**Surfs Up-Analysis**

**Module 9 Challenge**

**Overview of the Project**

**Purpose:**

The purpose of this analysis is to assist W. Avy analyze temperature data for the months of June and December in Oahu to determine if the surf and ice cream shop business is sustainable year-round.

**Results**

**Key findings**

* The average temperature on Oahu in June is several degrees Fahrenheit higher than in December. The average June temperature is 74.94 degrees and the average temperature in December is 71.04 degrees.
* The minimum temperature in December on Oahu is 8 degrees Fahrenheit lower than the lowest temperature in June.
  + December min temp:
  + June min temp: 
* The maximum temperature on Oahu in June is two degrees high then in December. This is likely a negligible difference.
* More temperature observations were made in June than there were in December. June had a total number of 1700 observations while December had 1517.

**Summary**

**Temperature Analysis**

Based on the data above, it is valid to assume the surf and ice cream business would be sustainable year-round. Using the [extract](https://docs.sqlalchemy.org/en/14/core/sqlelement.html#sqlalchemy.sql.expression.extract) method in pandas, I was able to filter the data by months to compare the June and December data. Temperatures remain relatively constant throughout the year, with little difference between the summer and winter months. For this reason, it is safe to assume that ice cream and surf-related sales would not be impacted by temperature.

**Additional Queries**

Two additional queries that could assist with further analysis would be to investigate population/tourism data by months and wave heights by months. These two factors would have a great impact on both aspects of the business, ice cream and business.