

1116-VP-2353 **Doo Young Kim*** (dooyoungkim@mail.usf.edu), 1244 Standridge Dr., Wesley Chapel, FL 33543, and **Chris P. Tsokos**. *A Prediction-Based Time Series Clustering of Brain Cancer Mortality Rates in The United States*.

In the present study, we have developed an algorithm which enables us to model time series data in an objective way and cluster time series data based on predictions delivered from modeling procedures. Since time series prediction intervals tend to be wider as time goes further, we simulate prediction values based on prediction intervals with the variance as a weight factor so that we can assign a bigger weight value on a prediction with nearest observation. We apply this algorithm to cluster brain cancer mortality rates in the United States based on nine U.S. climate regions in order to identify the relation between climate conditions and brain cancer mortality rates. The developed algorithm is also applicable to other data in clustering times series such as economic data, environmental data, sports data, etc., (Received September 22, 2015)