FOLDER WITH ALL DATA FILES

https://uofi.box.com/s/d6a9rcwv1znpy9ipmsj6r33vet2qxvq5	Download it and link it to the codes files when needed

INITIAL SET UP OF FILES FOR RUNNING THE SIMULATIONS

Order	File name	Objective
1	grid_10_creation.R	Code to create a grid of 10x10 km over Illinois
2	grid_10_update.R	Update the grid with the area of corn
3	z_downloader.R	Code to download the weather of the centroid of each cell
4	z_creator_nov20.R	Randomize the weather
5	fields_selector_manager.R	Code to spit the the grid file in tiles and call the fields selector in parallel
6	fields_selector_parallel_focal_v2.R	Code to select fields on each cell in parallel
7	clean_fields_step1.R	Clean fields. Leave only three soils
8	soils_manager_Nov29.R	Download horizons for each soil
9	clean_fields_step2.R	Clean fields again, remove soils polygon whose horizons were not found
10	planting_dates_soil_temp_jul24.R	Select planting dates for each cell

RUNNING THE SIMULATIONS

Order	File name	Objective
11	walltime_updater.R	Creates a table with the id_10 and the expected walltime
12	A_walltime_sender.sh	For cluster: calls B_bash for each cell
13	B_bash.sh	For cluster: calls R using sigularity container
14	APSIM_package.R	Loads APSIM package (is deprecated for some R versions)
15	simA_manager.R	Controls the simulations. Calls the other scripts
16	simB_create_instructions.R	Creates the weather and soil files and the instructions for all simulations inside a cell
17	simC_make_z_and_met_files.R	Makes the met files
18	simD_create_apsim_files.R	Makes the apsim files
19	simE_update_ic.R	Updates the Initial conditions
20	simF_run_files.R	Run all the APSIM files
21	simG_merge_results.R	Merges APSIM output
22	simH_daily_to_yearly.R	Transforms APSIM output from daily data to yearly

PROCESSING AND ANALIZYING THE RESULTS

Order	File name	Objective
23	parameters.R	Setting parameters used during the work, like prices and fees
24	2_post_processing_nov29.R	Clean restuls. Remove outliers
25	3a_regional_stations.R	Selects the regional stations, used for training
26	3b_fields_splitter.R	Splits APSIM output by field, and aggregates it considering the area of each soil
27	3d_train_and_evaluate_loyo_mar10.R	Trains and evaluates models to provide N recommendation tools