

ARCH633- Assignment 1- Climate Data Report

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Software: Climate Consultant

Data: USA_PA_Philadelphia.Intl.AP.724080_TMY3

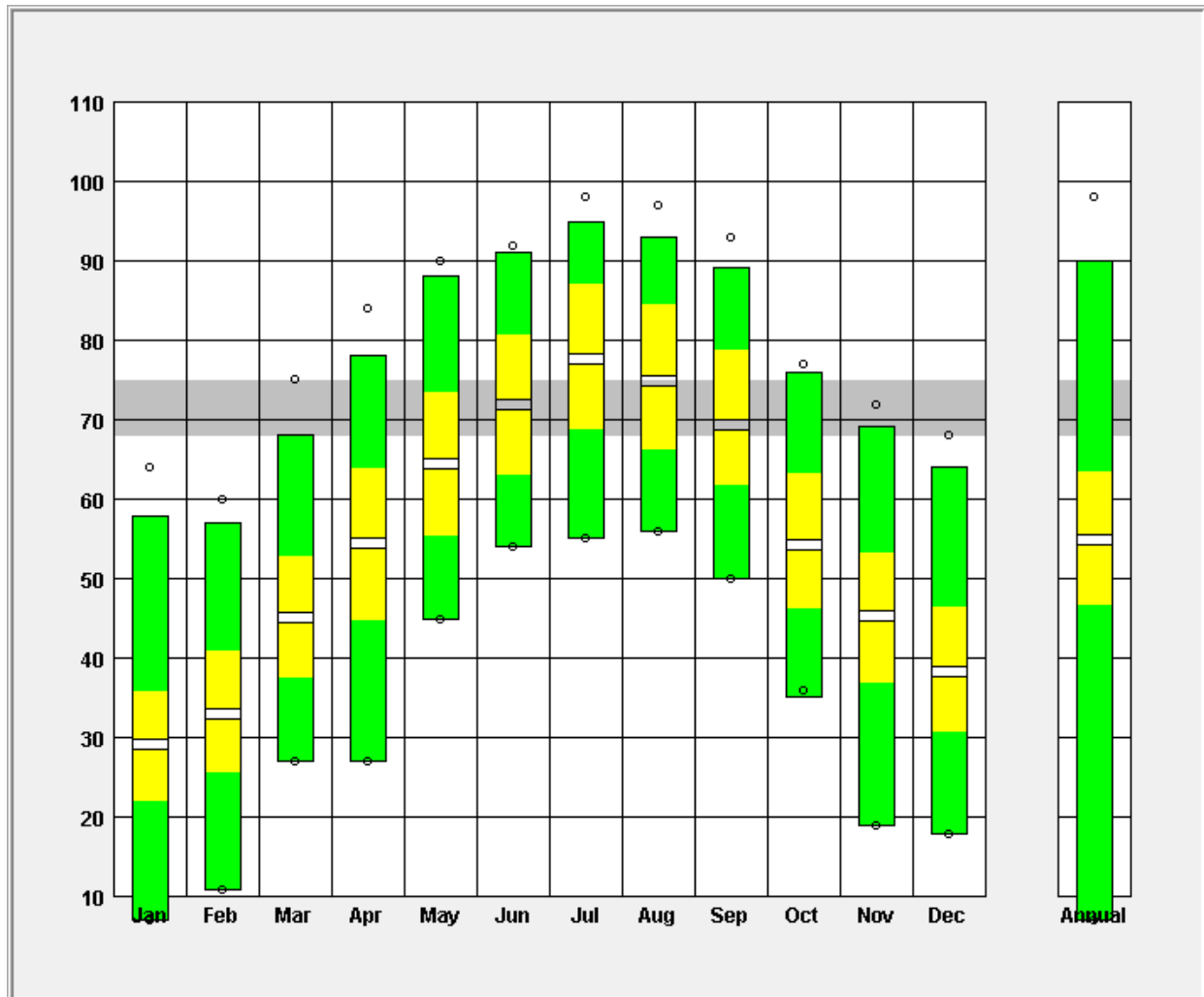


Figure1: Temperature Range

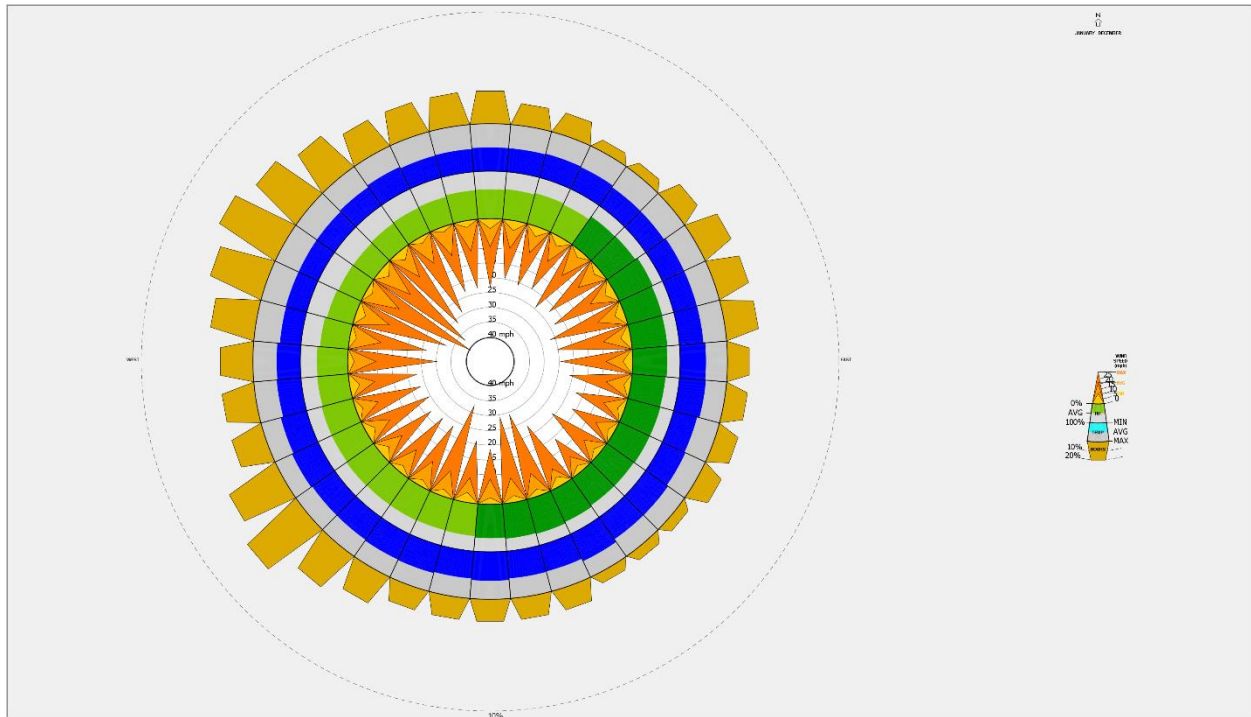


Figure 2: Wind Wheel

1. The variation of humidity, temperature, radiation, through a year is quite big. There is obvious difference between the characters of dry and wet seasons, summer and winter. So one thing we should do is to keep building always inside comfort zone, either in winter or summer.
2. Most of the year, we should provide air conditioning, including heating in winter and cooling in summer, which consumes large amount of energy. During the design, we should think about how to use a more eco-friendly way to keep the thermal performance of building and people's comfort inside. For example, to create natural ventilation, sun shading.
3. The wind blows more often from NW and South, so to reduce the air force that building façade needs to resist, the building massing should be designed to limit the air force, while also keep the natural ventilation a building needs.