OTC Data Plots

Kara Dobson

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TITLE: OTC data plots
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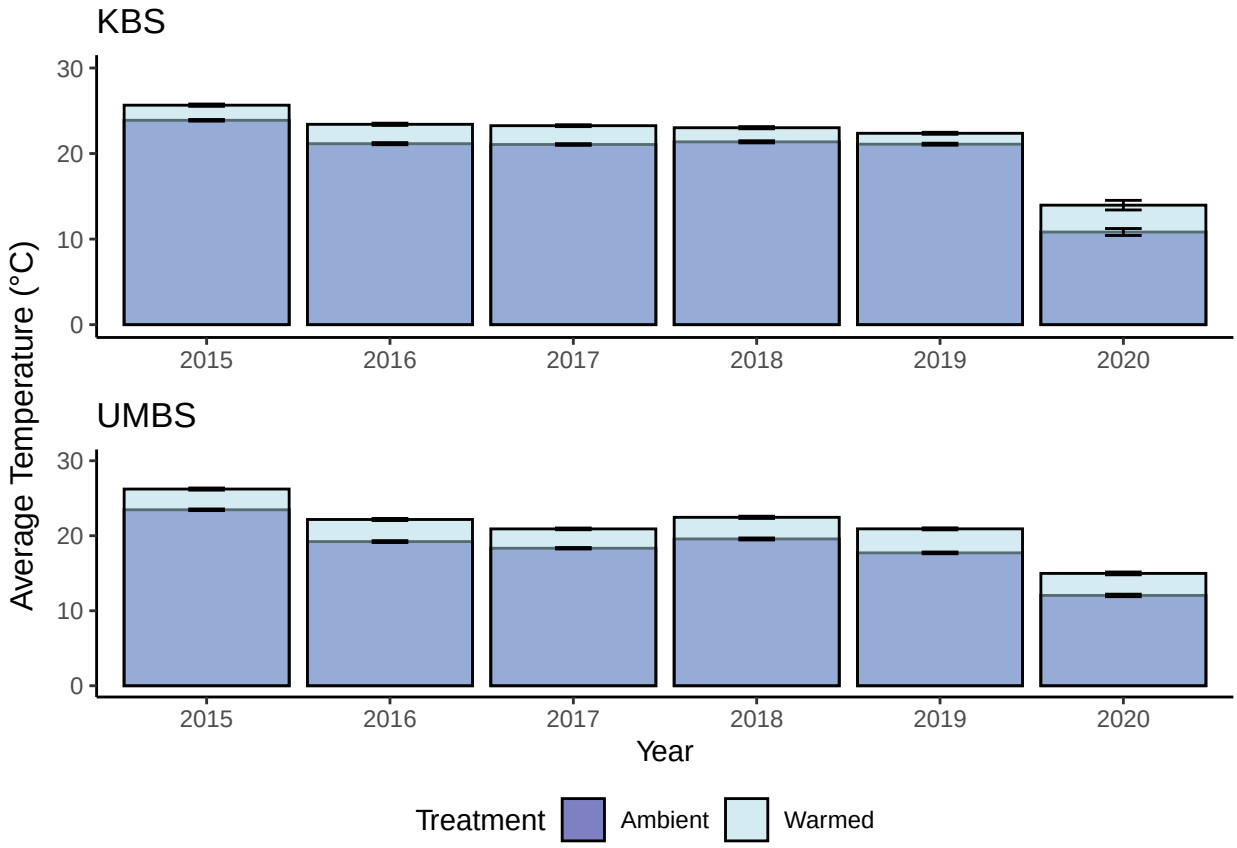
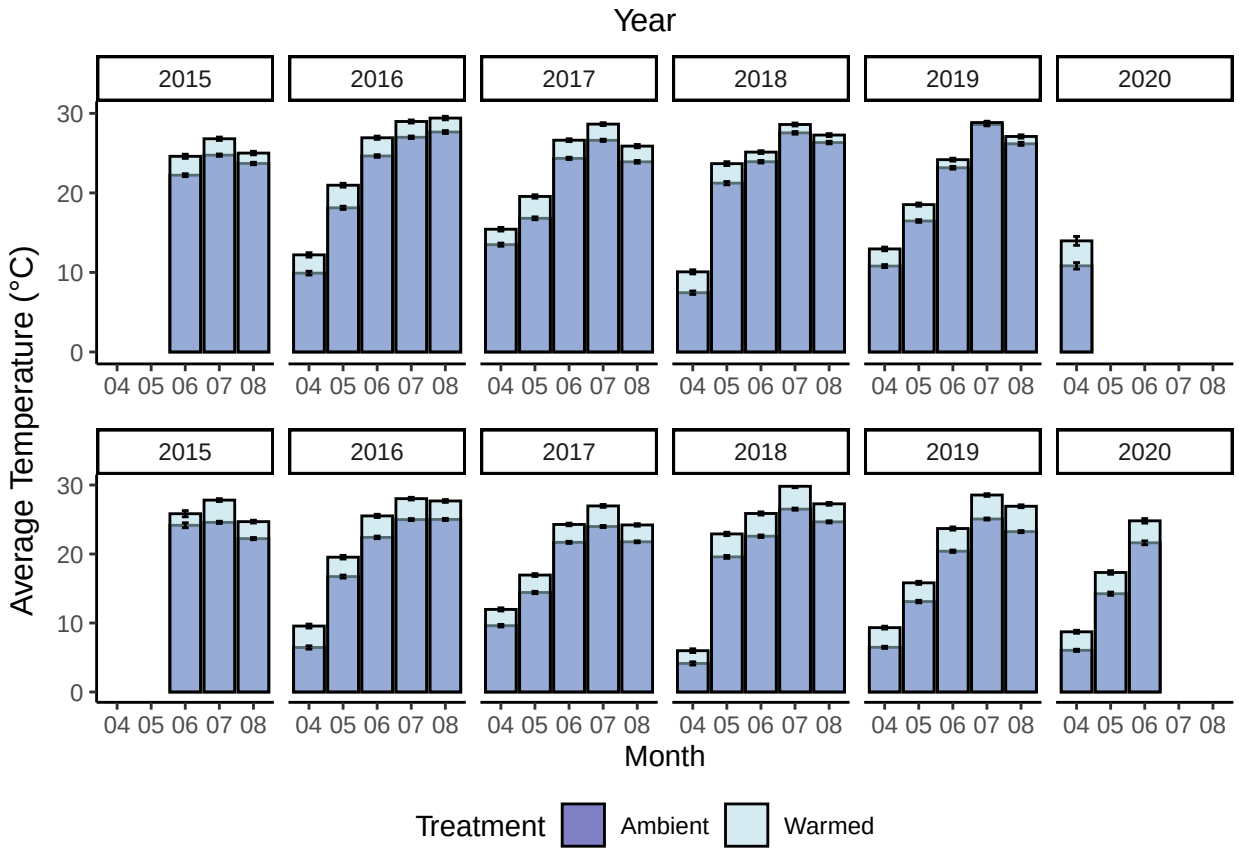
COLLABORATORS: Phoebe Zarnetske, Mark Hammond, Pat Bills, Moriah Young
DATA INPUT: CSV files are located in the HOBO_data folder in the shared Google drive
DATA OUTPUT: Plots of each graph are in the HOBO_plot.pdf in Github
note: plots are saved for each station and merged into a final figure at the bottom of the script
PROJECT: warmXtrophic
DATE: July 2020

Guide

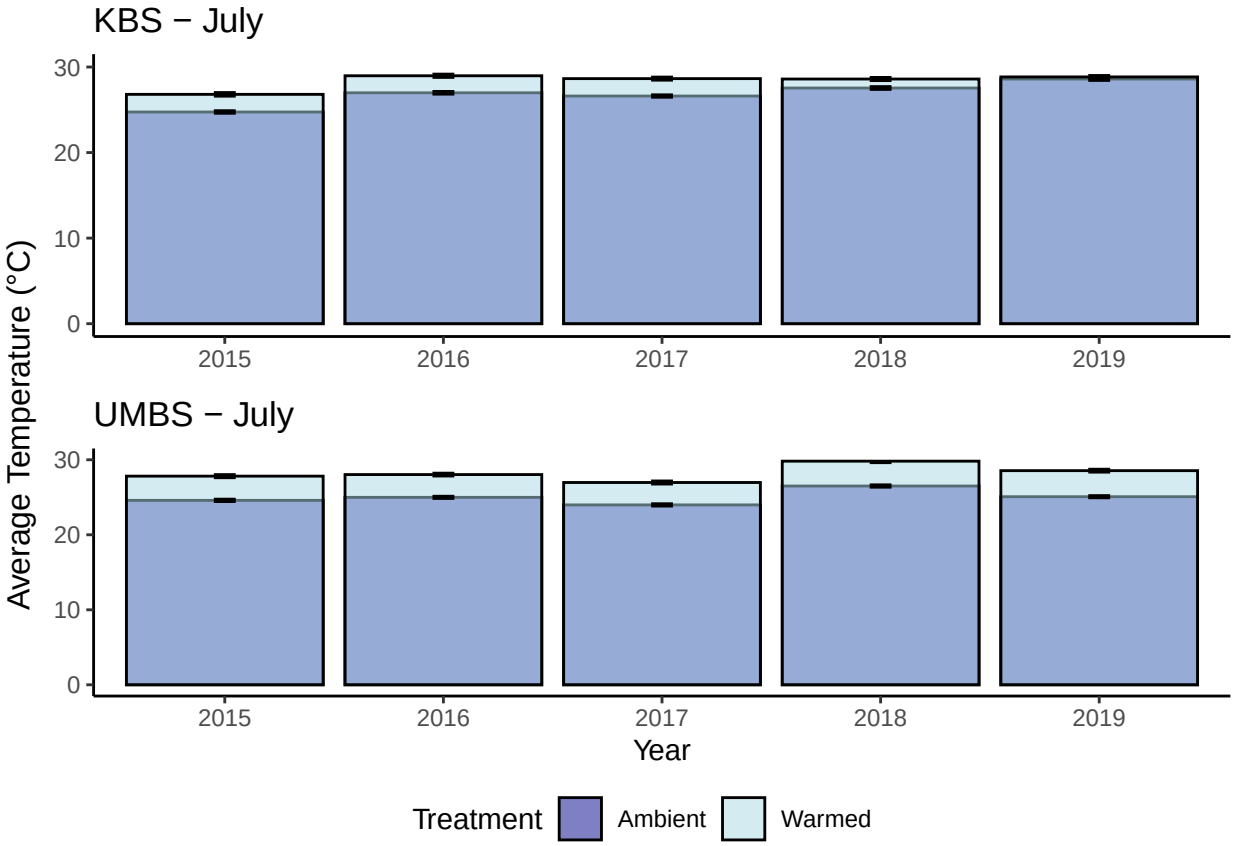
Yearly average chamber temperatures during the day for the growing season (I defined this as April-August from 7 AM - 7 PM, but this could easily be changed)



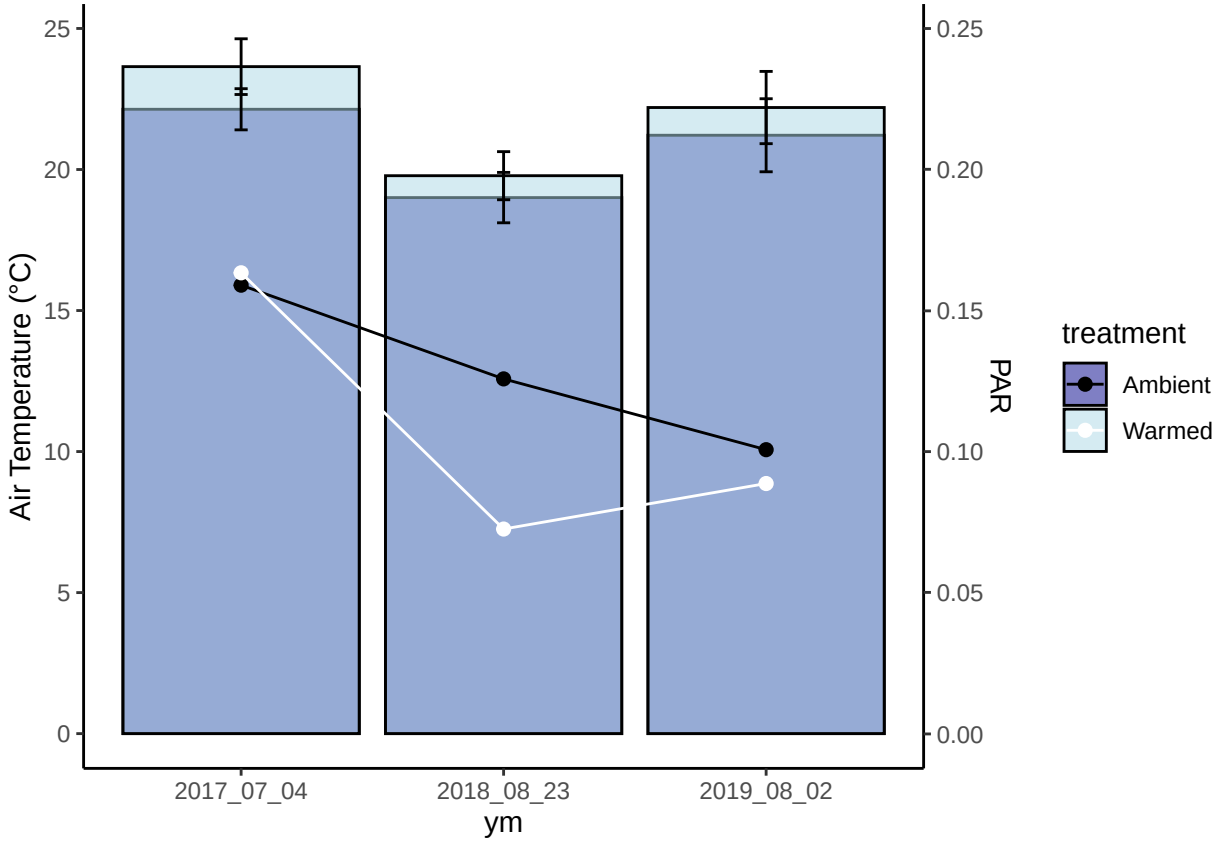
Monthly averages during the growing season, over time (KBS on top and UMBS on bottom) — these could be separated to see individual months over time (i.e. July temps over each year, as shown on the next page)



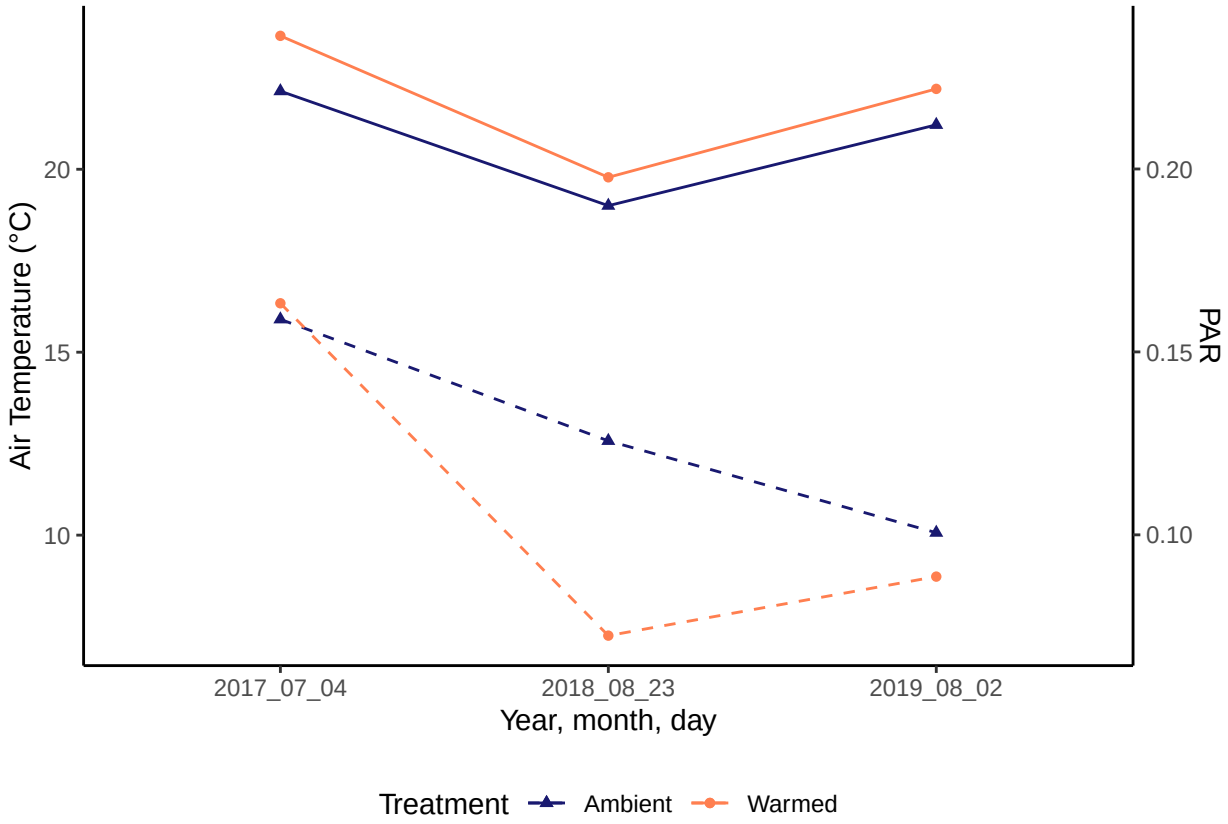
Average July temperatures during the daytime - KBS shows a smaller difference between warmed + ambient in later years than UMBS



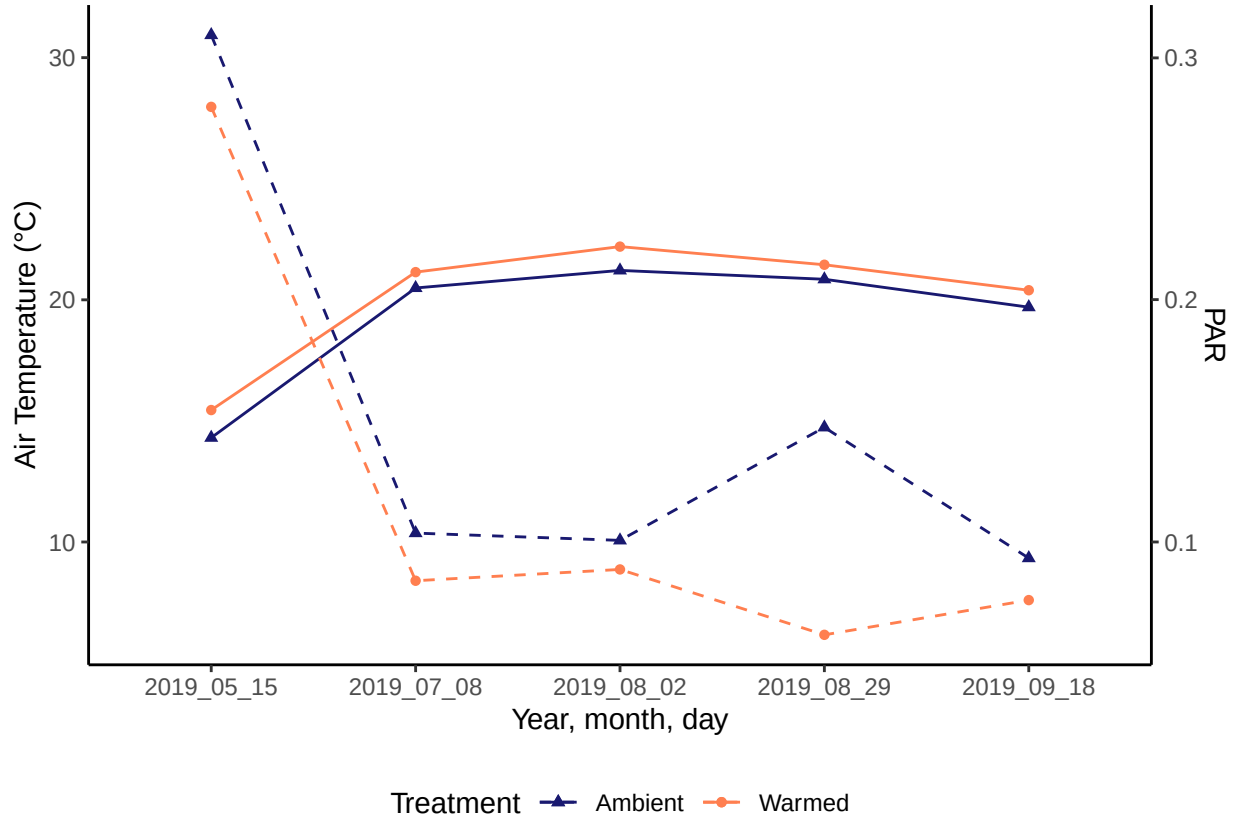
Comparing PAR to HOBO from 2017-2019; only one day is shown for each year because PAR measurements were only taken on one day at KBS for 2017 and 2018



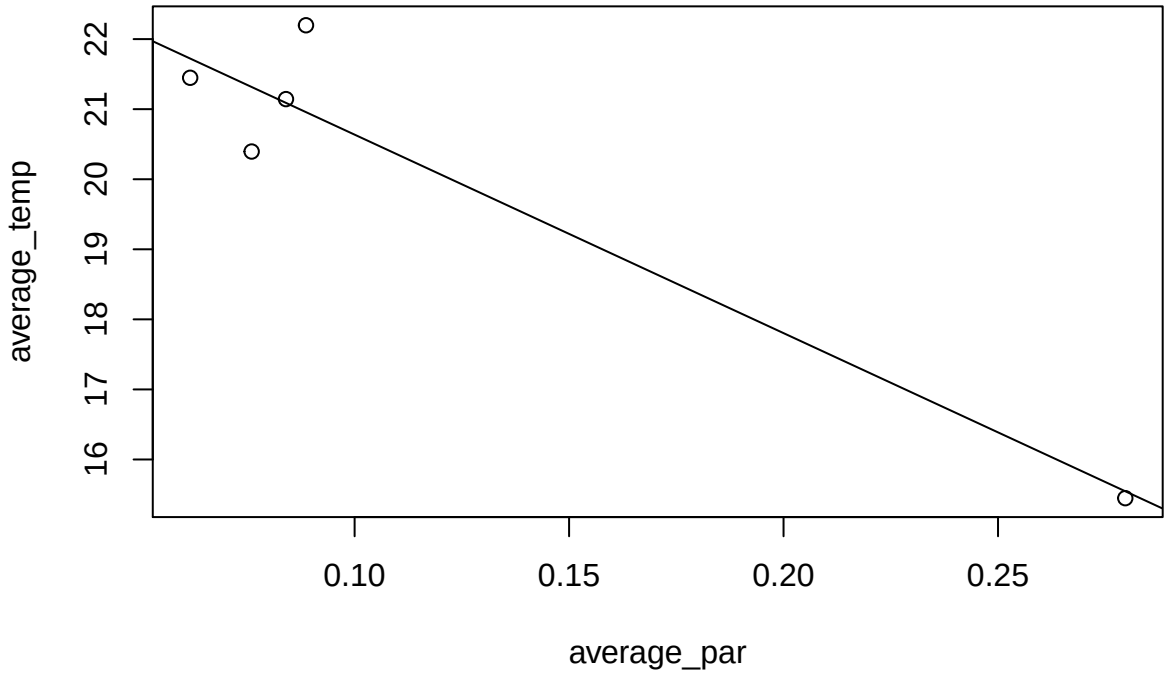
Again, comparing PAR to HOBO, this time in line format - PAR in dashed lines



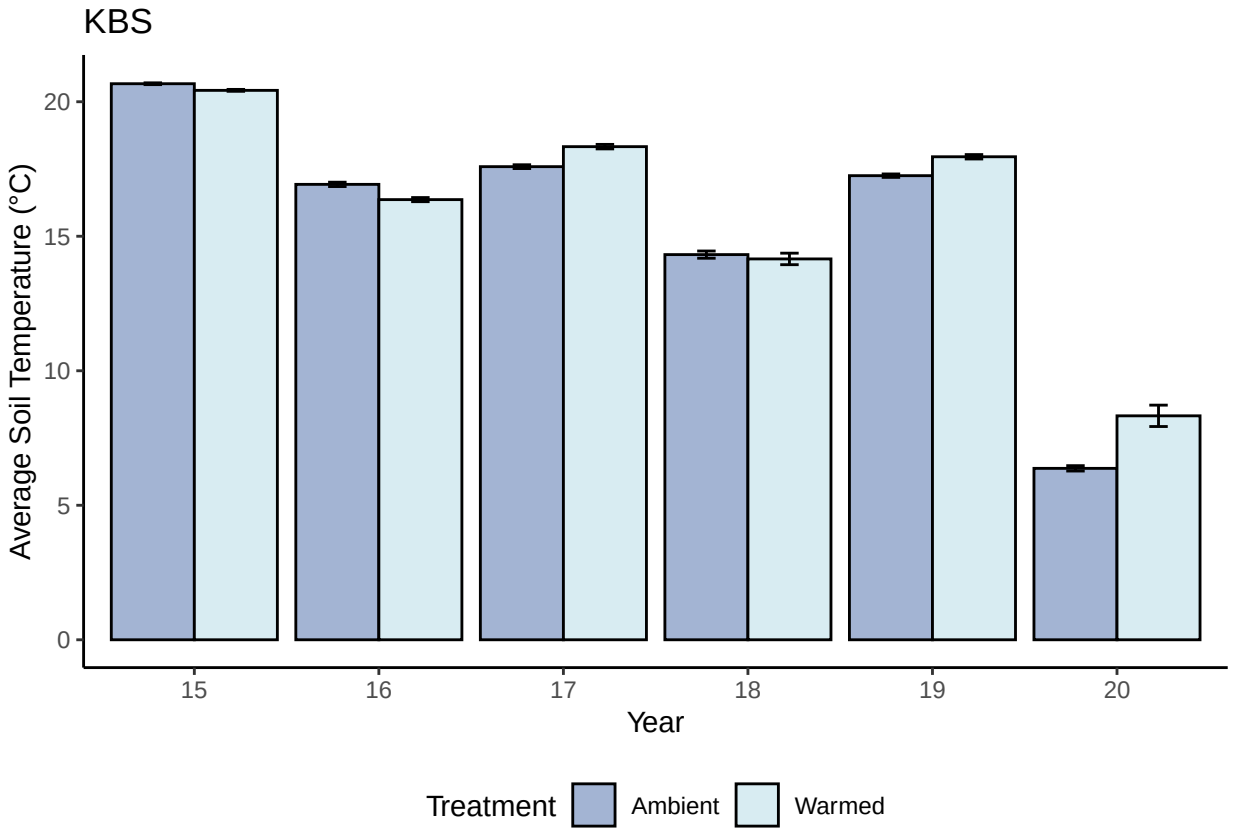
Comparing PAR to HOBO for only 2019 because multiple PAR measurements were taken that year - PAR in dashed lines



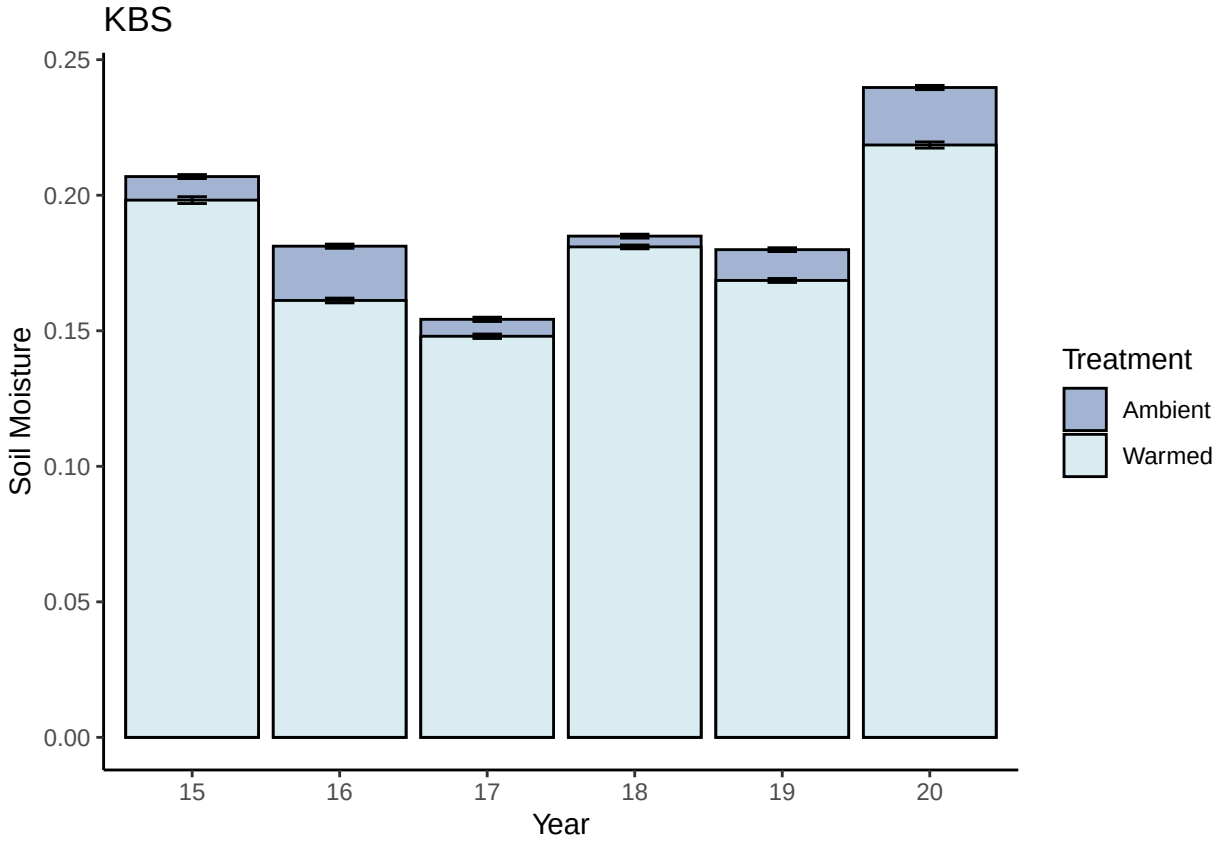
Simple linear regression between temp and par: $F(1,3) = 32.21$, p-value $= 0.011$



Soil temperature over time - doesn't seem to be a difference between treatments

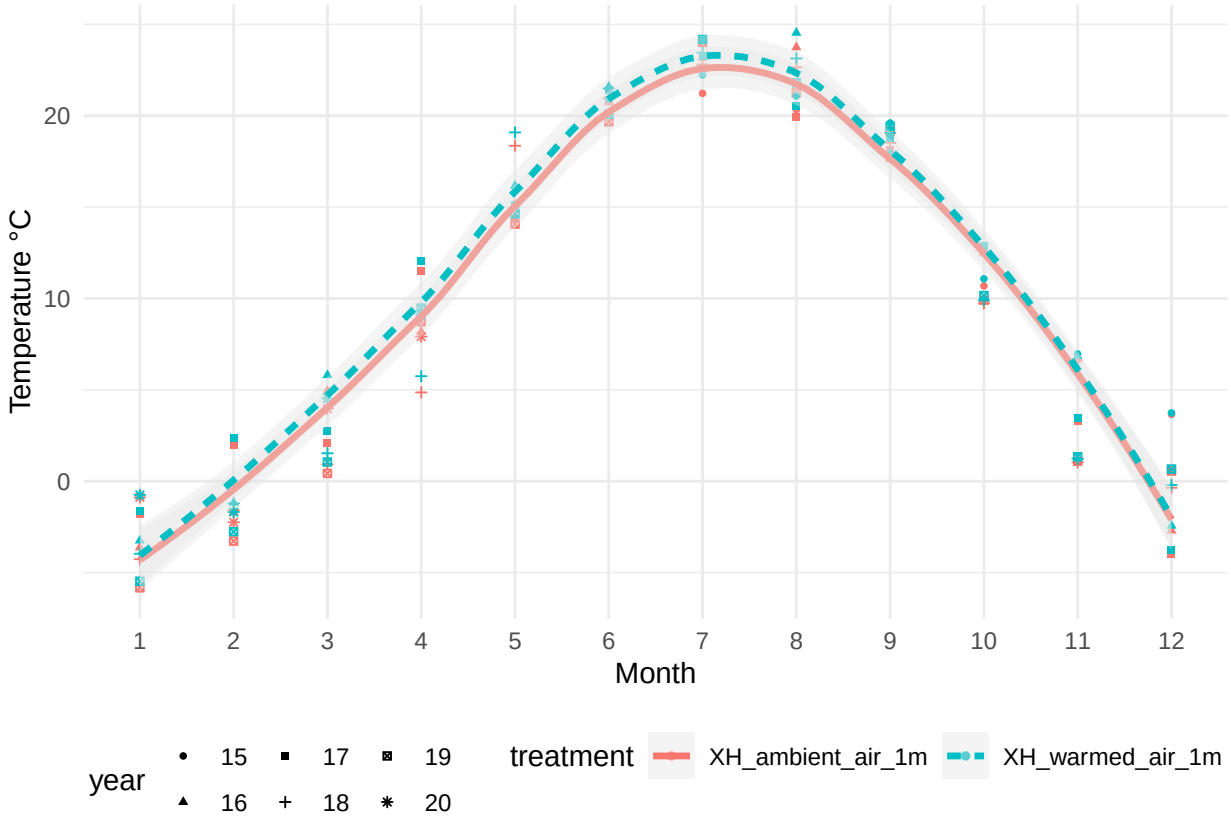


Soil moisture over time - ambient retains more moisture

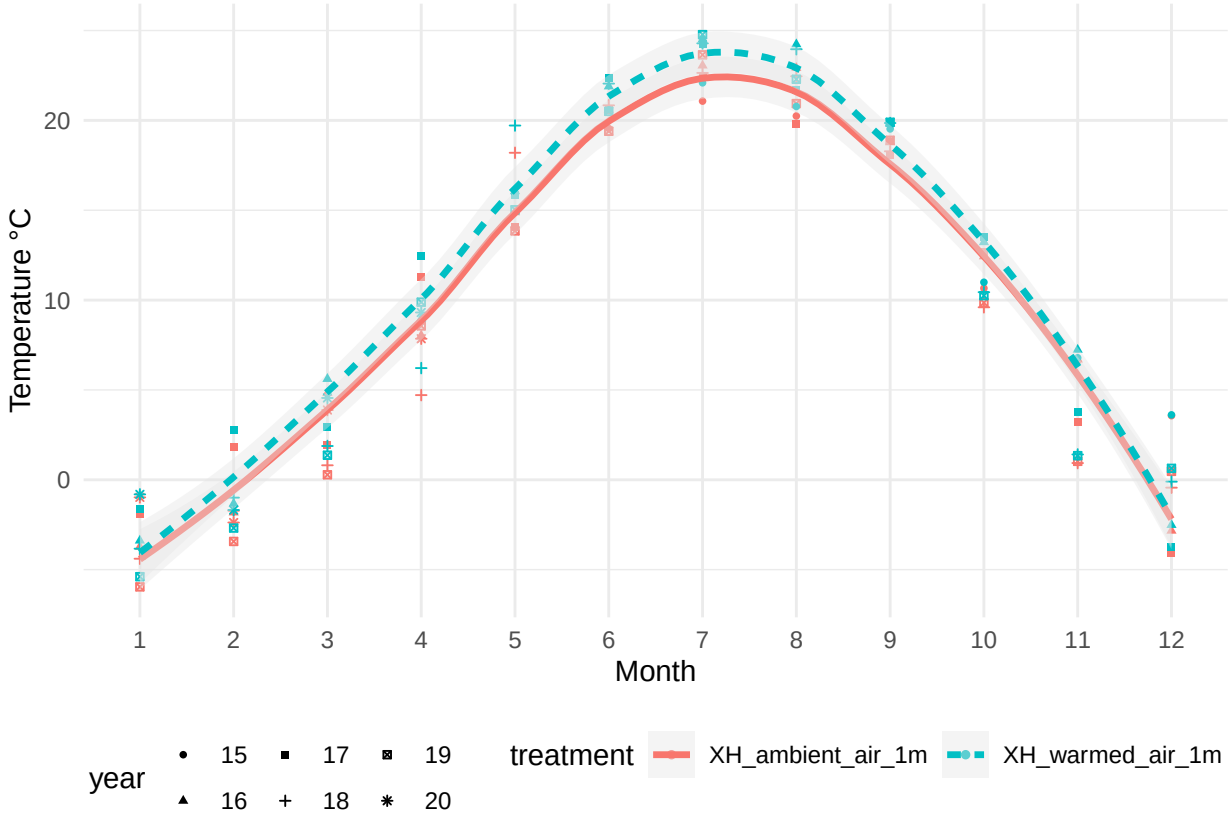


These plots average the chamber temperatures for each month over all years for each treatment

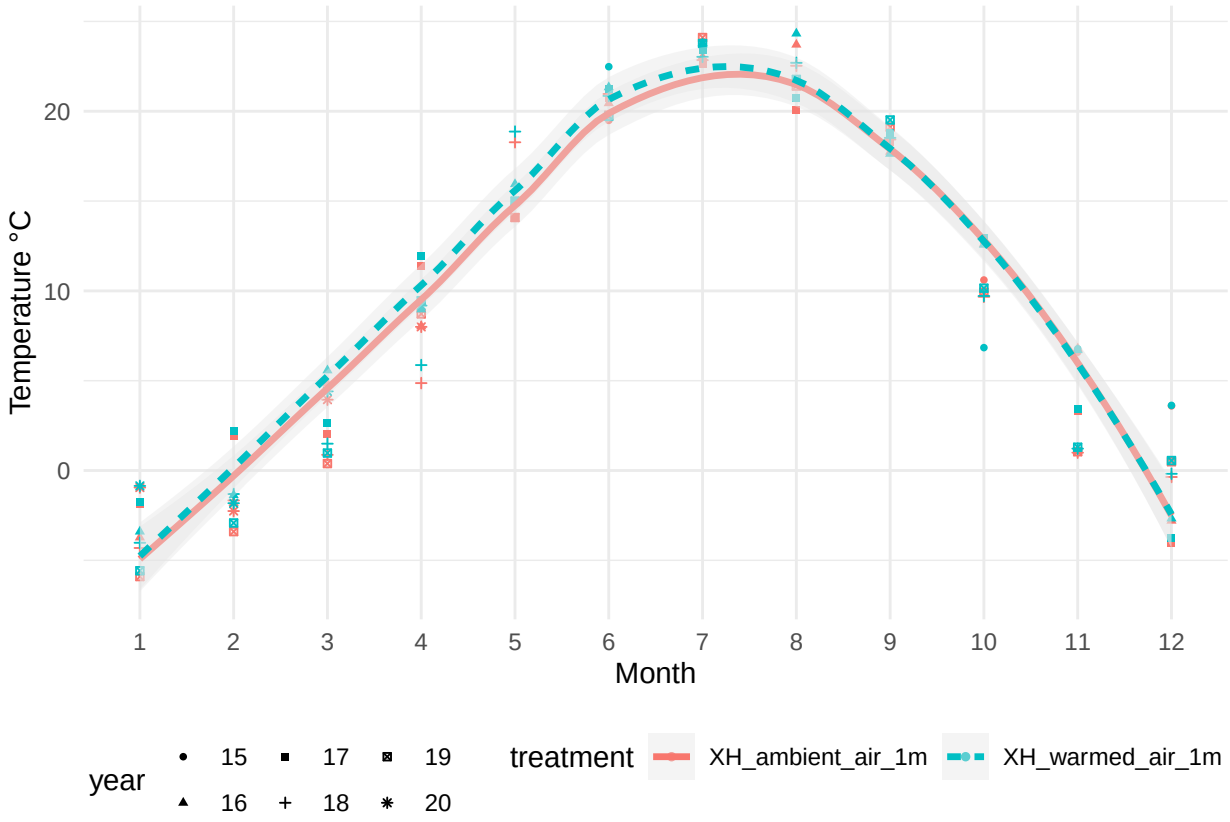
1H sensor



2H sensor


Temperature °C
20
10
0
1
2
3
4
5
6
7
8
9
10
11
12
Month
year
15
17
19
16
18
20
treatment
XH_ambient_air_1m
XH_warmed_air_1m

3H sensor


Temperature °C
20
10
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10
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Month
year
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16
17
18
19
20
treatment
XH_ambient_air_1m
XH_warmed_air_1m