

***Interactive comment on “A comprehensive study of new hybrid models for Adaptive Neuro-Fuzzy Inference System (ANFIS) with Invasive Weed Optimization (IWO), Differential Evolution (DE), Firefly (FA), Particle Swarm Optimization (PSO) and Bees (BA) algorithms for spatial prediction of groundwater spring potential mapping” by Khabat Khosravi et al.***

**Anonymous Referee #2**

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This is an interesting manuscript to understand the spatial prediction of groundwater spring potential mapping using new hybrids of ANFIS. Some comments are provided as following.

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1. There are many grammatical mistakes appeared in the article. I strongly request that this manuscript should be totally edited by professional English editors for improving the English writing. 2. In Figure 2, thirteen groundwater conditioning factors were served as input of hybrid models. The sensitivity analysis should be performed to investigate that which conditioning factor is most important factor to affect the output. 3. How many non-spring stations in the study area? Why are the numbers of non-spring stations should same with spring stations? 4. In line 171, “In the current study, 14 conditioning factors..” should be “13 conditioning factors..”. 5. I am wondering that Figures 4, 5, and 6 are necessary, because these figures are taken from other literature. 6. In equation (1), what is “l”? The term “l” should be “i=1”. 7. Pages 12, 13, and 14, the authors spend many spaces to describe the algorithm of ANFIS model. Actually, we can find the same description in many references. I am also wondering that the description of ANFIS model is necessary. Should it move to Appendix. 8. In “Discussion” Section, lines 708-719, why are these sentences put here? These sentences seem to repeat again. 9. Can the authors describe that how much time you spend to run for each hybrid ANFIS model in MATLAB environment? 10. The important factors to be adjusted for each hybrid ANFIS model should be listed with a Table,

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