This thesis proposes a practical pipeline for change point analysis. With time-dependent data available, we can first test for the existence of the change point. Once the null hypothesis that no change point exists is rejected, we then input the data into our change point locating algorithm. Unlike the classical approaches, our procedure doesn't require any regularity assumption for the post-change-point signals. To evaluate the performance of our methodology, we use synthetic data sets and real data sets for numerical analysis.