



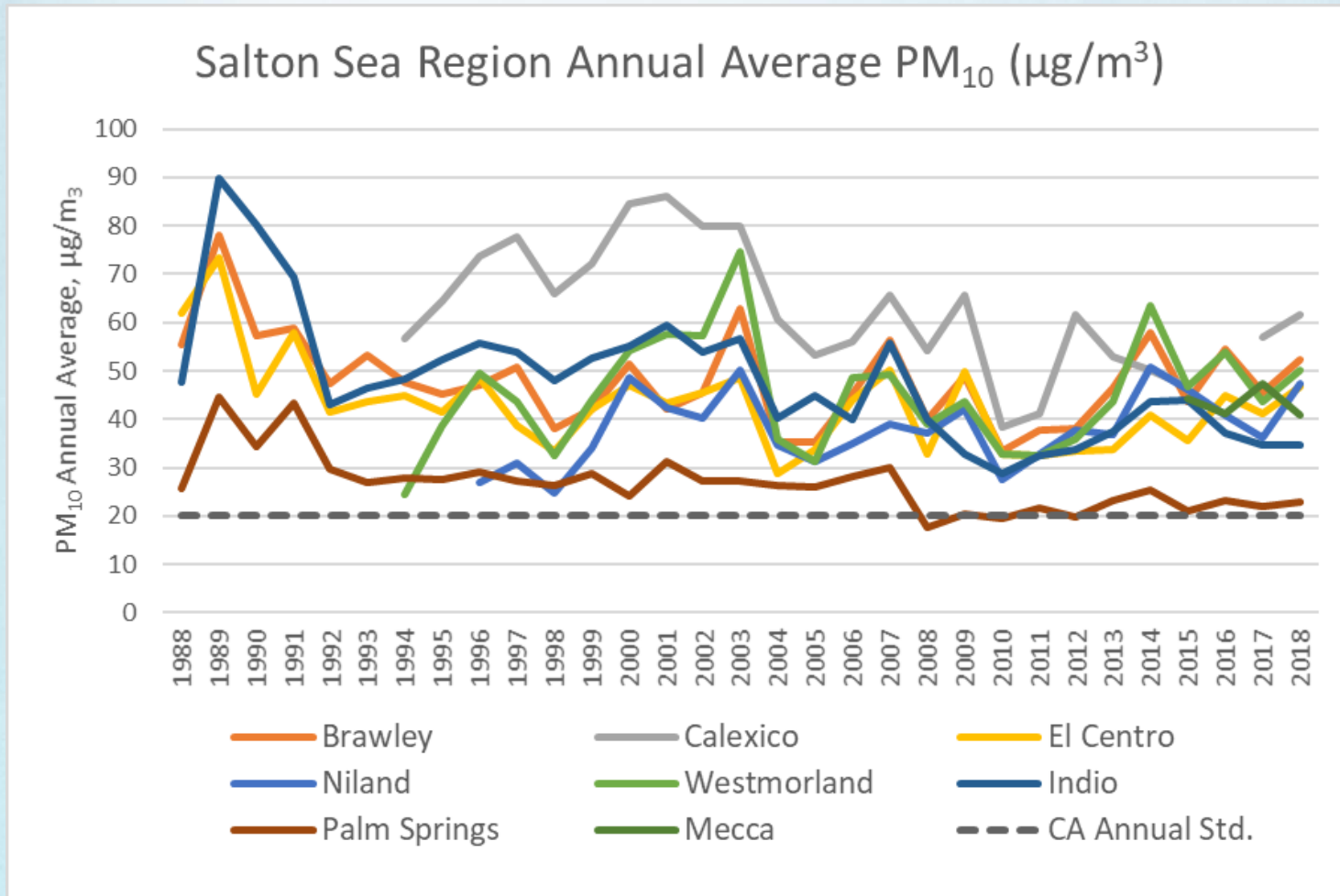
# **Salton Sea Windblown Dust Levels and Sources**

Earl Withycombe  
California Air Resources Board

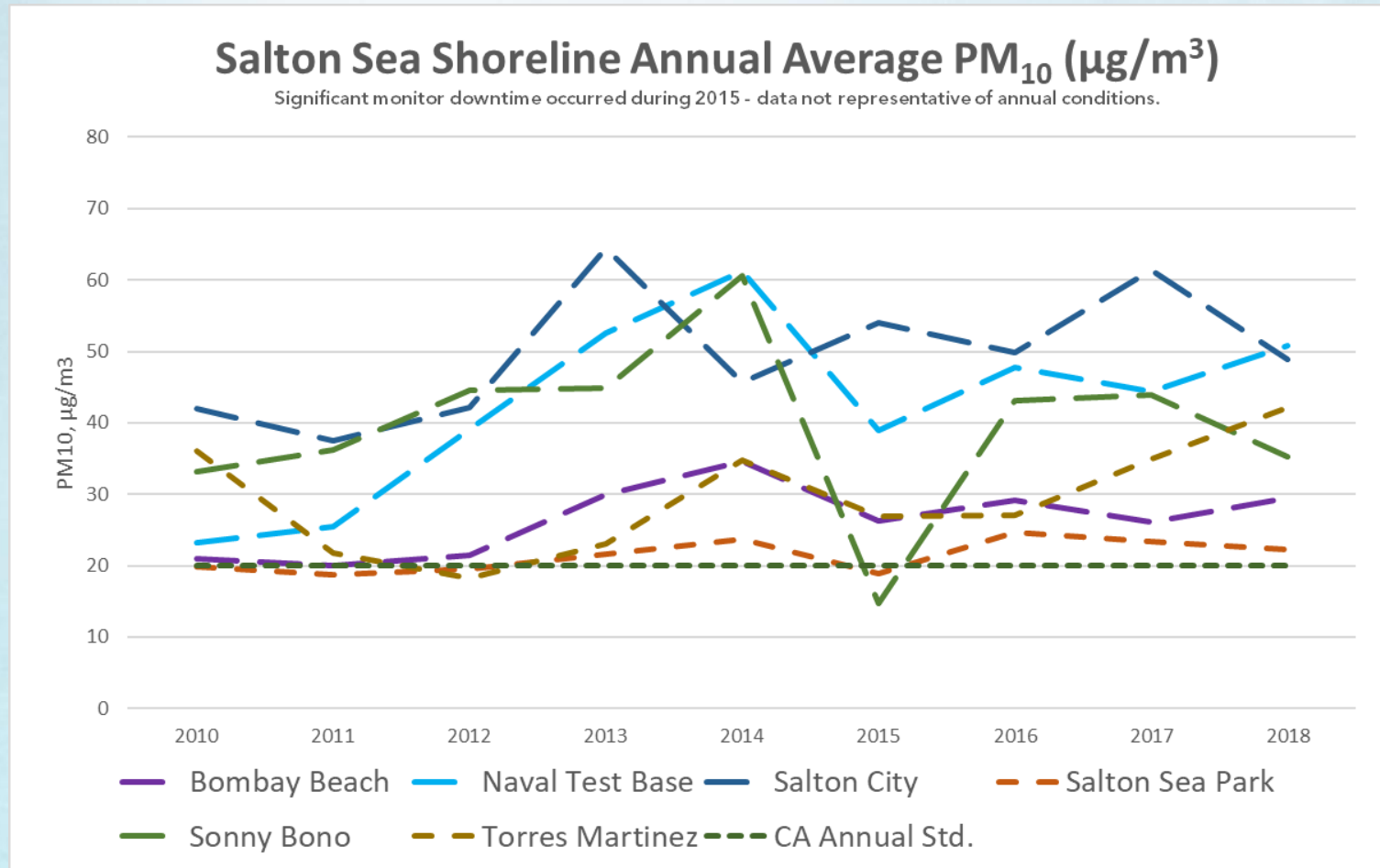
# Relevant Public Concerns

- How much windblown dust is being generated by exposed Salton Sea playa?
- How will dust emissions from Salton Sea playa be controlled to levels that are protective of public health?

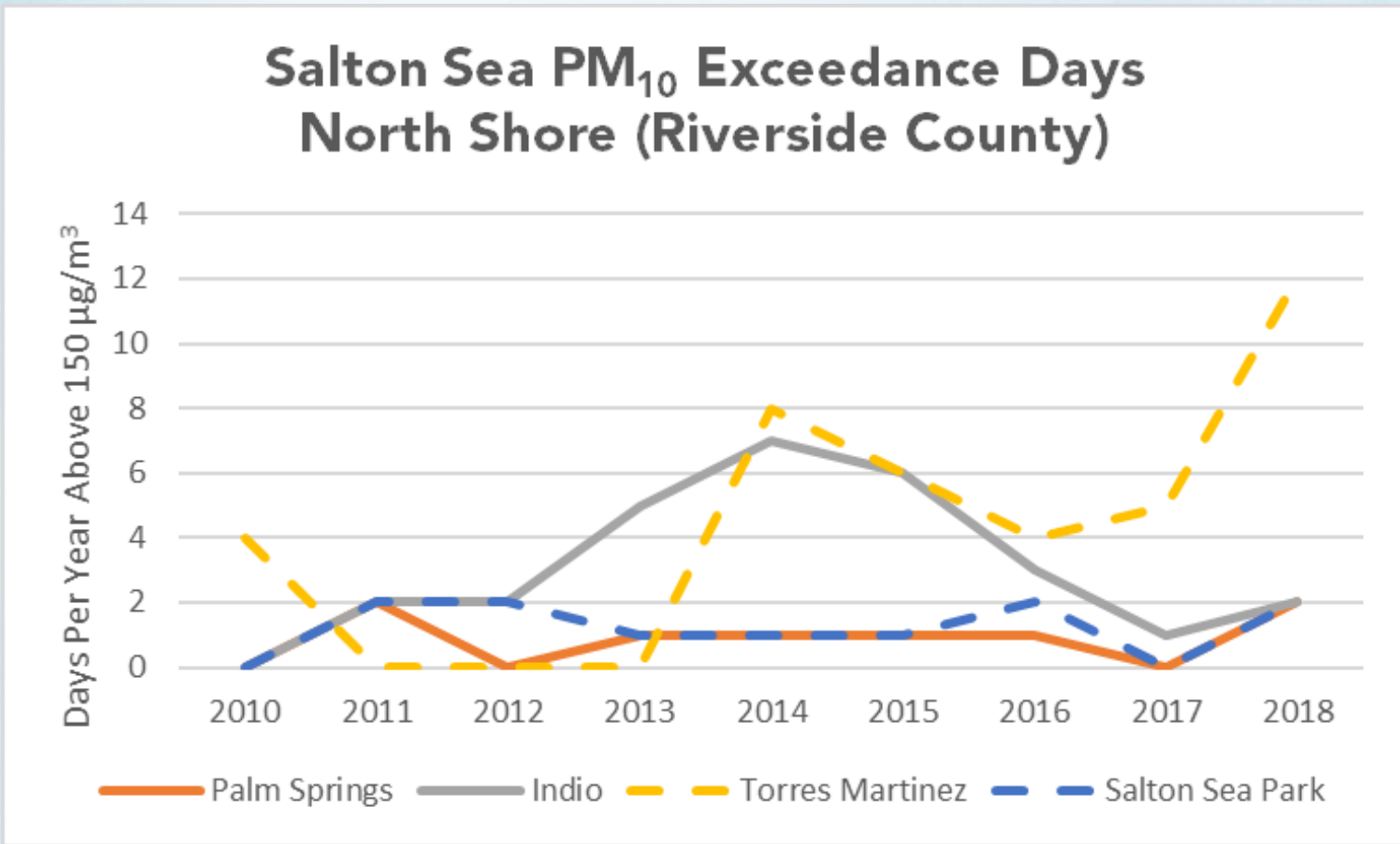
# Annual Average PM<sub>10</sub> Trends Community Monitoring Stations 1988 - 2018



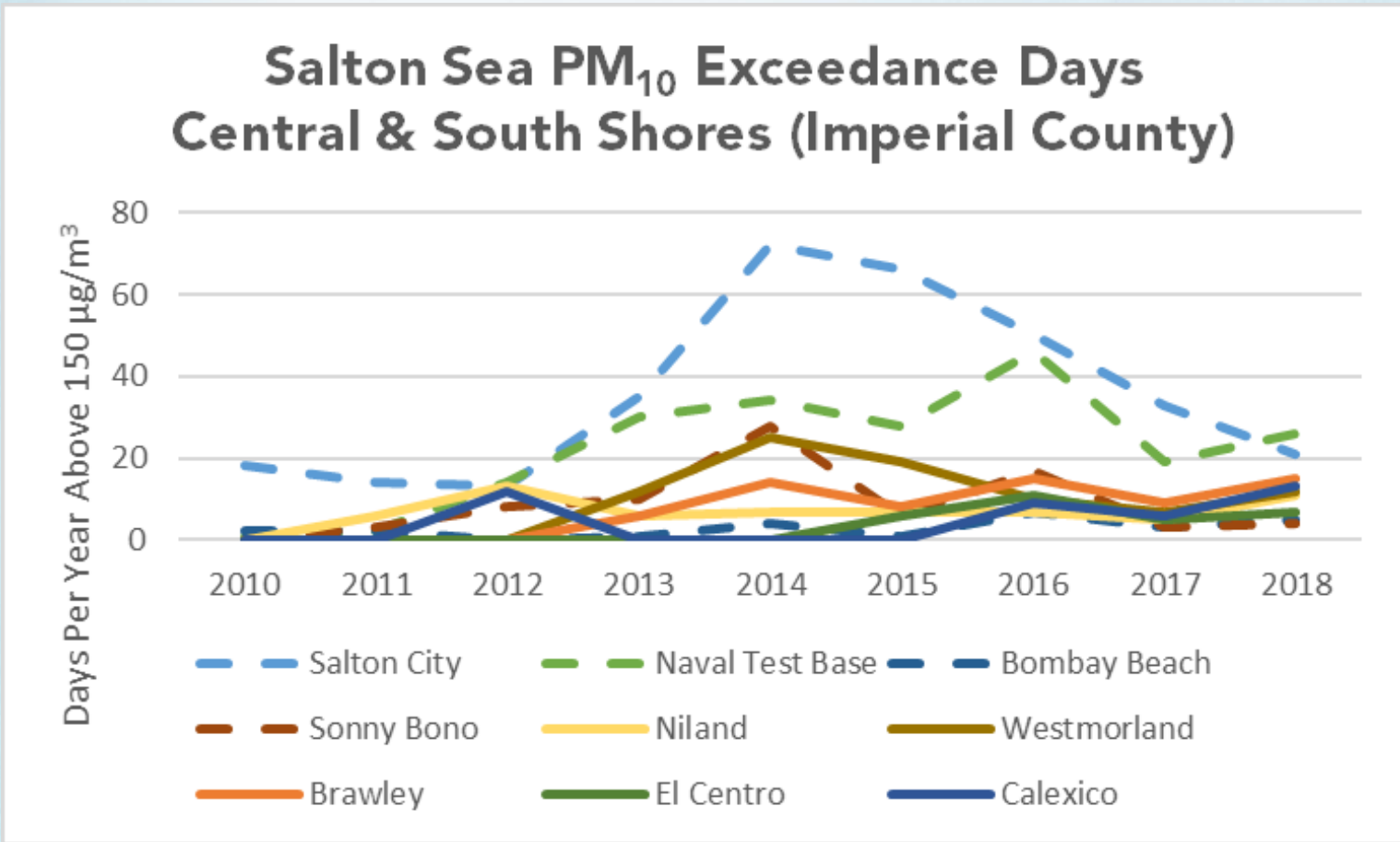
# Annual Average PM<sub>10</sub> Trends Salton Sea Shoreline Stations 2010 - 2018



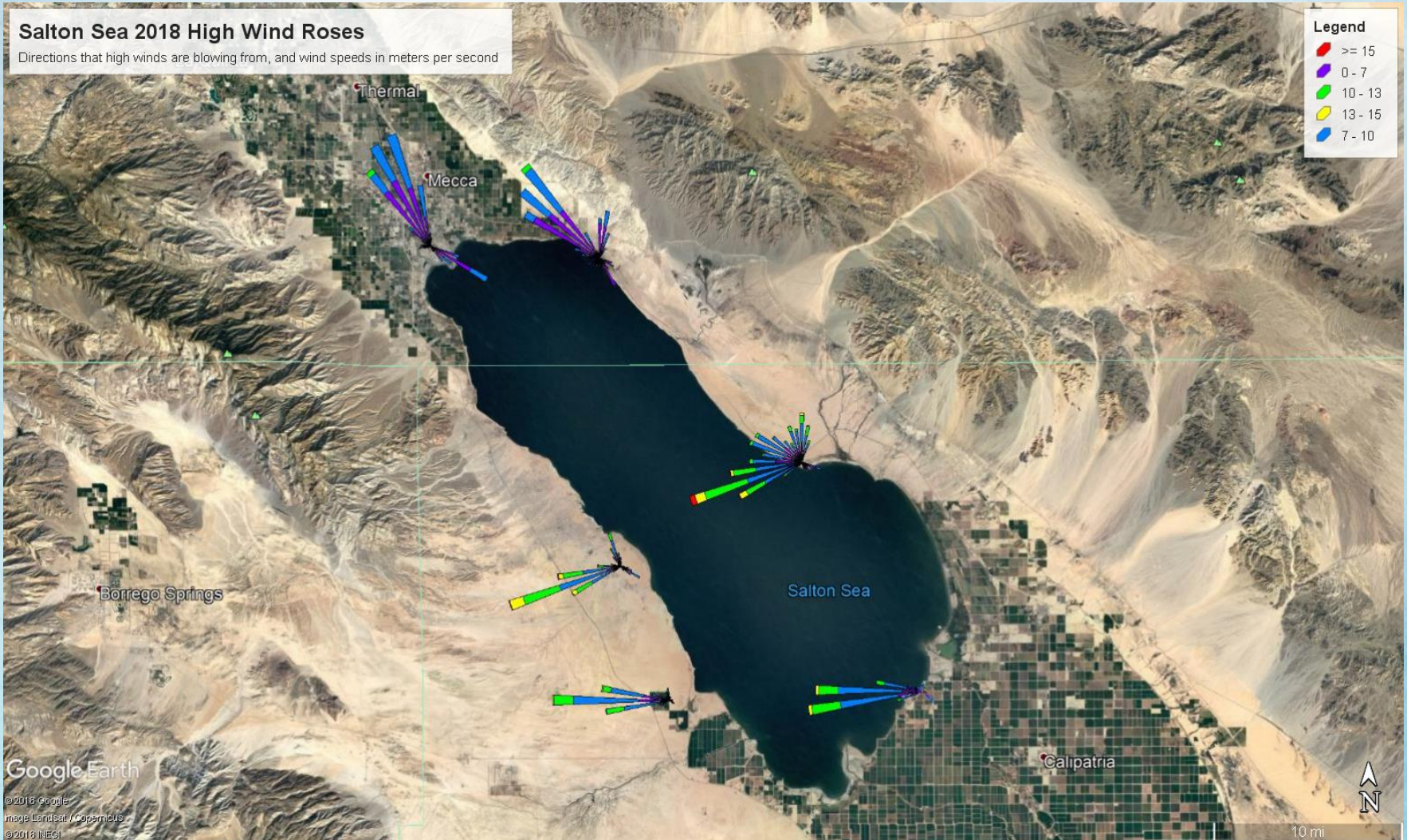
# Number of 24-Hour PM<sub>10</sub> Exceedance Days – North Shore



# Number of 24-Hour PM10 Exceedance Days – South Shore



# 2018 Hourly High Wind Directions



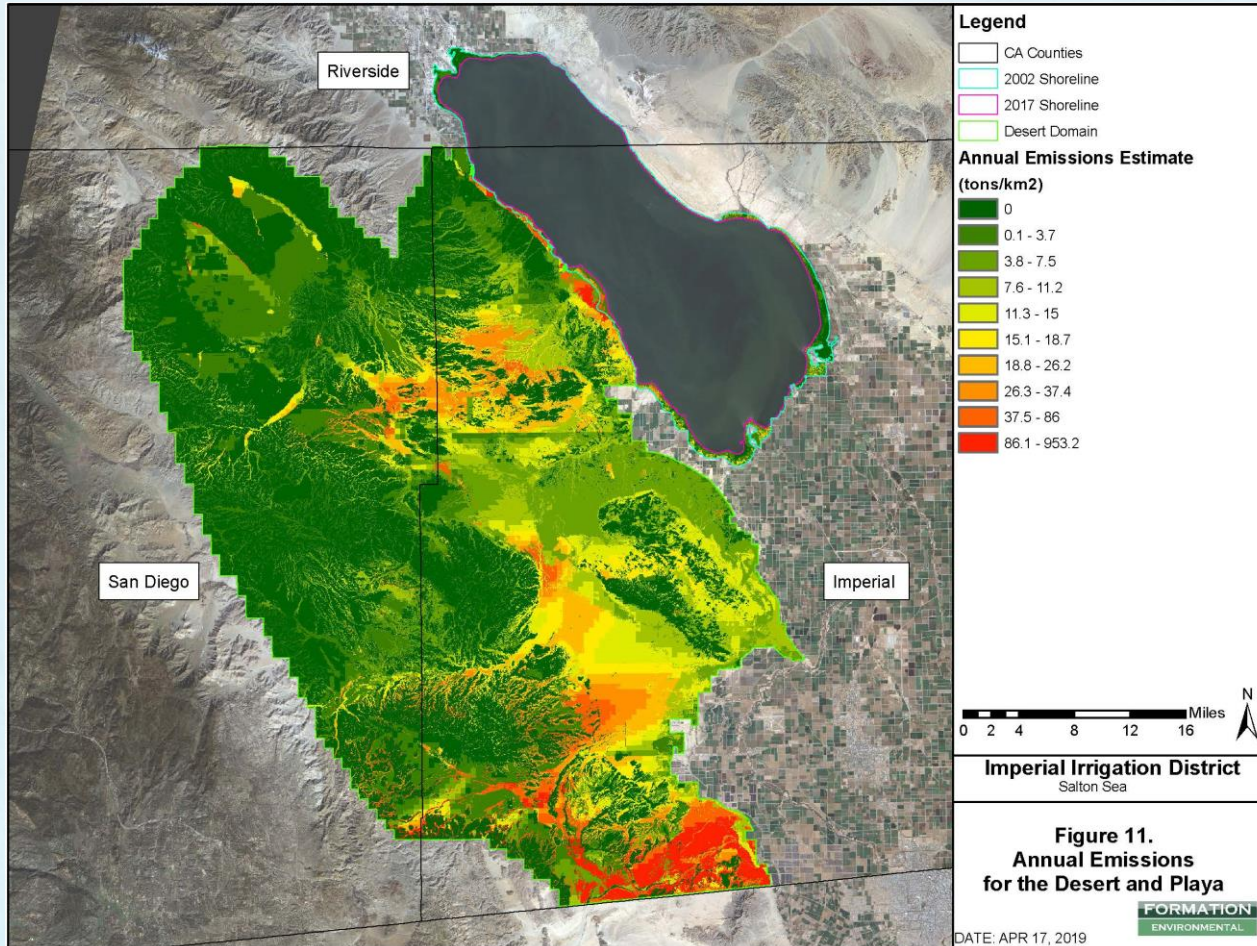
# Playa and Non-Playa Contributions to 2018 PM<sub>10</sub> Exceedance Days

## Numbers and Percentages of 2018 PM<sub>10</sub> Federal Exceedance Days Associated with Playa or Non-Playa Area Emissions – Or Both

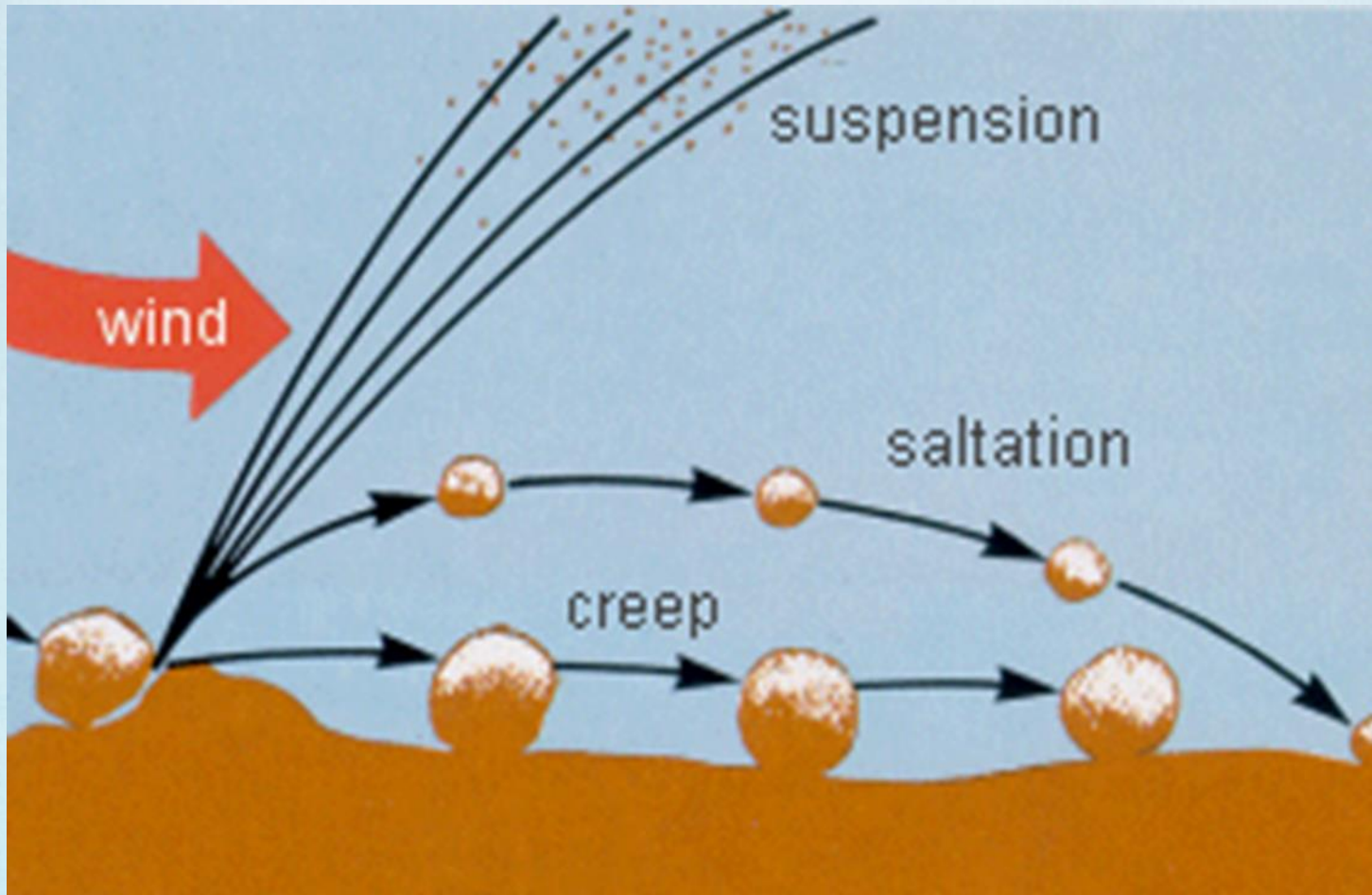
Station	Playa Areas	Non-Playa Areas	Both Area Types
<b>North Shore (Riverside County)</b>			
Salton Sea Park	0 (0%)	2 (100%)	0 (0%)
Torres Martinez	0 (0%)	11 (100%)	0 (0%)
<b>Central and South Shores (Imperial County)</b>			
Bombay Beach	4 (80%)	1 (20%)	0 (0%)
Naval Test Base	2 (10%)	19 (95%)	1 (5%)
Salton City	2 (11%)	17 (89%)	0 (0%)
Sonny Bono	4 (100%)	1 (25%)	1 (25%)



# Exposed Playa and Desert Lands Windblown PM<sub>10</sub> Emissions 7/1/2017 – 6/30/2018



# Windblown Dust Dynamics - General



# Sand Sheet Surrounding Salton City Monitor

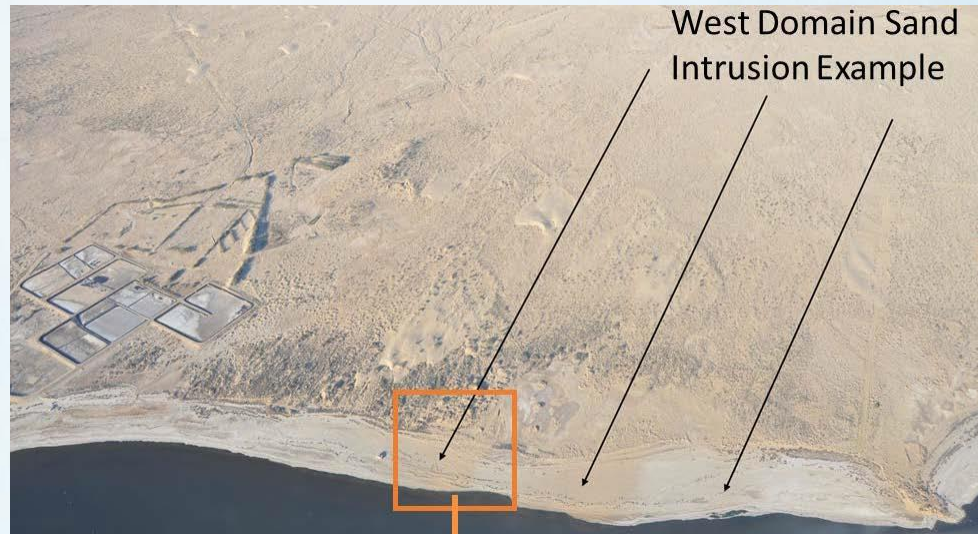
PM<sub>10</sub> Monitor



Sand Dunes



# Transgressive Sand Dunes Near Naval Test Base



Source: IID

# Playa Dust Control Projects: Surface Roughening



\$800/acre

Source: IID

# Playa Dust Control Projects: Vegetation Enhancement



Iodine Bush

Seed Harvesting



Seedlings



6 Months



Beach Ridges at Bombay Beach

\$9,000/acre

Source: IID

# Findings to Date

- Few discernible trends in PM<sub>10</sub> air quality are evident in the monitoring data
- Only Bombay Beach, Calipatria, and Niland are primarily downwind of exposed playa
- Windblown dust is not impacting these communities as much as others in the Air Basin at this time

## Findings to Date (continued)

- Affordable dust control measures are available and being installed on exposed playa near the Alamo and New River deltas
- Migrating sand on the western shore of the Salton Sea is causing the highest PM<sub>10</sub> readings and will significantly increase playa emissions unless stabilized on the coastal plain