

```
[3] import pandas as pd
```

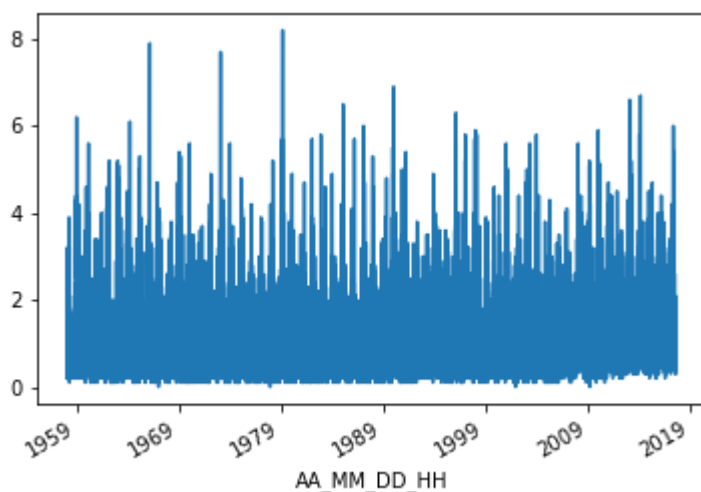
```
[4] simar = pd.read_table('SIMAR_1052046.txt',  
                      delim_whitespace=True,  
                      skiprows=81,  
                      parse_dates=[[0, 1, 2, 3]],  
                      index_col=0,  
                      na_values=-99.9)
```

```
[5] simar.describe()
```

	Hm0	Tm02	Tp	DirM	Hn
count	520976.000000	520976.000000	520976.000000	520976.000000	20.
mean	1.036288	4.870426	8.109552	242.829821	1.1
std	0.708980	1.654451	3.095294	67.704083	0.9
min	0.000000	1.900000	0.000000	0.000000	0.0
25%	0.600000	3.700000	5.200000	228.000000	0.6
50%	0.900000	4.400000	8.100000	275.000000	0.9
75%	1.300000	5.700000	10.400000	283.000000	1.5
max	8.200000	14.200000	20.900000	360.000000	10.

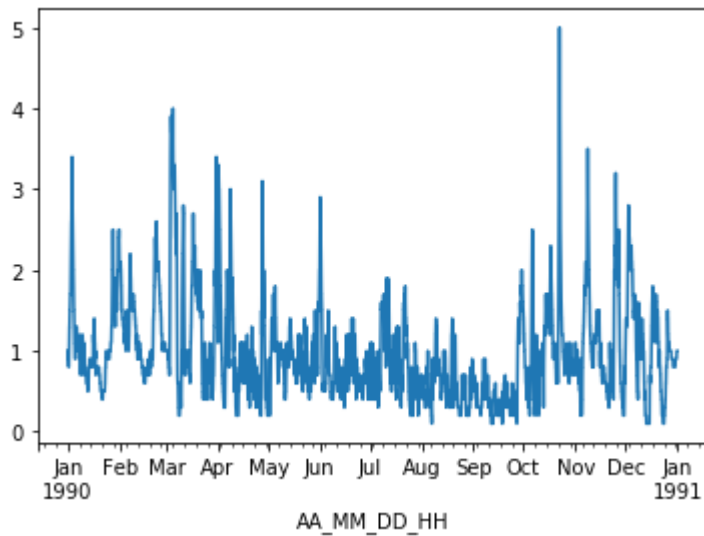
```
[6] simar['Hm0'].plot()
```

<matplotlib.axes._subplots.AxesSubplot at 0x11fc75e10>



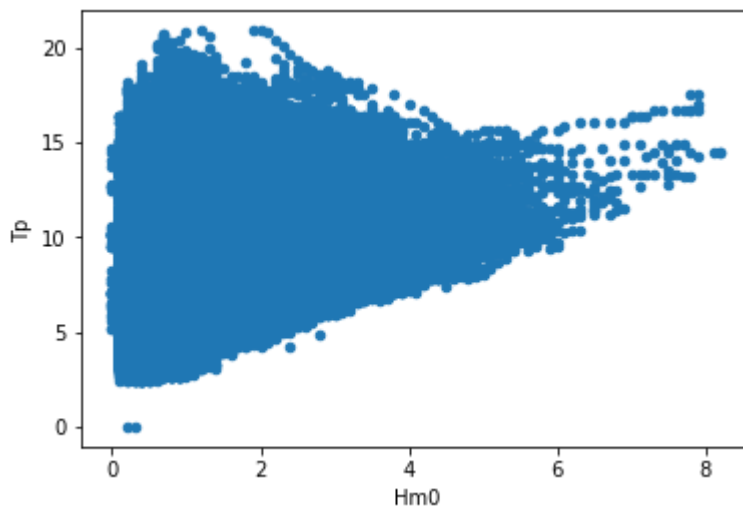
```
[7] simar_filtrado = simar.loc['1990', 'Hm0']  
simar_filtrado.plot()
```

<matplotlib.axes._subplots.AxesSubplot at 0x125270f90>



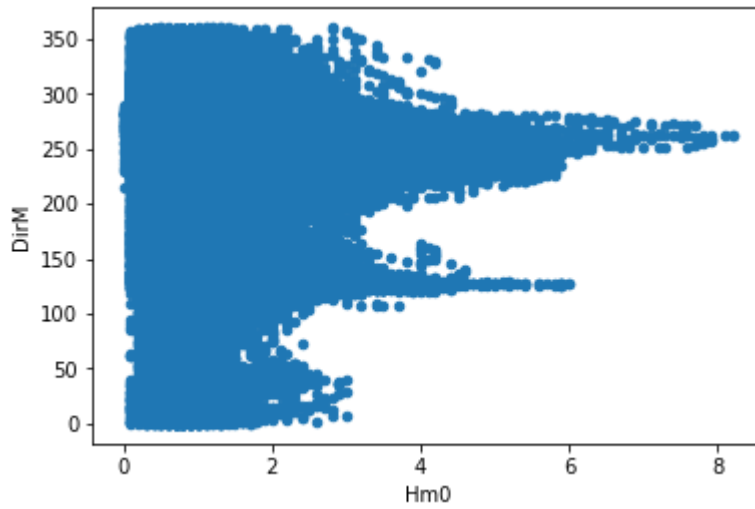
```
[8] simar.plot.scatter('Hm0', 'Tp')
```

<matplotlib.axes._subplots.AxesSubplot at 0x124f03850>



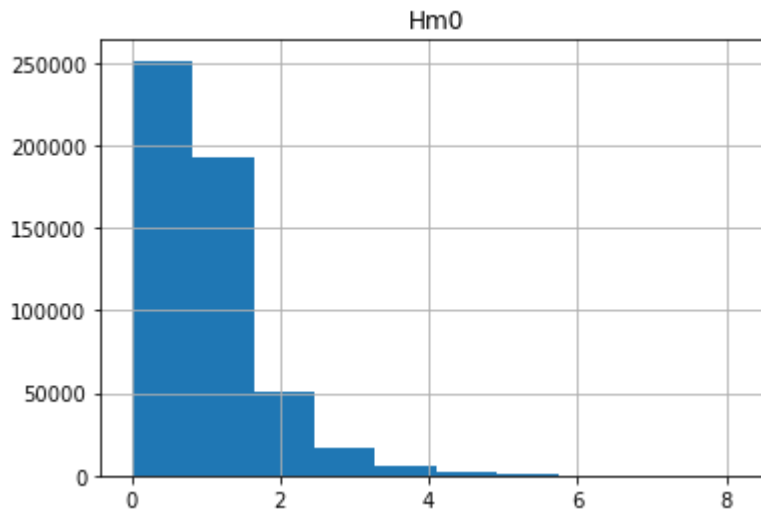
```
[9] simar.plot.scatter('Hm0', 'DirM')
```

<matplotlib.axes._subplots.AxesSubplot at 0x124f40490>



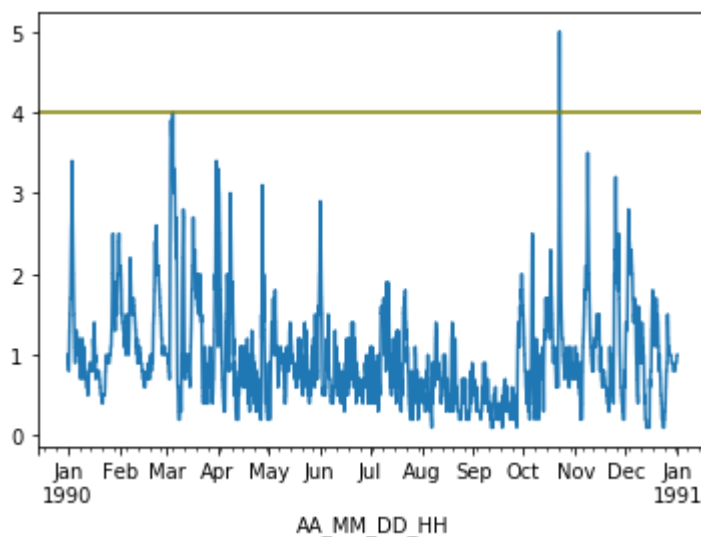
```
[10] simar.hist('Hm0')
```

```
array([[<matplotlib.axes._subplots.AxesSubplot object at 0x11ff35110>]],
      dtype=object)
```



```
[11] simar_filtrado.plot().axhline(4, color='olive')
```

```
<matplotlib.lines.Line2D at 0x11ff60ad0>
```



```
[12] simar_encima_umbral = simar_filtrado[simar_filtrado > 4]
simar_encima_umbral
```

```
AA_MM_DD_HH
1990-10-22 09:00:00    4.2
1990-10-22 10:00:00    4.6
1990-10-22 11:00:00    4.9
1990-10-22 12:00:00    5.0
1990-10-22 13:00:00    4.9
1990-10-22 14:00:00    4.7
1990-10-22 15:00:00    4.4
1990-10-22 16:00:00    4.1
Name: Hm0, dtype: float64
```

```
[13] n_simar_filtrado = simar_filtrado.count()
n_simar_encima_umbral = simar_encima_umbral.count()
100 - (n_simar_encima_umbral / n_simar_filtrado * 100)
```

```
99.90867579908675
```

```
[14] simar_filtrado.sort_values().tail()
```

```
AA_MM_DD_HH
1990-10-22 10:00:00    4.6
1990-10-22 14:00:00    4.7
1990-10-22 11:00:00    4.9
1990-10-22 13:00:00    4.9
1990-10-22 12:00:00    5.0
Name: Hm0, dtype: float64
```

```
[15] simar_filtrado_2 = simar.loc['2000', 'Hm0']
```

```
[16] simar_filtrado_2.sort_values().tail()
```

```
AA_MM_DD_HH
2000-12-22 08:00:00    5.5
2000-12-22 04:00:00    5.5
2000-12-22 07:00:00    5.5
2000-12-22 06:00:00    5.6
2000-12-22 05:00:00    5.6
Name: Hm0, dtype: float64
```

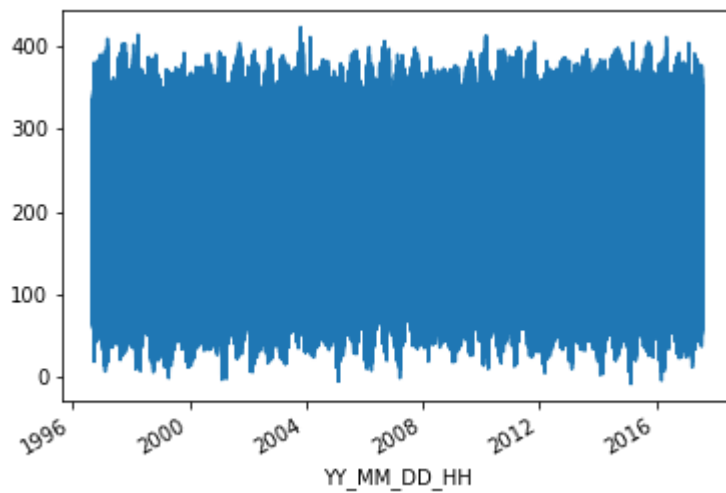
```
[17] redmar = pd.read_table('REDMAR_HOR_HIS_Huelva5.txt',
                        delim_whitespace=True,
                        skiprows=83,
                        parse_dates=[[0, 1, 2, 3]],
                        index_col=0,
                        na_values=-9999)
```

```
[18] redmar.describe()
```

	Niv_H	Mar_H	Res_H	Niv_00	Ni
count	181659.000000	183017.000000	180320.000000	181485.000000	18
mean	202.890118	203.169230	-0.247277	202.919409	20
std	81.635984	81.127857	9.453392	81.787097	81
min	-8.000000	13.000000	-35.000000	-10.000000	-11
25%	136.000000	136.000000	-6.000000	136.000000	13
50%	201.000000	202.000000	0.000000	202.000000	20
75%	270.000000	270.000000	6.000000	270.000000	27
max	423.000000	403.000000	90.000000	420.000000	42

```
[19] redmar['Niv_H'].plot()
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x11f9c9c50>
```



```
[20] redmar_filtrado = redmar['2005-01':'2005-03']
```

```
[21] redmar_filtrado['Niv_H'].plot()
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x127adf050>
```

