

Climatological Persistence

- > The tendency for temperature and precipitation conditions for one period to remain similar into the next
- > Due to a lag in the change between weather regimes
- Occurs over the time of the dominant meteorological processes

Data and Methods

- NM, TX, LA, AR, and OK climate divisions (45 total) ➢ POR 1950−2010
- Monthly mean air temperature and monthly total precipitation
- \succ Divide each time series into three classes above, near, and below normal by ranking
- Create contingency table showing the relative frequency of each class in the following month given the class of the initial month
- Statistical significance of contingency tables determined by Chi-square test with alpha = 0.1
- > Twelve month-pairs (DJ–ND) for each variable





Monthly Temperature and Precipitation Persistence in the Mid-South Region

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Regional Persistence



Statewide Persistence









TX1 T TX4 TX5 TX6 TX7 TX8 TX9

TX10 T

NM7

NM8 T

Ρ











FM	MA	AM	MJ	JJ	JA	AS	SO	ON	ND	DJ
	Т			Т	Т	Т	Т			Р
	TP		Т	Т	Т	TP	Т	Т	Ρ	
	Т			ΤP	Т	Т				
		Ρ		Т	TP	Т				Р
Ρ	Т		Т	Т	Т	TP				
Ρ		Т	Т	Т	Т				Ρ	
Т			Т	Т	TP	Т				Т
Т			Т	Т	TP	Т				
Т	TP		Т	Т	Т	Т			Ρ	Ρ
Т		Ρ	Т	Т		Т				Ρ









Regional:

- and weakest in late fall (ON, ND)
- weakest in fall (SO, ON)
- Statewide:
- Patterns similar to regional
- OK, and AR



Temperature persistence strongest in summer (JJ–AS) Precipitation persistence strongest in early spring (MA) and

> TX and LA exhibit greater degree of persistence than NM,