BLUEGEM Plenary meeting, Sept 9, 2021

Present: Agnès Ducharne, Pedro Arboleda, Elodie Salmon, Bertrand Guenet, Lucia Rinchiuso (IPSL); Min-Hui Lo, Shih-Yun Kuo (Sherry), Tzu-Ying Wu (NTU) ; Yadu Pokhrel, Daniel Kramer (MSU) ; Pierre-Alain Jayet, Julie Reineix (INRAE) ; Hyungjun Kim (U-Tokyo) ; Claire Magand (OFB) ; Drs. Ly, Sinxay, and Ratino (MRC)

Excused: Aglaé Jézéquel, Jan Polcher, Philippe Peylin, Frédérique Cheruy (IPSL)

Presentation by Agnès on general information

Presentation by Yadu about GW and irrigation modelling in CLM5

Is there a limitation of irrigation by water availability? Surface water can be limiting (with no environmental flow preservation for the moment), leading to withdraw GW with no limit.

The model is set up for the Mekong where we presently miss detailed data on GW and irrigation. A new meeting will be set up by Yadu to see how we can get data knowing the limiting resource we can allocated on this in the project. Maybe some qualitative data can be provided by social scientists.

Lateral GW flow is important at fine resolution thus in the LMRB, but will probably not be implemented for the global simulations.

Presentation by Pedro about GW and irrigation modelling in ORCHIDEE

The irrigation scheme presented here has just been developed by Pedro very recently. The overestimation of the irrigation volumes in Europe can be improved by calibration of the main parameters (root zone depth, target soil moisture, Imax,

Presentation by Min-Hui on the global simulations

Discussion on the interest of having simulation with fix land use but the cost in terms of computing resource is too high.

Discussion with OFB and MRC: Are they happy with the simulations proposed?
From OFB it is fine for the global change, later with zoomed simulation maybe some different protocols should be used. To be discussed later.
No comment from MRC

A list of variables exported from all simulations is being prepared:
https://docs.google.com/spreadsheets/d/1xi32LZVQWk3KuhlR9_cfCGuYV3qsz4-YL-g2xhg8VqI/edit#gid=0
Daniel suggests we should already think of the variables useful for the social science tasks: they can (must) be inserted in the above table.

These variables in this table are for use within BLUEGEM (model comparison, work of social science tasks as recommended by Daniel) and will also be shared with the other Belmont projects if they need.

Presentation by Hyungjun Kim on downscaling and bias-correction used in GSWP3

GSWP3 shows very good performances compared to older global-scale meteorological forcing datasets. It relied on 20CR with global-scale dynamical downscaling, and bias-correction based ensemble Kalman filter.

Some technical questions on the downscaling were raised by Agnès (resolution at which the downscaling will be done in the focal areas, nature of the data to be saved from the ESM simulations, etc.), and an independent meeting will be organized soon by Min-Hui and Hyungjun with Yadu, Frédérique and Agnès.