

Thanks for both reviewers for the positive view for our revised manuscript, we have made all the changes to prepare for the final publication of this paper.

Below please find the point-to-point responses.

Reply to RC#1:

1. L102: "Therefore, coupling both systematic methods..." Which systematic methods? Please explain.

Reply: Modified as: "coupling systematic methods of both SD and optimization approaches can integrate" See L102-103.

2. L108: "optimal model" but some statements say "optimization model". Are they the same?

Reply: Changed to "optimization model" (L109), and "optimal model" in whole manuscript has been changed to "optimization model".

3. Fig3: What does the grey words mean?

It is "shadow variables". We have explained in L243-244.

Reply to RC#2:

1. Move the part in lines 727-738 (as point 3 in my first-round comment) to Section 5.4. It can be considered a research limitation.

We have moved to L748-759.

2. Remove other limitations in 5.4, and they are unnecessary: a) L753-757 about climate data and population growth rates. b) I don't understand what L760-L774 wants to imply. It seems that it was going a bit far. Please delete them.

Done.

Technical:

L668 remove "," before crop yield to express both streamflow and crop yield are stable. Otherwise, the readers do not know how the crop yield will be.

Done.

L807: WSEF nexus system, no "s".

Done. See L792.