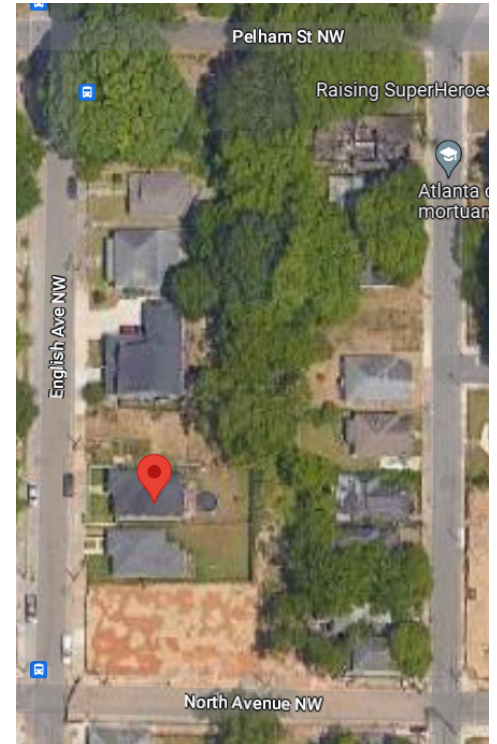




HOUSE DETAILS

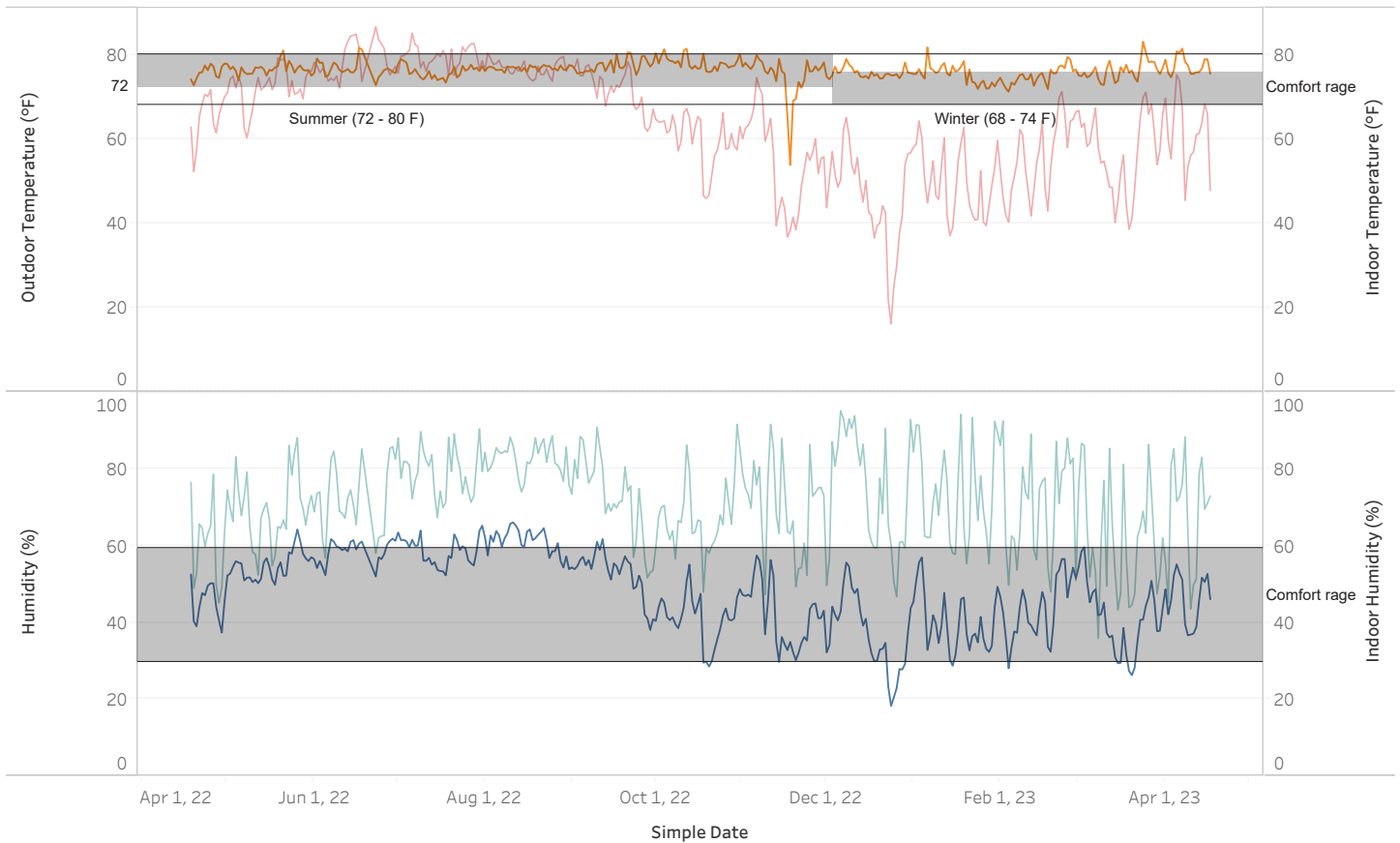
Built year : 1920
Rooms : 3Bed, 2 Bath
Area : 1,264 sqft
Type : **Retrofit**
Year of construction: 2018
HVAC : Heat pump



We mounted a weather station in a house retrofit to GA state energy code in 2018 and tested its performance over the year. This exercise helped us gather data and the potential benefits of constructing a building to energy code and understand the user behavior towards thermostat control with access to information.



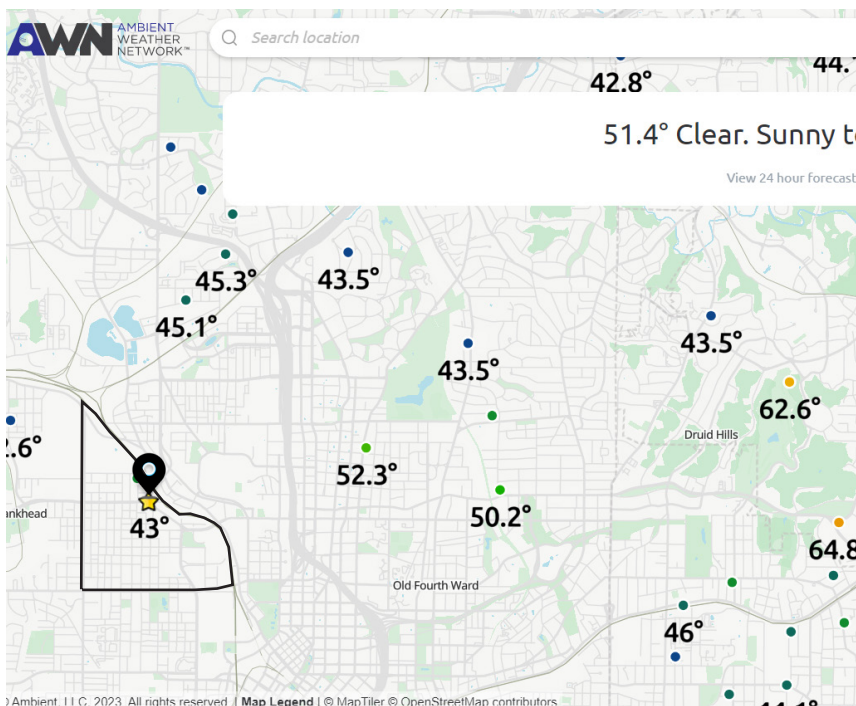
The mounting location was selected based on site conditions with no obstruction to wind and sunlight. It was mounted behind the house at a height as prescribed in the manual (15 ft above ground level). The data recording began on April 1st 2022.



The trends of Outdoor Temperature (°F), Indoor Temperature (°F), Humidity (%) and Indoor Humidity (%) for Simple Date. Color shows details about Outdoor Temperature (°F), Indoor Temperature (°F), Humidity (%) and Indoor Humidity (%).

■ Outdoor Temperature (°F)
 ■ Indoor Temperature (°F)
 ■ Humidity (%)
 ■ Indoor Humidity (%)

The graph shows the temperature and humidity difference between exterior and interior environments. It confirms that more than 75% of the year, the weather is uncomfortable, imposing stress on the mechanical systems to ensure comfort.



With increasing temperatures and the urban heat island effect, this data can help understand the trend in climate variabilities and compare the data with different urban settings within the city. The end user also used the information to plan his energy-saving routine based on microclimatic conditions by adjusting setpoints and reducing energy bills. This opens up an avenue for educating and providing access to environmental information as a way for behavioral change, thus reducing energy burden.