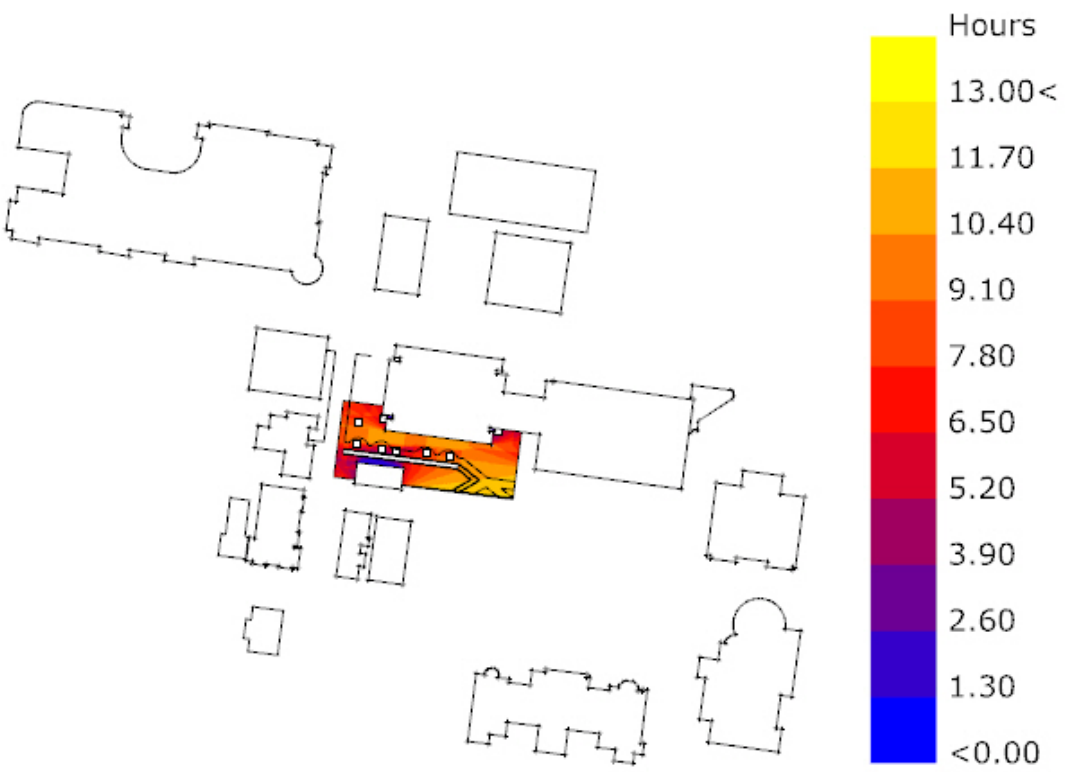
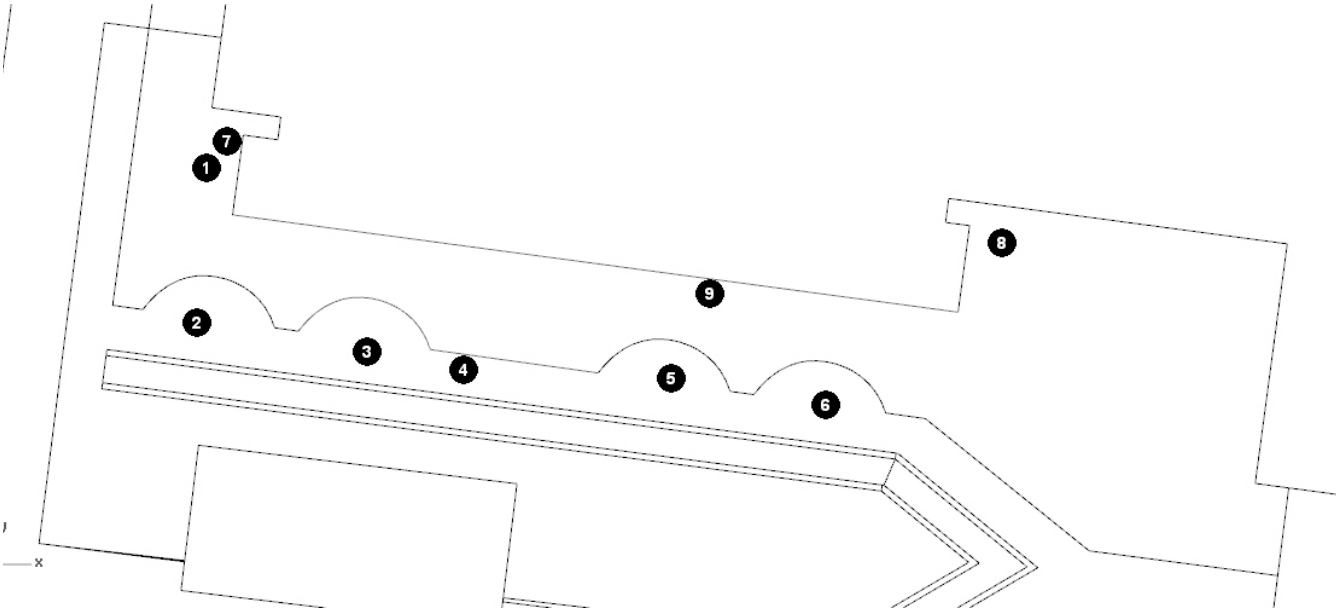
SUBMISSION\05_ANNUAL_COMFORT_MAP

JINAH OH



SunlightHours Analysis

FIRST, I RAN A SUNLIGHTHOURS ANALYSIS ON THE SPACE TO SEE WHERE THE "COOLER" AREAS MAY BE. I CHOSE A MIX OF EXISTING SEATING LOCATIONS AS WELL AS JUST SHADED AREAS.

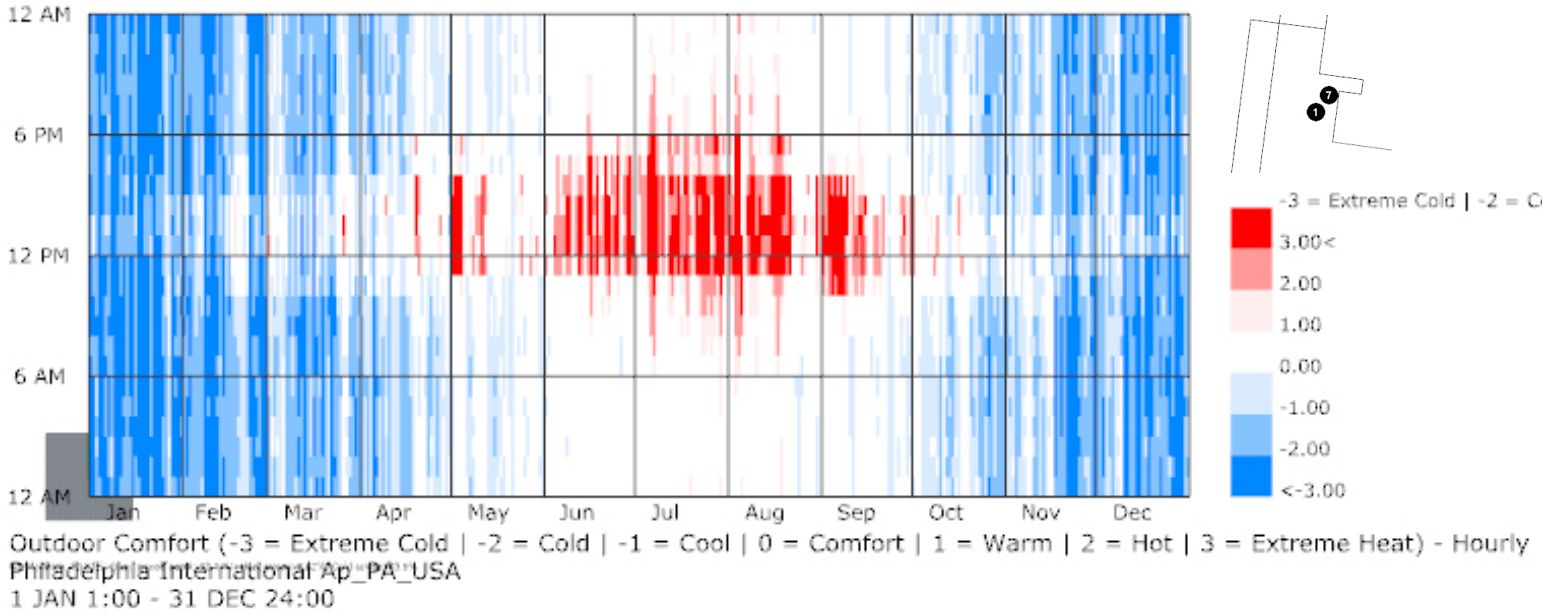


NUMBERS 2, 3, 5, AND 6 ARE WHERE THERE IS EXISTING SEATING. AND THE PAVED PATH WAY IS EXTENDED. BEHIND THE ARCHED FOOTPRINTS ARE LOW LYING PLANTS DISCOURAGING PEOPLE FROM WALKING ALONGSIDE VAN PELT.

NUMBERS 1, 7, 8, AND 9 ARE AREAS I CHOSE DUE TO SUNLIGHT HOURS VALUES OF LESS THAN 5.2. CURRENTLY THERE IS NO BUILT SEATING HERE.

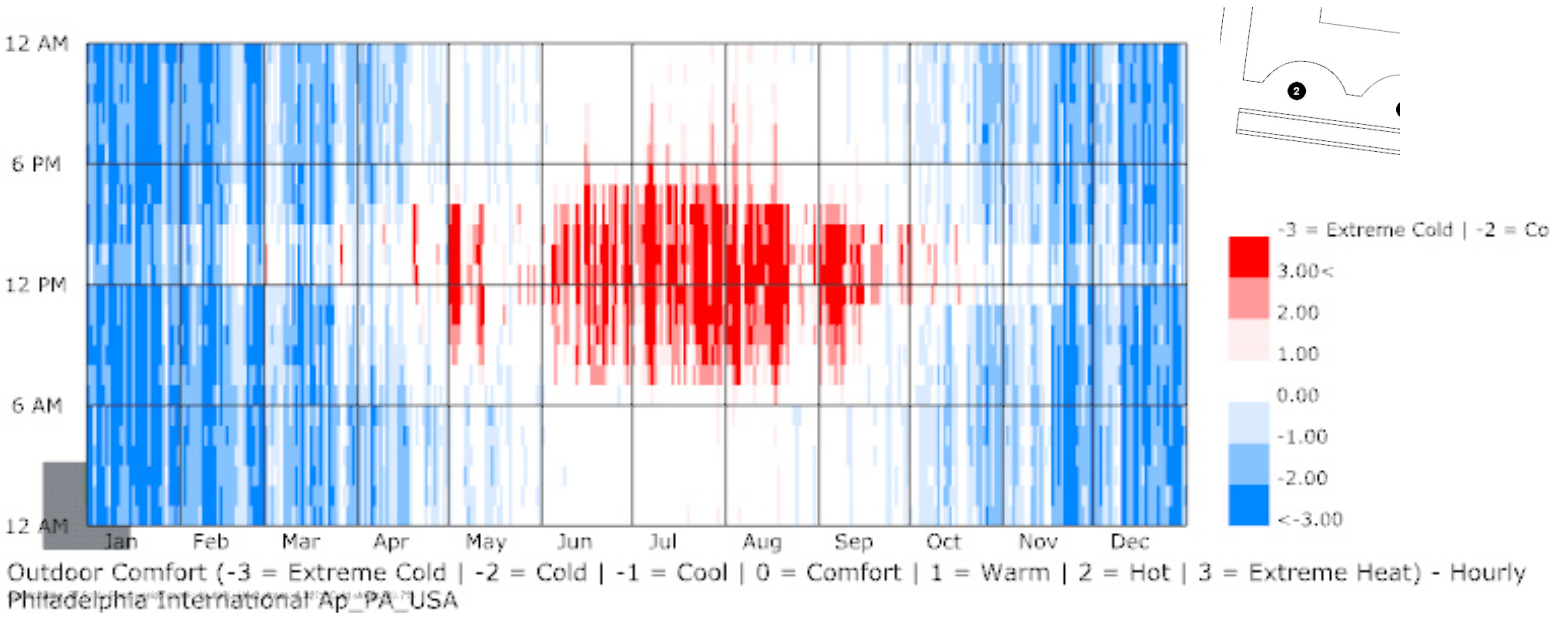
RESULTS

LOCATION 1



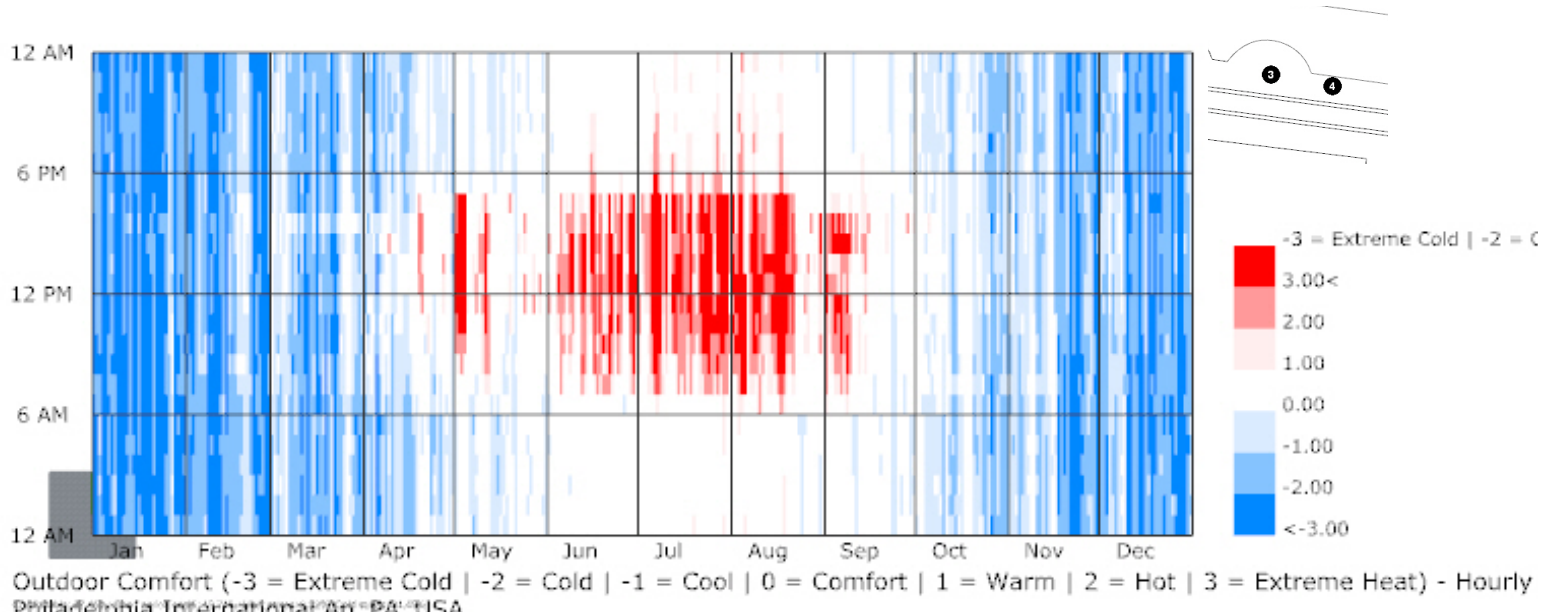
Comfortable: 39.51%; Short period comf.: 20.17%; Heat stress: 6.82%; Cold stress: 33.5%

LOCATION 2



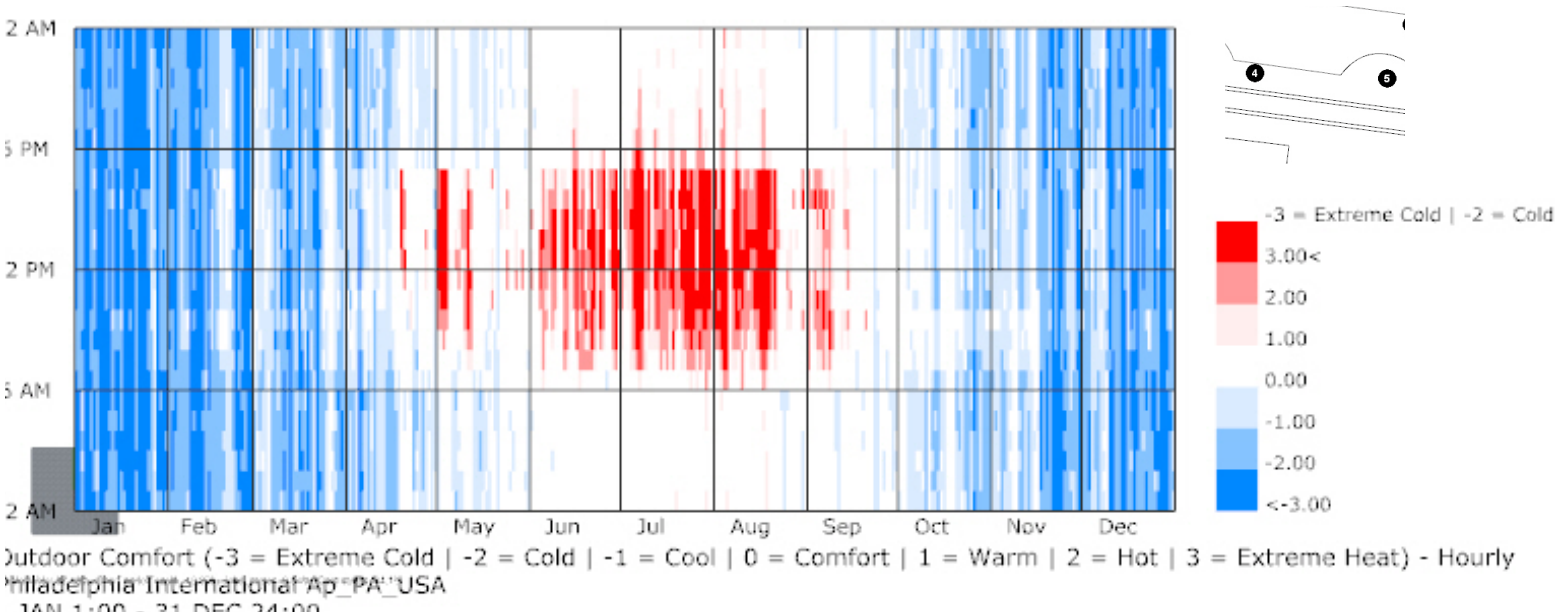
Comfortable: 37.81%; Short period comf.: 19.18%; Heat stress: 9.32%; Cold stress: 33.7%

LOCATION 3



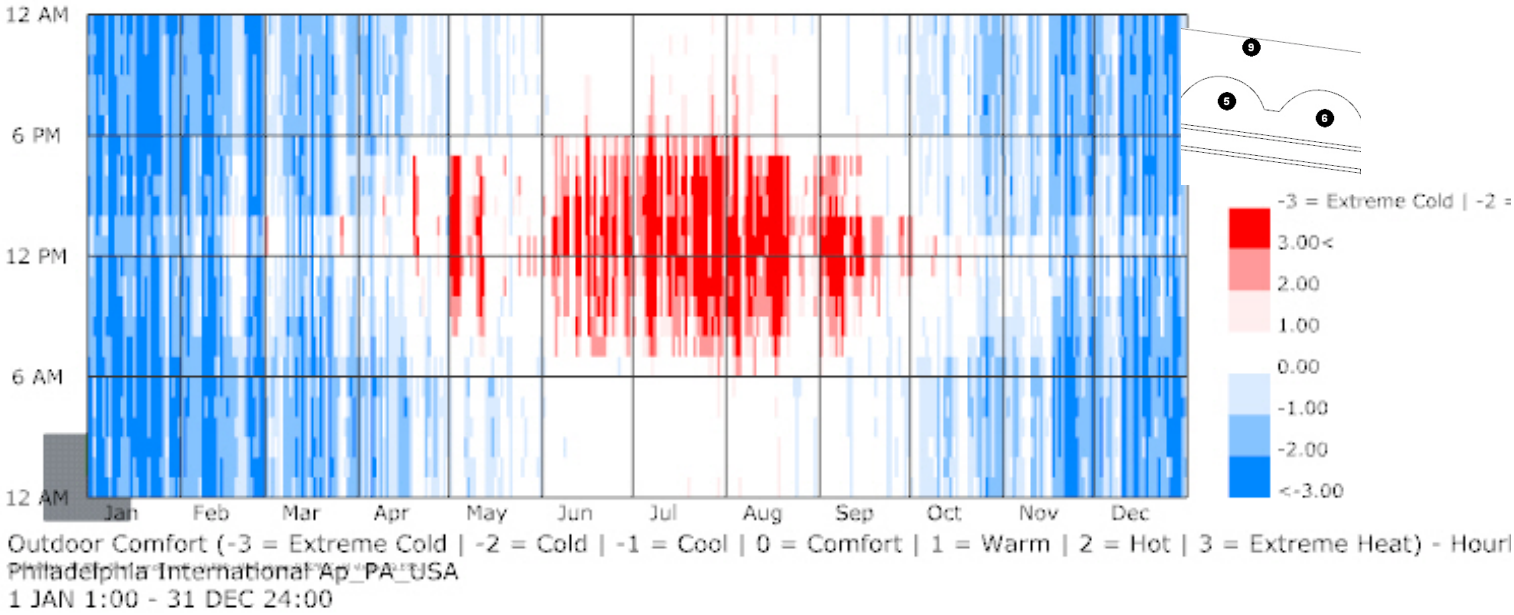
Comfortable: 37.45%; Short period comf.: 19.74%; Heat stress: 8.32%; Cold stress: 34.49%

LOCATION 4



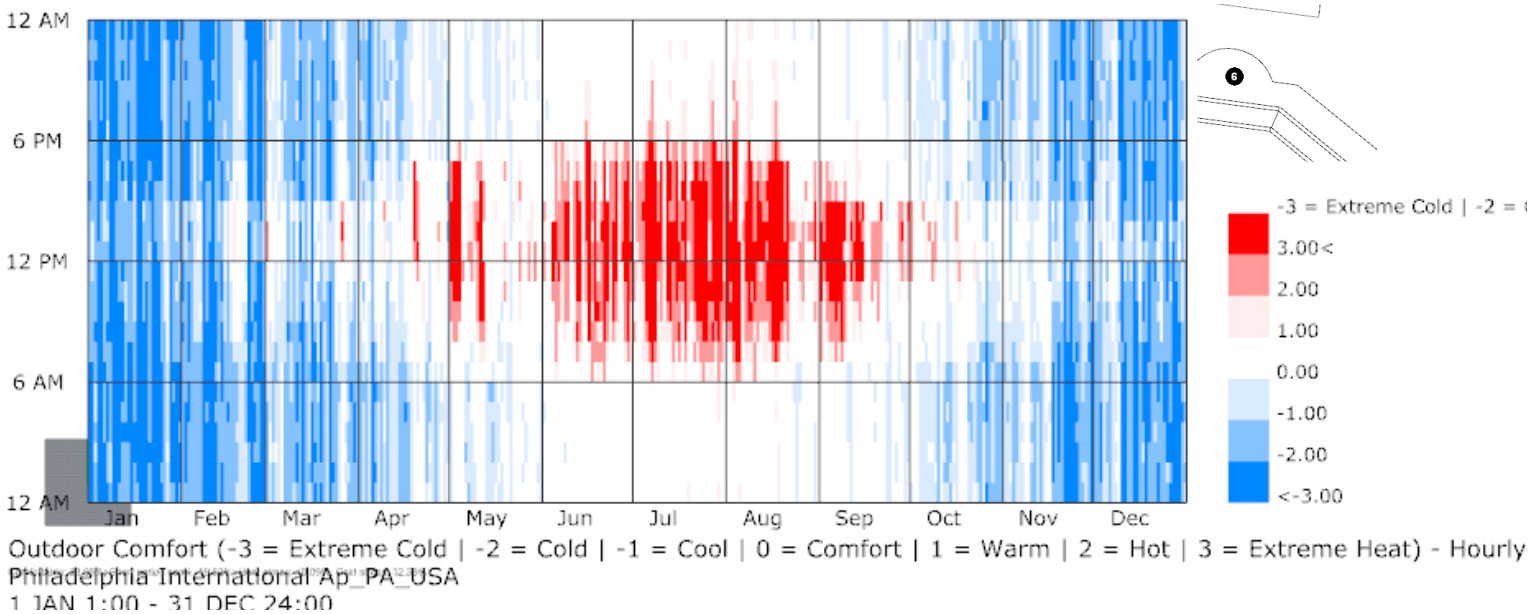
Comfortable: 37.48%; Short period comf.: 19.89%; Heat stress: 8.54%; Cold stress: 34.1%

LOCATION 5



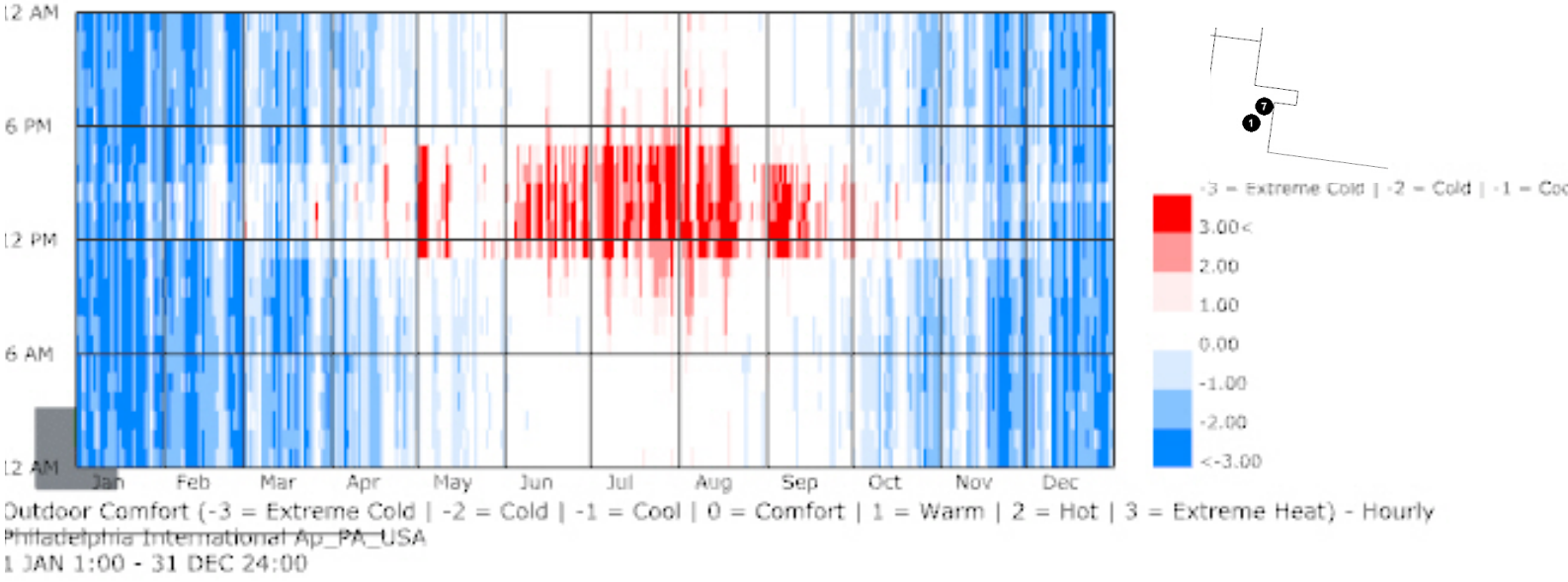
Comfortable: 37.88%; Short period comf.: 19.66%; Heat stress: 9.82%; Cold stress: 32.65%

LOCATION 6



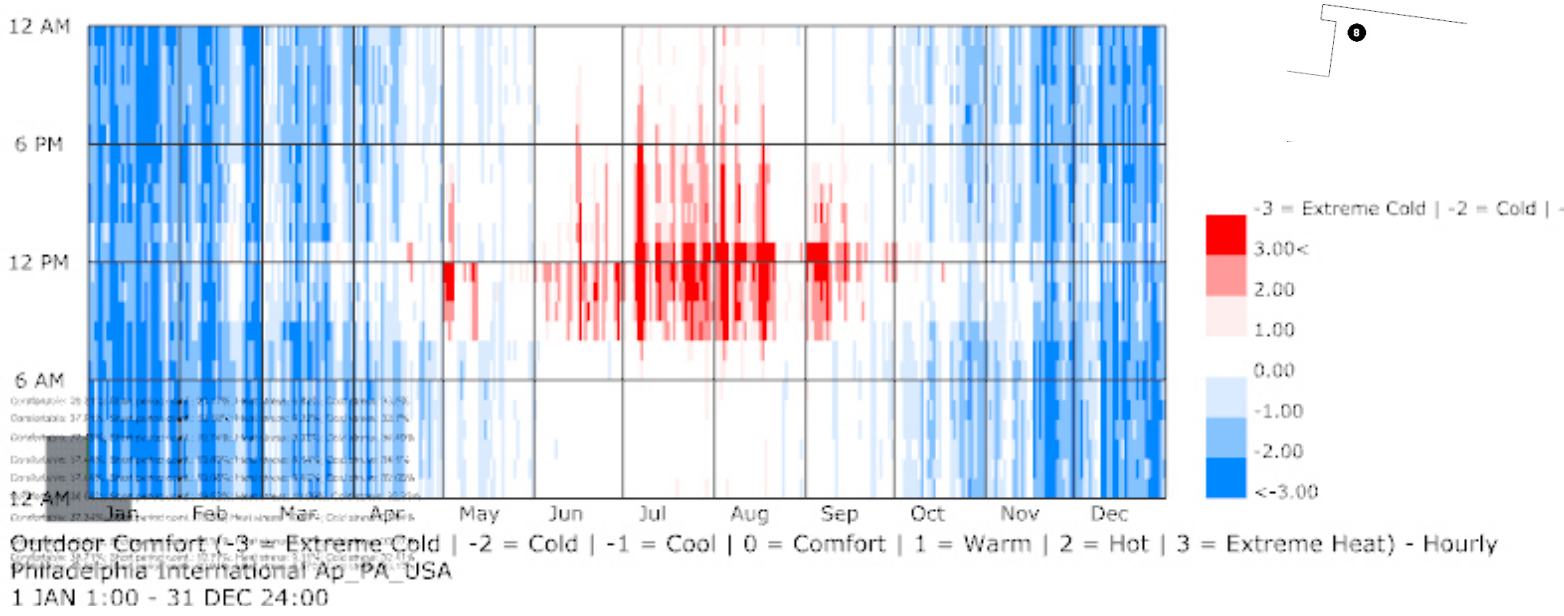
Comfortable: 38.06%; Short period comf.: 19.52%; Heat stress: 10.09%; Cold stress: 32.33%

LOCATION 7



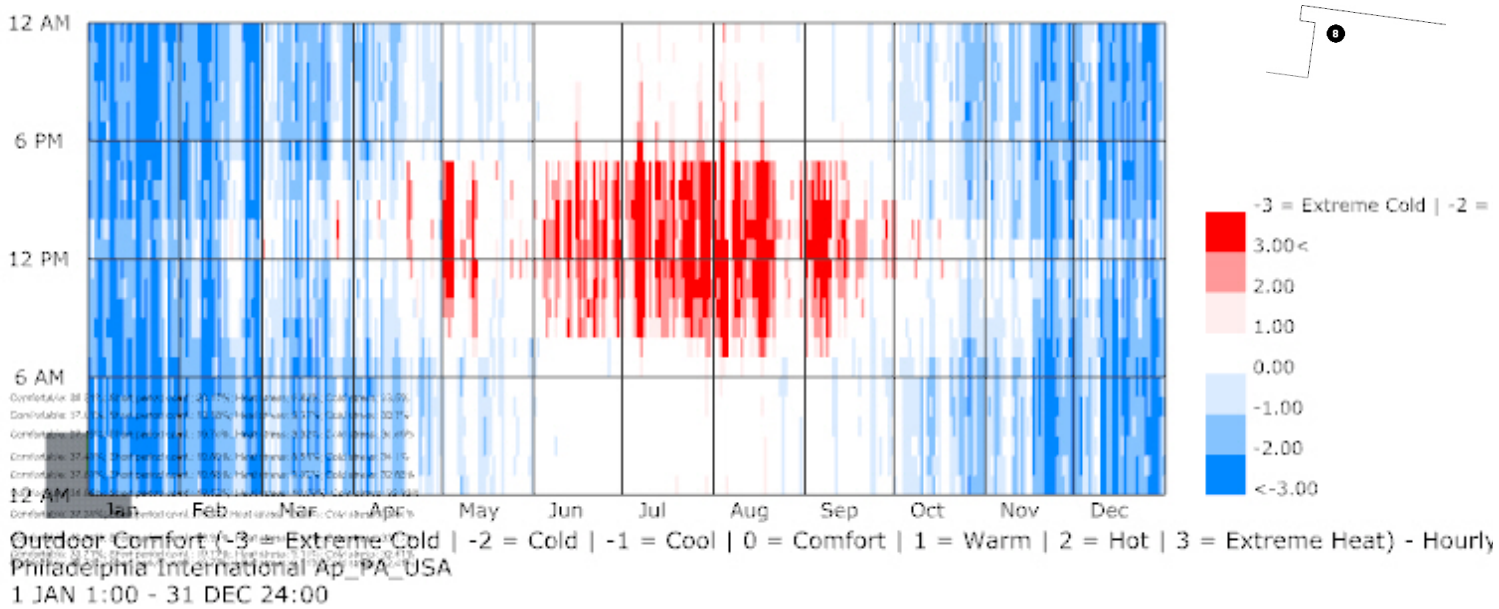
Comfortable: 37.34%; Short period comf.: 18.5%; Heat stress: 12.51%; Cold stress: 31.64%

LOCATION 8



Comfortable: 40.34%; Short period comf.: 20.91%; Heat stress: 5.57%; Cold stress: 33.17%

LOCATION 9



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: 38.71%; Short period comf.: 19.77%; Heat stress: 9.11%; Cold stress: 32.41%

CONCLUSION: SEATING SHOULD BE LOCATED AT LOCATION 8

1. What was your thinking process to find the best location?
EXPLAINED ON PAGE 1.
2. What is the difference between the best and the worst locations?
THE BEST LOCATION IS LOCATION 8 WHICH FEATURED A COMFORT PERCENTAGE OF 40.34%. THE WORST LOCATION WAS LOCATION 7 WHICH WAS AT 37.34%. THE LOCATIONS WERE INTERESTINGLY ENOUGH, AT OPPOSITE ENDS. THEY ARE BOTH IN LOCATIONS OF 2.6 HOURS OR LESS OF SUNLIGHT, BUT LOCATION 8 IS LOCATED IN MORE OF A NOOK OF VAN PELT SO THAT PERHAPS IT IS PROTECTED AND SHELTERED IN MORE DIRECTIONS.
3. What are the effective parameters that makes the best location perform better than other spots?
THE PARAMETERS ARE MENTIONED IN A WAY THROUGH MY PROCESS OF HOW TO CHOOSE THE LOCATIONS. I CONSIDERED THE SUNLIGHT HOURS, COMFORT % AND EXISTING SEATING LOCATION. EFFECTIVE PARAMETERS INCLUDE SHADING CAUSED BY THE SURROUNDING ARCHITECTURAL CONTEXT, WHICH IS SEEN IN THE SUNLIGHT HOURS ANALYSIS, WHICH COULD POTENTIALY HELP MITIGATE WIND (ALTHOUGH THAT WAS NOT TESTED), THE AMOUNT OF HEAT STRESS AND COLD STRESS. INTERESTINGLY ENOUGH, THE EXISTING SEATING SCORED LOWER IN COMPARISON WHICH MAKES ME WONDER WHAT THE DESIGNERS HAD TESTED ON WHEN CHOOSING THE LOCATIONS. I THINK THAT THERE MAY BE SOME ISSUES IN HAVING OUTDOOR SEATING RIGHT UP AGAINST THE VAN PELT WALLS--PERHAPS IT WOULD BE DISTRACTING OR A SAFETY HAZARD.
4. What are the main limitations of the current simulation method for your study?
IF I LOOK AT THE BREAKDOWN OF PERCENTAGES IN LOCATION 8, I CAN SEE THAT EVEN THOUGH THE COMFORT PERCENTAGE IS THE HIGHEST AND THE HEAT STRESS PERCENTAGE IS THE LOWEST, THE COLD STRESS ISN'T NECESSARILY THE LOWEST AS WELL. I THINK THAT BECAUSE OF THAT, LOCATION 8 MAY BE A GOOD SOLUTION IN TERMS OF SUMMER TIME AND COMBATTING THE HEAT OF THE SUN, BUT WOULDN'T BE IDEAL FOR OTHER SEASONS. ANOTHER FLAW COULD BE THE WAY MY GROUP MODELED THE VAN PELT. IT IS A SIMPLE EXTRUSION OF THE BUILDING FOOTPRINT AND DOES NOT TAKE INTO ACOUNT OF POSSIBLE SHADING PROVIDED FROM THE FORM OF THE ROOF.