

Interactive comment on “Vegetation response to upstream water yield in the Heihe river by time series analysis of MODIS data” by L. Jia et al.

Anonymous Referee #1

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The Ejina natural oasis, located in the lower part of Heihe River Basin, is a sensitive or hot spot during the last 10 years because of its serious ecological and environmental problems. This paper focused on the vegetation dynamics of the Ejina oasis and analyzed the main driving factors, which is of much significance to the ecological protection and water resource management. My comments are the following:

1. Figure 1 needs give the coordinate information. The name of the Ejina Oasis has been written with wrong format in Figure 1.
2. The name of the Ejina Oasis is normally used for the whole natural oasis in the lower part of the Heihe River Basin. The ROI mentioned in this manuscript is the

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- core part of the Ejina Oasis. So I suggest that the authors can call the ROI as the center Ejina Oasis or the core Ejina Oasis.
3. The stream flow of the Zhengyixia hydrologic section is the crucial driving factor for the vegetation dynamics of the Ejina oasis. The data collected are just during 1980 to 2004. There are continuously abundant stream flows during 2005 to 2009, which will affect the vegetation cover changes.
 4. In pages of 4193 and 4194, the correlation analysis between NDVI and stream flow indicates good relationship. But there is no significance level analysis. Back to the third problem, correlation analysis is just made during a period of 5 years. Whether is it trustworthy?
 5. The vegetation in Ejina oasis is rare and clump distribution. NDVI value may be influenced by soil background especially in arid region, the Soil-Adjusted Vegetation Index (SAVI) or Modified Soil-Adjusted Vegetation Index may be a better vegetation index.
 6. Standardization would be performed for the figures of the manuscript. The main problem is with different sizes of fonts.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 4177, 2010.

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