



San Diego County
**Air Pollution
Control District**

Comprehensive Monitoring Plan

December 2022

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1. Executive Summary

This comprehensive monitoring plan is a blueprint/ road map that documents the evaluation processes and tools that APCD utilizes when determining where to place its ambient air monitoring locations (regional and community-based) and what pollutants to measure at each location. APCD uses a multilayered approach to rank the regional air monitors, samplers, and stations. This method includes monitor purpose, community type, population shifts, health rates, EPA network assessments tools (correlation, removal bias, exceedance probabilities, and area served) and other/ internal considerations.

APCD uses a variety of publicly available datasets to evaluate which communities should have additional air monitoring. This includes CalEnviroScreen, communities identified as disadvantaged by Senate Bill 535 (SB535), the Environmental Protection Agency's (EPA) EJScreen, proximity and number of AB2588 "Hot Spots" program and Title V facilities, the California Healthy Place Index, and other datasets, as appropriate. In addition, APCD will collaborate and consider information from community residents and stakeholders and the County of San Diego's Office of Sustainability and Environmental Justice in identifying additional communities to establish additional monitoring stations. While APCD continuously reviews its monitoring network, this plan will only be updated as our processes and tools change.

2. Introduction

California Assembly Bill 423 (Gloria, 2019) amended State law to restructure and expand the governing board of the San Diego County Air Pollution Control District (APCD). Therefore, as required by AB 423, as of March 1, 2021, the APCD has been operating independently of the County's organizational structure.

AB 423 also established specified duties for APCD to continue building a resilient San Diego where no community is left behind in the pursuit of clean air, and to increase transparency and public engagement. This report was prepared to fulfill one of the mandates in AB 423, which requires APCD to develop a plan for a comprehensive air monitoring program. The plan is required to include an evaluation of monitor locations in the most impacted communities and the monitoring of other air pollutants, such as speciated carbon particulate matter and toxic air contaminants, including metals.

The addition of new monitoring sites and or additional air quality equipment is subject to the availability of resources to establish and maintain any needed infrastructure, monitoring equipment, and other related activities (data collection, analysis, etc.). APCD will apply for grants, competitive and direct, to increase its monitoring capabilities and to inform the public about air quality levels in their region. Given the limited resources, APCD needs to evaluate where and how those limited resources should be spent to achieve the most impactful benefit to the community.

This plan is a roadmap or blueprint of that evaluation process. APCD acknowledges that there will always be more that can be done if given more resources.

3. Regional Air Monitoring Program

a. Current locations

APCD has an existing network of monitoring stations, Figure 1. Sites labeled in purple are existing regional sites, sites labeled in green are sites that are actively being developed (i.e. obtaining permits, construction of station). While not all sites measure all pollutants, each site measures multiple pollutants. The exception is the Palomar Airport site, which only measures lead. Please see Appendix C: Site/ Pollutant Table for Regional Air Quality Monitoring for more information on which pollutants are measured at each location.

Many of these sites have been in their current location since the early 1980s or earlier. Other sites have been relocated to nearby locations due to the site's property owner asking APCD to vacate the property due to site remodeling projects. Sites labeled San Ysidro, Rancho Carmel Dr., and Palomar Airport have been added to the regional ambient air network in the last 10 years due to new federal requirements.

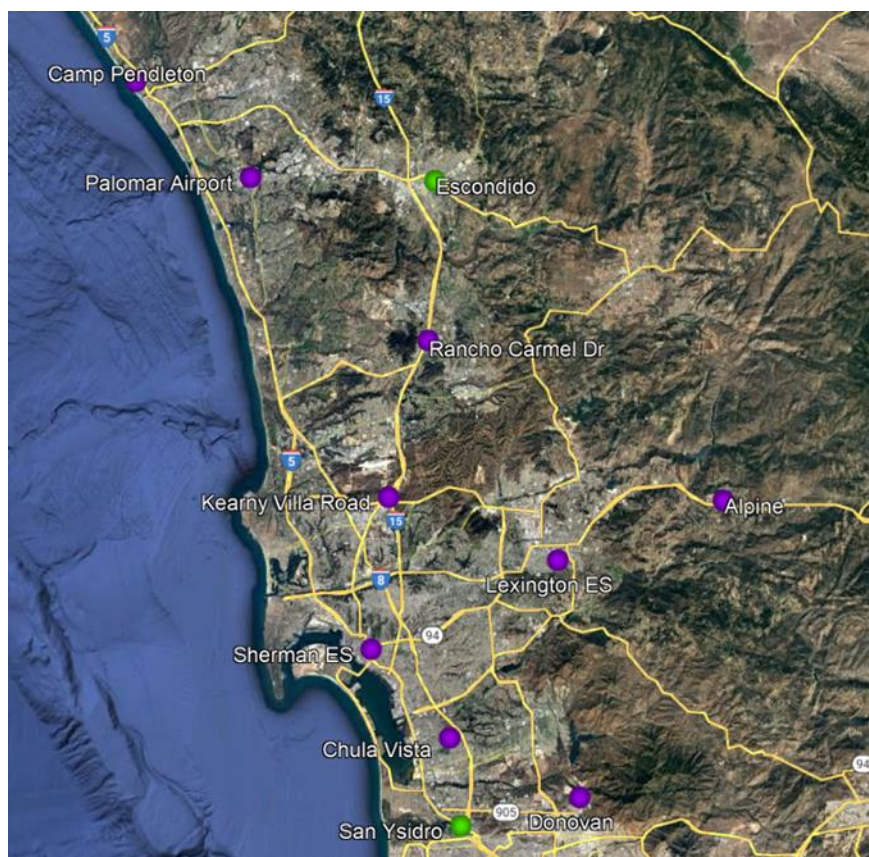


Figure 1: Map of Current and Planned Regional Monitoring Stations as of December 2022

b. Assessment of those locations

EPA requires air districts to perform an assessment of their regional ambient air quality network and to submit a written report every five years. The assessment evaluates whether the current regional ambient air network complies with regulatory requirements and is adequately meeting the needs of the air basin. This report evaluates if there are any monitoring gaps as well as determining if there is any redundancy in the monitoring locations. The full reports can be found at the APCD website (www.sdapcd.org) by searching for “Air Quality Monitoring Network Assessment” in the search box and selecting the 5-year Network Assessment Report.

APCD uses a multilayered approach to rank the air monitors, samplers, and stations. This method includes the following:

- **Monitor Purpose:** This includes the network affiliation (state and or federal program) and purpose of the monitor/station as well as quality assurance needs. All monitors will require approval to remove or relocate from state and or federal agencies. Also, some sites are needed for quality assurance purposes. For example, collocated particulate instrumentation should be in areas that approach the National Ambient Air Quality Standards (NAAQS) or have a higher probability of approaching the NAAQS. These sites are awarded higher rankings than others.
- **Community Type:** The community type and needs are important in the rating. For instance, is the community a residential community, industrial zone, or mixed use? The rating is highest for a mixed-use community because industrial pollutants have a greater impact on the residents of the community. A predominantly residential community is rated the lowest because there is less pollutant impact (unless it is immediately downwind of a major pollution source). However, if the station is in place to record possible influences from a power plant or a freeway, it receives a higher score. Another factor includes whether a community-based organization (CBO) requested monitoring in the area and if they rely on the monitors for air pollution information. Stations that have such instrumentation receive a higher score than stations that are not requested.
- **Population Shift:** Is this a community in which the station is located whose population is growing, decreasing, or relatively the same? Is the community in an area where population will grow? These areas receive a higher ranking.
- **Health Rates:** This includes the rate of asthma, chronic obstructive pulmonary disease (COPD), and heart related issues in the community. Data are pulled from local, state, and federal resources to ascertain if a community in which a station is located has a higher rate of health issues. If so, these stations receive a higher ranking than ones with a lower percentage of the population with these ailments.
- **EPA Network Assessment Tools (Correlation, Removal Bias, Exceedance Probabilities, and Area Served):** The individual assessment tool report generated is rated without consideration of other assessment parameters. For example, if the removal bias tool shows that a monitor is redundant, the monitor receives a low rating (advocating removal), without regard to the area served or exceedance probability. This method ensures an unbiased ranking.
- **Other/ Internal:** This includes factors including trends data, recent expenditures to the station, etc. The duration of historical data, which is valuable for tracking pollutant trends, is useful for assessing the effectiveness of air pollution reduction programs. If a monitor has an established trend and is needed, it receives a high ranking (even if it is redundant with another monitor/site). Also, if significant capital has been spent upgrading a station for safety or other reasons, then the station receives a higher rating due to a recent (within the last five years) expenditure. For example, a new wooden sampling deck can cost \$100,000 (about 1/3 the cost of an entire station start-up); therefore, if a station recently upgraded to a new deck, it received a higher number than one that was not upgraded. Other factors unique to the site are also accounted for if necessary.

In addition to the network assessment that occurs every five years, a new site may be determined to be needed to address a requirement of a new EPA program that is being implemented. An example of this

would be the Near Road Program in 2010 that lead to the establishment of the Rancho Carmel Drive and the San Ysidro sampling locations.

4. Community Air Monitoring Program: How a Community is Selected

The following sections detail information/ tools that APCD uses when evaluating whether a community should have community-scale air quality monitoring locations in addition to the regional air quality monitoring stations. Communities that rank high in one or more in the tools in the following sections would benefit from monitoring within the community to better understand the pollution levels within the community.

Communities and or census tracts that rank high in CalEnviroScreen, SB535, and EJScreen have a high pollution burden and/or have a high rate of socio-economic characteristics that indicate the residents are more susceptible to pollution. Communities and/or census tracts that have a high number of facilities that are permitted as a federal Title V facility or participate in the Air Toxics “Hot Spots” program potentially have a high pollution burden. Communities and or census tracts that rank low on the California Healthy Places Index are at a health disadvantage. Individuals with a health disadvantage will see health affects from pollution at lower pollution levels than healthier individuals. The following sections detail these tools.

a. CalEnviroScreen

CalEnviroScreen is a screening tool used to help identify communities disproportionately burdened by multiple sources of pollution, and with population characteristics that make them more sensitive to pollution. This tool was developed by the California Office of Environmental Health Hazard Assessment on behalf of the California Environmental Protection Agency. More information can be found here: <https://oehha.ca.gov/calenviroscreen>

CalEnviroScreen has two groups of indicators, pollution burden and population characteristic. The pollution burden has 13 individual indicators, and the population characteristic has 8 indicators(see Table 1). Each of 21 indicators can be mapped individually, as an overall combined score of all 21 indicators or as a combined score of the two group indicators (pollution burden or population characteristic). Figure 2 displays the combined score of both group indicators for San Diego County as of December 2022.

Table 1: CalEnviroScreen Indicators

Pollution Burden	Population Characteristics
Ozone	Asthma
Particulate Matter 2.5	Cardiovascular Disease
Diesel Particulate Matter	Low Birth Weight
Drinking Water Contaminants	Education
Children’s Lead Risk from Housing ¹	Housing Burden
Pesticide Use	Linguistic Isolation
Toxic Releases from Facilities	Poverty
Traffic Impacts	Unemployment
Cleanup Sites	

Groundwater Threats	
Hazardous Waste	
Impaired Waters	
Solid Waste Sites	

¹Added with release of Version 4.0 (October 2021)

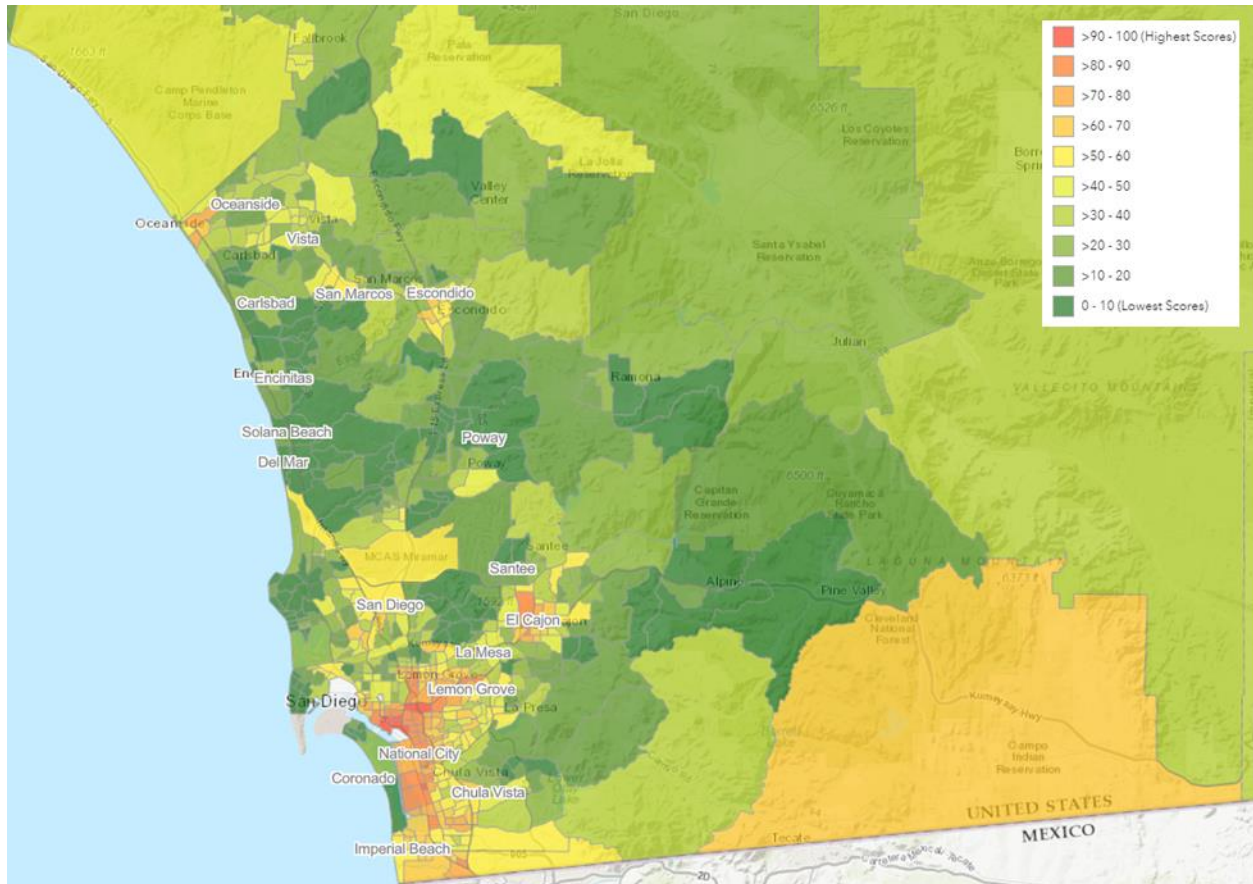


Figure 2: Map of CalEnviroScreen Overall Score, version 4.0

b. California SB535

California Senate Bill 535, the California Global Warming Solutions Act of 2006 requires, among other things, that California Environmental Protection Agency identify disadvantaged communities for investment opportunities. These investment opportunities would come from the Greenhouse Gas Reduction Fund, which is funded through the state's Cap-and-Trade Program. These investments are aimed at improving public health, quality of life and economic opportunity in California's most burdened communities, and at the same time, reducing pollution that causes climate change.

Census tracts are designated as a disadvantaged community if they meet one of the following criteria:

- Census tracts that received the highest 25 percent of overall score in current version of CalEnviroScreen
- Census tracts lacking overall scores in the current version of CalEnviroScreen due to data gaps, but received the highest 5 percent of pollution burden score
- Census tracts previously designated as a disadvantaged community based on the previous version of CalEnviroScreen
- Federally recognized tribal land

Figure 3 displays the map of the SB 535 identified disadvantaged communities as of December 2022.

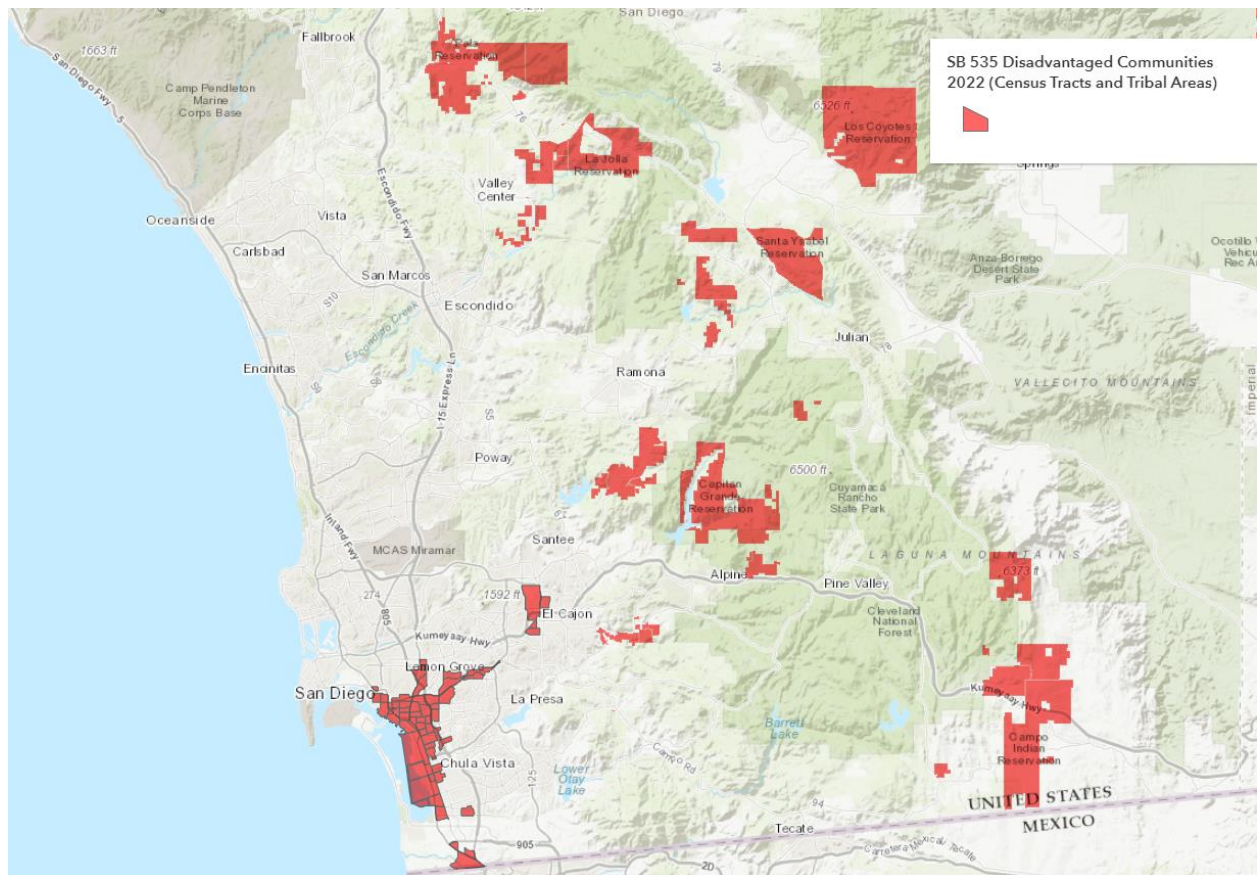


Figure 3: Map of AB535 Disadvantage Communities as of December 2022

c. EJScreen

EJScreen is an EPA environmental justice mapping and screening tool that provides EPA with a nationally consistent dataset and approach for combining environmental and demographic socioeconomic indicators. Table 2 lists the publicly available datasets that can be mapped in EJScreen.

Table 2: EPA EJ Screen Indicators

Environmental Indicators ¹ / Enviro. Justice Indexes ² / Supplemental Indexes ³	Socioeconomic Indicators		Health Disparities	Climate Change Data	Critical Service Gaps
Ozone	People of Color		Low Life Expectancy	Drought	Broadband Gaps
Particulate Matter 2.5	Low-Income		Heart Disease	Coastal Flood Hazard	Food Desert
Diesel Particulate Matter	Unemployment Rate		Asthma	100 Year Floodplain	Medically Underserved
Air Toxics Cancer Risk	Limited English Speaking			Sea Level Rise (1-6 ft)	
Air Toxics Respiratory Hazard Index	Less than high school education			Wildfire Risk	
Traffic Proximity and Volume	Under age 5			Flood Risk	
Lead Paint	Over age 64				
Superfund Proximity					
Risk Management Plan					
Facility Proximity					
Hazardous Waste Proximity					
Underground Storage Tanks (UST) and leaking UST					
Wastewater Discharge					

¹Environmental Indicators are the concentration, quantity, proximity to, or risk level data

²Environmental Justice Indexes are the combination of the Environmental Indicator with the demographic index (which averages low income and people of color populations)

³Supplemental Indexes are the combination of the Environmental Indicator with the supplemental demographic indicator (which averages low income, unemployment, limited English speaking, less than high school education, and low life expectancy)

In addition to the datasets in Table 2 that can be mapped, EJScreen also has a “Threshold Map” function. This function allows the user to select between 1 and 12 of the EJ Indexes or Supplemental Indexes and an upper and lower bound of the Index percentile range. As an example, Figure 4 displays the census tracts in San Diego County with nine or more of the Environmental Justice Indexes in the top 25 percentile as of December 2022.

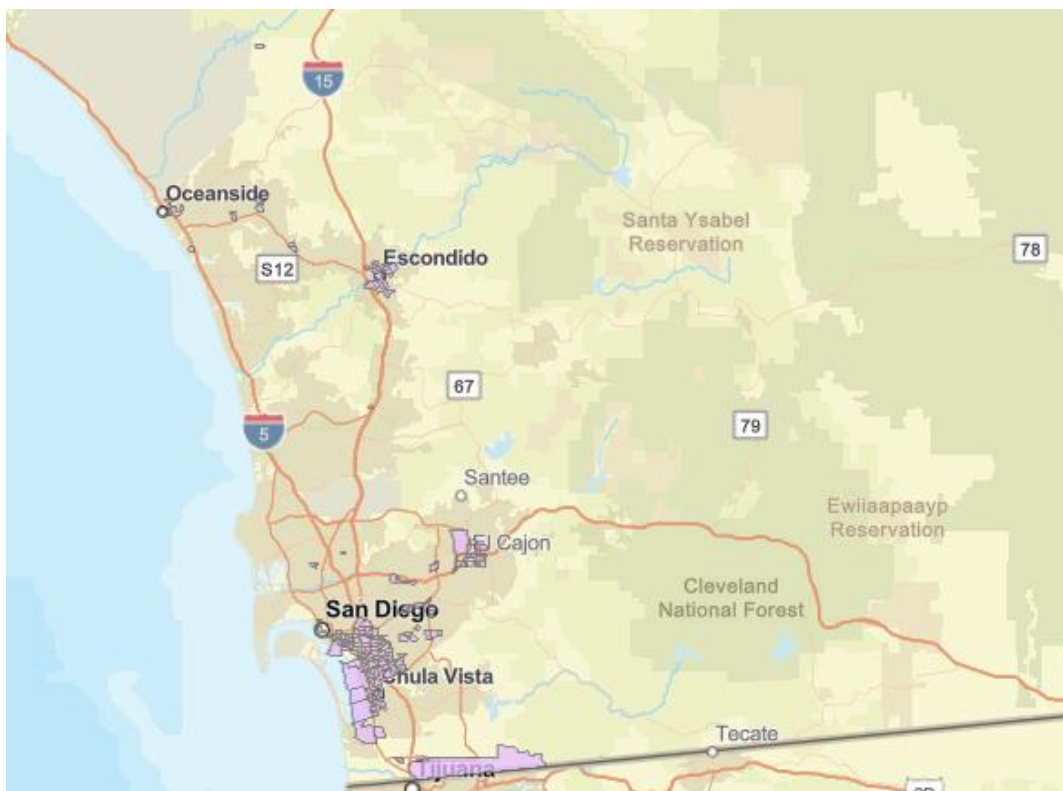


Figure 4: Map of EIScreen identified census tracts with nine or more of the Environmental Indexes in the top 25 national percentile as of December 2022

d. Hot Spots facilities locations

In accordance with California Assembly Bill 2588, the California Air Toxics “Hot Spots” Information and Assessment Act, APCD evaluates toxic air contaminant emissions from various stationary sources (i.e. factories or manufacturing plants, power plants, shipyards, landfills, rock or asphalt plants and other industrial, commercial and government operations) and determines which facilities generate emissions that may present public health concerns. AB 2588 also requires facility operators to notify the nearby residents and or businesses exposed to elevated health risks and develop and implement strategies to reduce their potential health risks when those health risks are above specified levels.

Figure 5 displays all of the facilities locations that are subject to the Air Toxics “Hot Spots” program as of December, 2022. More information regarding APCD’s Air Toxics “Hot Spots” program, including the current Air Toxics “Hot Spots” Facility map, can found on the APCD website (www.sdapcd.org) by searching for *Air Toxics “Hot Spots”* in the search box.

Residents living, working, playing, going to school near facilities that are included in the Air Toxics “Hot Spots” program are potentially at a higher risk of being exposed to air contaminants than residents not near these facilities. The Air Toxics “Hot Spots” program does not evaluate cumulative risk for residents, which means a cluster of “Hot Spots” facilities could potentially indicate a neighborhood with increased risk.

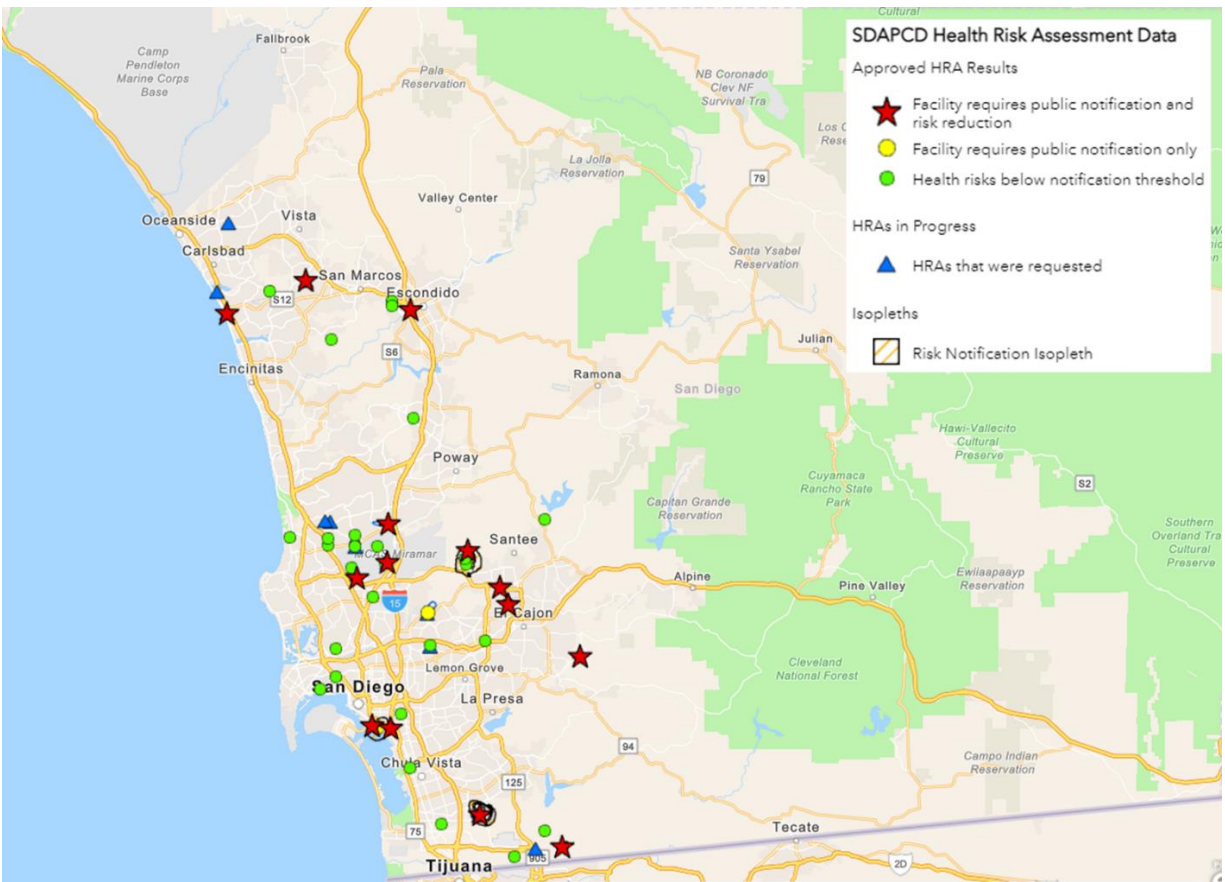


Figure 5: Map of “Hot Spots” Facilities as of December 2022

e. Title V facilities locations

Title V is a federal program designed to standardize air quality permits and the permitting process for major sources of emissions across the country. The name “Title V” comes from Title V of the 1990 federal Clean Air Act Amendments which require EPA to establish a national, operating permit program. Title V only applies to major source facilities that meet specific criteria. EPA defines a major source as a facility that emits or has the potential to emit any criteria pollutant or hazardous air pollutant at levels equal to or greater than the Major Source Thresholds. More information regarding APCD’s Title V program, can found on the APCD website (www.sdapcd.org) by searching for “Title V” in the search box. Figure 6 displays a map of the facilities that have Title V permits as of December 2022.

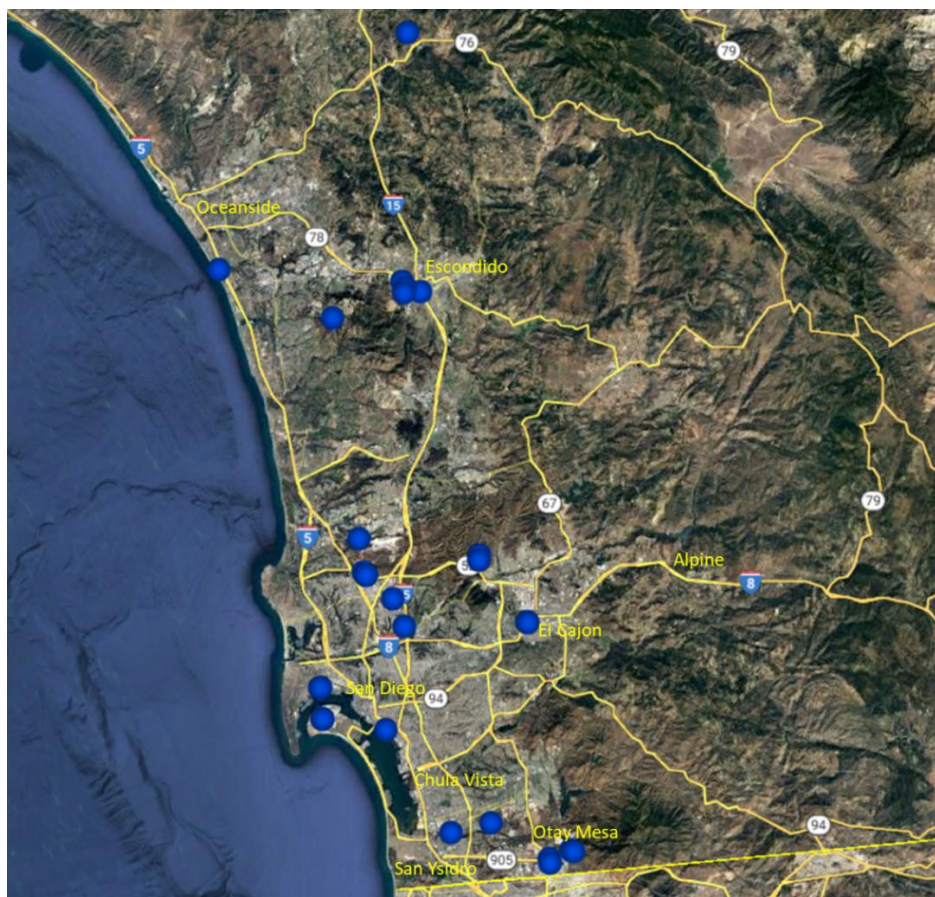


Figure 6: Map of Title V Facilities as of December 2022

f. California Healthy Places Index

The California Healthy Places Index (HPI) summarizes the health of community conditions in California census tracts based on the distribution of 23 indicators of social determinants of health. The 23 indicators are grouped into 8 policy action domains and are listed in Table 3.

Table 3: California Health Place Index Policy Action Domains

Economics	Neighborhood Conditions
Education	Clean Environment
Healthcare Access	Social Environment
Housing	Transportation

Census tracts with lower HPI scores are at a health disadvantage compared to census tracts with higher HPI scores. HPI's definition of health disadvantage is the inability of people to fulfill basic human needs required for full social participation and optimal health and well-being. These needs include but are not limited to the needs for economic security, food, shelter, safety, transportation, education, social connection, and political participation. People who have a health disadvantage are more susceptible to air pollution. For more information on California Healthy Places Index, please visit <https://www.healthyplacesindex.org/>

Figure 7 displays the HPI map for San Diego County as of December 2022.

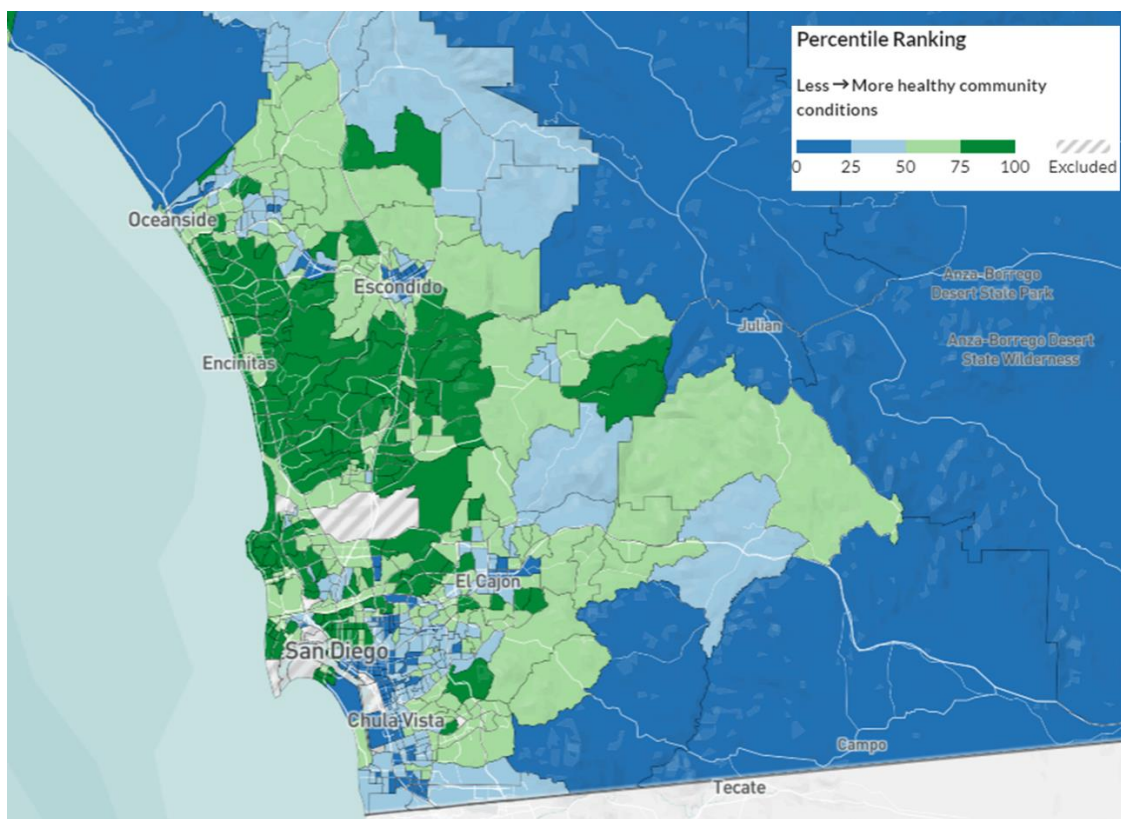


Figure 7: Map of Healthy Place Index as of December 2022

g. Other Datasets

In addition to the publicly available tools in the previous sections, APCD may also evaluate datasets from other sources on a case-by-case basis. These datasets could include special studies conducted by CBOs, higher education institutions, non-governmental organizations, or other governmental organizations.

5. Selection of Pollutants at New Sampling Locations

a. Regional Air Monitoring

A regional monitoring station is an office-style trailer and is 10 feet by 20 or 30 feet long. This monitoring station is temperature controlled to protect sensitive equipment and has a platform above the station for space to house additional equipment. Many of our regional monitoring stations have meteorological towers that measure wind speed, wind direction, temperature, and relative humidity. These monitoring stations typically have multiple instruments to measure numerous pollutants.

A new regional monitoring station is typically set up to address an already identified concern and this concern will determine which pollutant(s) will need to be measured. The following are examples of when a new regional air quality monitoring station might be needed:

- To address a gap identified in the Regional Air Quality Network Assessment Report.
- To address the EPA minimum number of monitors requirement for the Air Basin. For example, if the measured concentration of a pollutant goes above a threshold value, that will require an increase in the

number of monitors for that pollutant in the air basin.

- To address a new monitoring requirement from EPA. Recent examples are the establishment of the Rancho Carmel Dr and San Ysidro locations to fulfill the EPA Near Road Program requirement and the Palomar Airport location to fulfill the EPA Lead Program.

APCD will also evaluate whether additional equipment would be beneficial at the new location, if resources are available. If the new location is a new EPA program requirement, there are often a list of additional, non-required equipment that EPA encourages air districts to include as part of the new program. APCD will also reach out to the community to hear their concerns and will collaborate on the selection of additional air monitoring equipment.

b. Community Air Monitoring

Once it is determined that enhanced monitoring will be conducted in a community, APCD will reach out to the residents in that community, as well as community organizations, non-profit organizations, and other interested parties and stakeholders. APCD will hold a series of community meetings at a time and place (or virtual platform) that is most convenient for the community to hear their air quality concerns. Next, APCD will research different ways to measure the pollutants of concern and will present this information back to the community. A collaborative discussion will be held to determine which pollutants will be measured. In conjunction with the discussion on which pollutants to measure, APCD will also collaborate with the community on the monitoring locations.

An example of this collaborative process is the Community Air Protection Program in the Portside Community consisting of Barrio Logan, Sherman Heights, Logan Heights, and West National City and the International Border Community consisting of San Ysidro and Otay Mesa East. More information regarding the Community Air Protection Program can be found at the APCD website (www.sdapcd.org) by searching for “*Community Air Protection Program*” in the search box.

Examples of concerns from the Portside and International Border communities were the heavy-duty diesel traffic in the communities, large industrial facilities upwind of residential housing, long traffic waits at the border crossing and the proximity of schools, parks, and vulnerable population housing near major freeways.

6. Public Dissemination

a. Assessments of Regional and Community Monitoring Locations

This Comprehensive Monitoring Plan will reside on the APCD website. It can be found by visiting www.sdapcd.org and searching for “*Comprehensive Monitoring Plan*” in the search box. The initial draft of this report will be disseminated by:

- Sent to our general listserv
- Sent through our community steering committee’s listserv
- Advertised through our social media accounts
- Discussed at two public workshops

APCD evaluates the regional ambient air monitoring program on a regular basis through the five-year network assessment required by EPA. The results from the most recent assessment are presented in Appendix A: Regional Priority Ranking. The next network assessment will be conducted in 2025. Five-year network assessments can be accessed by visiting www.sdapcd.org and searching for “Air Quality Monitoring Network Assessment” in the search box. More information on the five-year network assessment report is included in Section 7.b below.

At the onset of APCD implementing the Community Air Protection Program to respond to California Assembly Bill 617, APCD, using the tools and resources listed in Section 4, evaluated which communities should have community level monitoring. The top 6 communities are listed in Community Air Monitoring Program: How a Community is Selected Appendix B: Community Priority Ranking. APCD will use the tools and resources listed in Section 4 to reevaluate the Community Priority ranking as conditions change and as resources become available.

b. Data from Measurements at all Monitoring Stations

Data collected from the air monitoring stations are either collected every hour or are laboratory-based measurements.

The hourly data (ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, PM2.5, PM10, black carbon and hydrocarbon volatile organic compounds) is posted on APCD’s website every hour (typically about 15 minutes after the hour has concluded). Please note that APCD is currently working on transitioning our webpage hosting our data from a table format to a map-based format to increase transparency and make the data more user friendly. Laboratory-based data (lead, filter-based measurements for PM2.5 and PM10, metals, toxic volatile organic compounds, and organic and elemental carbon) are not currently supported on our website. This will change in the map-based format.

The same hourly data is also uploaded at the same frequency to EPA AirNow and AirData websites. The AirNow website (www.airnow.gov) displays the current air quality based on the air quality index, a color-based system where each color corresponds to a different level of health concern. The AirData website (www.epa.gov/outdoor-air-quality-data) can display the concentration data or air quality index values from historical to current data. The laboratory-based datasets are uploaded to the EPA databases quarterly or annually depending on the pollutant.

The criteria pollutant data is summarized and presented in the Regional Ambient Air Network Report (draft published in May, finalized by July) as well as in the APCD Annual Air Quality Report (released in second quarter of each calendar year).

Data collected at the community monitoring stations are summarized and presented quarterly to the Community Steering Committee during the publicly open community meetings. During these meetings, APCD presents the program, its measurements, and comparisons to relevant health-based standards. These presentations are also available on APCD’s website at www.sdapcd.org by searching for “Community Air Protection Program”.

Data can also be requested directly from APCD using our records request form. For more information, please search our website for Public Records Request.

7. Other Monitoring Network Plans/ Reports

APCD has several existing reports that cover monitoring plans in great detail. These include the Annual Air Quality Network Report and the 5-year Air Quality Network Assessment, which cover the regional ambient air monitoring program; and the community nomination submission and the Community Air Monitoring Plan, which cover community air monitoring as part of the Community Air Protection Program see Table 4. These reports are located on the APCD website, and a brief review of those reports is provided below.

Table 4: Summary of existing APCD monitoring reports

Report/Plan Name	Spatial Scale	Synopsis
Annual Air Quality Network Report	Regional	Summarizes how, what, and where pollutants are measured
5-yr Air Quality Network Assessment	Regional	Evaluation of regional ambient network. Identifies site redundancy/gaps
Community Nomination to AB617 program	Community	Identification, justification for adding community into State's Community Air Protection Program
Community Air Monitoring Plan	Community	Summarizes how, what, and where pollutants are measured in communities participating in the Community Air Protection Program

a. Annual Air Quality Network Report

This annual report is a requirement of the Federal Code of Regulations. This report focuses on:

- where the regional air monitoring stations are located within the county
- what pollutants are measured at each location
- the frequency of the data collection (e.g., hourly or an integrated sample every 1, 3, 6 or 12 days)
- the spatial scale that the measurements are representative of (e.g., microscale: <100 meters, middle: 100 – 500 meters, neighborhood: 500 meters to 4 kilometers, urban: 4 to 50 kilometers)
- documenting any instrument or station changes that have occurred in the past year or will occur in the following year

Most of the monitoring locations in the regional air quality network measure pollutants on the spatial scales of “neighborhood” or “urban”. That is, the measurements from these monitoring stations are representative of large areas and are not unduly influenced by sources close to the monitoring station. The three exceptions are the monitoring stations located within 50 meters of the I-5 and I-15 freeways (San Ysidro and Rancho Carmel Dr., respectively) and the monitoring station located at the McClellan-Palomar Airport. These locations are designed to measure pollutant concentrations near busy freeways and municipal airports, respectively.

This report is written annually and becomes publicly available for review in May. This report is required to be submitted to EPA by July 1st with the report publicly available for review and comments at least 30 days prior to submittal to EPA.

b. 5-year Air Quality Network Assessment Report

This report is a requirement of the Federal Code of Regulations. This report focuses on:

- determination of whether the existing regional air monitoring network is meeting the intended monitoring objectives
- evaluation of the network's adequacy for characterizing current regional air quality and impacts from future industrial and population growth
- identifying/ discussing potential areas where new regional monitors can be sited or removed to support network optimization and/or to meet new monitoring objectives

This report is written every five years and becomes publicly available for review in May. This report is required to be submitted to EPA by July 1st with the report publicly available for review at least 30 days prior to submittal to EPA. The last report was written in 2020 and the next report is due to EPA by July 1, 2025.

c. Nomination of Communities for the Community Air Protection Program

The State of California passed Assembly Bill 617 in 2017. The passage of this bill, commonly referred to as AB-617, required the California Air Resources Board (CARB) to implement a Community Air Protection Program (CAPP). The CAPP focus is to reduce exposure in communities most impacted by air pollution. CARB has set up a nomination and selection process to determine which communities are accepted into the program. Once selected, the local air district will receive implementation and incentive funding to measure and track air pollutants in the community and to replace dirtier equipment with the cleanest technology feasible, respectively.

APCD nomination submittal includes information from multiple sources and methods (as described in Section 4) used to determine which communities in the San Diego region to consider and ultimately nominate for consideration by CARB for AB 617 air monitoring funds. APCD considers health statistics, air quality concerns from residents in multiple communities, as well as screening tools that combine environmental, health, and socio-economic information to calculate community-wide risk factors. In addition, it also documents the outreach efforts to residents, businesses, and other stakeholders in the proposed communities.

d. Community Air Monitoring Plan

Once a community has been selected to participate in the AB-617 Community Air Protection Program, the local air district is required to form a Community Steering Committee (CSC) and develop a community air monitoring plan (CAMP). The majority of CSC members are residents who live within the selected community boundaries. The CSC gives input and advice to the local air district on the development of the CAMP. The CAMP discusses the site locations, pollutants to be measured and how those pollutants will be measured (i.e. which instruments). In addition, this plan also documents the input from the CSC on the development of the CAMP.

Appendix A: Regional Priority Ranking

Utilizing the process described in Section 3, and the scoring metrics from **Error! Reference source not found.**, gap communities were identified in the last iteration of the Regional Air Quality Network Assessment Report. Figure 8 displays the areas in which additional regional air quality monitoring could be established.

Table 5: Evaluation metric for regional air quality monitoring network

Evaluation Tool	Scoring Metric	Maximum Score
Monitoring Purpose	Based on Federal/ State Requirements	100
Community Type	Land use type: Mixed Use > Industrial > Residential	100
Population Shift	Based on population growth	100
Health Rates	Average of Asthma & Cardiovascular Disease score from local, state and or federal datasets amongst census tracts within defined area	100
EPA Network Assessment Tool - Removal Bias & Correlation	Based on whether the site is considered redundant (high correlation with another nearby site, low differences in measurements, and close proximity)	100
EPA Network Assessment Tool - Exceedance Probabilities	Based on the probability that there will be exceedances of the federal or State standard	100
EPA Network Assessment Tool - Area Served	Based on total population	100
Other/ Internal	Based on longevity and recent major expenditures	100

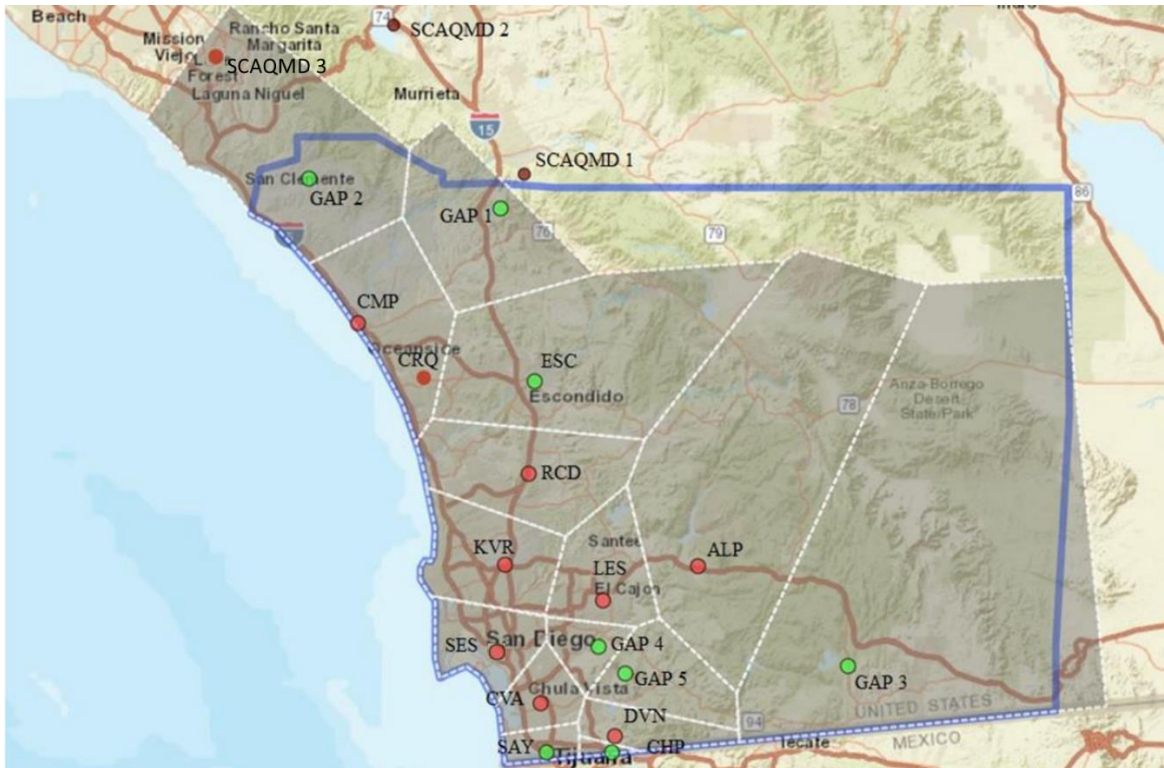


Figure 8: Map of regional monitoring sites, including current (red) and future/gap areas (green)

Gap 1-3 Assessment: The 2020 Regional Air Quality Network Assessment Report suggested no new regional monitoring in these areas due to the proximity to the South Coast Air Quality Management District sites (Gap 1 & 2) or low population centers and previous studies indicating similar concentrations to a nearby APCD monitoring site (Gap 3 with Alpine). Please see the 2020 Regional Network Air Quality Assessment Report for more details. It can be found on the APCD website (www.sdapcd.org) by searching for the term “Air Quality Monitoring Network Assessment” in the search box.

Gap 4 Assessment: There is little historical data in this region and the 2020 Regional Air Quality Network Assessment Report suggested that this area needs additional temporary monitoring to determine if a permanent regional air monitoring site is needed.

Gap 5 Assessment: Previous studies in this area have shown that measured concentrations are equivalent to those observed at the monitoring site in Otay Mesa. However, the population has grown (this area is one of the fastest growing areas in the County) and further testing is needed to determine if a permanent regional air monitoring site is needed.

APCD is seeking additional funding to acquire equipment necessary to conduct specialized temporary monitoring in these gap areas. Additionally, APCD will continue through its network assessment process to reassess any changing conditions to verify existing gaps or identify new ones.

Appendix B: Community Priority Ranking

Utilizing the process described in Section 4, and the scoring metrics from Table 6, APCD has determined that the following communities should have enhanced monitoring.

Table 6: Evaluation metric for community air monitoring network

Evaluation Tool	Scoring Metric	Maximum Score
Rank high in CalEnviroScreen	Average Overall Score amongst census tracts within defined community outline	100
Rank high in CA SB535	Percent of # of census tracts defined as DAC in defined community outline	100
EJScreen have a high pollution burden and or have a high rate of socioeconomic characteristics	Average Percentile scores amongst census tracts within defined community outline	100
High number of facilities that are permitted as a Title V facility	% of facilities in defined community outline, normalized to community with the most Title V facilities	100
Participate in the Air Toxics “Hot Spots” program	% of facilities in defined community outline, normalized to community with the most Hot Spots facilities. Higher weight is given to facilities that are required to submit public notification and a risk reduction plan	100
Rank low on the California Healthy Places Index	Average score amongst census tracts within defined community outline	100

Priority Ranking

1. Portside Community consisting of census tracts 06073005000, 06073004900, 06073003902, 06073003601, 06073003901, 06073005100, 06073003603, 06073004000, 06073003502, 06073021900, 06073004700, 06073011602
2. International Border Community consisting of census tracts 06073010009, 06073010013, 06073010111, 06073010005, 06073010012, 06073010109, 06073010015
3. National City Community consisting of census tracts 06073011700, 06073011601, 06073011802, 06073022000, 06073011801
4. Chula Vista Community consisting of census tracts 06073012502, 06073013205, 06073012501, 06073012600
5. El Cajon Community consisting of census tracts 06073016202, 06073015901
6. San Diego Community consisting of census tracts 06073003602, 06073003501, 06073005300, 06073005700, 06073003301, 06073004800, 06073003403, 06073002502, 06073003404, 06073003305, 06073005200, 06073003303, 06073002501

Error! Reference source not found. displays the priority ranked communities that should have enhanced community monitoring.

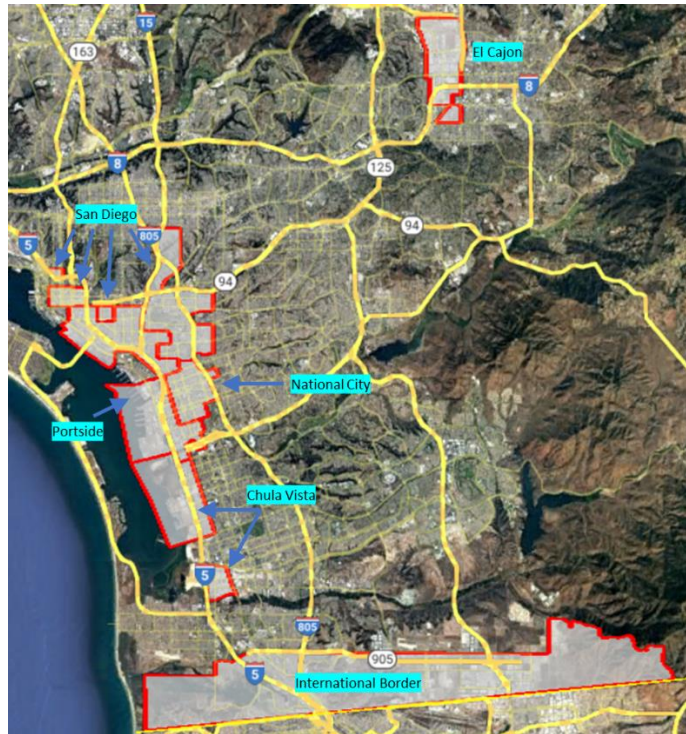


Figure 9: Map of Priority Ranked Communities that should have enhanced community monitoring

Appendix C: Site/ Pollutant Table for Regional Air Quality Monitoring

Error! Reference source not found. displays the pollutants that are currently and planned to be measured at each of the regional ambient air monitoring stations. Please refer to the map on Figure 1: Map of Current and Planned Regional Monitoring Stations as of December 2022 for the approximate location of each monitoring site.

Table 7: List of pollutants measured at each regional monitoring location as of December 2022

	Alpine	Camp Pendleton	Chula Vista	Donovan	Lexington Elem. School	Kearny Villa Road	Palomar Airport	Rancho Carmel Dr.	Sherman Elem. School	San Ysidro	Escondido
O3	√	√	√	√	√	√			√		Plan
NO2	√	√	√	√	√	√		√	√	Plan	Plan
CO					√			√		Plan	
NOy					√						
SO2					√						
Lead							√				
PM10	√	√	√	√	√	Plan		Plan	√	Plan	Plan
PM2.5	√	√	√	√	√	√		√	√	Plan	Plan
Metals			√	√	√				√	Plan	Plan
Inorganic Ions					√				√		Plan
Organic/ Elemental Carbon					√				√	Plan	Plan
Volatile Organic Compounds - Hydrocarbon					√						
Volatile Organic Compounds - Toxics			√	Plan					Plan	Plan	
Carbonyls			√	√	√				√		

Hexavalent Chromium			√		√						
Black Carbon	√			√					√	√	
Wind Speed	√	√	√	√	√	√			√		Plan
Wind Direction	√	√	√	√	√	√			√		Plan
Ambient Temperature	√	√	√	√	√	√		√	√		Plan
Relative Humidity	√				√	√					
Barometric Pressure					√	√					
Solar Radiation					√	√					
Ultraviolet Radiation					√						
Precipitation					√						

Appendix D: Site/ Pollutant Map and Table for Community Air Quality Monitoring

Figure 1010 & Figure 1111 display the current and planned sites in the Portside Communities and the International Border Communities, respectively. Please note that additional sampling locations are forthcoming to the International Border Community as APCD and the International Border Community Steering Committee meet and develops the Community Air Monitoring Plan for the area.



Figure 10: Map of current (green) and planned (yellow) monitoring sites in the Portside Communities, as of December 2022



Figure 11: Map of current (green) and planned (yellow) monitoring sites in the International Border Communities, as of December 2022

Error! Reference source not found. Table 8 displays the pollutants that are currently being measured and planned to be measured at each of the community ambient air monitoring stations. Please review Figure 10 and Figure 11 for the approximate location of each monitoring station. Please note that the pollutants to be measured in the International Border Community have not been finalized with the International Border Committee Steering Committee and are subject to change. The pollutants to be measured and the additional sampling locations for this community will be discussed and listed in the International Border Community's Community Air Monitoring Plan, which is in current development (as of December 2022).

Table 8: List of pollutants measured at each community monitoring location as of December 2022

	Sherman Elem. School	Marine Terminal (MAR)	Ocean View Blvd (OVV)	Chicano Park (LCC)	Boston & 29 th (CTB)	Donovan	San Ysidro (SAY)	National City Train Depot (NCD)	Burbank Elem. School (BES)	Navy RV Lot (NRV)	Otay Mesa CHP checkpt. (CHP)
Ozone	√					√					

Nitrogen Dioxide	√					√	Plan				
Carbon Monoxide							Plan				
PM10	√					√	Plan				
PM2.5	√					√	Plan				
Metals	√	Plan		Plan	Plan	√	Plan	Plan	Plan	Plan	Plan
Inorganic Ions	√										
Organic/ Elemental Carbon	√	√		√	√		Plan	Plan	Plan	Plan	Plan
Carbonyls	√					√					
Volatile Organic Compounds - Toxic	Plan	Plan		Plan	Plan	Plan	Plan	Plan	Plan	Plan	Plan
Hexavalent Chromium	Plan										
Black Carbon	√	√	√	√	√	√	√	Plan	Plan	Plan	Plan
Wind Speed	√					√					
Wind Direction	√					√					
Ambient Temperature	√					√					