

Assemblée générale 2018

Food and nutritional security



energy

Food systems

Water

Climate policy
Paris Agreement

Water, Nitrogen, Phosphorus
International, national, local policies

Climate Land use &
change management

Mitigation

Nutrient cycling

Biodiversity

Biodiversity convention (CBD)



Objectives

- Quantify and understand the effects of a range of land management options for the mitigation of climate change
- Quantify and understand land management options for adapting to climate change
- Study new production systems operating for both mitigation and adaptation, while sustaining other environmental services
- Contribute to a better integrated assessment of different land-based solutions for managing the ecological and energy transitions of the 21st century.
- Produce new land management scenarios linked to IPCC SSPs storylines and IPBES (biodiversity assessment)

Team [#]	Partner institution in the project	Relevant research fields
LSCE	CEA-CNRS-UVSQ	Climate, biogeochemical cycles, environment
LMD	CNRS – Ecole Polytechnique	Climate, land use feedbacks, satellites
IDEEV *	UPSUD-CNRS–AgroParisTech-INRA-IRD	Ecology, biodiversity, evolution
ECOSYS	INRA- AgroParisTech	Biogeochemistry, nutrient and carbon cycling
ECOPUB	INRA - AgroParisTech	Land-use socioeconomics (regional)
SADAPT	INRA - AgroParisTech	Adaptation, agriculture, biodiversity
AGRONOMIE	AgroParisTech - INRA	Agricultural production systems
BIOGER	INRA - AgroParisTech	Sustainable management of crop health
CIREN	CNRS-CIRAD-AgroParisTech	Land use socioeconomics (global) – energy
HBAN	IRSTEA	Water resources, water management
GEOPS	U-PSUD-CNRS	Soil pollution, water resources
LATMOS	CNRS-UVSQ	Environment, remote sensing, air pollution,

[#] “team” defines one or several existing teams from each lab listed below, who will be 100% engaged in CLAND

* Involving three laboratories: ESE, EGCE, GQE-Le Moulon

Table 1. Research laboratories with teams involved in CLAND.

Coordinated by UPSaclay

Possible new teams : LIX, CEA-SPECS, two INRA teams

Long term engagement of institutions : CNRS, CEA, IRD, UPSUD, UVSQ, Ecole

Polytechnique, INRA, AgroParisTech, IRSTEA

Where we were [Sep 2017]

- CLAND proposal submitted May 2016 with support of tutelary institutions and coordinated by UPSaclay
- CLAND was selected as one of the first five Convergence Institutes funded at national level in July 2016
- The project will be funded for 10 years with a budget of 10 M€ and a go-no go review at 4 years.
- Agreement between ANR and UPSaclay signed Jan 31st 2017
- Detailed work-plan for the next 4 years was structured into three challenges or flagship projects
- Projects leads appointed May 2017
- John Bazire, project manager, hired in May 2017
- CLAND projects and action plan presented to all teams – **Kick off meeting 13 09**
- Launch of flagship projects - end Oct 2017
- Establish graduate program end Nov 2017 - **P. Bousquet, J. Lecomte, JC Bureau**
- Launch of two flagship research projects – Dec 2017
- Contacts with corporate partners ; Innovation workshop – 2018

3 research challenges

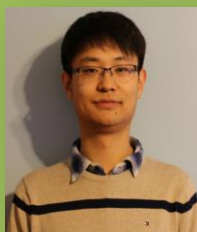
- **Challenge 1 – Land-based climate mitigation.** This challenge will study land-based mitigation of climate change by enhancing carbon sequestration in biomass and soils, and reducing their CH₄ and N₂O emissions.
- **Challenge 2 – Agriculture and forestry under climate pressure.** This challenge will perform the research needed for practical solutions to reduce the risk of the loss of agricultural and forest production from climate change, while accounting for other environmental risks
- **Challenge 3 - Managing the transition towards integrated land management.** This challenge will mobilise all the research teams to analyse policy options for managing the transition towards new land use systems that articulate climate change adaptation and mitigation while maintaining ecosystem biodiversity.

- **Administration**
 - Accord de consortium signé en Janvier 2018
 - Convention de reversement UPSaclay – Partenaires
 - Mise en place difficile - Problèmes résolus
 - Recrutement J Bazire au CEA (détachement UPSaclay)
 - Procédures de reporting Paris Saclay - Cland
 - Réunion mensuelles du Comex et responsables des projets
 - Budget prévisionnel mis à jour et approuvé par le Comex (voir pres. J Bazire)
 - Interactions BASC-Cland
 - Interactions IPSL-Cland
 - Comité du Graduate program (voir pres. P. Bousquet)
- **Recherche : trois grands projets de 3 ans**
 - Planning détaillé des projets Challenges 1 et 2 en Déc. 2017
 - Recrutements (85%)
 - Challenge 3 – à finaliser
 - Profils de postes détaillés des challenge 1 et 2

Challenge 1



Yang SU
PhD 1.2



Quiri ZHONG
Post doc 1.3

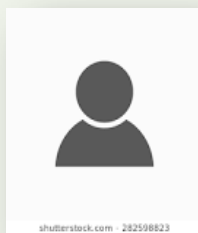


Elisa BRUNI
PhD 1.3

+ 1 other
PhD students

+ 2 other
post doc

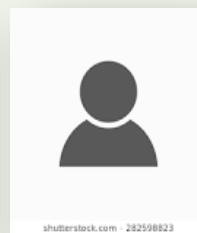
Challenge 2



Damien BELLOUIN
Post doc 2.1



Yitong YAO
PhD 2.3

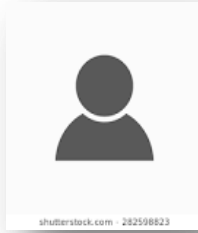


Ivan CORNUT
PhD 2.3

+ 4 other
PhD students

+ 1 other
post doc

Challenge 3 (TBC)



Rotem Zelingher
PhD 3.2

+ 4 other
PhD students

+ 1 other
post doc



A Workshop Series Organized by the CLAND Convergence Institute




Emerging Challenges in Large Scale Soil Carbon Sequestration

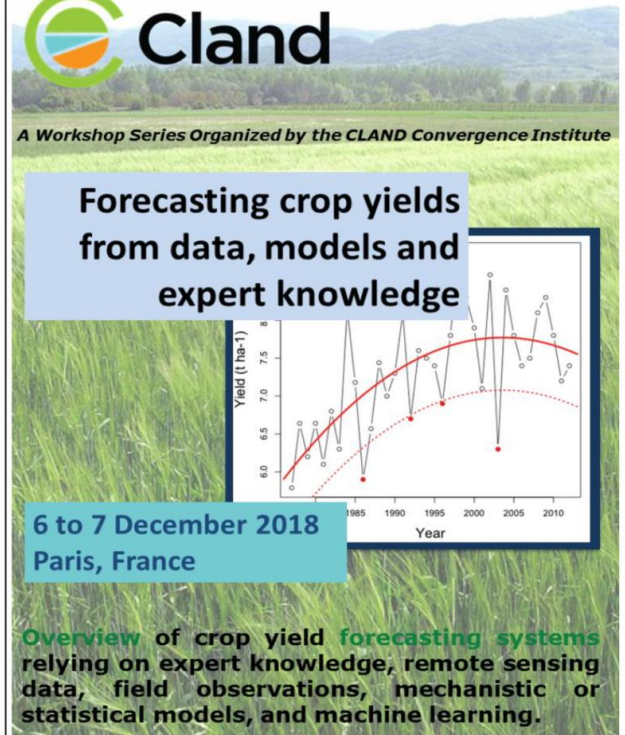
8 to 10 October 2018

Paris, France

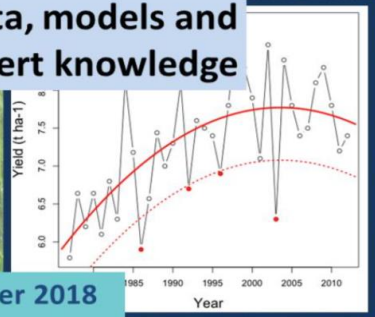
Increasing **soil organic carbon stocks** is a key land-based **climate mitigation** option developed in the "4 per mil" international initiative for the **Paris Agreement** on climate.



A Workshop Series Organized by the CLAND Convergence Institute








Forecasting crop yields from data, models and expert knowledge




6 to 7 December 2018
Paris, France

Overview of crop yield forecasting systems relying on expert knowledge, remote sensing data, field observations, mechanistic or statistical models, and machine learning.

A Workshop Organized by the CLAND Convergence Institute and the ISIMIP Inter-sectoral Impact Models Inter comparison Project



Inter-sectoral Impacts of Climate Change on Vegetation

21 to 23 January 2019

Paris, France

Land use and climate change will affect ecosystem services in different biomes: projections and uncertainties from global vegetation models

Workshops proposés

- Multi-criteria analysis of land management and ecosystem services (M. Tichit)
- Spatial econometry and statistics (R. Chakir)

- Innovation
 - KIC Climat pour un joint call 100 + 100 k€.
 - Appel d'offre à mettre en place (règles KIC + ANR)
 - Une Chaire Industrielle avec Suez – Total – Thales sur le méthane
- Graduate program
 - Mise en place graduate program committee
 - Aide de Estelle Fournel (IPSL-Labex)
 - Summer school en Chine printemps 2019
 - Master CLUES
 - Data challenge étudiants avec le Workshop Yield forecast
- International - national
 - Collaboration avec FAO – RL1.3
 - Réunion Cland – partenaires Chinois – le 27 Nov 2018
 - MES et MAP (suivi des NDC)
 - Equipe projet EPHESE

Priorités 2019-2020

- Finaliser rapidement proposition Challenge 3
- Intégrer workshops avec formations
- Rayonnement international
 - Ecole d'été et collaboration formalisée avec Chine
 - ISIMIP
 - 4 pour mille
- Workshops 2019
- Fonctionnement opérationnel
- Augmenter visibilité et communication
 - Newsletter en cours
 - Séminaires inter laboratoires
- Animation du réseau des PhD et post-docs Cland
- Nouveaux projets

ANR

