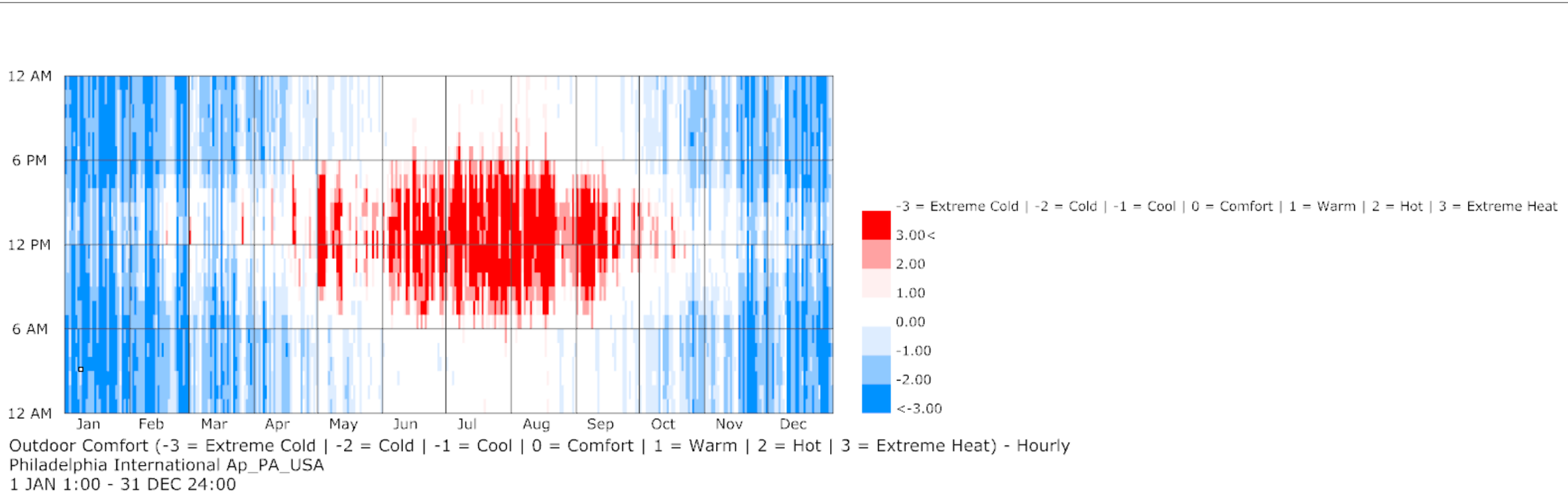
ENVIRONMENTAL SYSTEMS I

ASSIGNMENT 3: Meyerson Hall Outdoor Space Comfort Calculation

Bingyu Wang

Location: Philadelphia

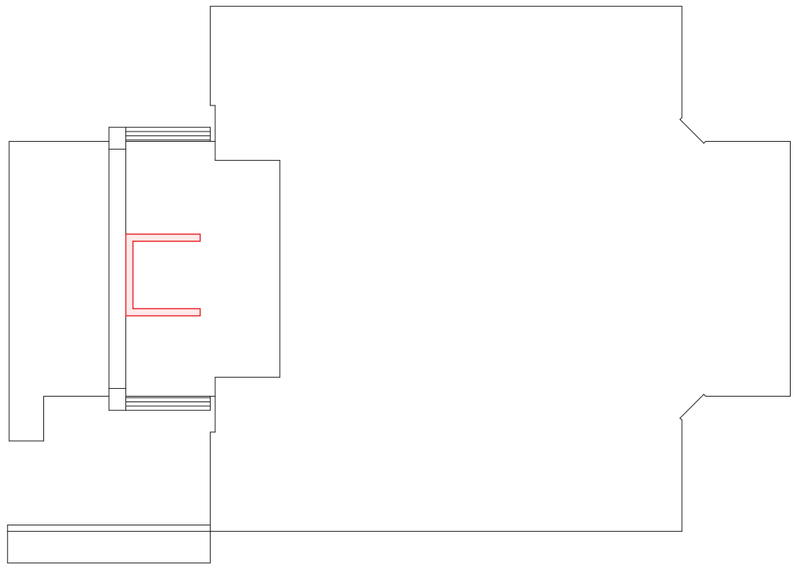
Comfortable Hours over the Year = Percentage of Comfortable Hours/Year x Total Hours/Year = 37.34 % x 8760 = 3270.98 hours

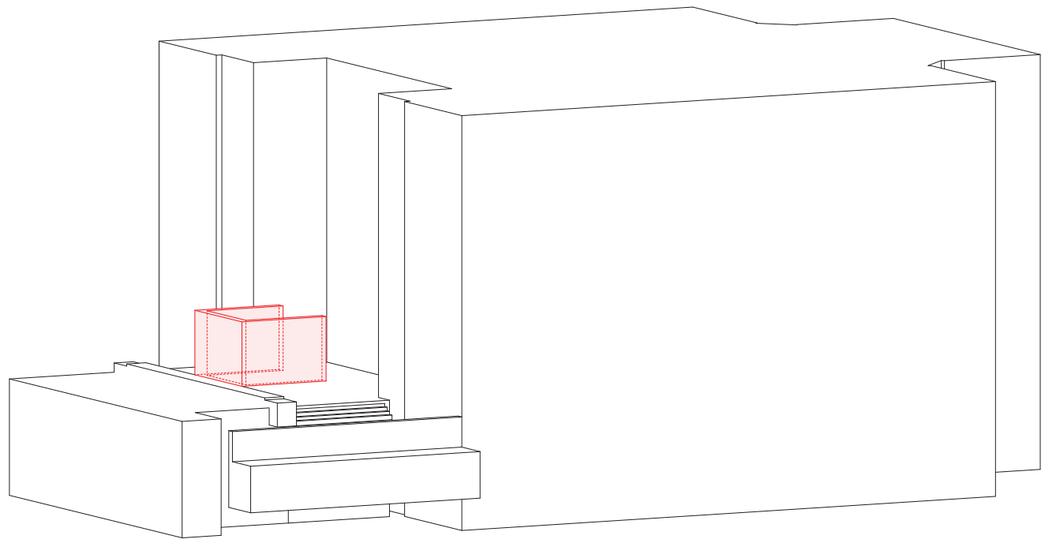


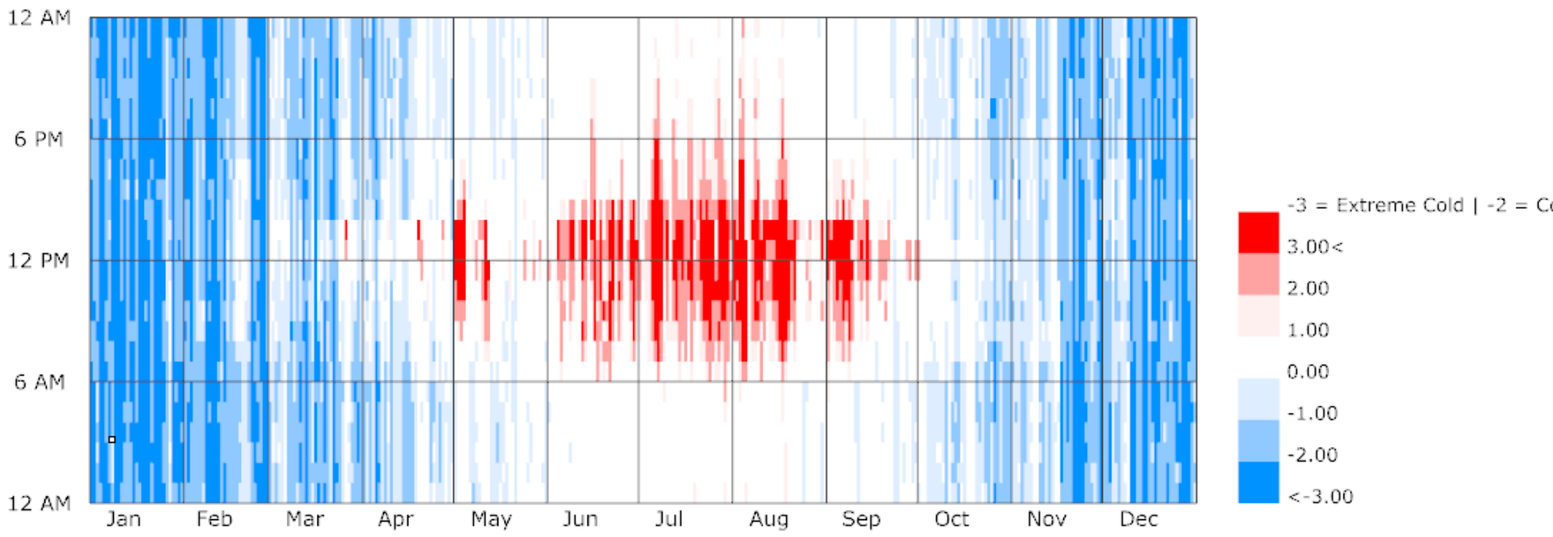
Outdoor Comfort (-3 = Extreme Cold | -2 = Cold | -1 = Cool | 0 = Comfort | 1 = Warm | 2 = Hot | 3 = Extreme Heat) - Hourly
Philadelphia International Ap_PA_USA
1 JAN 1:00 - 31 DEC 24:00

Comfortable: 37.34%; Short period comf.: 18.5%; Heat stress: 12.51%; Cold stress: 31.64%

Design Strategy 1



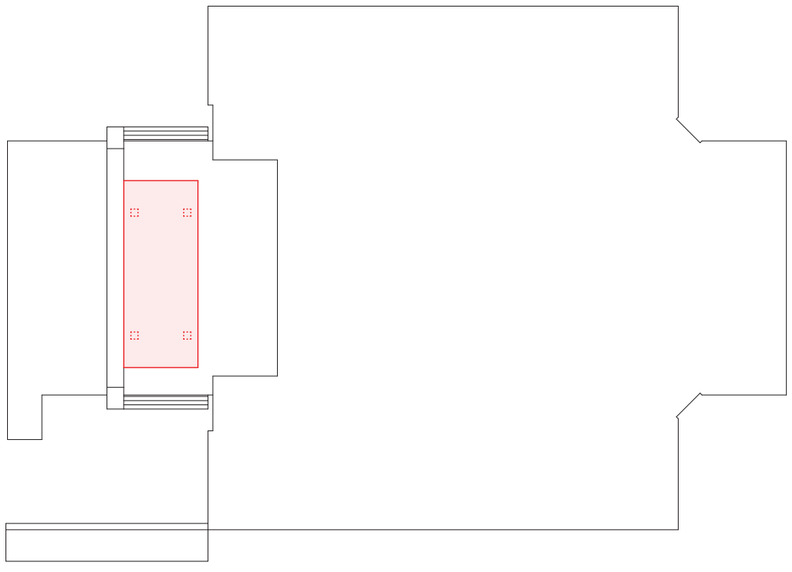


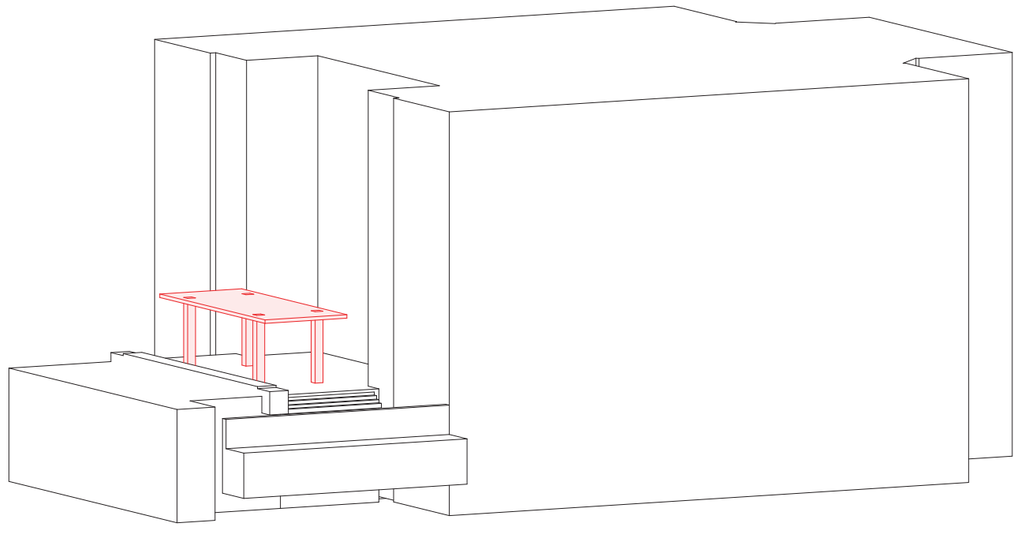


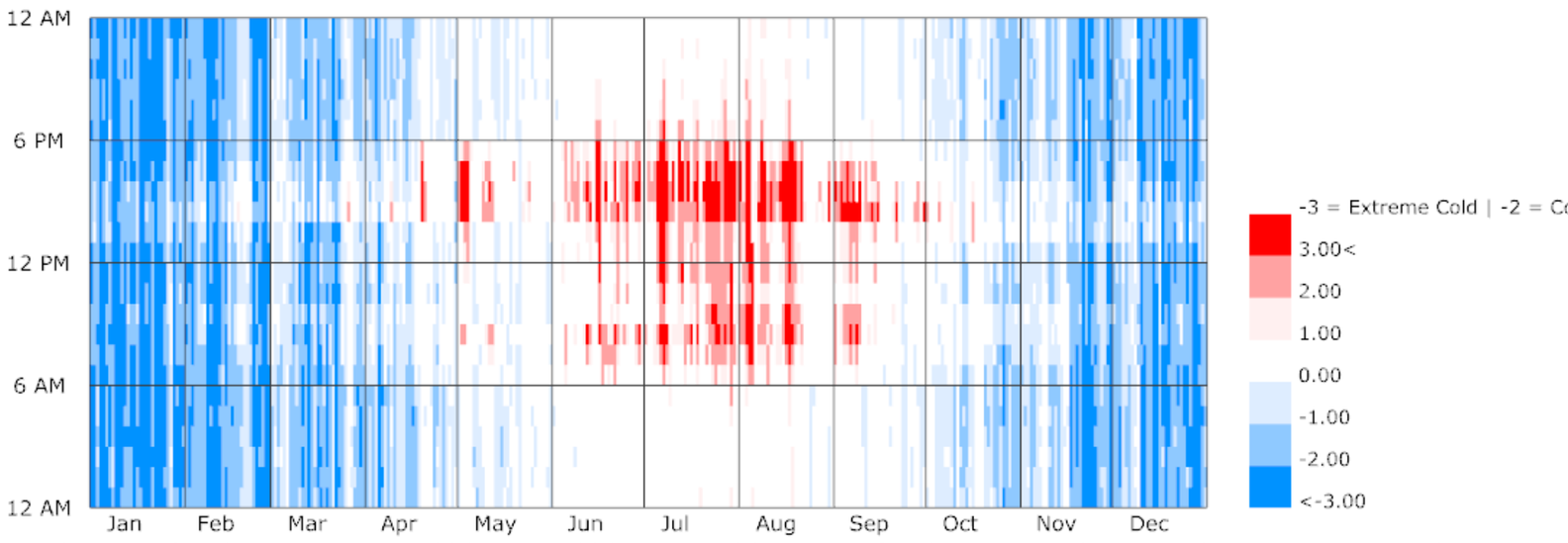
Outdoor Comfort (-3 = Extreme Cold | -2 = Cold | -1 = Cool | 0 = Comfort | 1 = Warm | 2 = Hot | 3 = Extreme Heat) - Hourly
Philadelphia International Ap_PA_USA
1 JAN 1:00 - 31 DEC 24:00

Comfortable: 38.46%; Short period comf.: 20.13%; Heat stress: 7.67%; Cold stress: 33.74%

Design Strategy 2



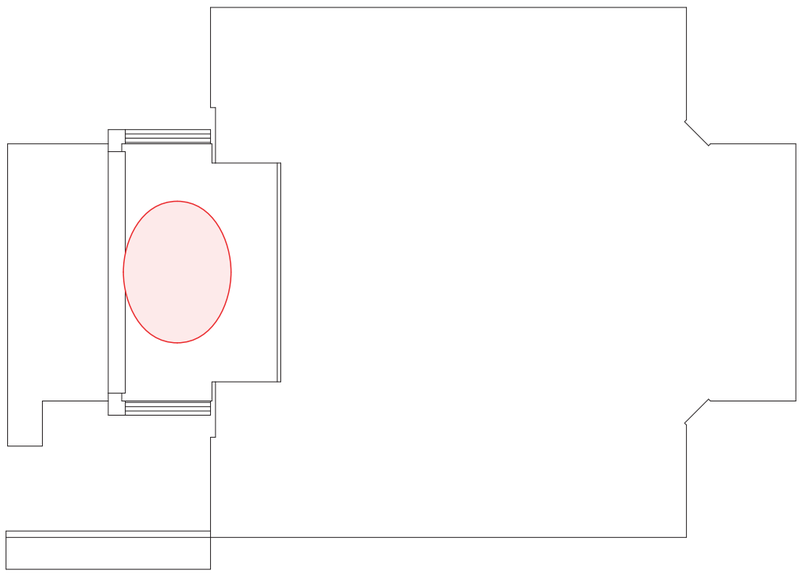


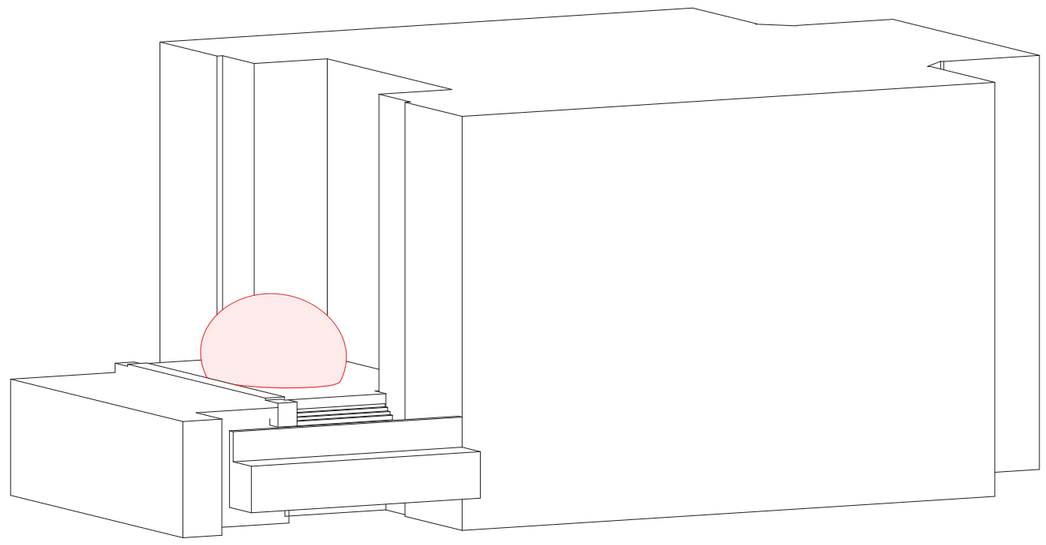


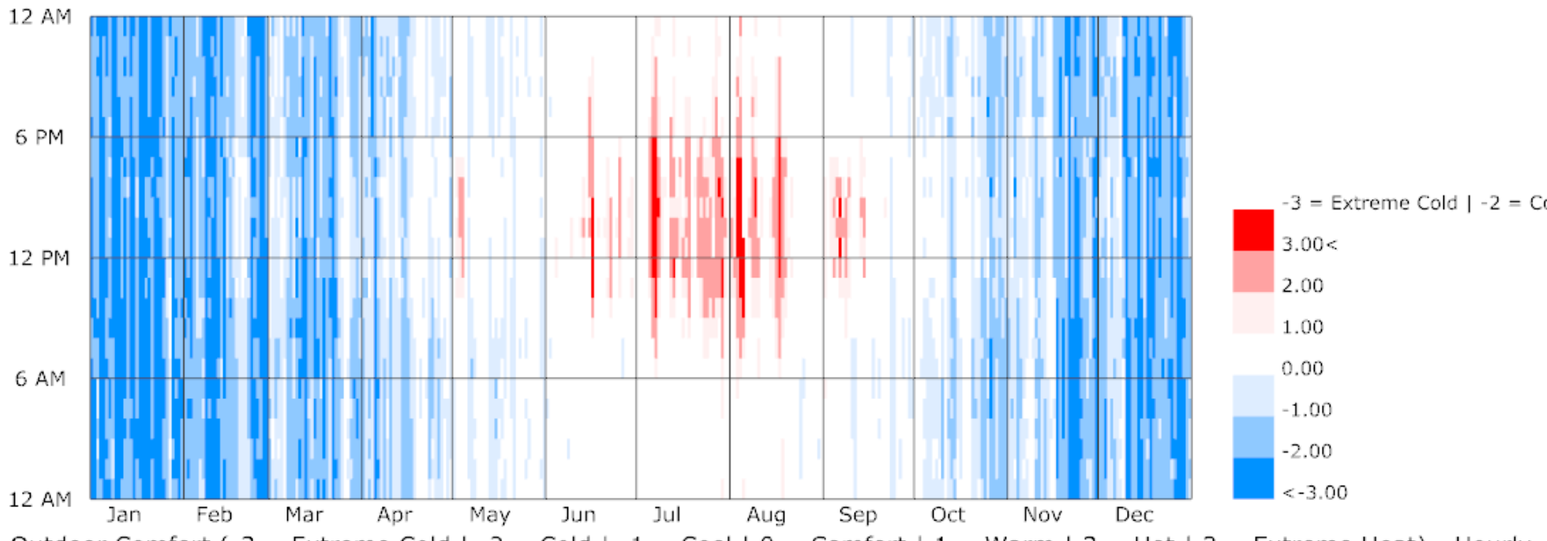
Outdoor Comfort (-3 = Extreme Cold | -2 = Cold | -1 = Cool | 0 = Comfort | 1 = Warm | 2 = Hot | 3 = Extreme Heat) - Hourly
Philadelphia International Ap_PA_USA
1 JAN 1:00 - 31 DEC 24:00

Comfortable: 40.05%; Short period comf.: 20.35%; Heat stress: 6.39%; Cold stress: 33.21%

Design Strategy 3







Outdoor Comfort (-3 = Extreme Cold | -2 = Cold | -1 = Cool | 0 = Comfort | 1 = Warm | 2 = Hot | 3 = Extreme Heat) - Hourly
Philadelphia International Ap_PA_USA
1 JAN 1:00 - 31 DEC 24:00

Comfortable: 41.28%; Short period comf.: 21.24%; Heat stress: 3.14%; Cold stress: 34.34%