

Interactive comment on “Multi-objective optimization of typhoon inundation forecast models for water-level gauging network by integration of ARMAX with a Genetic Algorithm” **by H.-T. Ouyang**

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Using monitoring data from a water-level gauging network, this paper proposed a means of forecasting inundation levels. By ARMAX, water-level forecast models were used cumulative rainfall and water level data as input variables from other gauging stations in the network.

A case study was conducted y, Taiwan in which optimal water-level forecast models were established for each of the four water-level gauging stations in the area. Test results from the Xinnan area of Yilan County Taiwan demonstrate that the model is

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able to satisfy PE exhibited significant time shift, which also provide accurate forecasts of inundations.

I think the methodology in this paper is very useful for the water-level forecasting and future engineering practices.

However, in figure 1 I cannot see the river and basin in this study basin. The author can improve the sketch of the watershed.

In figure 6, comparing model predictions (3-hr lead time) with measured ones, the results by modes display significant fluctuations of the hydrographs. Can the author explain more detailed inside?

Please also note the supplement to this comment:

<http://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2016-1/nhess-2016-1-SC2-supplement.pdf>

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