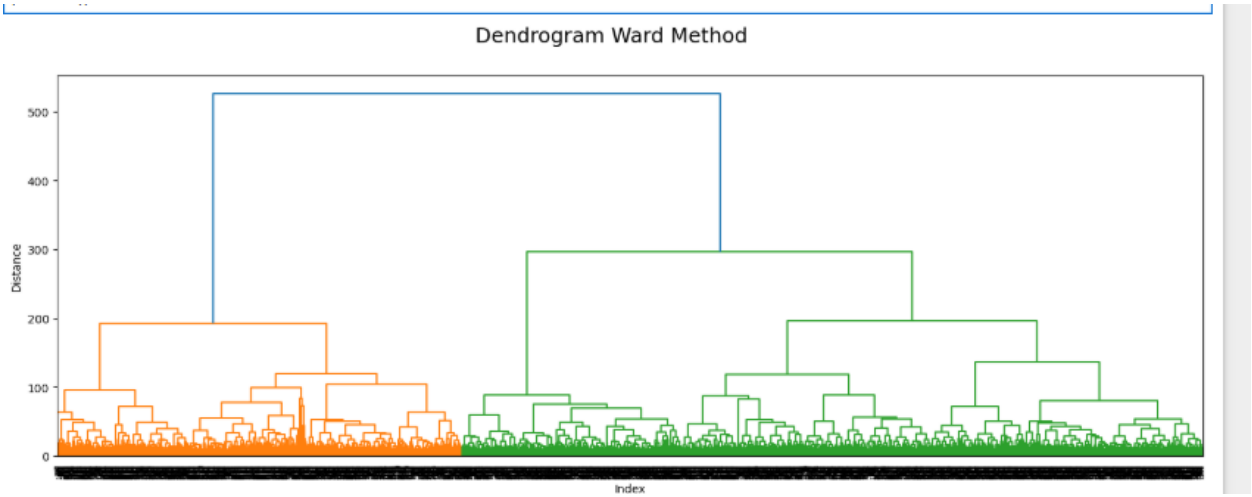
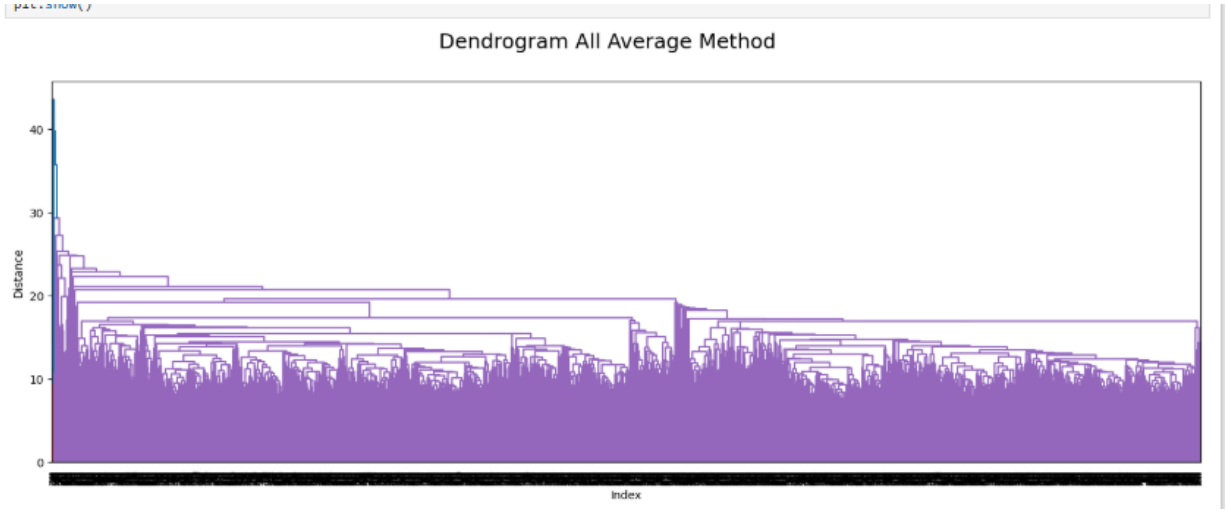
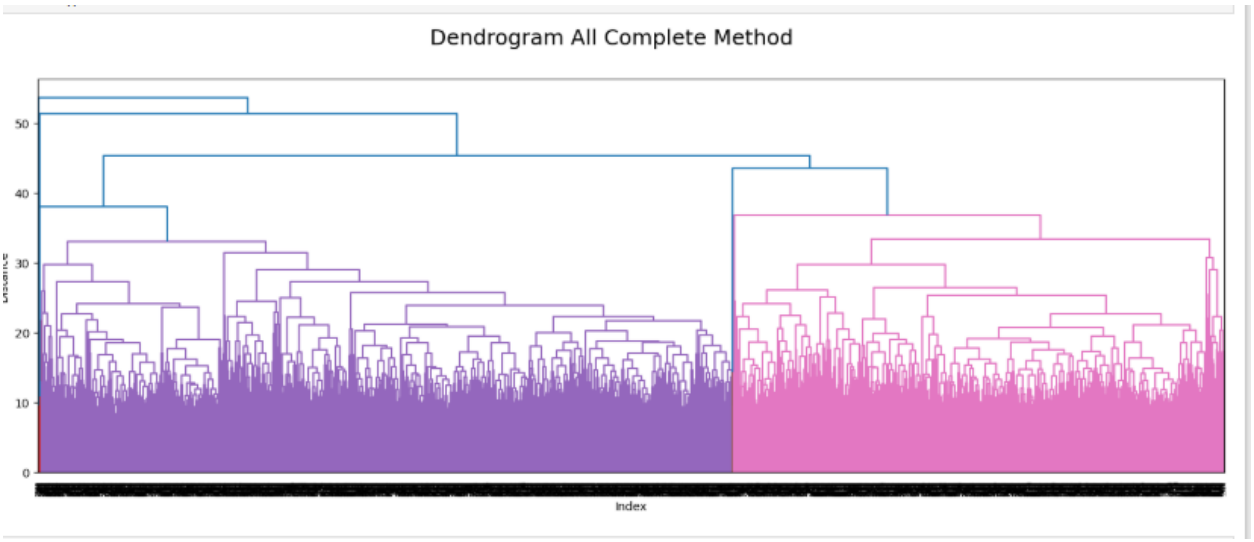


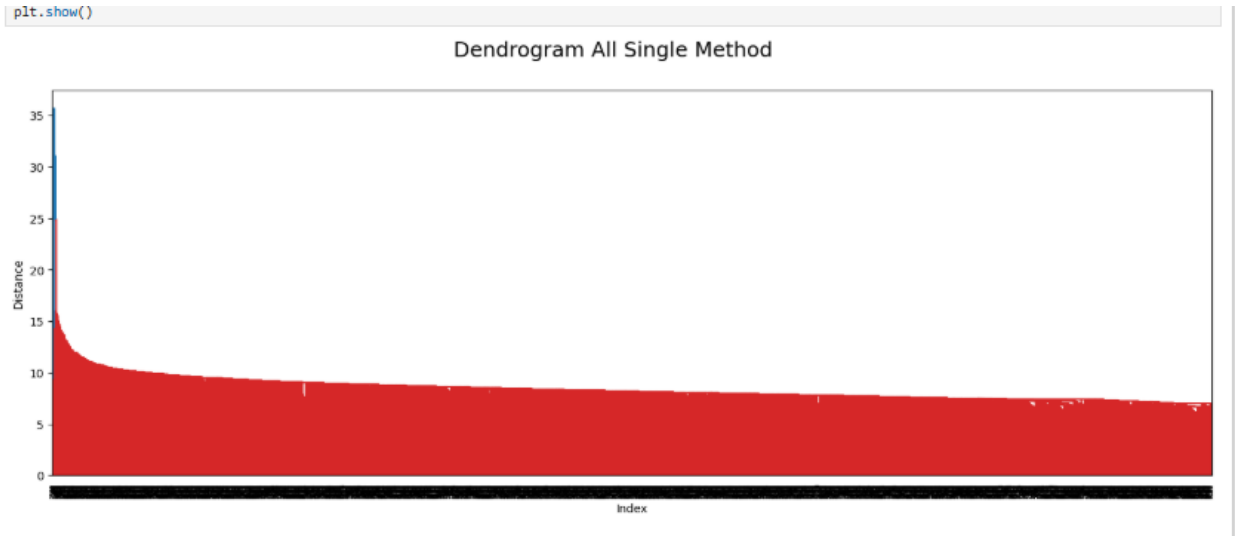
Ward method on all data stations from the 1990s. Identifies two clusters attempting to minimize the variance between the two clusters. This method could be useful.



Average method on all data stations from the 1990s. When looking at the distance between the *average* of the members of each cluster to determine which group they should belong to included most everything in a single cluster. Not a useful method on this dataset.

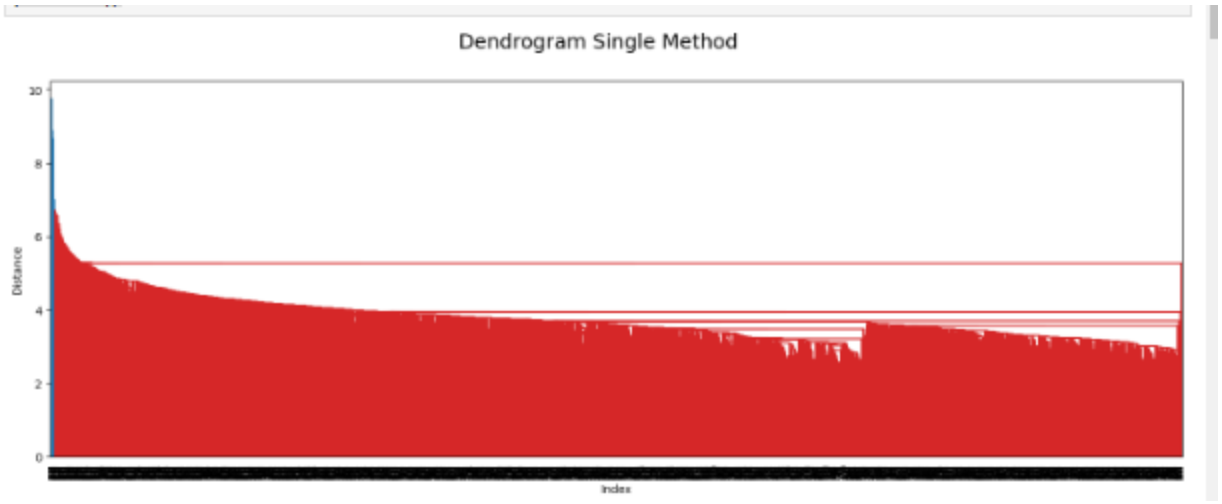


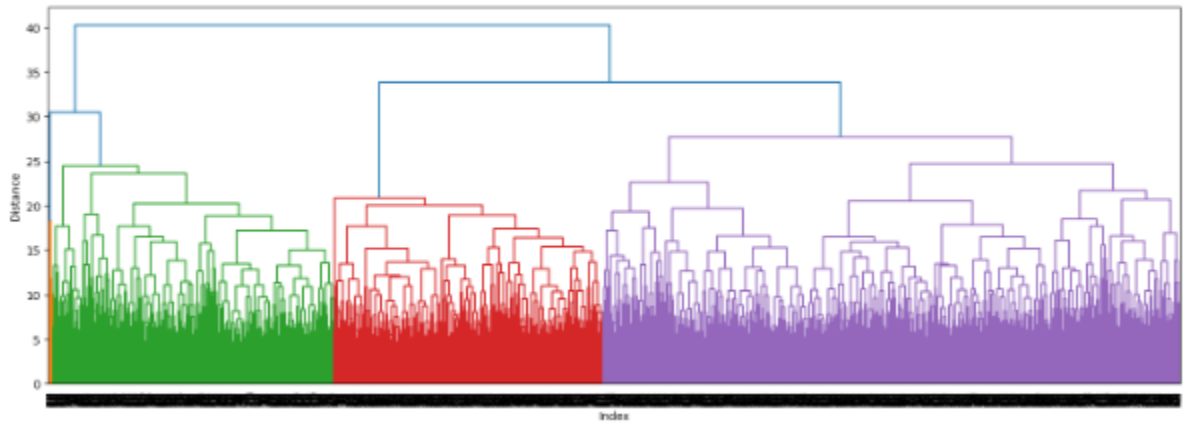
Complete method on all data stations from the 1990s. This looks at the distance between the two *farthest* members of each cluster to determine which group they should belong to. Method identified two distinct clusters. This method may be useful with this dataset.



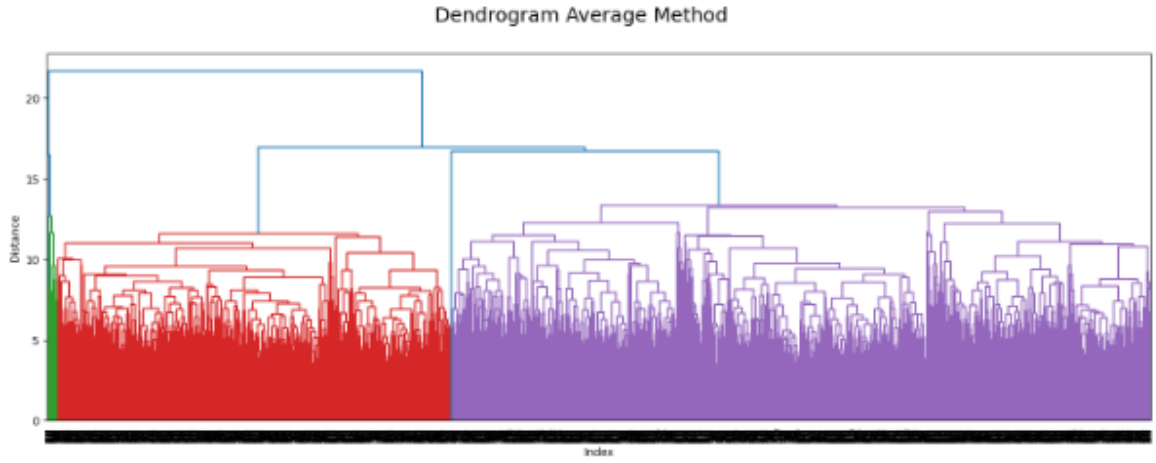
Single method on all data stations from the 1990s. This looks at the distance between the two *closest* members of each cluster to determine which group they should belong to. Put vast majority of data into a single cluster. This method is not useful with this dataset.

PCA Reduced Dimensions (11)



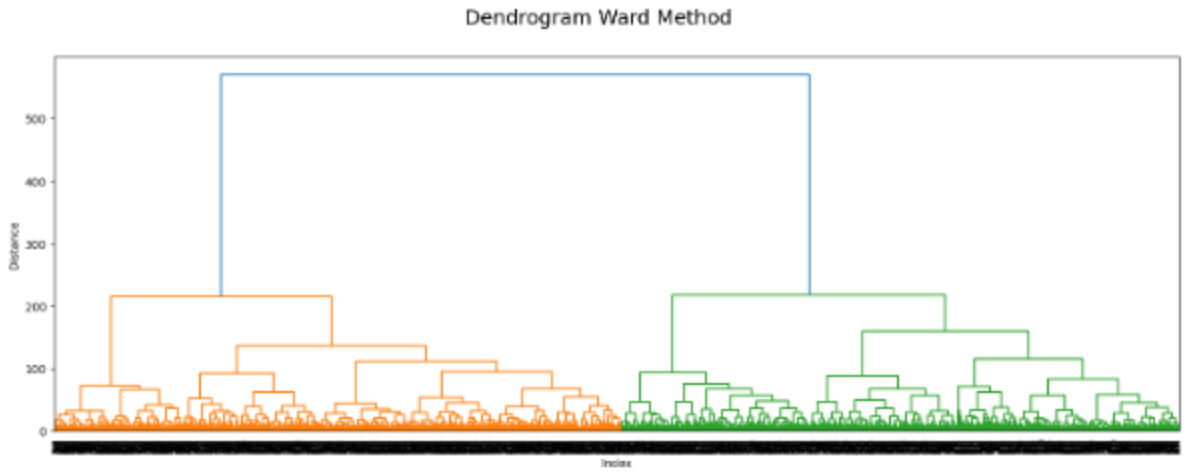



```
plt.show()
```




```
2]: #Comparing 1990s - ward method
```

```
plt.show()
```



Reducing to 11 dimensions helped both the average and complete methods separate into clusters that did not appear in the original methodology using all dimensions for all data stations from the 1990s.