Cluster analysis has been used many field of science, with the purpose of clustering objects / observations. A good clustering method will produce high quality clusters with high intracluster standart deviations ($S_W$) and low intercluster standart deviations ($S_B$). In this research purpose to clustering pos rain station for making zone climate forecast in the district of Karawang, Subang and Indramayu with using fuzzy clustering analysis, the method of fuzzy c-means cluster, fuzzy c-shell cluster. Based on the average value of ratio $S_W / S_B$ shows the optimal results for the second group of fuzzy c-means cluster method and fuzzy c-shells obtained by the same cluster as many as 10 cluster. Fuzzy c-means cluster method obtained for the lowest value of 0.483 from the method of fuzzy c-shell cluster is 0.798. Fuzzy c-means cluster method, clusters have better results and therefore they have to produce a homogenous zone climate forecasting. Thus, the results of the evaluation of clustering performance with the fuzzy clustering analysis is a method, Fuzzy c-means cluster is used as a reference will be compared with the grouping zone climate forecasting ever undertaken by BMKG. Homogeneity of climatic zones results obtained using the revised method of fuzzy c-means cluster (ZPI revision) has better performance than the results obtained from the grouping BMKG ZPI. The result of clustering using fuzzy c-means clustering methods cluster after a revision (re-grouping) obtained 9 clusters (zones).

Keywords: cluster analysis, fuzzy c-means cluster, fuzzy c-shell cluster, Zone climate forecast.