

# Soil Moisture and Temperature Trends Through 2005

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# Surface Energy/Soil Moisture (SESM) Stations

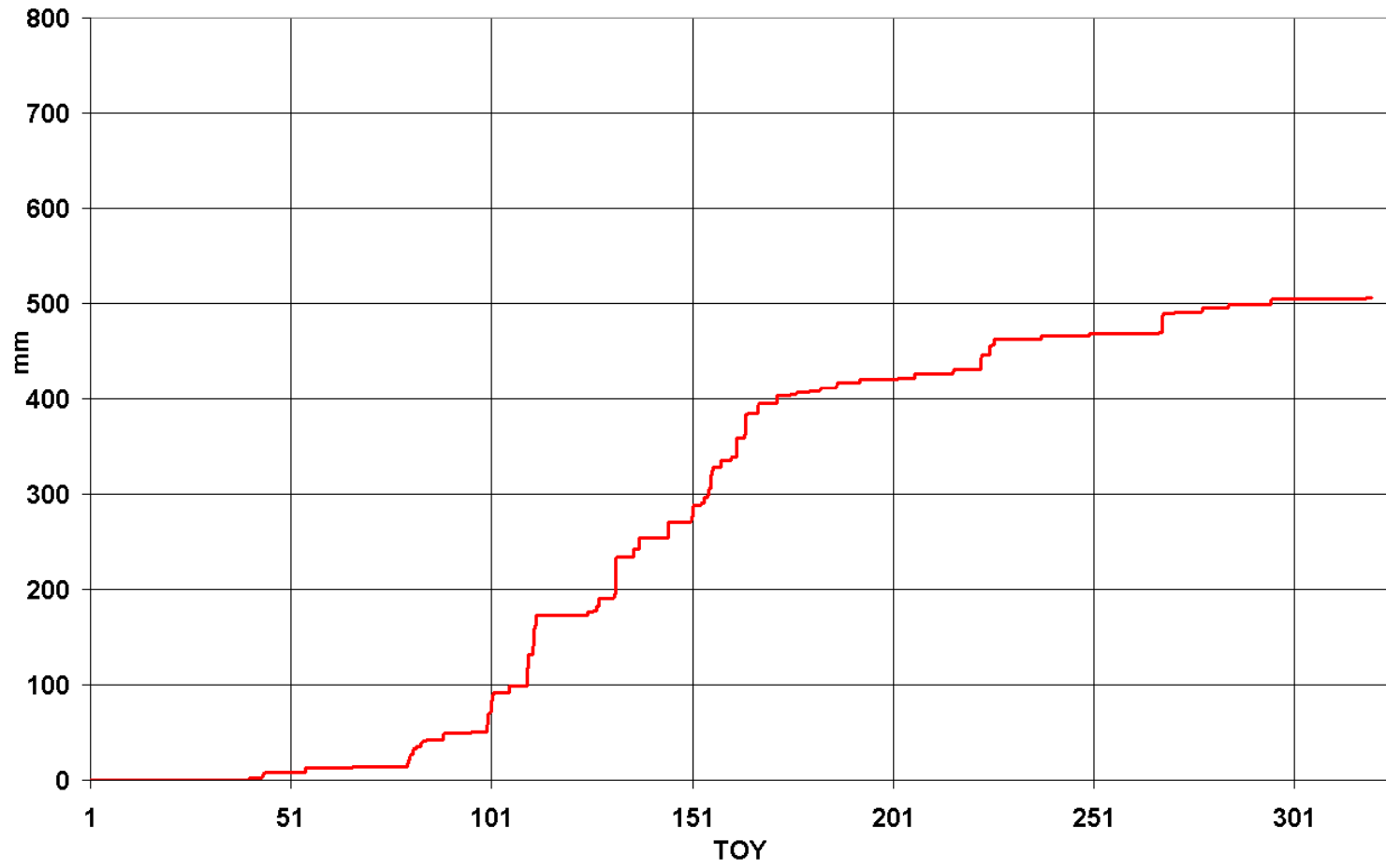
- 9 total stations (plus 1 ET monitoring station)
- 2 high locations at ungrazed control plots
- 2 low locations at ungrazed control plots
- 2 high locations at “press” disturbed plots
- 2 low locations at “press” disturbed plots
- 1 low location at grazed control plot

# SESM Instruments

- Air temperature (1.5 m)
- Relative humidity (1.5 m)
- Net radiation (1.5 m)
- Upwelling short wave radiation (1.5 m)
- Downwelling short wave radiation (1.5 m)
- Soil heat flux (x2) (-0.06 m)
- Soil temperature (-0.1, -0.25, -0.5, -1.0 m)
- Soil moisture (-0.1, -0.25, -0.5, -1.0 m)
- Wind speed (5 locations only)
- Precipitation (5 locations only)

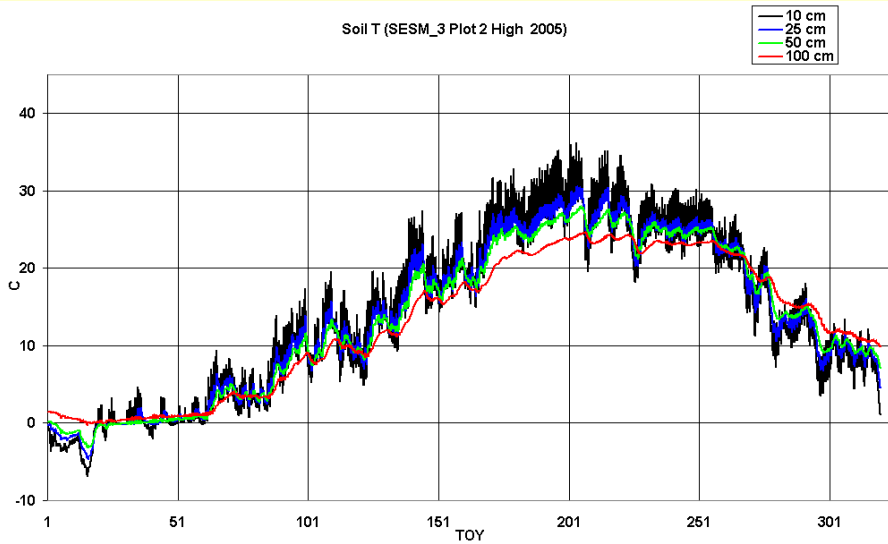
# Precipitation

Total Precip (SESM\_2 Plot 1 High 2005)

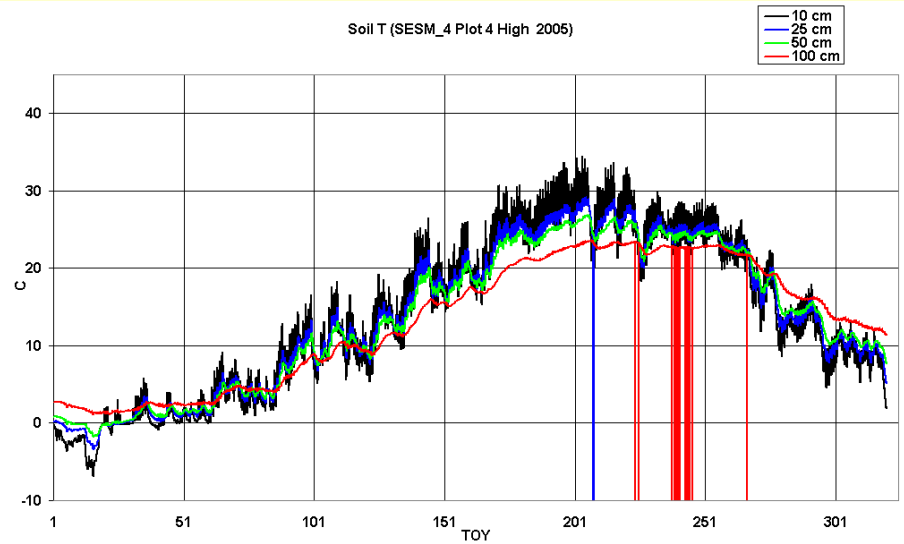


# Ungrazed Control Soil Temperature

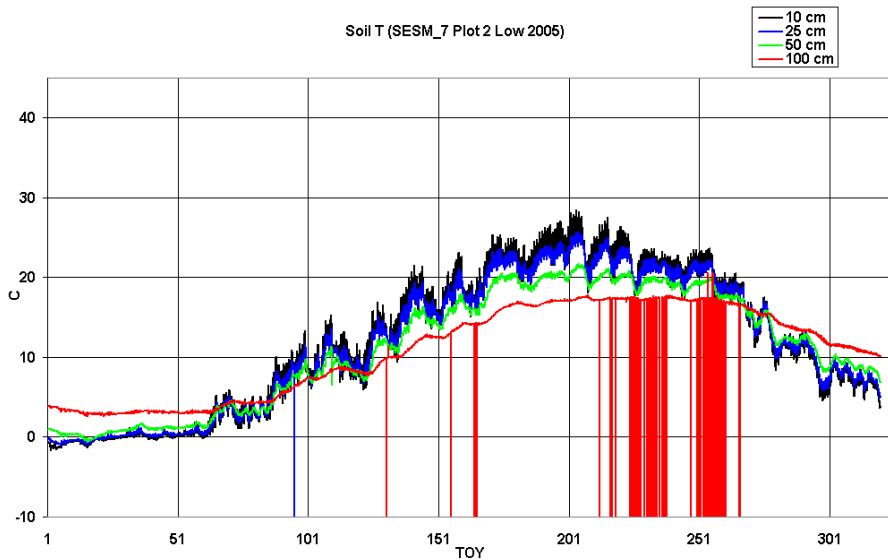
Soil T (SESM\_3 Plot 2 High 2005)



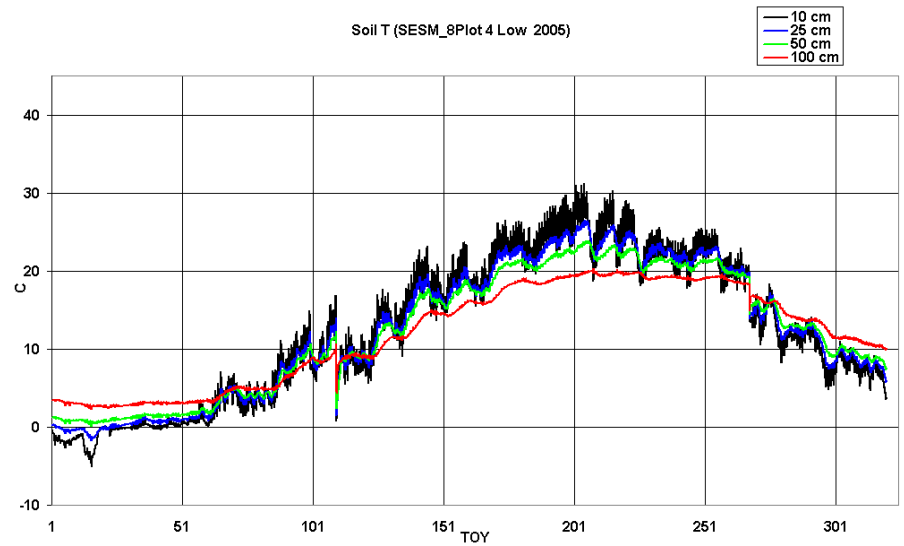
Soil T (SESM\_4 Plot 4 High 2005)



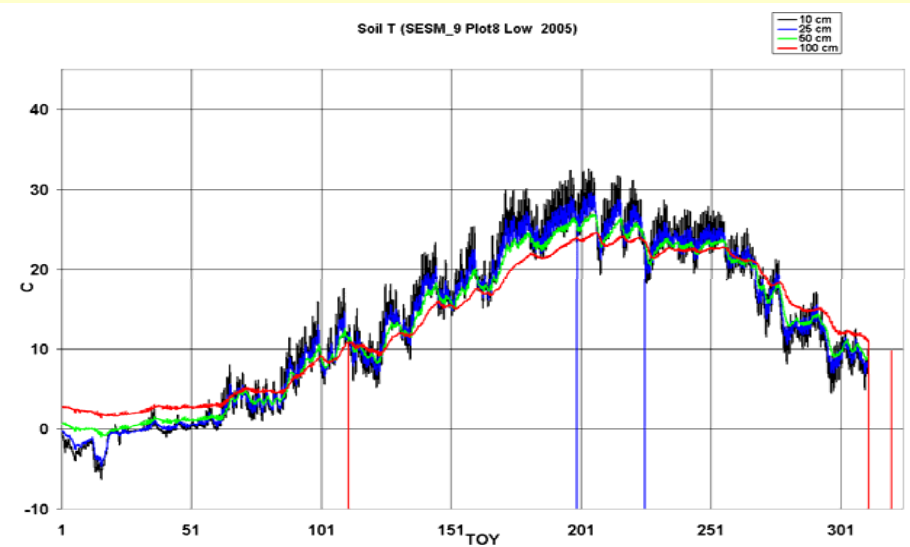
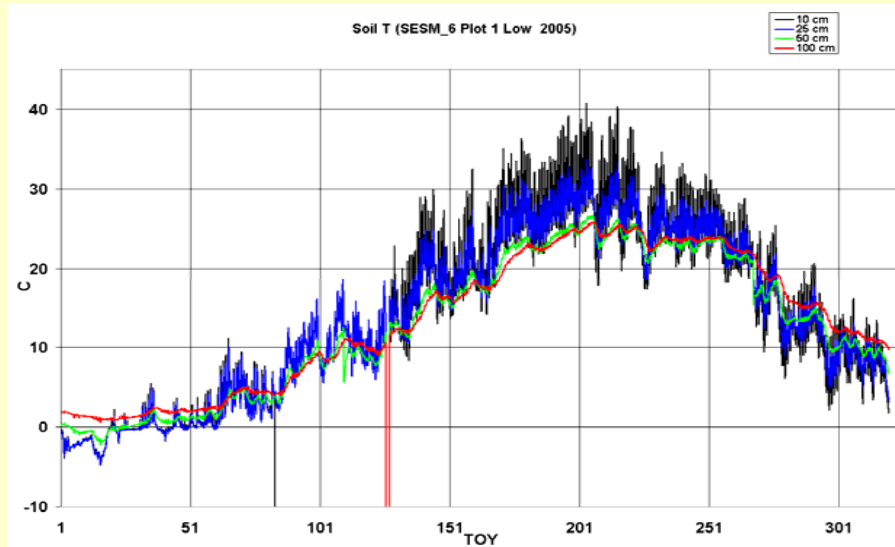
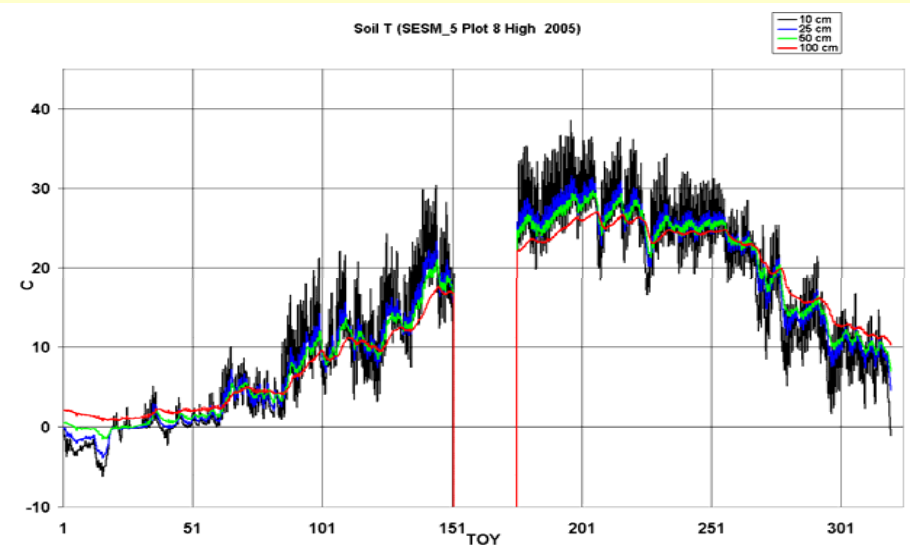
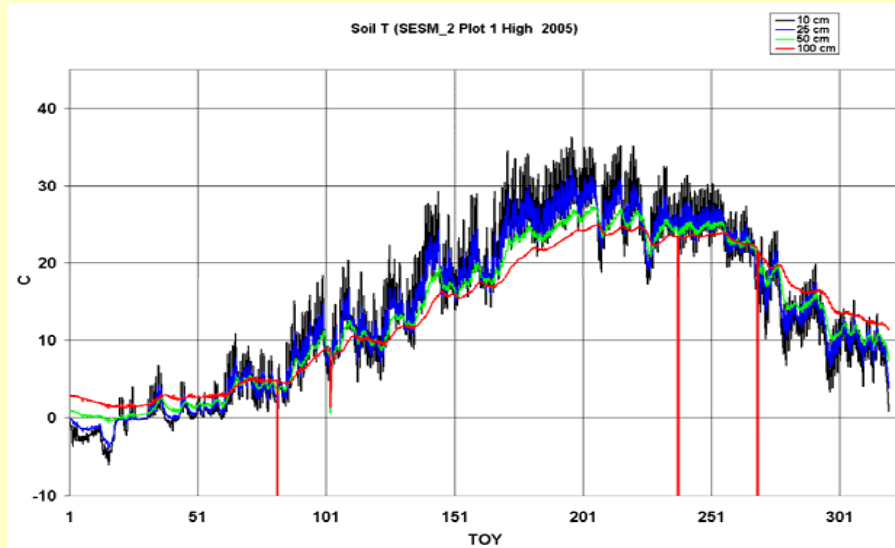
Soil T (SESM\_7 Plot 2 Low 2005)



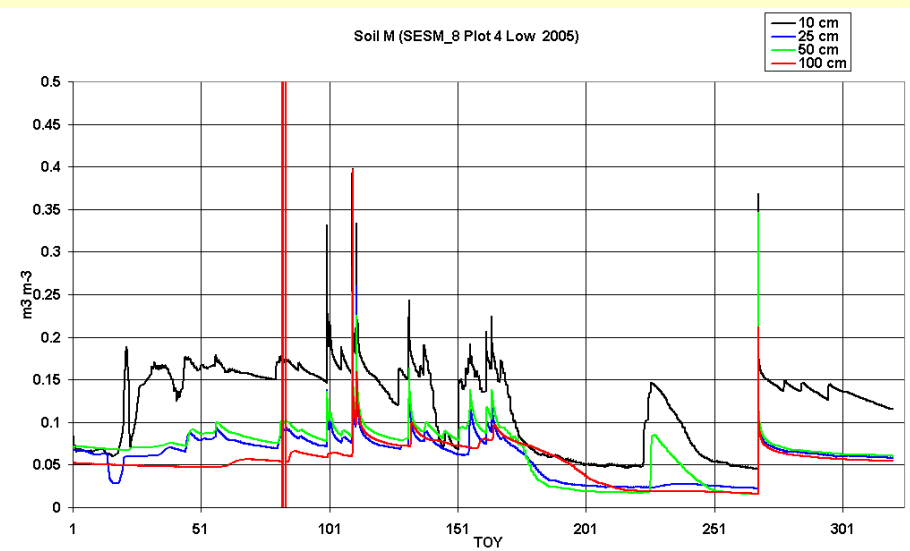
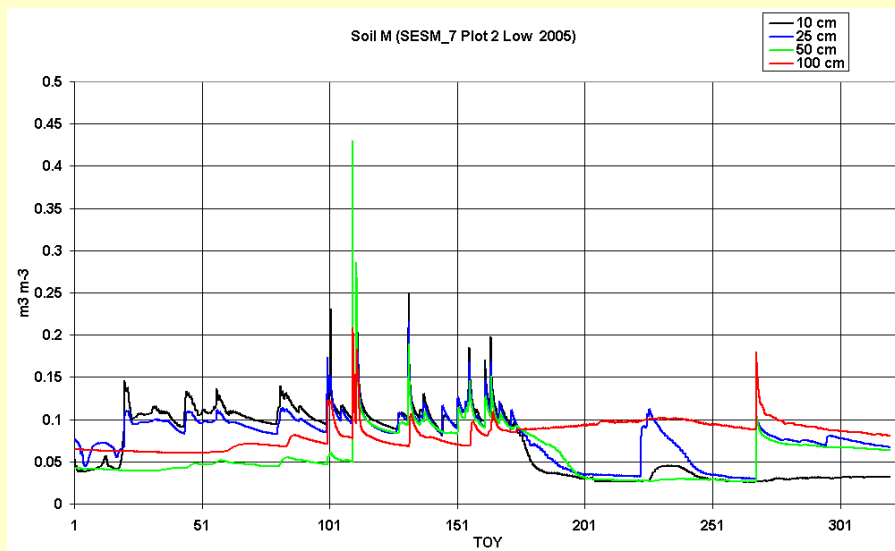
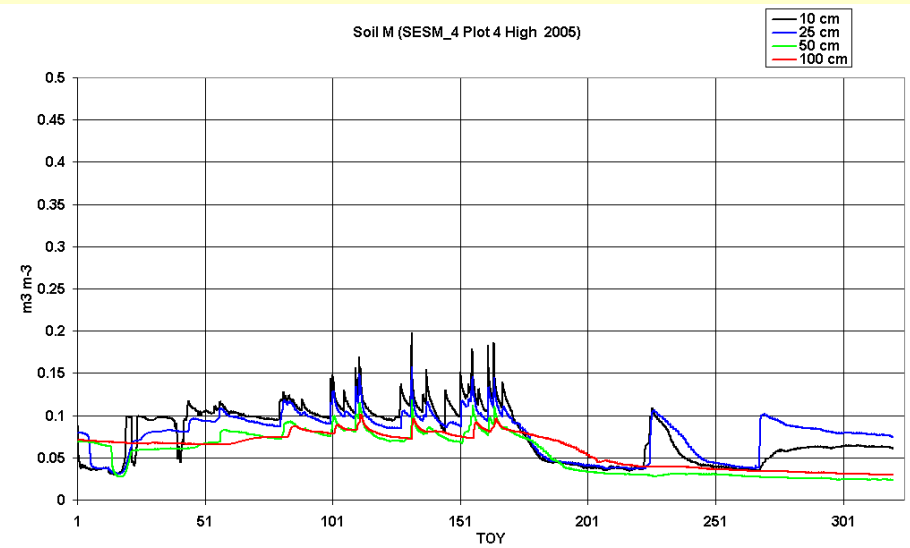
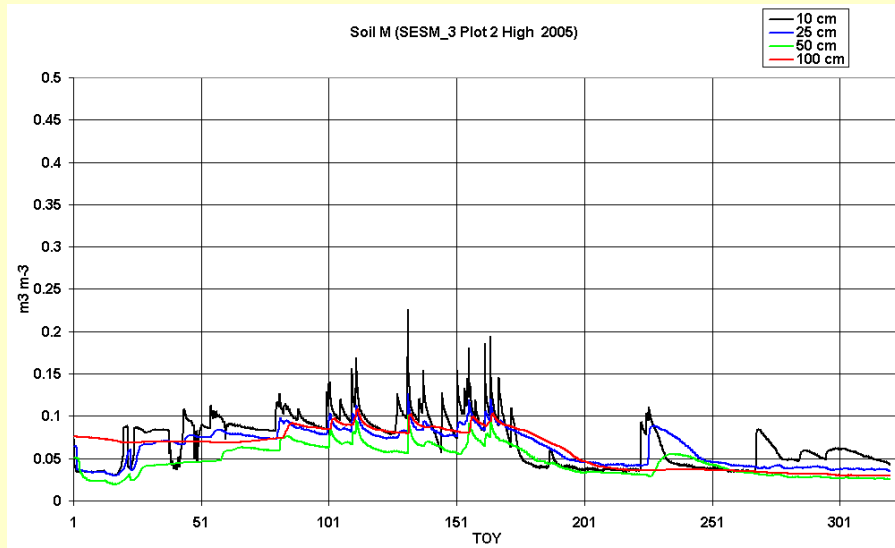
Soil T (SESM\_8 Plot 4 Low 2005)



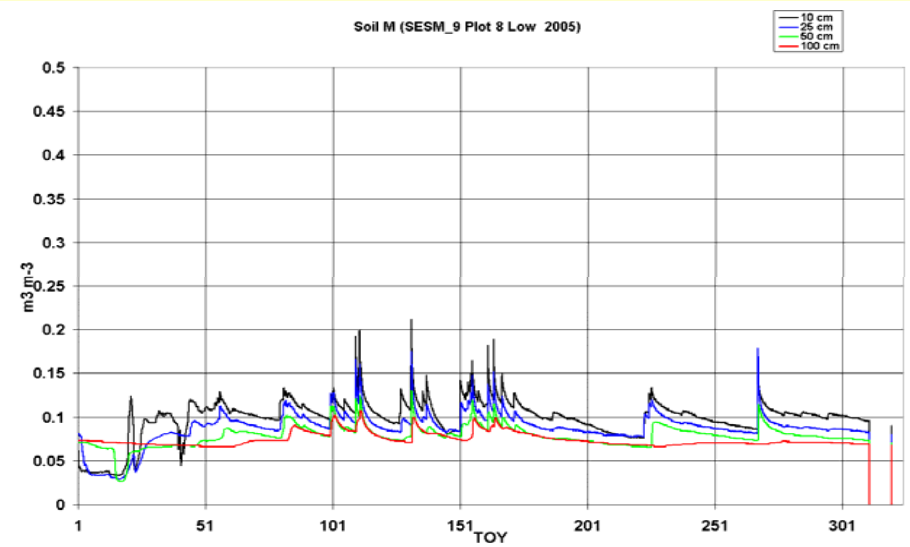
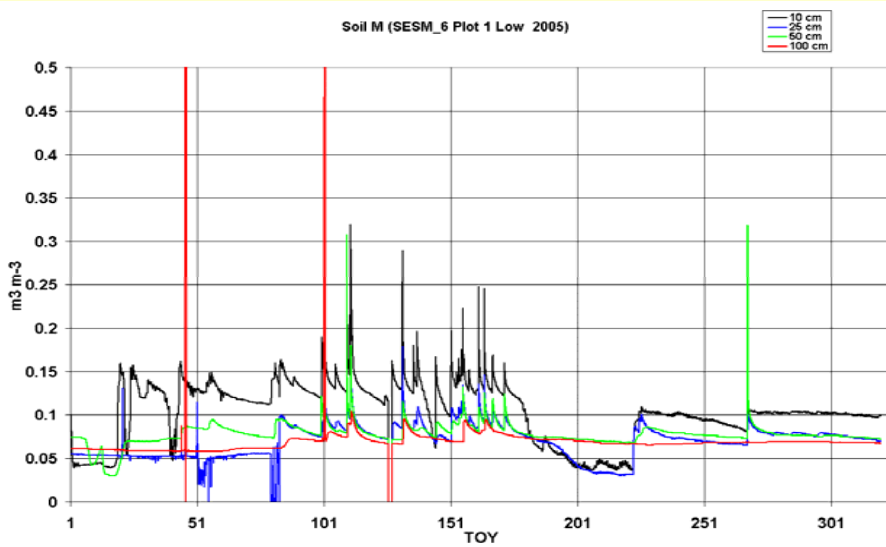
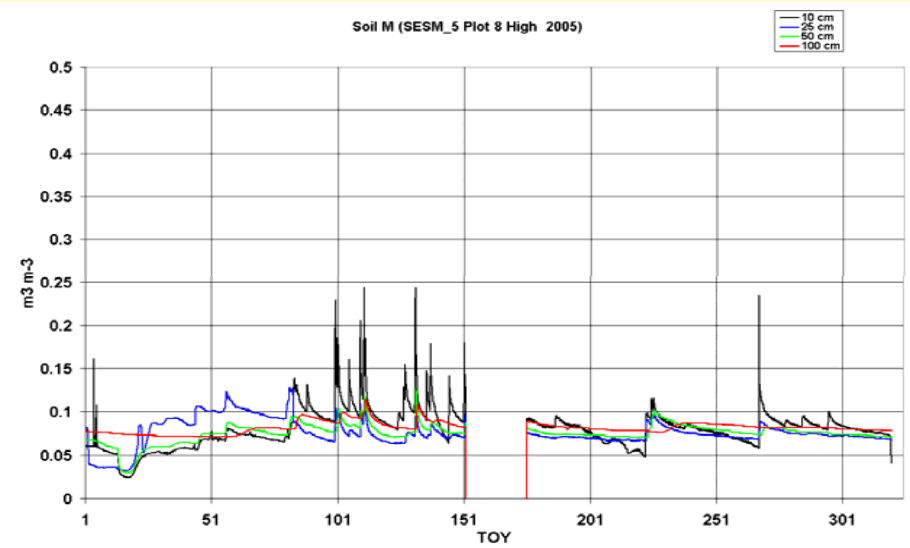
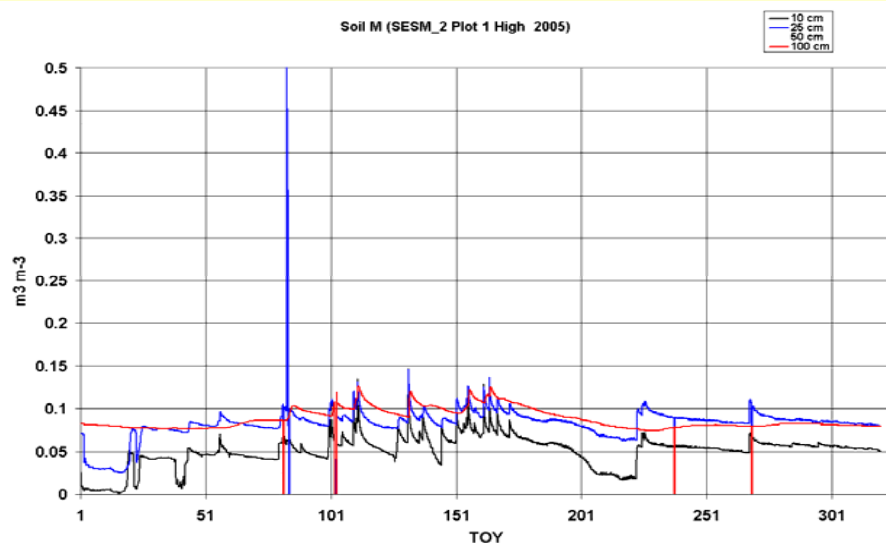
# Press Disturbance Soil Temperature



# Ungrazed Control Soil Moisture

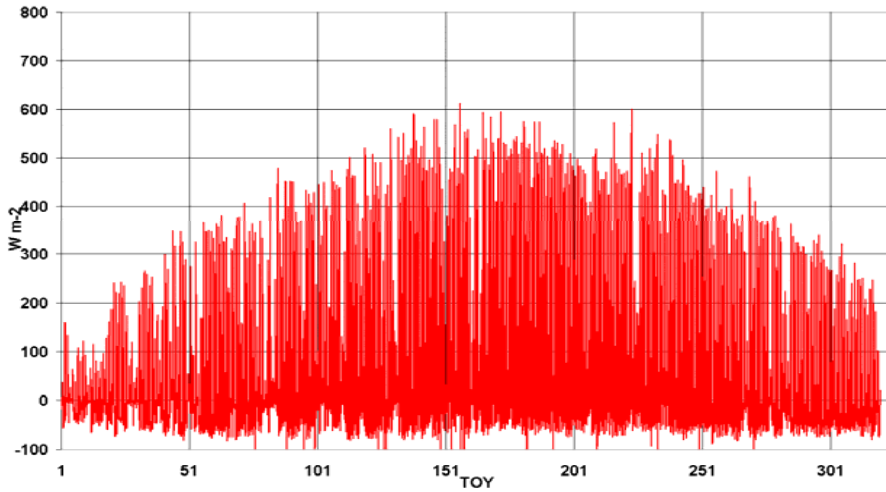


# Press Disturbance Soil Moisture

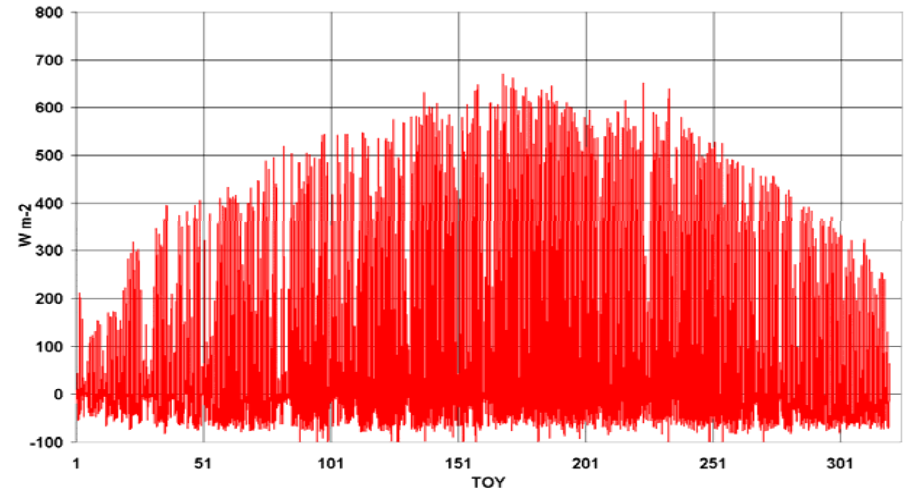


# Ungrazed Control Net Radiation

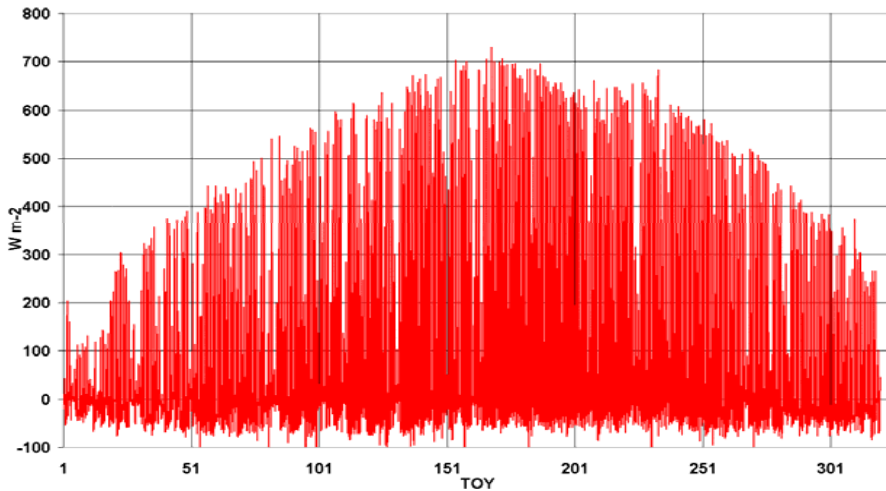
R net (SESM\_3 Plot 2 High 2005)



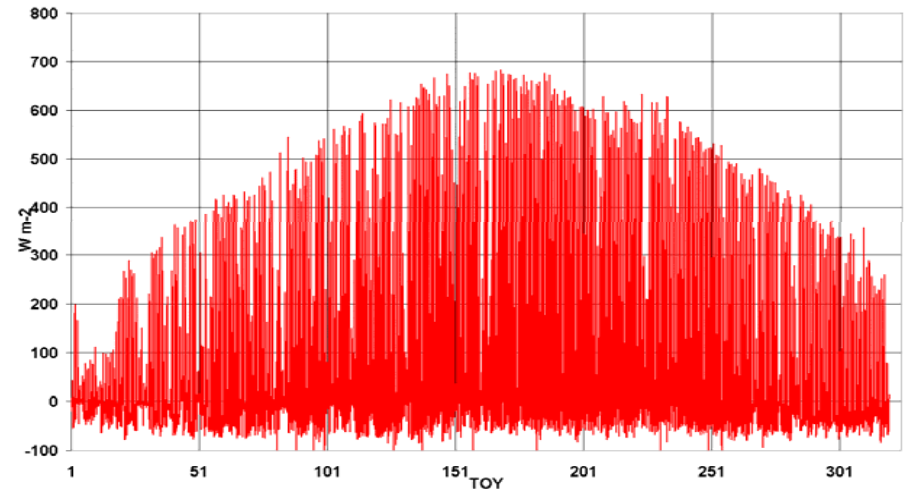
R net (SESM\_4 Plot4 High 2005)



R net (SESM\_7 Plot 2 Low 2005)

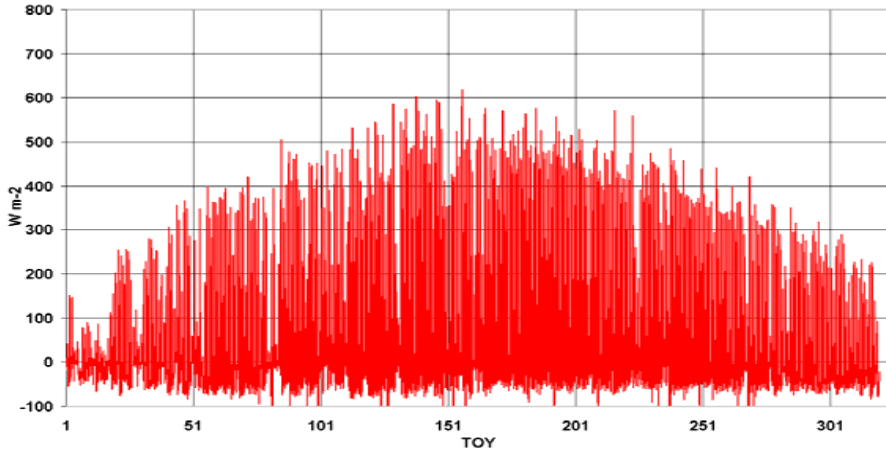


R net (SESM\_8 Plot 4 Low 2005)

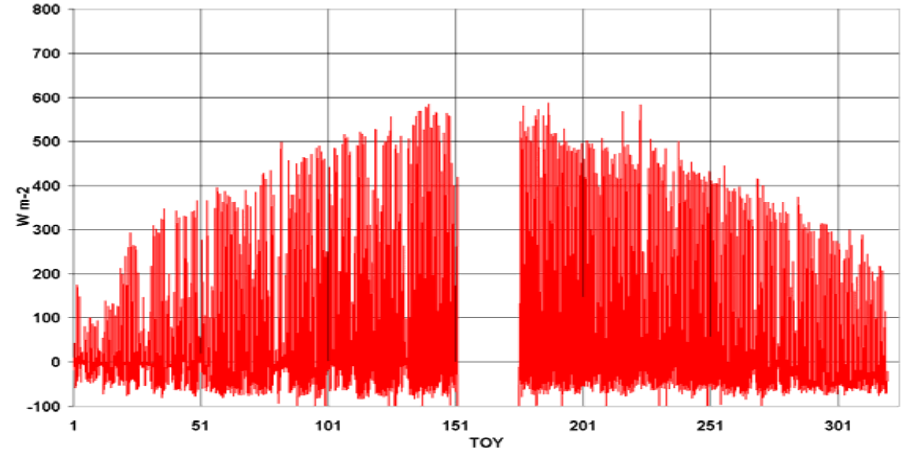


# Press Disturbance Net Radiation

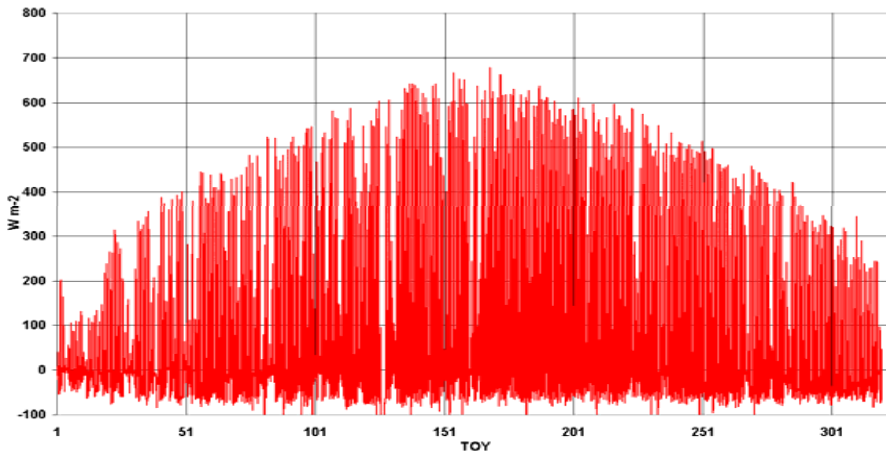
R net (SESM\_2 Plot 1 High 2005)



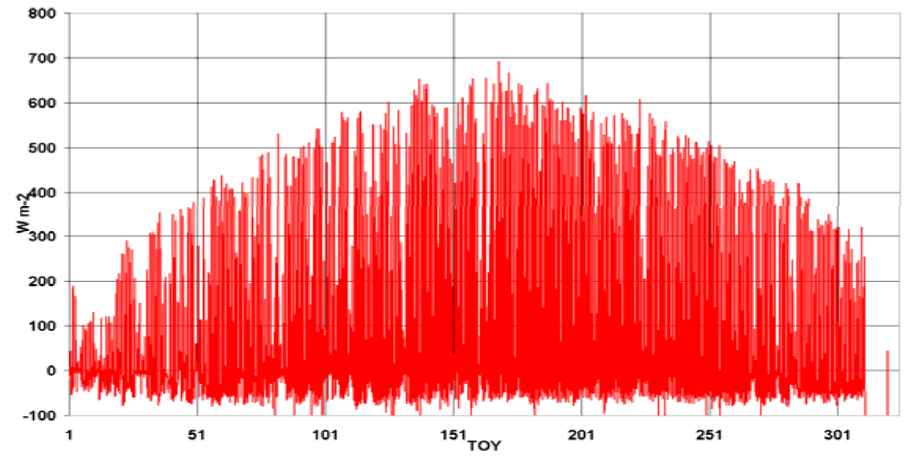
R net (SESM\_5 Plot 8 High 2005)



R net (SESM\_6 Plot 1 Low 2005)

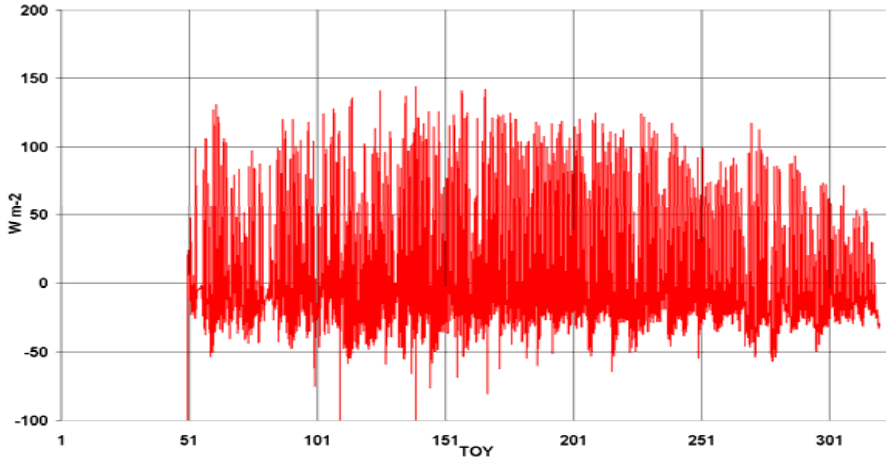


R net (SESM\_9 Plot 8 Low 2005)

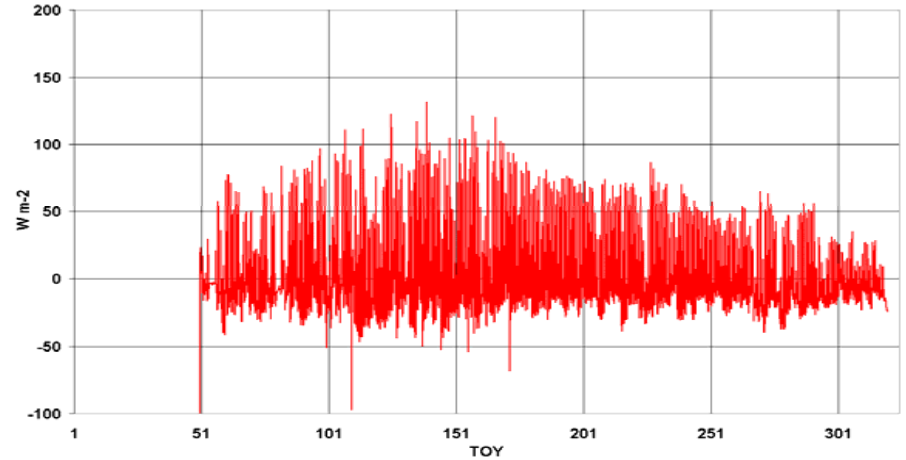


# Ungrazed Control Soil Heat Flux

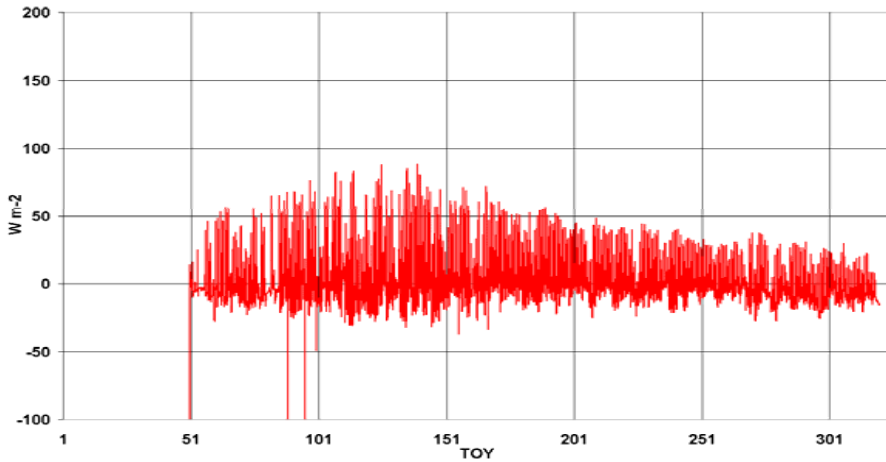
Mean G (SESM\_3 Plot 2 High 2005)



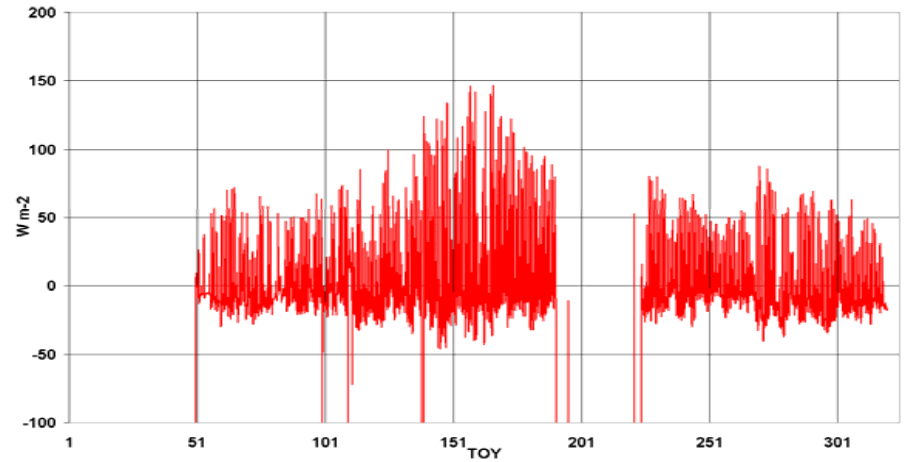
mean G (SESM\_4 Plot 4 High 2005)



mean G (SESM\_7 Plot 2 Low 2005)

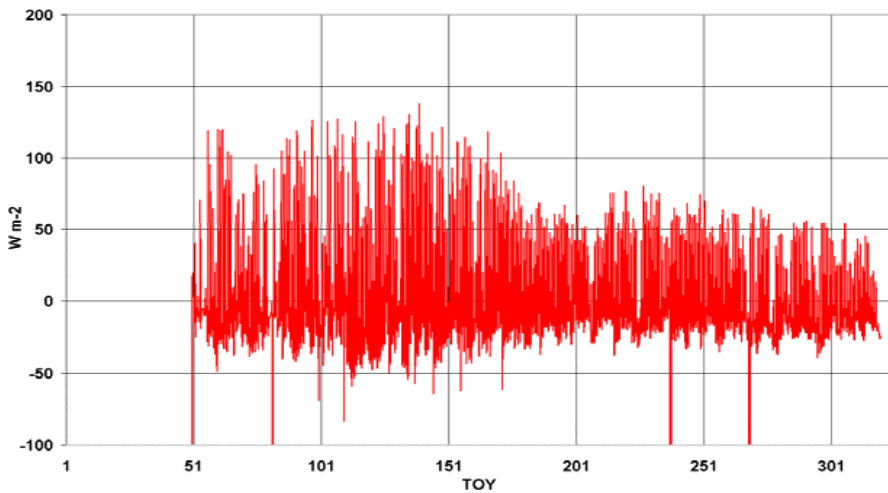


mean G (SESM\_8 Plot 4 Low 2005)

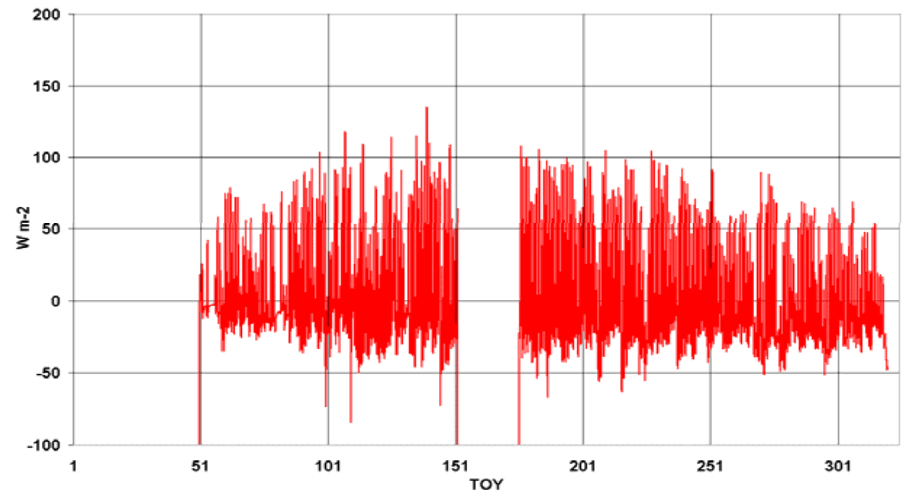


# Press Disturbance Soil Heat Flux

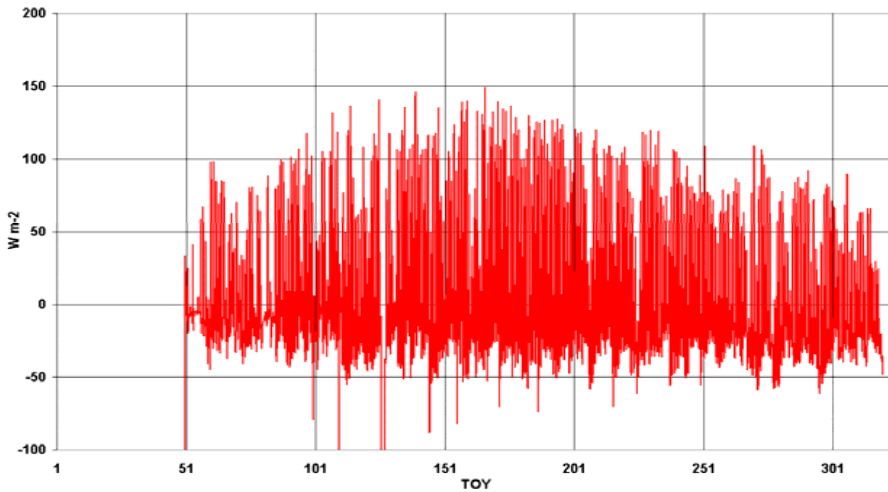
Mean G (SESM\_2 Plot 1 High 2005)



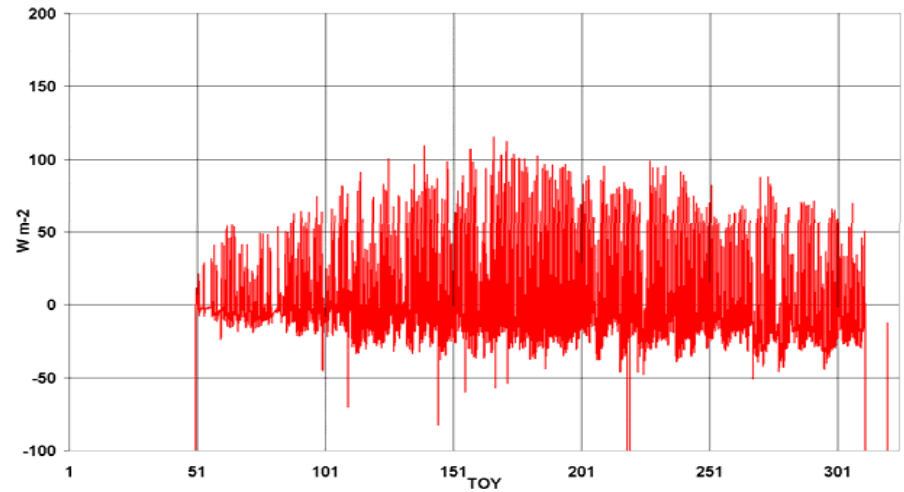
mean G (SESM\_5 Plot 8 High 2005)



mean G (SESM\_6 Plot 1 Low 2005)



mean G (SESM\_9 Plot 8 Low 2005)



# Conclusions

- It's probably too soon to see any effects from the “press disturbance” treatment.
- The eventual effects may be small and easily masked by the natural variability
- The SESM data set won't be “self sufficient. We'll need other data to interpret the SESM results.