

Supplement of Hydrol. Earth Syst. Sci., 20, 4469–4481, 2016
<http://www.hydrol-earth-syst-sci.net/20/4469/2016/>
doi:10.5194/hess-20-4469-2016-supplement
© Author(s) 2016. CC Attribution 3.0 License.



Supplement of

Downstream ecosystem responses to middle reach regulation of river discharge in the Heihe River Basin, China

Yan Zhao et al.

Correspondence to: Yongping Wei (yongping.wei@uq.edu.au)

The copyright of individual parts of the supplement might differ from the CC-BY 3.0 licence.

Supplementary Materials for “Downstream ecosystem responses to middle reach regulation of river discharge in the Heihe River Basin, China”

S1. Validation of Landsat derived vegetation and crop distribution maps

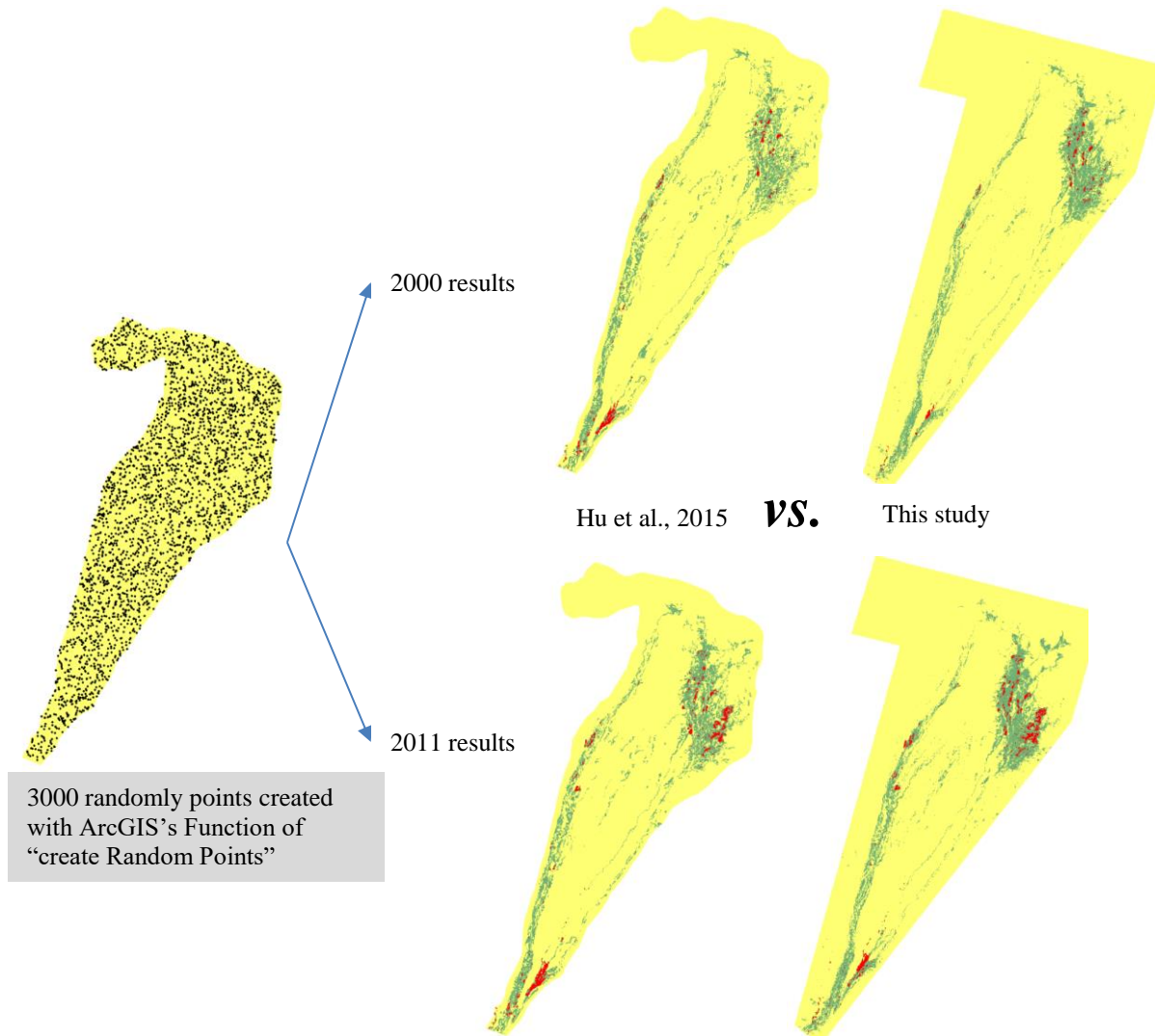


Figure S1: scheme of inter-comparison of Land cover maps between Hu's results and this study. The reference data were provided by Dr. Xiaoli Hu from the Cold and Arid Environmental and Engineering Research Institute of Chinese Academy of Sciences. The origin forest (arboreal forest, shrub forest and sparse forest) and grassland (Thick, moderate and sparse grassland) types were grouped into vegetation while water body, buildup land and desert were grouped into "others" to support the comparison.

Table S1: Confusion matrix and *kappa* coefficients for the inter-comparison of 2000 and 2011 results.

		Crop	Vegetation	Others	Total	Producer's Accuracy
2000	Crop	24	11	3	38	63.2%
	Vegetation	3	272	69	344	79.1%
	Others	4	108	2506	2618	95.7%
	Total	31	391	2578		
	User's Accuracy	77.4%	69.6%	97.2%		
<i>kappa</i> = 0.7206						
2011	Crop	40	15	1	56	71.4%
	Vegetation	5	273	92	370	73.8%
	Others	4	138	2432	2574	94.5%
	Total	49	426	2525		
	User's Accuracy	81.6%	64.1%	96.3%		
<i>kappa</i> = 0.6731						

S2. Groundwater variations in Ejina region

We collected groundwater observation data from the WestDC database in which groundwater levels were measured at 50 m, 300 m, 2,200 m, 2,700 m, 3,200 m and 4,300 m away from the river channel along a transection located in the study area as shown in the following figure.

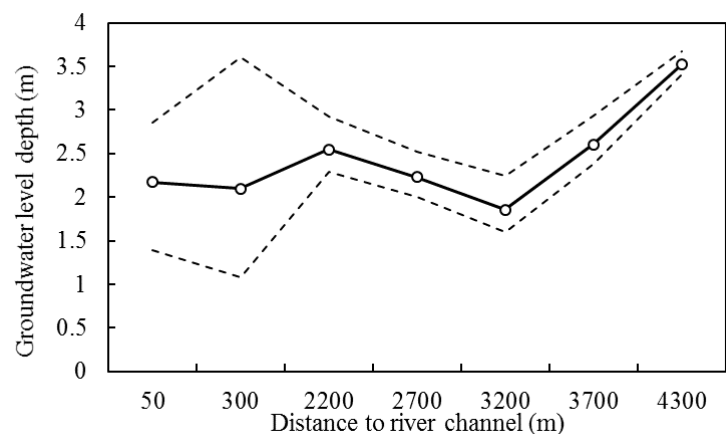
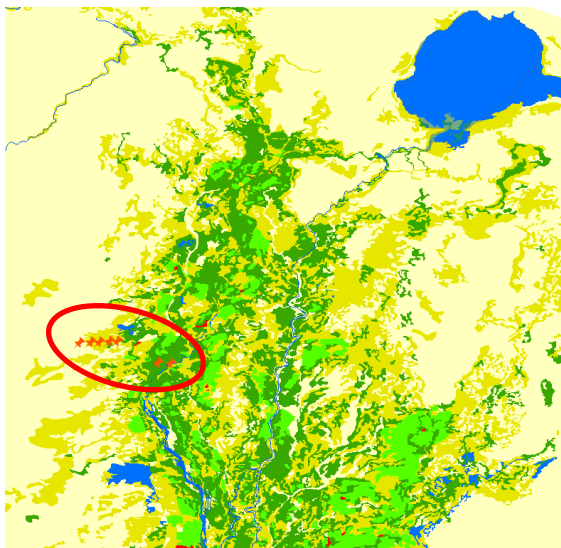


Figure S2: Groundwater variations along a transection (left panel within the red cycle) in Ejina Oasis. Solid line with circles indicates mean levels, dash lines indicate minimum and maximum water levels.