Abou Hadid A.F.[1], El-Marsafawy S.M.[2]

[1]*the Climate Change Information Center and Renewable Energy (CCICRE), 9 Cairo Univ., 12619 Giza, Egypt*

[2]*the Central Laboratory for Agricultural Climate (CLAC), 6 Dr. Michail Bakhoum st., Dokki 12411 Giza, Egypt*

109. Empirical assessment of climate change on major agricultural crops of Punjab, Pakistan

Afzal Muhammad[1], Ahmad Tanveer[2]

[1]*Research Scholar in Forman Christian College, Lahore, Pakistan*

[2]*Associate Professor of Economics in Forman Christian College, Lahore, Pakistan*

110. Perceptions on climate change and impacts on ecosystem services in eastern Africa: implications for policy actions

Shimbe S.P.L., Kadigi R.M.J., Kashaigili J.J., Abdallah J.M., Stephen, C.

Sokoine University of Agriculture, P.O. BOX 3007 Chuo kikuu, Morogoro, Postcode: +255, Tanzania

111. Irrigation management of salt water: study of potato and pea grown in intercropping with olive in southern Tunisia

Ben Hassen Nadia[1], Nagez Kamel[2]

[1]*National institution pf agronomy of Tunisia (INAT), Tunisia*

[2]*Institut of arid region of Medenine (IRA), Tunisia*

112. Assessment of the variability of yield of maize in Lilongwe district in relation to climate using DSSAT model

Kamanga Mphangera[1], Mhango Wezzie-Bunda[2]
[1]*Universty of Cape Town, Rhodes Gift, Post Office 7707, Rondebosch, Cape Town, South Africa*
[2]*Bunda College of Agriculture, P.O. Box 319, Lilongwe, Malawi*

L2.3 COMBINING MITIGATION, ADAPTATION AND SUSTAINABLE INTENSIFICATION

113. Agricultural intensification trajectories and climate smart agriculture in Nicaraguan tropical systems

Carreño-Rocabado Geovana[1,2], Oblitas Samuel[2], Somarriba Eduardo[2], Ordoñez Jenny[1,2]
[1]*The World Agroforestry Centre (ICRAF), Latin America Regional Office, Central America, CATIE 7170, Turrialba 30501, Cartago, Costa Rica*
[2]*CATIE, Tropical Agricultural Research and Higher Education Centre, 7170, Turrialba 30501, Costa Rica*

114. Value of estimating farm GHG budgets making use of process-based modelling

Bannink André[1], Lanigan Gary[2], Hutchings Nick[3], Van Den Pol-Van Dasselaar Agnes[1]
[1]*Wageningen UR Livestock Research, PO Box, 65, 8200 A Lelystad, Netherlands*
[2]*Teagasc, Johnstown Research Centre, PO Box 300, Co Wexford, Ireland*
[3]*Universityof Aarhus, PO Box 50, Research Centre Foulum 8830 Tjele, Denmark*

115. Farmer's perceptions on climate change and prospects for climate smart agriculture along the tree cover transition curve

Ordonez Jenny C.[1], Leguia E.[2], Rapidel Bruno[3], Somarriba E.[2]
[1]*World Agroforestry Centre (ICRAF) – Central America, CATIE 7170, Turrialba 30501, Cartago, Costa Rica*
[2]*Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), CATIE 7170, Turrialba 30501, Cartago, Costa Rica*
[3]*Centre de coopération internationale en recherche agronomique pour le développement (CIRAD), CATIE 7170, Turrialba 30501, Cartago, Costa Rica*

116. The Agritech Water Cluster – Promoting collaboration to manage future water needs of the agriculture sector

Hiscock Kevin, Osborn Timothy, Lovett Andrew, Dorling Stephen, Welters Ruth, Fitt Peter
University of East Anglia, Norwich Research Park, Norwich Norfolk NR4 7TJ, United Kingdom

117. Climate change mitigation and agricultural development scenarios for the high plains of Eastern Colombia

Hyman Glenn, Loboguerrero Ana Maria, Aracely Castro, Idupulapati Rao, Peters Michael
International Center for Tropical Agriculture, Colombia

118. Contributing to CSA progress through a national multidisciplinary research program on adaptation to climate change

Caquet Thierry[1], Bréda Nathalie[2], Guehl Jean-Marc[2], Amigues Jean-Pierre[3], Chalvet-Monfray Karine[4], Debaeke Philippe[5], Gascuel Chantal[6], Le Gouis Jacques[7], Plantard Olivier[8], Touzard Jean-Marc[9], Soussana Jean-François[10]
[1]*INRA, UAR 1275 "Ecology of Forests, Grasslands and Freshwater Systems Division-EFPA", Route d'Amance, F-54280 Champenoux, France*
[2]*INRA, UMR 1137 INRA-Université de Lorraine "Forest Ecology and Ecophysiology-EEF", Route d'Amance, F-54280 Champenoux, France*
[3]*INRA, UMR 1081 INRA-CNRS-Université Toulouse I "Laboratoire d'Economie des Ressources Naturelles-LERNA", Université des Sciences Sociales, 1 Rue des Amidonniers, F-31000 Toulouse, France*
[4]*INRA, UR 346 "Animal Epidemiology-EPI-A", Route de Theix, F-63122 Saint Genès Champanelle, France*
[5]*INRA, UMR 1248 INRA-INPT "Agroecologies Innovations Ruralities-AGIR", F-31326 Castanet-Tolosan, France*
[6]*INRA, UMR 1069 INRA-Agrocampus Ouest "Soil, Agro and hydroSystem-SAS", 65 rue de Saint-Brieuc, F-35042 Rennes Cedex, France*
[7]*INRA, UMR 1095 INRA-Université Blaise Pascal "Genetics Diversity Ecophysiology of Cereals", INRA Site de Crouël, 234 avenue du Brézet, F-63100 Clermont-Ferrand, France*
[8]*INRA, UMR 1300 INRA-Oniris "Biology, Epidemiology and Risk Analysis in animal health-BioEpAR", Atlanpole, La Chantrerie, CS 40706, F-44307 Nantes Cedex 03, France*

[9]*INRA, UMR 0951 INRA-CIRAD-Montpellier SupAgro, "Innovation", 2 place Viala, F-34060 Montpellier Cedex 01, France*
[10]*INRA, Collège de Direction, 147 rue de l'Université, F-75338 Paris Cedex 07, France*

119. Could agroforestry be a way to limit soil erosion susceptibility under a temperate climate?

Monnier Yogan, Stokes Alexia
INRA, UMR AMAP, 37/PS1, Bd de la Lironde, 34 398 Montpellier cedex 5, France

120. Scientific and policy recommendations for climate smart arable agriculture in Europe: lessons from the past decade

Freibauer Annette[1], Don Axel[1], Dechow Rene[1], Heidkamp Arne[1], Prietz Roland[1] and GHG-Europe project partners[2]
[1]*Thünen Institute of Climate-Smart Agriculture, Germany*
[2]*EU Collaborative Research Project GHG-Europe, www.ghg-europe.eu*

121. Adaptation to climate change through land-use change in France and implications for greenhouse gas emissions

Ay Jean-Sauveur[1], Chakir Raja[2], De Cara Stéphane[2]
[1]*INRA UMR Cesaer 26, bd Docteur Petitjean, 21079 Dijon Cedex, France*
[2]*INRA UMR Economie Publique INRA-AgroParisTech, Avenue Lucien Brétignières, 78850 Thiverval-Grignon, France*

122. Mitigating GHG emissions from ruminant livestock systems

Klumpp Katja[1], Doreau Michel[2], Faverdin Philippe[3], Jeuffroy Marie-Hélène[4], Bamière Laure[5], Pardon Lénaïc[6], Soussana Jean-François[7], Pellerin Sylvain[8]
[1]*INRA UR 874 Ecosystème prairial 5 Ch de Beaulieu, 63039 Clermont-Ferrand, France*
[2]*INRA/ VetAgroSup UMR 1213 Herbivores, Theix, 63122 Saint-Genès-Champanelle, France*
[3]*INRA/Agrocampus Ouest, UMR 1348 Pegase, 35590 Saint-Gilles, France*
[4]*INRA-AgroParisTech, 78850 Thiverval-Grignon, France*
[5]*INRA UMR Economie Publique BP 01 78850 Thiverval-Grignon, France*
[6]*INRA DEPE 147 rue de l'Université, 75338 PARIS CEDEX 07, France*
[7]*INRA Département Environnement et Agronomie, 33883 Villenave d'Ornon Cedex, France*

123. Global assessment of technological innovation for climate change in developing countries: opportunities and challenges

Adenle Ademola A.[1], Azadi Hossein[2], Arbiol Joseph[3]
[1]*United Nations University-Institute for Advanced Studies of Sustainability (UNU-IAS), Japan*
[2]*Department of Geography, Ghent University, Belgium*
[3]*Laboratory of Environmental Economics, Graduate School of Bio-resources and Bio-environmental Science, Kyushu University, Fukuoka 812-8581, Japan*

124. Synergies and trade-offs of adaptation and mitigation on dairy farms

Topp C.F.E.[1], O'Brien D.[2], Faverdin P.[3], Stienezen M.W.J.[4], Wreford A.[1], Olesen J.E.[5]
[1]*Scotland's Rural College, Edinburgh EH9 3JG, United Kingdom*
[2]*Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland*
[3]*INRA, UMR1348, Physiologie, Environnement et Génétique pour l'animal et les systèmes d'élevage, F-35590 Saint-Gilles, France*
[4]*Wageningen UR Livestock Research, 6708 WD Wageningen, Postbus 338, 6700 AH Wageningen, the Netherlands*
[5]*Dept. of Agroecology, Aarhus University, Blichers Allé 20, Postboks 50,DK-8830 Tjele, Denmark*

125. Land management practices as a coping mechanism to frequent and prolonged drought spells by smallholder farms

Kagabo Désiré Mbarushimana, Ndayisaba Pierre Celestin, Musana Bernard Segatagara, Manzi Maximillian, Mutimura Mupenzi, Hirwa Claire D' André, Nyiransengimana Eugenie, Shumbusho Felicien, Bagirubwira Aphrodis, Ebong Cyprian
Rwanda Agriculture Board (RAB), P.O. Box 5016 Kigali, Rwanda

126. Sustainable intensification of global maize cropping systems: balancing yield increase and nitrous oxide emissions

Deryng Delphine[1,2], Conway Declan[3], Ramankutty Navin[4,5]
[1]*Grantham Research Institute on Climate Change & the Environment, London School of Economics & Political Science, Houghton Street, London, WC2A 2AE, United Kingdom*

[2]*Tyndall Centre for Climate Change Research, School of Environmental Sciences, University of East Anglia, Norwich, NR4 7TJ, United Kingdom*
[3]*Grantham Research Institute on Climate Change & the Environment, London School of Economics & Political Science, Houghton Street, London, WC2A 2AE, United Kingdom*
[4]*Liu Institute for Global Issues, The University of British Columbia, 6476 NW Marine Drive, Vancouver, V6T 1Z2, BC, Canada*
[5]*Institute for Resources, Environment and Sustainability, Vancouver Campus, 2202 Main Mall, Vancouver, V6T 1Z4, BC, Canada*

127. Temperature impact on CO_2 emissions and nutrients availability in Malagasy soils under different farming practices

Andriamananjara Andry[1], Chevallier Tiphaine[2], Rasolo Njara Narindra[1], Razakamahefa Allan Luigi[1], Razakamanarivo Herintsitohaina[1], Razafimbelo Tantely[1]
[1]*Laboratoire des Radioisotopes, Université d'Antananarivo, BP 3383, Antananarivo, Madagascar*
[2]*Institut de Recherche pour le Développement, UMR Eco&Sols, 34060 Montpellier, France*

128. The synergies of fertilization on carbon sequestration and food security in China

Li Yue, Li Jianling, Zhu Yongchang, Zhou Weiping, Chen Minpeng, Qin Xiaobo, Wan Yunfan, Liu shuo, Gao Qingzhu
Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences, Room 609, Building IEDA, No.12, Zhongguancun South Street, Haidian District, Beijing, China

129. Adaptation to climate variability: evaluation of adaptation tools for the agricultural sector in Guanacaste, Costa Rica

Largui Mathilde[1], Barbier Bruno[2], Leclerc Grégoire[1]
[1]*Centre de Coopération Internationale en Recherche Agronomique pour le Développement, UPR GREEN, CATIE, Turrialba 30501, Costa Rica*
[2]*Centre de Coopération Internationale en Recherche Agronomique pour le Développement, UMR G-EAU, Université Cheikh Anta Diop (UCAD), BP 5005 - Dakar-Fann, Senegal*

130. Efficiently mitigating climate change through improved land management in smallholder agriculture of Malawi and Zambia

Grewer Uwe[1], Branca Giacomo[2], Cattaneo Andrea[1], Vetter Sylvia[3], Paolantonio Adriana[1]
[1]*Agricultural Development Economics Division, FAO, V. le Terme di Caracalla, 00153, Rome, Italy*
[2]*Dipartimento di Economia e Impresa, Tuscia University, Via del Paradiso 47, 01100, Viterbo, Italy*
[3]*School of Biological Sciences, University of Aberdeen, 23 St Machar Drive, AB24 3UU Aberdeen, Scotland*

131. Climate-Smart water and nitrogen management strategies for lowland rice

Gaihre Yam K.[1], Bindraban Prem[2], Singh Upendra[3], Sanabria Joaquin[3], and Satter Abdus[1]
[1]*Eurasia Division, International Fertilizer Development Center (IFDC), Dhaka, Bangladesh*
[2]*Virtual Fertilizer Research Center (VFRC), Washington D.C., USA*
[3]*Soil and Plant Nutrient Dynamics Program, Office of Programs, IFDC, Muscle Shoals, AL, USA*

132. Storing C in agricultural soils: evaluating triple-win climate-smart actions for France

Chenu Claire[1], Angers Denis[2], Metay Aurélie[3], Colnenne-David Caroline[4], Klumpp Katja[5], Bamière Laure[6], Pardon Lénaic[7], Pellerin Sylvain[8]
[1]*AgroParisTech, UMR Ecosys, 78850 Thiverval Grignon, France*
[2]*AAAC, Soils and Crops Research and Development Centre, G1V2J3 Sainte-Foy, Québec, Canada*
[3]*SupAgro-Montpellier UMR SYSTEM, 34060 Montpellier, France*
[4]*INRA, UMR Agronomie, 78850 Thiverval-Grignon, France*
[5]*INRA, UMR Ecosystème Prairial, 63039 Clermont-Ferrand, France*
[6]*INRA, UMR EcoPub, 78850 Thiverval Grignon, France*
[7]*INRA, DEPE, F-75007 Paris, France*
[8]*INRA UMR ISPA, 33882 Villenave d'Ornon, France*

133. Innovative cropping systems under GHG emissions constraint: results of a long-term field trial assessment

Colnenne-David Caroline, Grandeau Gilles, Tanneau Véronique, Jeuffroy Marie-Hélène, Doré Thierry
INRA, UMR 211 Agronomie, 78850 Thiverval-Grignon, France

134. Contribution of agroforestry to livelihoods and climate change mitigation in Western Kenya

Reppin Saskia[1], Oelofse Myles[1], de Neergaard Andreas[1], Rosenstock Todd S.[2]

[1]*Department of Plant and Environmental Sciences, Faculty of Science, University of Copenhagen, Thorvaldsensvej 40, 1871, Frederiksberg, Denmark*

[2]*World Agroforestry Centre (ICRAF), PO Box 30677-00100, UN Avenue, Nairobi, Kenya*

135. Alternative water management minimizes greenhouse gas emissions from rice systems while maintaining yield

LaHue Gabriel[1], Anders Merle[2], Adviento-Borbe Arlene[1], van Kessel Chris[1], Linquist Bruce[1]

[1]*Department of Plant Sciences, University of California-Davis, Davis, CA, 95616, USA*

[2]*Department of Crop, Soil, & Environmental Sciences, University of Arkansas, Fayetteville, AR, 72701, USA*

136. Climate mitigation: trade-offs between agricultural product carbon footprints and land use intensity

Plassmann Katharina, Brentrup Frank, Lammel Joachim

Yara International ASA, Research Centre Hanninghof, 48249 Dülmen, Germany

137. Integrated fertiliser microdosing and organic manure to adapt to climate variability and change in Northern Benin

Tovihoudji G. Pierre[1,2,3], Akponikpè P. B. Irénikatché[1], Agbossou Euloge[2], Bielders Charles[3]

[1]*University of Parakou (UP), Faculty of Agronomy (FA), Environmental Soil Physics and Hydraulics Unit (ESPH), 03 BP 351, Parakou, Benin*

[2]*Université d'Abomey-Calavi (UAC), Faculty of Agronomic Sciences (FSA), Laboratory of Hydraulics and Water Management (LHME), BP 526, Cotonou, Benin*

[3]*Université Catholique de Louvain (UCL), Dept. of Environmental Sciences and Land Use Planning, Croix du Sud 2, Boite 2, B-1348 Louvain-la-Neuve, Belgium*

138. The Global Yield Gap Atlas for targeting sustainable intensification options for smallholders in Sub-Saharan Africa

Claessens Lieven[1,2], Cassman Kenneth G.[3], van Ittersum Martin K.[2], van Bussel Lenny G.J.[2], Wolf Joost[2], van Wart Justin P.[3], Grassini Patricio[3], Yang Haishun[3], Boogaard Hendrik[2], de Groot Hugo[2], Pavuluri Kiran[3], Guilpart Nicolas[3]

[1]*International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), 00623 Nairobi, Kenya*

[2]*Wageningen University, 6708 PB Wageningen, the Netherlands*

[3]*University of Nebraska, NE 68583-0915 Lincoln, USA*

139. Impacts of agricultural diversity on self-sufficiency for forage, feeding costs and GHG emissions in dairy systems

Martin Guillaume[1], Magne Marie-Angélina[2], Willaume Magali[3], Duru Michel[1]

[1]*INRA, UMR 1248 AGIR, F-31326 Castanet Tolosan, France*

[2]*ENFA, UMR 1248 AGIR, F-31326 Castanet Tolosan, France*

[3]*ENSAT, UMR 1248 AGIR, F-31326 Castanet Tolosan, France*

140. Water resources transfers through southern African food trade: resource efficiency and climate adaptation

Dalin Carole, Conway Declan

Grantham Research Institute, London School of Economics, Houghton St. London WC2A 2AE, United Kingdom

141. Municipal solid waste composts as organic inputs in vegetable gardening cropping systems in Mahajanga, Madagascar

Rafolisy Tovonarivo[1], Ramahefarison Heriniaina[2], Masse Dominique[3,4]

[1]*Laboratoire des Radio – Isotopes, université d'Antananarivo, BP 3383 Antananrivo 101, Madagascar*

[2]*Faculté des sciences, université de Mahajanga, campus d'Ambondrona, Mahajanga 40, Madagascar*

[3]*LMI IESOL - Intensification écologique des sols cultivés en Afrique de l'Ouest., Campus Bel-Air B.P. 1386. CP 18524. Dakar, Senegal*

[4]*UMR Eco&Sols - Ecologie Fonctionnelle & Biogéochimie des Sols & des Agroécosystèmes - (Montpellier SupAgro CIRAD INRA IRD). Bâtiment 12, 2 place Viala 34060 Montpellier cedex 2, France*

142. Evaluating the impact of rising fertilizer prices on crop yields

Brunelle Thierry, Dumas Patrice, Souty François, Dorin Bruno, Nadaud Franck

CIRAD - UMR CIRED, Centre International de Recherche sur l'Environnement et le Developpement, Campus du Jardin Tropical, 45 bis, avenue de la Belle Gabrielle, 94736 Nogent-sur-Marne Cedex, France

143. Agent based model analysis on the impact of agricultural land-use change adaptation in semi-arid Ghana

Badmos Biola K.[1,2], Villamor Grace B.[3,4], Agodzo Sampson K.[5], Odai Samuel N.[1,2]

[1]Civil Engineering, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

[2]West African Science Service Centre on Climate Change and Adapted Land Use, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

[3]Center for Development Research (ZEF), University of Bonn, Germany

[4]World Agroforestry Centre, Bogor, Indonesia

[5]Agricultural Engineering, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

144. The gathering of Non-Timber Forest Products as adaptation strategy to climate change in the rural community of Niaguis

Ndao Mohamed Lamine

Sciences of Humanities and Society, Gaston Berger University of Saint Louis, Senegal

145. Optimisation of the nitrogen fertilisation in the context of climate change

Dumont Benjamin[1,2], Basso Bruno[2], Destain Jean-Pierre[1], Bodson Bernard[1], Destain Marie-France[1]

[1]Dpt. Biosystems enginnering, Precision agriculture lab, ULg - Gembloux Agro-Bio Tech, Passage des Déportés, 2, 5030, Gembloux, Belgium

[2]Department of Geological Sciences, Michigan State University, Lansing, MI, USA

146. Climate change impacts on crops production and adaptive measures from farmers' perspective in North-East China

Xie Liyong[1], Lin Erda[2], Li Yue[1], Zhao Hongliang[1]

[1]College of Agronomy, Shenyang Agricultural University, Shenyang 110866, China

[2]Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences, Beijing 100081, China

147. Emissions mitigation by sustainable intensification in Brazilian livestock production

De Oliveira Silva Rafael[1,2], Barioni Luis Gustavo[3], Hall Julian A. J.[1], Folegatti Matsuura Marilia[4], Albertini T. Zanetti[5], Fernandes F. A.[6], Moran Dominic[2]

[1]School of Mathematics, The University of Edinburgh, Mayfield Road, Edinburgh, EH9 3JZ, Scotland, United Kingdom

[2]Research Division, SRUC, West Mains Road, Edinburgh, EH9 3JG, Scotland, United Kingdom

[3]Embrapa Agriculture Informatics, CEP 13083-886 Campinas-SP, Brazil

[4]Embrapa Meio Ambiente, Brazil

[5]University of Sao Paulo (ESALQUSP), CEP 13418-900, Piracicaba, SP, Brazil

[6]Embrapa Pantanal, CEP 79320-900, Corumbá-MS, Brazil

L2.4 BREEDING AND PROTECTING CROPS AND LIVESTOCK

148. Adaptation of tropical cattle breeds to their environment, in the perspective of climatic change

Naves Michel[1], Flori L.[2], Thevenon S.[2], Gauthier M.[3]

[1]INRA, UR143, Recherches Zootechniques, F-97170, Petit Bourg, France

[2]CIRAD, UMR INTERTRYP, F-34398, Montpellier, France

[3]CBGP, Campus International de Baillarguet CS 30016, 34988 Montferrier-sur-Lez Cedex, France

149. Genetic diversity of Dactylis glomerata in the response to temperature during germination

Ahmed L.Q., Durand J.-L., Escobar-Gutiérrez A.J.

INRA, UR4 P3F, Site du Chêne – BP6, F-86600 Lusignan, France

150. Globally representative C. arabica variety trial site selection in a changing climate

Bunn Christian[1], Läderach Peter[1], Pérez Juan Guillermo[1], Montagnon Christophe[2]

[1]International Center for Tropical Agriculture (CIAT), Km 17, Recta Cali-Palmira, Apartado Aéreo 6713, Cali, Colombia

[2]RD2 Vision, 60, rue du Carignan 34270, Valflaunes, France

151. "ReColAd": Collaborative network on farm animal adaptation to environmental changes

Zerjal Tatiana[1], Laloë Denis[1], Mandonnet Nathalie[2], Naves Michel[2], Collin Anne[3], Thévenon Sophie[4], Renaudeau David[5]

[1]INRA/AgroParisTech, UMR 1313 GABI, 78352 Jouy-en-Josas, France
[2]INRA, UR143, Recherches Zootechniques, F-97170, Petit Bourg, France
[3]INRA, UR83 Recherches Avicoles, F-37380 Nouzilly, France
[4]CIRAD, UMR INTERTRYP, F-34398, Montpellier, France
[5]INRA UMR1348 PEGASE, F35590 Rennes, France

152. Crop diversity as an adaptation strategy to climate change in West Africa

Piquet J.[1,2,3], Barnaud Adeline[1,2,3],. Barry M.B [4], Berthouly-Salazar C.[1,2,3], Diallo M.A.T.[4], Deu M.[5], Kané N.A.[3], Leclerc C.[5], Noyer J.L.[5], Pham J.L.[1,6], Vigouroux Y.[1], Billot C.[5]
[1]IRD, UMR DIADE, Montpellier, France
[2]LMI LAPSE, Dakar, Senegal
[3]ISRA, LNRPV, Centre de Bel Air, Dakar, Senegal
[4]IRAG, Conakry, Guinea
[5]CIRAD, UMR AGAP, Montpellier, France
[6]Agropolis Foundation, Montpellier, France

153. Genetic variability and phenotypic characterization of thermotolerance in rainbow trout

Dupont-Nivet Mathilde[1], Colson V.[2], Crusot M.[1], Labbé L.[3], Rigaudeau D.[4], Prunet P.[2], Quillet E.[1], Leguen I.[2]
[1]INRA, UMR 1313 GABI, Génétique Animale et Biologie Intégrative, Jouy en Josas, France
[2]INRA, UR1037 Fish Physiology and Genomics, F-35000 Rennes, France
[3]INRA, UE0937 PEIMA, Pisciculture Expérimentale INRA des Monts d'Arrée, 29450 Sizun, France
[4]INRA, UE 0907 IERP, Infectiologie Expérimentale Rongeurs et Poissons, Jouy en Josas, France

154. NGS for identifying wild-to-cultivated gene flow for African crops adaptation

Berthouly-Salazar Cécile[1,2,4], Barnaud Adeline[1,2,4], Scarcelli Nora[1], Billot Claire[3], Mariac Cédric[1], Kane Ndjido[2,4], Vigouroux Yves[1]
[1]IRD, UMR DIADE, Montpellier, France
[2]LMI LAPSE, Dakar, Senegal
[3]CIRAD, UMR AGAP, F-34398 Montpellier, France
[4]ISRA, LNRPV, Centre de Bel Air, Dakar, Senegal

155. Impact of pea genetic variability on the control of N_2O reduction by soil-microorganisms-plant systems

Bourion V.[1], Revellin C.[1], Bizouard F.[1], De Larambergue H.[1], Aubert V.[1], Duc G.[1], Hénault C.[2]
[1]INRA, UMR AgroEcologie, 21000 Dijon, France
[2]INRA, UR SOLS, 0272, 45075 Orleans Cedex, France

156. Using crop-climate models for designing climate-smart breeding strategies

Koehler Ann-Kristin[1], Ramirez-Villegas Julian[1,2,3], Challinor Andrew J.[1,3]
[1]School of Earth and Environment, University of Leeds, Leeds, United Kingdom
[2]CGIAR Research Program on Climate Change, Agriculture and Food Security, CCAFS, Cali, Colombia
[3]International Center for Tropical Agriculture, CIAT, Cali, Colombia

157. Genetics of tolerance of extra-early Quality Protein Maize inbreds under contrasting environments

Annor Benjamin[1], Badu-Apraku B.[1], Aken'Ova M.E.[2]
[1]International Institute of Tropical Agriculture, Ibadan, Nigeria
[2]University of Ibadan, Nigeria

158. Adaptation of alfalfa ecotypes to climate change

Julien Lionel[1], Delalande Magalie[2], Sartre Pascal[2], Carpon Jean-Marie[3], Blandineau Claude[2], Bastianeli Denis[1], Huguenin Johann[1]
[1]CIRAD, UMR-SELMET, Montpellier, France
[2]INRA, UE DIASCOPE, Montpellier, France
[3]INRA, UMR-SELMET, Montpellier, France

159. Improvement of yield and related characters of temperate maize (Zea mays L.) under three water regimes

Murtadha M.A.[1], Alghamdi S.S.[2]
[1]Osun State University, College of Agriculture, Ejigbo. Osun State, Nigeria
[2]College of Food and Agricultural Sciences, King Saud University, P.O. Box 2454, Riyadh 11451, Saudi Arabia

160. Breeding for sunflower hybrids adapted to climate change: the SUNRISE collaborative and multi-disciplinary project

Debaeke Philippe[1], Coque M.[2], Muños S.[3], Mangin B.[4], Gouzy J.[3], Kephaliacos C.[5], Piquemal J.[6], Pinochet X.[7], Vincourt P.[3], Langlade N.[3]
[1]INRA, UMR AGIR, 31326 Castanet-Tolosan, France
[2]BIOGEMMA, 31700 Mondonville, France

[3]INRA, UMR LIPM, 31326 Castanet-Tolosan, France
[4]INRA, UR MIAT, 31326 Castanet-Tolosan, France
[5]ENFA, LEREPS, 31326 Castanet-Tolosan, France
[6]SYNGENTA Seeds, 31042 Saint-Sauveur, France
[7]CETIOM, 78850 Thiverval-Grignon, France

161. Climate change in tropical environment: what impact on agricultural pests and diseases? What crop protection strategies?

Goebel François-Régis[1], Cilas Christian[2]
[1]UPR AÏDA, CIRAD, Campus de Lavalette - 34398 Montpellier cedex 5, France
[2]UPR Bioagresseurs, CIRAD, Campus international de Baillarguet - 34398 Montpellier cedex 5, France

162. Understanding the genetic diversity of Ethiopian oilseed Noug (Guizotia abissinica) for its improvement and conservation

Weldeyohannes Misteru[1], Gari Abel[2], Hannes Dempewolf[3]
[1]Ethiopian Institute of Agricultural Research, Holetta Agricultural Research Center P.O. Box.31, Holetta, Ethiopia
[2]Departments of Biology, Addis Ababa University, P.O. Box 1176, Addis Ababa, Ethiopia
[3]Global Diversity Trust, 53115, Bonn, Germany

163. Proteomics in the drive for climate smart livestock production

Eckersall David[1], Almeida Andre[2]
[1]Institute of Biodiversity, Animal Health & Comparative Medicine, University of Glasgow, G41 4HQ, Glasgow, United Kingdom
[2]Instituto de Investigação Científica Tropical, Lisboa, Portugal; CIISA – Centro Interdisciplinar de Investigação em Sanidade Animal, Lisboa, Portugal
[3]ITQB – Instituto de Tecnologia Química e Biológica da UNL, Oeiras, Portugal
[4]IBET – Instituto de Biologia Experimental e Tecnológica CVZ – Centro de Veterinária e Zootecnia, Av. Univ. Técnica, 1300-477 Lisboa, Portugal

164. Bridging landscape genomics and quantitative genetics for a regional adaptation of European grasslands to climate-change

Sampoux Jean-Paul[1], Manel Stéphanie[2], Hegarty Matthew J.[3], Dehmer Klaus J.[4], Willner Evelin[4]
[1]INRA, Centre Poitou-Charentes, UR4 (UR P3F), BP80006, 86600 Lusignan, France
[2]EPHE – CEFE, UMR 5175, 34293 Montpellier Cedex 5, France
[3]IBERS – Aberystwyth University, SY23 3EE, Ceredigion, Wales, United Kingdom
[4]IPK, Genebank Department / Satellite Collections North, 23999 Malchow / Poel, Germany

165. Ecological niche of R. fistulosa in climate change context: what future for lowland rice production in West-Africa?

Zossou Norliette, Gouwakinnou Gérard, Idelphonse Sode, Sinsin Brice
Laboratories of Applied Ecology, Faculty of Agronomics Sciences, University of Abomey-Calavi, Benin

166. Effects of heat stress and sulfur restriction during seed filling on grain characteristics in rapeseed

Brunel-Muguet Sophie[1,2,3], D'Hooghe Philippe[1,2,3], Bataillé Marie-Paule[1,2,3], Larré Colette[4], Kim Tae-Hwan[1,2,3,5], Jacques Trouverie[1,2,3], Avice Jean-Christophe[1,2,3], Etienne Philippe[1,2,3], Dürr Carolyne[6] Hélène Gautier[1]
[1]INRA, UMR INRA–UCBN 950 Ecophysiologie Végétale, Agronomie & nutritions N.C.S., F-14032 Caen, France
[2]Normandie University, F-14032 Caen, France
[3]UCBN, UMR INRA–UCBN 950 Ecophysiologie Végétale, Agronomie & nutritions N.C.S., F-14032 Caen, France
[4]INRA UR1268 BIA, Rue de la Géraudière, BP 71627, F-44316 Nantes, France
[5]Environment-Friendly Agriculture Research Center (EFARC), Department of Animal Science, Institute of Agricultural Science and Technology, College of Agriculture & Life Science, Chonnam National University, Buk-Gwangju, P.O. Box 205, Gwangju 500-600, South Korea
[6]INRA, UMR 1345, Institute of Research on Horticulture and seeds, F-49045, Beaucouzé, France

167. Selection of families new of rice for their adaptability of lowland in West Africa

Oteyammi Magloire[1], Sie Moussa[2], Ahanchede Adam[3]
[1]AfricaRice, Cotonou, Benin
[2]National centre of research applied to rural development, Ampandrianomby – Antananarivo, Madagascar
[3]University of Abomey-Calavi Faculty of Agricultural Sciences, Cotonou, Benin

168. Evaluation of triticale genotypes for food and feed security in Egypt

Hozayn M.[1], Abd El-Monem A.A.[2,3], Abd El-lateef E.M.[1]

[1]*Field Crop Research Dept. , Agriculture and Biology Div., National Research Centre, El Buhouth St., Dokki, Cairo, Egypt*

[2]*Botany Dept., Agriculture and Biological Division, National research centre, El Behouth St., Dokki, Cairo, Egypt*

[3]*Biology Dept., Fac. of Sci., Tabuk Univ., Branch Tayma, Saudi Arabia*

169. Improving Bambara groundnut for global food security: MAGIC populations for ideotype development and genomic analysis

Aliyu Siise[1,2,3], Kendabie Presidor[1, 2], Murchie Erik[1], Massawe J. Festo[2], Mayes Sean[3]

[1]*School of Biosciences, The University of Nottingham, Sutton Bonington Campus, Loughborough, Leicestershire, LE12 5RD, United Kingdom*

[2]*School of Biosciences, University of Nottingham Malaysian Campus, Jalan Broga, Semenyih, 43500, Selangor, Malaysia*

[3]*Crops for the Future Research Centre (CFFRC), Jalan Broga, Semenyih 43500, Selangor, Malaysia*

170. Genetics in controlling small ruminant's internal nematodes infestation in the era of climate change

Matebesi-Ranthimo P.A.M.[1,2], Cloete S.W.P.[3,4], van Wyk J.B.[2],Olivier J.J.[4]

[1]*National University of Lesotho, P.O. Roma 180, Roma, Lesotho*

[2]*University of the Free State, P.O. Box 339, Bloemfontein 9300, South Africa*

[3]*University of Stellenbosch, Private Bag X1, Matieland, 7602, South Africa*

[4]*Institute for Animal Production: Elsenburg, Private Bag X1, Elsenburg, 7609, South Africa*

171. Climate change impact on incidence of mite (Tetranychus urticae Koch) infesting ladysfinger in sub-Himalayan India

Ghosh Sunil

Department of Agricultural Entomology, Bidhan Chandra Krishi Viswavidyalaya (BCKV), (Agril. University), AINP on Agril. Acarology, Directorate of Research, PO: Kalyani, Dist: Nadia, West Bengal-741235, India

L2.5 OVERCOMING BARRIERS: POLICIES AND INSTITUTIONAL ARRANGEMENTS TO SUPPORT CSA

172. Cross-scale policy dynamics and climate smart agriculture

Crane Todd, Robinson Lance

Livestock Systems and Environment, International Livestock Research Institute, Box 30709, Nairobi 00100, Kenya

173. Theory and criteria for improved understanding of Climate Smart Territories (CST)

Jenet Andreas[1], Van Etten Jacob[2], Sepulveda Claudia[1], Martinez-Salinas Alejandra[1,3], Villanueva Cristobal[1], Sanabria Oscar[1], Louman Baastian[1], Alpizar Francisco[1]

[1]*Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), 30501 Turrialba, Costa Rica*

[2]*Bioversity International, 30501 Turrialba, Costa Rica*

[3]*Department of Fish and Wildlife Sciences, University of Idaho, Moscow, ID, USA*

174. Scenario-guided policy development and investment for Climate Smart Agriculture in Cambodia

Peou Rathana[1], Vervoort Joost[2,3], Lipper Leslie[4] ,Cattaneo Andrea[4], Cavatassi Romina[4]

[1]*South East Asia Regional Scenarios Coordinator, CGIAR CRP7: Climate Change, Agriculture and Food Security (CCAFS), IRRI-CCAFS SEA Regional Office, Hanoi, Vietnam*

[2]*Environmental Change Institute, Oxford University Centre for the Environment, South Parks Road, Oxford, OX1 3QY, United Kingdom*

[3]*CGIAR programme for Climate Change, Agriculture and Food security, University of Copenhagen, Faculty of Science, Department of Plant and Environmental Sciences, Rolighedsvej 21, DK-1958, Frederiksberg C, Denmark*

[4]*FAO- EPIC, Viale delle Terme di Caracalla, 00153 Rome, Italy*

175. Effects of the Jordanian rainfed barley-livestock producer perceptions and values on their adaptation to climate change

Auerbach Anita[1], Yigezu Yigezu[2], Haddadin Maissa[2], El-Shater Tamer[2], Akroush Samia[2], De Pauw Eddy[2], Guendel Sabine[1]

[1]*University of London (SOAS), Senate House, Malet Street, London, WC1E 7HU, United Kingdom*
[2]*ICARDA, P.O. Box 950764 Amman 11195, Jordan*

176. Climate Smart Agriculture in the Northeast: assessing stakeholders' belief-action gaps and research/extension capacity

Chatrchyan Allison[1], Tobin Daniel[2], Radhakrishna Rama[2], Allred Shorna[1]
[1]*Cornell University, Cornell Institute for Climate Change and Agriculture, College of Agriculture and Life Sciences, 206 Rice Hall, Ithaca, NY 14853, USA*
[2]*Penn State University, Department of Agricultural Economics, Sociology, and Education, 102 Ferguson Building, University Park, PA 16802, USA*

177. Barriers to the adoption and diffusion of CSA technological innovations in Europe

Blok Vincent[1], Long Thomas[1], Coninx Ingrid[2]
[1]*Wageningen UR, MST, Wageningen, 6706KN, the Netherlands*
[2]*Wageningen UR, Alterra, Wageningen, 6706KN, the Netherlands*

178. Necessity of clear concepts and convergence of discourse for a climate-smart agriculture (Costa Rica)

Laffourcade Roland[1,3], Dhorne Soazic[1,4], Gutiérrez Montes Isabel[2], Rapidel Bruno[5,6], Sibelet Nicole[1, 2]
[1]*CIRAD, UMR INNOVATION, F-37398 Montpellier, France*
[2]*CATIE, IDEA, CATIE, 7170 Turrialba 30501, Costa Rica*
[3]*AgroParistech, Montpellier, France*
[4]*AgroParistech UMR 1048 SADAPT AgroParisTech-INRA, Paris, France*
[5]*CIRAD, UMR SYSTEM, F-37398 Montpellier, France*
[6]*CATIE, Agroforestería, CATIE, 7170 Turrialba 30501, Costa Rica*

179. A rights-based approach to realizing socially equitable development outcomes from climate smart agriculture

Park S.E.[1], Ensor J.E.[2]
[1]*WorldFish, Jalan Batu Maung, Batu Maung, 11960, Bayan Lepas, Penang, Malaysia*
[2]*Stockholm Environment Institute, Environment Department, Grimston House, University of York, Heslington, York, YO10 5DD, United Kingdom*

180. Implications of alternative GHG emission metrics for emission trends and targets

Reisinger Andy
New Zealand Agricultural Greenhouse Gas Research Centre, Palmerston North 4442, New Zealand

181. Climate smart agriculture without climate smart spatial planning?

Razpotnik Visković Nika
Research Centre of the Slovenian Academy of the Sciences and Arts, Anton Melik Geographical Institute, 1000 Ljubljana, Slovenia

182. Forestry and agriculture in the climate change governance: Non-UNFCCC venues for enhancing action

Soto Cinthia
Research Assistant (PhD candidate) at Wageningen University, Trompstraat 166, The Hague, 2518 BP, The Netherlands

183. Barriers to uptake of conservation agriculture in Malawi: multi-level analyses & development planning implications

Dougill Andrew[1], Whitfield Stephen[1], Wood Ben[1], Chinseu Edna[1], Mkwambisi David[2], Stringer Lindsay[1]
[1]*School of Earth & Environment, University of Leeds, Leeds, United Kingdom*
[2]*Department of Natural Resources, Lilongwe University of Agriculture and Natural Resources, Lilongwe, Malawi*

184. Policies for climate-smart agriculture: contribution of agroforestry literature

Durey Louis[1], Le Coq Jean François[2]
[1]*AGROPARISTECH (Institut des sciences et de l'industrie du vivant et de l'environnement), 16 rue Claude Bernard F-75231 Paris Cedex 05, France*
[2]*CIRAD, UMR ART-Dev, F-34398 Montpellier Cedex 5, France; UNA (National University of Costa Rica), CINPE, Heredia, Costa Rica*

185. Learning and sharing for action: experiences of Ghana climate change and food security platform

Karbo Naaminong[1], Botchway Vincent[1], Zougmore Robert[2], Odum K. S.[1]
[1]*CSIR-Animal Research Institute, Accra, Ghana*
[2]*ICRISAT, Bamako, Mali*

186. Linking climate change adaptation and mitigation: Implications for Central America

Cuéllar Nelson, Kandel Susan, Gómez Ileana, Cartagena Rafael, Luna Fausto, Diáz Oscar

Fundación PRISMA, Pasaje Sagrado Corazón #821, Colonia Escalón, San Salvador, El Salvador

187. Social learning in support of CSA: getting to outcomes and impact

Förch Wiebke[1], Thornton Philip[1], Schuetz Tonya[2], Harvey Blane[3]

[1]*CCAFS, ILRI, PO Box 30709, Nairobi 00100, Kenya*

[2]*Orleansstr. 59, D-81667 Munich, Germany*

[3]*Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA), IDRC, PO Box 8500, Ottawa, ON K1G 3H9, Canada*

188. Policy instruments for Climate Smart Agriculture: toward a specific integrated analytical framework

Le Coq Jean-Francois[1,2], Fallot Abigail[3,4], Bouroncle Claudia[4]

[1]*CIRAD UMR ART-DEV, 34000 Montpellier, France*

[2]*UNA/CINPE, 3000 Heredia, Costa Rica*

[3]*CIRAD UPR GREEN, 34000 Montpellier, France*

[4]*CATIE-Climate Change and Watershed group; 30 501 Turrialba, Costa Rica*

189. Building local capacity in agricultural carbon projects in Kenya and Uganda through participatory action research

Shames Seth[1], Heiner Krista[1], Masiga Moses[2], Recha John[3], Kapukha Martha[4], Ssempala Annet[5], Wekesa Amos[4]

[1]*EcoAgriculture Partners, 1100 17th St, NW Suite #600, Washington, DC 20036, USA*

[2]*ENR Africa Associates, P.O. Box 72287, Kampala, Uganda*

[3]*Environmental Resources Management Center for Sustainable Development [ERMCSD], Utumishi Cooperative House, Mezzanine Floor, Mamlaka Road, Off Nyeyere Road, P.O. BOX 1728 – 00100, Nairobi, Kenya*

[4]*Vi-Agroforestry Regional Office, P.O. Box 457 67 00100 Nairobi, Kenya*

[5]*Environmental Conservation Trust of Uganda (ECOTRUST), Plot 49 Nakiwogo Road, Entebbe, Uganda*

190. What does it take to see transformative adaptation? Evidence from sub-Saharan Africa

Bernier Quinn[1], Kristjanson Patti[2], Meinzen-Dick Ruth[1]

[1]*International Food Policy Research Institute, 2033 K Street NW, Washington DC, 20006, USA*

[2]*World Agroforestry Centre, United Nations Avenue, P. O. Box 30677, Nairobi, Kenya*

191. Is technical information what policy makers need to take action on the climate change adaptation of smallholder farmers?

Donatti Camila I.[1], Martínez-Rodríguez M.R.[1], Harvey Celia A.[1], Vignola R.[2], Rodríguez C.M.[3]

[1]*Conservation International, The Betty and Gordon Moore Center for Science and Oceans, 22202, Arlington, VA, USA*

[2]*CATIE, Climate Change and Watershed Program, 7170, Turrialba, Costa Rica*

[3]*Conservation International, Center for Environmental and Peace, 22202, Arlington, VA, USA*

192. Drip irrigation works: drip irrigation kits do not

Davidson Michael

Davidson Consultants, 1169 Boston Street, Altadena, CA 91001, USA

PARALLEL SESSION L3 TOWARDS CLIMATE-SMART SOLUTIONS

Wednesday, 18 March 2015

8:30–12:30

ORAL PRESENTATIONS

PARALLEL SESSION L3.1 CLIMATE ADAPTATION AND MITIGATION SERVICES

ROOM SULLY 1

KEYNOTE PRESENTATIONS

08:30 AgMIP Contributions to Climate-Smart Agriculture

Rosenzweig Cynthia[1,2]

[1]*NASA Goddard Institute for Space Studies, 2880 Broadway, New York, NY 10025, USA*

[2]*Center for Climate Systems Research, Columbia University, New York, NY 10025, USA*

09:00 Adaptation and mitigation services for climate smart agriculture

Moors Eddy, Groot Annemarie, Werners Saskia

Alterra-Wageningen UR, Wageningen, the Netherlands

CONTRIBUTED ORAL PRESENTATIONS

11:00 Public-private partnership for climate-smart irrigation initiative in Morocco: the experience of Souss Massa Region

Lahcen Kenny[1], Hafidi Brahim[2], El Faskaoui Mhamed[3], Rami Abdellatif[4], Akhmisse Laila[5], Chemaou Hasna[5]

[1]*IAV Hassan II, CHA / AGROTECH, Agadir, Morocco*

[2]*Conseil Régional du Souss Massa Draa, Agadir, Morocco*

[3]*Agence du Bassin Hydraulique du Souss Massa Draa, Agadir, Morocco*

[4]*Agrotech-SMD; Agadir, Morocco*

[5]*Fondation Credit Agricole du Maroc pour le Développement Durable, Rabat, Morocco*

11:15 DSS for monitoring agro-meteorological and crop conditions in India using remote sensing for agro-advisory services

Sehgal Vinay, Singh Malti, Verma Rakeshwar, Vashisth Ananta, Pathak Himanshu

Division of Agricultural Physics, Indian Agricultural Research Institute, New Delhi - 110012, India

11:30 Can citizen science accelerate climate adaptation by poor farming households?

van Etten Jacob[1], Alwang Jeffrey[2], Arnaud Elizabeth[3], Beza Eskender[4], Calderer Lluis[1], Crichton Rhiannon[3], Eitzinger Anton[5], van Duijvendijk Kees[6], Fadda Carlo[7], Fantahun Basazen[8], van de Gevel Jeske[7], Gotor Elisabetta[9], Kassahun Mengistu Dejene[10], Kaushik S.S.[11], Kidane Yosef G.[12], Mathur Prem[13], Mercado Leida[14], Mittra Sarika[13], Moeller Anne Marie[15], Mondal Ashis[16], Pè M. Enrico[17], Richter Susan[2], Rosas Juan Carlos[18], Singh R.K.[19], Solanki I.S.[20], Steinke Jonathan[1,21], Van den Bergh Inge[22], Zimmerer Karl[23]

[1]*Bioversity International, Costa Rica Office, c/o CATIE 7170, Turrialba, Costa Rica*

[2]*Virginia Polytechnic Institute and State University, Blacksburg, Virginia, USA*

[3]*Bioversity International, France Office, 34397 Montpellier Cedex 5, France*

[4]*Wageningen University and Research Centre, Wageningen, the Netherlands*

[5]*Decision and Policy Analysis, CIAT – International Center for Tropical Agriculture, Cali, Colombia*

[6]*Lund University, SE-221 00 Lund, Sweden*

[7]*Bioversity International, Sub-Saharan Africa Office, Nairobi, Kenya*

[8]*Ethiopian Biodiversity Institute (EBI), Addis Ababa, Ethiopia*

[9]Bioversity International, Via dei Tre Denari 472/a, Maccarese 00057, Italy
[10]Department of Dryland Crop and Horticulture Science, Mekelle University, Mekelle, Tigray, Ethiopia
[11]Krishi Vigyan Kendra, Satna - 485331 (M.P.), India
[12]Sirinka Agricultural Research Centre, Woldia, Ethiopia
[13]Bioversity International, Asia, Pacific and Oceania Office, New Delhi, India
[14]CATIE - Tropical Agricultural Research and Higher Education Center, 7170, Turrialba, Costa Rica
[15]Humana People to People India, New Delhi-110070, India
[16]Action for Social Advancement, Bhopal, Madhya Pradesh-462016, India
[17]Scuola Superiore S. Anna, Piazza Martiri Della Libertà, 33, 56127 Pisa, Italy
[18]Zamorano Pan-American Agricultural School, Honduras
[19]NEFORD, Vishnupuri, Aliganj, Lucknow, India
[20].S. Pusa Bihar, Indian Agricultural Research Institute - IARI, New Delhi, India
[21]Humboldt-Universität, 10099 Berlin, Germany
[22]Bioversity International, Belgium Office, W. De Croylaan 42, 3001 Heverlee, Belgium
[23]Department of Geography, Penn State University, 16802, University Park, Pennsylvania, USA

11:45 An international intercomparison & benchmarking of crop and pasture models simulating GHG emissions and C sequestration

Ehrhardt Fiona[1], Soussana Jean-François[1], Grace Peter[2], Recous Sylvie[3], Snow Val4, Bellocchi Gianni[5], Beautrais Josef[6], Easter Mark[7], Liebig Mark[8], Smith Pete[9], Celso Aita[10], Bhatia Arti[11], Brilli Lorenzo[12], Conant Rich[7], Deligios Paola[13], Doltra Jordi[14], Farina Roberta[15], Fitton Nuala[9], Grant Brian[16], Harrison Matthew[17], Kirschbaum Miko[18], Klumpp Katja[5], Léonard Joël[19], Lieffering Mark[6], Martin Raphaël[5], Massad Raia Sylvia[20], Meier Elizabeth[21], Merbold Lutz[22], Moore Andrew[21], Mula Laura[13], Newton Paul[21], Pattey Elizabeth[16], Rees Bob[23], Sharp Joanna[24], Shcherback Iurii[2], Smith Ward[16], Topp Kairsty[23], Wu Lianhai[25], Zhang Wen[26]
[1]INRA, Paris, France
[2]Queensland University of Technology, Brisbane, Australia
[3]INRA, UMR FARE, Reims, France
[4]AgResearch, Lincoln Research Centre, Christchurch, New Zealand
[5]INRA, Grassland Ecosystem Research (UR874), Clermont Ferrand, France
[6]AgResearch Grasslands, Palmerston North, New Zealand
[7]NREL, Colorado State University, Fort Collins, USA
[8]USDA Agricultural Research Service, Mandan, USA
[9]Institute of Biological and Environmental Sciences, University of Aberdeen, Scotland, United Kingdom
[10]Federal University of Santa Maria, Santa Maria, Brazil
[11]Indian Agricultural Research Institute, New Delhi, India
[12]University of Florence, DISPAA, Florence, Italy
[13]Desertification Research Centre, University of Sassari, Italy
[14]Cantabria Agricultural Research and Training Centre, Muriedas, Spain
[15]ARC-RPS, Research Centre for the Soil-Plant System, Roma, Italy
[16]Agriculture and Agri-Food Canada, Ottawa, Canada
[17]Tasmanian institute of Agriculture, Burnie, Australia
[18]Landcare Research, Palmerston North, New Zealand
[19]INRA, UPR 1158 AgroImpact, Laon, France
[20]INRA AgroParisTech UMR EGC, Thiverval-Grignon France
[21]CSIRO, Australia
[22]Swiss Federal Institute of Technology ETH Zurich, Zurich, Switzerland
[23]SRUC Edinburgh Campus, Scotland, United Kingdom
[24]The New Zealand Institute for Plant & Food Research, New Zealand
[25]Department of Sustainable Soil Science and Grassland System, Rothamsted Research, United Kingdom
[26]Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China

PARALLEL SESSION L3.2 CLIMATE-SMART CROPPING SYSTEMS

ROOM SULLY 2

KEYNOTE PRESENTATIONS

08:30 Climate Smart Agriculture – adaptation or transformation

Obersteiner Michael[1], Leclère David[1], Havlík Petr[1], Fuss Sabine[2,1], Schmid Erwin [3], Mosnier Aline[1], Walsh Brian[1], Valin Hugo[1], Herrero Mario[4], Khabarov Nikolai[1]

[1]*Ecosystem Services Management, International Institute of Applied System Analysis, Laxenburg, Austria*
[2]*Resources and International Trade Group, Mercator Research Institute on Global Commons and Climate Change, Berlin, Germany*
[3]*Institute for Sustainable Economic Development, University of Natural Resources and Life Sciences, Vienna, Austria*
[4]*Commonwealth Scientific and Industrial Research Organisation, 306 Carmody Road, 4067 Qld, Australia*

09:00 Designing and assessing climate-smart cropping systems in temperate and tropical agriculture

Debaeke Philippe[1], Pellerin Sylvain[2], Scopel Eric[3]
[1]*INRA, UMR AGIR, 31326 Castanet-Tolosan, France*
[2]*INRA, UMR ISPA, 33883 Villenave d'Ornon, France*
[3]*CIRAD, UR AIDA, 34398 Montpellier, France*

CONTRIBUTED ORAL PRESENTATIONS

11:00 Phosphorus use efficiency in symbiotic N_2 fixation for coupling bio-geochemical cycles in agrosystems with legumes

Drevon Jean-Jacques[1], Amenc Laurie[1], Bargaz Adnane[2], Becquer Thierry[1], Blavet Didier[1], Gérard Frédéric[1], Domergue Odile[3], Lazali Mohamed[4], ZamanAllah Mainassara[5]
[1]*INRA Ecologie Fonctionnelle & Biogéochimie des Sols & Agroécosystèmes, 1 Place Viala, F34060, Montpellier, France*
[2]*Swedish University of Agricultural Sciences, Department of Biosystems and Technology, PO Box 103, SE-230 53 Alnarp, Sweden*
[3]*Laboratoire des Symbioses Tropicales et Méditerranéennes, Campus International de Baillarguet, 34398 Montpellier Cedex 5, France*
[4]*Université de Khemis Miliana, Route Theniet El Had, Soufay 44225 Ain Defla, Algeria*
[5]*CIMMYT, Southern Africa Regional Office, Peg Mazowe Road MP163, Mt Pleasant, Harare, Zimbabwe*

11:15 Conservation agriculture and agroecology practices to mitigate climatic variations in medium altitude in Madagascar

Penot Eric[1], Fèvre Valentin[2], Flodrops Patricia[2], Razafimahatratra Hanitriniaina Mamy[3]
[1]*CIRAD UMR innovation, DP SPAD, DR CIRAD, BP 853, Anpandrianomby, 101 Antananarivo, Madagascar*
[2]*Agroparistech, DP SPAD, DR CIRAD, BP 853, Anpandrianomby, 101 Antananarivo, Madagascar*
[3]*FOFIFA, Apandrianomby, 101 Antananarivo, Madagascar*

11:30 Agronomic and environmental benefits of climate-smart farming practices modeled for rice-based system in India

Kwon Hoyoung, de Pinto Alessandro, Haruna Akiko
Environment and Production Technology Division, International Food Policy Research Institute, 2033 K Street, NW, 20006-1002 Washington DC, USA

11:45 Smallholders' coffee and cocoa agroforestry systems; examples of climate-smart agriculture

Vaast Philippe[1], Harmand Jean-Michel[2], Somarriba Eduardo[3]
[1]*CIRAD, UMR Eco&Sols, ICRAF United Nations Avenue POBOX 30677, Nairobi Kenya*
[2]*CIRAD, UMR Eco&Sols, 2 Place Viala (Bat. 12), 34060 Montpellier cedex 2, France*
[3]*CATIE, 7170, Cartago, Turrialba 30501, Costa Rica*

PARALLEL SESSION L3.3 CLIMATE-SMART LIVESTOCK

ROOM SULLY 3

KEYNOTE PRESENTATIONS

08:30 Climate-smart livestock systems: lessons and future research

Herrero Mario[1], Thornton Philip K.[2], van Wijk Mark[3], Rigolot Cyrille[1,4], Havlik Petr[5], Henderson Benjamin[1], Ash Andrew[1], Crimp Steven[1], Howden Stuart Mark[1]
[1]*Commonwealth Scientific and Industrial Research Organisation, Agriculture Flagship, Australia*
[2]*CGIAR Research Programme on Climate Change, Agriculture and Food Security, ILRI, Nairobi, Kenya*
[3]*International Livestock Research Institute, Nairobi, Kenya*
[4]*INRA, UMR 1273 Metafort, F-63122 Saint Genes Champanelle, France*
[5]*International Institute for Applied Systems Analysis, Laxenburg, Austria*

09:00 Livestock and climate change: combining mitigation and adaptation options and projecting sustainable futures

Soussana Jean-François[1] and the EC FP7 'AnimalChange' consortium (see www.animalchange.eu)
[1]*INRA, Paris, France*

CONTRIBUTED ORAL PRESENTATIONS

11:00 Differential climate change impacts on crop and grasslands and the relative livestock production systems competitiveness

Havlík Petr[1], Leclere David[1], Valin Hugo[1], Herrero Mario[2], Schmid Erwin[3], Obersteiner Michael[1]
[1]*International Institute for Applied Systems Analysis, Schlossplatz 1, A-2361 Laxenburg, Austria*
[2]*Commonwealth Scientific and Industrial Research Organisation 306 Carmody Road, St Lucia, 4067 QLD, Australia*
[3]*University of Natural Resources and Life Sciences, Feistmantelstraße 4, A-1180 Vienna, Austria*

11:15 Efficiency gains for enteric methane mitigation and productivity: contribution to CSA and investment opportunities.

Gerber Pierre[1], Opio Carolyn[1], Mottet Anne[1], Steinfeld Henning[1], Hatton Victoria[2], Clark Harry[2]
[1]*Food and Agriculture Organization of the United Nations, Rome, Italy*
[2]*New Zealand Agricultural Greenhouse Gas Research Centre, Palmerston North, New Zealand*

11:30 Variations in egg incubation temperature enable chicken acclimation through long-lasting changes in energy metabolism

Loyau Thomas[1], Métayer-Coustard Sonia[1], Berri Cécile[1], Mignon-Grasteau Sandrine[1], Hennequet-Antier Christelle[1], Praud Christophe[1], Duclos Michel J.[1], Tesseraud Sophie[1], Coustham Vincent[1], Nyuiadzi Dzidzo[1,2], David Sarah-Anne[1], Everaert Nadia[3,4], Siegel Paul B.[5], Yalçin Servet[6], Yahav Shlomo[7], Collin Anne[1]
[1]*INRA, UR83 Recherches Avicoles, F-37380, Nouzilly, France*
[2]*Institut Togolais de Recherche Agronomique (ITRA), BP 1163, Lomé, Togo*
[3]*KU Leuven, Department of Biosystems, B-3001 Leuven, Belgium*
[4]*University of Liège, Gembloux Agro-Bio Tech, Animal Science Unit, B-5030 Gembloux, Belgium*
[5]*Virginia Polytechnic Institute and State University, Department of Animal and Poultry Sciences, Blacksburg, Virginia 24061-0306, USA*
[6]*Ege University, Faculty of Agriculture, Department of Animal Science, 35100 Izmir, Turkey*
[7]*Institute of Animal Science, The Volcani Center, Bet Dagan P.O. Box 6, 50250, Israel*

11:45 Impact of feeding strategies on GHG emissions, income over feed cost and economic efficiency on milk production

Inamagua-Uyaguari Juan Pablo[1], Jenet Andreas[1], Wattiaux Michel[3], Guerra Leonardo[1], Vilchez Sergio[1], Chacón-Cascante Adriana[1], Posada Karla[1], Barrantes Luz[2], Casasola Francisco[1], Villanueva Cristobal[1], Leon Hector[4], Lapidus Daniel[5]
[1]*Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), 30501 Turrialba, Costa Rica*
[2]*Universidad de Costa Rica, Centro de Investigación en Economía Agrícola y Desarrollo Agroempresarial (CIEDA) 141-2400 Costa Rica*
[3]*University of Wisconsin-Madison, USA*
[4]*Cooperativa Dos Pinos; 179-4060 Alajuela, Costa Rica*
[5]*U.S. Department of Agriculture, 1400 Independence Ave., S.W.; Washington, DC 20250 USA*

PARALLEL SESSION L3.4 CLIMATE-SMART LANDSCAPES, WATERSHEDS AND TERRITORIES

ROOM RONDELET

KEYNOTE PRESENTATIONS

08:30 Climate Smart Territories; what are they and how do we evaluate progress towards this goal?

Beer John[1], Louman Bastiaan[1], Mercado Leida[1], Scherr Sara[2], Van Etten Jacob[3]
[1]*CATIE, Costa Rica*
[2]*EcoAgriculture Partners, USA*
[3]*Bioversity International*

09:00 Towards climate smart landscapes and watersheds

Oswald-Spring Úrsula
CRIM-UNAM, Mexico

CONTRIBUTED ORAL PRESENTATIONS

11:00 Prototyping climate-smart agricultural landscapes: a generic modelling framework and application in a tropical island

Blazy Jean-Marc[1], Chopin Pierre[1], Doré Thierry[2,3], Guindé Loïc[1], Paul Jacky[1], Sierra Jorge[1]

[1]*INRA, UR1321 ASTRO Agrosystèmes tropicaux, F-97170 Petit-Bourg (Guadeloupe), France*
[2]*AgroParisTech, UMR 211 Agronomie, F-78850 Thiverval-Grignon, France*
[3]*INRA, UMR 211 Agronomie, F-78850 Thiverval-Grignon, France*

11:15 Managing trade-offs in climate-smart landscapes: a global analysis at multiple levels

Locatelli Bruno[1], Pramova Emilia[2], Chazarin Florie[2], Fedele Giacomo[3]
[1]*CIRAD-CIFOR, Montpellier 34098, France*
[2]*CIFOR, Av La Molina 1895, Lima 15024, Peru*
[3]*CIFOR, Jalan Cifor, Bogor 16000, Indonesia*

11:30 Climate-smart landscapes: multifunctionality in practice

Minang Peter A., Van Noordwijk Meine, Duguma Lalisa A.
ICRAF, UN Avenue, Gigiri, P O Box 30677-00100, Nairobi, Kenya

11:45 A platform for landscape ecoefficiency monitoring and jurisdictional certification in the Amazon region

Venturieri Adriano[1], Poccard-Chapuis René[2], Laurent François[3], Plassin Sophie[2], Thalês Marcelo[4], Moura Fabricia[4], Pimentel Gustavo[5], Piketty Marie-Gabrielle[6]
[1]*Embrapa Amazonia Oriental, Belém - PA, 66095-100, Brazil*
[2]*UMR SELMET – CIRAD, Paragominas - PA, 68626-140, Brazil*
[3]*Université du Maine, Le Mans 72085, France*
[4]*Museu Paraense Emilio Goeldi, Belém - PA, 66095-100, Brazil*
[5]*Embrapa Amazonia Oriental, Belém - PA 66095-100, Brazil*
[6]*UR GREEN – CIRAD, Montpellier 34000, France*

PARALLEL SESSION L3.5 INVESTMENT OPPORTUNITIES AND FUNDING INSTRUMENTS

ROOM BARTHEZ

KEYNOTE PRESENTATIONS

08:30 Delivering Climate Smart Agriculture: prospects from climate finance

Hedger Merylyn, Nakhooda Smita, Norman Marigold
Overseas Development Institute, London, United Kingdom

09:00 "What Can Fund Climate Smart Agriculture?"

Searchinger Timothy D.
Princeton University, USA

CONTRIBUTED ORAL PRESENTATIONS

11:00 How to deal with trade-offs? – A manual for policymakers

Ignaciuk Ada
OECD, 2 rue Andre Pascal, 75016 Paris, France

11:15 Exploring strategic management of agricultural systems to link mitigation and adaptation to climate change

Iglesias Ana, Sanchez Berta
Department of Agricultural Economics and Social Sciences, Universidad Politécnica de Madrid, Madrid, Spain

11:30 Nationally appropriate mitigation actions (NAMAs) for upscaling climate-smart agriculture practices

Avagyan Armine, Karttunen Kaisa, De Vit Caroline, Rioux Janie
Food and Agriculture Organisation of the United Nations (FAO), Viale delle Terme di Caracalla, 00153 Rome, Italy

11:45 A business approach to poverty reduction: weather index based insurance and climate smart agriculture

Greatrex Helen[1], Hansen James[1], Hellin Jon[2], Osgood Daniel Edward[1]
[1]*International Research Institute for Climate and Society (IRI), Columbia University, Lamont Doherty Earth, 61 Route 9W, Palisades, New York 10964-1000, USA*
[2]*International Maize and Wheat Improvement Center (CIMMYT), Apdo. Postal 6-641, Mexico, D.F. 06600, Mexico*

POSTER SESSION 3

Wednesday, 18 March 2015

9:30–11:00

EXHIBITION HALL, LEVEL 0

L3.1 Climate adaptation and mitigation services

1. Scaling up climate information services within climate smart agriculture

Jay Alexa[1], Tall Arame[2]
[1]*International Research Institute for Climate and Society, Earth Institute, Columbia University, 61 Route 9W, Palisades, NY 10964, USA*
[2]*International Food Policy Research Institute, 2033 K Street, NW Washington, DC 20006-1002, USA*

2. Upscaling climate smart agriculture for food security in the Sahel region

Bilgo Ablasse[1], Subsol Sébastien[1], Botoni Yaro Edwige[2], Sarr Benoit[1]
[1]*Centre Régional AGRHYMET, BP 11011 Niamey, Niger*
[2]*Secrétariat Exécutif du Comité permanent Inter-Etats de Lutte contre la Sécheresse au Sahel (CILSS), 03 BP 7049, Ouagadougou, Burkina Faso*

3. Index-based insurance for income stabilization for smallholder farms in Central Asia

Bobojonov Ihtiyor[1], Aw-Hassan Aden[2], Biradar Chandrashekar[2], Nurbekov Aziz[3]
[1]*Leibniz Institute of Agricultural Development in Transition Economies (IAMO), Germany*
[2]*ICARDA, Abdoun Al-Shamalie, Khalid Abu Dalbouh Str., Amman 11195, Jordan*
[3]*ICARD, Tashkent, Uzbekistan*

4. Preliminary results obtained in the CLIF Project on climate change impact on fungal pathosystems

Huber Laurent[1], Bancal Marie-Odile[1], Zurfluh Olivier[1], Huard Frédéric[2], Launay Marie[2], Andrivon Didier[3], Androdias Annabelle[3], Corbière Roselyne[3], Mariette Nicolas[3], Belaid Yosra[4], de Vallavieille-Pope Claude[4]
[1]*INRA, UMR 1091 EGC, F-78850 Thiverval-Grignon, France*
[2]*INRA, US 1116 AGROCLIM, F-84914 Avignon, France*
[3]*INRA, UMR 1349 IGEPP, F-35653 Le Rheu, France*
[4]*INRA, UR 1290 Bioger, F-78850 Thiverval-Grignon, France*

5. Modelling greenhouse gas emission under extensive livestock production systems in Kalahari South Africa

Tesfamariam Eyob H.[1], Hassen Abubeker[2], Booyse Maruzaan[2], Hutchings Nicholas J.[3], Stienezen Marcia[4]
[1]*Department of Plant Production and Soil Science, University of Pretoria, South Africa*
[2]*Department of Animal and Wild Life Sciences, University of Pretoria, South Africa*
[3]*Department of Agroecology - Climate and Water, Aarhus University, Denmark*
[4]*Wageningen UR Livestock Research, Wageningen, the Netherlands*

6. Institutionalizing crop yield forecasting for early warning in Nepal

Gyawali Dhiraj Raj[1], Kanel Damodar[1], Burja Kurstin Vance[1], Arun Khatri-Chhetri[2]
[1]*United Nations World Food Programme, Nepal Food Security Monitoring System (NeKSAP), Vulnerability Analysis and Mapping (VAM), Lalitpur, Nepal*
[2]*CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), International Water Management Institute, New Delhi, India*

7. Analysis of extreme climate events and their impact on maize and wheat

Diriba Tadele Akeba[1], Debusho Legesse Kassa[1], Botai Joel [2], Hassen Abubeker [3]
[1]*University of Pretoria, Department of Statistics, Private Bag X20, Hatfield, 0028 Pretoria, South Africa.*
[2]*University of Pretoria, Department of Geography, Geoinformatics and Meteorology, 0028 Pretoria, South Africa*
[3]*University of Pretoria, Department of Animal and Wildlife Sciences, 0028 Pretoria, South Africa*

8. Farmer rice field adaptation technology for rice-wheat cropping system in Punjab, Pakistan under future changing climate

Ahmad Ashfaq[1], Wajid Aftab[1], Khaliq Tasneem[1], Habib-ur-Rehman M.[1], Rasul Fahd[1], Saeed Umer[1], Hussain Jamshad[1], Hoogenboom Gerrit[2]
[1]*Agro-climatology Lab., Department of Agronomy, University of Agriculture, Faisalabad, 38040, Pakistan*
[2]*College of Agriculture, Human, and Natural Resources Sciences, Washington States University, Prosser, WA 99350-8694, USA*

9. Are autonomous adaptation help to improve resilience of farmers? Insights from local scale analysis from South India

Dhanya Praveen, Ramachandran Andimuthu, Palanivelu Kandasamy

Centre for Climate Change and Adaptation Research, College of Engineering, Guindy Campus, Anna University, Sardar Patel Road, Chennai – 600 025, India

10. Developing web services to foster the adaptation of agriculture, forestry and water management to climate change

Bréda Nathalie[1], Caquet Thierry[2], Gascuel-Odoux Chantal[3], Soussana Jean-François[4]

[1]*INRA, UMR 1137 INRA-Université de Lorraine "Forest Ecology and Ecophysiology-EEF", Route de la Forêt d'Amance, F-54280 Champenoux, France*

[2]*INRA, UAR 1275 Ecology of Forests, Grasslands and Freshwater Systems Division, Route de la Forêt d'Amance, F-54280 Champenoux, France*

[3]*INRA, UMR 1069 INRA-Agrocampus Ouest "Soil, Agro and hydroSystem-SAS", 65 rue de Saint-Brieuc, F-35042 Rennes Cedex, France*

[4]*INRA, Collège de Direction, 147 rue de l'Université, F-75338 Paris Cedex 07, France*

11. Evaluation of GHGs, C stocks and yields from European cropping and pasture systems under two climate change scenarios

Carozzi Marco[1], Massad Raia Silvia[1], Klumpp Katja[2], Eza Ulrich[2], Shtiliyanova Anastasiya[2], Drouet Jean-Louis[1], Martin Raphaël[2]

[1]*INRA, AgroParisTech, UMR 1091 Environnement et Grandes Cultures, 78850 Thiverval-Grignon, France*

[2]*INRA, UR 0874 UREP Unité de Recherche sur l'Ecosystème Prairial, 63100 Clermont-Ferrand, France*

12. Food security and climate change: a vulnerability analysis of agricultural livelihoods in Central America

Imbach Pablo[1], Bouroncle Claudia[1], Läderach Peter[2], Medellin Claudia[1], Beatriz Rodríguez[2], Armando Martínez[2]

[1]*CATIE, Climate Change and Watersheds Program, CATIE 7170, Turrialba, Costa Rica*

[2]*CIAT, Decision and Policy Analysis Program, Cali, Colombia*

13. Impact of climate change on household income and poverty levels: empirical evidence from South Asia

Rahut Dil Bahadur[1], Aryal Jeetendra[2], Ali Akhter[3], Behera Bhagirath[4]

[1]*Program Manager, Socioeconomics Program, International Maize and Wheat Improvement Center (CIMMYT), 10Km. 45, Carretera Mex-Veracruz, El Batan, Mexico*

[2]*Agricultural Economist, Socioeconomics Program, CIMMYT, New Delhi, India*

[3]*Agricultural Economist, Socioeconomics Program, CIMMYT, Islamabad, Pakistan*

[4]*Department of Humanities and Social Sciences, Indian Institute of Technology Kharagpur, Kharagpur-721302, West Bengal, India*

14. Irrigated rice practices changes in the Senegal River Valley according to climate and constraints evolutions

Baldé Alpha Bocar[1], Muller Bertrand[1,2], Van Oort Pepijn[3], Ndiaye Ousmane[4], Stuerz Sabine[5], Sow Abdoulaye[1], Diack Salif[6], Ndour Maimouna[1], Dingkuhn Michael[7]

[1]*Africa Rice Center (AfricaRice), Saint-Louis, Senegal*

[2]*Centre de Coopération Internationale en Recherche Agronomique pour le développement (CIRAD)/AfricaRice, Saint-Louis, Senegal*

[3]*AfricaRice/Wageningen University, Wageningen, The Netherlands*

[4]*Agence Nationale de l'Aviation Civile et de la Météorologie (ANACIM), Dakar, Senegal*

[5]*Hohenheim University, Stuttgart, Germany*

[6]*Société d'aménagement et d'exploitation des terres du delta du fleuve Sénégal et des vallées du fleuve Sénégal et de la Falémé (SAED), Saint-Louis, Senegal*

[7]*CIRAD/International Rice Research Institute (IRRI), Los Banos, Philippines*

15. Towards high resolution adaptation strategies to climate variability and change

Neethling Etienne[1,2], Le Roux Renan[1], Barbeau Gérard[2], Quénol Hervé[1], Rouan Mathias[3], Tissot Cyril[3]

[1]*COSTEL-CNRS, UMR 6554 LETG, Université Rennes 2, Place du Recteur Henri Le Moal, 35043 Rennes Cedex, France*

[2]*UVV-INRA, UE1117, UMT Vinitera², 42 rue Georges Morel, 49071 Beaucouzé, France*

[3]*GEOMER-CNRS, UMR 6554 LETG, Université de Bretagne Occidentale, 29280 Plouzané, France*

16. AgMIP's transdisciplinary approach to regional integrated assessment of climate impact, vulnerability & adaptation

Antle John[1], Valdivia Roberto[1], Boote Ken[2], Hatfield Jerry[3], Janssen Sander[4], Jones Jim[2], Porter Cheryl[2], Rosenzweig Cynthia[5], Ruane Alex[5], Thorburn Peter[6]

[1]*Oregon State University, USA*

[2]University of Florida, USA
[3]US Department of Agriculture (USDA), USA
[4]Wageningen UR, the Netherlands
[5]NASA Goddard Institute for Space Studies, USA
[6]The Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia
[7]International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), 00623 Nairobi, Kenya

17. Representative agricultural pathways for integrated assessment of climate change, vulnerability & adaptation impacts

Valdivia Roberto O.[1], Antle John M.[1], Rosenzweig Cynthia[2], Ruane Alex[2], Vervoort Joost[3], Ashfaq Muhammad[4], Hattie Ibrahima[5], Homman-Kee Tui Sabine[6], Mulwa Richard[7], Nhemachena Charles[8], Ponnusamy Paramasivam[9], Herath Dumindu[10], Singh Harbir[11]
[1]Applied Economic, Oregon State University, Corvallis OR 97331 USA
[2]NASA Goddard Institute for Space Studies, New York, NY, 10025 USA
[3]Scenarios Officer for CGIAR CRP7: Climate Change, Agriculture and Food Security (CCAFS), Scenarios workpackage leader, TRANSMANGO, Environmental Change Institute, University of Oxford, Oxford University Centre for the Environment, South Parks Road, Oxford, OX1 3QY, United Kingdom
[4]Institute of Agricultural and Resource Economics, University of Agriculture, Faisalabad, Pakistan
[5]Research Director, IPAR Senegal
[6]International Crops Research Institute for the Semi-Arid Tropics, ICRISAT, Box 776, Bulawayo, Matopos Research Station, Zimbabwe
[7]Centre for Advanced Studies in Environmental Law and Policy, University of Nairobi, Nairobi, Kenya
[8]Human Sciences Research Council, 134 Pretorius Street, Pretoria 0001, South Africa
[9]Dept. of Agricultural Economics, Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu, India
[10]Senior Agriculture Economist, Socio Economics and Planning Centre, Department of Agriculture, Peradeniya, Sri Lanka
[11]Principal Scientist (Agricultural Economics), Project Directorate for Farming Systems Research, (Indian Council of Agricultural Research), Modipuram, Meerut (Uttar Pradesh), 250110, India
[12]International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), 00623 Nairobi, Kenya

18. Trends in dry spell and extreme rainfall events and significance for alternative and sustainable agriculture in Malawi

Mloza-Banda Medrina L.[1], Mloza-Banda H. R.[2], De Pue Jan[1], Cornelis Wim[1]
[1]University of Gent, Department of Soil Management and Care, Research Unit Soil Physics, Coupure links 653, 9000-Gent, Belgium
[2]University Of Malawi, Faculty of Agriculture, Department of Crop and Soil Sciences, P.O. Box 219, Lilongwe, Malawi

19. Analysing the quality and reconstructing daily weather data for crop growth simulation models

Mkuhlani Siyabusa[1], Berre David[1], Corbeels Marc[2], Romain Frelat[3], Rusinamhodzi Leonard[4], Lopez-Ridaura Santiago[3]
[1]CIMMYT-Zimbabwe, CIMMYT Southern Africa Regional Office, 12.5 Km Peg Mazowe Road, P.O. Box MP163, Mt Pleasant, Harare, Zimbabwe
[2]CIRAD - Agroecology and Sustainable Intensification of Annual Crops (AIDA) C/O Embrapa-Cerrados, Km 18, BR 020, Rodovia, Brasília/Fortaleza, CP 08223 CEP 73310-970, Planaltina, DF, Brazil
[3]CIMMYT –CCAFS, Apdo. Postal 6-641 06600 Mexico, D.F., Mexico
[4]CIRAD-Agroecology and Sustainable Intensification of Annual Crops (AIDA)- c/o CIMMYT Southern Africa Regional Office, 12.5 Km Peg Mazowe Road, P.O. Box MP163, Mt Pleasant, Harare, Zimbabwe

20. Gender assessment of climate change adaptation strategies in south-western Nigeria

Odebode Stella O.
Department of Agricultural Extension & Rural development, University of Ibadan, Oyo State, Nigeria

21. Sensitivity analysis for climate change impacts, adaptation and mitigation projection with pasture models

Bellocchi Gianni[1], Ehrhardt Fiona[2], Soussana Jean-François[2], Conant Rich[3], Fitton Nuala[4], Harrison Matthew[5], Lieffering Mark[6], Minet Julien[7], Martin Raphaël[1], Moore Andrew[8], Myrgiotis Vasileios[9], Rolinski Susanne[10], Ruget Françoise[11], Snow Val[12], Wang Hong[13], Wu Lianhai[14]
[1]INRA, Grassland Ecosystem Research (UR874), Clermont Ferrand, France
[2]INRA, Paris, France
[3]NREL, Colorado State University, Fort Collins, USA
[4]Institute of Biological and Environmental Sciences, University of Aberdeen, Scotland, United Kingdom

[5]*Tasmanian institute of Agriculture, Burnie, Australia*
[6]*AgResearch Grasslands, Palmerston North, New Zealand*
[7]*Université de Liège, Arlon, Belgium*
[8]*CSIRO, Australia*
[9]*SRUC Edinburgh Campus, Scotland, United Kingdom*
[10]*Potsdam Institute for Climate Impact Research, Germany*
[11]*INRA, UMR EMMAH, Avignon, France*
[12]*AgResearch, Lincoln Research Centre, Christchurch, New Zealand*
[13]*Agriculture and Agri-Food Canada, Saskatoon, Canada*
[14]*Department of Sustainable Soil Science and Grassland System, Rothamsted Research, United Kingdom*

22. Biochar: an environment friendly approach to mitigate climate change

Arshad Muhammad Naveed[1], Ahmad Ashfaq[1], Wajid Afta[1], Rasul Fahd[1], Khaliq Tasneem[1], Fatima Hafiza Naheed[2]
[1]*Agro-Climatology Laboratory, Department of Agronomy, University of Agriculture, Faisalabad, Pakistan*
[2]*Department of Life Sciences, Islamia University, Bahawalpur, Pakistan*

23. Response of fine rice cultivars to various transplanting dates under climate change scenario of Pakistan

Arshad Muhammad Naveed[1], Ahmad Ashfaq[1], Wajid Aftab[1], Rasul Fahd[1], Khaliq Tasneem[1], Fatima Hafiza Naheed[2]
[1]*Agro-Climatology Laboratory, Department of Agronomy, University of Agriculture, Faisalabad, Pakistan*
[2]*Department of Life Sciences, Islamia University, Bahawalpur, Pakistan*

24. Climate smart services: case studies in Senegal, Burkina, and Colombia

Andrieu Nadine[1,2], Howland Fanny[2], Ndiaye Ousmane[3], Faure Guy[1], Bonilla Osana[2], Eduardo Chia[1,4]
[1]*CIRAD, UMR Innovation, 34090 Montpellier, France*
[2]*CIAT, DAPA, km17 Cali, Colombie*
[3]*ANACIM, Dakar, Senegal*
[4]*INRA, UMR Innovation, 34090 Montpellier, France*

25. Climate-smart cropping patterns on exposed coasts and near-coastal uplands, central Vietnam

Phan Huong Lien[1], Le Dinh Hoa[1], Dam Viet Bac[2], Simelton Elisabeth[2]
[1]*Farmers Association, Ha Tinh, Vietnam*
[2]*World Agroforestry Centre (ICRAF), Ha Noi, Vietnam*

26. Adoption of climatic challenges mitigating strategies at farm level: empirical evidence from South Asia

Ali Akhter[1], Rahut Dil Bahadur[2], Behera Bhagirath[3]
[1]*Agricultural Economist, Socioeconomics Program, CIMMYT, Islamabad, Pakistan*
[2]*Program Manager, Socioeconomics Program, International Maize and Wheat Improvement Center (CIMMYT), 10Km. 45, Carretera Mex-Veracruz, El Batan, Mexico*
[3]*Department of Humanities and Social Sciences, Indian Institute of Technology Kharagpur, Kharagpur-721302, West Bengal, India*

27. Can ecosystem-based adaptation help smallholder farmers adapt to climate change?

Harvey Celia[1], Alpizar Francisco[2], Avelino Jacques[3,4], Bautista Pavel[2], Cardenas Jose Mario[2], Donatti Camila[1], Rodríguez-Martínez Ruth[1], Rapidel Bruno[3], Saborio Milagro[2], Vignola Rafaelle[2], Viguera Barbara[2]
[1]*Conservation International, Arlington, VA 22202, USA*
[2]*CATIE, Apdo 7170, Turrialba, Costa Rica*
[3]*CIRAD, Avenue Agropolis 34398, Montepellier Cedex 5, France*

28. ITK Vigne, a decision-support tool to adapt wine production to climate change, with or without irrigation

Stoop Philippe[1], Bsaibes Aline[1], Gelly Marc[1], Ojeda Hernan[2], Lebon Eric[3], Jourdan Christophe[4], Trambouze William[5], Laget Frédéric[6], Ruetsch Gabriel[7], Debiolles Loïc[8]
[1]*ITK, 34000 Montpellier, France*
[2]*INRA, Unité Expérimentale de Pech Rouge, 11430 Gruissan, France*
[3]*INRA, UMR LEPSE, 34000 Montpellier, France*
[4]*CIRAD, UMR Eco&Sols, 34000 Montpellier, France*
[5]*Chambre d'Agriculture, 34000 Montpellier, France*
[6]*Association Climatique de l'Hérault, 34000 Montpellier, France*
[7]*Vignobles Foncalieu, 11290 Arzens, France*
[8]*Netafim France, 13120 Gardanne, France*

29. QUICKScan: A decision support tool for a participatory exploration of land use mitigation and adaptation options

Winograd Manuel, Verweij Peter, Perez-Soba Marta, van Eupen Michiel
ALTERRA - Team Earth Informatics, Wageningen University and Research Centre, P.O. Box 47, 6700 AA Wageningen, The Netherlands

30. Gender specific perceptions and adoption of the climate-smart Push-pull technology in eastern Africa

Khan Zeyaur R.[1], Murage A. W.[1], Pittchar Jimmy O.[1], Midega Charles A. O.[1], Ooko Charles O.[1], Pickett John A.[2]
[1]*International Centre of Insect Physiology and Ecology (ICIPE), P.O. Box 30, 30772- 00100 Nairobi, Kenya*
[2]*Rothamsted Research, Harpenden, Herts AL5 2JQ, United Kingdom*

31. Critical issues for the design and operation of business models for technological CSA innovations

Long Thomas B., Blok Vincent
Management Studies Group, Leeuwenborch, Hollandseweg 1, Wageningen UR, Wageningen, 6706 KN, The Netherlands,

32. Building resilience to climate change: the role of robust methods

Dittrich Ruth, Wreford Anita, Moran Dominic
Scotland's Rural College/ Land Economy and Environment Group, Kings Buildings, West Mains Road, Edinburgh EH9 3JG, United Kingdom

33. Co-design of scenarios and adaptation strategies to climate change in the highlands of Madagascar

Maureaud Clémentine[1], Prigent Cybill[1], Delmotte Sylvestre[1,2], Raboanarielina Cara M.[3], Penot Eric[4], Barbier Jean-Marc[1]
[1]*INRA, UMR Innovation 951, 2 place Pierre Viala, 34000 Montpellier, France*
[2]*Université McGill, Département des Sciences des Ressources Naturelles, Sainte-Anne-De-Bellevue, QC, Canada*
[3]*Africa Rice Center (AfricaRice), Cotonou, Benin*
[4]*CIRAD, ES, UMR Innovation, Ampandrianomby, BP 853, 99 Antananarivo, Madagascar*

34. Climate change adaptation in the dry zone of Honduras: learning by doing

Sanders Arie, Tenorio Erika.
Zamorano University, Apdo. 93 Tegucigalpa, Honduras

35. From plot to regional scale, spatial modelling of crop systems using interaction graphs

Jahel Camille[1], Baron Christian[1], Vall Eric[2], Bégué Agnès[1], Dupuy Stéphane[1], Lo Seen Danny[1]
[1]*CIRAD, UMR TETIS, 34093, Montpellier, France*
[2]*CIRAD, UMR SELMET, 34398, Montpellier, France*

36. Climate Smart Agriculture, mitigation and adaptation, agro biodiversity conservation in Georgia

Nadiradze Kakha[1], Phirosmanashvili Nana[2]
[1]*Association for Farmers Rights Defense, AFRD President, Country Representative and National Coordinator for South Caucasus Countries of the Coalition for Sustained Excellence in Food and Health Protection, Georgia*
[2]*General Manager, Association for Farmers Rights Defense, AFRD, 30 App 5 B 1 MD Vazisubani Tbilisi 0190 Georgia*

37. Sensor-aided conservation agriculture: climate smart nitrogen and weed management in maize-wheat system

Oyeogbe Anthony I.[1], Das Tapas K.[1], Bhatia Arti[2], Bandyopadhyay Kalikinkar[3]
[1]*Indian Agricultural Research Institute, Division of Agronomy, 110012, New Delhi, India*
[2]*Indian Agricultural Research Institute, Centre for Environment Science and Climate Resilient Agriculture, 110012, New Delhi, India*
[3]*Indian Agricultural Research Institute, Division of Agricultural Physics, 110012, New Delhi, India*

38. Climate Change from the lens of a smallholders and their landscapes

Solis Juan Pablo[1], Clemens Harry[2], Douma Willy[2]
[1]*Humanists Institute for Cooperation in Developing Coutries (Hivos), Progamme Officer, Regional Hub for South America, La Paz, Bolivia*
[2]*Humanists Institute for Cooperation in Developing Coutries (Hivos), Programme Officers, Head Quarters, The Hague, the Netherlands*

39. Assessing the vulnerability of sorghum to changing climate conditions in West Africa semi-arid tropics

Akinseye Folorunso M.[1,2], Diancoumba Madina[1], Adam Myriam[3], Traore Pierre C. Sibiry[1], Agele Samuel O.[4], Whitbread Anthony M.[5]
[1]*International Crops Research Institute for the semi-arid Tropics (ICRISAT), BP320, Bamako, Mali*
[2]*Department of Meteorology, Federal University of Technology, PMB 704, Akure, Ondo State, Nigeria*
[3]*CIRAD- UMR AGAP, Avenue Agropolis, 34398 Montpellier Cedex 5, France*
[4]*Department of Crop, Soil and Pest management, Federal University of Technology, PMB 704, Akure, Ondo State*

[5]*International Crops Research Institute for the Semi-arid Tropics (ICRISAT) Patancheru 502324, Andhra Pradesh, India*

40. Network of experiments to phenotype contrasted sorghum and to model its adaptability in West African environments

Adam Myriam[1,2,3], Muller Bertrand[1,4], Traore Pierre C. Sibiry[2], Folorunso Akinseye[2], Ndiaye Malick[4]

[1]*CIRAD- UMR AGAP, Avenue Agropolis, 34398 Montpellier Cedex 5, France*

[2]*International Crops Research Institute for the semi-arid Tropics (ICRISAT), Mali*

[3]*INERA-Station Farako-Bâ, BP 910 Bobo Dioulasso, Burkina Faso*

[4]*Isra-Ceraas/Coraf BP 3320 Thiès Escale Thiès, Senegal*

41. e-Agro Climate Initiatives - Ghana

Yeboah Obeng Albert, Odoi Alice, Amoateng Prince

Foresight Generation Club, P.O.BOX CT 10632, Accra, Ghana

42. Climate-smart, site-specific agriculture: reducing uncertainty on when, where and how to grow rice in Colombia

Jimenez Daniel[1], Delerce Sylvain[1], Dorado Hugo Andres[1], Garces Gabriel[2], Castilla Luis Armando[2], Torres Edgar[3], Rebolledo Maria Camila[3], Barrios Camilo[4], Jarvis Andy[5]

[1]*International Center for Tropical Agriculture (CIAT), Site-Specific Agriculture_Big Data Team. Km17 recta Cali-Palmira, Cali, Colombia*

[2]*Colombian National Rice Growers Association (FEDEARROZ), research & development team. Carrera 100 No. 25H-55, Bogotá, Colombia*

[3]*International Center for Tropical Agriculture (CIAT), Rice team. Km17 recta Cali-Palmira, Cali, Colombia*

[4]*International Center for Tropical Agriculture (CIAT), Crop-modeling team. Km17 recta Cali-Palmira, Cali, Colombia*

[5]*International Center for Tropical Agriculture (CIAT), head of DAPA. Km17 recta Cali-Palmira, Cali, Colombia*

43. Microclimate drives pests in complex agricultural landscapes: how to monitor and analyse fine-scale climate data?

Faye Émile[1,2,4], Rebaudo François[1], Herrera Mario[3], Dangles Olivier[1,4]

[1]*UR 072, LEGS-CNRS, CNRS, Institut de Recherche pour le Développement (IRD), 91198, Gif-sur-Yvette Cedex and Université Paris-Sud 11, 91405, Orsay Cedex, France*

[2]*Sorbonne Universités, UPMC Univ. Paris 6, IFD, 4 Place Jussieu, 75252 PARIS cedex 05, France*

[3]*Instituto Nacional de Investigacion Agro-Pecuaria (INIAP), Quito, Ecuador*

[4]*Facultad de Ciencias Exactas y Naturales, Pontificia Universidad Catolica del Ecuador, (PUCE), Quito, Ecuador*

44. Enhancing women farmers' access to climate smart technologies through participatory approach in rice farming households

Truong Thi Ngoc Chi[1], Paris Thelma[2]

[1]*Social Scientist, Cuu Long Delta Rice Research Institute, Vietnam*

[2]*Socioeconomist-Gender Specialist, Consultant, International Rice Research Institute- CCAFS SEA*

45. Assessment of community based biodiversity management for adaptation to climate change in Kaski district, Nepal

Paudel Pratima[1], Khanal Arjun[1], Bhattarai Indira[2]

[1]*Database Officer: Centre for Environmental and Agricultural Policy Research, Extension and Development, Nepal*

[2]*Institute of Agriculture and Animal Science, Rampur, Chitwan, Nepal*

46. Degradation of forest and agricultural resources and adaptation strategies in Middle Casamance (Senegal)

Toure Labaly, Sy Boubou Aldiouma, Cormier Salem Marie Christine

Laboratoire LEIDI/ LMI PATEO, Université Gaston Berger, BP 234, Saint-Louis, Senegal

47. Climate change and adaptation strategies of households as threats to food security in rural Southwest Nigeria

Oluwatayo Isaac B.

Department of Agricultural Economics and Animal Production, School of Agricultural and Environmental Sciences, University of Limpopo, Private Bag X1106, Sovenga 0727,South Africa

48. Analysis of the adaptive capacity of rural farm households to climate change risks In Nigeria

Thompson Olaniran Anthony, Alese. Folakemi B.

Department of Agricultural and Resource Economics, The Federal University of Technology, Akure, Ondo State, Nigeria

L3.2 Climate-smart cropping systems

49. Climate smart village model for climate change adaptation and mitigation:

implications for smallholder farmers in Ghana

Buah Samuel Saaka[1], Bayala Jules[2], Moussa Abdoulaye[3], Ouedraogo Mathieu[3], Zougmoré Robert[3]
[1]*CSIR-SARI, Wa Station, P.O. Box 494, Wa, Ghana*
[2]*ICRAF, West and Central Africa Regional Office-Sahel Node, BPE5118, Bamako, Mali*
[3]*CCAFS, ICRISAT Bamako, Mali*

50. Agro Climate Calendar, a simple methodology to identify local adaptation for farm objectives

Schaap Ben F.[1], Reidsma Pytrik[2], Verhagen Jan[1]
[1]*Wageningen UR - Plant Research International, PO Box 16, 6700AA WAGENINGEN, the Netherlands*
[2]*Wageningen UR - Plant Production Systems, PO Box 430, 6700AK WAGENINGEN, the Netherlands*

51. Drip system and climate change adaptation

Cheikh Mohamed Vadhel
Cheikhna A. Aiadra, Associations ATED-APEM-GP, Ilôt B Tevraq Zeina, BP 5275, Nouakchott, Mauritania

52. Comparison of methodological approaches for durum wheat in-field monitoring and early-yield prediction

Orlandini Simone[1], Dalla Marta Anna[1], Mancini Marco[2], Orlando Francesca[3]
[1]*Department of Agrifood Production and Environmental Sciences, University of Florence, Piazzale delle Cascine 18, 50144 Firenze, Italy*
[2]*Foundation fro Climate and Sustainability, VIa Caproni 8, 50145 Firenze, Italy*
[3]*Department of Agricultural and Environmental Sciences, Production, Landscape, Agroenergy – CASSANDRA Lab., University of Milan, Via Celoria 2, 20133 Milan, Italy*

53. Increasing vegetable research investments in South Africa for climate-smart vegetable research

Rancho Manana[1], Liebenberg Frikkie[2], Kirsten Johann[2]
[1]*Agricultural Research Council, 1134 Hatfield, Pretoria 0083, South Africa*
[2]*Department of Agricultural Economics, Extension and Rural Development, University of Pretoria, Private Bag X20, Hatfield 0028, South Africa*

54. Improving farmers' innovation capacity for climate-smart forest and agricultural practices in Bangladesh

Sarker Mohammed A.[1], Chowdhury Ataharul H.[2]
[1]*Department of Agricultural Extension Education, Bangladesh Agricultural University (BAU) Mymensingh-2202, Bangladesh*
[2]*University of Guelph, Ontario, Canada*

55. Finding niches for neglected crops in the semi-arid to better manage climate risk under smallholder farm conditions

Whitbread Anthony M.[1,2], Sennhenn Anne[2], Thiagarajah Ramilan[1]
[1]*International Crop Research Institute for the Semi-Arid Tropics (ICRISAT), Telengana 502324, India*
[2]*Georg-August University Göttingen, Crop Production Systems in the Tropics, Gottingen 37075, Germany*

56. Reducing the use of nitrogen fertilizers: how and what potential impact on N2O emissions from French agriculture?

Hénault Catherine[1], Bamière Laure[2], Pellerin Sylvain[3], Jeuffroy Marie-Hélène[4], Recous Sylvie[5]
[1]*INRA, UR Sciences du Sol, 45075 Orléans, France*
[2]*INRA, UMR Eco-Pub, 78850 Thiverval-Grignon, France*
[3]*INRA, UMR ISPA, 33883 Villenave d'Ornon, France*
[4]*INRA, UMR Agronomie INRA-AgroParisTech, 78850 Thiverval-Grignon, France*
[5]*INRA, UMR Fractionnement des AgroRessources et Environnement; 51100 Reims, France*

57. Climate Smart agriculture: farmers' perception and practices in Nepal

Dahal Khem Raj
Department of Agronomy, Institute of Agriculture and Animal Science (IAAS), Tribhuvan University, Rampur, Chitwan, Nepal

58. The FACCE-ERA-NET+ project Climate–CAFÉ: climate change adaptability of cropping and farming systems for Europe

Justes Eric[1*], Rossing Walter A.H.[2*], Bachinger Johann[3], Carlsson Georg[4], Charles Raphaël[5], Constantin Julie[1], Gomez-Macpherson Helena[6], Hanegraaf Marjoleine[7], Hauggaard-Nielsen Henrik[8], Jensen Erik S.[4], Koopmans Chris J.[9], Mary Bruno[10], Palmborg Cecilia[11],Raynal Hélène[1], Reckling Moritz[3], Rees Robert M.[12], Scholberg Johannes M.S.[2], Six Johan[13], Stoddard Fred[14], Topp Kairsty[12], Watson Christine A.[12], Willaume Magali[1], Zander Peter[3], Tittonell Pablo[2]
[1]*INRA, UMR AGIR and RECORD Platform, Centre INRA Toulouse, 31326 Castanet-Tolosan, France*
[2]*Wageningen University, Farming Systems Ecology, 6700 AK Wageningen, the Netherlands*

[3]ZALF, Leibniz Centre for Agricultural Landscape Research (ZALF), 15374 Müncheberg, Germany
[4]Swedish University of Agricultural Sciences, Dep. Biosystems & Technology, SE-23053 Alnarp, Sweden
[5]Agroscope, Institute for Plant Production Sciences, 1260 Nyon, Switzerland
[6]CSIC, Institute for Sustainable Agriculture, 14003 Cordoba, Spain
[7]Nutrient Management Institute, Binnenhaven 5, 6709 PD Wageningen, the Netherlands
[8]Roskilde University, Dep. of Environmental, Social & Spatial Change, 4000 Roskilde, Denmark
[9]Louis Bolk Institute, Hoofdstraat 24, 3972LA Driebergen, the Netherlands
[10]INRA, Unité AgroImpact de Laon-Mons, 02000 Barenton-Bugny, France
[11]Swedish University of Agricultural Sciences, Dep. Agricultural Research for Northern Sweden, SE-90183 Umeå, Sweden
[12]Scotland's Rural College, Edinburgh EH9 3JG, United Kingdom
[13]ETH-Zurich, Sustainable Agroecosystems, 8092 Zurich, Switzerland
[14]Department of Agricultural Sciences, 00014 University of Helsinki, Finland
[*] Coordinators of the project Climate-CAFÉ (started mid-November 2014; 3-year project)

59. Climate smart agriculture: Towards a concerted definition of national priorities in Mali

Dembele Celestin[1], Sogoba Bougouna[2], Coulibaly Amoro[3], Traore Kalifa[4], Samake Oumar B.[2], Dembele Fadiala[5], Andrieu Nadine[6], Howland Fanny[7], Bonilla Osana[8], Ba Allassane[9], Zougmore Robert[10], Corner Caitlin[11], Lizarazo Miguel[11], Novak Andreea[11]
[1]HELVETAS Swiss Intercooperation, Bamako, Mali, BP 1635
[2]ONG AMEDD, BP: 212, Koutila, Mali
[3]Centre de service scientifique sur le changement climatique et l'utilisation adapté des terres (WASCAL)
[4]Institut d'économie rurale du Mali (IER), BP: 262, Bamako, Mali
[5]Institut polytechnique rural de Katibougou (IPR - IFRA de Katibougou, BP: 06, Koulikoro, Mali
[6]CIRAD, UMR Innovation, Policy Analisis- CIAT, km 17 Recta Cali-Palmira Colombia
[7]Policy Analisis- CIAT, km 17 Recta Cali-Palmira Colombia
[8]Decision and Policy Analisis- CIAT, km 17 Recta Cali-Palmira Colombia
[9]Allassane Ba, premier ministère du Mali, BP: 2357, Bamako, Mali
[10]ICRISAT, BP: 320, Bamako, Mali
[11]International Center for Tropical Agriculture (CIAT), Cali, Colombia

60. New crops for a new climate: understanding farmers' behavior towards sesame and cowpea crops in Sahel

Kpadonou Rivaldo[1], Barbier Bruno[2]
[1]African Climate Policy Centre (ACPC), Addis-Ababa, Ethiopia
[2]Centre International de Recherche Agricole pour le Développement (CIRAD)

61. Climate change and rainfed agriculture: how to extend the campaign and improve the Burkinabe agricultural production?

Fossi Sévère[1], Diarra Abdoulaye[1], Gado D. Hassane[1], Barbier Bruno[2], Yacouba Hamma[1]
[1]International Institute for Water and Environmental Engineering (2iE), Laboratory of Hydrology and Water Resources, 00226, Ouagadougou, Burkina Faso
[2]Centre de Coopération International en Recherche Agronomique pour le Développement (CIRAD), Direction Régionale Afrique de l'Ouest Côtière, 00221, Dakar, Senegal

62. Evolution of the rainy season and peasant adaptation in the Northeast of Benin (West Africa)

Zakari Soufouyane[1,2], Yabi Ibouraïma[2]
[1] Laboratoire de Cartographie, (LaCarto) Université d'Abomey-Calavi, 10 BP 1082 Cotonou, Cadjèhoun, Benin
[2] Laboratoire Pierre PAGNEY "Climat, Eau, Ecosystèmes et Développement" (LACEEDE), Université d'Abomey-Calavi, BP 922, Abomey-calavi, Benin

63. Fitting sweet potato into low input cropping systems within contrasting agro-ecologies of KwaZulu-Natal, South Africa

Motsa Nozipho M., Modi Albert T., Mabhaudhi Tafadzwanashe
University of KwaZulu-Natal, School of Agricultural, Earth and Environmental Sciences Private Bag X1, Scottsville, Pietermaritzburg, KwaZulu-Natal, 3209. Republic of South Africa

64. Study of sequestration of soil organic carbon under conservation agriculture and choice of simulation model

Moussadak Rachid[1], Mrabet Rachid[1], Lembaid Ibtissame[2]
[1]Institut National de la Recherche Agronomique (INRA), BP 415, 10101 Rabat, Morocco

[2]*Université Mohammed V Agdal faculté des sciences, BP 1014, RP Rabat, Morocco*

65. Integrated approaches to adaptation to climate change and food security in Maradi (Southern Niger)

Moussa Na Abou Mamouda, Sambou Bienvenu, Seck Moussa

Cheikh Anta Diop University, Faculty of Sciences and Technics, Institute of Environmental Sciences, Dakar, Senegal

66. Can woody plants management provide soil amendments to enhance agroecosystem productivity and resilience in West Africa?

Felix Georges[1], Hien Edmond[2], Lahmar Rabah[3,4], Douzet Jean-Marie[3], Founoune-Mboup Hassna[5], Ndour Yacine[5], Niang Dial[4], Séguis Lus[6], Gautier Denis[7], Zongo Edmond[8], Manlay Raphael[9], Barthes Bernard[9], Clermont-Dauphin Cathy[9], Masse Dominique[9], Belem Mahamadou[10], Groot Jeroen[1], Scholberg Johannes[1], Tittonell Pablo[1], Cournac Laurent[9]

[1]*Wageningen University, Biological Farming Systems, Wageningen, the Netherlands*

[2]*Ouagadougou University, UFR-SVT, Ouagadougou, Burkina Faso*

[3]*CIRAD, UPR SCA, Montpellier, France*

[4]*2iE, Laboratoire LEAH, Ouagadougou, Burkina Faso*

[5]*ISRA, LNRPV, Dakar, Senegal*

[6]*IRD, UMR HSM, Montpellier, France*

[7]*CIRAD, UPR BSEF, Montpellier, France*

[8]*Association Eben Ezer, Service Nature et Développement, Ouagadougou, Burkina Faso*

[9]*IRD, UMR Eco&Sols, Montpellier, France*

[10]*Centre Régional Agrhymet, Niamey, Niger (present address WASCAL, Ouagadougou, Burkina Faso)*

67. Dynamic capacity of the adaptability of steppe sheep breeding systems in response to the challenge of climate change

Kanoun Mohamed[1], Huguenin Johann[2], Yakhlef Hacène[3], Meguellatti-Kanoun Amèle[1], Dutilly Céline[2]

[1]*INRAA, Unité de recherche en pastoralisme, Equipe Système d'élevage et Territoires, Djelfa 17000, Algeria*

[2]*CIRAD, UMR Selmet, TA C-112 / A - Campus international de Baillarguet - 34398 Montpellier Cedex 5, France*

[3]*ENSA Alger, Laboratoire des Productions Animales, Avenue Hassan Badi - El Harrach, 162 00, Alger, Algeria*

68. Do practices of Sahelian smallholder farmers impact native agroforestry shrubs functioning?

Issoufou Hassane Bil-Assanou[1], Demarty Jérôme[3], Velluet Cécile[3], Mahamane Ali[1,2], Saadou Mahamane[1,2], Cappelaere Bernard[3], Seghieri Josiane[3]

[1]*Université de Maradi, Faculté d'Agronomie et des Sciences de l'Environnement, Département des Sciences et Techniques de Productions Végétales, BP 465 Maradi, Niger*

[2]*Université Abdou Moumouni, Faculté des sciences et Techniques, Département de biologie, BP 10662, Niamey Niger*

[3]*Institut de Recherche pour le Développement (IRD) - UMR Hydrosciences Montpellier, Université Montpellier II, case Courrier, MSE, Place Eugène Bataillon, 34095 Montpellier Cedex 5, France*

69. STICS: a generic and robust soil-crop model for modelling agrosystems response in various climatic conditions

Beaudoin Nicolas[1], Buis Samuel[2], Ripoche Dominique[3], Justes Eric[4], Bertuzzi Patrick3, Casellas Eri[5], Constantin Julie[4], Dumont Benjamin[6], Durand Jean Louis[7], Garcia de Cortazar-Atauri Iñaki[3], Jégo Guillaume[8], Launay Marie[3], Le Bas Christine[9], Lecharpentier Patrice[2], Leonard Joël[1], Mar Bruno[1], Poupa Jean Claude[10], Ruget Françoise[2], Louarn Gaetan[7], Coucheney Elsa[11]

[1]*INRA, UR 1158 AgroImpact, Site de Laon, 02000 Barenton-Bugny, France*

[2]*INRA, UMR 1114 EMMAH, INRA – UAPV, F-84914 Avignon, France*

[3]*INRA, US 1116 AGROCLIM, F-84914 Avignon, France*

[4]*INRA, UMR 1248 AGIR, INRA-INP-ENSAT, 31326 Castanet-Tolosan, France*

[5]*INRA, UMR 875 MIA-T, INRA-INP-ENSAT, 31326 Castanet-Tolosan, France*

[6]*Université de Liège - Gembloux Agro-Bio Tech, Unité d'Agriculture de Précision, 5030, Gembloux, Belgium*

[7]*INRA, UR0004 URP3F. F- 86600 Lusignan, France*

[8]*Agriculture et Agroalimentaire Canada, CRDSGC, 2560 Boulevard Hochelaga, Québec, QC G1V 2J3, Canada*

[9]*INRA, US1106 InfoSol, 45075 Orleans, France*

[10]*INRA UMR1302 SMART, F- 35011, Rennes, France*

[11]*Swedish University of Agricultural Sciences, Box 7014, 75007 Uppsala, Sweden*

70. A model assessment of the adaptation of Mediterranean agroforestry systems to climate change

Gosme Marie, Schuller Aurélien, Talbot Grégoire, Dupraz Christian
INRA, UMR1230 SYSTEM, 2 Place Pierre Viala, 34060 Montpellier cedex 2, France

71. The effect of organic amendments and water pulses on GHG emissions from rice production systems using δ13C isotope

Tariq Azeem, Stoumann Jensen Lars, Faiz-Ul Islam Syed, de Neergaard Andreas
Department of Plant and Environmental Sciences, University of Copenhagen, Denmark

72. Nurse plant effect on mycorrhizal soil infectivity and soil fertility restoration in Madagascar upland rice farming

Baohanta Rondro[1], Randriambanona Herizo[1], Andrianandrasana M. Doret[3], Razakatiana Adamson T.[3], Razananirina Jefferson[3], Rajaonarimamy Elinarindra[3], Ducousso Marc[2], Duponnois Robin[2], Ramanankierana Heriniaina[1]
[1]*Laboratoire de microbiologie de l'environnement, Centre national de recherches sur l'environnement, BP1739, Antananarivo, Madagascar*
[2]*Laboratoire de biotechnologie-microbiologie, Département de biochimie fondamentale et appliquée, Faculté des Sciences, Université d'Antananarivo, Madagascar*
[3]*CIRAD, Laboratoire des symbioses tropicales et méditerranéennes (lstm), UMR 113 cirad/inra/ird/supagro/um2, Campus International de Baillarguet, TA A-82/J, Montpellier, France*

73. Extension of oil palm in altitude under global change in North Sumatra: ecophysiological responses and yield

Lamade Emmanuelle[1], Hijri Darlan Nuzul[2], Listia Eka[2], Hasan Siregar Hasril[2]
[1]*CIRAD-PERSYST, UPR34, 34398 Montpellier Cedex 5, France*
[2]*IOPRI, Indonesian Oil Palm Research Institute, Jalan Brigjen Katamso 51, Medan 20158, Indonesia*

74. Impact of climate on major cereal crops production in Sokoto State, Nigeria

Sokoto Mohammed Bello[1], Tanko Likita[2], Abdullahi Yusuf M.[3], Lamidi Wasiu Agunbiade[4]
[1]*Department of Crop Science, Usmanu Danfodiyo University, Sokoto, Nigeria*
[2]*Department of Agricultural Economics and Extension, Federal University of Technology Minna, Nigeria*
[3]*Zoology Unit, Usmanu Danfodiyo University, Sokoto, Nigeria*
[4]*Department of Agricultural Education, Osun State College of Education, P.M.B 208, Ila-Orangun, Osun State, Nigeria*

75. Resource-conserving agriculture for restoring soil productivity and climate change mitigation in northern Ethiopia

Araya Tesfay[1,2], Nyssen Jan[2], Mnkeni Pearson[1], Baudron Frédéric[3], Lanckriet Sil[4], Cornelis Wim[5]
[1]*University of Fort Hare, Department of Agronomy, PBX1314, Alice 5700, South Africa*
[2]*Mekelle University, Department of Dryland Crop and Horticultural Science, P.O. Box 231, Ethiopia*
[3]*Ghent University, Department of Geography, Krijgslaan 281 (S8), B-9000 Gent, Belgium*
[4]*International Maize and Wheat Improvement Centre (CIMMYT), P.O. Box 5689 Addis Ababa, Ethiopia*
[5]*Ghent University, Department of Soil Management, Coupure Links 653, B-9000 Gent, Belgium*

76. Millet (Pennisetum glaucum)-acacia association for sustainable improvements in agricultural productivity in Niger

Abdou Maman Manssour[1,2], Assoumane Aïchatou[2,3], Alzouma Mayaki Zoubeirou[2], Elhadji Seybou Djibo[2], Karimou Ambouta Jean-Marie[1], Vigouroux Yves[4]
[1]*Département Sciences du Sol, Faculté d'Agronomie, Université Abdou Moumouni BP : 10960 Niamey, Niger*
[2]*Département de Biologie, Faculté des Sciences et Techniques, Université Abdou Moumouni BP : 10662 Niamey, Niger*
[3]*Institut de Recherche pour le Développement, représentation du Niger BP 11 416 Niamey, Niger*
[4]*UMR DIADE, Institut de Recherche pour le Développement, 911 avenue AGROPOLIS, 34394 Montpellier cedex 5, France*

77. Collection of farming address climate changes in the department Kaolack / Senegal

Mbengue Ramatoulaye[1], Diaw A. T.[2]
[1]*Doctorale Eau Qualité et Usages de l'Eau (EDEQUE) FST/UCAD, Rue 59X66 Fann Hock, Bp: 15568 Dakar Fann, Senegal*
[2]*Département de Géographie/ Faculté des Lettres et des Sciences Humaines (FLSH), Université Cheikh Anta DIOP Dakar, Bp: 15568 Dakar Fann, Senegal*

78. Mitigating methane emission in rice ecosystem by drip irrigation

Theivasigamani Parthasarathi[1], Koothan Vanitha[2] and Vered Eli[3]
[1]*Department of Crop Physiology, Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu, India*
[2]*Tamil Nadu Rice Research Institute, Aduthurai, Tamil Nadu Agricultural University, Thanjavur, Tamil Nadu, India*
[3]*Netafim Irrigation Ltd., Israel*

79. Eating more grain legumes and less meat promotes climate smart cropping systems

Carlsson Georg[1], Konfor Pamela[1], Hallström Elinor[2], Jensen Erik Steen[1]
[1]*Swedish University of Agricultural Sciences (SLU), Department of Biosystems and Technology, SE-23053 Alnarp, Sweden*
[2]*Lund University, Department of Environmental and Energy Systems Studies, SE-22100 Lund, Sweden*

80. Acacia catechu trees in rice fields: a climate smart traditional agricultural system of Northern Bangladesh

Kabir M. Alamgir[1], Hossain A. S. M. Iqbal[2], Nandi Rajasree[3]
[1]*Department of Agroforestry, Patuakhali Science and Technology University, Dumki, Patuakhali-8602, Bangladesh*
[2]*Department of Agronomy, Patuakhali Science and Technology University, Dumki, Patuakhali-8602, Bangladesh*
[3]*Institute of Forestry and Environmental Sciences, Chittagong University, Chittagong 4331, Bangladesh*

81. Soil carbon sequestration under traditional management of smallholder's oil palm plantations in Sudano-Guinean context

Aholoukpè Hervé[1], Amadji Guillaume[2], Chotte Jean-Luc[3], Bernoux Martial[3], Flori Albert[4], Dubos Bernard[4], Blavet Didier[3]
[1]*Centre de Recherches Agricoles Plantes Pérennes, INRAB, BP 01 Pobè, Benin*
[2]*Faculté des Sciences Agronomiques, Université d'Abomey-Calavi, BP 526 FSA/UAC, Cotonou, Benin*
[3]*IRD, UMR Eco&Sols, Place Viala, 34060 Montpellier Cedex 2, France*
[4]*CIRAD, UPR Systèmes de pérennes, F-34398 Montpellier, France*

82. Impact of climatic variables on rice yield in Bangladesh: a spatio-temporal analysis

Ara Iffat, Ostendorf Bertram, Lewis Megan
School of earth and environmental Sciences, University of Adelaide, Spatial information group, SA-5005, Adelaide, Australia

L3.3 Climate-smart livestock

83. Productivity and mitigation effects of alternative feeding practices in smallholder dairy farms in the north of Vietnam

Le Dinh Phung[1], Ramírez-Restrepo Carlos Alberto[2], Le Duc Ngoan[1], Dinh Van Dung[3], Vu Chi Cuong[4], Le Thi Hoa Sen[1], Herrero Mario[2], Solano-Patiño César[5], Lerner Amy[6], Searchinger D. Timothy[6]
[1]*Hue University of Agriculture & Forestry, Hue University 102 Phung Hung, Hue City, Vietnam*
[2]*CSIRO Agriculture Flagship, Agriculture and Food Security in a Changing World Program, ATSIP, James Cook University, Townsville, QLD 4811, Australia*
[3]*Hue University of Education, Hue University 34 Le Loi Street, Hue City, Vietnam*
[4]*National Institute of Animal Sciences, Thuy Phuong, Tu Liem, Hanoi, Vietnam*
[5]*Universidad Técnica Nacional, Atenas Campus, PO Box 7-4013 Atenas, Alajuela, Costa Rica*
[6]*Woodrow Wilson School of Public and International Affairs Science, Technology, and Environmental Policy Princeton University, NJ, USA*

84. Building climate smart pastoralism in the Sahel: ways forward

Wane Abdrahmane[1], Ickowicz Alexandre[2], Touré Ibra[3]
[1]*Drylands Economist, CIRAD-SELMET-PPZS-ILRI, based at ILRI Campus, Old Naivasha Road, PO BOX 30709, Nairobi, Kenya*
[2]*Zootechnician, CIRAD-SELMET–PPZS, Campus Montpellier SupAgro-INRA (Bat 22; Bur 59), 2, place P. Viala, 34060 Montpellier cedex 1 France*
[3]*Geographer-GIS, CIRAD-SELMET-PPZS-CILSS, based at CILSS, 03 BP: 7049, Ouagadougou, Burkina Faso*

85. Climate and animal diseases: the case of 2009/2010 rift valley fever outbreaks in South Africa

Mdlulwa Zimbini[1], Kirsten Johann[2], Klein Kurt[3]
[1]*Agricultural Research Council, Pretoria 00011, South Africa*
[2]*University of Pretoria, Pretoria 00012, South Africa*
[3]*University of Lethbridge, Lethbridge T1k3m43, Canada*

86. Cattle ranching in the Amazon: quantifying synergies between intensification, mitigation and profitability

Poccard-Chapuis René[1], Bonaudo T.[2], Pachoud C.[3], Duverger A.[3], Ribeiro C.[4], Clerc A.S.[2], Castro R.[5]
[1]*UMR SELMET – CIRAD, Napt Belém-Brasilia, Paragominas 68626-140, Brazil*
[2]*UMR SADAPT, AGROPARISTECH, Paris 75231, France*
[3]*UMR SELMET – SUPAGRO, Montpellier 34000, France*
[4]*UFRA, Paragominas 686000, Brazil*
[5]*EMBRAPA Amazonia Oriental, NAPT Belém-Brasilia, Paragominas 68626140, Brazil*

87. Potential multi-dimensional impacts and tradeoffs of improved livestock feeding scenarios in Babati, Tanzania

Paul Birthe K.[1], Birnholz Celine[1], Groot Jeroen C.J.[2], Herrero Mario[3], Notenbaert An[1], Timler Carl[2], Klapwijk Lotte[4], Tittonell Pablo[2]
[1]*Tropical Forages Program, CIAT, Kenya*
[2]*Farming Systems Ecology, Wageningen University, the Netherlands*
[3]*CSIRO, Australia*
[4]*IITA, DR Congo*

88. Towards climate smart dairy cattle in Rwanda: mapping feed resource potential under climate and land use scenarios

Kagabo Desire Mbarushimana, Musana Bernard Segatagara, Manzi Maximillian, Mutimura Mupenzi, Hirwa Claire D' Andre, Nyiransengimana Eugenie, Shumbusho Felicien, Bagirubwira Aphrodis, Ebong Cyprian
Rwanda Agriculture Board (RAB), P.O. Box 5016 Kigali, Rwanda

89. Protein supplementation improves saline water utilization in lambs

Agustín Lopez[1,3], Arroquy José Ignacio[1,2,3], Fissolo Héctor Miguel[1], Juarez Sequeira Ana Verónica[2,3], Barrionuevo María Celeste[3]
[1]*Instituto Nacional de Tecnología Agropecuaria, Grupo Producción Animal, Santiago del Estero, Argentina*
[2]*CITSE- CONICET, Santiago del Estero, Argentina*
[3]*FAyA-UNSE, Belgrano 1912, Santiago del Estero, Argentina*
[4]*Labintex - INTA, Montpelier, France*

90. An optimal live-weight gain in winter improves growing performance and reduces CH_4 in tropical beef cattle systems

José Ignacio Arroquy[1,2,3], Ricci Patricia[4], Lopez Agustín[1,3], Juarez Sequeira Ana[2,3], Rearte Daniel[5]
[1]*Instituto Nacional de Tecnología Agropecuaria, Grupo Producción Animal, Santiago del Estero, Argentina*
[2]*CITSE- CONICET, Santiago del Estero, Argentina*
[3]*FAyA-UNSE, Belgrano 1912, Santiago del Estero, Argentina*
[4]*Instituto Nacional de Tecnología Agropecuaria, Área Producción Animal, 7620, Balcarce, Argentina*
[5]*Labintex - INTA, Montpelier, France*

91. Global farm platforms for sustainable ruminant livestock production

Rice C.W.[1], Ashok B.2, Collier S.[3], Dungait J.[4], Eisler M.[5], Jahn M.[3], Liu J.[6] and Lee M.[4,5]
[1]*Kansas State University, Kansas, USA*
[2]*Kerala Animal and Veterinary Science University, Kerala, India*
[3]*University of Wisconsin-Madison, Madison, USA*
[4]*Rothamsted Research North Wyke, Devon, United Kingdom*
[5]*University of Bristol, Langford, Somerset, United Kingdom*
[6]*Zhejiang University, Hangzhou, China*

92. Climate change, livestock productivity and poverty: empirical evidence from south Asian countries

Behera, Bhagirath[1], Rahut, Dil Bahadur[2], Ali Akhter[3], Aryal, Jeetendra[4]
[1]*Department of Humanities and Social Sciences, Indian Institute of Technology Kharagpur, Kharagpur-721302, West Bengal, India,*
[2]*Socioeconomics Program, International Maize and Wheat Improvement Center (CIMMYT), 10Km. 45, Carretera Mex-Veracruz, El Batan, Mexico*
[3]*Socioeconomics Program, CIMMYT, Islamabad, Pakistan*
[4]*Socioeconomics Program, CIMMYT, New Delhi, India*

93. Solutions for greenhouse gases mitigation in ruminant farming: how to favor their adoption?

Doreau Michel[1], Faverdin Philippe[2], Guyomard Hervé[3], Peyraud Jean-Louis[3]
[1]*INRA, UMR 1213 Herbivores, 63122 Saint-Genès Champanelle, France*
[2]*INRA, UMR 1348 Pegase, 35590 Saint-Gilles, France*
[3]*INRA, Scientific direction of agriculture, 147 rue de l'Université, 75338 Paris Cedex 07, France*

94. Perception of climate change and adaptation of herd conduct mode in Burkina Faso during rainy season

Pagabeleguem Soumaïla[1], Sangaré Mamadou[1], Vall Eric[2]
[1]*Centre International de Recherche-Développement sur l'Elevage en Zone subhumide (CIRDES), 454, Bobo-Dioulasso, Burkina Faso*
[2]*CIRAD, UMR Selmet, TA C-112/A Campus International de Baillarguet, 34398, Montpellier, France*

95. Mini-livestock ranching – raising climate-smart insects for nutrition and livelihoods

McGill Wendy Lu
Independent Researcher, Denver, CO, USA

96. Evaluating animal mobility in relation to climate change mitigation: Combining models to face methodological challenges

Lasseur Jacques[1], Vigan Aurore[2], Benoit Marc[3], Mouillot Florent[4], Dutilly Céline[2], Eugene Maguy[3], Mansard Laura[3], Lecomte Philippe[2]
[1]*INRA, UMR SELMET, 2 place Viala, 34060 Montpellier, France*
[2]*CIRAD, UMR SELMET, Campus de Baillarguet, 34398 Montpellier Cedex 5, France*
[3]*INRA, UMR H, Theix, 63122 St Genès-Champanelle, France*
[4]*IRD, CEFE/CNRS, Route de Mende, 34000 Montpellier, France*

97. Substitution of maize silage with barley silage in dairy cow diet as mitigation strategy: effect on milk quality

Migliorati L., Pirlo G.
Consiglio per la Ricerca e Sperimentazione in Agricoltura, Centro di Ricerca per le Produzioni foraggere e lattiero-casearie CRA-FLC via Porcellasco, 7, 26100 Cremona, Italy

98. Towards climate smart livestock systems in Tanzania: assessing opportunities to meet the triple win

Shikuku Kelvin[1], Paul Birthe[1], Mwongera Caroline[1], Winowiecki Leigh[1], Laderach Peter[1], Silvestri Silvia[2]
[1]*CIAT, 823-00621, Nairobi, Kenya*
[2]*International Livestock Research Institute (ILRI), 00100, Nairobi, Kenya*

99. Predicting effects of cattle growth promoting technologies on methane emissions using TAURUS ration formulation software

Oltjen James W.[1], Kebreab E.[1], Oltjen S.L.[1], Ahmadi A.[1], Stackhouse-Lawson K.R.[2]
[1]*Department of Animal Science, Universtiy of California, Davis, California 95616, USA*
[2]*National Cattlemen's Beef Association, 9110 East Nichols Avenue, Suite 300, Centennial, Colorado 80112, USA*

100. Farm scale greenhouse gas budget; grazing is smart

Koncz Péter[1], Pintér Krisztina[2], Hidy Dóra[1], Balogh János[2], Papp Marianna[1], Fóti Szilvia[2], Hortváth László[3], Nagy Zoltán[1,2]
[1]*MTA-Szent István University Plant Ecology Research Group, 2103 Gödöllő, Páter K. u. 1., Hungary*
[2]*Szent István University, Institute of Botany and Ecophysiology, 2100 Gödöllő, Páter K. u. 1., Hungary*
[3]*Hungarian Meteorological Service, Gilice tér 39, 1181 Budapest, Hungary*

101. Effect of ambient temperature on lactating sows, a meta-analysis and modeling approach

Dourmad Jean-Yves[1,2], Le Velly Valentine[1,2], Lechartier Cyril[3], Gourdine Jean-Luc[4], Renaudeau David[1,2]
[1]*INRA, UMR1348 PEGASE, 35590 Saint-Gilles, France*
[2]*Agrocampus Ouest, UMR1348 PEGASE, 35000 Rennes, France*
[3]*Groupe ESA, Département Productions animales, 55 rue Rabelais, 49007 Angers, France*
[4]*INRA, UR0143 URZ, Centre de recherche Antilles-Guyane, Petit-Bourg, France*

102. Greenhouse gas and ammonia emissions from ceramsite covered compared with uncovered during dairy slurry storage

Zhu Zhiping, Dong Hongmin, Liu Chong, Huang Wenqiang
Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences, 12 Southern Street of Zhongguancun, Beijing 100081, P. R. China

103. Grass-legume mixtures enhance nitrogen yield over a wide range of legume proportions and environmental conditions

Suter Matthias[1], Finn John A.[2], Connolly John[3], Loges Ralf[4], Lüscher Andreas[1]
[1]*Agroscope, Institute for Sustainability Sciences ISS, Zürich, Switzerland*
[2]*Teagasc, Environment Research Centre, Johnstown Castle, Wexford, Ireland*
[3]*School of Mathematical Sciences, University College Dublin, Dublin 4, Ireland*
[4]*Institut für Pflanzenbau und Pflanzenzüchtung, Christian-Albrechts-Universität, Kiel, Germany*

104. Classifying livestock systems for public policy guidance: the example of Colombia's livestock sector

Amy M. Lerner[1], Cesar Solano[2], Jesus David Martinez[3], Julian Esteban Rivera[4], Julian Chara[4], Michael Peters[3], Timothy Searchinger[1], Mario Herrero[5]

[1]*The Woodrow Wilson School of Public and International Affairs, Princeton University, Princeton, NJ 08544, USA*

[2]*Informatica y Asesoria Pecuaria, S.A. (IAP-SOFT), 100 sur y 25 este de MetroCentro, Cartago, Costa Rica*

[3]*Center for Tropical Agriculture Research (CIAT), Km 17, Recta Cali-Palmira, Apartado Aéreo 6713, Cali, Colombia*

[4]*Center for Research on Sustainable Agricultural Systems (CIPAV), Carrera 25 No 6-62 Cali, Colombia*

[5]*CSIRO, Box 2583, 4001 Brisbane, Australia*

105. Influence of xylanase enzyme on in vitro methane production and rumen fermentation of tikiya (Eleocharis dulcis)

Gajaweera Chandima J.[1], Serasinghe R.T.[1], Premaratne S.[2]

[1]*Department of Animal Science, Faculty of Agriculture, University of Ruhuna, Sri Lanka*

[2]*Department of Animal Science, Faculty of Agriculture, University of Peradeniya, Sri Lanka*

106. The effect of sunflower oil and the phenolic essential oils on methane emission in dairy cattle

Guerouali Abdelhai, Amrani, H., Oumane, H

Institut Agronomique et Vétérinaire Hassan II, Rabat, Morocco

107. Utilization of saline water by Barbarine lambs in the dry areas under climate change

Mehdi elGHarbi Wiem[1], Ben Salem Hichem[2], Abidi Sourour[1]

[1]*National Institute of Agronomic Research (INRA-Tunisie), Laboratoire des Productions Animales et Fourragères, rue Hédi Karray, 2049 Ariana, Tunisia*

[2]*International Center for Agricultural Research in Dry Areas (ICARDA), Bldg no. 15, Khalid Abu Dalbouh St. Abdoun, PO Box 950764, Amman 11195 Jordan*

108. Impact of feeding and breeding interventions towards climate resilient dairying system in India

Garg Manget Ram

Animal Nutrition Group, National Dairy Development Board, Anand 388 001, Gujarat, India

L3.4 Climate-smart landscapes, watersheds and territories

109. Large-scale land restoration – creating the conditions for success

Bossio Deborah[1], Victor Michael[2]

[1]*International Center for Tropical Agriculture (CIAT), P.O. Box 823-00621, Nairobi, Kenya*

[2]*CGIAR Research Program on Water, Land and Ecoystems, The International Water Management Institute (IWMI), Laos*

110. Regional impacts of climate change and adaptation through crop systems spatial distribution: the VIGIE-MED project

Chanzy André[1], Davy Hendrick[2], Géniaux Ghislain[3], Rigolot Eric[2], Debolini Marta[1], Garrigues Sébastien[1], Guérif Martine[1], Clastre Philippe[1], Lecharpentier Patrice[1]

[1]*INRA, UMR EMMAH, 84914, Avignon France*

[2]*INRA, UR d'Ecologie des Forêts Méditerranéennes, 84914, Avignon France*

[3]*INRA UR Ecodev, 84914, Avignon France*

111. Interdisciplinary approach to climate change in an intensely-managed agricultural landscape in California, USA

Jackson Louise E.[1], Carlisle E.A.[1], Haden V.R.[2], Lee H.[1], Mehta V.[3], Purkey D.[3], Sumner D.A.[1], Wheeler S.W.[1]

[1]*University of California, Davis, Davis, California, USA*

[2]*Ohio State University Agricultural Technical Institute, Wooster, Ohio, USA*

[3]*Stockholm Environmental Institute, Davis, CA, USA*

112. Building a shared representation of the landscape as a socio-ecological system and visualizing the challenges of CSA

Fallot Abigail[1], Salinas Julio Cesar[2], Devisscher Tahia[3], Aguilar Teresa[4], Vides-Almonacid Roberto[2], Le Coq Jean-François[5]

[1]*CIRAD-UR GREEN, France & CATIE-grupo CCC, Costa Rica*

[2]*Fundación para la Conservación del Bosque Chiquitano, Bolivia*

[3]*Stockholm Environment Institute, Oxford, United Kingdom*

[4]*Supagro, Montpellier, France*

[5]*CIRAD-UMR ART-Dev, France & UNA-CINPE, Costa Rica*

113. Climate-smart territory approach: for an effective address of Climate Smart Agriculture

Mendoza César, Bastiaan Louman, Villalobos Roger, Carrera Fernando, Watler William
CATIE 7170, Turrialba 30501, Cartago, Costa Rica

114. Landscape scale assessments for strategic targeting of climate smart agriculture practices in East Africa

Winowiecki Leigh[1], Vagen Tor-Gunnar[2], Laderach Peter[3], Twyman Jennifer[3], Eitzinger Anton[3], Mashisia Kelvin[1], Mwongera Caroline[1], Okolo Wendy[1], Rodriguez Beatriz[3]
[1]International Center for Tropical Agriculture (CIAT), Nairobi, Kenya
[2]World Agroforestry Centre (ICRAF), Nairobi, Kenya
[3]International Center for Tropical Agriculture (CIAT), Cali, Colombia

115. The FACCE-ERA-Net Plus project "Climate smart Agriculture on Organic Soils" (CAOS)

Tiemeyer Bärbel[1], Berglund Kerstin2, Lærke Poul Erik[3], Mander Ülo[4], Regina Kristiina[5], Röder Norbert[6], van den Akker Jan[7]
[1]Johann Heinrich von Thünen Institute, Federal Research Institute for Rural Areas, Forestry and Fisheries, Thünen-Institute of Climate-Smart Agriculture, Bundesallee 50, 38116 Braunschweig, Germany
[2]Swedish University of Agricultural Sciences, Department of Soil and Environment, Lennart Hjelms väg 9, 75007 Uppsala, Sweden
[3]Aarhus University, Blichers Allé 20, 8830 Tjele, Denmark
[4]Institute of Ecology and Earth Sciences, University of Tartu, Vanemuise St. 46, 51014 Tartu, Estonia
[5]MTT Agrifood Research Finland, Planta, 31600 Jokioinen, Finland
[6]Johann Heinrich von Thünen Institute, Federal Research Institute for Rural Areas, Forestry and Fisheries, Thünen-Institute for Rural Studies, Bundesallee 50, 38116 Braunschweig, Germany
[7]Stichting Dienst Landbouwkundig Onderzoek (DLO-Alterra), Droevendaalsesteeg 4, 6708 PB Wageningen, the Netherlands

116. The potential of fish as a climate smart adaptation and mitigation strategy

Ward Andrew[1], Park Sarah E.[2], Kam Suan Pheng[2], Thilsted Shakuntala Haraksingh[3]
[1]WorldFish, Katima Mulilo Road, Stand No. 37417, Olympia Park, Lusaka, Zambia
[2]WorldFish, Jalan Batu Maung, Batu Maung, 11960, Bayan Lepas, Penang, Malaysia
[3]WorldFish, House 22B, Road 7, Block-F, Banani, Dhaka 1213, Bangladesh

117. Water uptake in deep soil layers by tropical eucalypt plantations: consequences for water resources under climate change

Christina M.[1], Laclau J.-P.[1,2], Nouvellon Y.[1,3], Bouillet J.-P.[1,3], Lambais G.R.[4], Stape J.L.[5], Le Maire G.[1]
[1]CIRAD, UMR Eco & Sols, Montpellier, France
[2]Forest Science Department, UNESP, Botucatu, Brazil
[3]Forest Science Department, USP, ESALQ, Piracicaba, Brazil
[4]CENA, USP, ESALQ, Piracicaba, Brazil
[5]Department of Forestry and Environmental Resources, NCSU, Raleigh, NC, USA

118. Land use practices among pastoralists as potential climate smart options for dry land ecosystems.

Rapando Nancy Phoebe
Nairobi University, Institute of climate change and adaptation, Nairobi, Kenya

119. Spatial models of farms territories, policy instrument and climate change: application in Chorotega (Costa Rica)

Bonin Muriel[1], Le Coq Jean-François[2], Lamour Anaïs[3], Saenz Fernando[4]
[1]CIRAD-UMR TETIS, Costa Rica
[2]CIRAD-UMR ARTDEV, Costa Rica
[3]INRA, Montpellier, France
[4]CINPE/UNA, Costa Rica

120. Landscape management to develop agroforestry in Central-Africa

Peltier Régis[1], Dubiez Emilien[1], Marquant Baptiste[2], Peroches Adrien[3], Diowo Simon[4], Yamba Yamba Timothée[4], Palou Madi Oumarou[5]
[1]Centre International de Recherche Agronomique pour le Développement (CIRAD-ES-UR-BSEF), Montpellier, France
[2]AgroParisTech, Montpellier, France
[3]SupAgro-IRC, Montpellier, France
[4]Projet CapMakala, Kinshasa, Congo Democratic Republic
[5]Institute of Agricultural Research for Development (IRAD), Maroua, Cameroon

121. Governance for climate smart landscapes: a case from Makueni County, Kenya

Ontiri Enoch, Robinson Lance W.
International Livestock Research Institute, P.O. Box 30709, 00100 Nairobi, Kenya

122. A landscape approach to co-designing climate change adaptation and mitigation strategies with farming communities

Castella Jean-Christophe[1,2], Lienhard Pascal[1], Phimmasone Sisavath[3], Chaivanhna Soulikone[3], Khamxaykhay Chanthasone[3], Frank Enjalric[1]
[1]*Centre de coopération internationale en recherche agronomique pour le développement (CIRAD), Vientiane, Lao PDR*
[2]*Institut de Recherche pour le Développement (IRD), Vientiane, Lao PDR*
[3]*Department of Agricultural Land Management (DALaM), Ministry of Agriculture and Forestry (MAF), Vientiane, Lao PDR*

123. Adapting landscape mosaics within Mediterranean rainfed agrosystems for managing crop production, water & soil resources

Jacob Frédéric[1], Mekki Insaf[2], Chikhaoui Mohamed[3], Amami Hacib[2], Bahri Haithem[2], Bailly Jean-Stéphane[4], Ben Mechlia Nétij[5], Biarnès Anne1' Bouaziz Ahmed[3], Chehata Nesrine[6], Colin François[7], Corvisy Alain[8], Coulouma Guillaume[9], El Amrani Mohamed[10], Fabre Jean-Christophe[9], Feurer Denis[1], Follain Stéphane[7], Gana Alia[11], Gary Christian[12], Gomez Cécile[1], Hérivaux Cécile[13], Huard Frédéric[14], Jaïez Zaineb[2], Khattabi Abdelattif[15], Lagacherie Philippe[9], Le Bissonnais Yves[9], Lhomme Jean-Paul[1], Masmoudi Moncef[5], Montes Carlo[1], Moussa Roger[9], Moussadek Rached[16], Naimi Mustapha[3], Ouerghemmi Walid[1], Planchon Olivier[1], Prévot Laurent[9], Quénol Hervé[17], Rabotin Michaël[9], Raclot Damien[1], Rinaudo Jean-Daniel[13], Sabir Mohamed[15], Sannier Christophe[8], Vinatier Fabrice[9], Voltz Marc[9], Zairi Abdelaziz[2], Zitouna-Chebbi Rim[2]
[1]*IRD – UMR LISAH, Montpellier, France.*
[2]*INRGREF, Tunis, Tunisia*
[3]*IAV Hassan II, Rabat, Morocco*
[4]*AgroParisTech – UMR LISAH, Montpellier, France*
[5]*INAT, Tunis, Tunisia*
[6]*IPB – ENSEGID, Bordeaux, France*
[7]*Montpellier SupAgro – UMR LISAH, Montpellier, France*
[8]*SIRS, Lille, France*
[9]*INRA – UMR LISAH, Montpellier, France*
[10]*ENA MEKNES, Meknès, Morocco*
[11]*IRMC, Tunis, Tunisia*
[12]*INRA – UMR SYSTEM, Montpellier, France*
[13]*BRGM-D3E, Montpellier, France*
[14]*INRA – US AGROCLIM, Avignon, France*
[15]*ENFI Salé, Salé, Morocco*
[16]*INRA, Rabat, Morocco*
[17]*CNRS – UMR LETG COSTEL, Rennes, France*

124. Watershed and biodiversity restoration in the Western highlands of Cameroon under climate change

Tiamgne Yanick Alphonse
MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT, P.O. BOX: 22, Bafang, Cameroon

L3.5 Investment opportunities and funding instruments

125. Livestock farmers' investment toward climate-smart production: impact of an incentive program in Chorotega, Costa Rica

Lamour Anais[1,2], Le Coq Jean-François[1,3], Bonin Muriel[3,4], Ezzine de Blas Driss[5]
[1]*CIRAD (Centre de coopération International en Recherche Agronomique pour le Développement), UMR ART-Dev (Acteurs, Ressources et Territoires dans le DEVeloppement), Montpellier 34398 cedex 5, France*
[2]*UM1 (Université Montpellier 1), UMR LAMETA (LAboratoire Montpelliérain d'Economie Théorique et Appliquée), Montpellier 34960 Cedex 2, France*
[3]*UNA (Universidad Nacional Autónoma), CINPE (Centro InterNacional de Política Económica para el desarrollo sostenible), Lagunilla de Heredia 40104, Costa Rica*
[4]*CIRAD (Centre de coopération International en Recherche Agronomique pour le Développement), UMR TETIS (Territoires, Environnement, Télédétection et Information Spatiale), Montpellier 34398 Cedex 5, France*
[5]*CIRAD (Centre de coopération International en Recherche Agronomique pour le Développement), B&SEF (Biens et Services des Ecosystèmes Forestiers tropicaux), Montpellier 34398 Cedex 5, France*

126. 25 million African farming families by 2025: science-development partnerships for scaling climate-smart agriculture

Girvetz Evan H.[1,2], Rosenstock Todd S.[2,3]
[1]*International Centre for Research on Tropical Agriculture (CIAT), PO Box 823-00621, Nairobi, Kenya*
[2]*CGIAR Research Program on Climate Change, Agriculture, and Food Security (CCAFS)*
[3]*World Agroforestry Centre (ICRAF), P.O. Box 30677, Nairobi, Kenya*

127. Microfinance and Climate Smart Agriculture: integrated farming system and social business

Cledera Allan[1], Alcachupas Mary Ann[1]
[1]*Catholic Organization for Relief and Development Aid, 38 Magsaysay Avenue Bankers Village 3 Antipolo City, 1870 Philippines*
[2]*Fondacio, 78000 Versailles, France*

128. The CLIFF Network: breaking knowledge barriers for climate change mitigation research in developing countries

Chirinda Ngonidzashe[1], Richards M.[2], Wollenberg L.[2], Rosenstock T.[3], Olesen J.E.[4], Kandel T.[4], Oelofse M.[5], Neergaard A.[5], Vermeulen S.[5]

[1]*CIAT, Cali, Colombia*

[2]*University of Vermont, USA*

[3]*ICRAF, Nairobi, Kenya*

[4]*Aarhus University, Denmark*

[5]*University of Copenhagen, Denmark*

129. Community Based Crop Insurance for Climate Risk Management

Gattineni Srinivasa Rao[1], Aggarwal Pramod[2], Plappallil Joseph[3]

[1]*eeMAUSAM Weather Risk Management Services Private Limited, 500085, Hyderabad, India*

[2]*International Water Management Institute, CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), 110012, New Delhi, India*

[3]*Agriculture Insurance Company of India Limited, 110001, New Delhi, India*

130. Adaptation strategies for floodplain agriculture in Amazonia

List Geneva[1], Laszlo Sonia[2], Coomes Oliver T.[3]

[1]*Department of Geography, McGill University, Burnside Hall, 805 Sherbrooke St. West, Rm. 313, Montreal, QC H3A 0B9, Canada*

[2]*Department of Economics, Institute for the Study of International Development, McGill University, Peterson Hall, 3460 McTavish, Rm. 246, Montreal, QC H3A 0E6, Canada*

[3]*Department of Geography, McGill University, Burnside Hall, 805 Sherbrooke St. West, Rm. 415, Montreal, QC H3A 0B9, Canada*

131. Afforestation and the unemployment nexus in the West African forest reserves localities: case study of Nigeria

Fakayode Segun Bamidele, Olagunju F. I., Aladejebi F., Falola Adedoyin

Department of Agricultural Economics and Extension, Federal University Oye-ekiti, Nigeria

Personal Notes