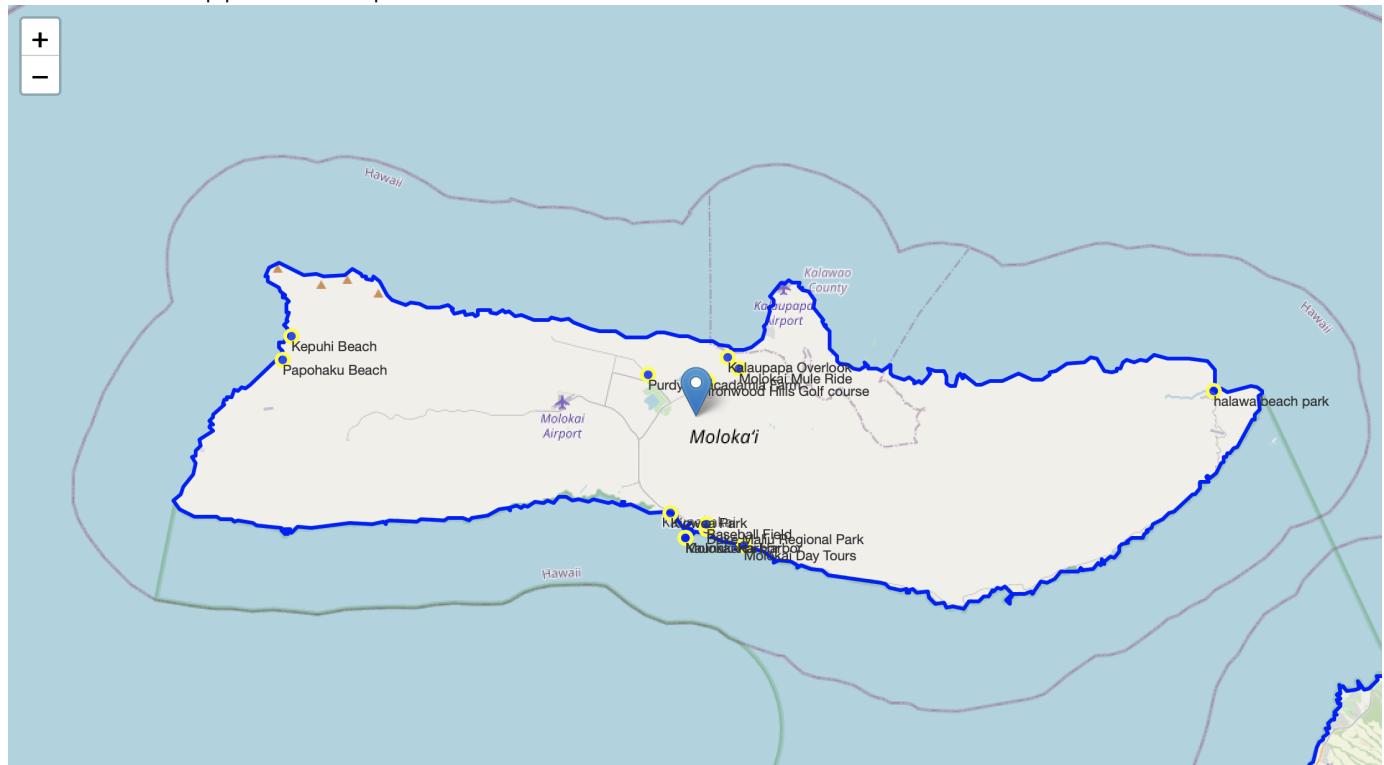


Taf Valley Molokai  
 Kalaupapa Overlook Park Kiowa Park Duke  
**Macadamia Farm**  
 Duke Maliu Hills Golf Molokai Art  
 Molokai Day Kepuhi Beach  
 Beach Papohaku Papohaku Beach  
 halawa beach Halawa Valley Overlook Kalaupapa  
 Harbor Molokai Tours Molokai Art Heart  
 Ride Molokai Field Baseball Falls Cultural Ironwood Hills  
 Purdy Macadamia park halawa Molokai Mule  
 Kaunakakai Harbor course Ironwood  
 Golt course Field Baseball Falls Cultural Ironwood  
 Hike Hali2003 Molokai MUSEUM

#### Molokai: Top-Picks on the Map

Here is a list of the top-picks on the map.

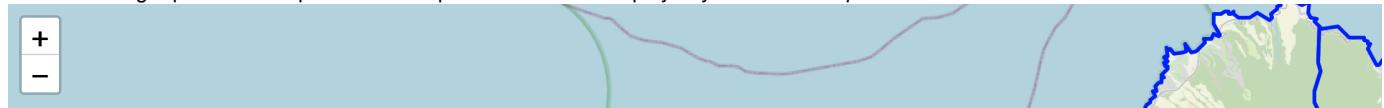


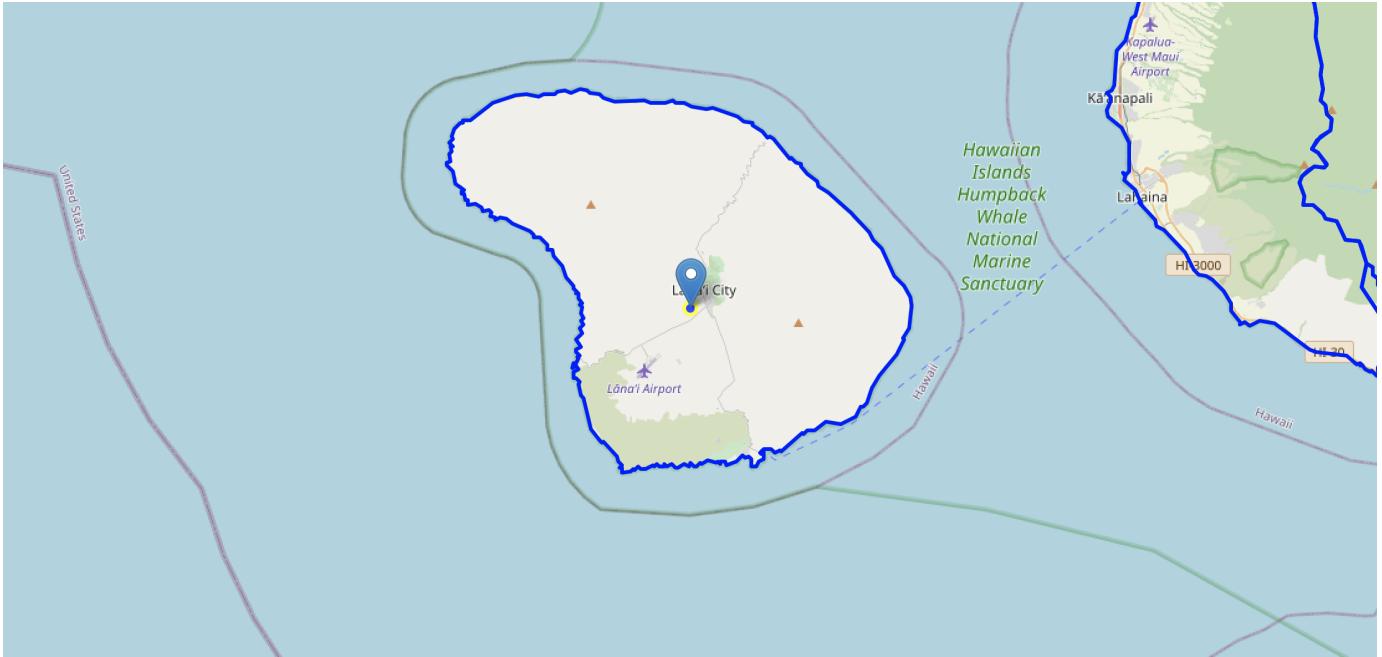
#### 4. Lanai (aka. The Pineapple Isle)

Next let's review the data available for Molokai.

##### Crime Incidents on Lanai

First of all we are looking to take a look at the Lanai's crime incident. However, given all zip codes assigned to the island of Lanai is none crimes incidents being reported to the police. The map below does not display any crime heatmap.





### Lanai: Airbnb Housing Data

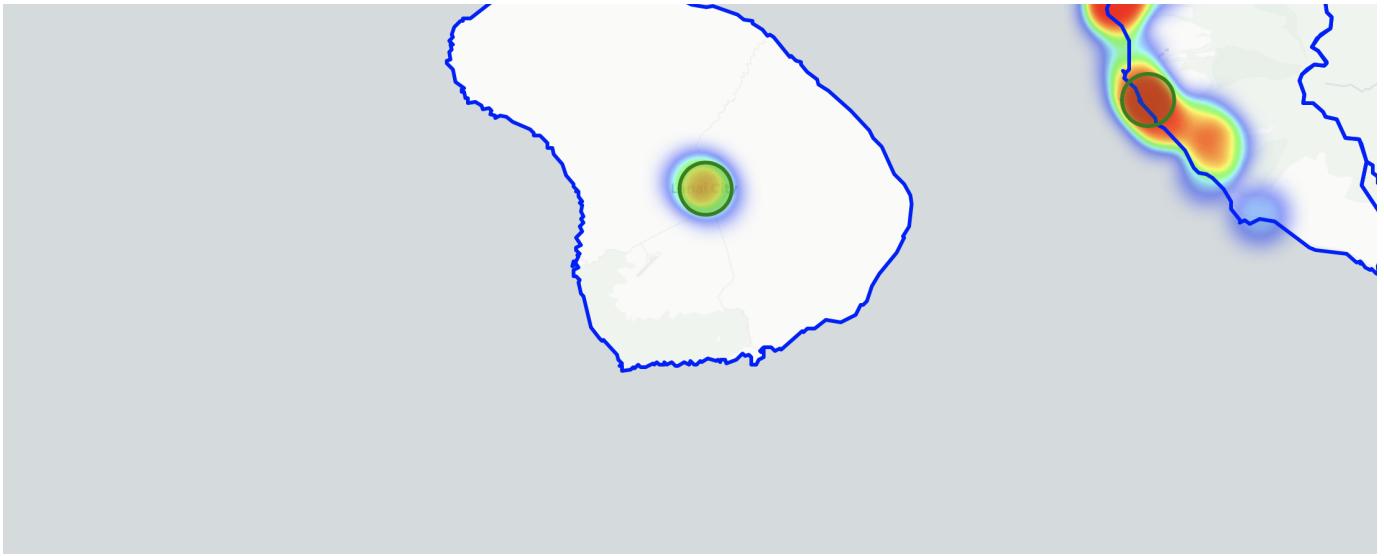
Use *heatmap* to find where are the Airbnb posting. Since Lanai is also a popular destination for visitors. Using the Airbnb data the consultant can clearly see this.



### Lanai: Use K-Means to Define Clusters of Housing Neighborhoods

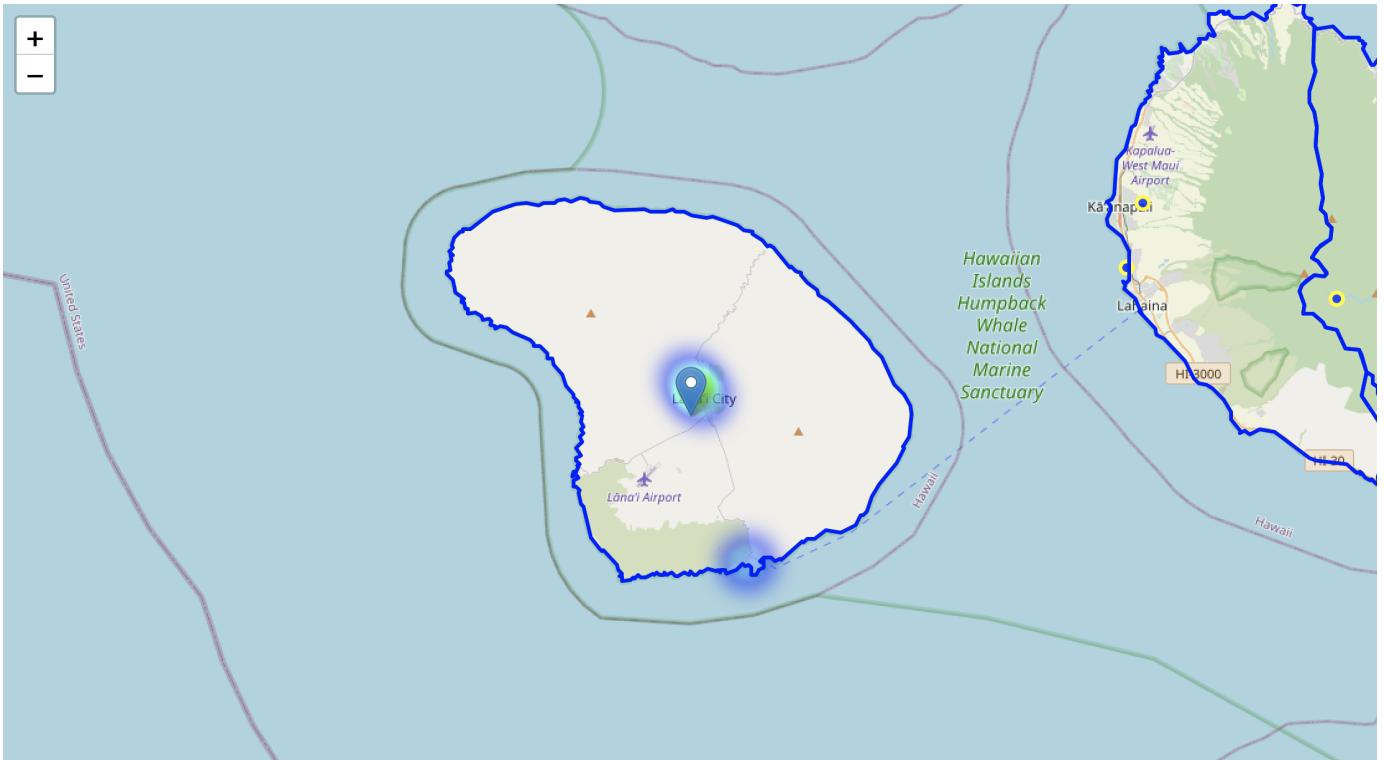
Next, use K-Means machine learning technique to define clusters using Airbnb housing data.





### Lanai: Top-Picks Heatmap

After retrieved the top-picks from Foursquare, let's put the venues on the map using *heatmap*. Basically, it is helpful to identify where are the visitor destinations.



### Lanai: Word Count

Using the *word count* technique, we can easily see the popular venues.

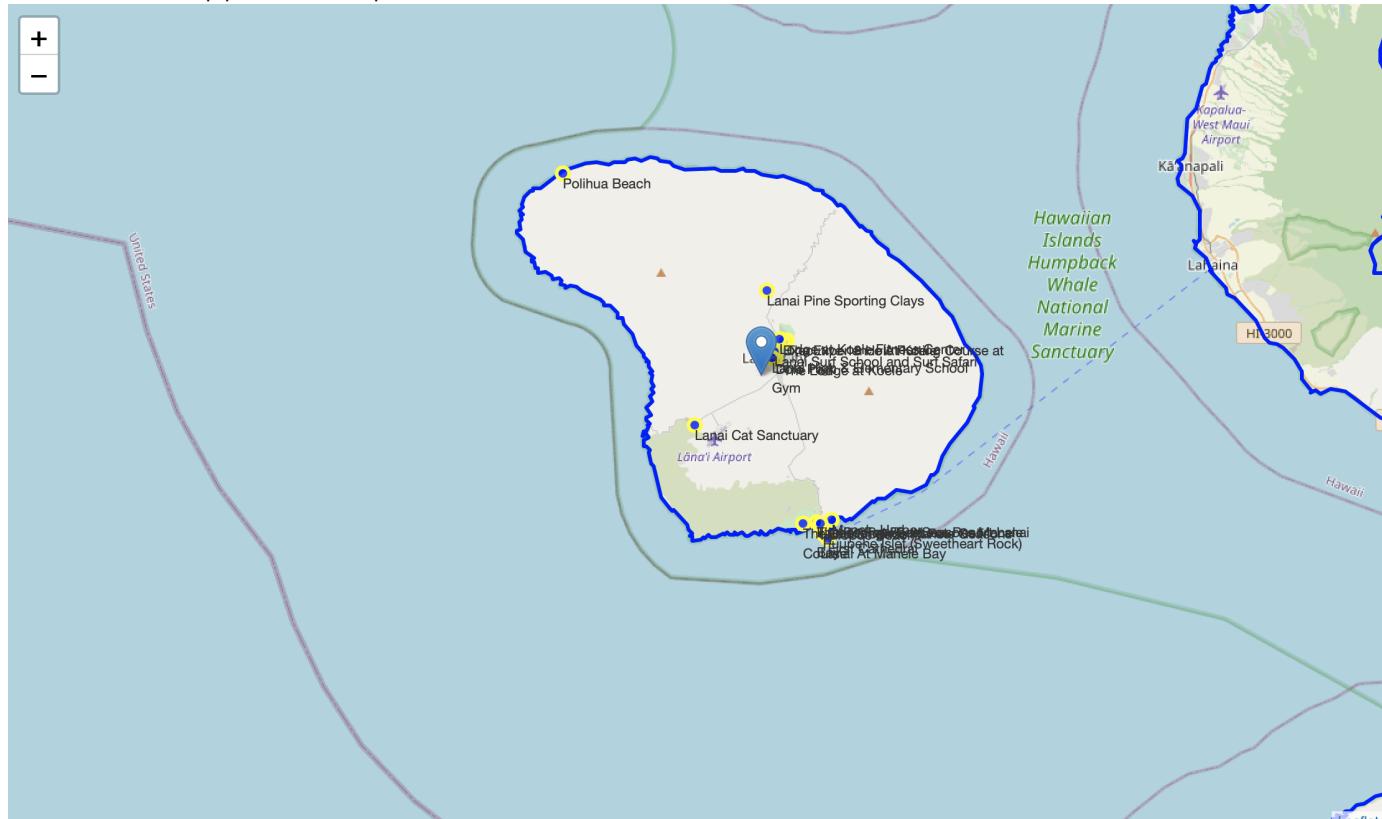


# Four Seasons Manele Bay

Sanctuary Lanai  
 Clays Lanai  
 Golf Course  
 Harbor Manele  
 Koele Experience  
 Polihua Beach Luau Grounds  
 Islet Putting Course  
 Seasons Manele  
 Challenge Manele  
 Rock Pu'upehe  
 Park Dole Cat Sanctuary  
 Sweetheart Rock

## Lanai: Top-Picks on the Map

Here is a list of the top-picks on the map.



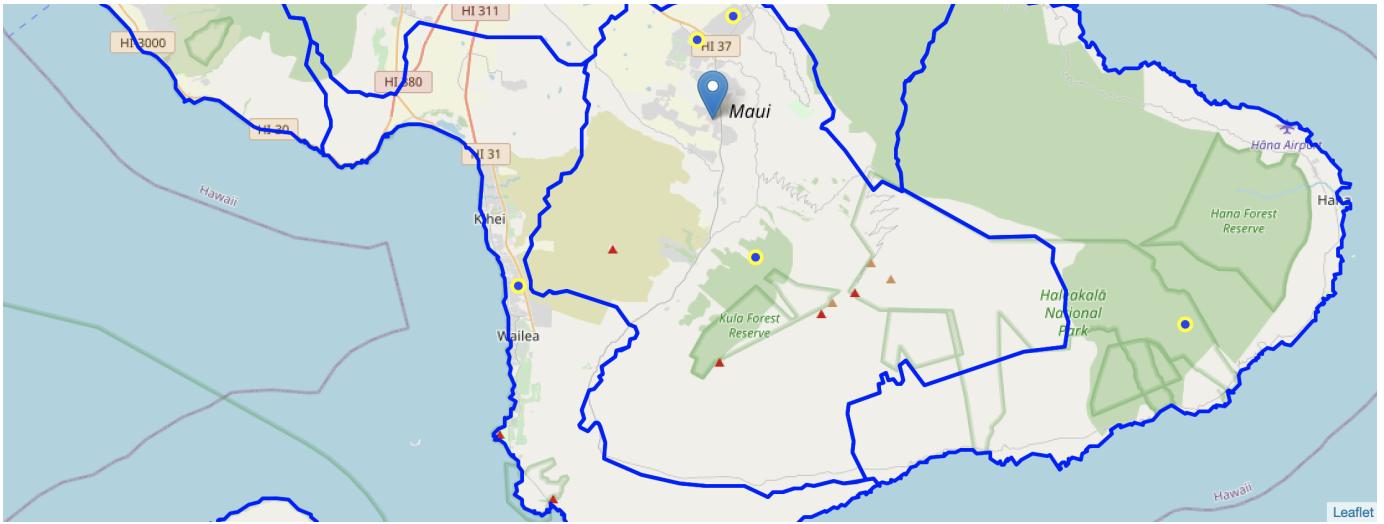
## 5. Maui (aka. The Valley Isle)

Next let's review the data available for Molokai.

### Crime Incidents on Maui

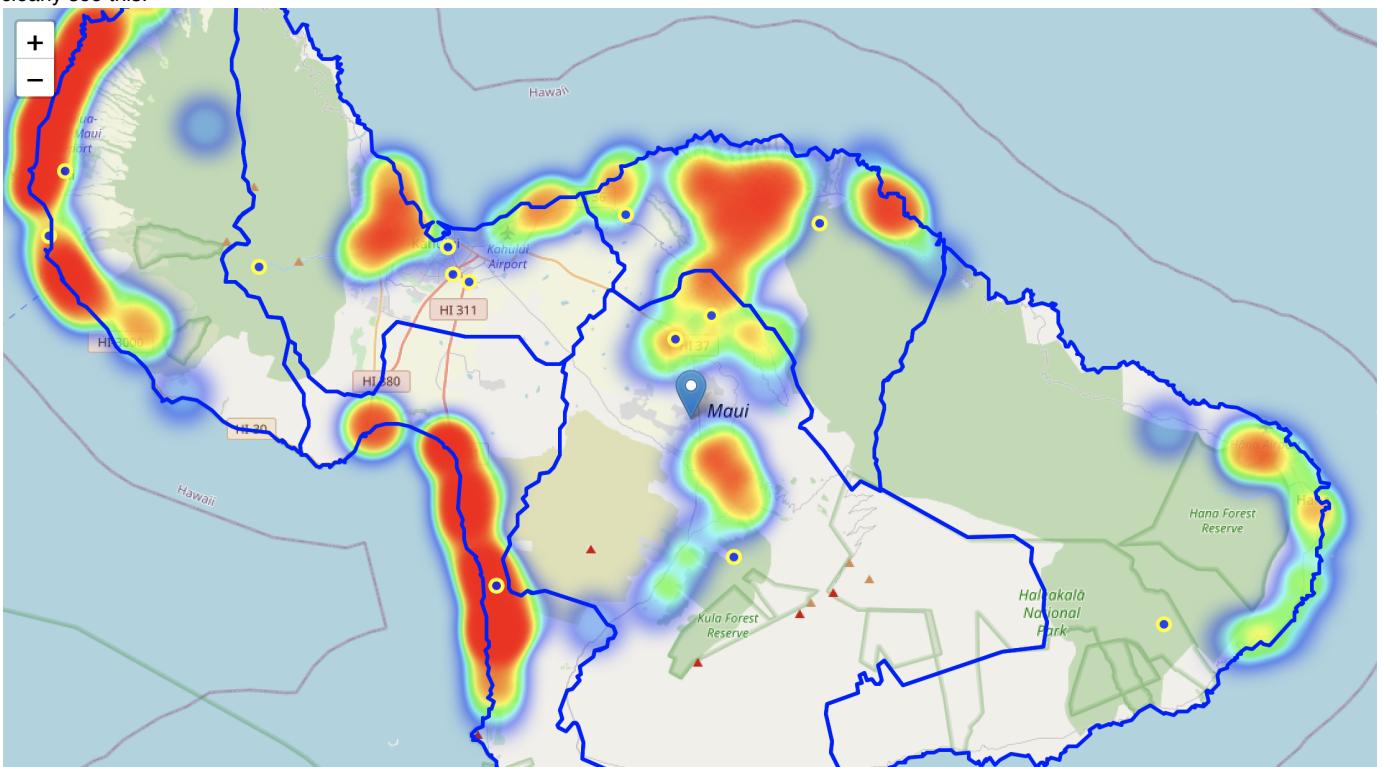
First of all we are looking to take a look at the Maui's crime incident. However, given all zip codes assigned to the island of Maui is none crimes incidents being reported to the police. The map below does not display any crime heatmap.





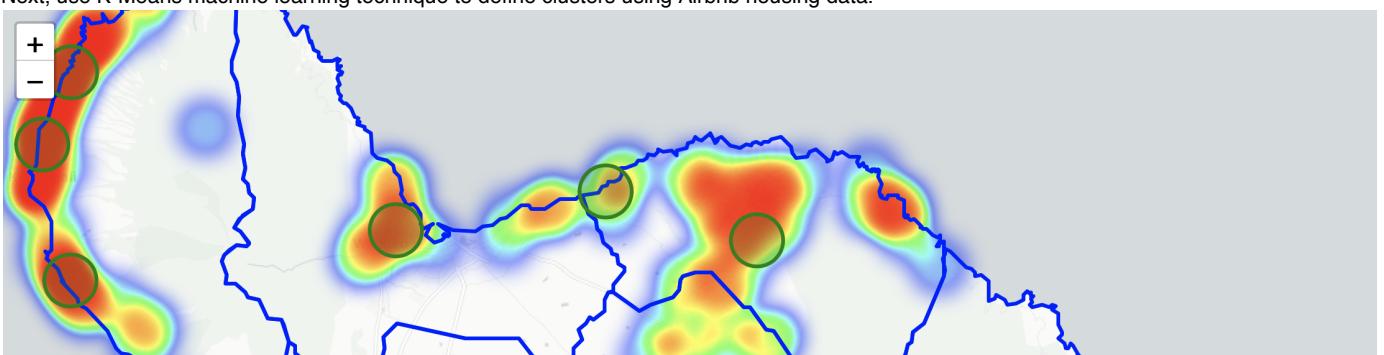
### Maui: Airbnb Housing Data

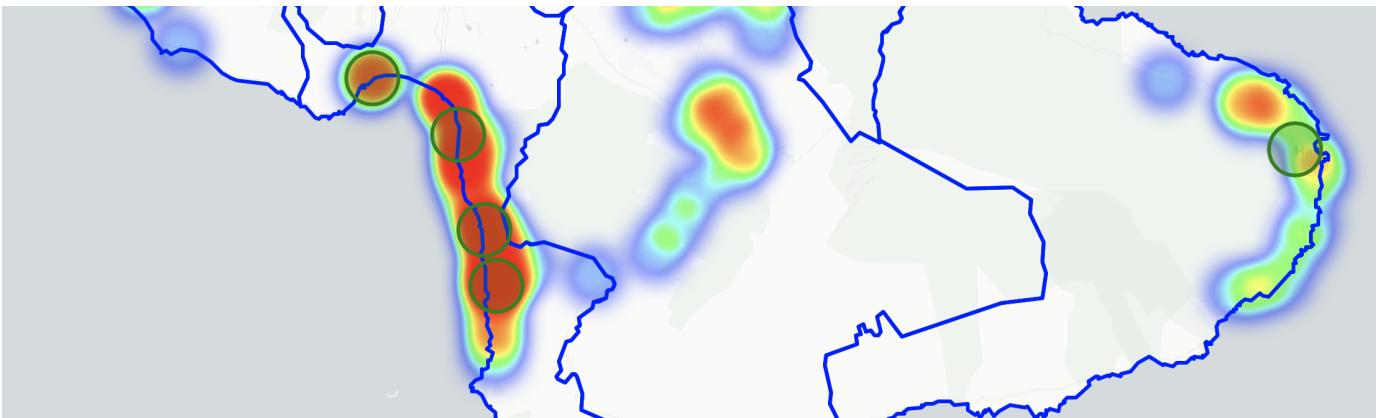
Use *heatmap* to find where are the Airbnb posting. Since Lanai is also a popular destination for visitors. Using the Airbnb data the consultant can clearly see this.



### Maui: Use K-Means to Define Clusters of Housing Neighborhoods

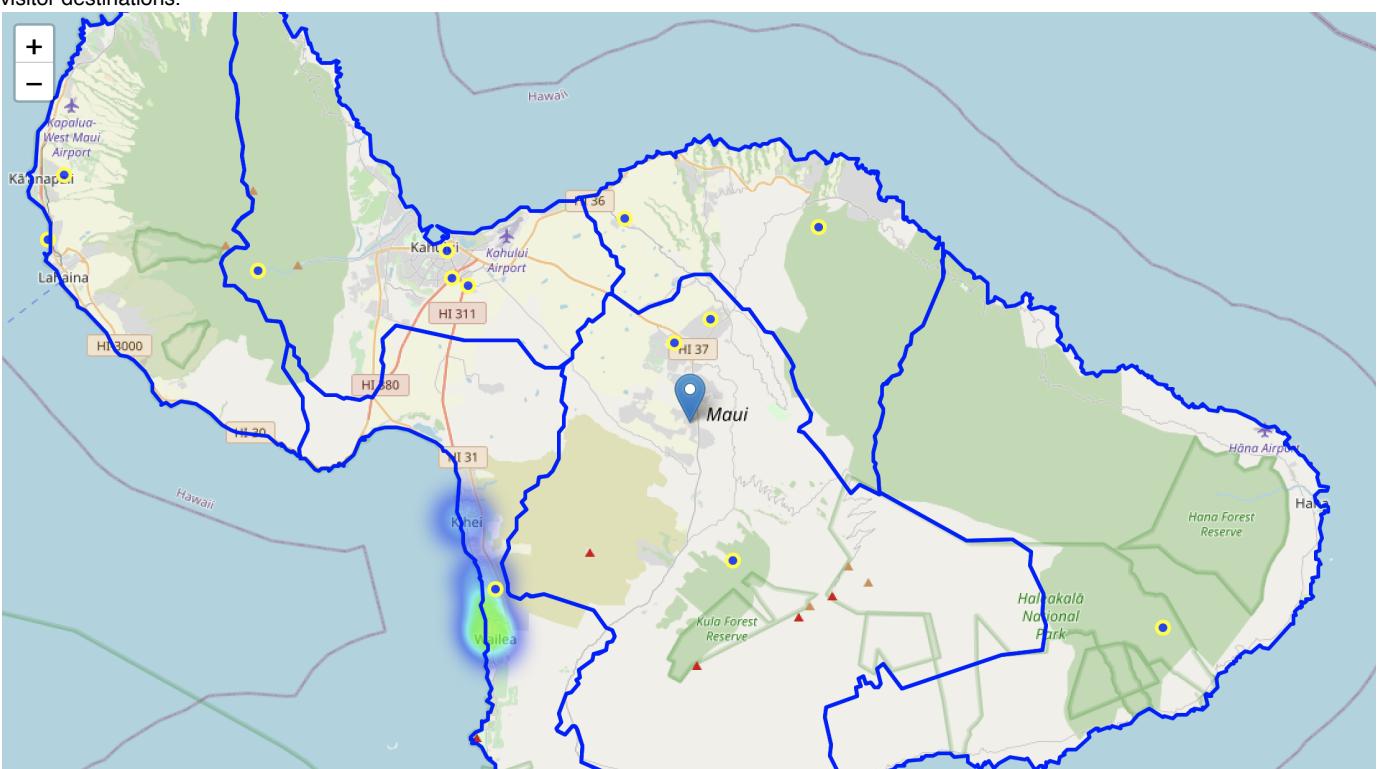
Next, use K-Means machine learning technique to define clusters using Airbnb housing data.





**Maui: Top-Picks Heatmap**

After retrieved the top-picks from Foursquare, let's put the venues on the map using *heatmap*. Basically, it is helpful to identify where are the visitor destinations.



**Maui: Word Count**

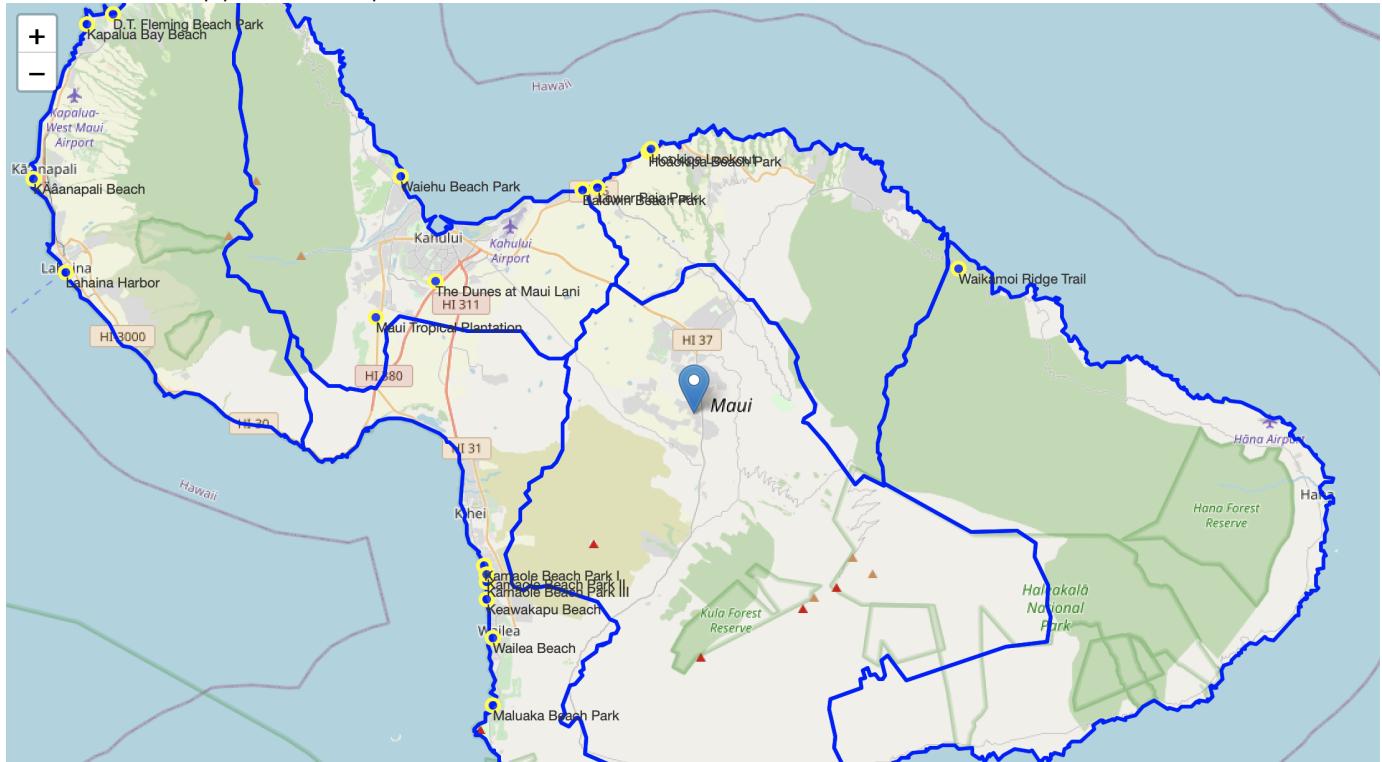
Using the *word count* technique, we can easily see the popular venues.





### Maui: Top-Picks on the Map

Here is a list of the top-picks on the map.

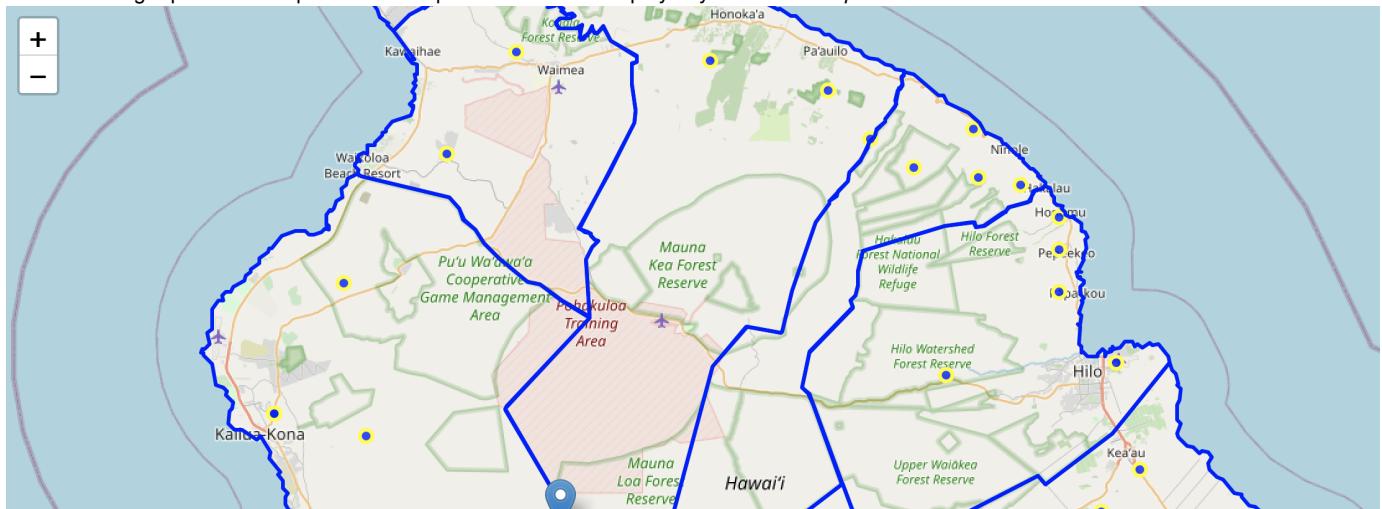


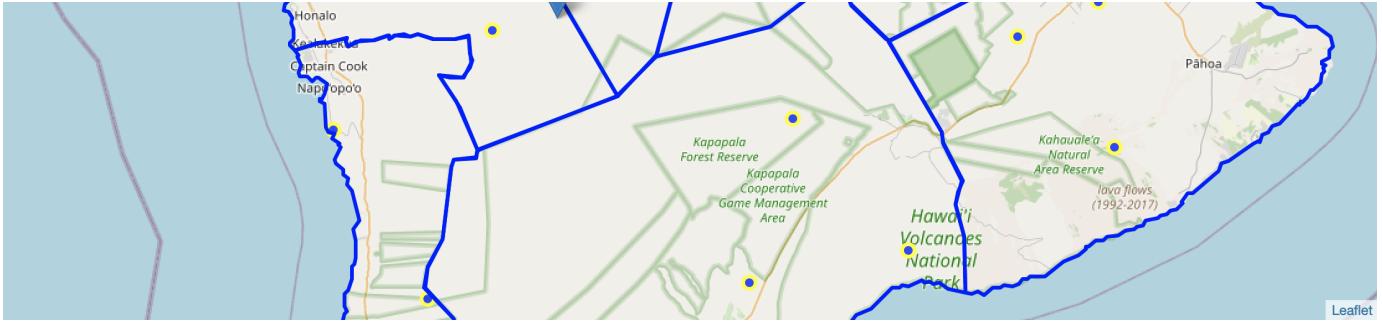
### 6. Big Island (aka. The Island of Hawaii)

Next let's review the data available for Molokai.

#### Crime Incidents on Big Island

First of all we are looking to take a look at the Maui's crime incident. However, given all zip codes assigned to the island of Maui is none crimes incidents being reported to the police. The map below does not display any crime heatmap.





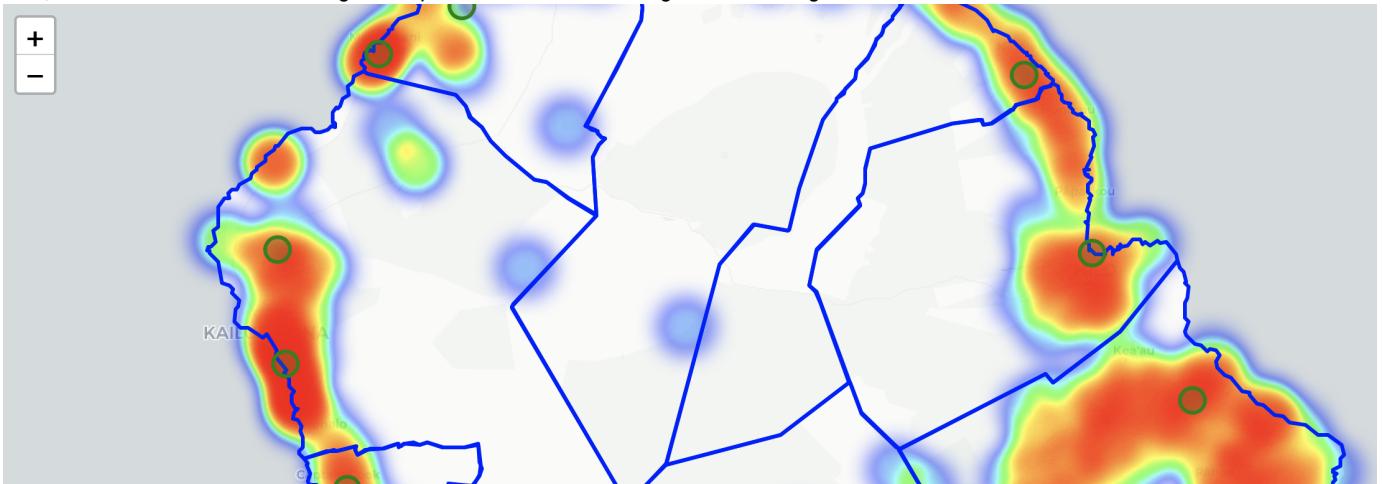
### Big Island: Airbnb Housing Data

Use *heatmap* to find where are the Airbnb posting. Since Lanai is also a popular destination for visitors. Using the Airbnb data the consultant can clearly see this.



### Big Island: Use K-Means to Define Clusters of Housing Neighborhoods

Next, use K-Means machine learning technique to define clusters using Airbnb housing data.

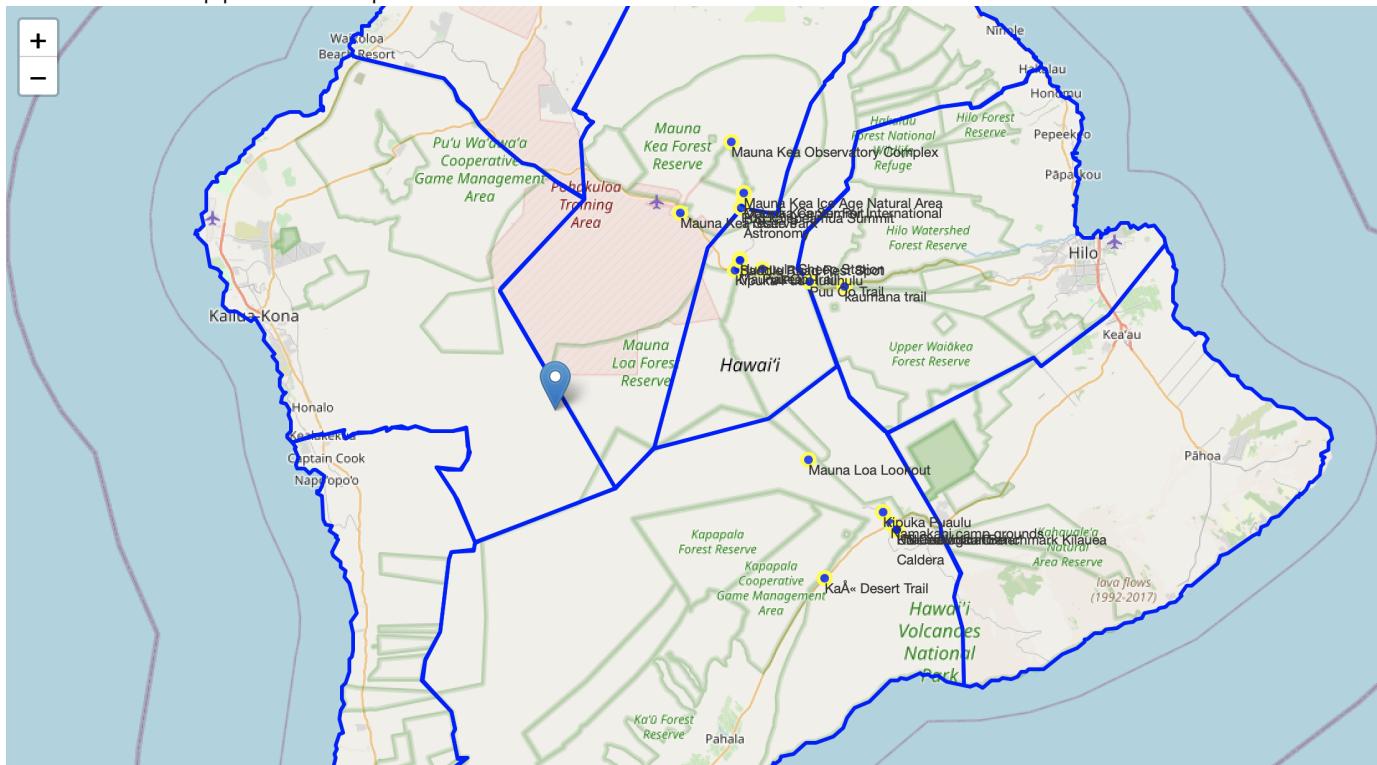






## Big Island: Top-Picks on the Map

Here is a list of the top-picks on the map.



## Section 5: Results and Discussion

The analysis shows that there are plenty of housing available in Airbnb. In fact, it has become very common to find place to stay in Hawaii using the Airbnb booking service, maybe Hawaii is one of the top tourist destinations. Using the K-means clustering technique the consultant is able to identify neighborhoods for each Hawaiian island.

Results of the 15 zones, containing largest number of potential housing locations based on Airbnb posting, has been identified for each Hawaiian island. With this Airbnb zones available, together with crime location, it should help visitors to plan to the trip where to stay.

Generally speaking, the Hawaiian islands are relatively safe except for the Oahu island, due to its high density of population, about more than 80% of the Hawaii population are living in Oahu. Thus, Honolulu is the center of government, economy, culture.

Since the islands is small, it will only take a few hours to reach a travel destination, so car rental is recommended and extremely convenient. The consultant has listed out 25 top-picks of parks or beaches for each island. This venue information should help visitors to prioritize how they can relax and spend on a island.

During the project, there is a discussion involving island-hopping travel to other islands for a quick day trip. The consultant believe that it is possible, however only air transportation is available using local airline carrier like Hawaiian Airlines.

Another important discussion, **Capstone Travel** should be prepared is to review the COVID-19 cases and threads in Hawaii. So far, the consultant believes that the State of Hawaii has done an excellent job of keeping the infection down and under control. Most of the COVID-19 is on the island of Oahu. Again, it is due to the high density of population on the island.

Attributes	Kauai	Oahu	Molokai	Lanai	Maui	Island of Hawaii
Nickname	Garden Isle	Gathering Place	Friendly Isle	Pineapple Isle	Valley Isle	Big Island
Capital City	Lihue	Honolulu	Wailuku	Wailuku	Wailuku	Hilo
Area (sq mi)	4,552.3	11,597.5	528.3	622.3	2,198.6	14,028.0

Criminal Charge (in 2020)	0	75,297	0	0	0	0
Avg Spring Temp	72°F	74°F	71°F	68°F	72°F	71°F
Avg Summer Temp	76°F	77°F	74°F	71°F	76°F	74°F
Avg Fall Temp	79°F	80°F	78°F	74°F	79°F	76°F
Avg Winter Temp	76°F	77°F	75°F	71°F	75°F	73°F
Population	66,921	953,207	7,345	3,135	144,444	185,079
Density (pop. / sq mi)	3,121	11,597	528	622	2,727	445

## Section 6: Conclusion

**Capstone Travel** has been in the tourism industry for more than 10 years. However, this is the first time, they hired a outside data science consultant to explore the travel destinations, especially for a special place called Hawaii.

The primary goal of this project is that **Capstone Travel** wants to present useful information to customers and help them to decide on *which Hawaiian island they want to visit and spend the time on?* For each island, the following topics have been analyzed and explored:

- Accommodations using available data for Airbnb posting
- Crime incidents for each neighborhood
- Foursquare's Top-Picks for each island