Identifying a Transition Climate Zone in an Arid River Basin using a Hydrological Drought Index

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Supplement

Table S1. Mann-Kendall trends from 1980 to 2010 of simulated temperature (*T*), precipitation (*P*), and actual evapotranspiration (*AET*) and observed temperature (T_{obs}), precipitation (P_{obs}). The bold and italic numbers are significant at p<0.01 and p<0.05, respectively.

Variable	Upper	Middle	Lower
T(^{o}C)	0.4	0.4	0.4
P (%)	**53.0**	**63.7**	**47.9**
AET (%)	**21.4**	16.6	27.1
T_{obs} (oC)	**1.9**	**2.0**	0.7
P_{obs} (%)	-10.7	*74.6*	62.5

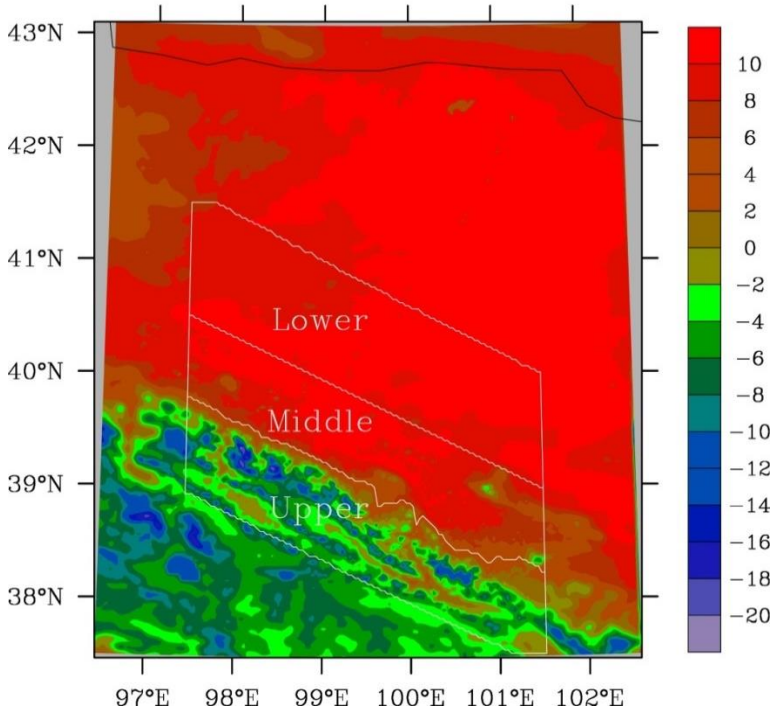

Figure S1. Spatial distributions of simulated air temperature (*T*, ^{o}C) averaged over 1980-2010.

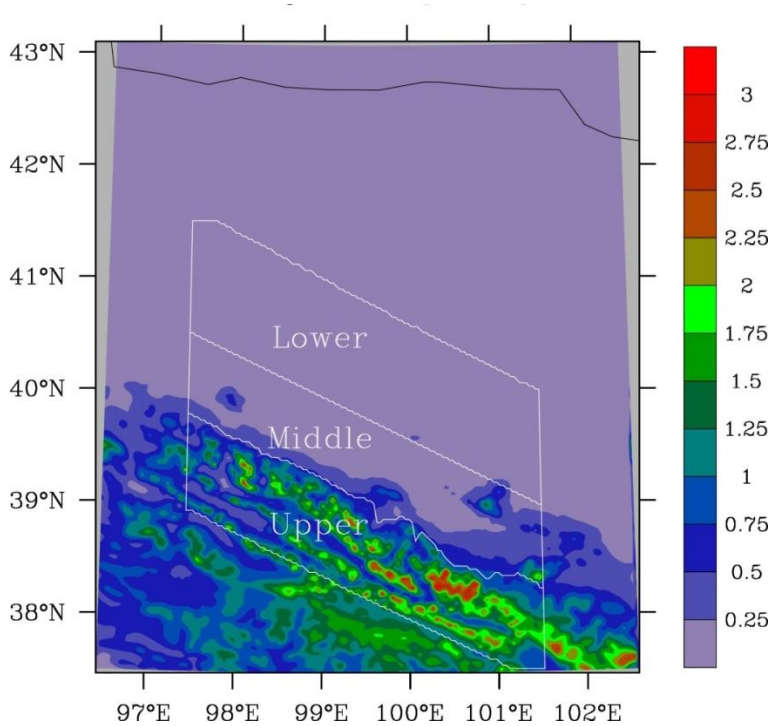

Figure S2. Spatial distributions of simulated precipitation (*P*, mm/d) averaged over 1980-2010.

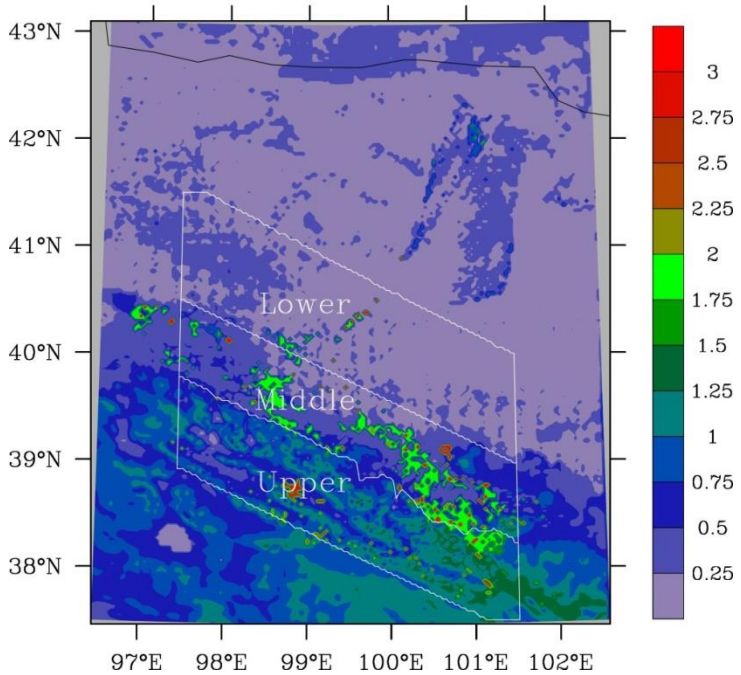

Figure S3. Spatial distributions of simulated actual evapotranspiration (*AET*, mm/d) averaged over 1980-2010.

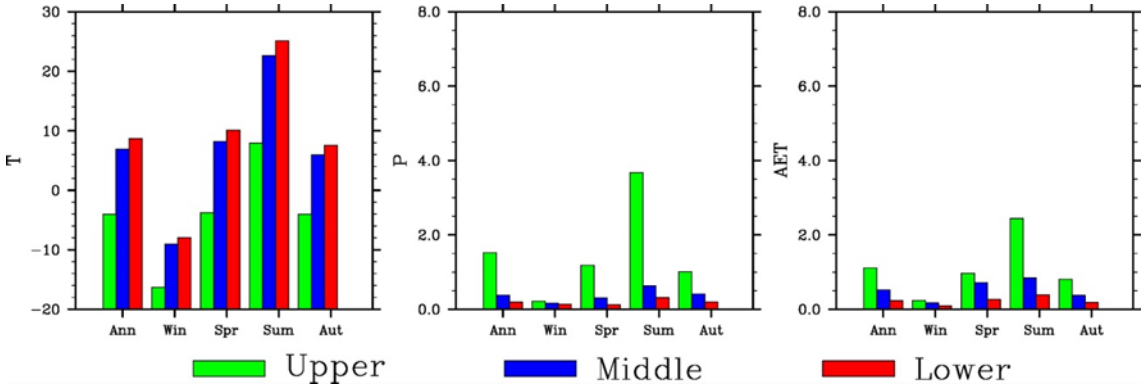

Figure S4. Seasonal variations of simulated air temperature (*T*, ^{o}C), precipitation (*P*, mm/d), and actual evapotranspiration (*AET*, mm/d) in three basin reaches averaged over 1980-2010.

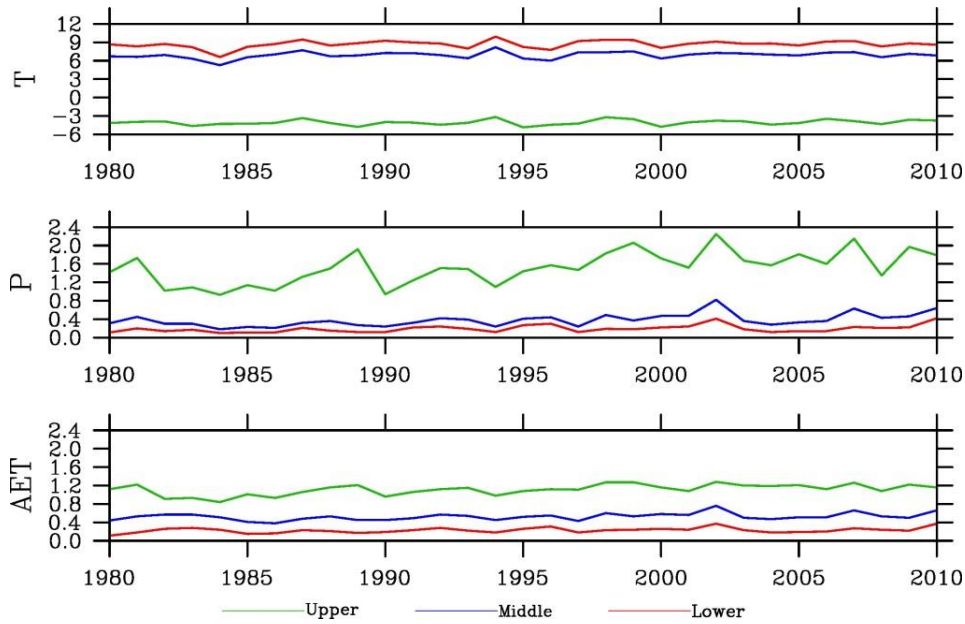

Figure S5. Inter-annual variations of simulated air temperature (*T*, ^{o}C), precipitation (*P*, mm/d), and actual evapotranspiration (*AET*, mm/d) in three basin reaches over 1980-2010.

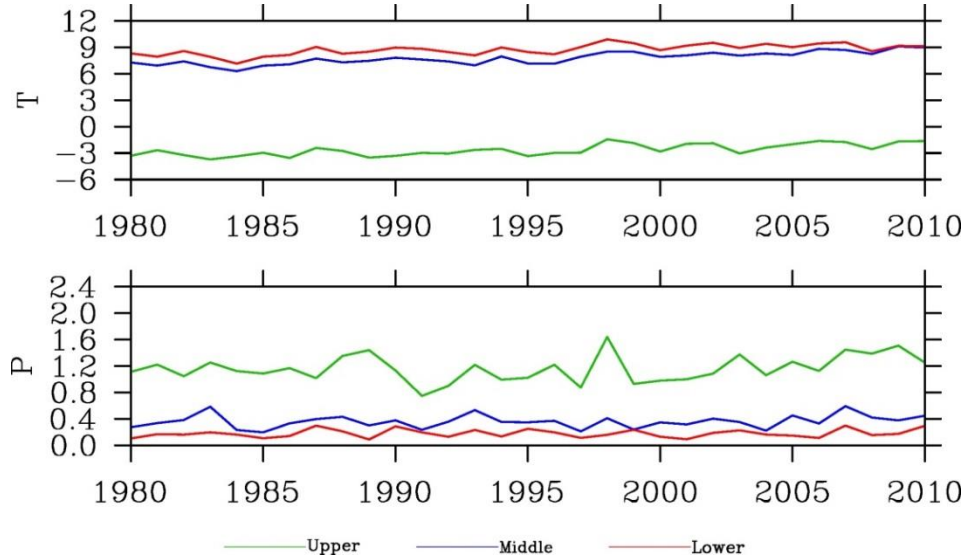

Figure S6. Inter-annual variations of observed air temperature (T_{obs}, ^{o}C) and precipitation (P_{obs}, mm/d) in three basin reaches over 1980-2010.

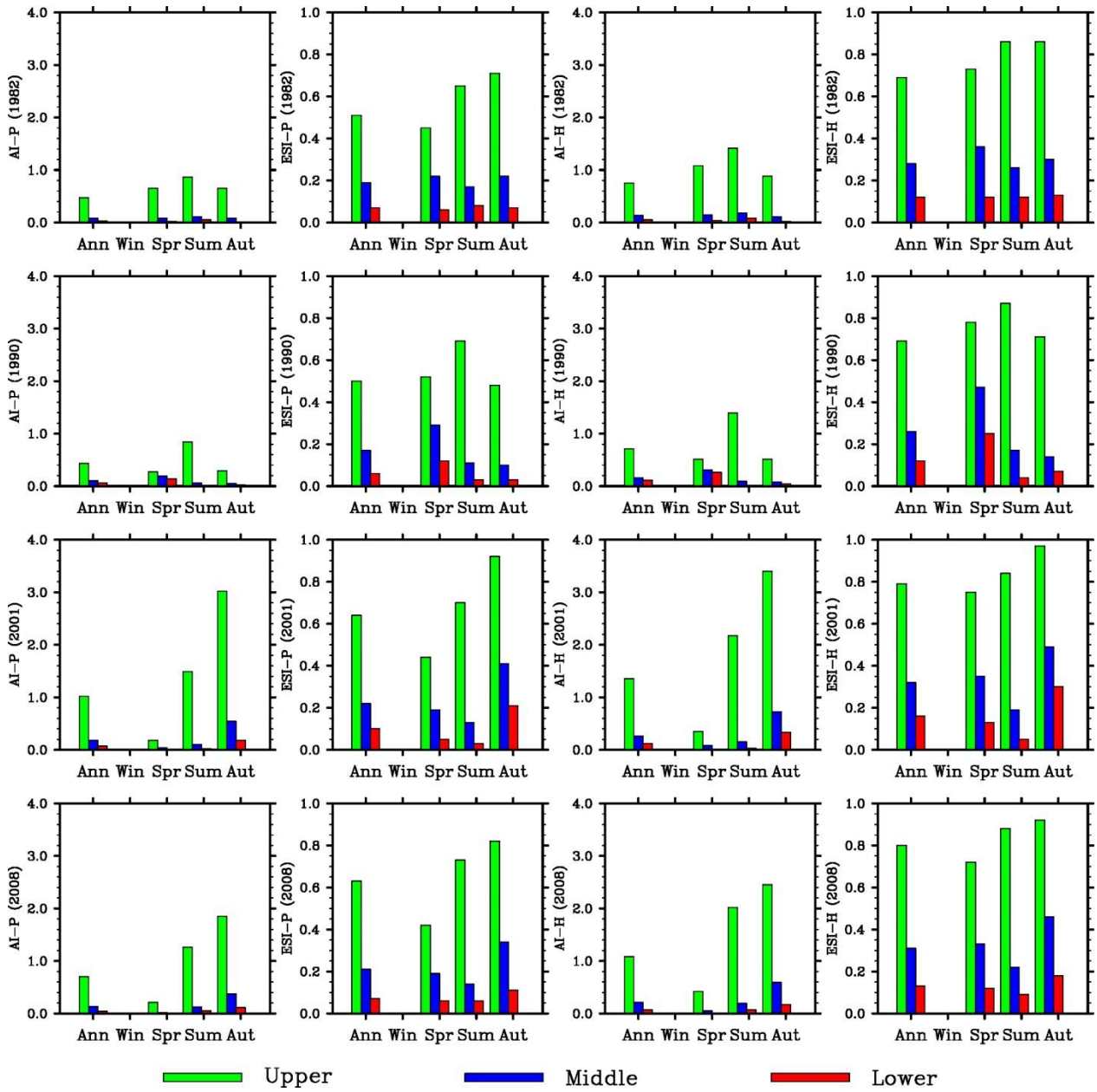

Figure S7. Seasonal variations of simulated aridity index (*AI*), and evaporative stress index (*ESI*) using the Penman-Monteith and Hamon methods (left to right) for the dry years of 1982, 1990, 2001, and 2008 (from top to bottom).

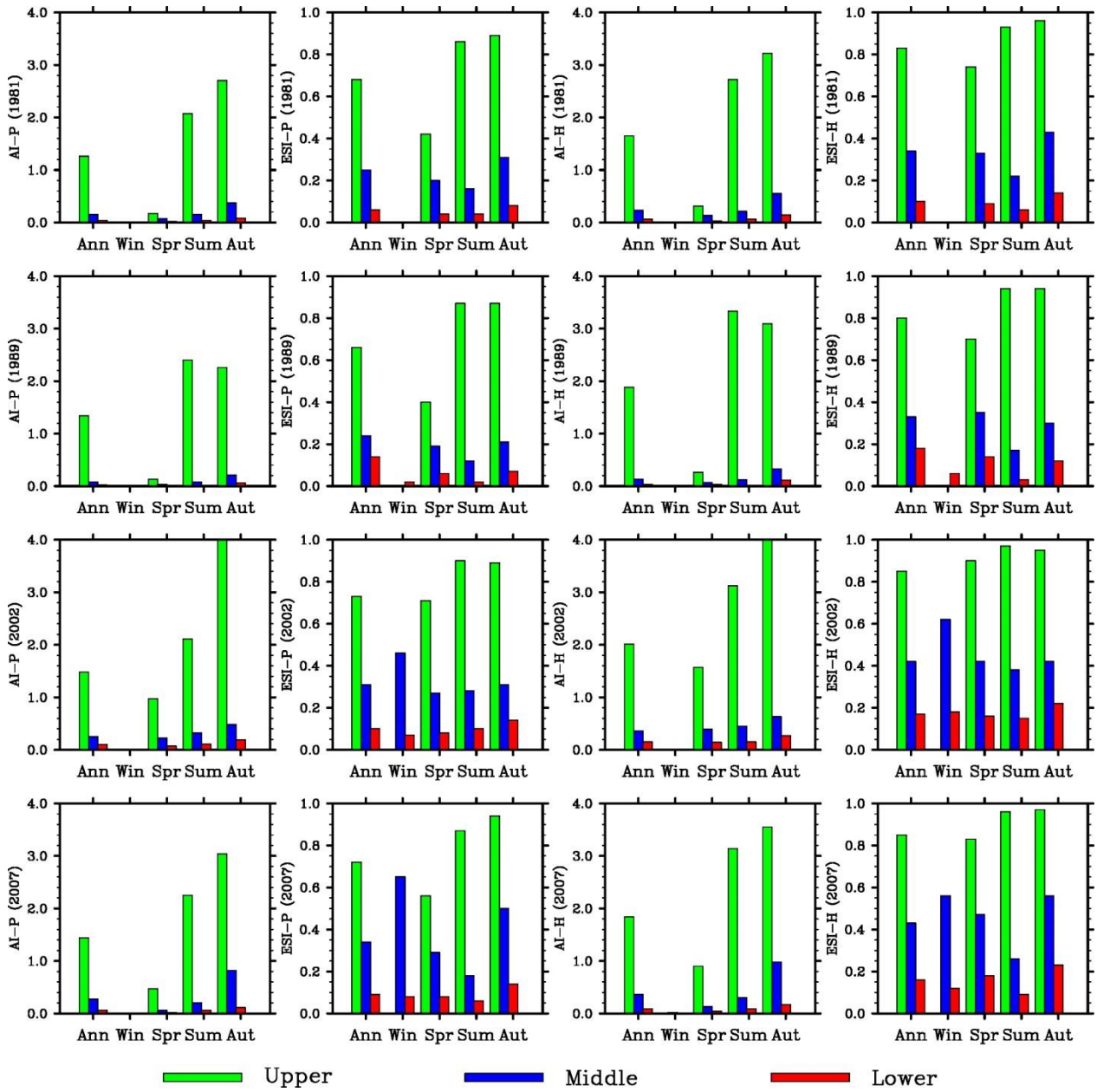

Figure S8. Seasonal variations of simulated aridity index (*AI*), and evaporative stress index (*ESI*) using the Penman-Monteith and Hamon methods (left to right) for the wet years of 1981, 1989, 2002, and 2007 (from top to bottom).