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Spatial and temporal characteristics of dryness/wetness for grapevine in the Northeast of China between 1981-2020

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Supplementary material

Table: Crop coefficient and growth stages of grapevine.

Month	Time of month ^{Note}	Crop coefficient	Growth stage
May	Late	0.35	Bud burst
	Middle		Shoot growth
	Late		
June	Early	0.52	Flowering
	Early		
	Middle		
July	Early	0.76	Berry development
	Middle		
	Late		
August	Early	0.70	
	Middle		
	Late		
September	Early	0.60	
	Middle		
	Late		
October	Early	0.45	Maturation
	Middle		

Note "Early" indicates the 1st day to the 10th day of a month, "Middle" indicates the 11th day to the 20th day of a month, and "Late" indicates the 21st day to the end of the month.



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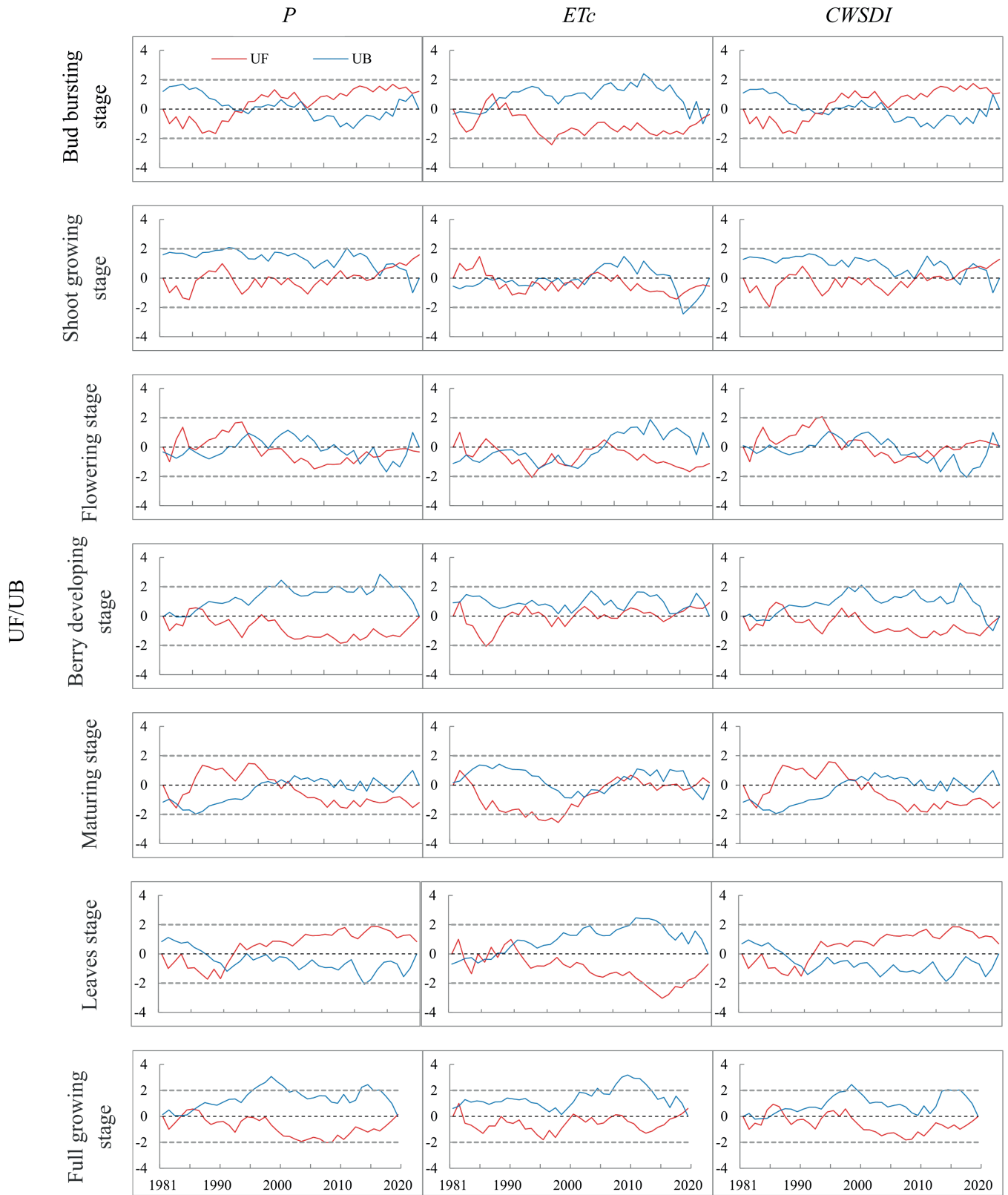


Fig. S1: Curves of UF and UB for the precipitation (*P*), water requirement (*ETc*) and *CWSDI* for different growing stages of grapevine in the Northeast wine region of China between 1981–2020.

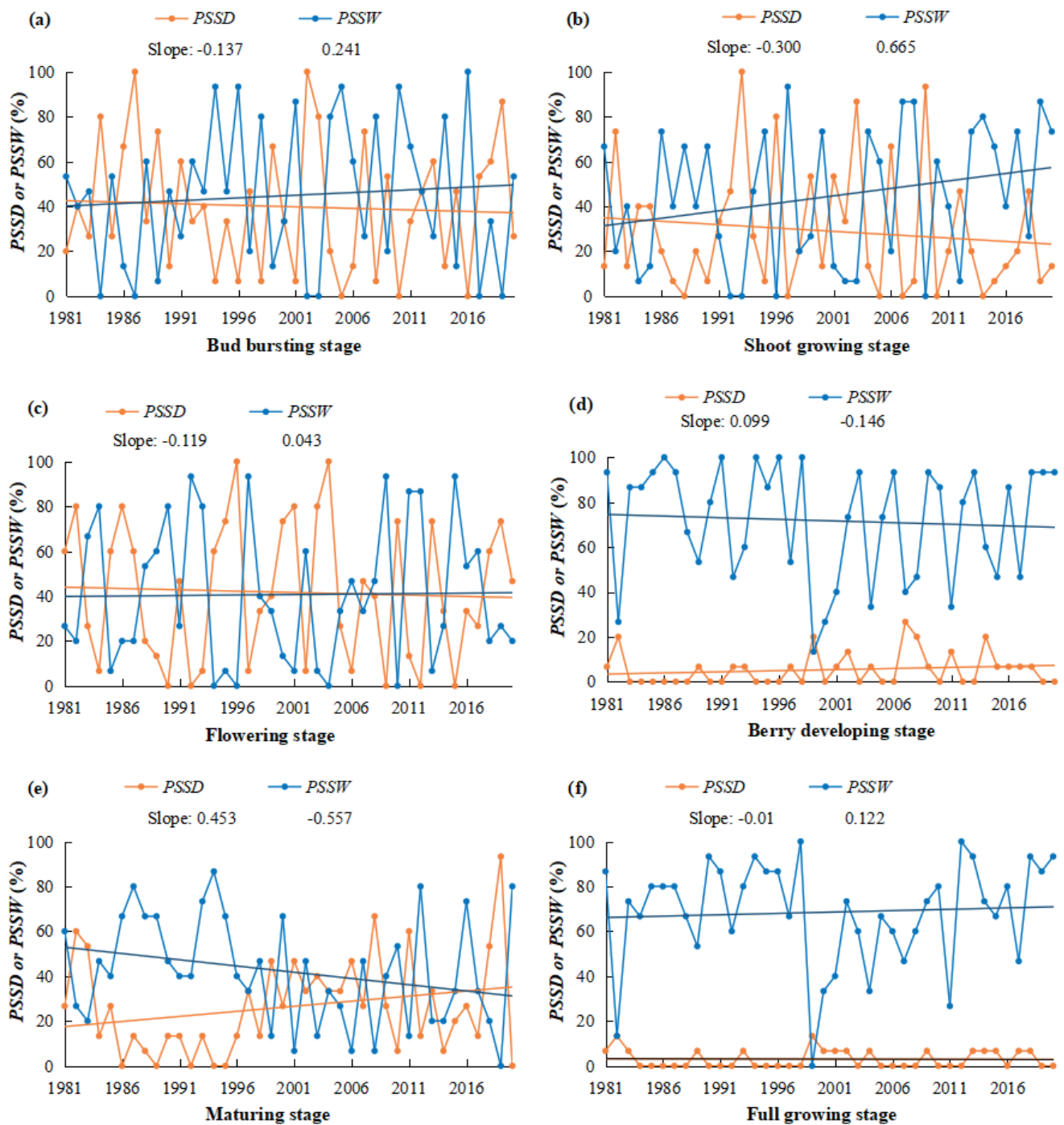


Fig. S2: The variation of percentage of stations suffering from drought (PSSD) and wetness (PSSW) for different growing stages of grapevine in the Northeast wine region of China between 1981–2020.

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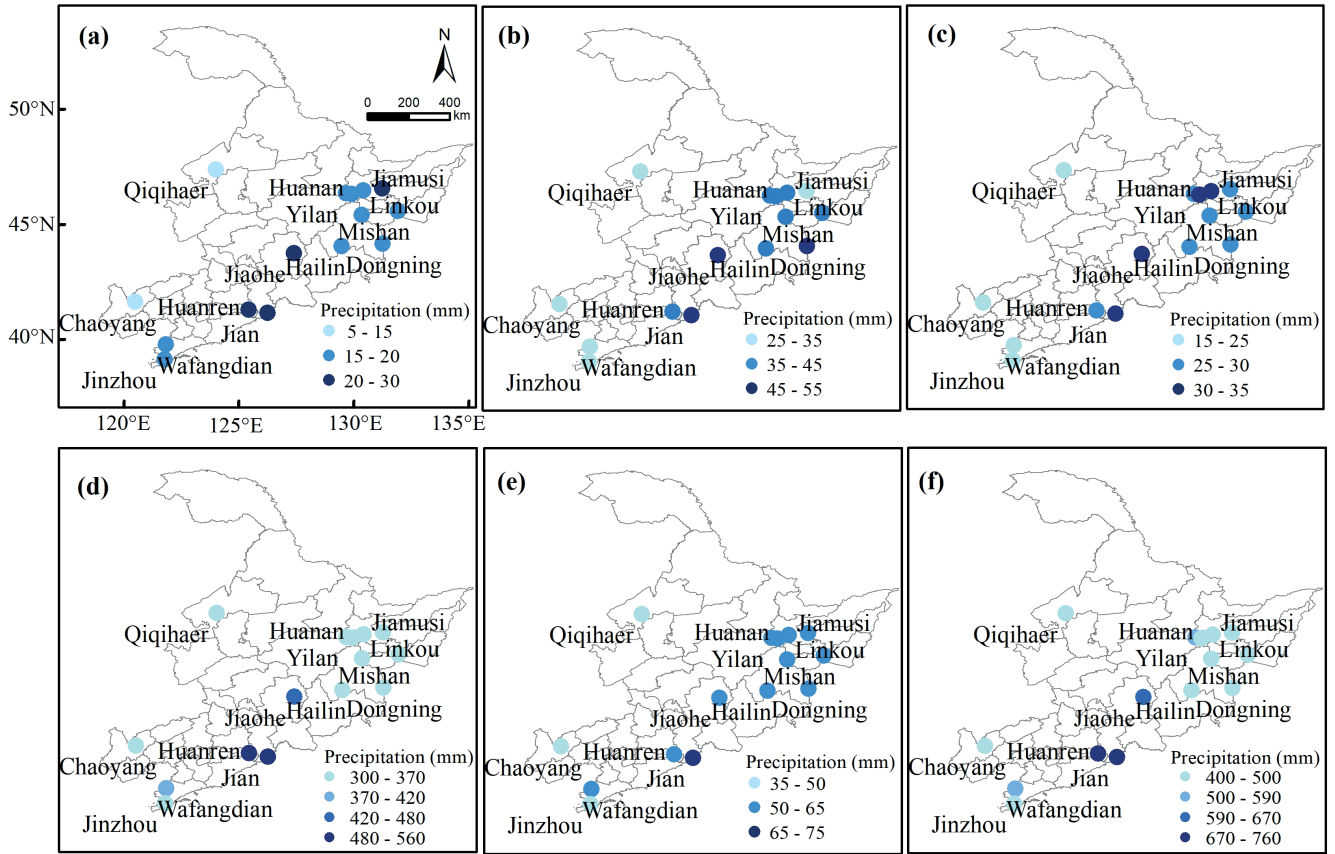


Fig. S3: Spatial distribution of average precipitation for different growing stages of grapevine in the Northeast wine region of China between 1981–2020 (a) bud burst; (b) shoot growth; (c) flowering; (d) berry development, (e) maturation; (f) full growth.

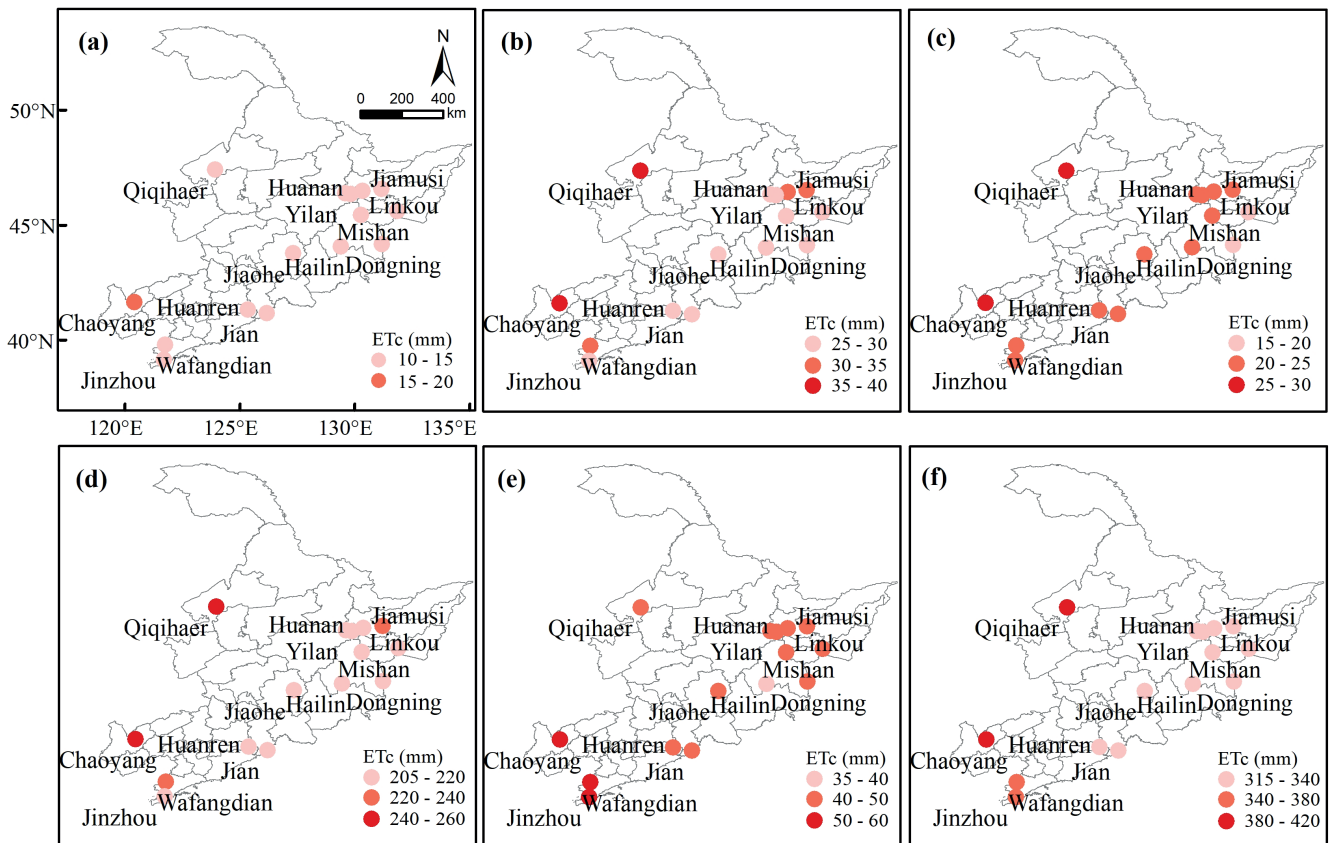


Fig. S4: Spatial distribution of average ETC for different growing stages of grapevine in the Northeast wine region of China between 1981–2020 (a) bud burst; (b) shoot growth; (c) flowering; (d) berry development, (e) maturation; (f) full growth.

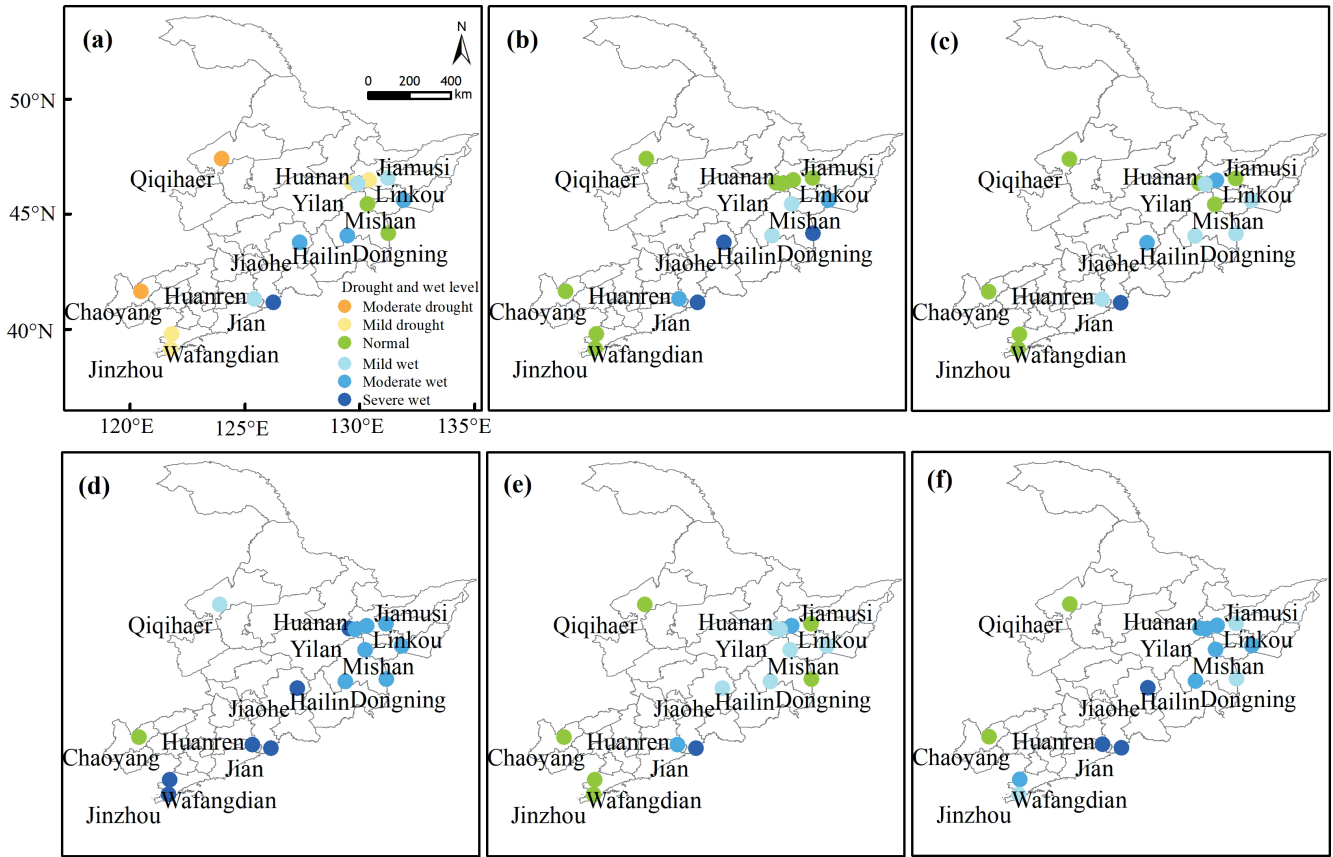


Fig. S5: Spatial distribution of CWSDI for different growing stage of grapevine in the Northeast wine region of China between 1981–2020 (a) bud burst; (b) shoot growth; (c) flowering; (d) berry development, (e) maturation; (f) full growth.

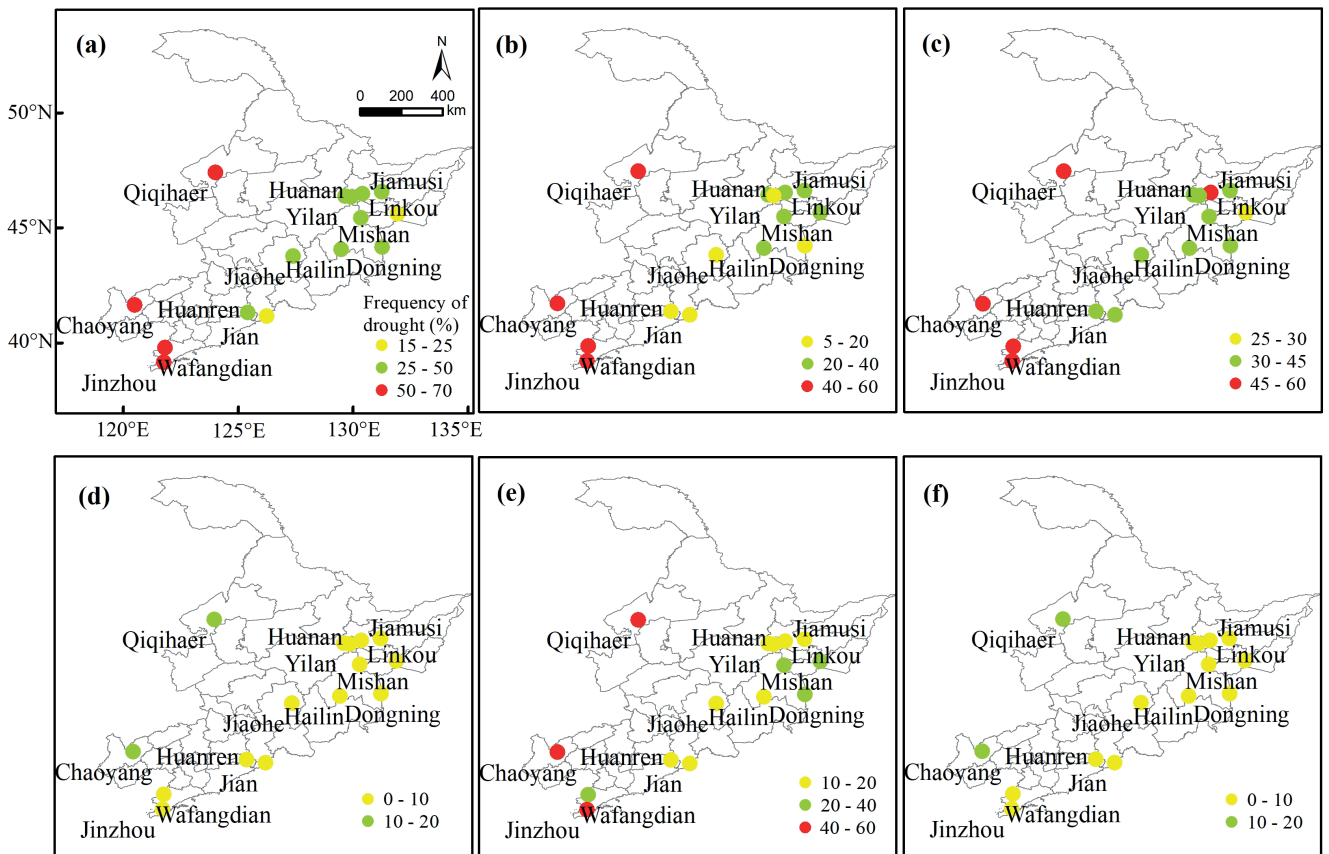


Fig. S6: Spatial distribution of drought frequency for different growing stage of grapevine in the Northeast wine region of China between 1981–2020 (a) bud burst; (b) shoot growth; (c) flowering; (d) berry development, (e) maturation; (f) full growth.

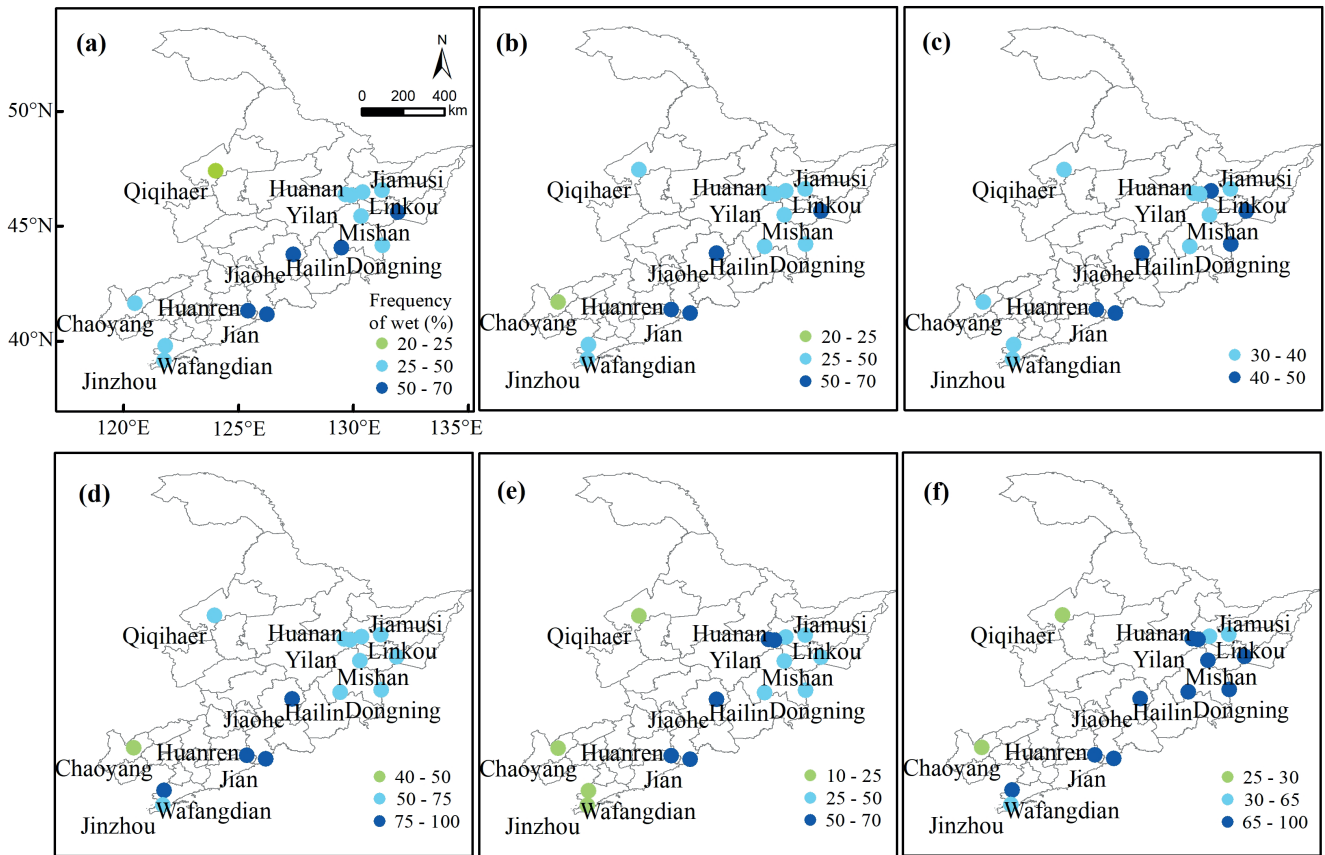


Fig. S7: Spatial distribution of wet frequency for different growing stage of grapevine in the Northeast wine region of China between 1981–2020 (a) bud burst; (b) shoot growth; (c) flowering; (d) berry development, (e) maturation; (f) full growth