1086-VI-1298 **Eric Ruggieri*** (ruggierie@duq.edu), Dept. of Mathematics and Computer Science, Duquesne University, Pittsburgh, PA 15282. *A Bayesian Approach to Detecting Change Points in Climatic Records.*

Given distinct climatic periods in the various facets of the Earth's climate system, many attempts have been made to determine the exact timing of 'change points' or regime boundaries. However, identification of change points is not always a simple task. A time series containing N data points has approximately $N^k$ distinct placements of k change points, rendering brute force enumeration futile as the length of the time series increases. Moreover, how certain are we that any one placement of change points is superior to the rest? In this talk, I'll introduce a Bayesian Change Point algorithm which provides uncertainty estimates both in the number and location of change points through an efficient probabilistic solution to the multiple change point problem. To illustrate the algorithm, I'll talk about its application to the NOAA/NCDC annual global surface temperature anomalies time series which has been cited as evidence of global warming. (Received September 20, 2012)