

Titre	BLUEGEM
Description	Kick-off meeting minutes
Éditeur	Office français de la biodiversité
Créateur	Claire Magand
Relecteurs	Agnès Ducharne
Statut	Final
Date	May 19, 2021
Version	1.0

Participants

Present : Agnes Ducharne, Min-Hui Lo, Daniel Kramer, Yadu Pokhrel, Philippe Peylin, Sherry Kuo, Bertrand Guenet, Aglaé Jezequel, Pierre-Alain Jayet, Philippe Ciais, Frédérique Cheruy, Vladislav Batrikov, Claire Magand

Excused: Hyungjun Kim and Jan Polcher

Agenda

- 1- **Reminder of the main features of the project**
- 2- **Round table – links to the the different tasks**
- 3- **Discussion on short term actions**
- 4- **Questions and other topics**

Attached Document and website

Presentation : https://www.metis.upmc.fr/~ducharne/bluegem/DOCS/Kickoff_6May21.pdf

BLUEGEM website : <https://www.metis.upmc.fr/~ducharne/bluegem/index.php>

Notes

In red actions to be done or new info (page 3).

1- **Reminder of the main features of the project**

Cf. presentation

Reminder of :

- Belmont forum context: funding for the 3-year project BLUEGEM and an extra funding to ensure coordination with the 5 other projects selected in this call.
- Objectives - 3 sub-objectives :
 - o Establish the fingerprint of GW-SM interactions and irrigation on global and regional climate, water resources, biosphere, and soil carbon pools.
 - o Provide improved projections of global and regional climate, water resources, biosphere and soil carbon pools, fully taking into account the influence of Integrate local and regional knowledge and expertise as well as
 - o socio-economic data to refine the land use and irrigation scenarios used in state-of-the-art climate projections (CMIP6) and to explore pathways for sustainable CZ management.GW irrigation and GW-SM interactions.
- Scales: global and regional with 2 focal areas France and the Mekong river basin
- Methods: 2 ESMs (IPSL-CM6 and CLM5-CESM2), high resolution land-only simulation, integrated assessment modeling (AROPAj), participatory research methods, etc.

- Organisation of the project in different tasks
- Tight calendar
- CRA coordination

2- Round-table

- Agnès Ducharne PI of the project, will work on many different tasks from the calibration of the ORCHIDEE model (T2.1F), global simulations (T2.2G), outputs assessment (T2.3) to the agro-economic modelling (T3F) and transdisciplinary work with French stakeholders (T4F), including the comparison of the two zoomed areas and social activities associated (T4FM)
- Min-Hui Lo in charge of global simulation with CLM5 including new options with groundwater representation and water demands for irrigation (from T2.1Ga), global simulations (T2.2G), model benchmarking and surface-atmosphere feedbacks analyses (T2.3).
- Daniel Kramer social scientist interested in understanding human responses to impacts on water and biodiversity for their preservation. Great experience in Mekong river basins with different previous project involving local stakeholders. T3Ma will focus on adaptation responses in Cambodia and especially on farmers adaptation to biophysical sciences. They will identify hot spots (behaviours would worsen situations to unsustainable situation) and bright spots (outlier behaviours that would lead to more sustainable situation). T3Mb will contribute to sharpen socio-economic scenarios at the global scale.
- Claire Magand will organize workshops with French stakeholders for T4F
- Yadu Pokhrel in charge of CLM5 simulations global and regional over Mekong area, will work on impacts assessment on water resources, soil carbon and biosphere (T2.3c) and will contribute to the maps and participatory GIS tasks to involve local stakeholders (T3M).
- Philippe Peylin will mainly work on the ORCHIDEE calibration and developments (T2.1Fà and data visualization (T5a)
- Sherry Kuo works in human and social science, will lead field work in Vietnam and contribute to T3Mb work to provide prospective analyses for farming futures
- Bertrand Guenet involved in carbon modeling especially in soils (T2.1Ga), is interested in analyzing carbon feedbacks between soil and atmosphere.
- Aglaé Jezel will map French water agencies concerns about water management and create storylines to disseminate BLUEGEM results and imagine future strategies for water management (T4F)
- P-A Jayet in charge of integrating agro-economic and land-use scenarios using an agro-economic model (in France only). A PhD student will start working from September on this topic codirected by A. Ducharne (T3F).
- Philippe Ciais, in charge of carbon modeling, with also plenty of experience around irrigation in ORCHIDEE
- Frédérique Cheruy in charge of the development of the atmospheric model and interested in the coupling between atmosphere and surface, with a special task focused on run-time bias-correction of the coupled model until the end of the 21st century (T2.2Fb)
- Vasdislav Bastikov is research engineer for ORCHIDEE, specialist of data visualization (task T5a).
- Hyungjun Kim in charge of downscaling simulations (T2.2FM), ESM benchmarking (with GRACE for example, T2.3a), land-atmosphere feedbacks assessment (T2.3b), and in charge of data dissemination (T5)
- Jan Polcher: calibration of ORCHIDEE in France (T2.1F), high-resolution simulations (T2.2Fa)
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3- Discussion on short term actions

- Relation with Belmont Forum and funding agencies
 - o Conventions : France : signature in June, MSU in June or July (all documents for the contract are not sent), NTU : August 1st
 - o Belmont Forum Kick-off meeting 13th CEST : <https://sri2021.org/>
 - WARNING the schedule has changed since the meeting,
 - Yadu, Min-Hui and Agnes will attend, **as well as Claire Magand**, maybe also P-A Jayet
 - Registration is 240\$
 - **A 3 minutes video is needed: ideas are welcome !**
 - o 1st report due to 15 June. **Agnes will write it and will ask people if specific issues rise**
- Internal coordination
 - o PI meeting on 1st or 2nd Thursday of each month, at the classical time (9pm in Tokyo, 8 pm in Taipei, 2pm in Paris, 8 am in Michigan), replaced by plenary meeting every 3 months
 - **First PI meeting on June 10, then July 8 (and off in August)**
 - **Next plenary meeting on September 9**
 - o Ad hoc meeting per action, domain as required to progress
 - o Specific coordination for France (**Agnès**)
 - o Setting dedicated diffusion list (**Agnès**)
- Advisory board
 - o Alice Aureli, Brian Eyler, Jay Famiglietti, Bridget Scalon, Stefan Siebert
 - o 1st meeting to be held in September (**to be done by Agnès**)
- Dissemination
 - o BLUEGEM website : <https://www.metis.upmc.fr/~ducharne/bluegem/index.php>
 - o Long-term data repository hosted by DIAS (Data integration and Analysis system) in Japan : <https://www.diasjp.net/en>
 - o Important task to do: list of shared variables (**to be started by Min-Hui before CRA Kickoff**)

4- Questions and other topics

- ESM simulations:
 - o Which SSP to consider? for sure SSP8.5-5, other ? PA Jayet in favor SSP4.5 for EU agro-economy.
 - o The bias-corrected for CESM2 will probably be available from a joint project with Frédérique and Gerhard Krinner
 - o No objection to start simulations in 1950, no need for earlier results for the social science tasks. The agro-economic model of PA Jayet relies on information available since 2007 only.
- Downscaling over France and Mekong will be done by Hjungjun Kim following the method of GSWP3
- Will high-res simulations of CLM5 be run over France? Maybe if ressources are available.
- Synergies with other on-going projects
 - o ISIMIP3 with 5 LSMs including ORCHIDEE but with the version of Philippe Ciais
 - o CLM5 used with GW and pumping in TRENDY, and with transport of nitrogen (but not DOC) in rivers. Nitrogen transport will not be activated for BLUEGEM.
- Hiring in LSCE - 9 months position - announce to be launched before summer to be able to start in September