

Review Form 3

Journal Name:	International Journal of Environment and Climate Change
Manuscript Number:	Ms_IJECC_129627
Title of the Manuscript:	Sustainable Soybean Cultivation Strategies in the NIK Region: Unravelling Climate and Soil Dynamics
Type of the Article	

PART 1: Comments

	Reviewer's comment	Author's Feedback (Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	The study of climate change in relation to the cultivation of agricultural crops in the open field is a topic and focus of a wide range of scientific research. A strategically important crop, soybean, was selected, and modeling methods were used. The results provide insight into future productivity under modeled changes in conditions and can be of significant benefit in planning and growing soybean in the NIK Region (a semi-arid plateau located in northern part of Karnataka, India).	
Is the title of the article suitable? (If not please suggest an alternative title)	The title contains the essence of the scientific work, namely sustainable soybean cultivation under future climate conditions (2021-2050).	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	The abstract is longer than necessary. It could be shortened to include the data and methodology as well as the main results. The analysis incorporated historical climate records (1991-2020) sourced from NASA and future projections (2021-2050) from the Copernicus Climate Change Service. The study reveals that soybean is particularly sensitive to variations in climate and soil conditions, with black clay soil exhibiting higher yield reductions compared to red sandy loam soil. Another important finding of the study is that delaying sowing time also reduces yields. The increase in irrigation requirements from 2021-2050, emphasizes the need for adaptive agricultural practices. As climate patterns continue to evolve, proactive and informed approaches are essential for ensuring the resilience and productivity of agriculture in semi-arid environments like the NIK region.	
Is the manuscript scientifically, correct? Please write here.	The manuscript is correctly written and scientifically argued.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	It is desirable to increase the references. More citations can be included to enhance the justification of the publication. Jańczak-Pieniżek, M., Buczek, J., Bobrecka-Jamro, D., Szpunar-Krok, E., Tobiasz-Salach, R., & Jarecki, W. (2021). Morphophysiology, Productivity and Quality of Soybean (<i>Glycine max</i> (L.) Merr.) cv. Merlin in Response to Row Spacing and Seeding Systems. <i>Agronomy</i> , 11(2), 403. https://doi.org/10.3390/agronomy11020403 Gong, L., Tian, B., Li, Y. <i>et al.</i> Phenological Changes of Soybean in Response to Climate Conditions in Frigid Region in China over the Past Decades. <i>Int. J. Plant Prod.</i> 15 , 363–375 (2021). https://doi.org/10.1007/s42106-021-00145-5	

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Is the language/English quality of the article suitable for scholarly communications?	The language formulations could be improved, but the new one is still appropriate.	
Optional/General comments	The topic is related to climate change, food security and adaptation measures in drier conditions. The study is well selected and implemented, including a real experiment with different sowing dates of a strategic crop. It is well written, contains the necessary sections and a literature review, and the references are arranged alphabetically. I recommend shortening the abstract; more references can be inserted; the phenological phases of soybean growth can be defined in the material and methods (for example, BBSH, 2001) (BBCH working group. (2001). Growth stages of mono-and dicotyledonous plants. (U. Meier, Ed.) (2nd ed.). Replace wording expressions such as "cropping period", "Development", "Midseason", "Lateseason", "Total" with their scientific equivalents. I don't understand figures 2 and 3. What exactly is the soil cover in the region, it cannot be both types at the same time. Either the study wants to show the difference between the two types. Or there are areas with both types, please explain better.	

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

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