

## Why should the dust suppression project prioritize the North Lake communities?

**Community Location:** Dust suppression projects should prioritize the Public Health of communities on the North and Northwest sides of the Salton Sea. This is because there are more people in the ECV and West Shores who live close to the Salton Sea. The **Population** is greater on the North and the Northwest sides and the **Distance** is shorter to the shores of the Salton Sea. Table 1 and Figure 1 below show this.

**Wind:** The wind in the ECV blows from the South to the North in the summer season. The summer is when PM10 particulates are transported to communities from the Salton Sea. Many other types of contaminants from soil are transported in the summer winds. The Figure 2 is from a UCR scientist's analysis of wind at the Torres Martinez sensor station<sup>1</sup>. The summer has high winds blowing in both directions, but the winds from the SouthEast transport PM10 particulates to the north and North East communities.

**Air Sensors:** The wind that blows from the SouthEast in the summer has the potential to transport a variety of contaminants such as selenium, algae and algal toxins. Most PM10 sensors had a number above the USEPA health based standard for peak days. The threshold for the 24-hour average readings is 150 µg/M3<sup>2</sup>. PM10 is a major Air Quality problem for sites around the Salton Sea. The PM10 particles can also transport other contaminants<sup>3</sup>.

**Algae:** Algal blooms happen at the mouth of agricultural drains that contain high amounts of fertilizer and pesticide runoff. The fertilizer runoff, the Salton Sea ecology and the heat of the summer facilitates algal growth. The current agricultural drains in the North side of the Salton Sea are not managed and the runoff creates natural wetlands that do not flow properly into the Sea.

**Satellite images:** Our Balloon Mapping GIS data shows that the shoreline by the North Shore Yacht Club has increased an average of 160 feet from 9/2018 to 10/2019 (Figure 3). This rate of change is alarming for the community as the newly exposed playa represents a variety of soil types that could be transported during wind events. The rate of playa exposure in other parts of the sea may also be variable, but our community is uniquely aware of the rate of change occurring in our backyard.

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<sup>1</sup> Data from a preliminary atmospheric modeling investigation by Dr. Will Porter of UCR.

<sup>2</sup> Earl Withycombe. "Salton Sea 2018 Air Quality Update." Draft. California Air Resources Board, 2018

<sup>3</sup> Frie, Alexander L., Justin H. Dingle, Samantha C. Ying, and Roya Bahreini. "The Effect of a Receding Saline Lake (The Salton Sea) on Airborne Particulate Matter Composition." *Environmental Science & Technology* 51, no. 15 (August 1, 2017): 8283–92.

Table 1. Name of communities around the Salton Sea with distance to the Salton Sea shoreline. The distance estimate is taken from the nearest location of that community to the nearest point in the sea.

| Name                          | Type of Community | 2012 population (ACS) | Distance to 2003 Salton Sea shoreline in miles | Side of SS |
|-------------------------------|-------------------|-----------------------|--|------------|
| North Shore                   | CDP               | 3,520                 | 0.0  | North      |
| Coachella City                | City              | 40,966                | 8.5  | North      |
| V.Santa Rosa + Thermal        | CDP               | 2,970 + 2,924         | 5.3  | North      |
| Oasis                         | CDP               | 6,948                 | 0.2  | North      |
| Mecca                         | CDP               | 8,881                 | 1.5  | North      |
| Desert Shores                 | CDP               | 1,105                 | 0.0  | Northwest  |
| Salton Sea Beach              | CDP               | 532                   | 0.0  | West       |
| Salton City                   | CDP               | 4,145                 | 0.0  | West       |
| Westmorland                   | City              | 2,257                 | 5.0  | South      |
| Brawley                       | City              | 25,688                | 11.2   | South      |
| Calipatria                    | City              | 7,768                 | 3.3  | South      |
| Niland                        | CDP               | 1,026                 | 3.7  | Southeast  |
| Slab City                     | Community         | Unknown               | 7.2  | Southeast  |
| Bombay Beach                  | CDP               | 301                   | 0.0  | East       |
| Glamis + FoY +Hot mineral spa | Community         | Unknown               | 3.4  | East       |

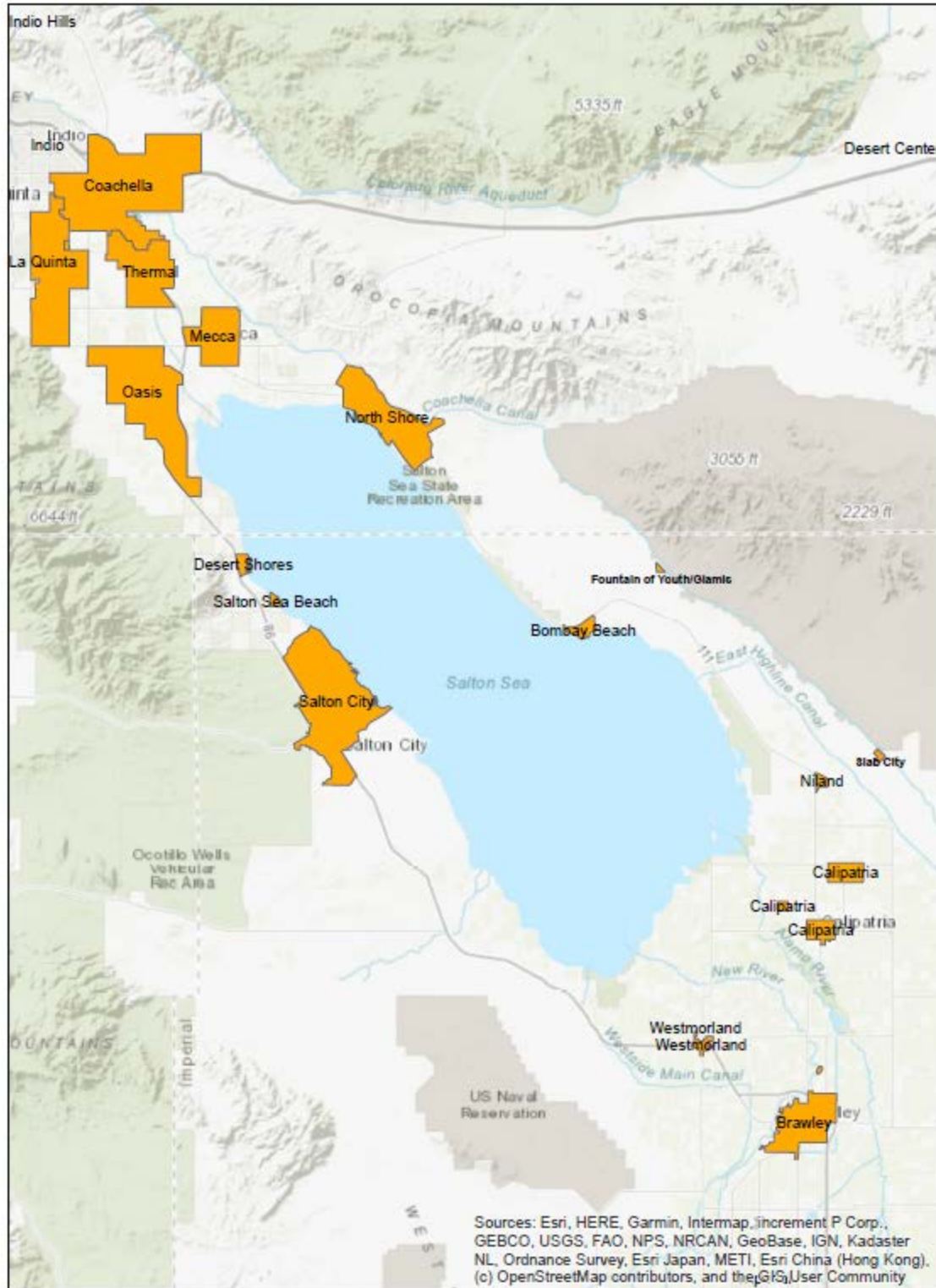


Figure 1. Map of the Salton Sea and all nearby communities.

## TorresMartinez

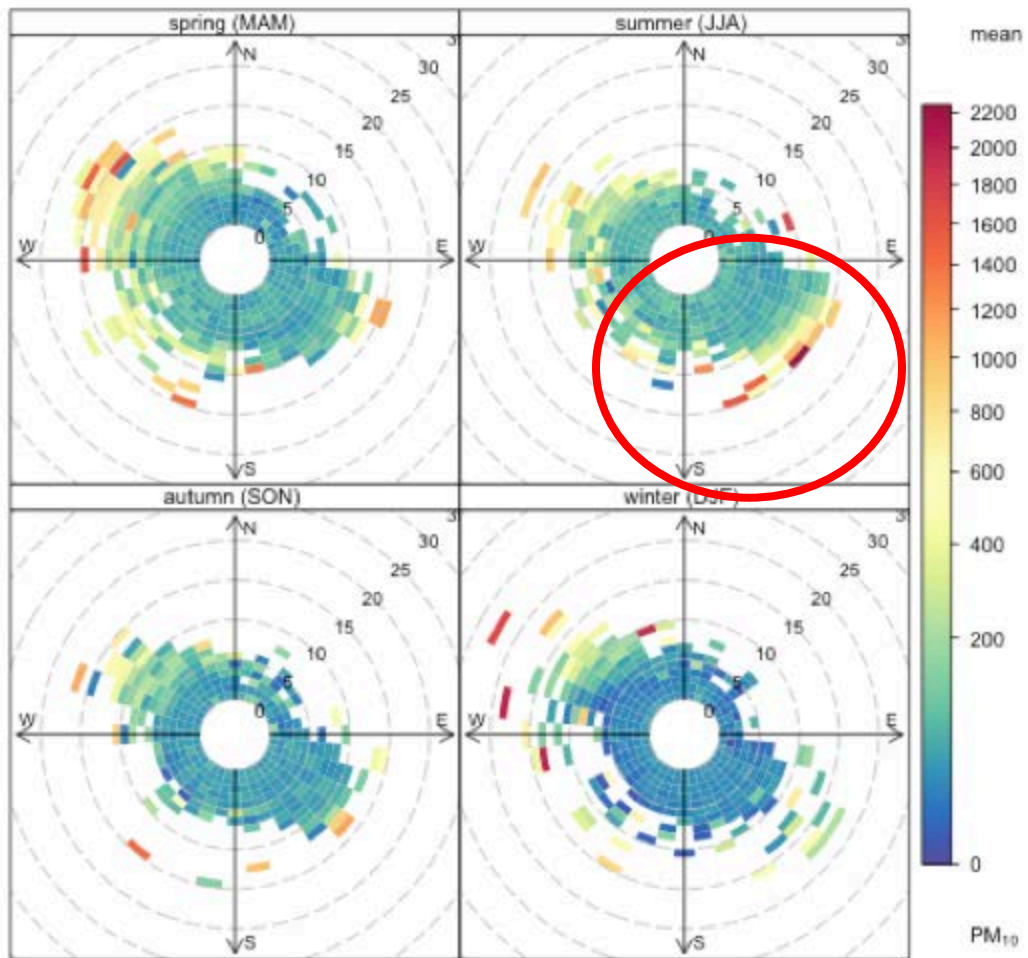


Figure 2. PM10 pollution roses for the Torres Martinez station using EPA data from 2012-2016. The color itself shows the average PM10 value associated with winds of that speed and direction. The red circle highlights that there are high PM10 counts coming from the SE wind direction in the summer. Shared by permission of Dr. Will Porter, an atmospheric scientist of the UCR department of Environmental Sciences.



Figure 3. Balloon mapping image from 10/2019 overlaid (b) on a 9/2018 google map image (a). Available from [https://map.openaerialmap.org/#/-/115.93896746635438,33.51908511429987,17/square/02301321302033102/5d2d1302f416f40006cffcc6?\\_k=d07dx5](https://map.openaerialmap.org/#/-/115.93896746635438,33.51908511429987,17/square/02301321302033102/5d2d1302f416f40006cffcc6?_k=d07dx5)