Análisis de conglomerados 1.12

Cesar Vázquez Álvarez

2022-11-28

```
library(cluster)
library(factoextra)
```

```
## Loading required package: ggplot2
```

```
## Welcome! Want to learn more? See two factoextra-related books at https://goo.gl/ve
3WBa
```

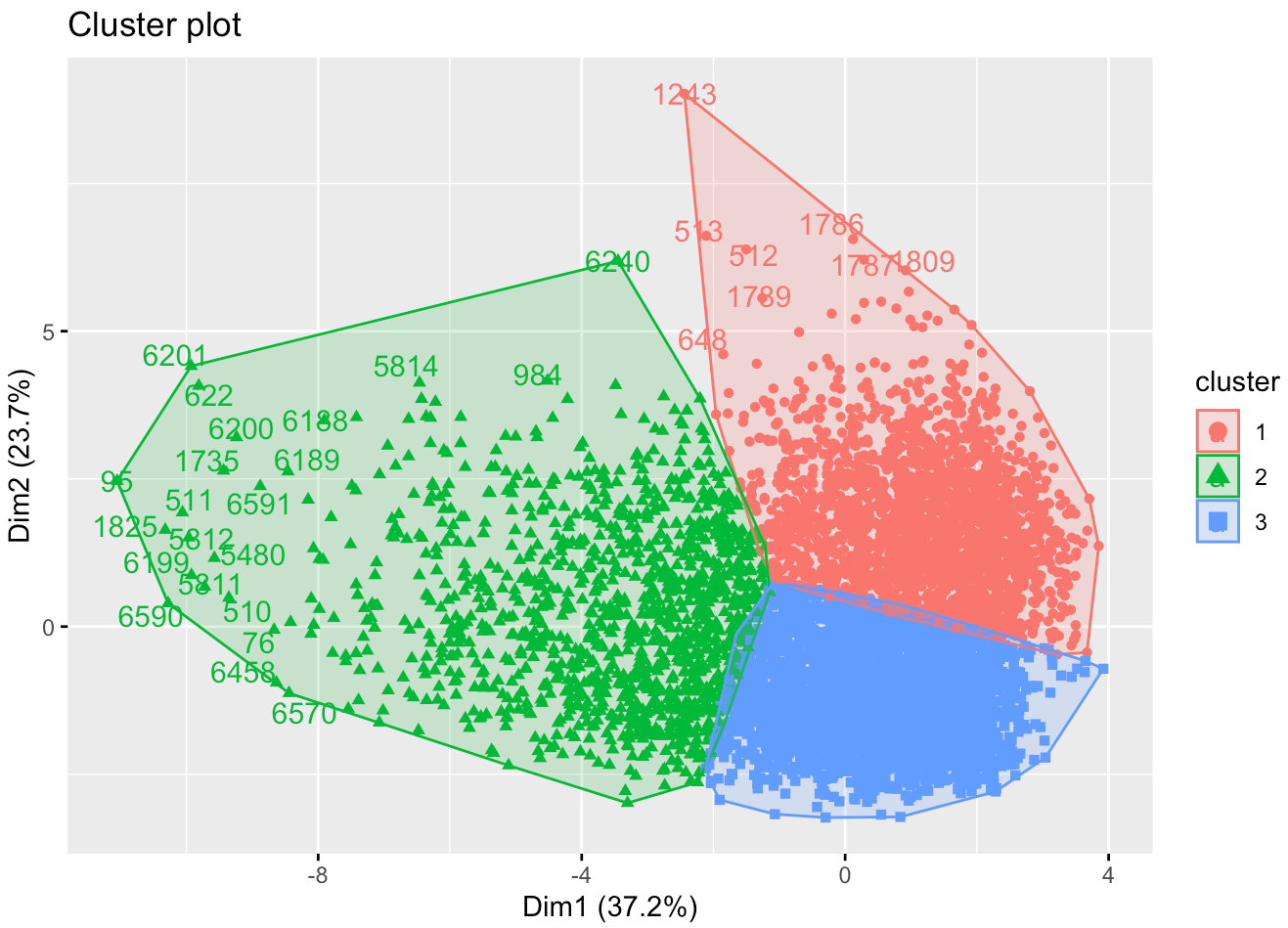
```
M = read.csv("TLA2021.csv")
names(M)
```

```
##  [1] "FECHA" "HORA"  "CO"    "CO2"   "NO"    "NO2"   "NOX"   "O3"    "PM10"
## [10] "PM25"  "TMP"   "RH"    "WSP"   "WDR"
```

```
M1 = M[, -1:-2]  # quitando las columnas de fecha y hora
Mstand = scale(x = M1, center = TRUE, scale = TRUE)
```

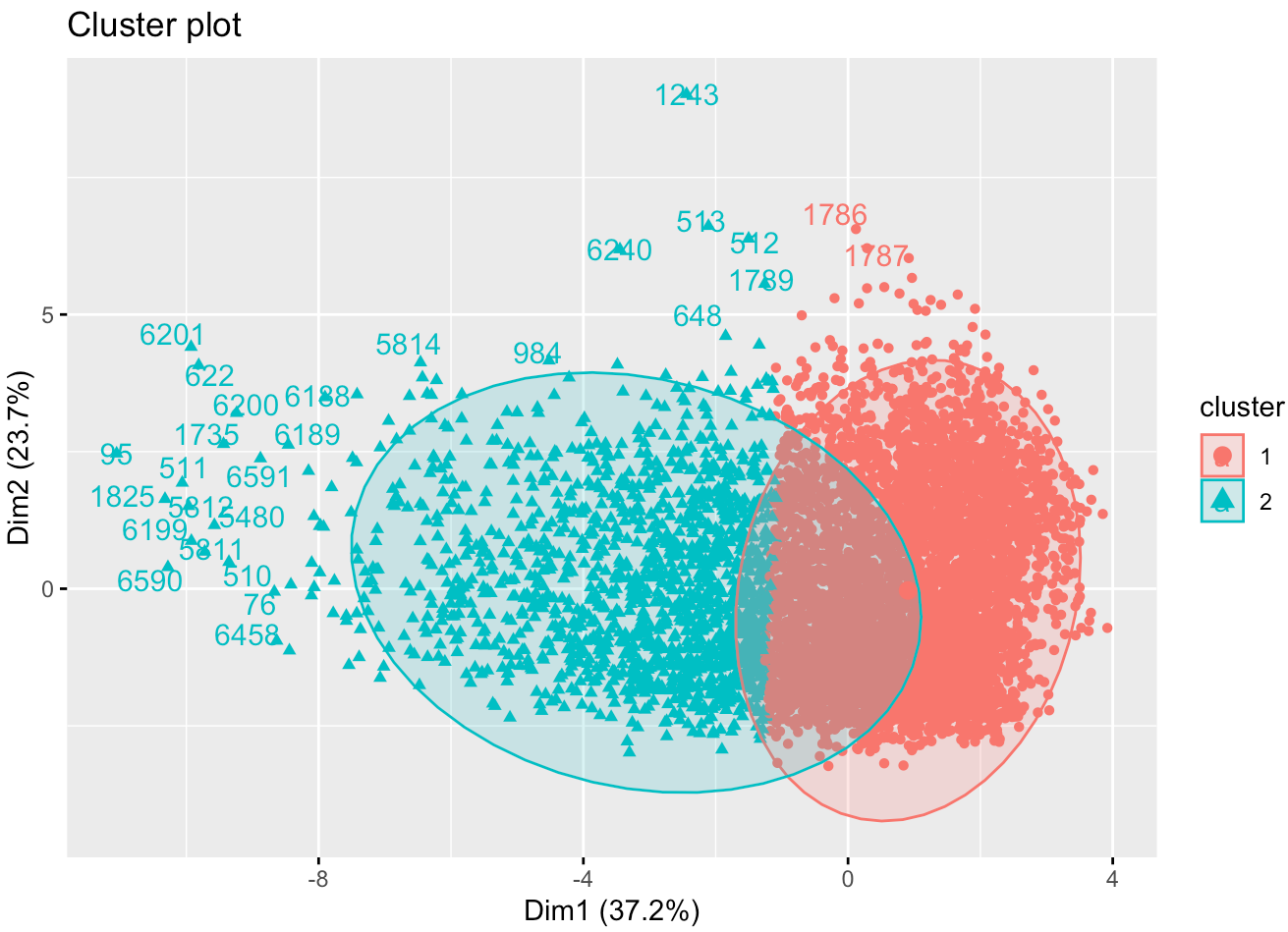
```
M1f = data.frame(Mstand)  # Se convierte la matriz Mstand a un data.frame porque así
lo requiere la función kmeans.
km_clusters = kmeans(M1f, centers = 3)
fviz_cluster(object = km_clusters, data = M1f, show.clust.cent = TRUE, ellipse.type =
"convex", star.plot = FALSE, repel = TRUE)
```

```
## Warning: ggrepel: 6645 unlabeled data points (too many overlaps). Consider
## increasing max.overlaps
```




```
M1f = data.frame(Mstand)  # Se convierte la matriz Mstand a un data.frame porque así lo requiere la función kmeans.
km_clusters = kmeans(M1f, centers = 2)
fviz_cluster(object = km_clusters, data = M1f, show.clust.cent = TRUE, ellipse.type = "norm", star.plot = FALSE, repel = TRUE)
```

```
## Warning: ggrepel: 6647 unlabeled data points (too many overlaps). Consider
## increasing max.overlaps
```


Cluster plot
1243
513
1786
6240
512
1787
1789
648
6201
5814
984
622
6200
6188
1735
6189
95
511
6591
1825
5812
5480
6199
5811
6590
510
76
6458
cluster
1
2
Dim2 (23.7%)
Dim1 (37.2%)
5
0
-8
-4
0
4