

# Informe clustering con 9999 series temporales

Javier Moreno

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Las series temporales utilizadas son las 9999 primeras de la base de datos y para realizar clustering se calcularon 11 medidas de complejidad sobre cada una de ellas. En cuanto a los métodos de clustering se han utilizado 3.

Las medidas de complejidad utilizadas son:

- Kolmogorov
- LempelZiv
- AproximationEntropy
- PermutationEntropy
- PracmaSampleEntropy
- SampleEntropy
- ShannonEntropy
- ChaoShenEntropy
- DirichletEntropy
- MillerMadowEntropy
- ShrinkEntropy

Los métodos de clustering utilizados son:

- KMeans
- CMeans
- HClust

Los métodos de predicción utilizados son:

- Arima
- Ets
- HoltWinters
- StrucTS
- Bats
- Stl

La división en bloques de series temporales es:

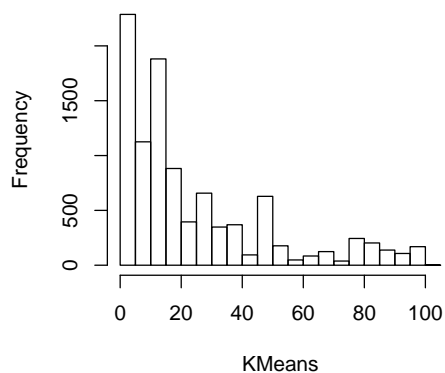
- A: 1-3333
- B: 3334-6666
- C: 6667-9999

# 1 Clustering del conjunto completo

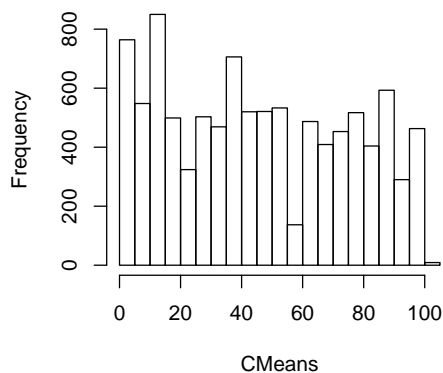
## 1.1 Informe individual de cluster

	ncenters	max.density	min.density	standard.desviation
KMeans	101.00	748.00	1.00	148.14
CMeans	101.00	311.00	1.00	63.74
HClust	101.00	1483.00	1.00	190.10

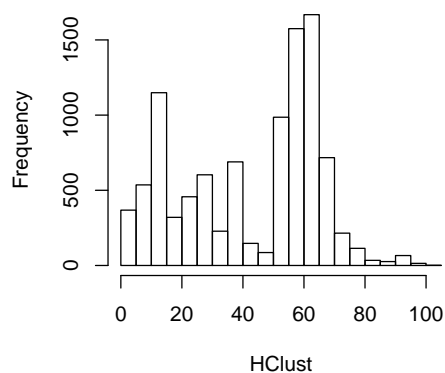
**Histogram of hist\_kmeans**



**Histogram of hist\_cmeans**



**Histogram of hist\_hclust**



## 1.2 Comparación por parejas de clustering

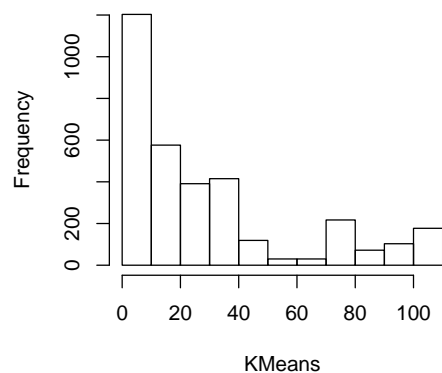
	centers.identical	centers.different	centers.comun.percent	similarity.mean
KMeans-CMeans	2	1	1	29
KMeans-HClust	4	0	3	50
CMeans-HClust	0	0	0	26

## 2 Clustering Bloque A

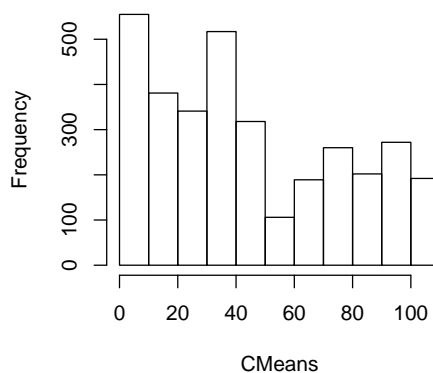
### 2.1 Informe individual de cluster

	ncenters	max.density	min.density	standard.desviation
KMeans	105.00	208.00	1.00	45.81
CMeans	105.00	103.00	1.00	25.58
HClust	105.00	297.00	1.00	46.37

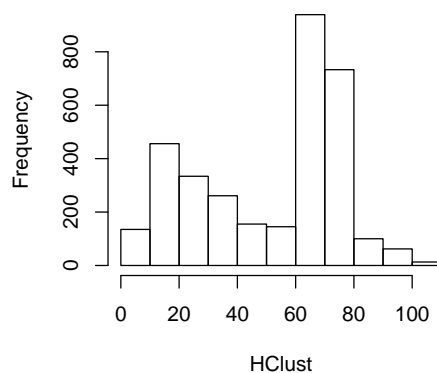
**Histogram of hist\_kmeans**



**Histogram of hist\_cmeans**



**Histogram of hist\_hclust**



### 2.2 Comparación por parejas de clustering

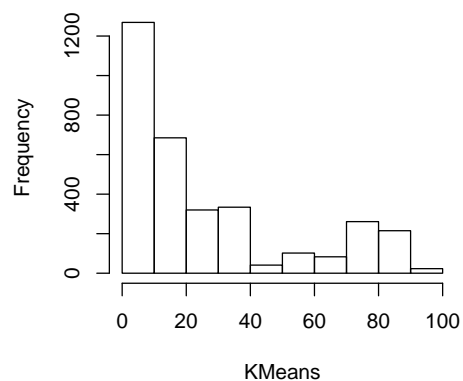
	centers.identical	centers.different	centers.comun.percent	similarility.mean
KMeans-CMeans	14	0	13	47
KMeans-HClust	11	0	10	54
CMeans-HClust	6	0	5	41

### 3 Clustering Bloque B

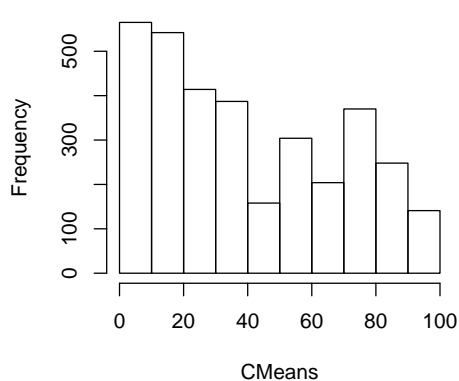
#### 3.1 Informe individual de cluster

	ncenters	max.density	min.density	standard.desviation
KMeans	94.00	301.00	1.00	51.96
CMeans	94.00	133.00	1.00	30.47
HClust	94.00	425.00	1.00	61.07

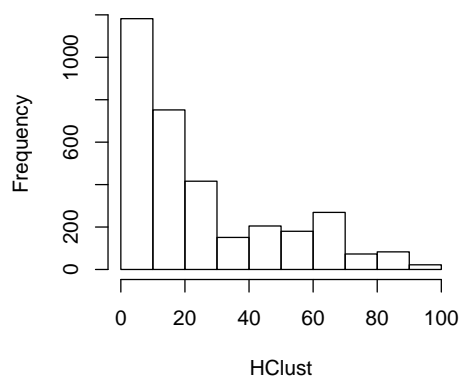
**Histogram of hist\_kmeans**



**Histogram of hist\_cmeans**



**Histogram of hist\_hclust**



#### 3.2 Comparación por parejas de clustering

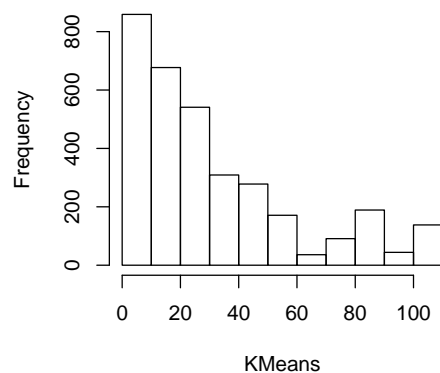
	centers.identical	centers.different	centers.comun.percent	similarility.mean
KMeans-CMeans	13	0	13	52
KMeans-HClust	8	0	8	56
CMeans-HClust	5	0	5	45

## 4 Clustering Bloque C

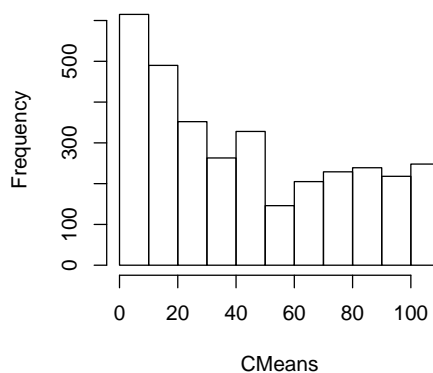
### 4.1 Informe individual de cluster

	ncenters	max.density	min.density	standard.desviation
KMeans	106.00	187.00	1.00	37.21
CMeans	106.00	93.00	0.00	25.38
HClust	106.00	208.00	1.00	39.02

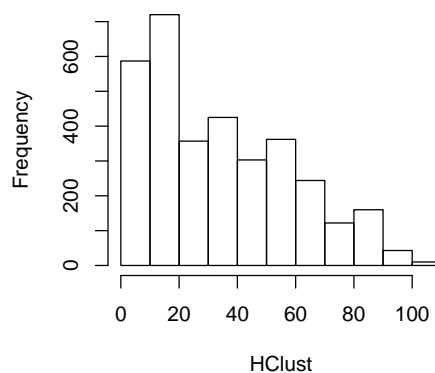
**Histogram of hist\_kmeans**



**Histogram of hist\_cmeans**



**Histogram of hist\_hclust**



### 4.2 Comparación por parejas de clustering

	centers.identical	centers.different	centers.comun.percent	similarility.mean
KMeans-CMeans	8	0	7	41
KMeans-HClust	10	0	9	48
CMeans-HClust	5	6	4	35

## 5 Análisis Comparación Conjunto total y Bloque A

	centers.identical	centers.different	centers.comun.percent	similarity.mean
KMeans_X-KMeans_Subset	0	99	0	0
KMeans_X-CMeans_Subset	0	99	0	0
KMeans_X-HClust_Subset	0	99	0	0
CMeans_X-KMeans_Subset	0	99	0	0
CMeans_X-CMeans_Subset	0	99	0	0
CMeans_X-HClust_Subset	0	99	0	0
HClust_X-KMeans_Subset	0	99	0	0
HClust_X-CMeans_Subset	0	99	0	0
HClust_X-HClust_Subset	0	99	0	0

## 6 Análisis Comparación Conjunto total y Bloque B

	centers.identical	centers.different	centers.comun.percent	similarity.mean
KMeans_X-KMeans_Subset	2	99	2	1
KMeans_X-CMeans_Subset	2	99	2	1
KMeans_X-HClust_Subset	2	99	2	1
CMeans_X-KMeans_Subset	2	99	2	1
CMeans_X-CMeans_Subset	2	99	2	1
CMeans_X-HClust_Subset	2	99	2	1
HClust_X-KMeans_Subset	2	99	2	1
HClust_X-CMeans_Subset	2	99	2	1
HClust_X-HClust_Subset	2	99	2	1

## 7 Análisis Comparación Conjunto total y Bloque C

	centers.identical	centers.different	centers.comun.percent	similarity.mean
KMeans_X-KMeans_Subset	0	99	0	0
KMeans_X-CMeans_Subset	0	99	0	0
KMeans_X-HClust_Subset	2	99	1	1
CMeans_X-KMeans_Subset	0	99	0	0
CMeans_X-CMeans_Subset	0	99	0	0
CMeans_X-HClust_Subset	2	99	1	1
HClust_X-KMeans_Subset	0	99	0	0
HClust_X-CMeans_Subset	0	99	0	0
HClust_X-HClust_Subset	2	99	1	1