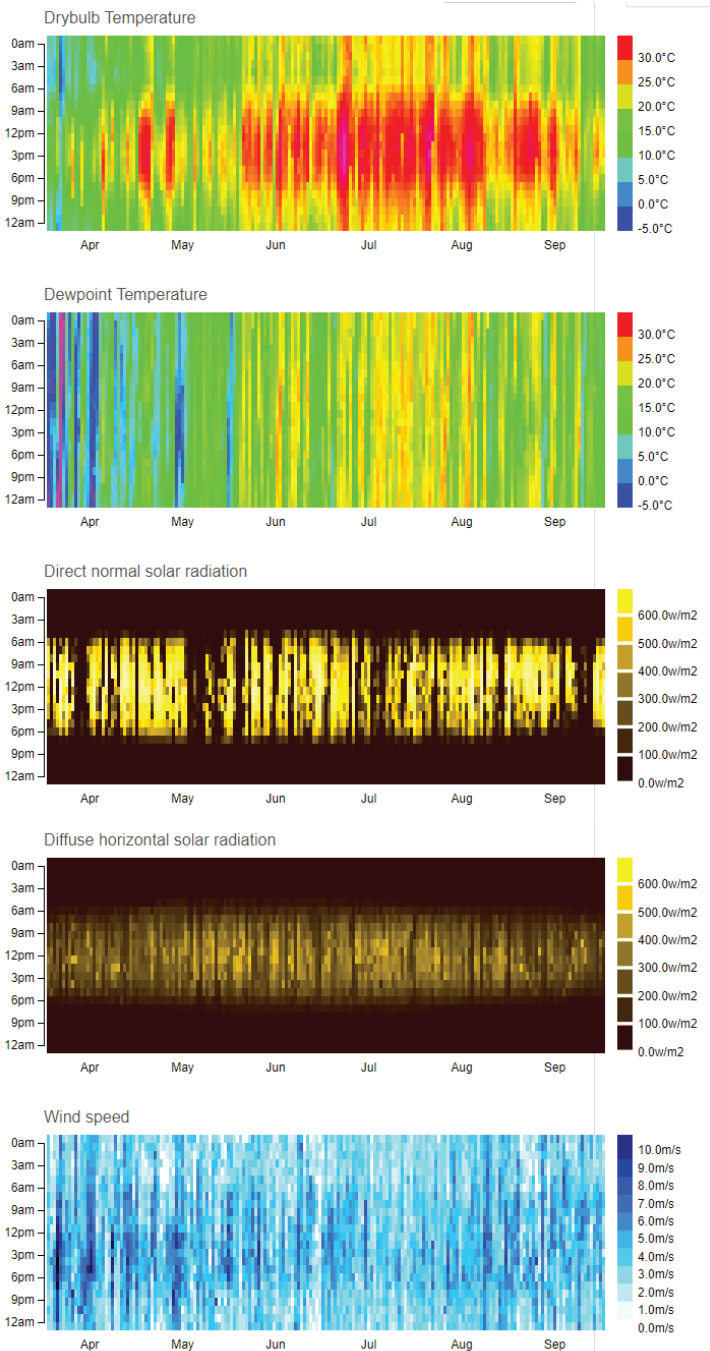


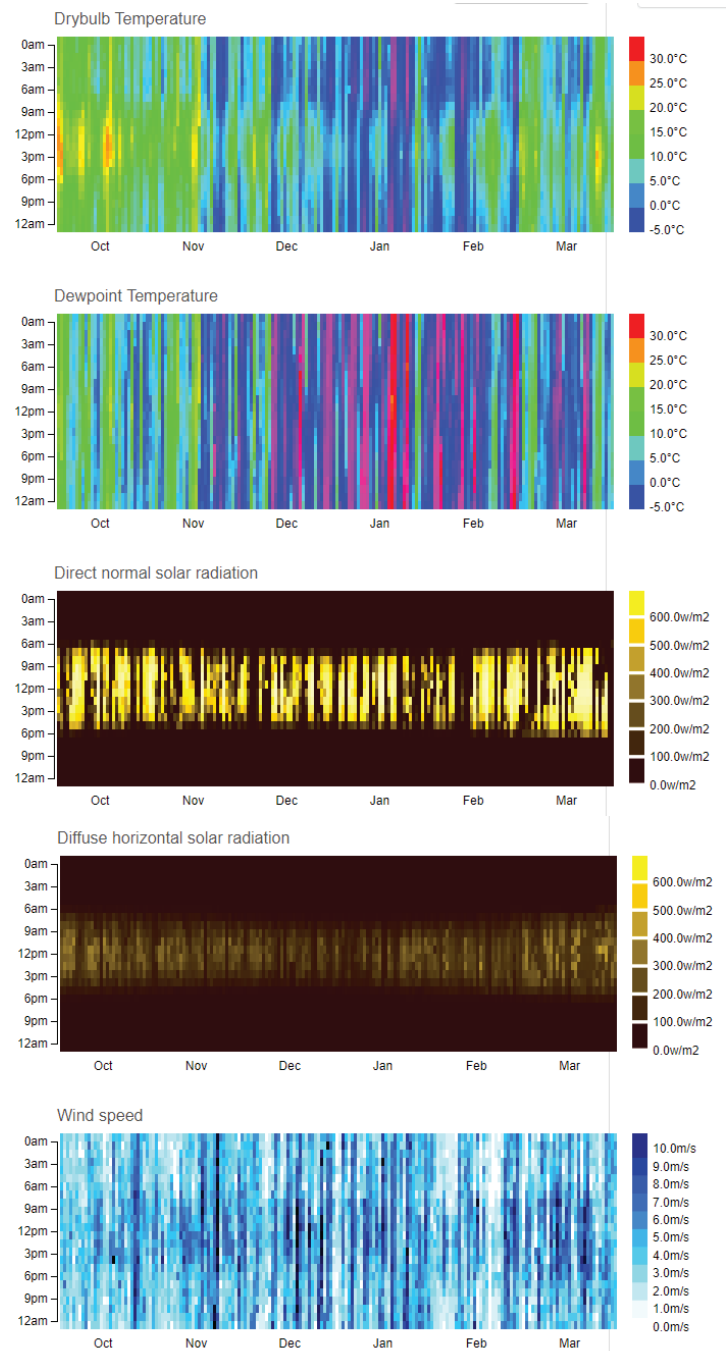
City of Philadelphia Weather Report

ARCH-633-Environmental system I
Assignment 1
08/31/2017
Weizhen Jia

*Tool use: EnSims



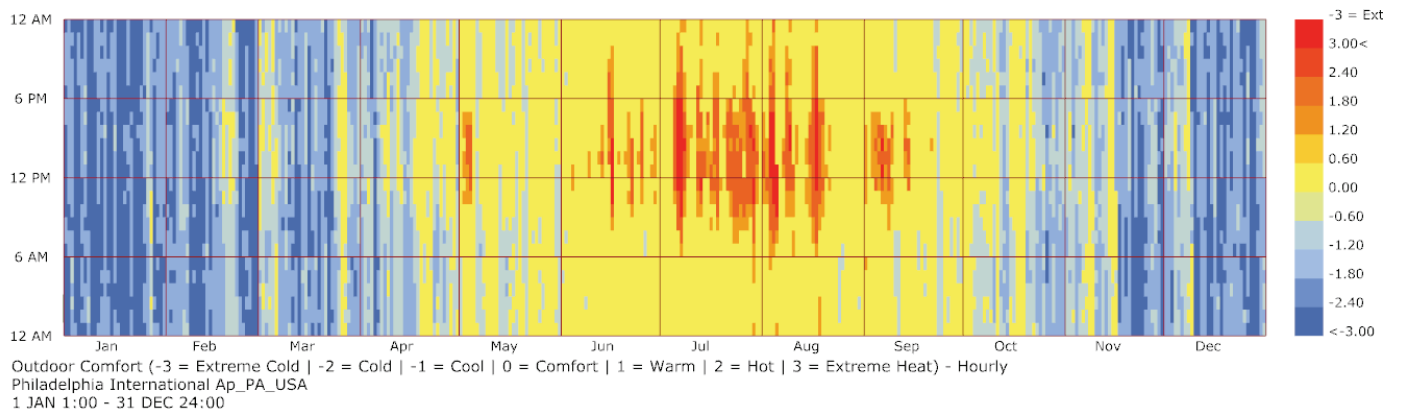
Summer period



Winter period

Strategies

The three most important strategies should respond to the charts in report which are temperature, solar and wind speed. Therefore, the building should have well **insulation** stop the hot and cold temperature coming in. Second, the building should have **south faced openings** to allow the radiation coming in, providing light and heat. Third, the building could have some **sun shading** to stop some of the direct solar in summer. In summer in Philadelphia, the temp is over 30.c and radiation is hard.



UTCI (Universal Thermal Climate Index)

There are four parameters that affect the weather and body comfort which are dry bulb temp, wind speed, humidity and radiant. Therefore, only one of parameters can not indicate the weather condition. We need to have UTCI to integrate all informations.

Here in the UTCI chart. We see in Philadelphia, there is almost no extreme heat condition. And for the most time, we need to deal with the cold weather. So, isolation and south faced openings are critical. In summer, avoid staying outdoor during the mid of day.