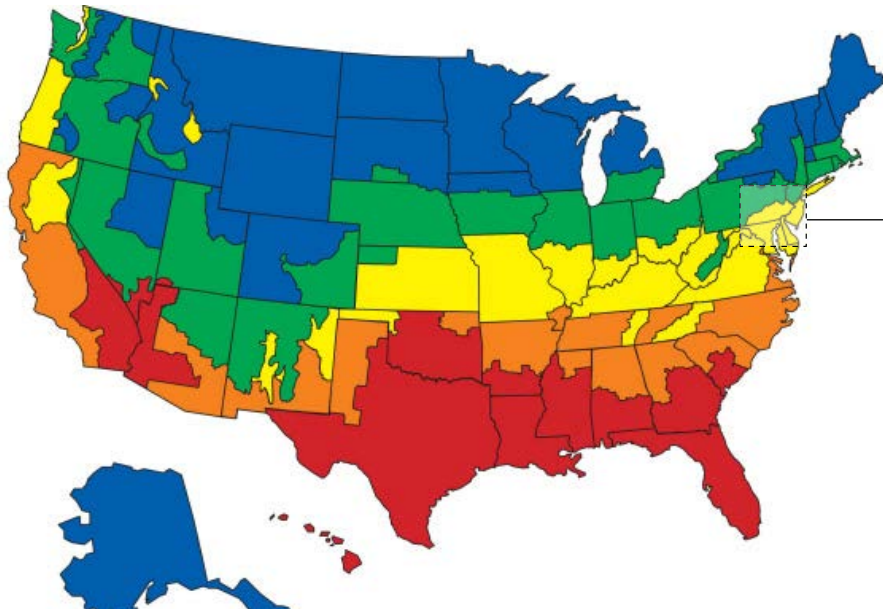


# THERMAL AND VISUAL COMFORT MAXIMIZATION OF AN UNCONDITIONED SPACE

PHILADELPHIA, PA

DAWOON JUNG

FALL 2016 / ARCH 753 BUILDING PERFORMANCE SIMULATION  
PENNDDESIGN / UNIVERSITY OF PENNSYLVANIA



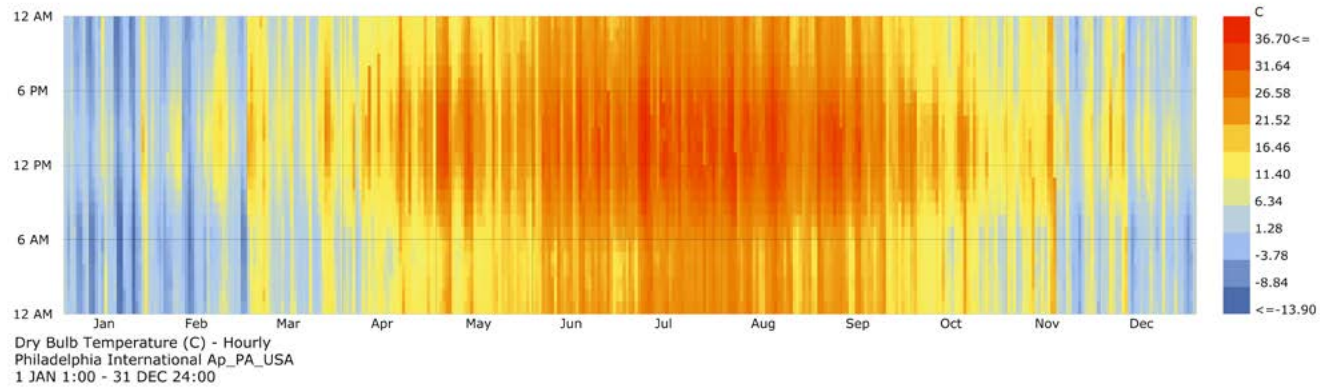
WEATHER DATA: PHILADELPHIA.INTL.AP7244080\_TMY3  
 LATITUDE: 39.87  
 LONGITUDE: -75.23

### Climate Zones

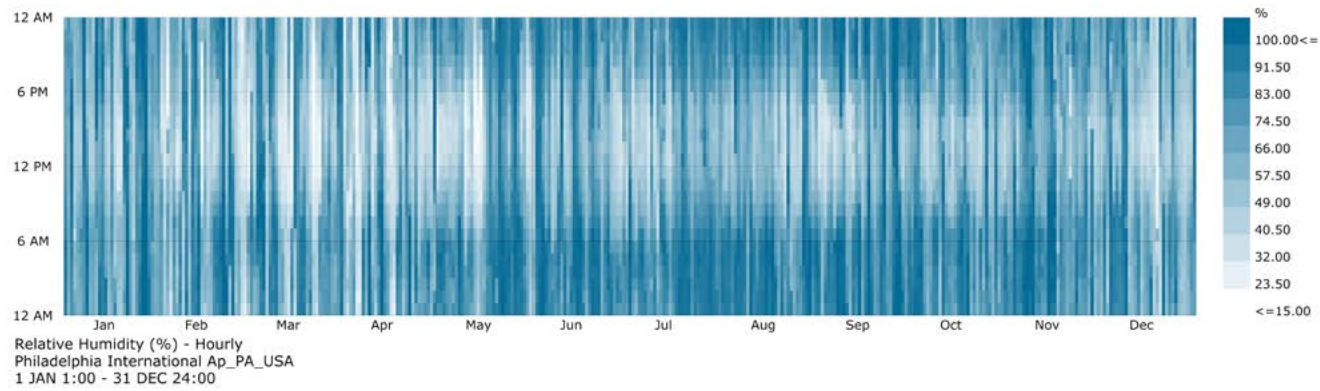
- Zone 1 is less than 2,000 CDD and greater than 7,000 HDD
- Zone 2 is less than 2,000 CDD and 5,500 ~ 7,000 HDD
- Zone 3 is less than 2,000 CDD and 4,000 ~ 5,499 HDD
- Zone 4 is less than 2,000 CDD and less than 4,000 HDD
- Zone 5 is 2,000 CDD or more and less than 4,000 HDD

## EXTERIOR FACTORS

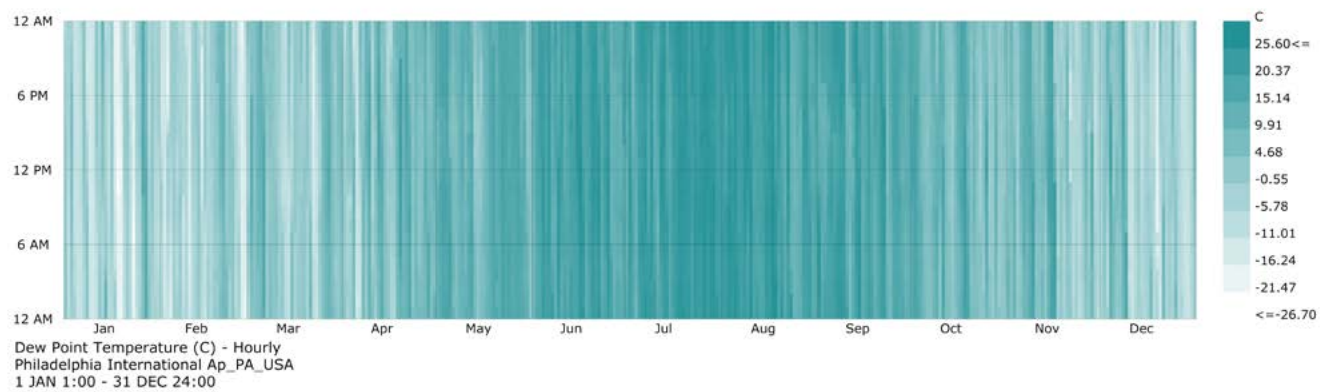
DRY BULB TEMPERATURE

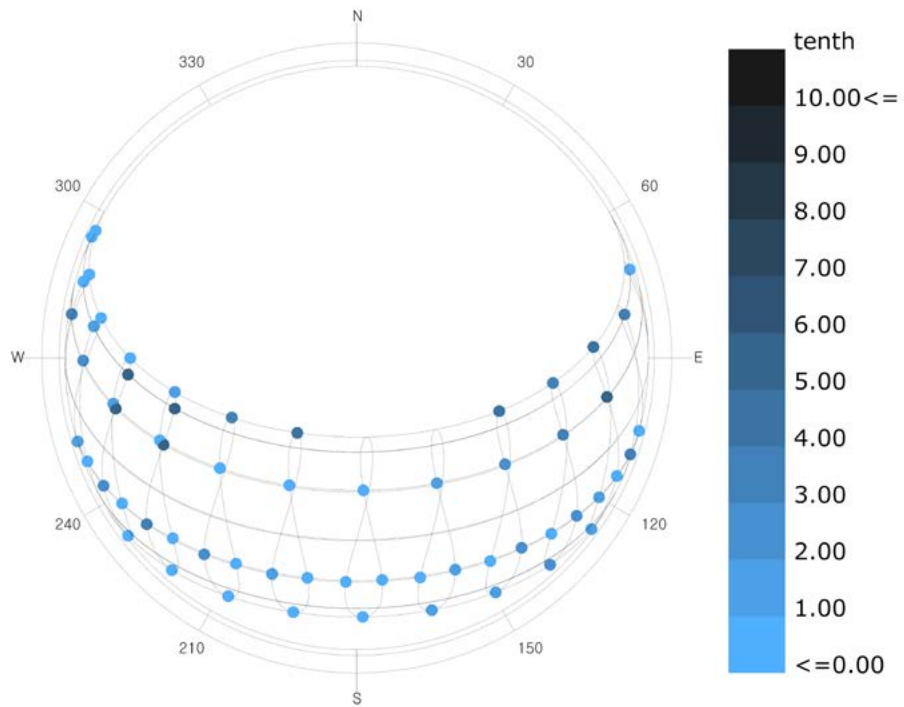


RELATIVE HUMIDITY



DEW POINT TEMPERATURE





Sun-Path Diagram - Latitude: 39.17  
 Hourly Data: Total Cloud Cover (tenth)  
 Baltimore Blt Washngtn Intl\_MD\_USA  
 ...  
 Conditional Selection Applied:  
 Total Cloud Cover < 6  
 61.0 hours of total 145.0 sun up hours(42.07%).