

UNDERSTANDING SEASONAL VARIATIONS OF PENINSULAR FLORIDA

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This study accounts for varying lengths of the seasons, which turns out to be an important consideration of climate variability over Peninsular Florida (PF). We introduce an objective definition for the onset and demise of the winter season over relatively homogenous regions within PF: North Florida (NF), Central Florida (CF), Southeast Florida (SeF), and Southwest Florida (SwF). We first define the summer season based on precipitation, and follow this by defining the winter season using surface temperature analysis. As a consequence, of these definitions of the summer and the winter seasons, the lengths of the transition seasons of spring and fall also vary from year to year.

The onset date variations have a robust relationship with the corresponding seasonal length anomalies across PF for all seasons. Furthermore, with some exceptions, the onset date variations are associated with corresponding seasonal rainfall and surface temperature anomalies, which makes monitoring the onset date of the seasons a potentially useful predictor of the following evolution of the season. In many of these instances the demise date variations of the season also have a bearing on the preceding seasonal length and seasonal rainfall anomalies. However, we find that variations of the onset and the demise dates are independent of each other across PF and in all seasons. We also find that the iconic ENSO teleconnection over PF is exclusive to the seasonal rainfall anomalies and it does not affect the variations in the length of the winter season. Given these findings, we strongly suggest monitoring and predicting the variations in the lengths of the seasons over PF as it is not only an important metric of climate variability but also beneficial to reduce a variety of risks of impact of anomalous seasonal climate variations.