

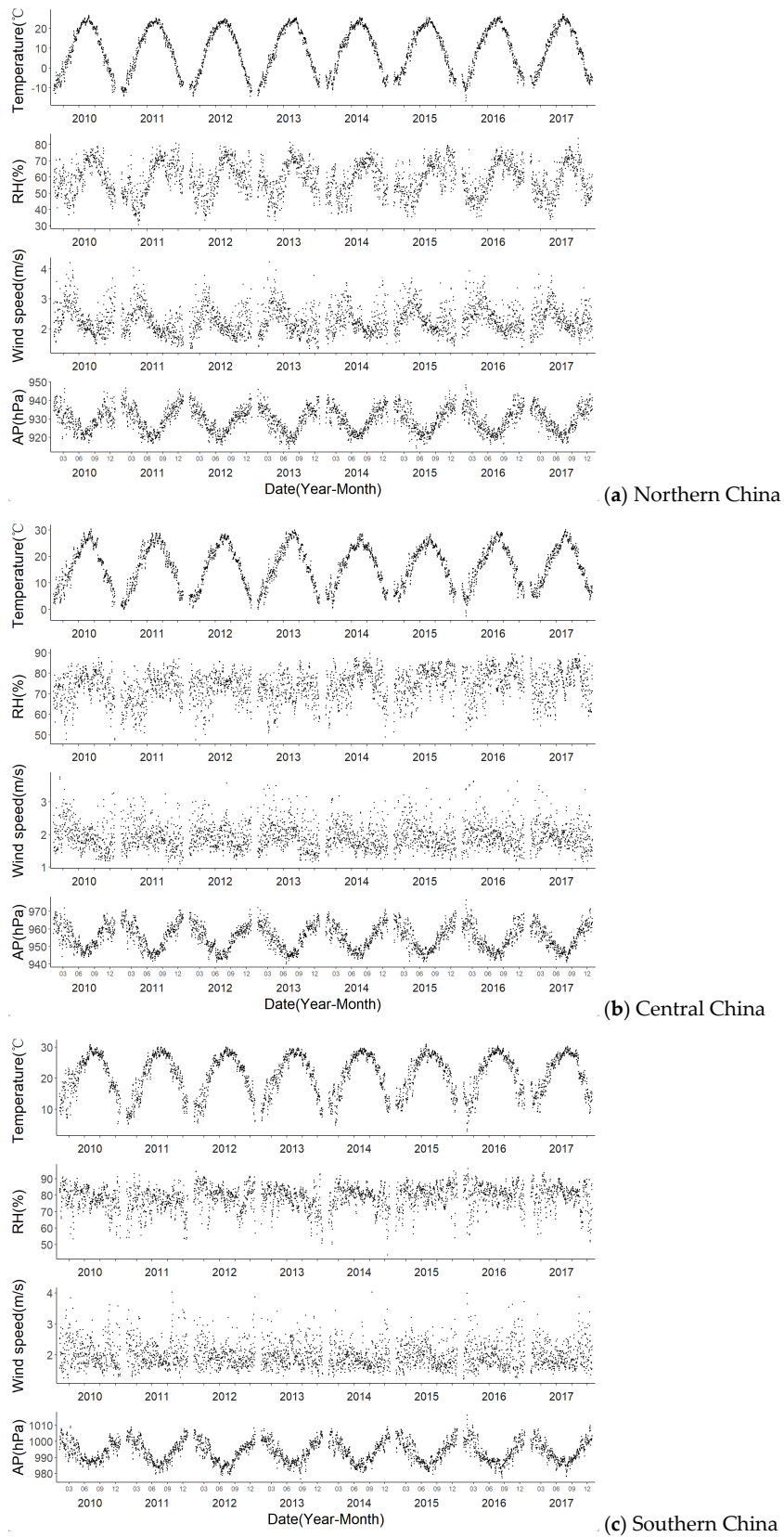
# Association between temperature and influenza activity across different regions of China during 2010-2017

**Table S1.** Summary of the total number of cases of ILI, Flu A, and Flu B in northern, central, and southern China

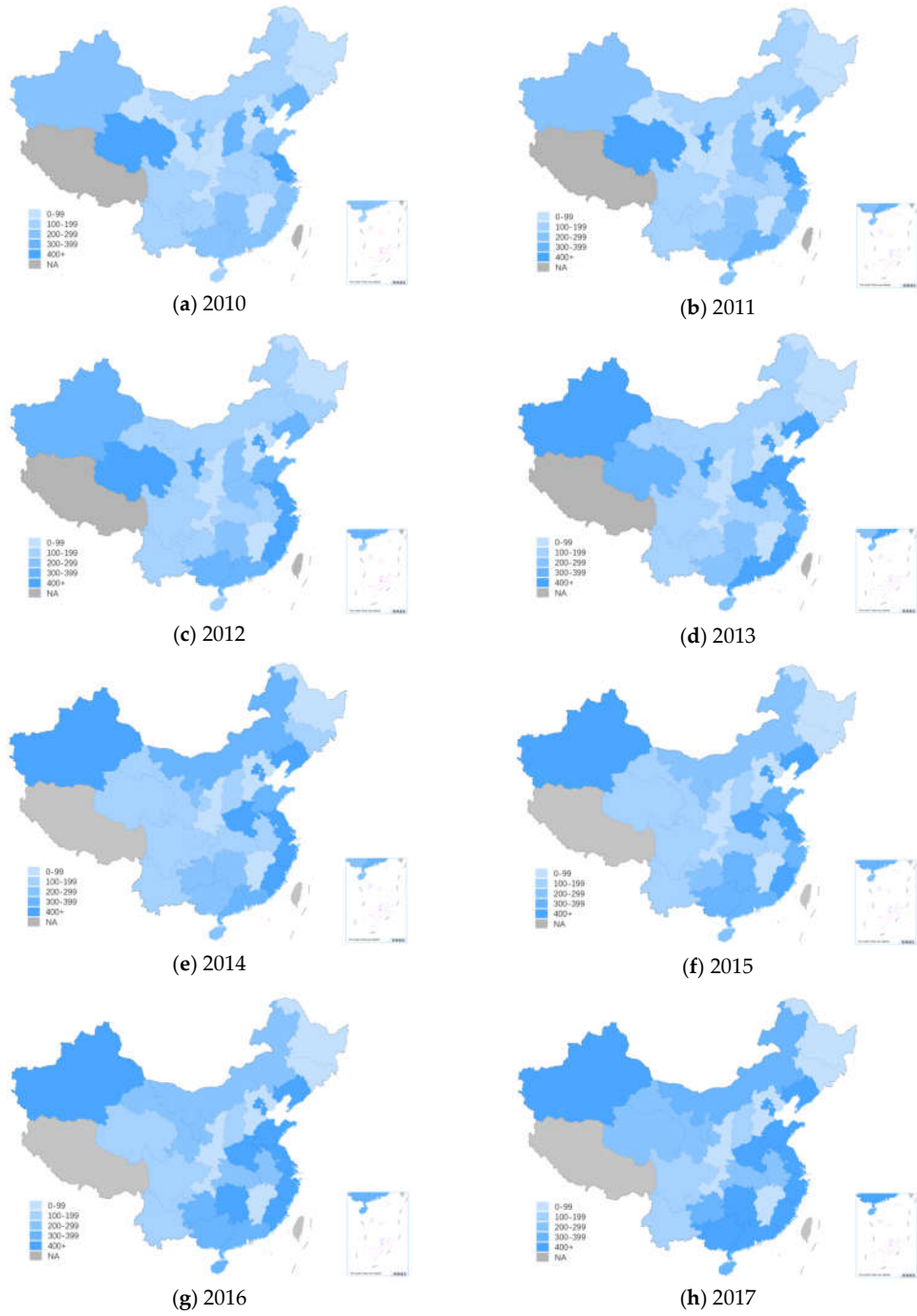
	ILI	Flu A	Flu B
Total	30995833	286916	177881
Northern China	11271495	100524	60163
Central China	11676863	122585	76559
Southern China	7454224	59586	38920

**Table S2.** P-value of Spearman's rank correlation analysis between the rate of ILI/Flu A/Flu B and meteorological factors

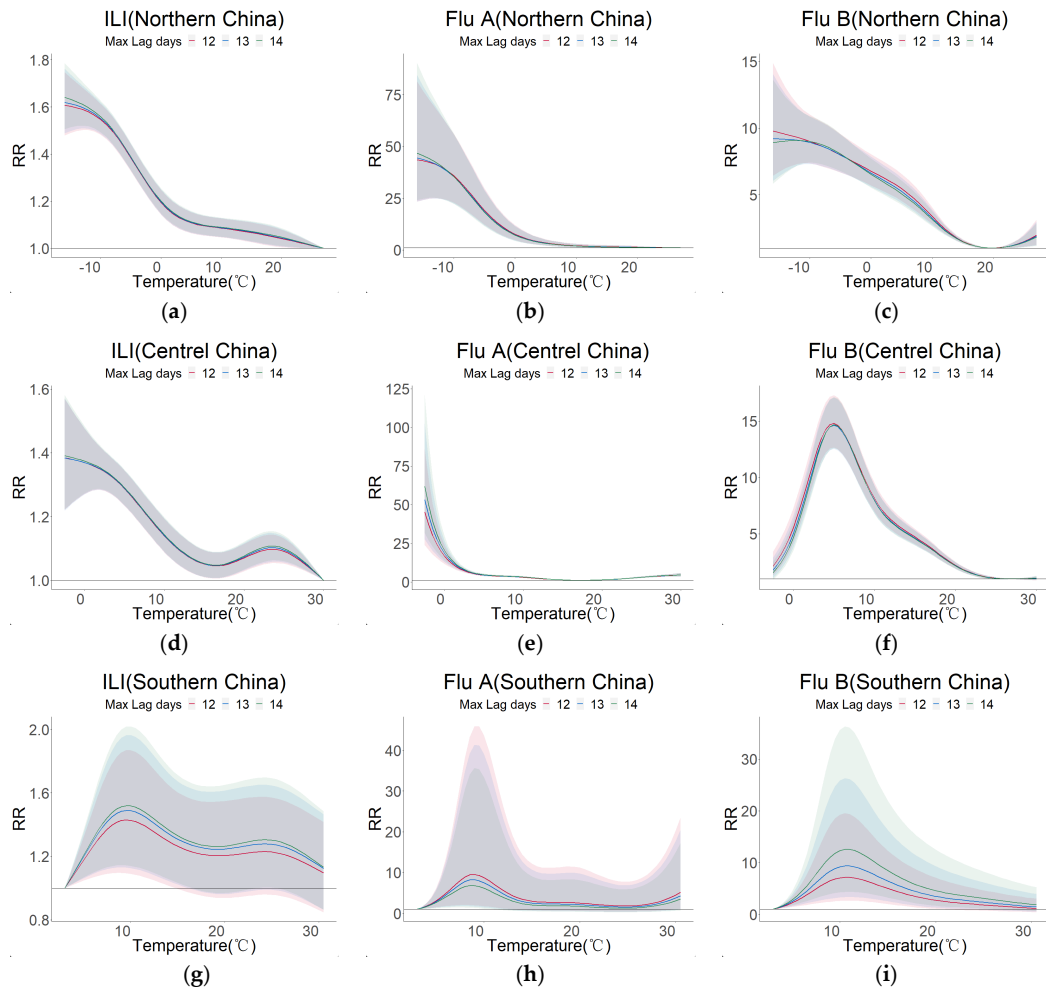
	Temperature	RH	Wind speed	PRS	Flu A	Flu B	ILI
Northern China							
Temperature							
RH	0.0000						
Wind speed	0.1435	0.0000					
AP	0.0000	0.0000	0.0000				
Flu A	0.0000	0.0000	0.0000	0.0000			
Flu B	0.0000	0.0000	0.0000	0.0000	0.0000		
ILI	0.0000	0.0000	0.6163	0.0000	0.0000	0.0000	
Central China							
Temperature							
RH	0.0000						
Wind speed	0.8095	0.0000					
AP	0.0000	0.0000	0.0000				
Flu A	0.0000	0.0423	0.0087	0.0000			
Flu B	0.0000	0.0000	0.0000	0.0000	0.6865		
ILI	0.0000	0.0004	0.0033	0.0000	0.0000	0.0000	
Southern China							
Temperature							
RH	0.0000						
Wind speed	0.0000	0.0000					
AP	0.0000	0.0000	0.0000				
Flu A	0.0000	0.0000	0.2126	0.0000			
Flu B	0.0000	0.8940	0.0009	0.0000	0.5217		
ILI	0.0000	0.0000	0.6383	0.0000	0.0000	0.0000	



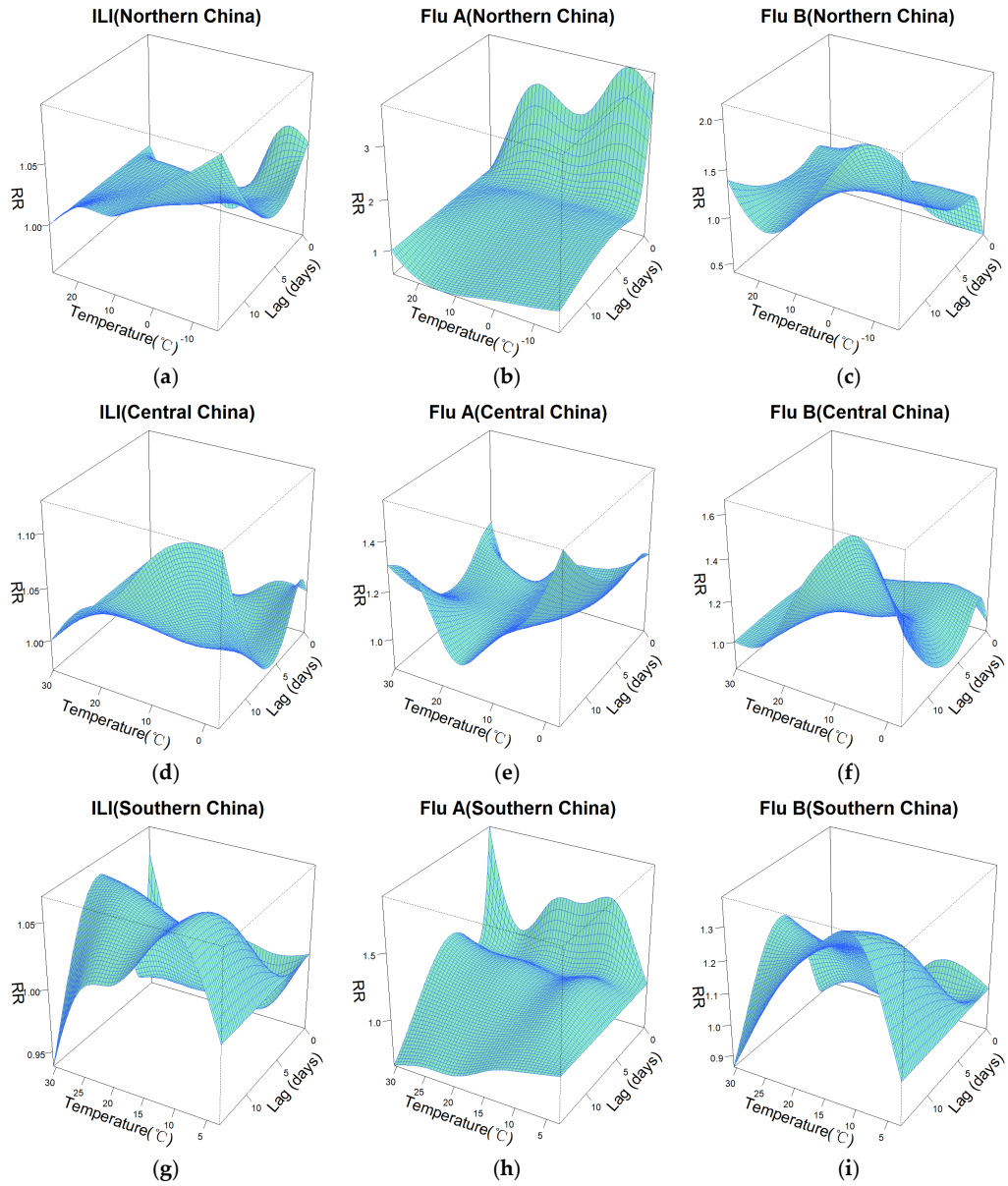
**Figure S1.** Meteorological trends in three regions, 2010–2017. (a): Northern China; (b): Central China; (c): Southern China. Abbreviations: RH, relative risk; AP, air pressure.



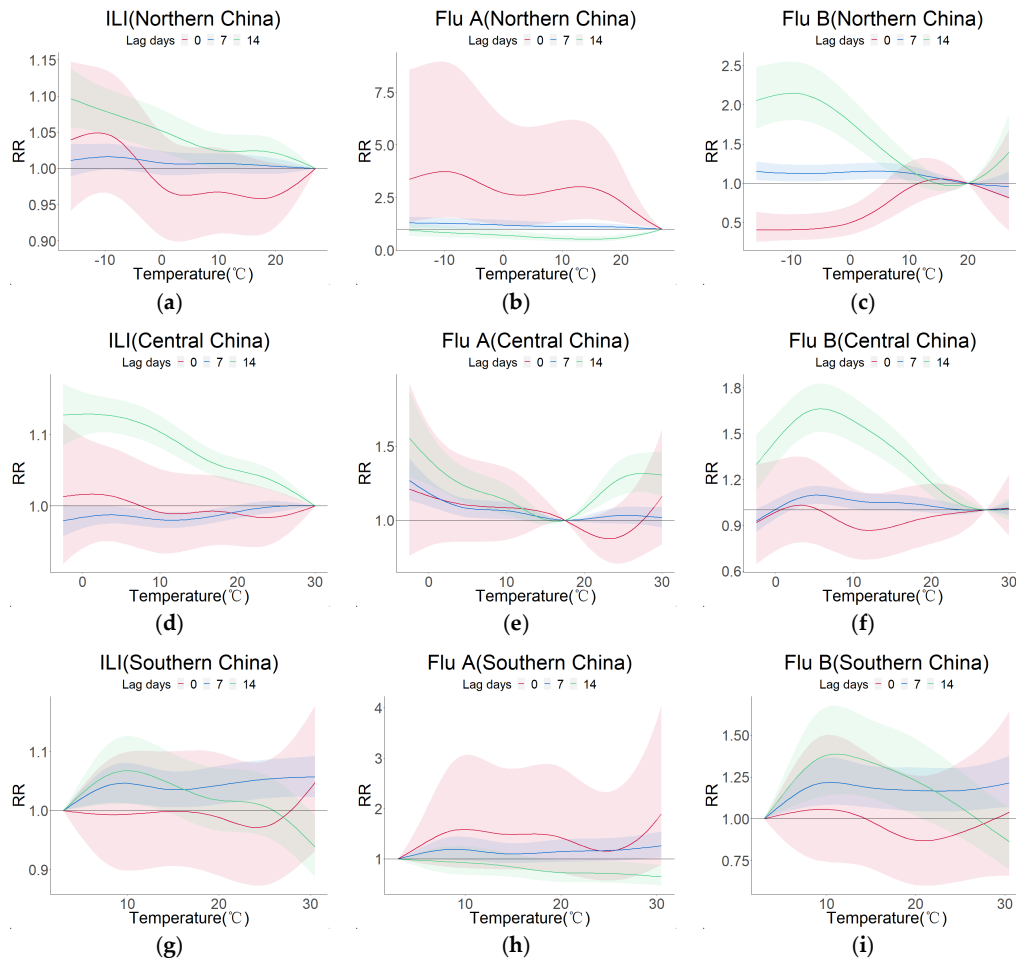
**Figure S2.** Heat map of the number of ILI per 100,000 people by province in China, 2010-2017 ((a)-(h) for 2010-2017, respectively).



**Figure S3.** Sensitivity analysis when altering the maximum lag time for 12, 13, and 14 days in the model. The red color donates the maximum lag is 12; The blue color donates the maximum lag is 13; The green color donates the maximum lag is 14. (a): ILI in northern China; (b): Flu A in northern China; (c): Flu B in northern China; (d): ILI in central China; (e): Flu A in central China; (f): Flu B in central China; (g): ILI in southern China; (h): Flu A in southern China; (i): Flu B in southern China. The shaded area represents the 95% confidence interval. Abbreviations: ILI, influenza-like illness; Flu A, influenza A; Flu B, influenza B; RR, relative risk.



**Figure S4.** 3D plots of the relationship between ILI, Flu A, and Flu B and temperature in different regions. (a): ILI in northern China; (b): Flu A in northern China; (c): Flu B in northern China; (d): ILI in central China; (e): Flu A in central China; (f): Flu B in central China; (g): ILI in southern China; (h): Flu A in southern China; (i): Flu B in southern China. Abbreviations: ILI, influenza-like illness; Flu A, influenza A; Flu B, influenza B; RR, relative risk.



**Figure S5.** Relationship between the temperature of ILI, Flu A, and Flu B in different regions at specific lag times with RR. (a): ILI in northern China; (b): Flu A in northern China; (c): Flu B in northern China; (d): ILI in central China; (e): Flu A in central China; (f): Flu B in central China; (g): ILI in southern China; (h): Flu A in southern China; (i): Flu B in southern China. The shaded area represents the 95% confidence interval. Abbreviations: ILI, influenza-like illness; Flu A, influenza A; Flu B, influenza B; RR, relative risk.