**Atividade 8 :** Trabalho Balanço de Radiação e de Energia e Trocas de CO2 **| Aluno:** Leonardo C. Rossato

**Cada DIA tem 48 marcações relacionado a passagem de tempo:** 0h; 0h:30min; 1h; 1h30min; 2h; 2h30min; ... 23h; 23h30min .

**Mês de Maio tem 31 dias:** 48 * 31 = 1488 ;

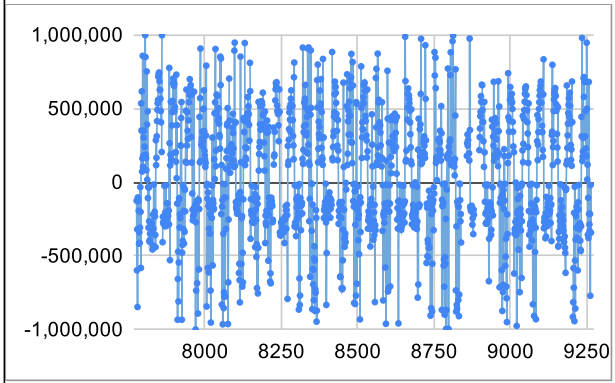
**1ª marcação do mês começa com a numeração:** 7776 **|** **Última marcação do mês:** 9263 .

***OBS*:*** *esses gráficos estão muito estranhos! E quando olhamos a tabela fica mais estranho ainda. Tem colunas onde o padrão de dados muda de vírgula para ponto. Exemplo: 106,46 e na linha a baixo 106.80 (Sem um padrão na estrutura dos dados fica muito difícil gerar resultados consistentes. )*

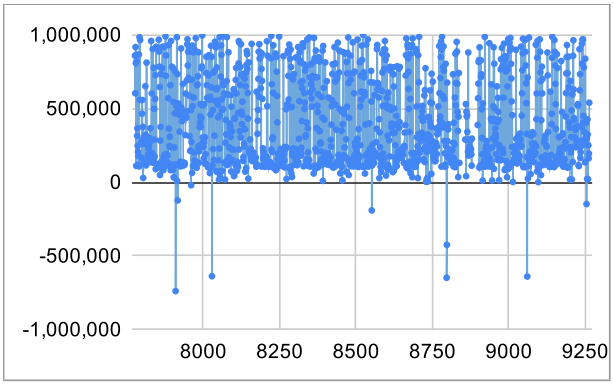
## LETRA a): Plote além de todas as variáveis meteorológicas, as componentes do balanço radiativo e de energia para todo o mês

**BALANÇO RADIOATIVO**

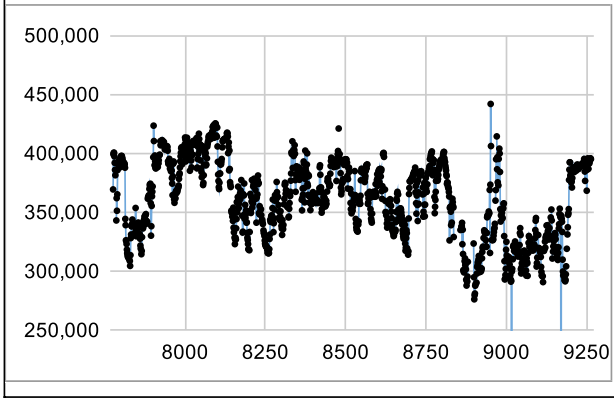
Coluna 57 -> Fator K-



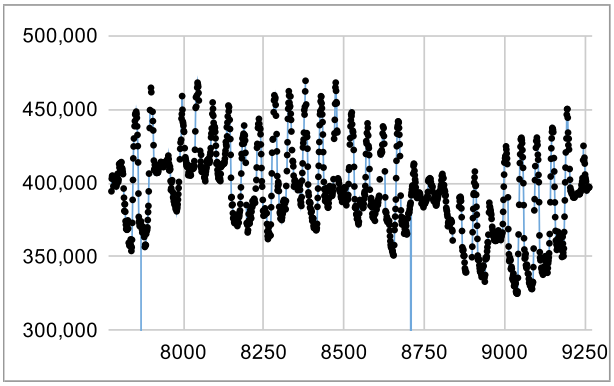

Coluna 64 -> Fator K+




Coluna 65 -> Fator L-

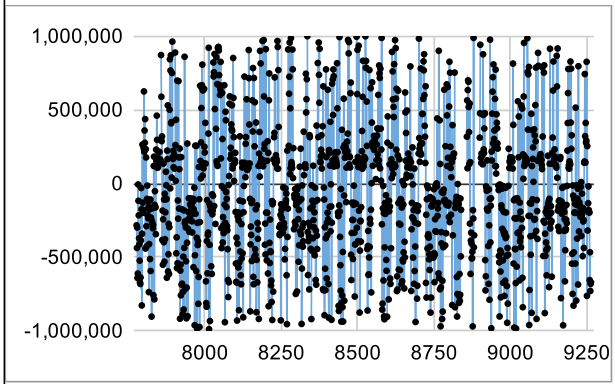



Coluna 66 -> Fator L+

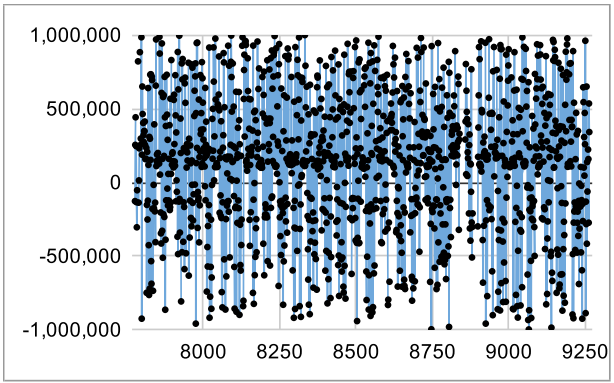


## BALANÇO DE ENERGIA

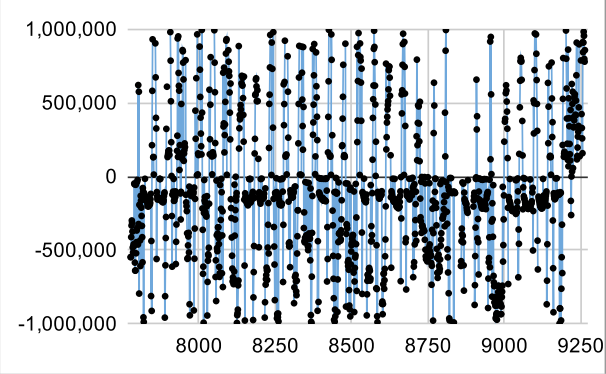
Coluna 30 -> Fator H



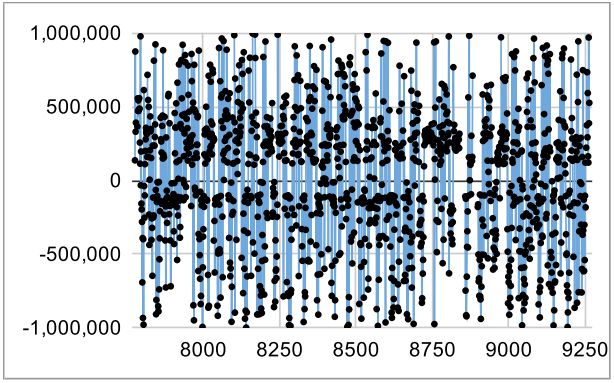

Coluna 26 -> Fator LE




Coluna 60 -> Fator Fg

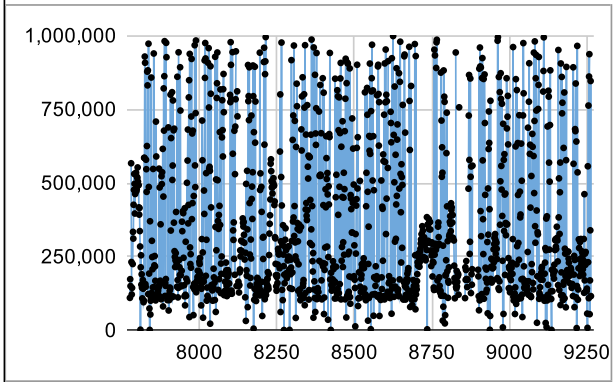



Coluna 36 -> Fator CO2

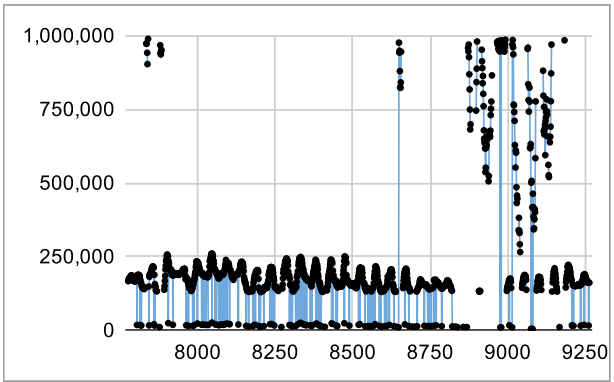



## DADOS METEOROLÓGICOS

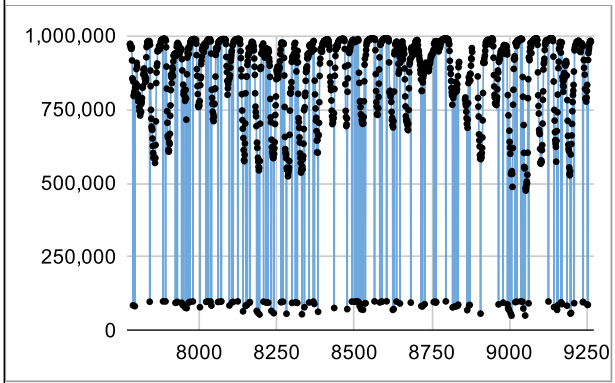
53-wind speed (m/s)- wind speed  (from CSAT)



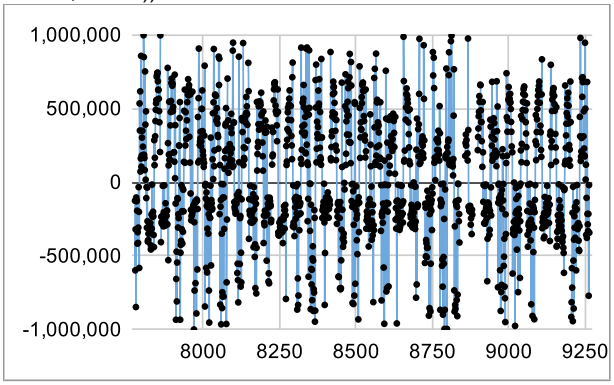

55-Temperature (°C)- Air Temperature (3m; Vaisala, HMP155)



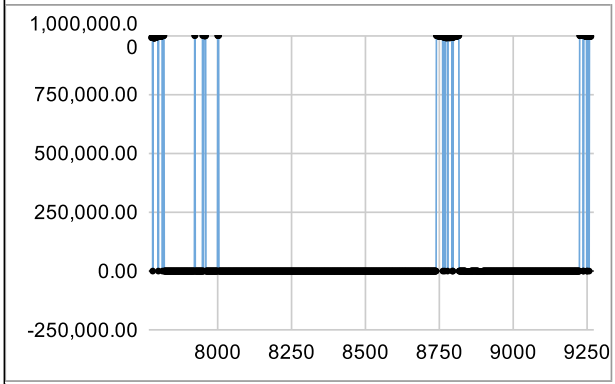
% 56-RH (%)- Relative Humidity (3m; Vaisala, HMP155)



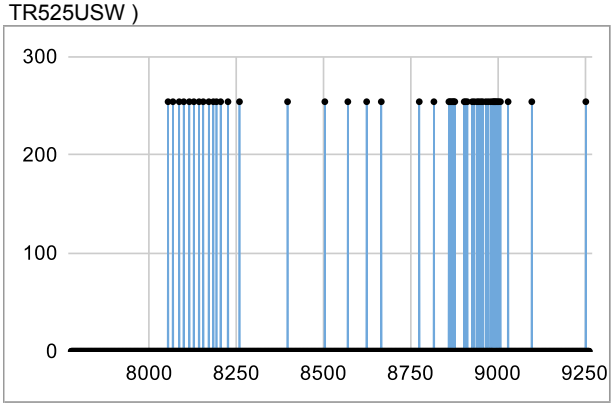

% 57-Rg(W/m²) - Incoming Short wave radiation (3 m; Kipp & Zonen, CNR4))



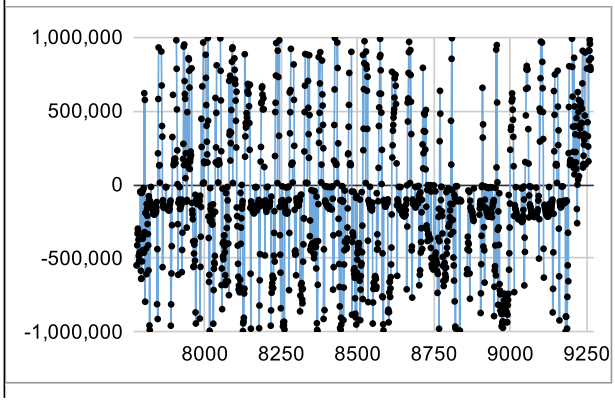

% 58-Pmb - Pressure - (1 m; Analyzer Interface Unit - Li7550)



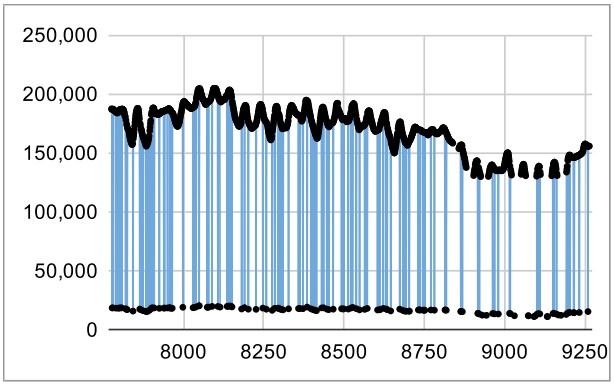

% 59-Prec (mm) - Precipitation (5m; Texas eletronics, TR525USW )



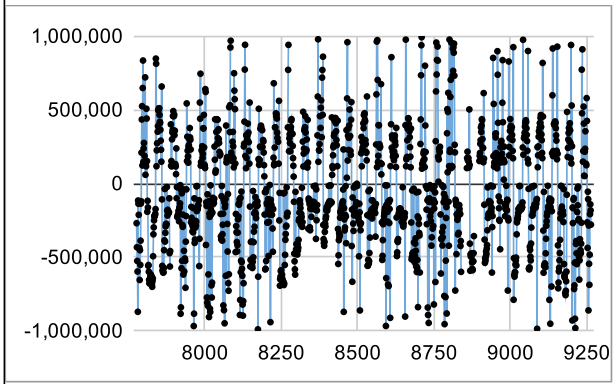

% 60-Fsolo1 (W/m2)- Soil Heat Flux ( -5 cm; Hukseflux )



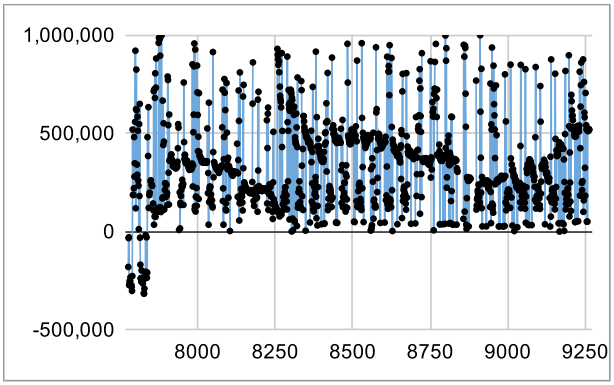

% 61-Tsolo1 (°C)- Soil Temperature ( -5 cm; T108)



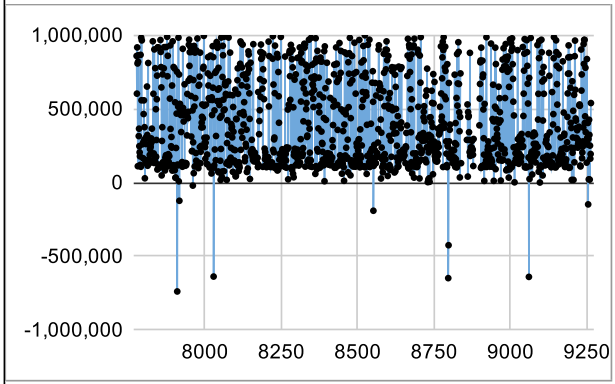
%62-Rn (W/m2) - Net Radiation (Rg - SWout + LWin -LWout)(3 m; Kipp & Zonen, CNR4)



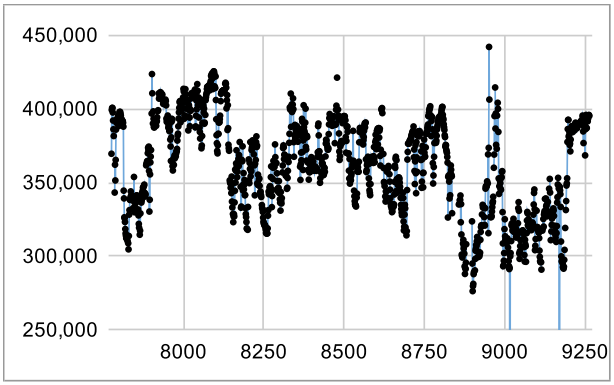

% 63-PAR (W/m2)- Incoming Photosynthetic Active Radiation (PAR) ( 3 m; PAR LIT Kipp & Zonen)



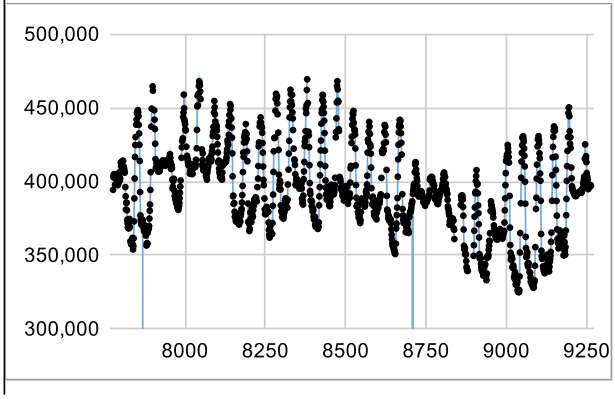

% 64-SWout (W/m2)- Outgoing Short wave radiation (3 m; Kipp & Zonen, CNR4)



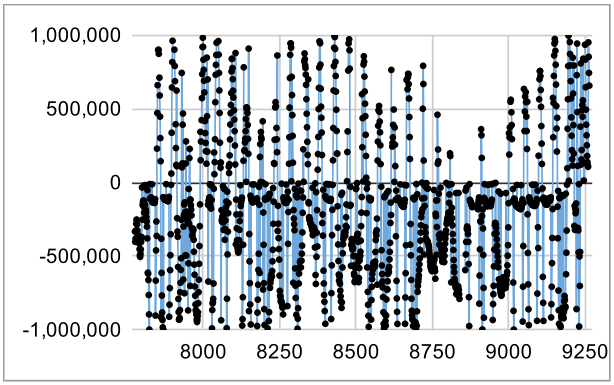

% 65-LWin (W/m2)- Incoming Long wave radiation (3 m; Kipp & Zonen, CNR4)



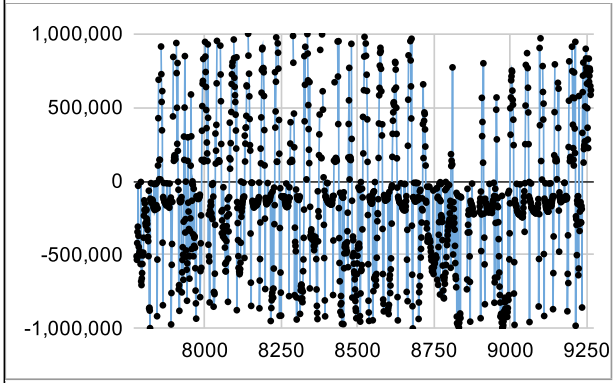

% 66-LWout (W/m2)- Outgoing Long wave radiation (3 m; Kipp & Zonen, CNR4)



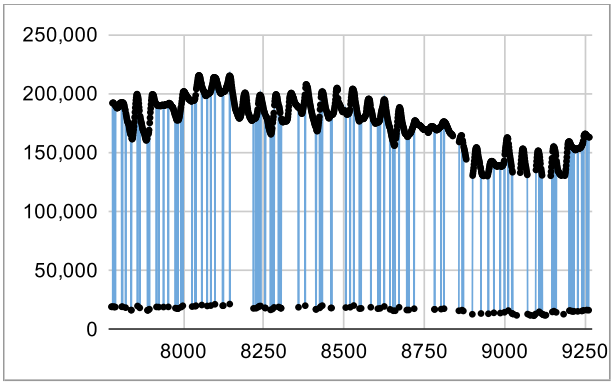

% 67-Fsolo2 (W/m2)- Soil Heat Flux ( -5 cm; Hukseflux )



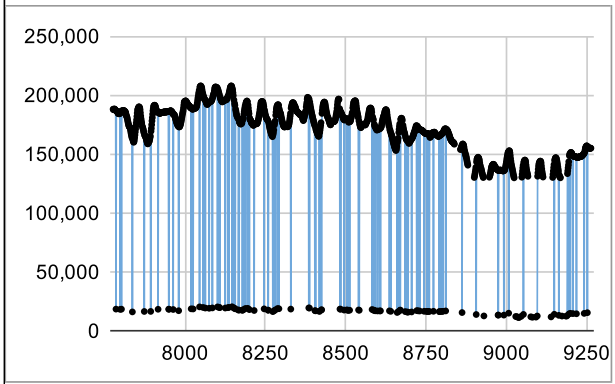
% 68-Fsolo3 (W/m2)- Soil Heat Flux ( -5 cm; Hukseflux )



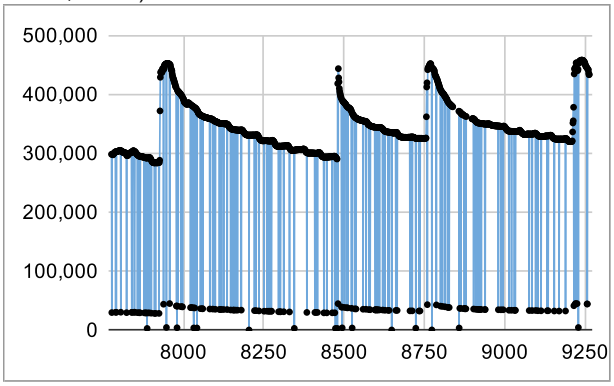

% 69-Tsolo2 (°C)- Soil Temperature ( -5 cm; T108)



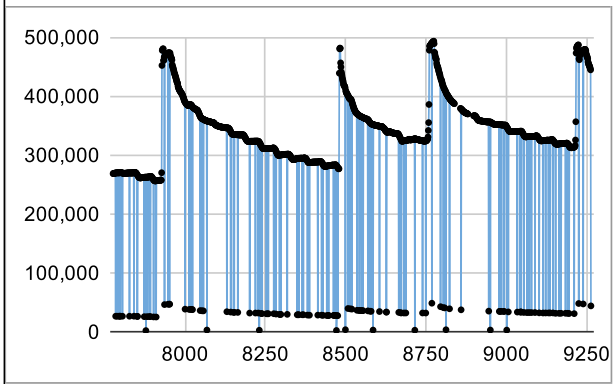

% 70-Tsolo3 (°C)- Soil Temperature ( -5 cm; T108)



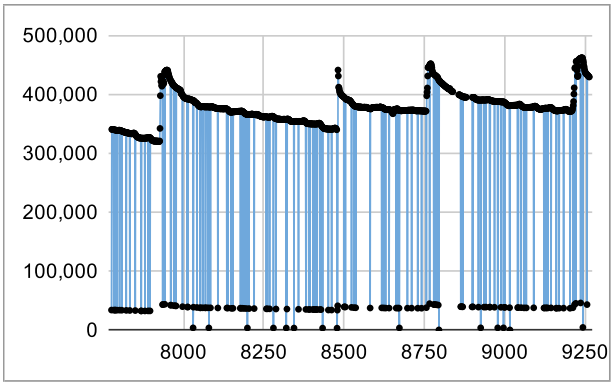

% 71-H2OSolo1 (m³/m³)- Soil moisture (0 to -5 cm; Theta Probe, ML2x )



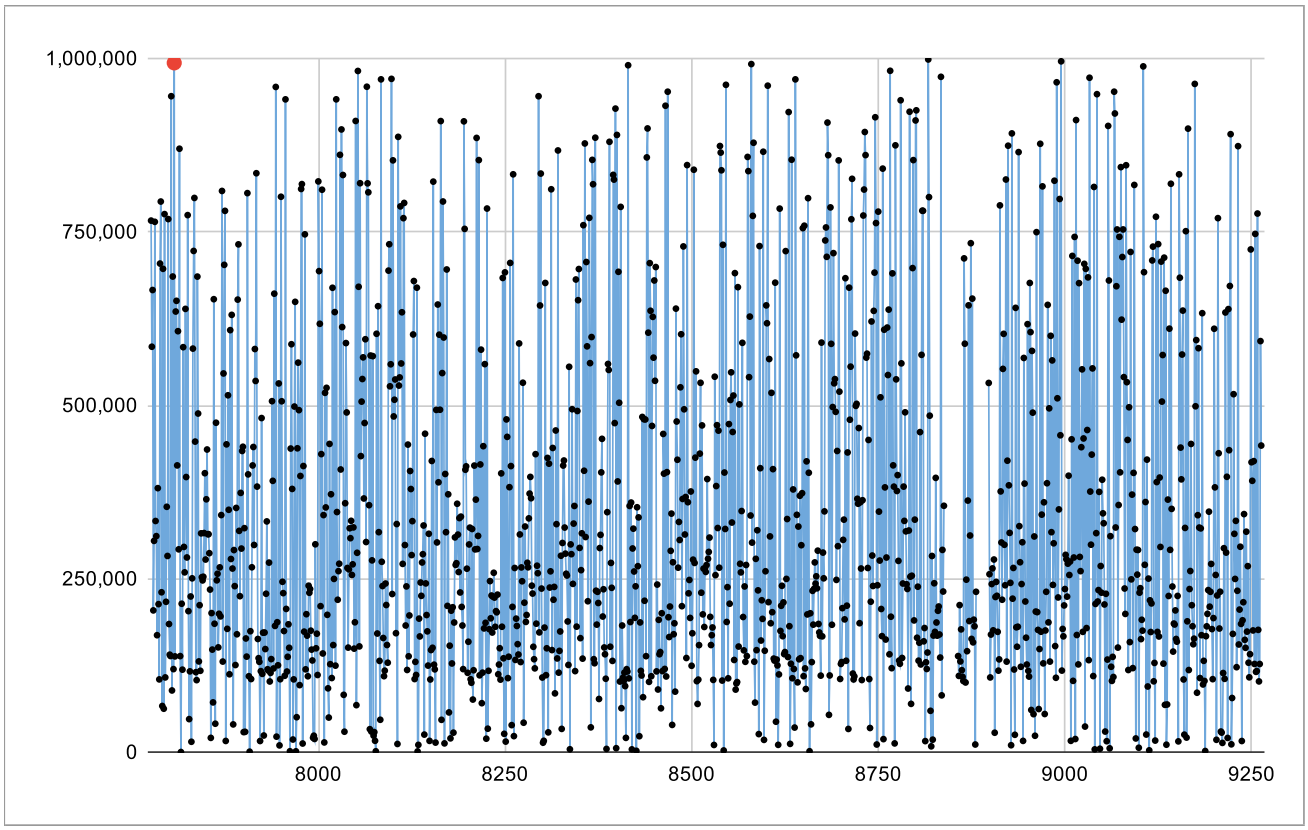

% 72-H2OSolo2 (m³/m³)- Soil moisture (0 to -5 cm; Theta Probe, ML2x )




% 73-H2OSolo3(m³/m³) - Soil moisture (0 to -5 cm; Theta Probe, ML2x )

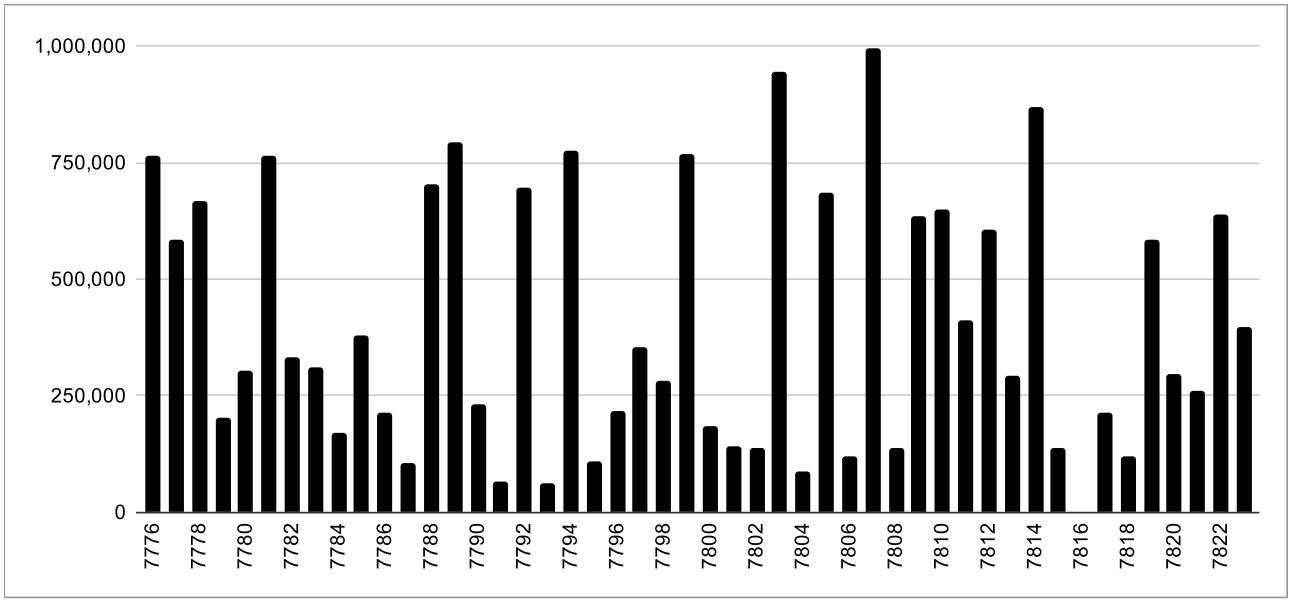


Precipitation (5m; Texas eletronics,  TR525USW )

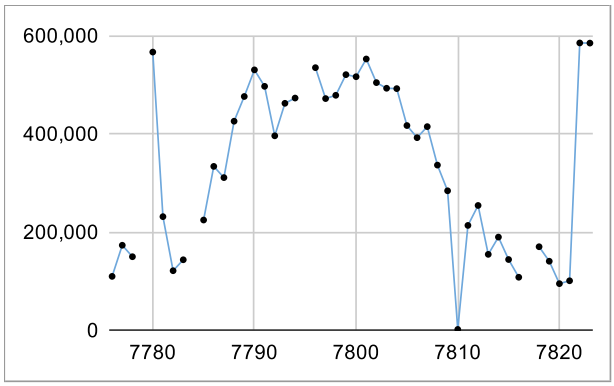


**DIA CHUVOSO** **7807** Começa: 7776 Termina: 7823

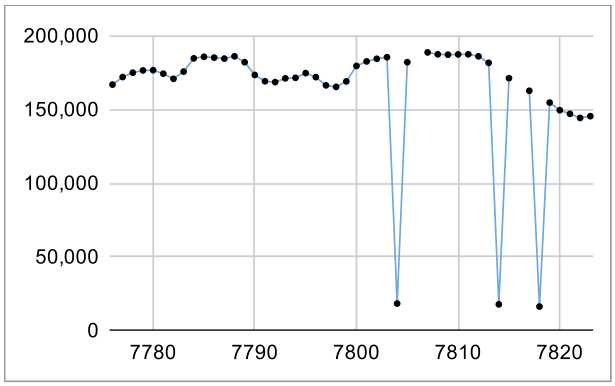
Precipitation (5m; Texas eletronics, TR525USW )



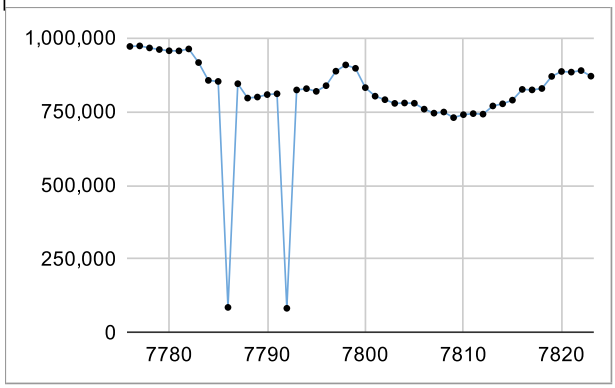

53-wind speed (m/s)- wind speed (from CSAT)



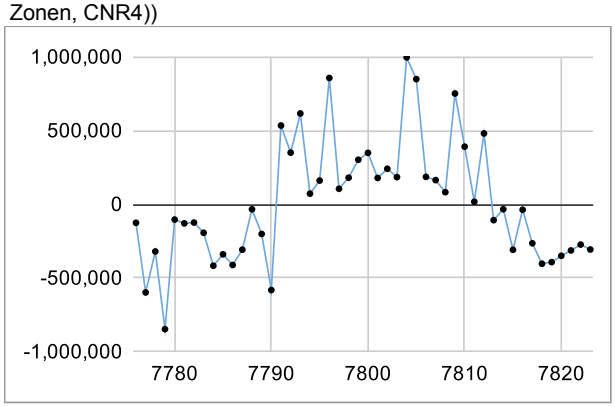

55-Temperature (°C)- Air Temperature (3m; Vaisala, HMP155)



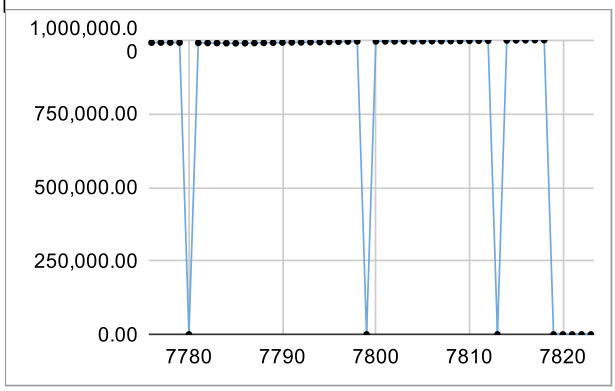

% 56-RH (%)- Relative Humidity (3m; Vaisala, HMP155)



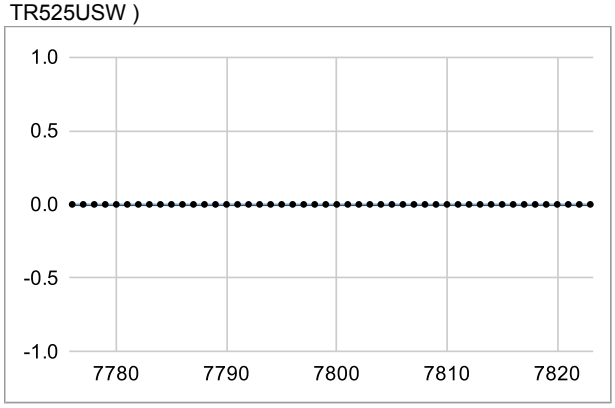

% 57-Rg(W/m²) - Incoming Short wave radiation (3 m; Kipp & Zonen, CNR4))



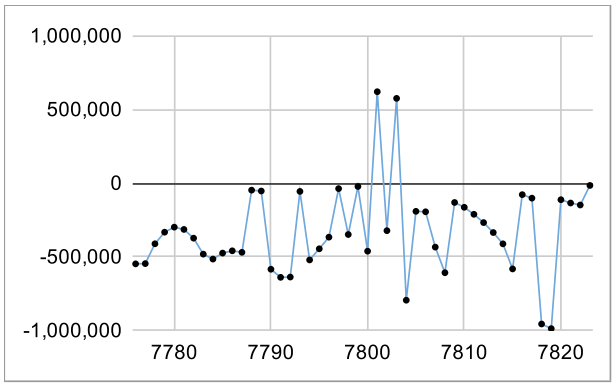
% 58-Pmb - Pressure - (1 m; Analyzer Interface Unit - Li7550)



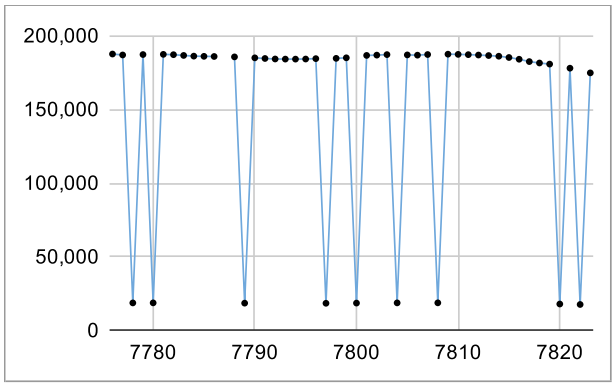

% 59-Prec (mm) - Precipitation (5m; Texas eletronics, TR525USW )



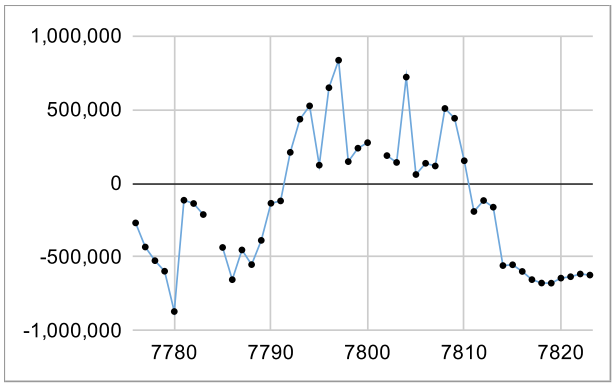

% 60-Fsolo1 (W/m2)- Soil Heat Flux ( -5 cm; Hukseflux )



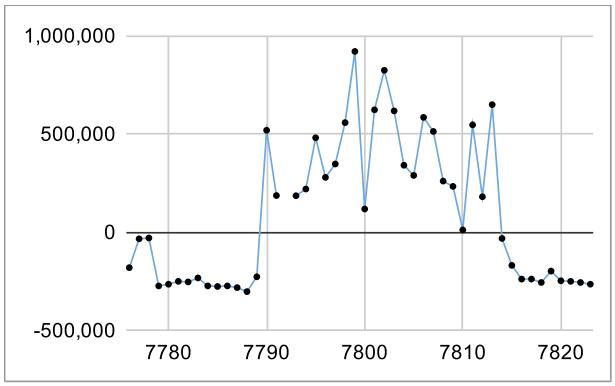

% 61-Tsolo1 (°C)- Soil Temperature ( -5 cm; T108)



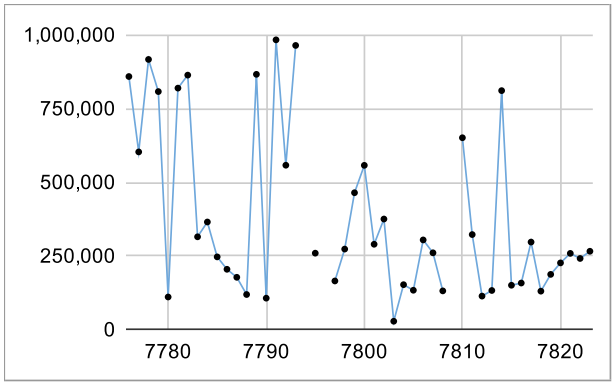

%62-Rn (W/m2) - Net Radiation (Rg - SWout + LWin -LWout)(3 m; Kipp & Zonen, CNR4)



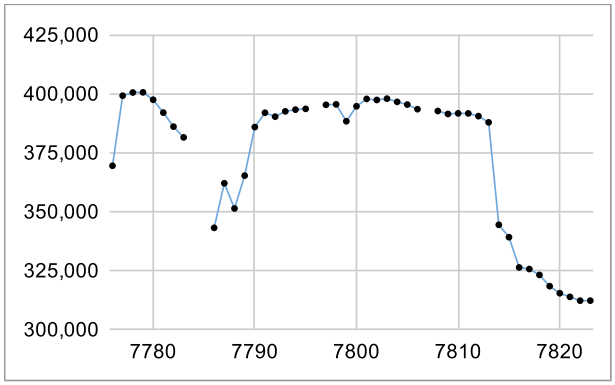

% 63-PAR (W/m2)- Incoming Photosynthetic Active Radiation (PAR) ( 3 m; PAR LIT Kipp & Zonen)



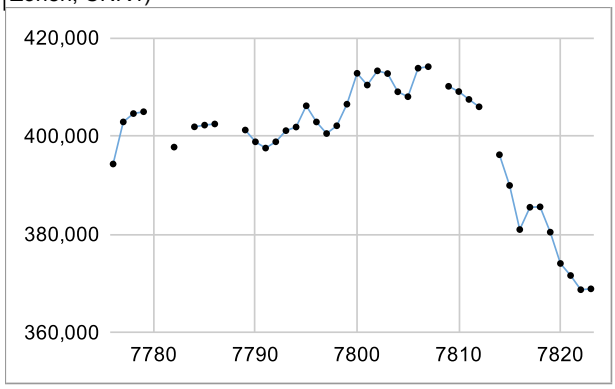
% 64-SWout (W/m2)- Outgoing Short wave radiation (3 m; Kipp & Zonen, CNR4)



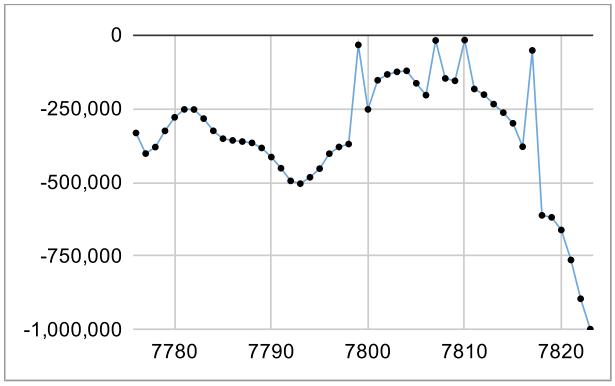

% 65-LWin (W/m2)- Incoming Long wave radiation (3 m; Kipp & Zonen, CNR4)



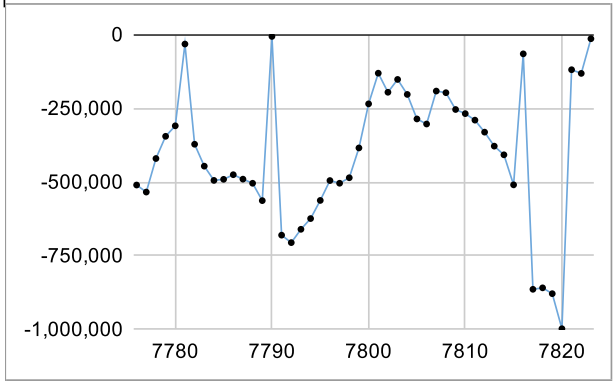

% 66-LWout (W/m2)- Outgoing Long wave radiation (3 m; Kipp & Zonen, CNR4)



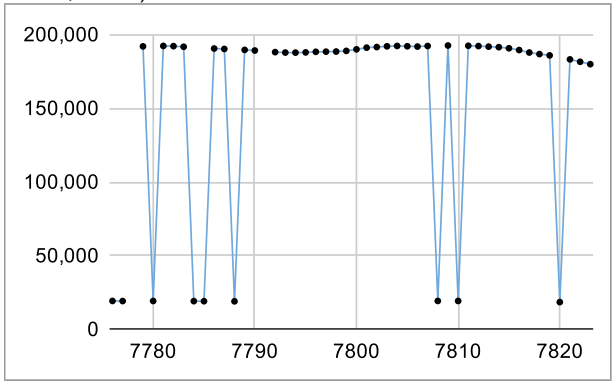

% 67-Fsolo2 (W/m2)- Soil Heat Flux ( -5 cm; Hukseflux )



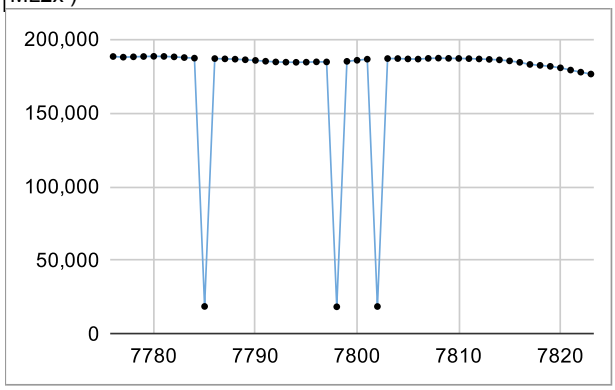

% 70-Tsolo3 (°C)- Soil Temperature ( -5 cm; T108)



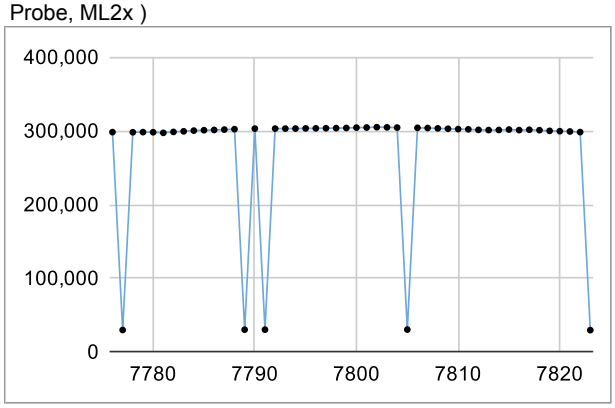

% 71-H2OSolo1 (m³/m³)- Soil moisture (0 to -5 cm; Theta Probe, ML2x )



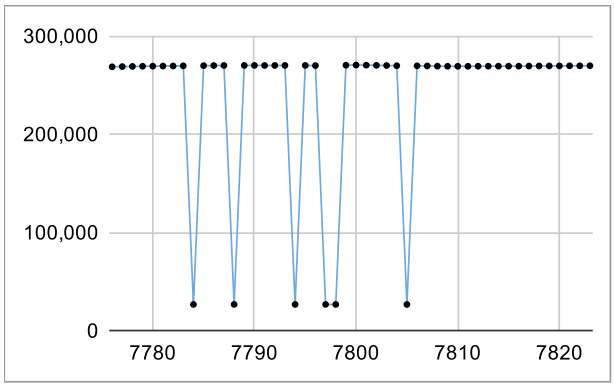
% 72-H2OSolo2 (m³/m³)- Soil moisture (0 to -5 cm; Theta Probe, ML2x )




% 73-H2OSolo3(m³/m³) - Soil moisture (0 to -5 cm; Theta Probe, ML2x )




% 72-H2OSolo2 (m³/m³)- Soil moisture (0 to -5 cm; Theta Probe, ML2x )




% 73-H2OSolo3(m³/m³) - Soil moisture (0 to -5 cm; Theta Probe, ML2x )