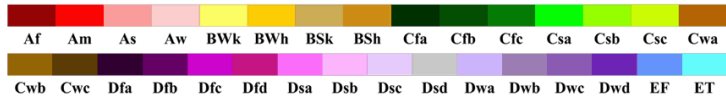


2144 Kater Street

# Philadelphia, PA 19146

## Main Köppen-Geiger Climate Classes for US counties

updated with CRU TS 2.1 temperature and VASCLimO v1.1 precipitation data 1951 to 2000



### Main climates

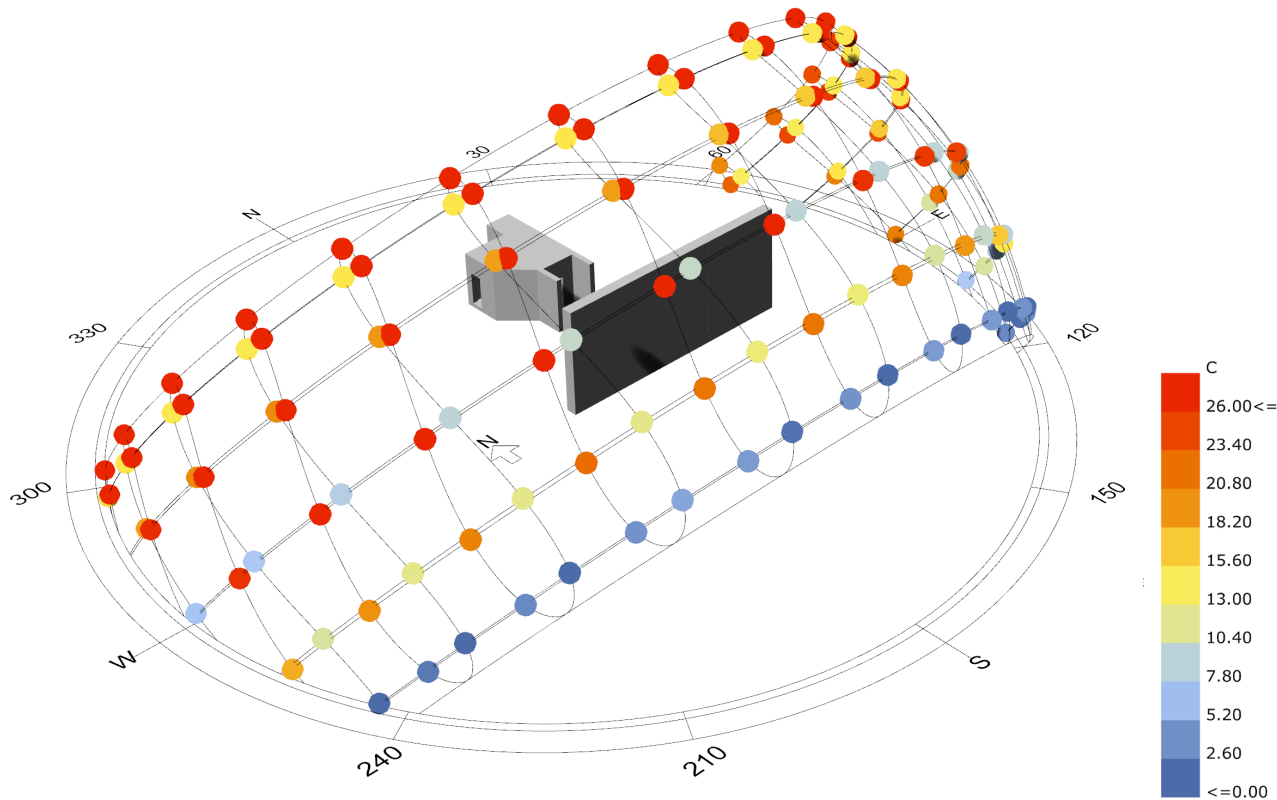
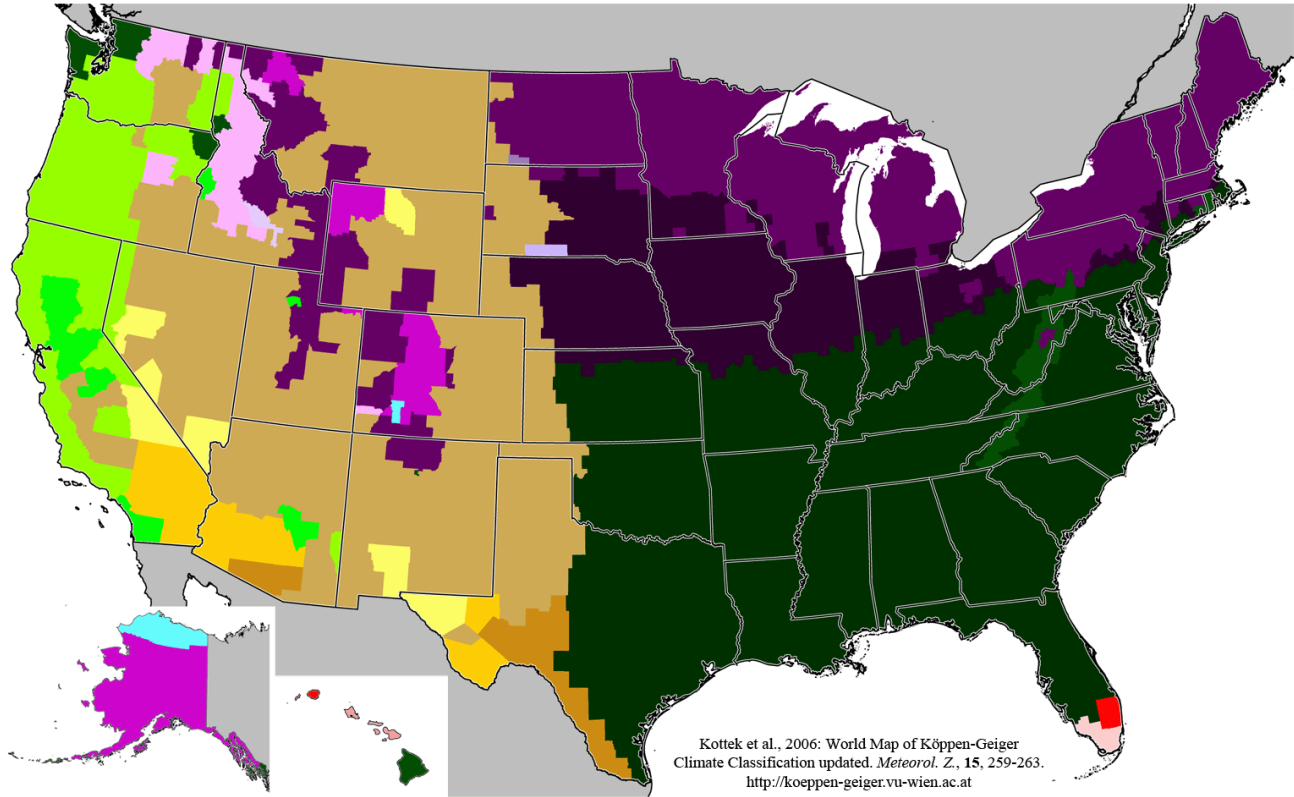
A: equatorial  
B: arid  
C: warm temperate  
D: snow  
E: polar

### Precipitation

W: desert  
S: steppe  
f: fully humid  
s: summer dry  
w: winter dry  
m: monsoonal

### Temperature

h: hot arid  
k: cold arid  
a: hot summer  
b: warm summer  
c: cool summer  
d: extremely continental  
F: polar  
T: polar



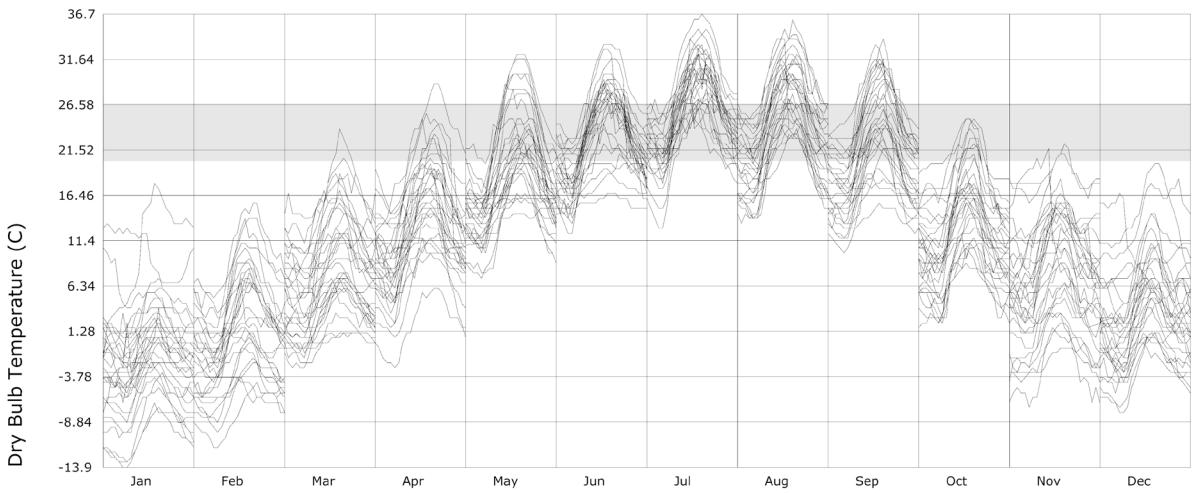
Köppen Climate Zone:  
Cfb - warm temperature,  
fully humid, warm summer

Cooling Degree Days (CDD):  
265.675

Heating Degree Days (HDD):  
2754.125

Temperature High:  
36.9°C

Temperature Low:  
-13.9°C



## IDEAL COMFORT

is indicated by the  
following parameters:

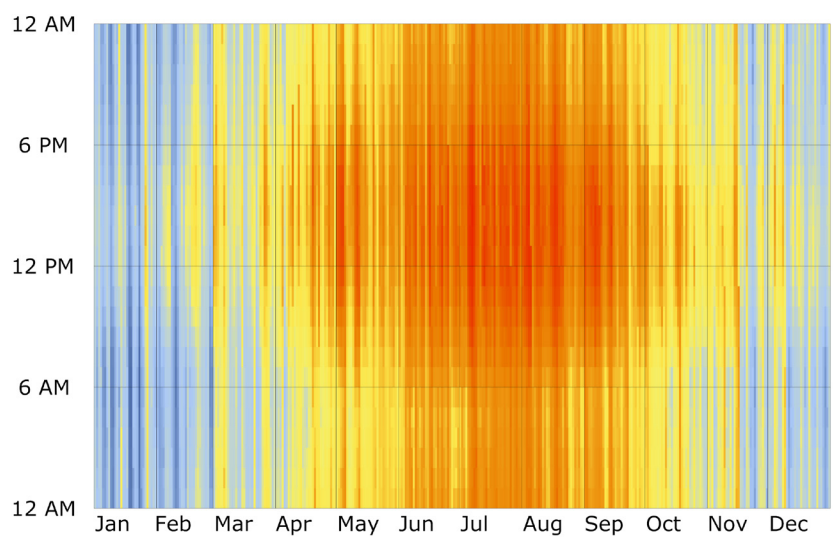
Dry Bulb Temperature:  
20°C > T > 26°C

Humidity: 20% > H > 80%

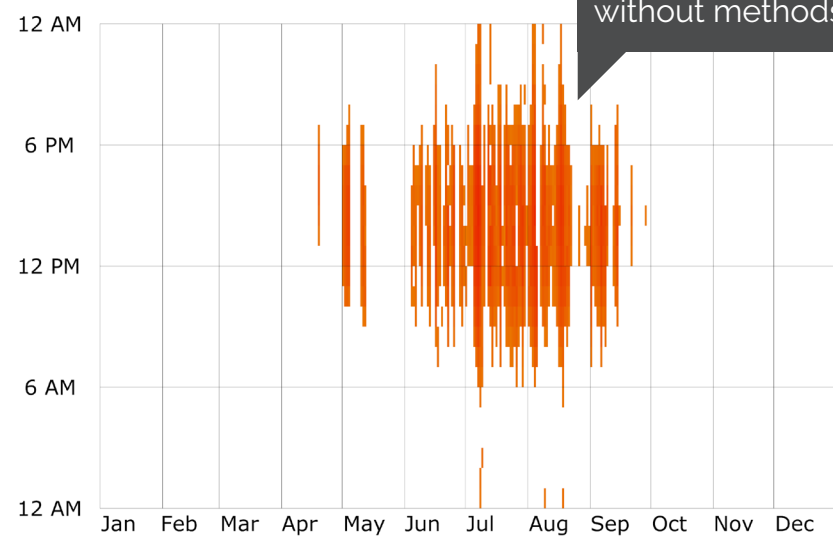
Wind Speed: 2 m/s > v >  
10 m/s

Philadelphia meets  
the IDEAL COMFORT  
parameter for **3603  
hours (41.1%)** out of the  
year.

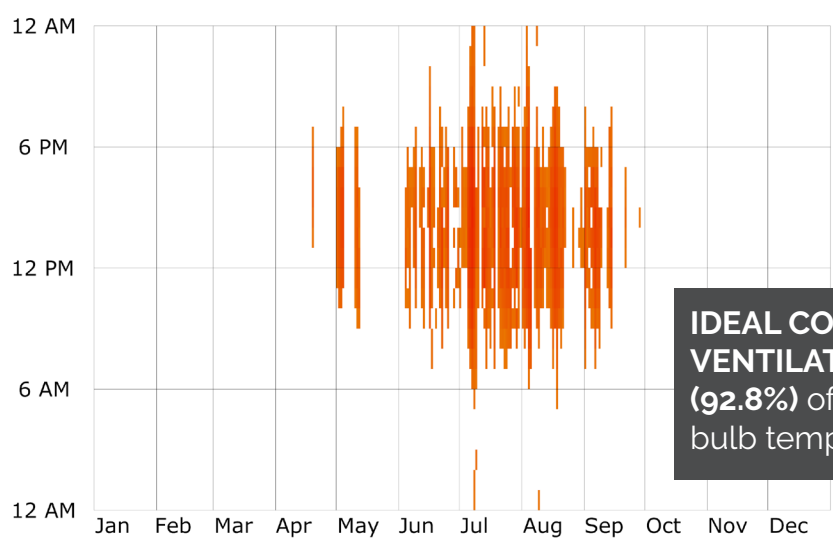
# Cross Ventilation



Dry Bulb Temperature for All Times of the Year



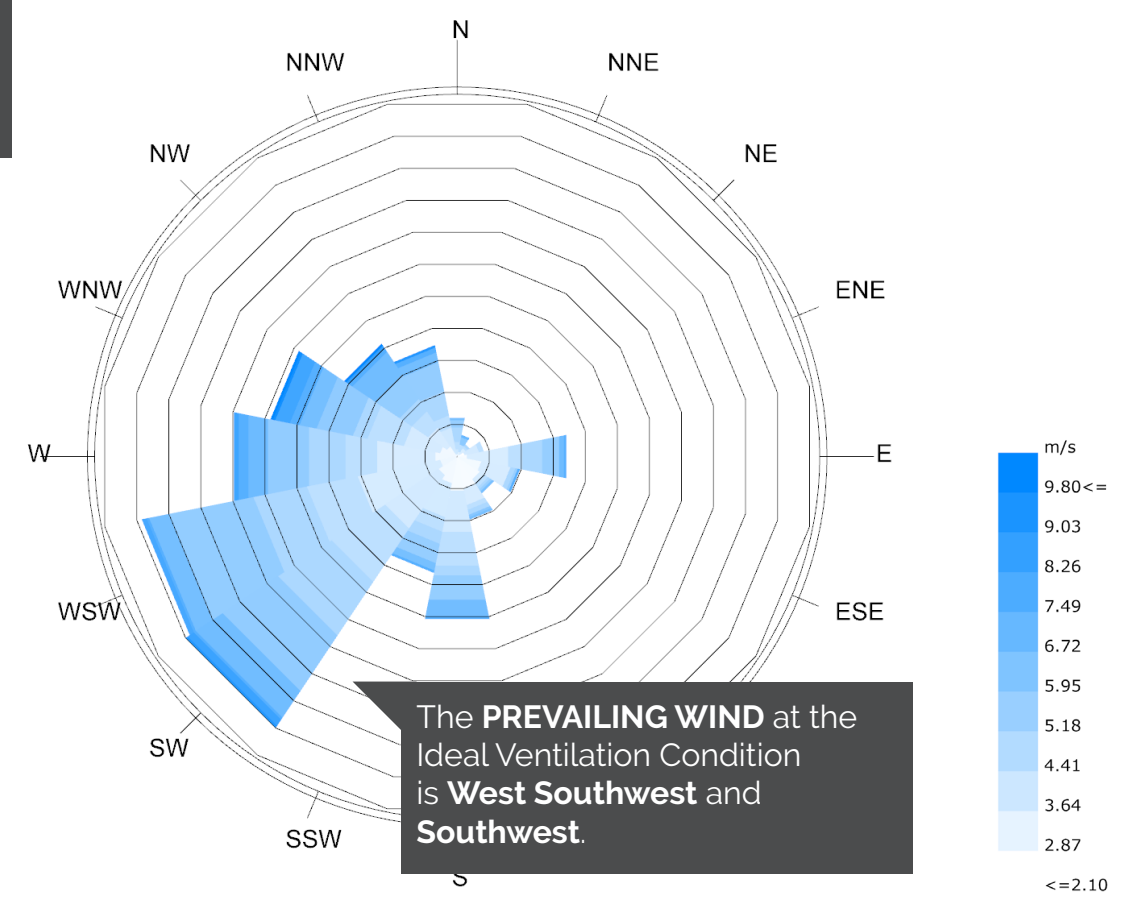
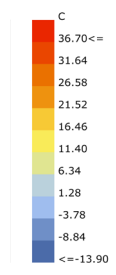
Dry Bulb Temperature Above 26°C



## IDEAL CONDITION FOR VENTILATION

is indicated by the following parameters:

- Humidity: 20% > H > 80%
- Wind Speed: 2 m/s > v > 10 m/s

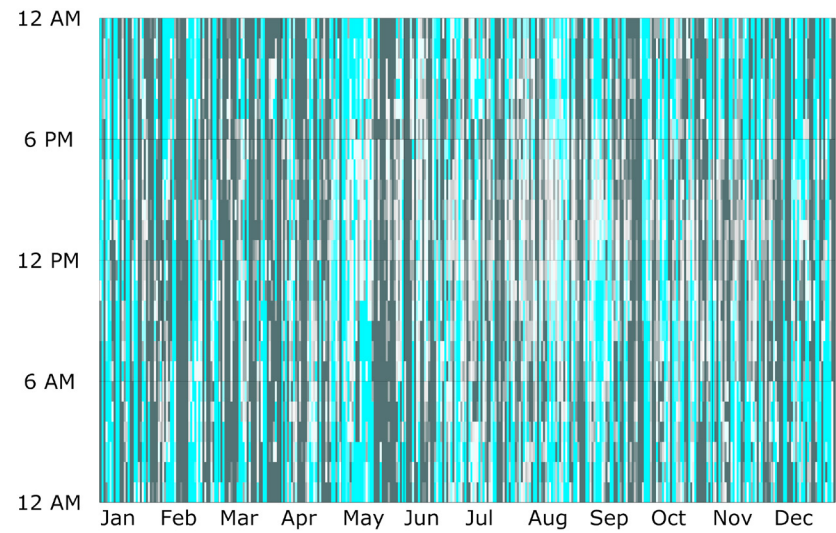


Wind-Rose  
Philadelphia International Ap\_PA\_USA  
1 JAN 1:00 - 31 DEC 24:00  
Hourly Data: Wind Speed (m/s)  
Calm for 0.00% of the time = 0 hours.  
Each closed polyline shows frequency of 0.2%. = 13 hours.  
...  
Conditional Selection Applied:  
Dry Bulb Temperature > 26  
and 20 < Relative Humidity < 80  
and 2 < Wind Speed < 10  
804.0 hours of total 8760.0 hours (9.18%).

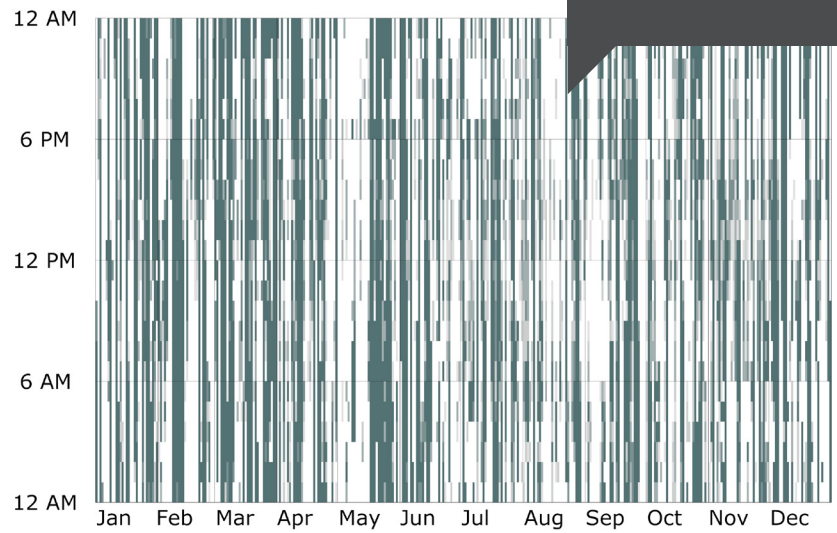
Operable windows are needed on the roof as a flush skylight or a series of vertical clerestory windows facing north or east to assist in cross ventilation and stack effect to flush out the heat from the room.

2144 Kater Street, Philadelphia, PA 19146

# Daylighting



Sky Cover for All Times of the Year



Cloudy Hours (24-Hours)

Philadelphia is **cloudy for 4816 hours (54.9%)** of the year.

