



## Supplement of

## Attribution of satellite-observed vegetation trends in a hyper-arid region of the Heihe River basin, Western China

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## 1 Supplement:

2 Table S1 Statistics (e.g.,  $\mathbb{R}^2$ , significance level (p), and the slope of the linear regression) between desert 3 vegetation cover  $f_D$  and regional precipitation variations from different sources

	GPCC	CRU	SITES	CPC
$R^2$	0.40	0.37	0.49	0.51
р	0.04	0.05	0.02	0.01
Slope	0.017	0.015	0.018	0.014

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Fig. S1 Spatial pattern and change of precipitation for the study area from different sources. (a) Mean
annual precipitation from CRU. (b) spatial trend of precipitation from CRU 2000-2010 (c) Mean annual
precipitation from CPC. (d) spatial trend of precipitation from CPC 2000-2010.



- 2 Fig. S2 Spatial of annual maximal fraction vegetation cover (a) Averaged annual max fraction vegetation
- 3 cover (Max\_fv) and (b) change in annual max NDVI during 2000-2012.





5 Fig. S3 Relationship between desert vegetation cover  $f_D$  and regional precipitation from different data sets



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Fig. S4 The observed annual changes in relative vegetation cover  $(d f_V / f_V)$  versus predicted changes from water availability of runoff (X<sub>R</sub>) and precipitation (X<sub>P</sub>) in relative vegetation cover with different percipitation data sources.

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