

The following strategies have been revised to reflect conditional experiments of outdoor thermal comfort in Philadelphia. In order to provide a space with no thermal stress on the UTCI scale the following considerations must occur:

1. Sun - Orientation + Intensity
 - a. Be aware of the sunlight direction when designing a geometry since direct solar radiation will have a dramatic effect on the thermal comfort of the space. Typically, the sun is lower in the sky during the winter months than in the summer months as it makes its way along the southern orientation. The key here is to use sun charts to prevent the penetration of the harsh summer sun (reject harmful radiation) with enough overhang that won't block the necessary winter sun (embrace helpful radiation).
2. Surface Temperature - Density + Color + Permeability
 - a. Become aware of the distinction between thermally massive materials which are impermeable, heat absorptive and reflective, high-surface materials which are more permeable. High surface temperatures can have a negative effect on the comfort of a space if the material and density of a design tends to retain heat during the summer months.
3. Wind - Direction + Speed
 - a. Using wind data visualization to understand speed and direction of the wind should be used to design geometries that prevent negative impacts of wind comfort based on the Beaufort criteria. Airflow modeling can identify areas with threatening high velocity winds or wind stagnation (which need proper ventilation) in order to maximize the outdoor comfort throughout the year.