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Interactive comment on "Copula and ARMA based study of controlled outflow at Farakka barrage" *by* Uttam Singh et al.

Anonymous Referee #2

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The subject is very interesting and can be very useful for the managers of Farakka dam, however, in my opinion, I believe that this problem has not been dealt with rigorously.

Here are some comments to improve it

L 24. Model of ARMA and model of copula, should put: model of copula and model of ARMA, following both the order of the title and the methodology.

L 43-45, the author speaks of Archimedean copulas. Why is not extreme copula used?

L 47: dependence of or extreme output. "or" must be removed

L 56-57 should be better rewritten.

L 76 Balistrocchi, 2017, you should put Balistrocchi et al, 2017

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L 139 Some of the expressions, for example Gumgel, should be revised and corrected

L 164-182, Must rewrite the text .Figures 1-3 and 2-4 are the same with different scale on the ordinate axis. In my opinion they should be placed in a unique way

Section 4.3 and 4.4 Two tests have been used to determine the goodness of fit of the marginal distributions. In my opinion, the use of AIC and BIC is more advisable than K-S. In fact in the K-S test, the marginal distribution of Dec-May is not very adequate while in the AIC and BIC it's better. What comments do you suggest?

Section 5 In my opinion you should put a table with the values of the parameters of the copulas used, as well as the value provided by the the Cramér-von Mises statistics. See package of R, for example

Section 5. The authors have carried out a copula study but at no time have I observed the correlation of the initial data. What values of dependence (Tau-kendall, Rho Sperman) does the initial sample have? And the generated sample?.

Dependence graphs should be included (k-plots, Chiplots, etc..)

Section 7. The authors have also used an ARMA model, would not it have been appropriate to use an ARMAX model including rain as an exogenous variable?

It should include some graphics showing the location of the Farakka dam.

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