Harvard Forest Data Archive HF113-03

Data File:

Name = hf113-03-hf-outside.csv
Description = HF outside data
Rows = 56568 Columns = 65
MD5 checksum = 3cdb8ebbea033420963ccb4f969ba173

Variables:

datetime = date and time
year = year
decdate = day of year and decimal hour (nominalDay)
doy = day of year (nominalDay)
week = week of year (nominalWeek)
hour = hour (nominalHour)
ptemp.avg = average panel temperature (celsius)
ptemp.min = minimum panel temperature (celsius)
ptemp.max = maximum panel temperature (celsius)
oat1.avg = average outside air temperature - plot 1 (celsius)
osto1.avg = average outside organic soil temperature - plot 1
   (celsius)
osti1.avg = average outside inorganic soil temperature - plot 1
   (celsius)
oc1q.avg = average outside quantum sensor - plot 1
   (micromolePerMeterSquaredPerSecond)
oc1rh.avg = average outside relative humidity - plot 1
   (dimensionless)
oc1sm.avg = average outside soil moisture - plot 1 (dimensionless)
oat1.min = minimum outside air temperature - plot 1 (celsius)
osto1.min = minimum outside organic soil temperature - plot 1
   (celsius)
osti1.min = minimum outside inorganic soil temperature - plot 1
   (celsius)
oc1q.min = minimum outside quantum sensor - plot 1
   (micromolePerMeterSquaredPerSecond)
oc1rh.min = minimum outside relative humidity - plot 1
   (dimensionless)
oc1sm.min = minimum outside soil moisture - plot 1 (dimensionless)
oat1.max = maximum outside air temperature - plot 1 (celsius)
osto1.max = maximum outside organic soil temperature - plot 1
   (celsius)
osti1.max = maximum outside inorganic soil temperature - plot 1
   (celsius)
oc1q.max = maximum outside quantum sensor - plot 1
   (micromolePerMeterSquaredPerSecond)
oc1rh.max = maximum outside relative humidity - plot 1
   (dimensionless)
oc1sm.max = maximum outside soil moisture - plot 1 (dimensionless)
oat2.avg = average outside air temperature - plot 2 (celsius)

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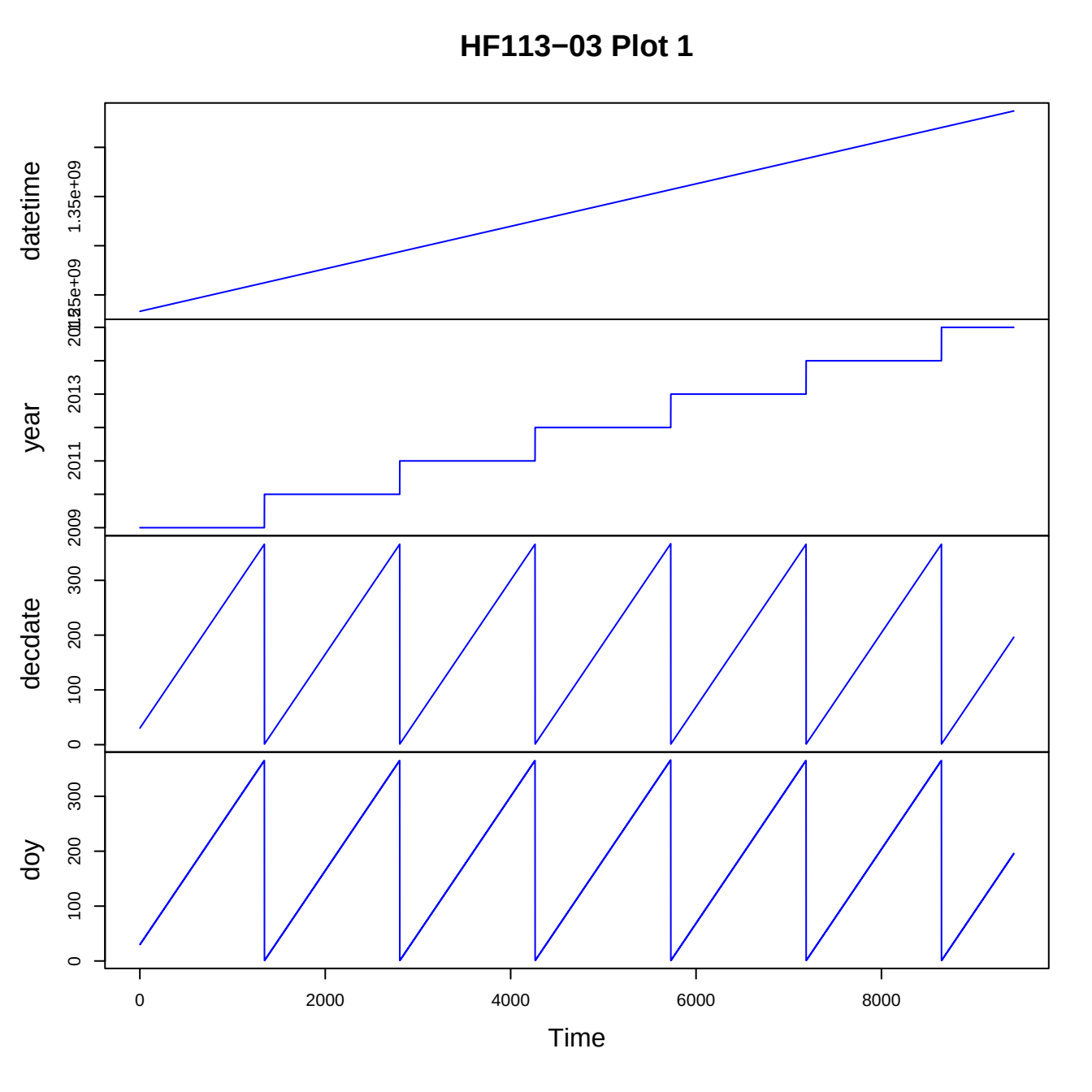
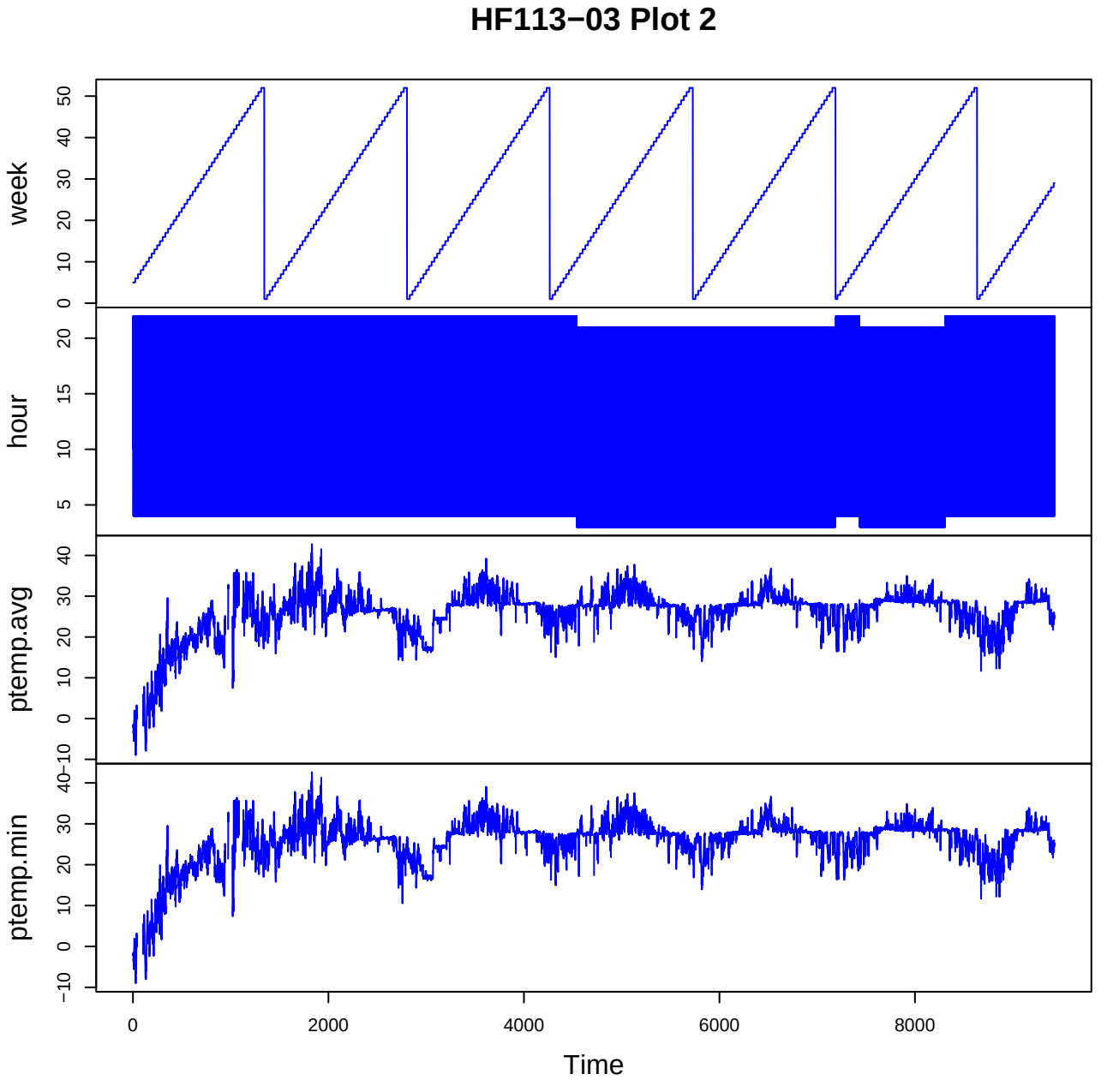
osto2.avg = average outside organic soil temperature − plot 2
   (celsius)
osti2.avg = average outside inorganic soil temperature − plot 2
   (celsius)
oc2q.avg = average outside quantum sensor − plot 2
   (micromolePerMeterSquaredPerSecond)
oc2rh.avg = average outside relative humidity − plot 2
   (dimensionless)
oc2sm.avg = average outside soil moisture − plot 2 (dimensionless)
oat2.min = minimum outside air temperature − plot 2 (celsius)
osto2.min = minimum outside organic soil temperature − plot 2
   (celsius)
osti2.min = minimum outside inorganic soil temperature − plot 2
   (celsius)
oc2q.min = minimum outside quantum sensor − plot 2
   (micromolePerMeterSquaredPerSecond)
oc2rh.min = minimum outside relative humidity − plot 2
   (dimensionless)
oc2sm.min = minimum outside soil moisture − plot 2 (dimensionless)
oat2.max = maximum outside air temperature − plot 2 (celsius)
osto2.max = maximum outside organic soil temperature − plot 2
   (celsius)
osti2.max = maximum outside inorganic soil temperature − plot 2
   (celsius)
oc2q.max = maximum outside quantum sensor − plot 2
   (micromolePerMeterSquaredPerSecond)
oc2rh.max = maximum outside relative humidity − plot 2
   (dimensionless)
oc2sm.max = maximum outside soil moisture − plot 2 (dimensionless)
oat3.avg = average outside air temperature − plot 3 (celsius)
osto3.avg = average outside organic soil temperature − plot 3
   (celsius)
osti3.avg = average outside inorganic soil temperature − plot 3
   (celsius)
oc3q.avg = average outside quantum sensor − plot 3
   (micromolePerMeterSquaredPerSecond)
oc3rh.avg = average outside relative humidity − plot 3
   (dimensionless)
oc3sm.avg = average outside soil moisture − plot 3 (dimensionless)
oat3.min = minimum outside air temperature − plot 3 (celsius)
osto3.min = minimum outside organic soil temperature − plot 3
   (celsius)
osti3.min = minimum outside inorganic soil temperature − plot 3
   (celsius)
oc3q.min = minimum outside quantum sensor − plot 3
   (micromolePerMeterSquaredPerSecond)
oc3rh.min = minimum outside relative humidity − plot 3
   (dimensionless)
oc3sm.min = minimum outside soil moisture − plot 3 (dimensionless)
oat3.max = maximum outside air temperature − plot 3 (celsius)
osto3.max = maximum outside organic soil temperature − plot 3
   (celsius)
```

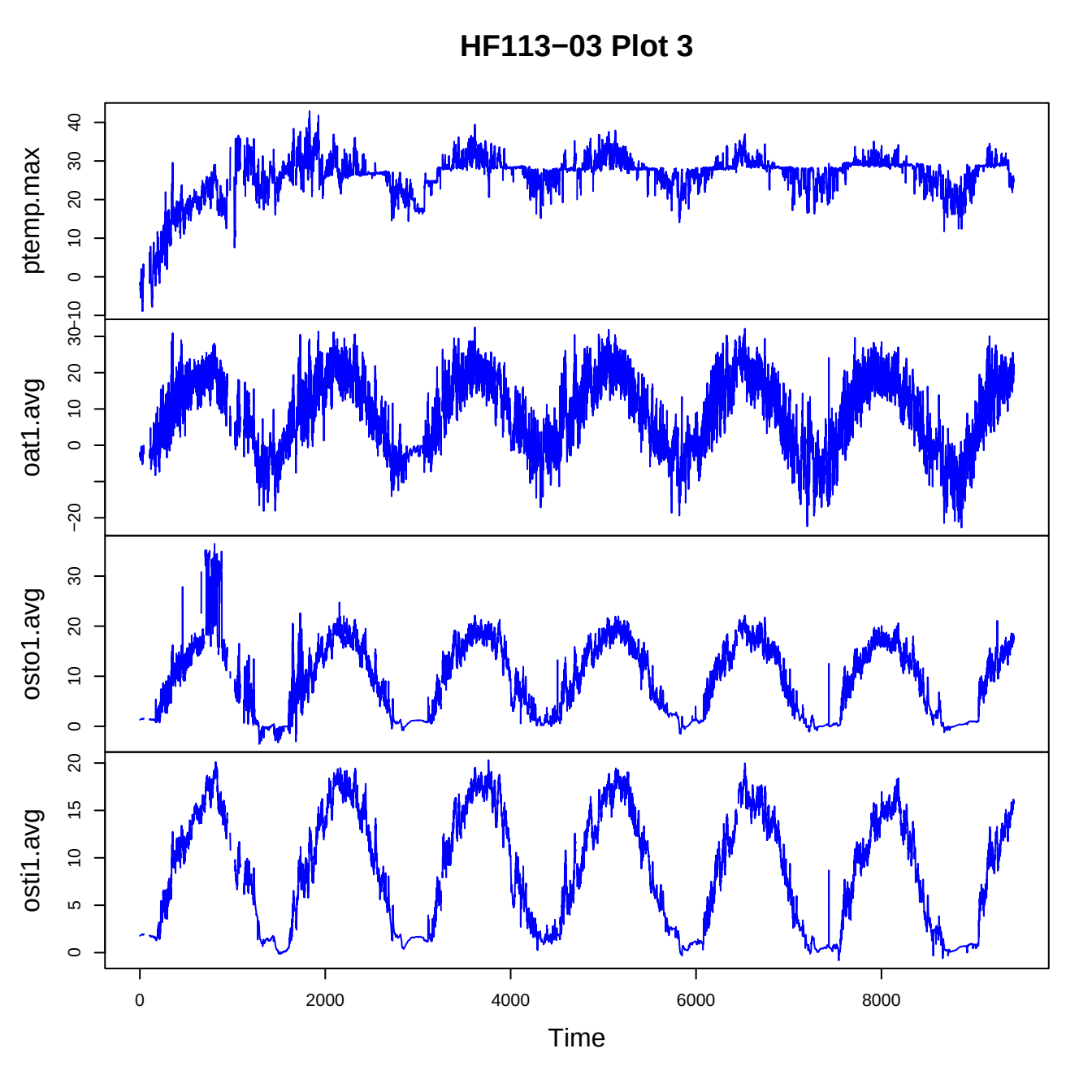
```
osti3.max = maximum outside inorganic soil temperature − plot 3
   (celsius)
oc3q.max = maximum outside quantum sensor − plot 3
   (micromolePerMeterSquaredPerSecond)
oc3rh.max = maximum outside relative humidity − plot 3
   (dimensionless)
oc3sm.max = maximum outside soil moisture − plot 3 (dimensionless
```

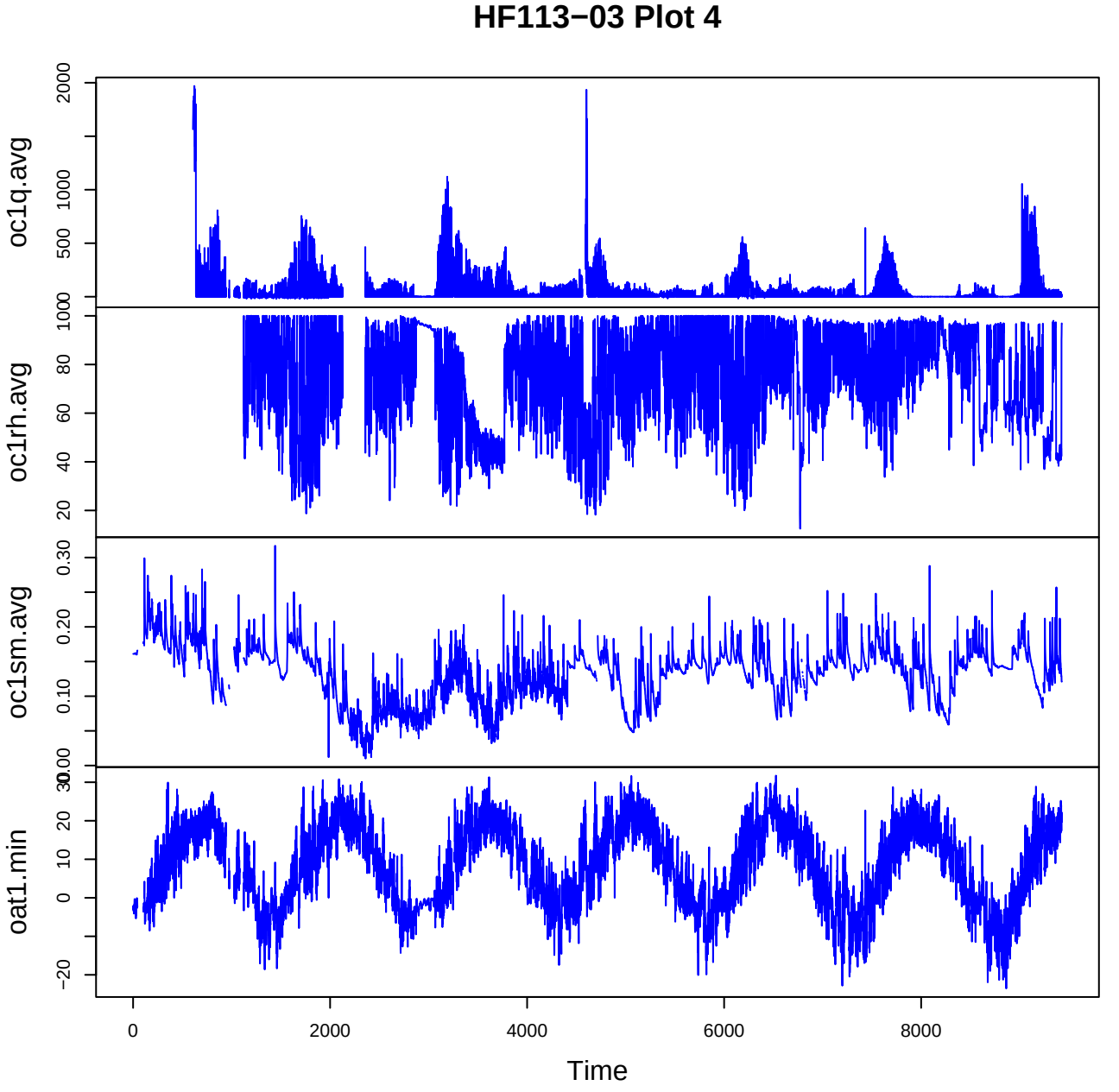
Variable	Min	Median	Mean	Max	NAs
datetime	2009-01-30T10:00			2015-07-15T09:00	2
year	2009.000	2012.000	2011.821	2015.000	2
decdate	1.000	173.542	178.619	366.958	2
doy	1.000	173.000	178.140	366.000	2
week	1.000	25.000	25.890	52.000	2
hour	0.000	12.000	11.500	23.000	2
ptemp.avg	−9.010	27.640	25.979	43.230	1292
ptemp.min	−9.030	27.500	25.814	43.200	1292
ptemp.max	−9.010	27.820	26.140	43.250	1292
oat1.avg	−24.370	9.085	8.473	34.090	1474
osto1.avg	−3.849	9.500	9.233	38.080	2140
osti1.avg	−0.900	8.690	8.588	20.480	1475
oc1q.avg	−19.930	0.842	44.788	1996.000	6737
oc1rh.avg	10.470	81.600	77.261	100.000	8470
oc1sm.avg	0.000	0.139	0.133	0.325	1453
oat1.min	−96.900	8.510	7.952	33.570	1468
osto1.min	−3.862	9.360	9.123	37.460	2138
osti1.min	−0.924	8.630	8.541	20.240	1473
oc1q.min	−1106.000	−0.842	10.728	1402.000	6737
oc1rh.min	0.000	78.610	75.244	102.900	8470
oc1sm.min	−0.041	0.137	0.123	6.004	1418
oat1.max	−96.900	9.700	9.034	35.510	1468
osto1.max	−3.830	9.650	9.371	38.720	2138
osti1.max	−0.854	8.760	8.634	20.910	1473
oc1q.max	−13.480	5.056	107.023	2892.000	6738
oc1rh.max	12.270	84.400	79.676	106.600	8471
oc1sm.max	0.000	0.146	0.145	6.004	1418
oat2.avg	−23.640	8.960	8.325	34.710	1463
osto2.avg	−2.687	9.200	9.055	24.170	1768
osti2.avg	−0.561	9.020	9.077	36.450	2210
oc2q.avg	−19.980	0.631	36.548	1982.000	6226
oc2rh.avg	10.590	87.700	81.998	100.000	13939
oc2sm.avg	0.000	0.149	0.145	0.341	1563
oat2.min	−23.970	8.440	7.846	33.810	1460
osto2.min	−2.709	9.090	8.979	23.990	1768
osti2.min	−111.600	8.950	8.993	35.750	2203
oc2q.min	−1087.000	−1.685	5.065	1645.000	6226
oc2rh.min	0.000	85.300	80.513	104.000	13939
oc2sm.min	0.000	0.148	0.145	2.974	1549
oat2.max	−23.290	9.530	8.831	35.850	1460
osto2.max	−2.648	9.310	9.131	24.310	1768
osti2.max	−111.600	9.100	9.180	37.470	2203
oc2q.max	−10.950	5.056	86.955	2964.000	6226
oc2rh.max	10.640	90.300	84.939	104.000	13939
oc2sm.max	0.000	0.149	0.145	2.974	1549
oat3.avg	−26.300	7.831	7.513	33.910	2449
osto3.avg	−5.767	9.100	8.909	23.560	1422
osti3.avg	−0.786	8.670	8.794	20.330	2633
oc3q.avg	−19.910	1.124	30.603	1996.000	6676

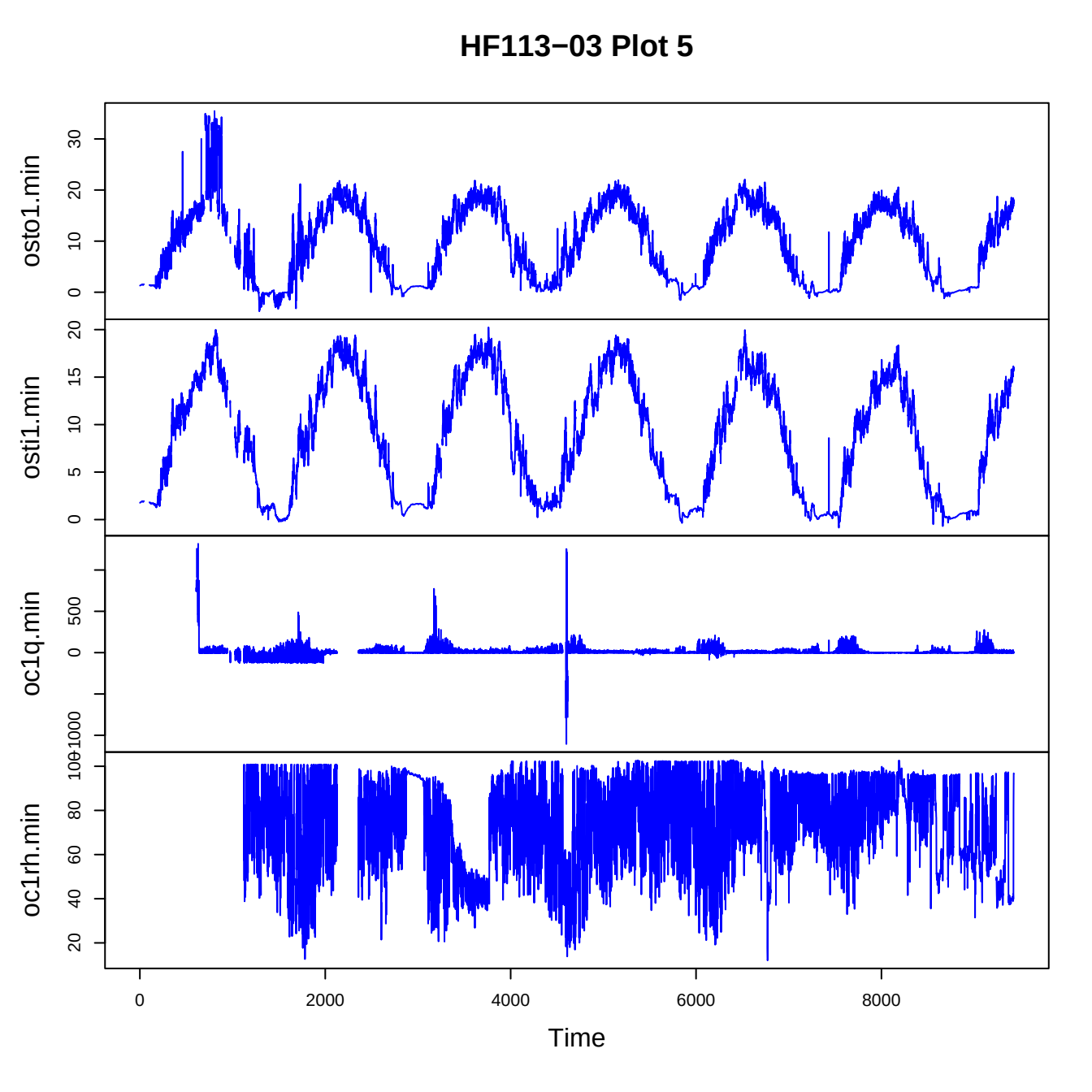
Variable	Min	Median	Mean	Max	NAs
oc3rh.avg	12.370	87.900	81.691	100.000	10323
oc3sm.avg	0.001	0.170	0.174	0.538	1373
oat3.min	−26.790	7.329	7.065	32.370	2446
osto3.min	−7.924	8.930	8.800	23.470	1421
osti3.min	−7.553	8.600	8.748	20.180	2632
oc3q.min	−698.000	−1.684	3.503	1659.000	6676
oc3rh.min	0.000	85.500	80.325	104.800	10323
oc3sm.min	0.000	0.170	0.174	0.538	1361
oat3.max	−24.850	8.350	7.977	34.910	2446
osto3.max	−5.190	9.260	9.016	23.680	1421
osti3.max	−0.782	8.740	8.839	20.730	2632
oc3q.max	0.000	6.739	72.357	2951.000	6676
oc3rh.max	12.500	90.300	84.821	104.900	10323
oc3sm.max	0.000	0.170	0.175	0.539	1361

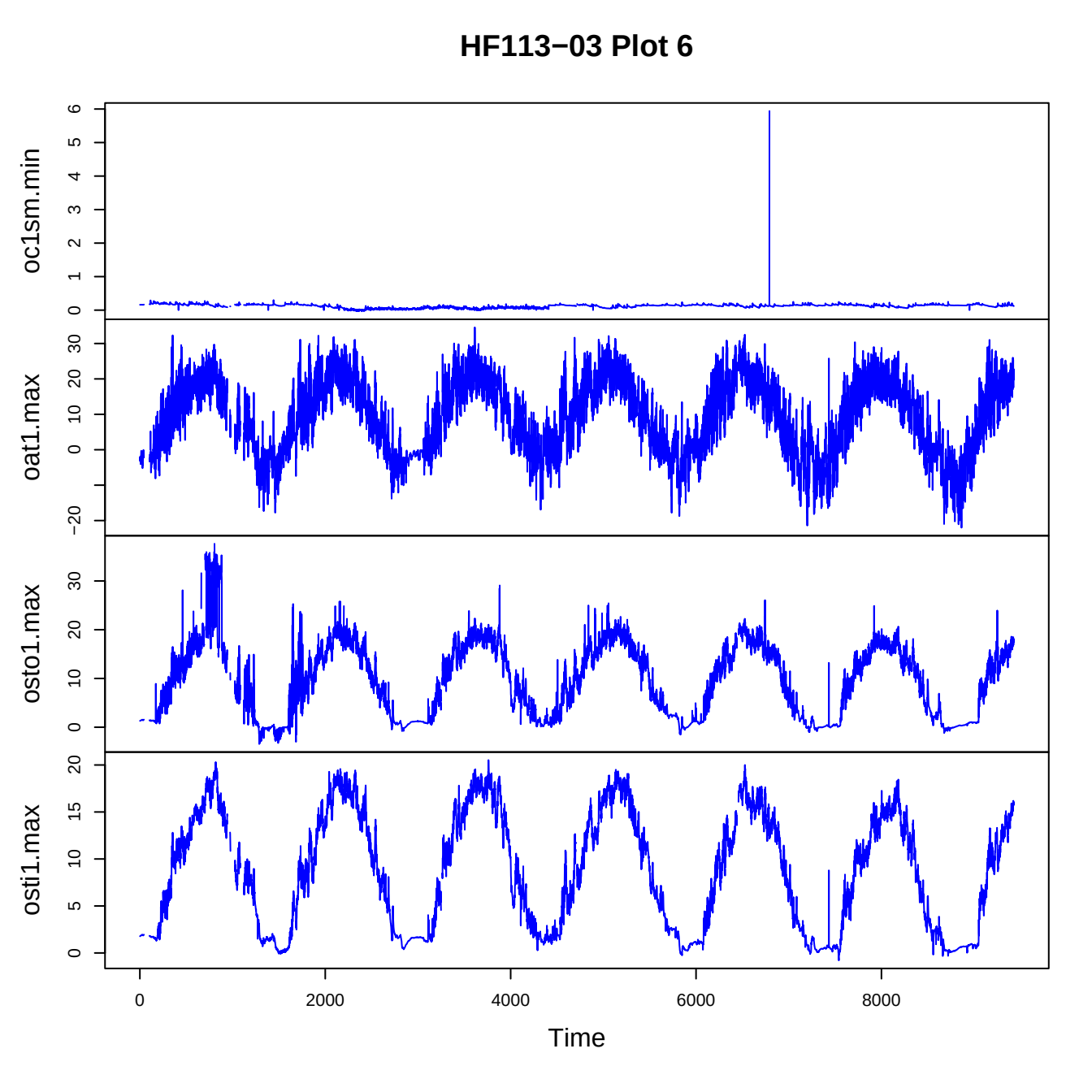

HF113−03 Plot 1
datetime
1.35e+09
1.325e+09
year
2013
2011
2009
decdate
300
200
100
0
doy
300
200
100
0
0
2000
4000
6000
8000
Time

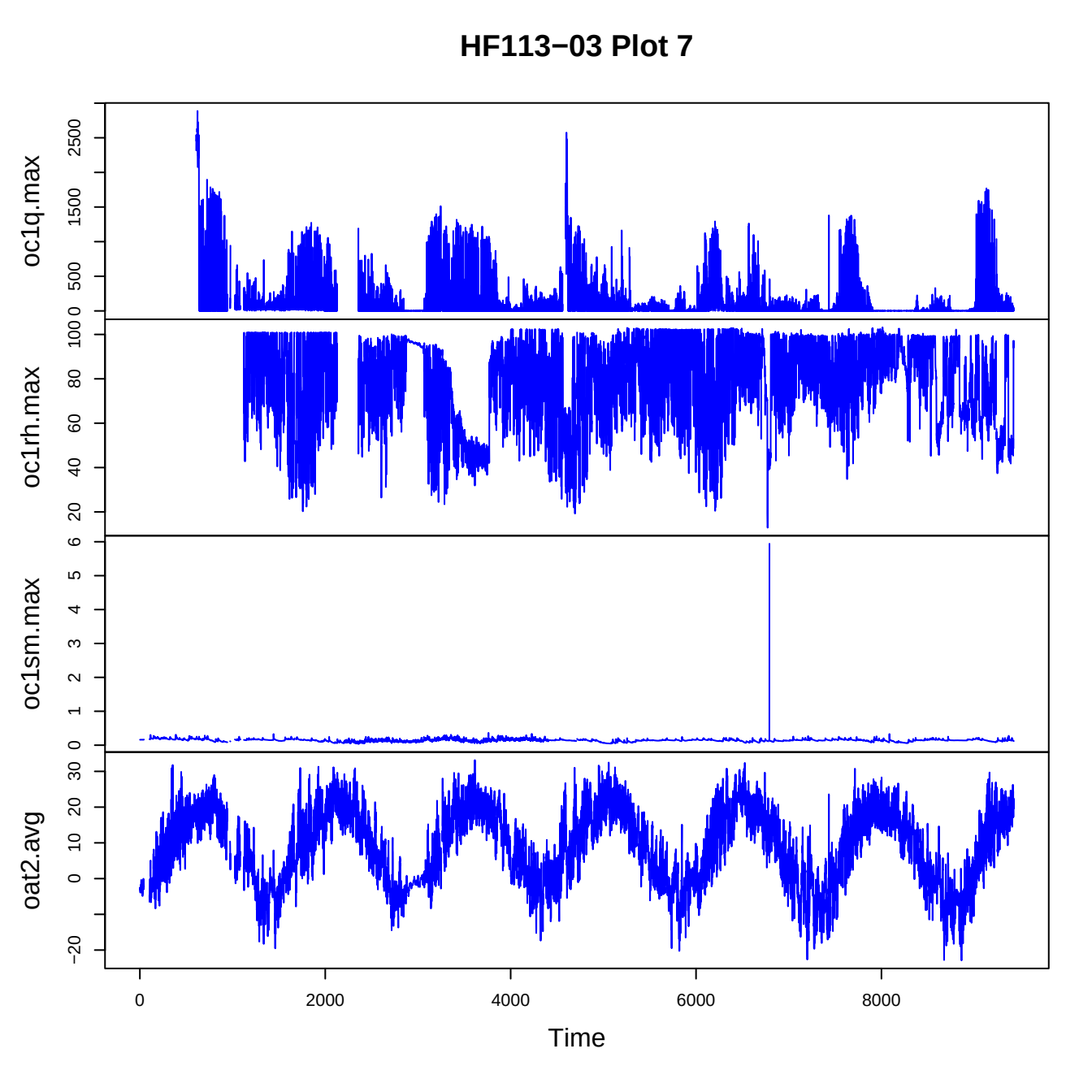

HF113−03 Plot 2
week
hour
ptemp.avg
ptemp.min
Time
0
2000
4000
6000
8000

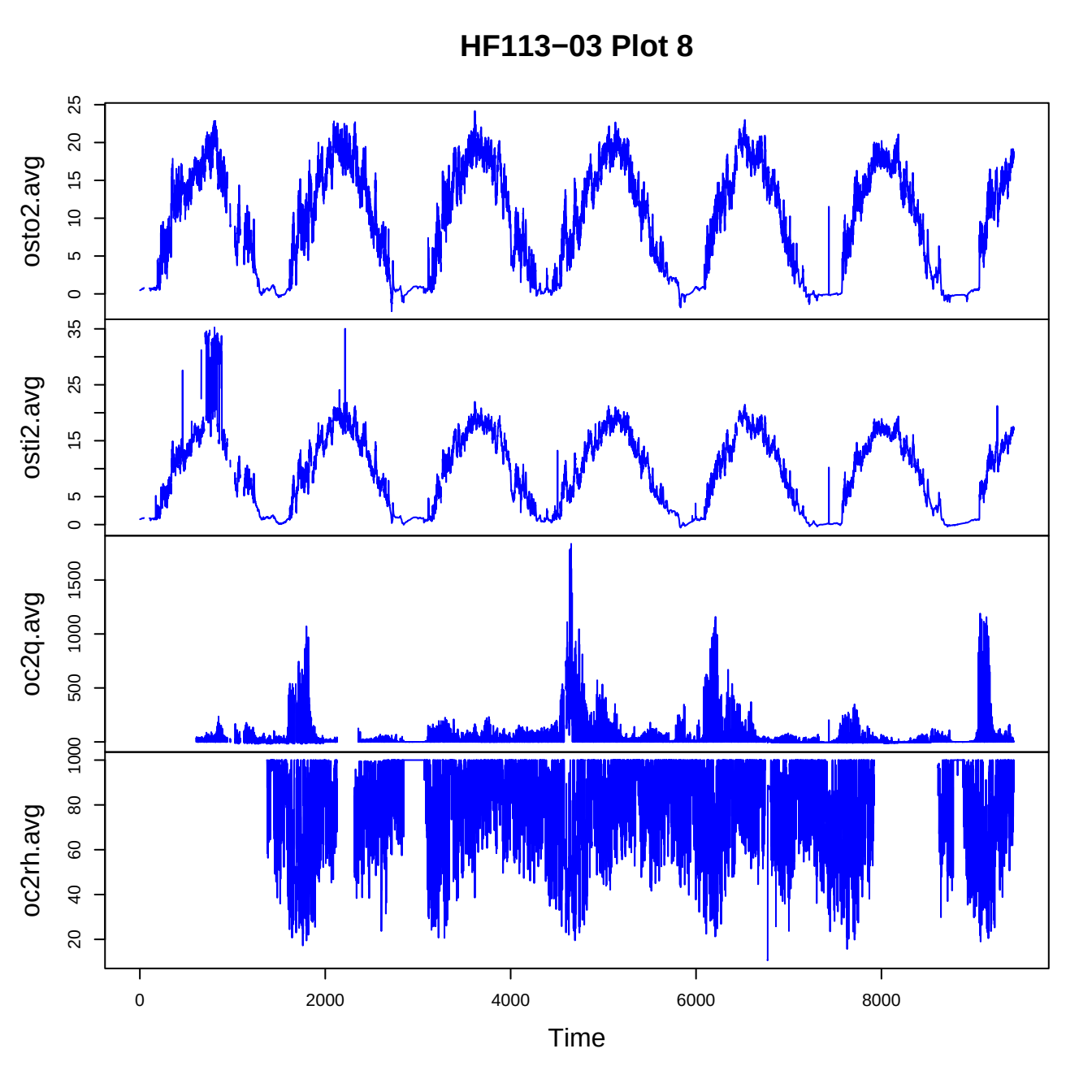

HF113−03 Plot 3
ptemp.max
oat1.avg
osto1.avg
osti1.avg
Time
0
2000
4000
6000
8000

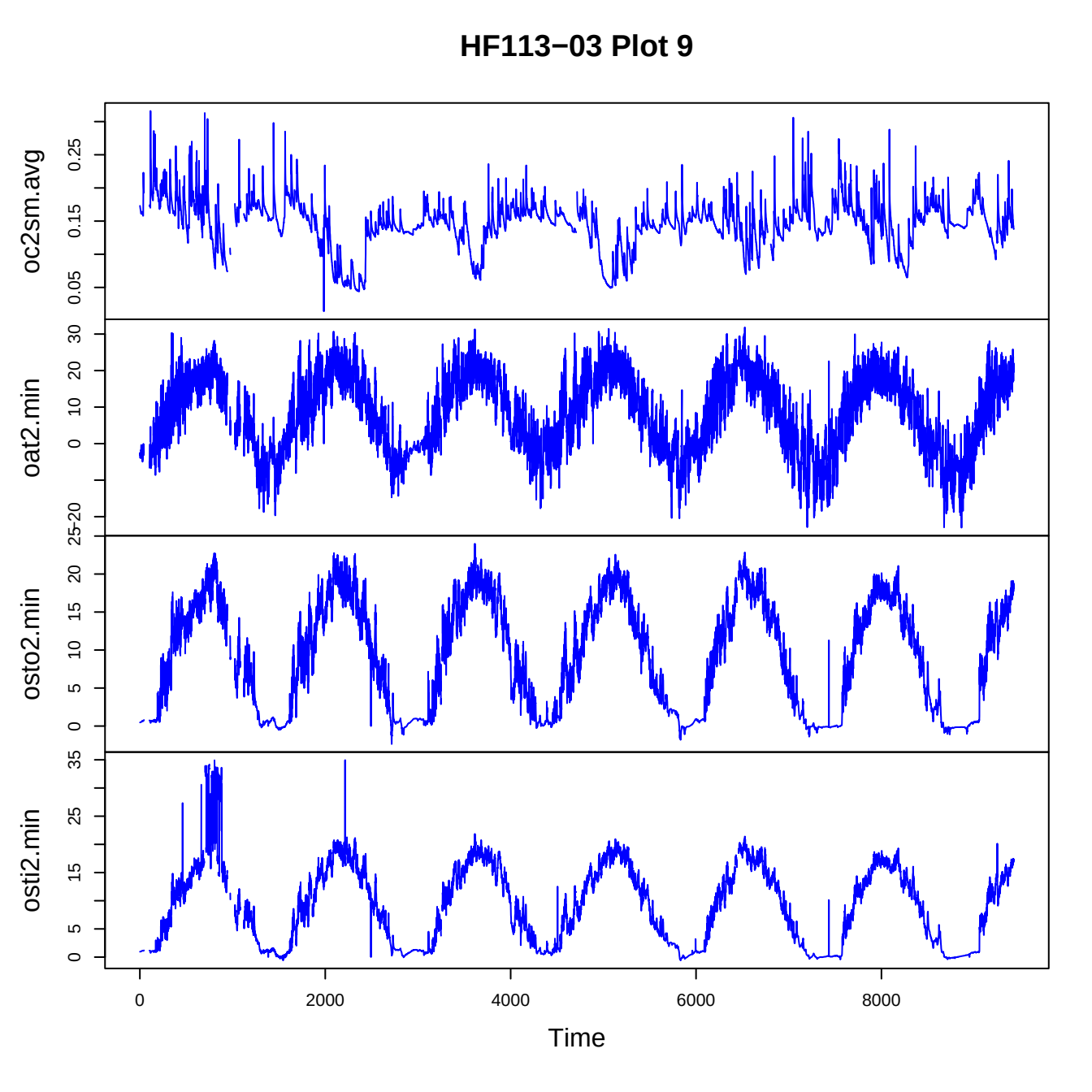

HF113−03 Plot 4
oc1q.avg
oc1rh.avg
oc1sm.avg
oat1.min
Time
0
2000
4000
6000
8000

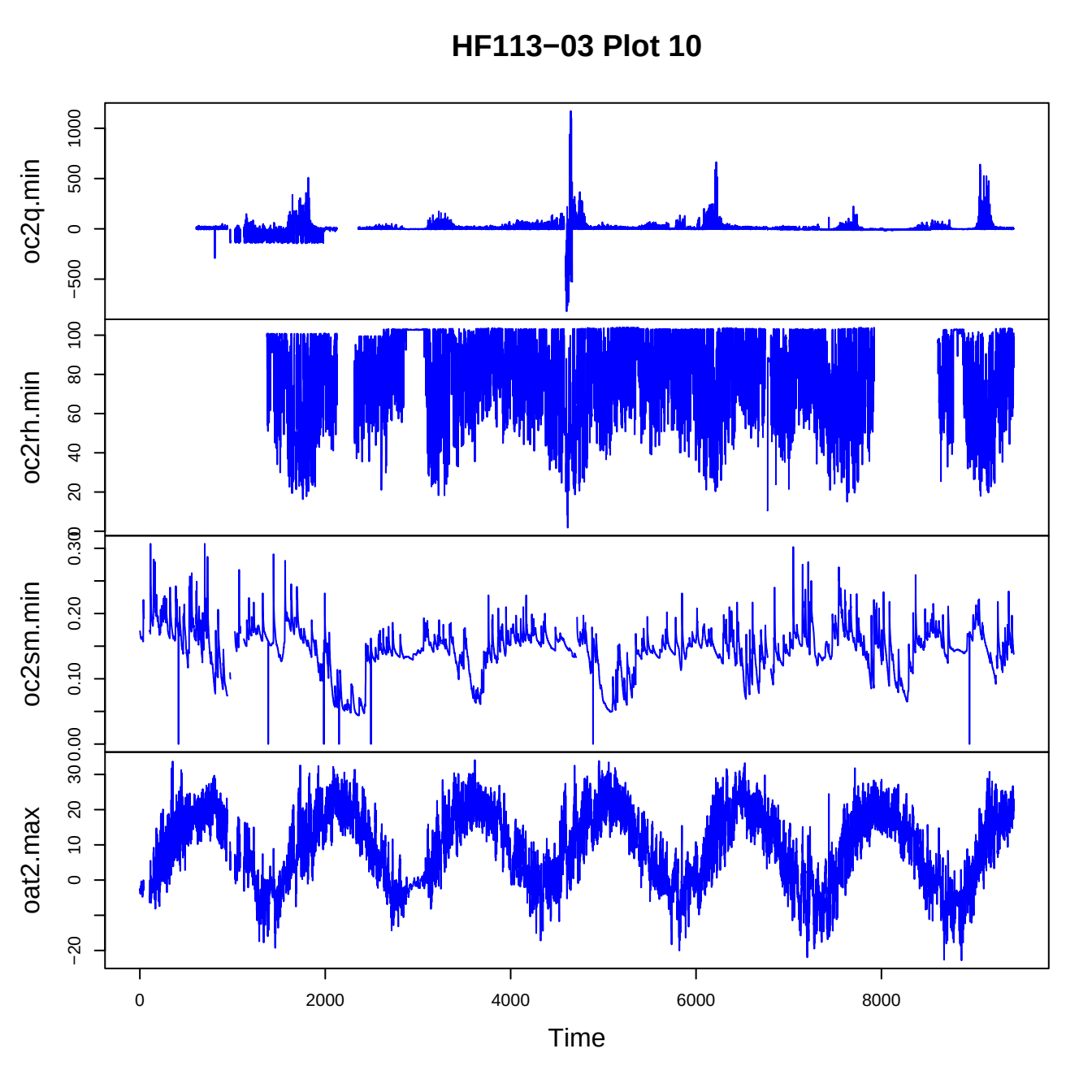

HF113−03 Plot 5
osto1.min
0
10
20
30
osti1.min
0
5
10
15
20
oc1q.min
0
500
1000
oc1rh.min
20
40
60
80
100
0
2000
4000
6000
8000
Time

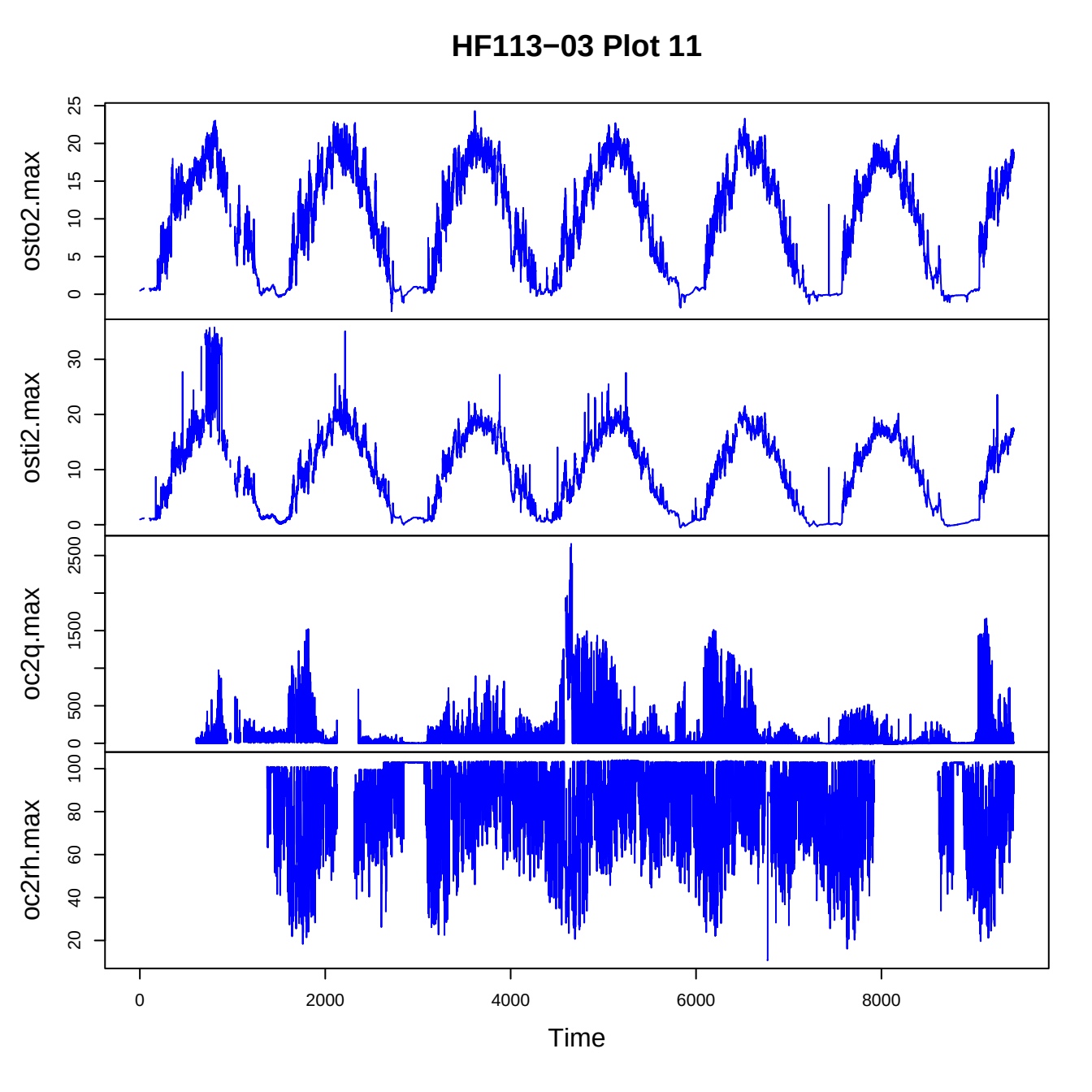

HF113−03 Plot 6
oc1sm.min
oat1.max
osto1.max
osti1.max
Time
0
2000
4000
6000
8000

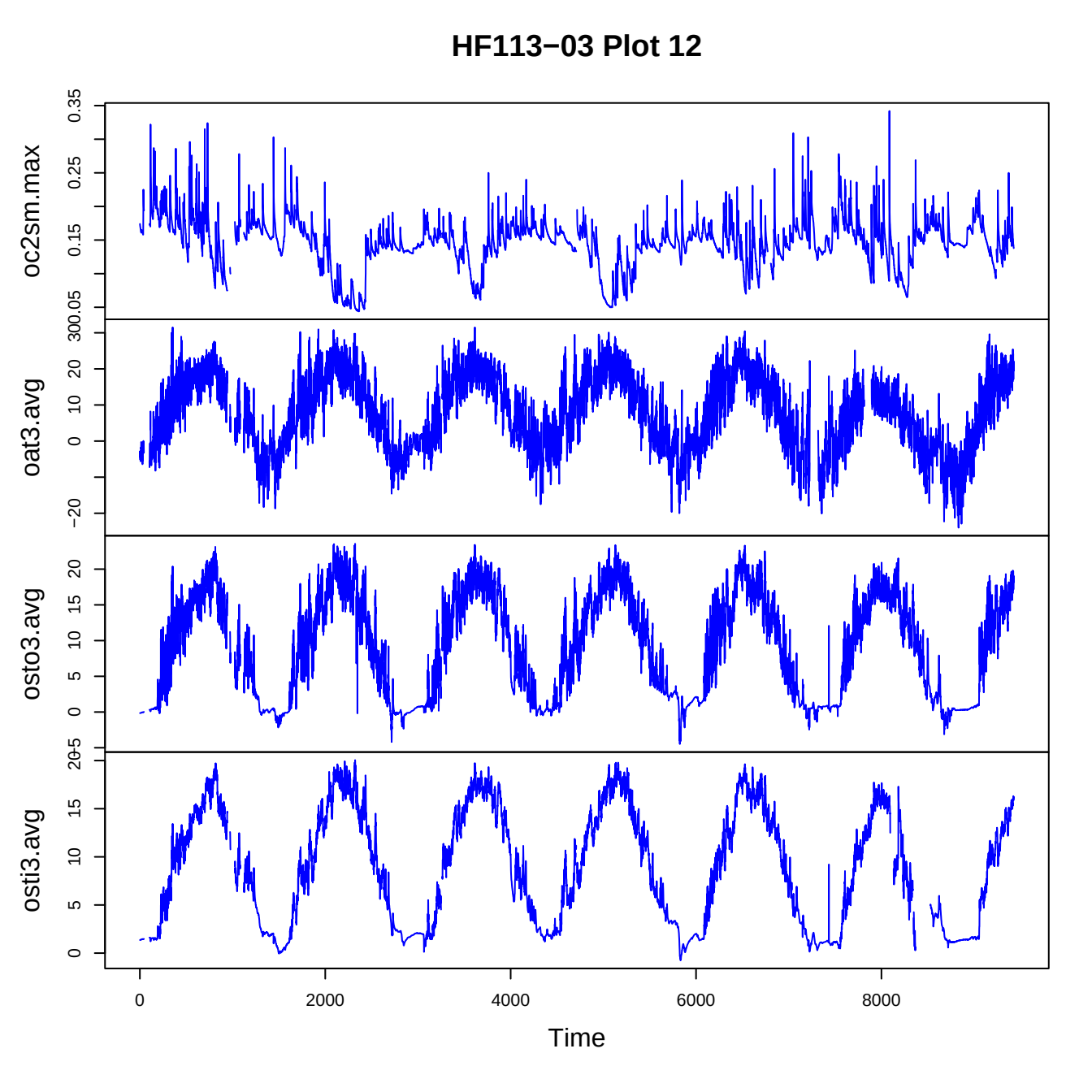

HF113−03 Plot 7
oc1q.max
0
500
1500
2500
oc1rh.max
20
40
60
80
100
oc1sm.max
0
1
2
3
4
5
6
oat2.avg
−20
0
10
20
30
0
2000
4000
6000
8000
Time

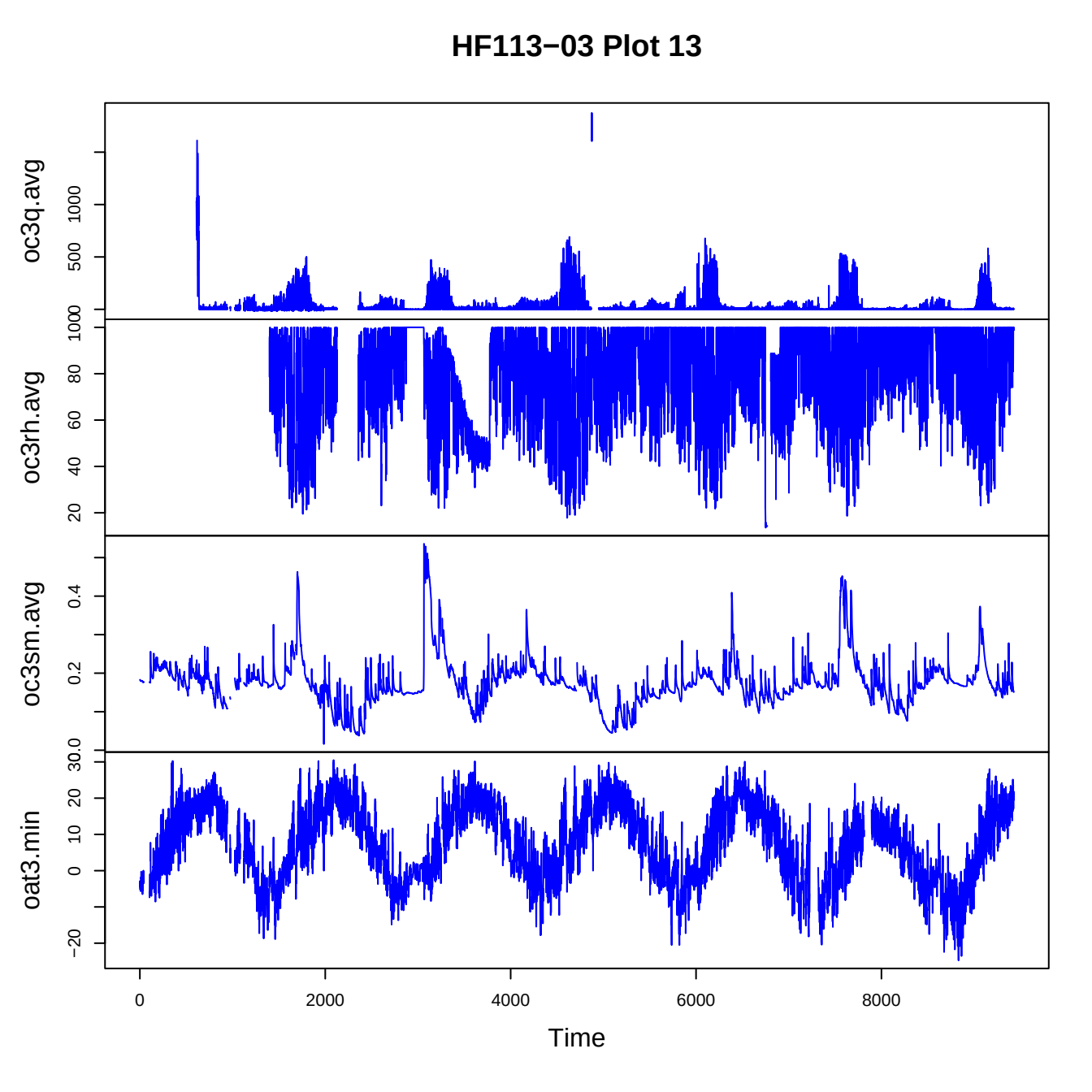

HF113−03 Plot 8
osto2.avg
0
5
10
15
20
25
osti2.avg
0
5
15
25
35
oc2q.avg
1000
500
1000
1500
oc2rh.avg
20
40
60
80
1000
0
2000
4000
6000
8000
Time

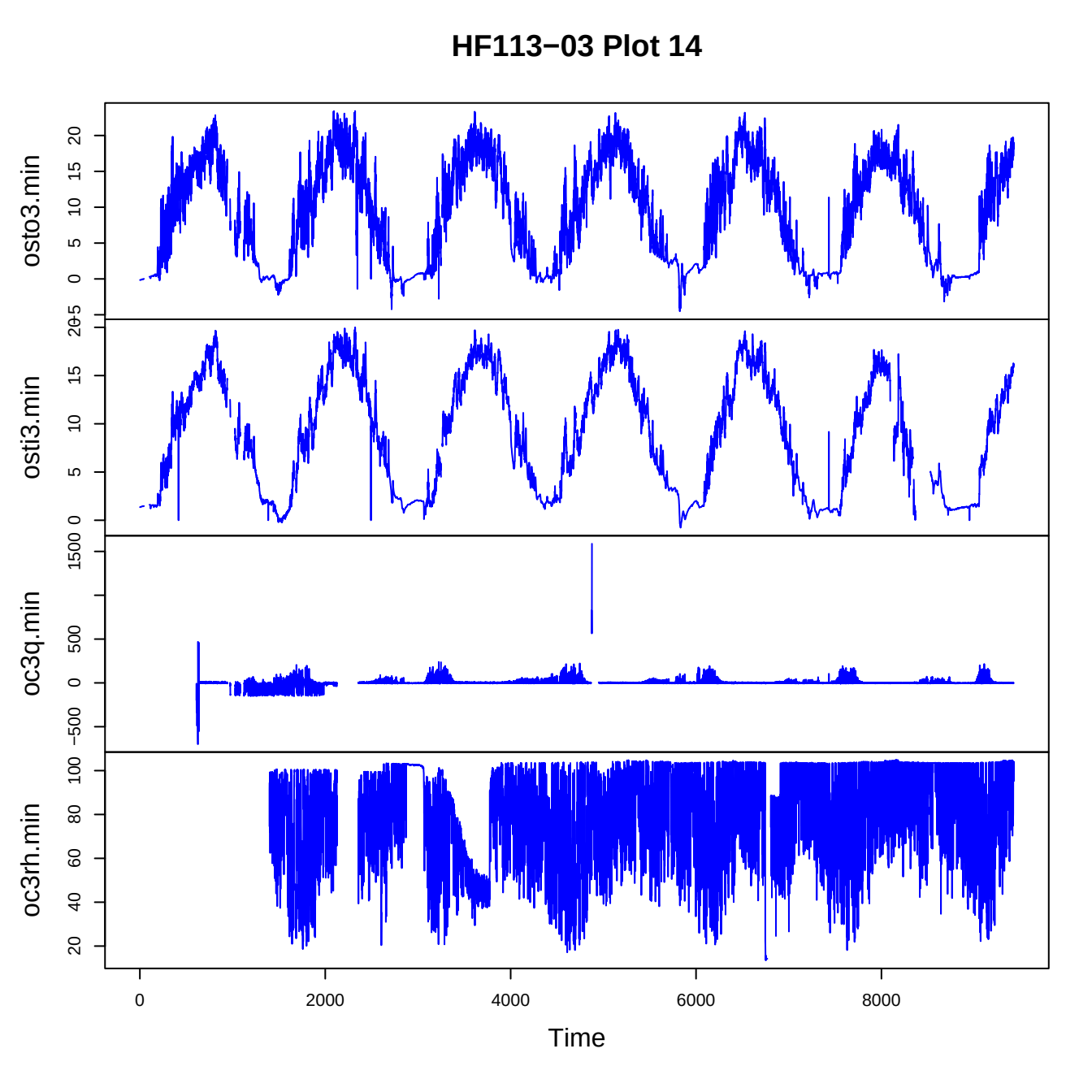

HF113−03 Plot 9
oc2sm.avg
0.05
0.15
0.25
oat2.min
-20
0
10
20
30
osto2.min
0
5
10
15
20
osti2.min
0
5
15
25
35
0
2000
4000
6000
8000
Time

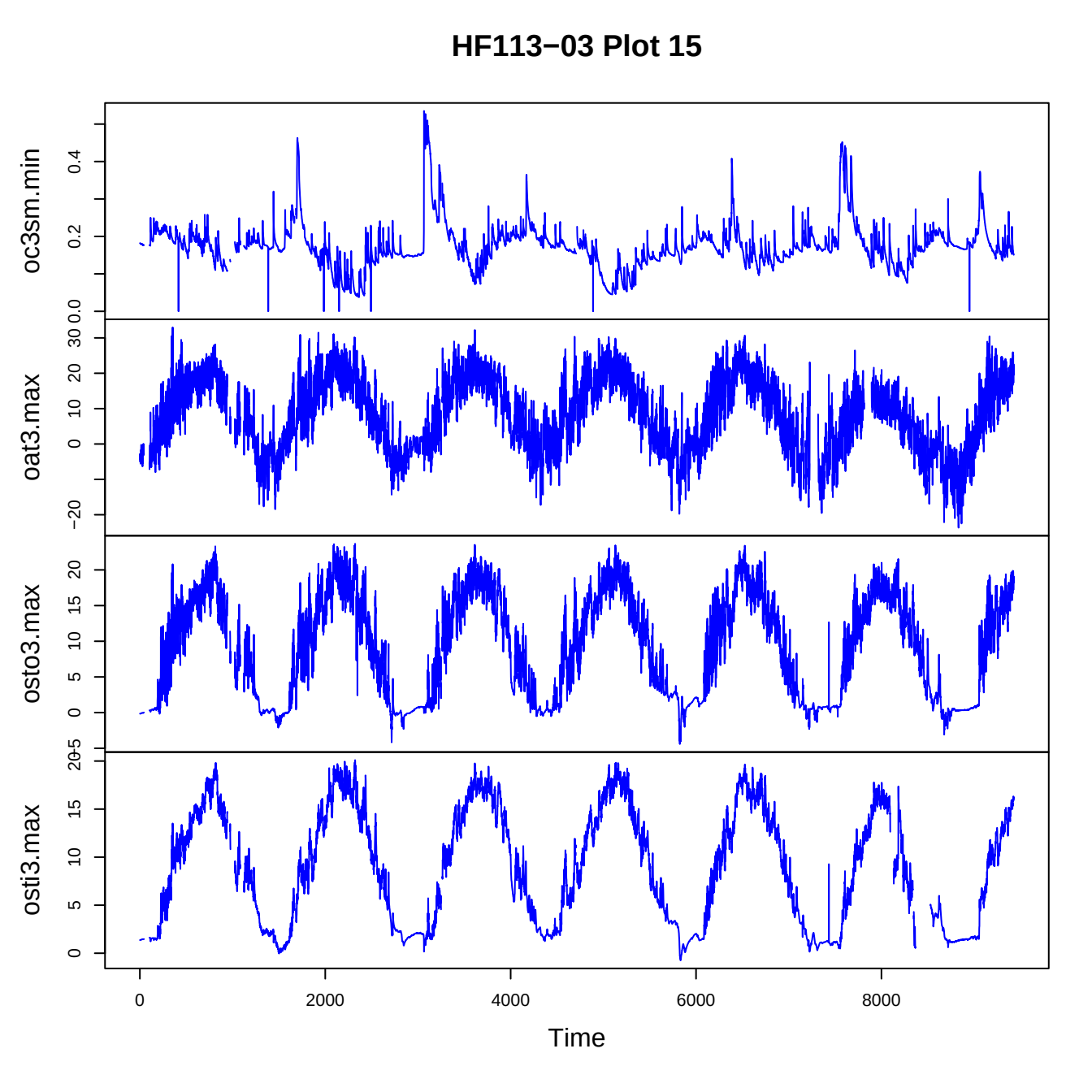

HF113−03 Plot 10
oc2q.min
1000
500
0
−500
oc2rh.min
100
80
60
40
20
oc2sm.min
0.30
0.20
0.10
0.00
oat2.max
30
20
10
0
−20
0
2000
4000
6000
8000
Time

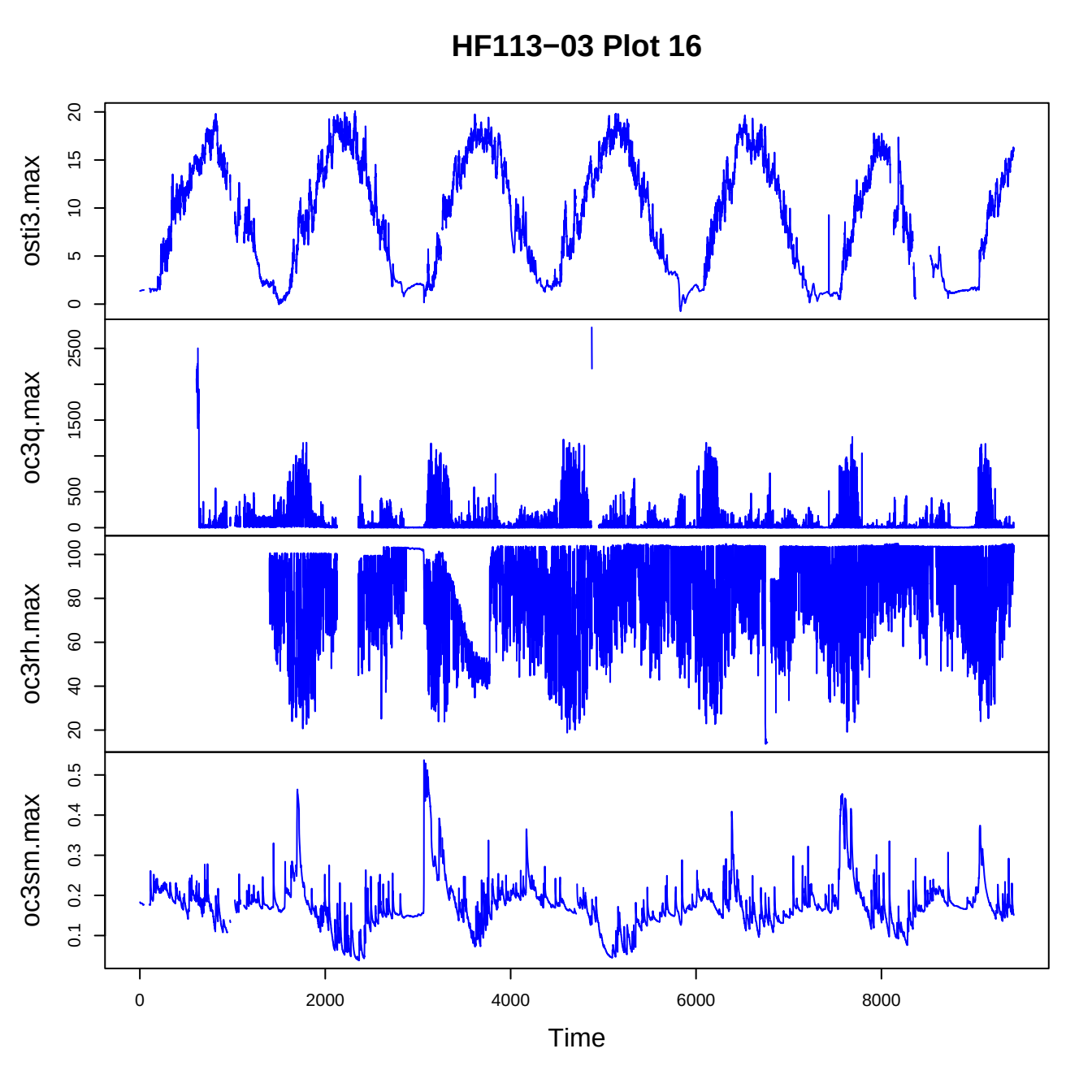

HF113−03 Plot 11
osto2.max
0
5
10
15
20
25
osti2.max
0
10
20
30
oc2q.max
0
500
1500
2500
oc2rh.max
20
40
60
80
100
0
2000
4000
6000
8000
Time


HF113−03 Plot 12
oc2sm.max
0.05
0.15
0.25
0.35
oat3.avg
−20
0
10
20
30
osto3.avg
−5
0
5
10
15
20
osti3.avg
0
5
10
15
20
0
2000
4000
6000
8000
Time


HF113−03 Plot 13
oc3q.avg
oc3rh.avg
oc3sm.avg
oat3.min
Time
0
2000
4000
6000
8000


HF113−03 Plot 14
osto3.min
osti3.min
oc3q.min
oc3rh.min
Time
0
2000
4000
6000
8000


HF113−03 Plot 15
oc3sm.min
oat3.max
osto3.max
osti3.max
Time
0
2000
4000
6000
8000


HF113−03 Plot 16
osti3.max
0
5
10
15
20
oc3q.max
0
500
1500
2500
oc3rh.max
20
40
60
80
100
oc3sm.max
0.1
0.2
0.3
0.4
0.5
0
2000
4000
6000
8000
Time