



**Iowa  
Environmental  
Council**



**ENVIRONMENTAL LAW & POLICY CENTER**  
Protecting the Midwest's Environment and Natural Heritage



**SIERRA  
CLUB**

June 27, 2025

Mr. Brian Hutchins  
Air Quality Bureau  
Department of Natural Resources  
6200 Park Ave Suite 200  
Des Moines, IA 50321

**Re: Comments on the 2025 Air Monitoring Network Assessment**

Dear Mr. Hutchins:

The Iowa Environmental Council (IEC), Sierra Club, and Environmental Law & Policy Center (ELPC) offer the following comments on the 2025 Iowa Ambient Monitoring Network Assessment, noticed for public comment on May 30, 2025.

The Iowa Environmental Council is an alliance of more than 100 organizations, over 500 individual members, and an at-large board of farmers, business owners, and conservationists. IEC works to build a safe, healthy environment and sustainable future for Iowa. Our members care about air and water quality across the state, and they hike, recreate, and enjoy the outdoors in Iowa and beyond.

Sierra Club is a national nonprofit organization with 67 chapters and approximately 650,000 members dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. Sierra Club's Iowa Chapter has over 5,200 members. Sierra Club has long participated in Clean Air Act rulemaking and litigation across the country in order to advocate for clean air and public health.

Environmental Law and Policy Center is a Midwest-based not-for-profit public interest environmental advocacy organization dedicated to improving environmental quality and public health, including protecting the Great Lakes and other Midwest natural resources. For nearly 30 years, ELPC has used litigation, policy advocacy, and strategic communications to improve environmental quality and protect the Midwest's natural resources.

We recently offered detailed comments on the state's proposed Annual Monitoring Network Plan for 2025.<sup>1</sup> Those comments identified shortfalls in the monitoring proposed by the Iowa Department of Natural Resources (DNR) for the coming year. In similar ways, the five-year assessment does not ensure protection of susceptible populations across Iowa. Specifically, it does not address the inadequate monitoring of susceptible populations, fails to fulfill the legal obligation to support public health research, and improperly seeks a waiver of lead monitoring. DNR must fix these issues in the final assessment and in future monitoring plans under the Clean Air Act.

## **I. Ambient Air Standards**

Air pollution is a well-recognized threat to public health and environmental quality.<sup>2</sup> Two key criteria air pollutants can affect asthma: ozone (found in smog) and particle pollution (found in haze, smoke, and dust). When ozone and particle pollution are in the air, adults and children with asthma are more likely to have symptoms.<sup>3</sup>

The Clean Air Act ("CAA" or "Act") requires states to establish and maintain an air quality monitoring network. The state network must meet three criteria: "(a) Provide air pollution data to the general public in a timely manner ... (b) Support compliance with ambient air quality standards and emissions strategy development ... (c) Support for air pollution research studies...."<sup>4</sup> The monitoring data are used to determine compliance with National Ambient Air Quality Standards ("NAAQS").<sup>5</sup>

The U.S. Environmental Protection Agency ("EPA") has established NAAQS for various pollutants and time periods. The NAAQS for 8-hour ozone is 70 ppb (parts per billion), with an annual PM<sub>2.5</sub> standard of 9.0 µg/m<sup>3</sup> (micrograms per cubic meter), and a 24-hour PM<sub>2.5</sub> standard of 35 µg/m<sup>3</sup>.<sup>6</sup> Generally, Iowa meets the NAAQS for PM<sub>2.5</sub> and ozone.

Over the period of time from 2020 through May 22, 2025, Iowa air monitoring showed exceedances of the PM 2.5, PM 10, ozone, SO<sub>2</sub> and NO<sub>x</sub> standards, as shown in the charts below).<sup>7</sup>

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<sup>1</sup> See Comments of IEC, ELPC, and Sierra Club, submitted June 12, 2025, *available at* <https://www.iaenvironment.org/webres/File/2025%20Air%20Network%20Comments.pdf>.

<sup>2</sup> Stern, *History of Air Pollution Legislation in the United States*; 32 J. AIR POLLUTION CONTROL ASS'N 44–61 (1982).

<sup>3</sup> U.S. EPA, Asthma and Outdoor Air Pollution," *available at* <https://www.airnow.gov/sites/default/files/2018-03/asthma-flyer.pdf>.

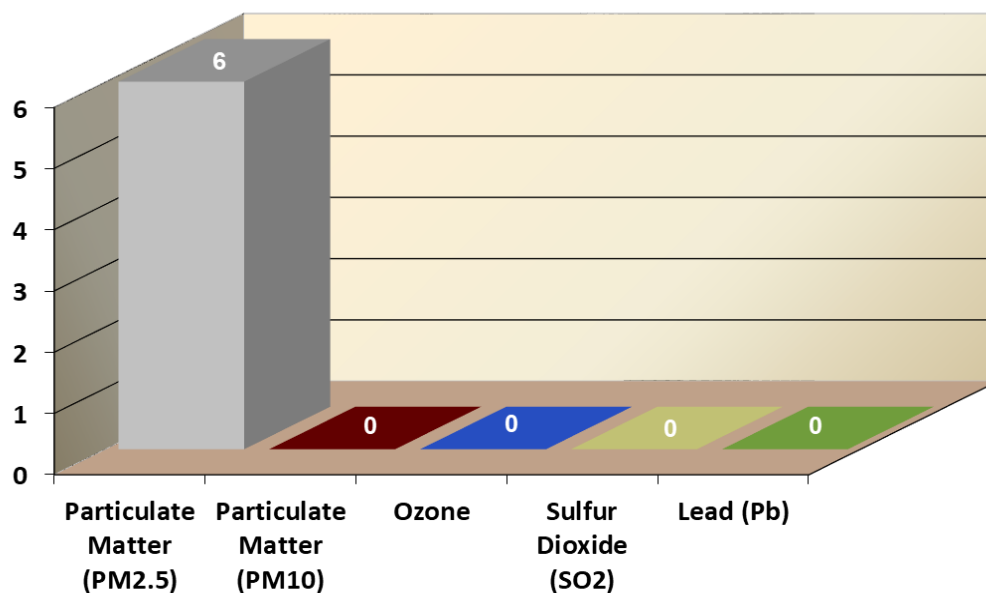
<sup>4</sup> 40 C.F.R. Part 58 App. D ¶ 1.1.

<sup>5</sup> 40 C.F.R. Part 58 App. A ¶ 1.1(a).

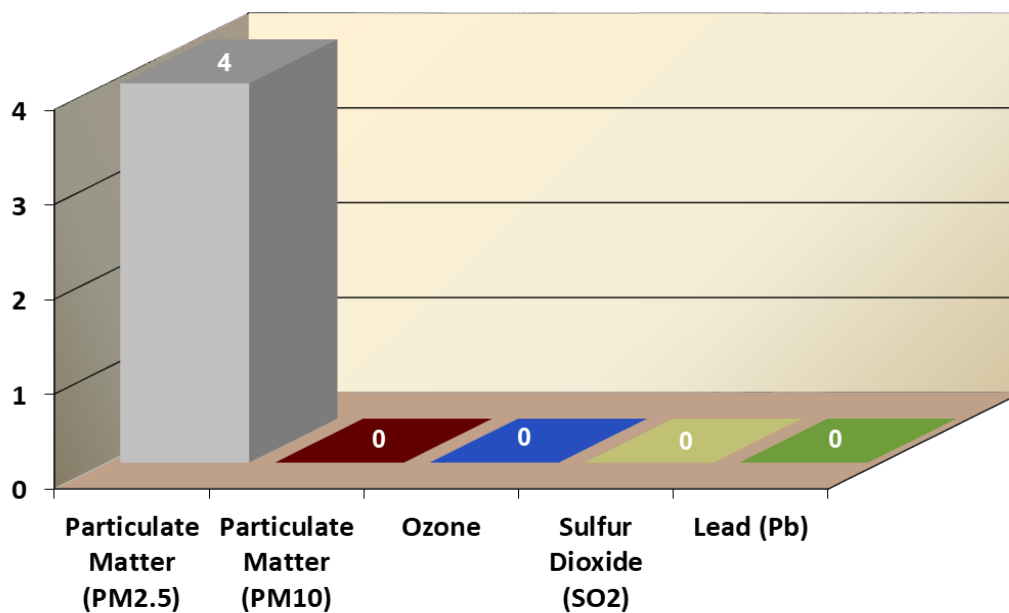
<sup>6</sup> U.S. EPA, "Ozone National Ambient Air Quality Standards (NAAQS)," *available at* <https://www.epa.gov/ground-level-ozone-pollution/ozone-national-ambient-air-quality-standards-naaqs> (last visited May 29, 2025); U.S. EPA, "National Ambient Air Quality Standards (NAAQS) for PM," *available at* <https://www.epa.gov/pm-pollution/national-ambient-air-quality-standards-naaqs-pm> (last visited May 29, 2025).

<sup>7</sup> "Monitoring Ambient Air," Iowa DNR, *available at* <https://www.iowadnr.gov/environmental-protection/air-quality/monitoring-ambient-air> (last visited June 24, 2025) (under "Ambient Air Quality Exceedances Report,"); *see also* Iowa DNR, "NAAQS\_Exceedances\_2025.pdf," *available at*

**Figure 1. Iowa NAAQS Exceedances, 2020.**

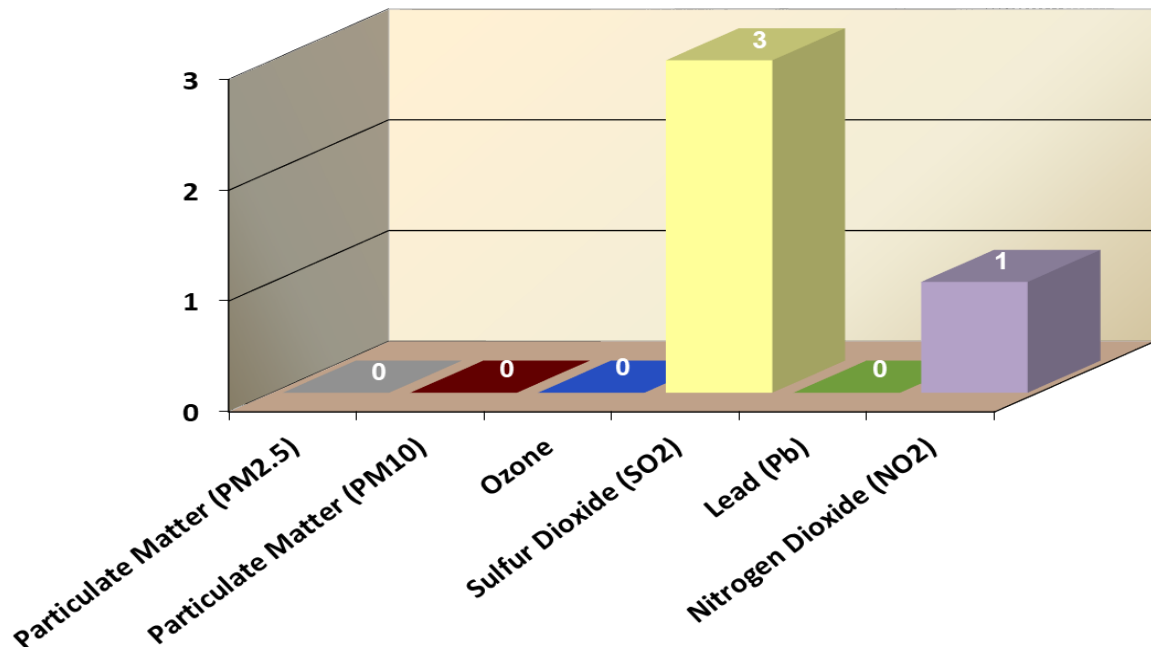


**Figure 2. Iowa NAAQS Exceedances, 2021.**

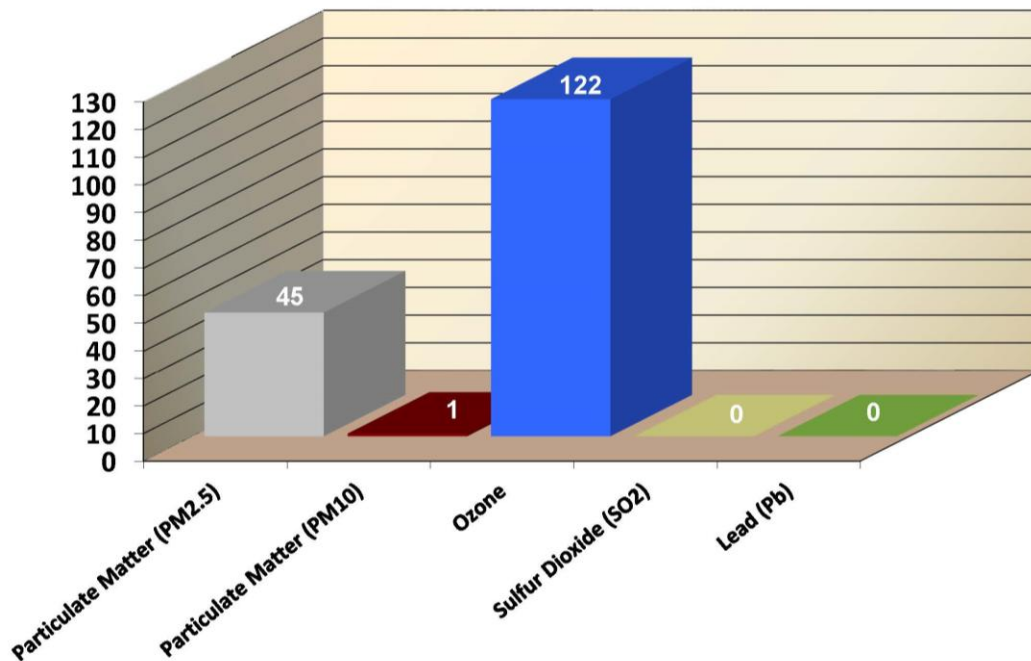


<https://www.iowadnr.gov/media/8322/download?inline>. The 2025 exceedances predate air quality issues related to wildfire smoke. See “Air quality in Eastern Iowa at ‘unhealthy’ level as wildfire smoke descends from Canada,” *The Gazette* (June 4, 2025), available at <https://www.thegazette.com/environment-nature/air-quality-in-eastern-iowa-at-unhealthy-level-as-wildfire-smoke-descends-from-canada/> (last visited June 18, 2025).

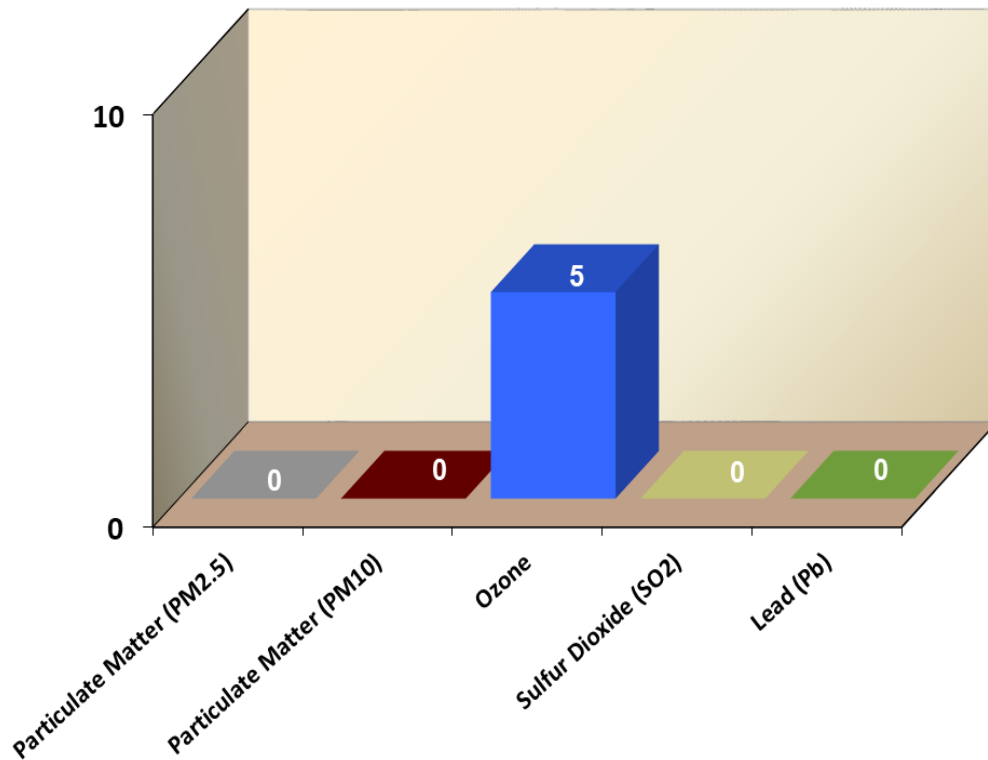
**Figure 3. Iowa NAAQS Exceedances, 2022.**



**Figure 4. Iowa NAAQS Exceedances, 2023.**



**Figure 5. Iowa NAAQS Exceedances, 2025 (through May 22).**



Federal regulations prescribe only minimum design criteria for State and Local Area Monitoring Stations (“SLAMS”) networks to monitor for criteria pollutants, leaving room for states to establish enhanced air monitoring as areas in their states may require.<sup>8</sup>

The challenge in an air monitoring network is addressing “gaps in health protection that can occur for criteria pollutants and HAPs near strong local sources” because air monitoring is often insufficient.<sup>9</sup> There are gaps nationwide and in Iowa between health protection and atmospheric research. Inadequate monitoring of emission, air quality, and health relationships can “result in inappropriate SIPs [State Implementation Plans], gaming, or paralysis by analysis.”<sup>10</sup> Although states, in the SIP process, have more leeway in developing *monitoring*, a state must act to ensure that its monitoring plan is protective of public health—not to simply “ensure compliance” by failing to look closer at public health concerns.<sup>11</sup>

<sup>8</sup> See 40 C.F.R. § 58.1; see also 40 C.F.R. Part 58 App. D ¶¶ 4.1-4.8.1 (establishing “Pollutant-Specific Design Criteria” for monitoring networks).

<sup>9</sup> Chow et al., *Critical Review Discussion: Will the Circle Be Unbroken: A History of the U.S. National Ambient Air Quality Standards*, 57 J. AIR & WASTE MANAG. ASS’N. 1151, 1160 (2007).

<sup>10</sup> *Id.* at 1159.

<sup>11</sup> 40 C.F.R. pt. 58, Appendix D at 1.1.1.

## II. Air Monitoring Network Assessment Requirements

The Clean Air Act requires every state to establish a network of air monitoring stations for criteria pollutants, using criteria set by EPA for their location and operation, as part of the State Implementation Plan (SIP).<sup>12</sup> The monitoring stations in this network are called the State and Local Air Monitoring Stations (SLAMS). State and local agencies use another type of monitor, the Special Purpose Monitor (SPM), to fulfill very specific or short-term monitoring goals.<sup>13</sup>

The five-year network assessment must assess whether “the network meets the monitoring objectives defined in appendix D to this part.”<sup>14</sup> The monitoring objectives include “[p]rovid[ing] air pollution data to the general public in a timely manner,” “[s]upporting compliance with ambient air quality standards and emissions strategy development,” and “[s]upport[ing] . . . air pollution research studies.”<sup>15</sup> In addition, the five-year assessment must consider whether new sites are needed, whether existing sites are no longer needed and can be terminated, whether new technologies are appropriate for incorporation into the ambient air monitoring network, and whether the network supports air quality characterization for areas with relatively high populations of susceptible individuals (e.g., children with asthma).<sup>16</sup>

The monitoring objectives set forth in Appendix D provide the minimum for monitoring network requirements without consideration for local conditions. EPA’s regulations make clear that a state must install as many monitors as necessary to achieve the objectives, even in the absence of a specified number of monitors in rule. The minimum monitoring requirements set forth in Appendix D of part 58 provide a floor that states are expected to exceed. While those monitoring requirements generally refer to the population of metropolitan statistical areas, states must consider using the broader combined statistical areas or other appropriate geographic areas where a narrower focus is inconsistent with the creation of an effective monitoring network.

Iowa has a continuing duty to ensure that its air monitoring is consistent with statutory and regulatory obligations. As a part of those obligations, the DNR must complete both network assessments<sup>17</sup> and network plans.<sup>18</sup> Those processes detail monitoring purpose and compliance with minimum monitoring requirements. Minimum monitoring requirements rely on population, measured concentrations, and air pollution emissions data.<sup>19</sup> Critically, they establish that Iowa must place monitors to protect at-risk communities.

In the planning and assessment process, Iowa must design a monitoring system that enables protection of public health: the network “must be designed with a variety of types of monitoring

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<sup>12</sup> 42 U.S.C. § 7410(a)(2)(B).

<sup>13</sup> 40 C.F.R. § 58.20.

<sup>14</sup> 40 C.F.R. § 58.10(d).

<sup>15</sup> 40 C.F.R. pt. 58, App. D.

<sup>16</sup> 40 C.F.R. § 58.10(d).

<sup>17</sup> 40 C.F.R. § 58.10(d).

<sup>18</sup> 40 C.F.R. § 58.10(a) (1).

<sup>19</sup> 40 C.F.R. pt. 58, Appendix D.

sites.”<sup>20</sup> That variety must include sites that are designed to capture the highest concentration of a pollutant at micro to neighborhood scale. Iowa may also define other sites as appropriate, for example, sites that detail the public health impacts or lack thereof of pollutant exposure.<sup>21</sup>

Iowa must also develop monitoring to address at-risk populations—such as populations that experience high levels of environmentally-related disease like asthma. Iowa must develop sites in at-risk communities to monitor fine particulate matter. In network plans, Iowa must submit to the EPA by the 2025 planning year a “PM2.5 network design to address at-risk communities.”<sup>22</sup> Moreover, Appendix D is clear that “[a]t least one monitoring station is to be sited at neighborhood or larger scale in an area of expected maximum concentration.”<sup>23</sup> The neighborhood scale is the most important scale. In areas with “additional required SLAMS, a monitoring station is to be sited in an at-risk community with poor air quality, particularly where there are anticipated effects from sources in the area.”<sup>24</sup>

Iowa’s network assessment must ensure that monitoring provides an adequate assessment of whether and how air quality impacts susceptible populations. “The network assessment must consider the ability of existing and proposed sites to support air quality characterization for areas with relatively high populations of susceptible individuals (e.g., *children with asthma*) and other at-risk populations.”<sup>25</sup>

Iowa law does not constrain Iowa’s ability to execute a monitoring scheme that effectively complies with the purpose and black-letter requirements of federal regulation. The DNR Director is to “determine by field studies and sampling the quality of atmosphere and the degree of air pollution” and both “conduct and encourage” research on air pollution and its *causes, effects, abatement, control, and prevention*.”<sup>26</sup> Likewise, the Environmental Protection Commission has the broad authority to “adopt, amend, or repeal ambient air quality standards for the atmosphere of this state on the basis of providing air quality necessary to protect the public health and welfare” and take other measures “as necessary to assure attainment and maintenance of ambient air quality standards.”<sup>27</sup> Ensuring compliance with federal air quality standards is a key duty. In fact, the duty to protect the public health is paramount not only federal law but also Iowa law.

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<sup>20</sup> *Id.*

<sup>21</sup> *Id.*

<sup>22</sup> 40 C.F.R. 58.10(b) (14).

<sup>23</sup> 40 C.F.R. pt. 58, Appendix D at 4.7.1(b).

<sup>24</sup> *Id.*

<sup>25</sup> 40 C.F.R. § 58.10(d) (emphasis added).

<sup>26</sup> IOWA CODE § 455B.134 (4–5) (2024) (emphasis added).

<sup>27</sup> IOWA CODE § 455B.133 (1–3) (2024).

### **III. The Proposed Air Monitoring Network Fails to Adequately Address the Research Objective.**

Federal regulations at 40 C.F.R. Part 58, Appendix D requires that monitoring networks for criteria pollutants be designed for three basic monitoring objectives:<sup>28</sup>

- provide air pollution data to the general public in a timely manner;
- support compliance with ambient air quality standards (primary and secondary) and emission strategy development; and
- support air pollution research studies.

The research component requires that monitoring points be located so that the resulting data will represent the population group under evaluation. Therefore, the monitoring stations are established in the centers of small well-defined residential areas within a community. Data correlations are made between observed health effects and observed air quality exposures.<sup>29</sup> Decommissioning air monitors is optional, and keeping extra monitors is valuable for coverage.<sup>30</sup>

#### *a. Iowa Asthma*

Given the high asthma rates in Iowa communities as discussed in Section IV, PM 2.5 and ozone monitors should be placed in these areas. The lack of PM 2.5 and ozone monitors in these communities, and a single PM 2.5 speciation monitor at the Davenport NCore site, is inadequate for researchers in understanding the sources of the pollution and potential causes of the high asthma rates in Iowa.

#### *b. Iowa Cancer Rate*

Another research area in Iowa is the high rate of cancer. Iowa continues to have the second highest age-adjusted rate of new cancers diagnosed and is one of only two states with a rising age-adjusted rate of new cancers.<sup>31</sup> The 2025 Cancer in Iowa report projects 6300 Iowans will die from cancer in Iowa as shown below by cancer type.

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<sup>28</sup> “Quality Assurance Handbook for Air Pollution Measurement Systems,” U.S. EPA (Jan. 2017) at Volume II, section 1.1, p.1 of 12, *available at* [https://www3.epa.gov/ttnamti1/files/ambient/pm25/qa/Final%20Handbook%20Document%201\\_17.pdf](https://www3.epa.gov/ttnamti1/files/ambient/pm25/qa/Final%20Handbook%20Document%201_17.pdf).

<sup>29</sup> Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II, section 6.0, p.3 of 15, [https://www3.epa.gov/ttnamti1/files/ambient/pm25/qa/Final%20Handbook%20Document%201\\_17.pdf](https://www3.epa.gov/ttnamti1/files/ambient/pm25/qa/Final%20Handbook%20Document%201_17.pdf)

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<sup>31</sup> Cancer in Iowa 2025, <https://shri.public-health.uiowa.edu/wp-content/uploads/2025/02/cancer-in-iowa-2025.pdf>

**Figure 6. Estimated Iowa Cancer Deaths.**

ESTIMATED CANCER DEATHS AMONG IOWA RESIDENTS, 2025					
TYPE	COUNT	% OF TOTAL	TYPE	COUNT	% OF TOTAL
Lung	1,430	22.7	Esophagus	200	3.2
Colon and rectum	550	8.7	Bladder	180	2.8
Pancreas	490	7.8	Brain	170	2.7
Breast	390	6.2	Kidney and renal pelvis	170	2.7
Prostate	340	5.4	Myeloma	130	2.1
Leukemia	260	4.1	Uterus	130	2.1
Liver and intrahepatic bile duct	250	4.0	Ovary	120	1.9
Non-Hodgkin lymphoma	240	3.8	All others	1,250	19.8
TOTAL COUNT: 6,300					

Research has found that “[e]xposure to outdoor air pollution poses an urgent public health challenge worldwide because it is ubiquitous, affecting everyone, and has numerous serious adverse human health effects, including cancer.”<sup>33</sup> Air pollutants emitted directly into the environment largely as a result of combustion of fossil and biomass fuels, include sulfur dioxide [SO<sub>2</sub>], nitrogen dioxide [NO<sub>2</sub>], carbon monoxide [CO], volatile organic compounds [VOCs],<sup>32,33</sup>

While environmental carcinogens like cigarette smoke and excessive sun exposure can be avoided, environmental carcinogens in the air drinking water are much harder to detect and avoid. “This makes it essential to identify which environmental factors are linked to cancer, where they are prevalent, and how they contribute to its development. Achieving this requires accurate measurement of environmental exposures, collecting data from affected populations, and designing experiments to study their biological effects.”<sup>34</sup>

### *c. PM 2.5 Monitors*

Air pollution is now the second highest risk factor for death globally, contributing<sup>35</sup> About one in five lung cancer deaths globally is attributed to air pollution, and additional links have been identified with brain, liver, kidney<sup>36</sup> In addition, “findings show notably that exposure to PM 2.5 – fine inhalable particles made of hundreds of different chemicals - raises the risk of

<sup>33</sup> J Clin. “Outdoor Air Pollution and Cancer: An Overview of the Current Evidence and Public Health Recommendations - PMC.” <https://pmc.ncbi.nlm.nih.gov/articles/PMC7904962/>

<sup>34</sup> Niyati Jain, “How the Air You Breathe Could Affect Your Cancer Risk,” *available at* <https://www.uchicagomedicine.org/forefront/cancer-articles/how-the-environment-is-silently-shaping-your-risk-for-cancer>

<sup>35</sup> Health Effects Institute. 2024. State of Global Air 2024. Special Report. Boston, MA:Health Effects Institute., *available at* [https://www.stateofglobalair.org/sites/default/files/documents/2024-06/soga-2024-report\\_0.pdf](https://www.stateofglobalair.org/sites/default/files/documents/2024-06/soga-2024-report_0.pdf)

<sup>36</sup> “Why clean air matters for cancer care and people living with cancer | UICC,” Union for International Cancer Control, *available at* <https://www.uicc.org/news-and-updates/news/why-clean-air-matters-cancer-care-and-people-living-cancer> (last accessed June 24, 2025).

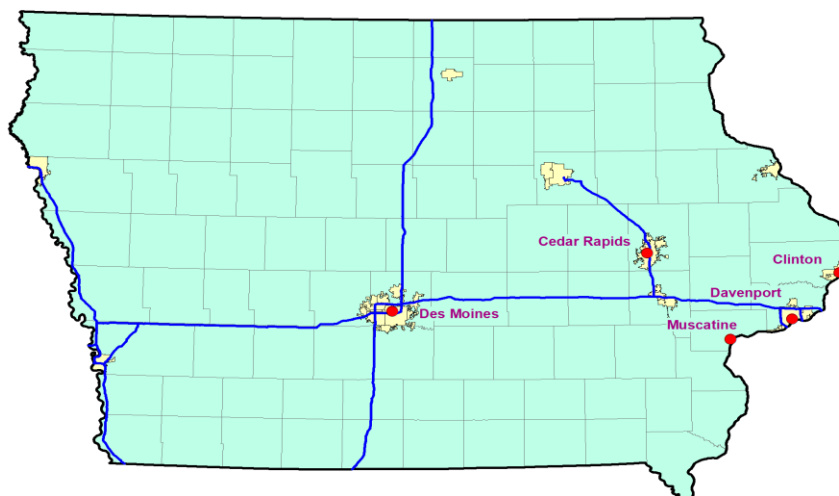
developing a range of cancers: by 11% of overall cancer risk, 63% for brain cancer, 31% for liver, 19% for colorectal, and 9% for kidney. Pollutants such as black carbon and nitrogen oxides are associated with even higher risks for malignant brain tumors and lung cancer.”<sup>37</sup>

Given the high cancer rates in Iowa communities, and the evidence of increased risk due to PM 2.5, DNR should increase the number of PM 2.5 monitors beyond the bare minimum required. This should include increasing the number of PM 2.5 speciation monitors beyond the single PM 2.5 speciation monitor at the Davenport NCore site, which is inadequate for researchers in understanding the cause of the high cancer rates in Iowa.

*d. Toxics Monitoring*

As noted in the Iowa 2025 Five-Year Ambient Air Network Assessment, the scope of EPA’s NAAQS program is limited to the seven criteria pollutants. In addition to the monitoring for the seven criteria pollutants, the State currently operates five toxic monitoring sites to determine the concentration of **formaldehyde** and other carbonyl compounds, including **aldehydes** and ketones, in ambient air. The sites currently operated are located at Des Moines, Cedar Rapids, Davenport, Muscatine, and Clinton, with the first two locations being operated by the Polk and Linn County local programs respectively, as shown below.

**Figure 7. Toxics monitoring sites in Iowa.**



Because Clinton has shown higher formaldehyde levels than either Davenport or Muscatine, and due to budget constraints and the cost of lab analysis, the State plans to discontinue toxic monitoring at Davenport and Muscatine on July 1, 2025. However, given that acetaldehyde and formaldehyde are classified as carcinogens, the monitoring network should reflect the communities likely to see higher concentrations of acetaldehyde and formaldehyde. Both compounds result from the production of ethanol.<sup>38</sup> Communities with potentially higher levels

<sup>37</sup> Id.

<sup>38</sup> EIP Report Farm to Fumes, June 12, 2024, [https://environmentalintegrity.org/wp-content/uploads/2024/06/EIP\\_Report\\_FarmtoFumes\\_06.12.2024.pdf](https://environmentalintegrity.org/wp-content/uploads/2024/06/EIP_Report_FarmtoFumes_06.12.2024.pdf)

and larger populations, and without current or proposed monitors, include Council Bluffs, Fort Dodge, and Mason City.<sup>39</sup> Maintaining the monitor in Muscatine and adding toxics monitors in Council Bluffs, Fort Dodge, and Mason City supports the research objective of air monitoring, especially as the State seeks to understand the underlying causes of cancer in Iowa.

#### **IV. DNR Must Expand the Monitoring Network to Assess Vulnerable Populations.**

Although the existing network includes monitors at points across the state, it fails to capture the risks for vulnerable populations as required by law. The network does not capture localized risks, and the Sioux City monitoring shows the potential exceedances near vulnerable populations. In addition, the network improperly ignores lead emissions authorized by DNR under Clean Air Act permits.

##### *a. Air Monitor Locations and Asthma in Iowa Miss Vulnerable Populations.*

It is critical that Iowa specifically investigate the ambient air where peoples' health may be especially harmed by pollution. Recent reporting highlights the declining air quality in some areas of Iowa.<sup>40</sup> For example, Sioux City has seen nearly a 15 percent increase in particulate matter.<sup>41</sup>

IEC used U.S. EPA's Environmental Justice screening and mapping tool<sup>42</sup> to identify areas of the state with high rates of asthma. On each area with high asthma rates, IEC superimposed the location of any current air monitor on the image and identified by a red circle (see Appendix A). IEC submitted this analysis in comments on the Iowa Ambient Air 2024 Network Plan on June 14, 2024, noticed for public comment on May 16, 2024.<sup>43</sup> IEC requested that DNR expand the SLAMS network to include ozone and PM 2.5 monitors in all of the areas identified with asthma rates higher than 80% of the national population. DNR has not done so.

Each of the 13 identified communities contains at-risk populations with asthma rates higher than 80% of the population nationally. Four of the communities have at-risk populations with asthma rates higher than 95% of the population nationally, with at-risk populations in Ames at 99%, Iowa City at 96%, Cedar Falls at 98%, and Waterloo at 97%.

Of the 13 communities with at-risk populations, five (Ames, Burlington, Dubuque, Fort Dodge and Ottumwa) do not have *any* monitors for either Ozone or PM 2.5. Only Cedar Rapids, Davenport and Des Moines have both Ozone and PM 2.5 monitors. However, as shown in Table

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<sup>39</sup> Iowa Ethanol Plants - Iowa Renewable Fuels Association, <https://iowarfa.org/ethanol-center/ethanol-biorefineries/>

<sup>40</sup> Jason Clayworth, "DSM faces declining air quality while most U.S. cities improve," Axios (May 27, 2025), available at <https://www.axios.com/local/des-moines/2025/05/27/dsm-air-pollution-increase>.

<sup>41</sup> *Id.*

<sup>42</sup> U.S. EPA, "EJScreen: EPA's Environmental Justice Screening and Mapping Tool (Version 2.2)," previously available at <https://ejscreen.epa.gov/mapper/> (last visited June 5, 2024); *see also* "EJScreen," Public Environmental Data Partners, available at <https://pedp-ejscreen.azurewebsites.net/>.

<sup>43</sup> Available at [https://www.iaenvironment.org/webres/File/2024%20Air%20network%20comments%20%206\\_6\\_24%20Final-formatted.pdf](https://www.iaenvironment.org/webres/File/2024%20Air%20network%20comments%20%206_6_24%20Final-formatted.pdf).

1 below, only Davenport has Ozone and PM 2.5 monitors located in an area with an at-risk population experiencing asthma at rates greater than 80% of the population nationally.

**Table 1. Correlation of Iowa Ambient Air Monitoring Sites and High Asthma Rates.**

City	Site	Address	County	Ozone Monitor	PM 2.5 Monitor	Ozone Monitor in >80%	PM 2.5 Monitor in >80%
Ames				No	No	No	No
Burlington				No	No	No	No
Cedar Rapids	Public Health	500 11th St. NW	Linn	Yes	Yes	No	No
Council Bluffs	Franklin School	3130 C Ave.	Pottawattamie	No	Yes	No	No
Davenport	Jefferson School	10th St. & Vine St.	Scott	Yes	Yes	Yes	Yes
Davenport	Hayes School	622 South Concord St	Scott	No	Yes	No	No
Des Moines	Health Dept.	1907 Carpenter	Polk	Yes	Yes	No	No
Des Moines	Public Works	5885 NE 14th	Polk	No	Yes	No	No
Dubuque				No	No	No	No
Fort Dodge				No	No	No	No
Iowa City	Hoover School	2200 East Court	Johnson	No	Yes	No	No
Ottumwa				No	No	No	No
Sheldahl	Southern Crossroads	15795 NW 58th St	Polk	Yes	No	No	No
Sioux City	Irving School	901 Floyd Blvd.	Woodbury	Yes	Yes	No	No
Waterloo/Cedar Falls	Water Tower	Vine St. & Steely	Black Hawk	No	Yes	No	Yes

Current monitoring does not necessarily mean that ozone levels are within safe levels where adverse health impacts are occurring. In its 2024 response to IEC’s comments, DNR argued that the correlation between monitors meant that the existing network already captures variation across the state. However, the ozone and PM 2.5 monitors are clearly not in locations with the most significant rates of asthma, and do not demonstrate that the existing monitors adequately capturing the public health impacts on at-risk populations as required by the Clean Air Act.

*b. Data Show the Sioux City Monitoring is Inadequate.*

Although the Iowa Ambient Air 2025 Network Plan is changing three existing PM2.5 special purpose monitors in Des Moines, Iowa City, and Sioux City to SLAMS monitors, the 2025 Network Plan does not call for implementation of those changes until January 1, 2027.<sup>44</sup> Importantly, it does not expand the SLAMS network to include ozone and PM 2.5 monitors in the areas identified with asthma rates higher than 80% of the national population, nor add SPM ozone and PM2.5 monitors as IEC had requested in 2024.

Sioux City has a PM2.5 design value of 8.1 ug/m<sup>3</sup>, equal to 90 percent of the ambient standard.<sup>45</sup> This ranks among the highest in the state. The monitor in Sioux City being converted from SPM to SLAMS will operate on a “1 in 3” basis, meaning that it samples one out of every three days rather than on a continuous basis.<sup>46</sup>

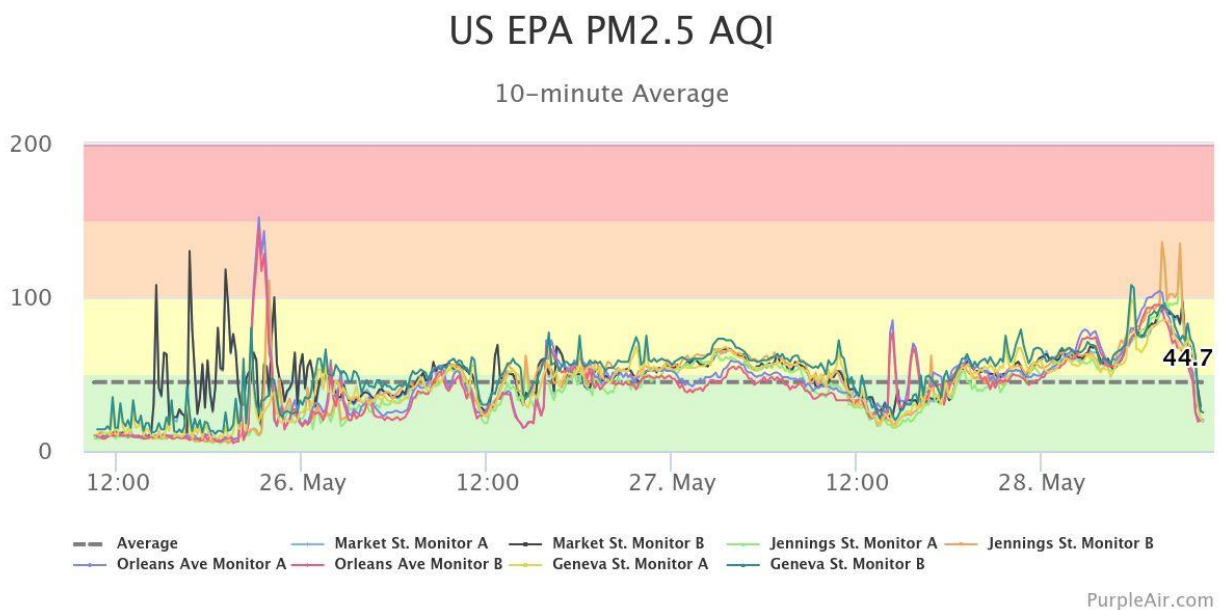
<sup>44</sup> Iowa DNR, “Iowa Ambient Air Monitoring 2025 Network Plan” (hereinafter “Draft Plan”) (May 13, 2025), available at <https://www.iowadnr.gov/media/7934/download?inline>.

<sup>45</sup> “Iowa Fine Particulate Monitoring Network Design Values 2022-2024,” Iowa DNR, at 7, available at <https://www.iowadnr.gov/media/7939/download?inline> (last visited May 29, 2025).

<sup>46</sup> Draft Plan Appendix D at 7,

Partially in response to the lack of PM<sub>2.5</sub> network monitors to address at-risk communities, IEC located three Purple PM 2.5 monitors in Sioux City. DNR’s draft Five-year Monitoring Network Assessment notes that the Purple Air monitoring network is becoming as dense as the SLAMS network and the state itself is operating the monitors at 14 locations.<sup>47</sup> The annual PM<sub>2.5</sub> standard is 9.0 µg/m<sup>3</sup> (micrograms per cubic meter), and the 24-hour PM<sub>2.5</sub> standard is 35 µg/m. As shown below, the PM 2.5 level in the snapshot below peaked at 152 µg/m<sup>3</sup> and over a three day span averaged 44.7 µg/m<sup>3</sup>. Meanwhile, nearly all statewide PM<sub>2.5</sub> monitoring by DNR showed daily averages well below that level, not reflecting the potential effects on a susceptible population.<sup>48</sup>

**Figure 8. Sioux City PurpleAir Monitoring, May 2025.**

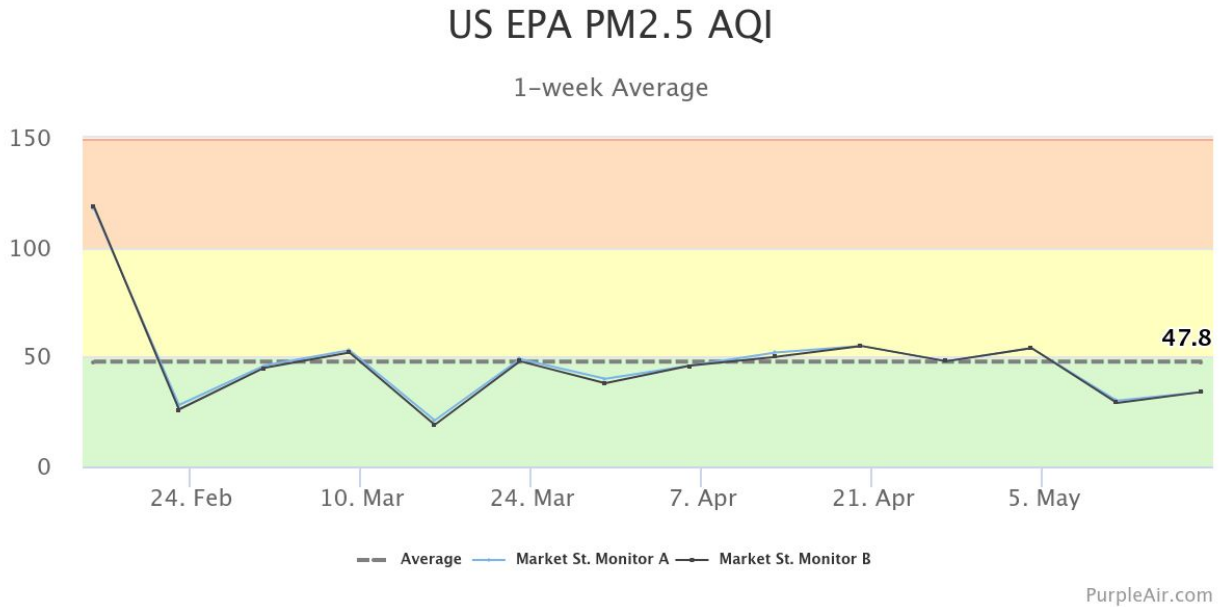


In the graph below, the one week average PM 2.5 concentrations are shown for one of the purple monitors in Sioux City. It is noteworthy that the 1-week average over a period of months is 47.8 µg/m<sup>3</sup>, well above the 24-hour PM<sub>2.5</sub> standard of 35 µg/m<sup>3</sup>.

<sup>47</sup> Iowa DNR, “Iowa DNR Five-Year Ambient Monitoring Network Assessment,” Appx. E, available at <https://www.iowadnr.gov/media/8393/download?inline>.

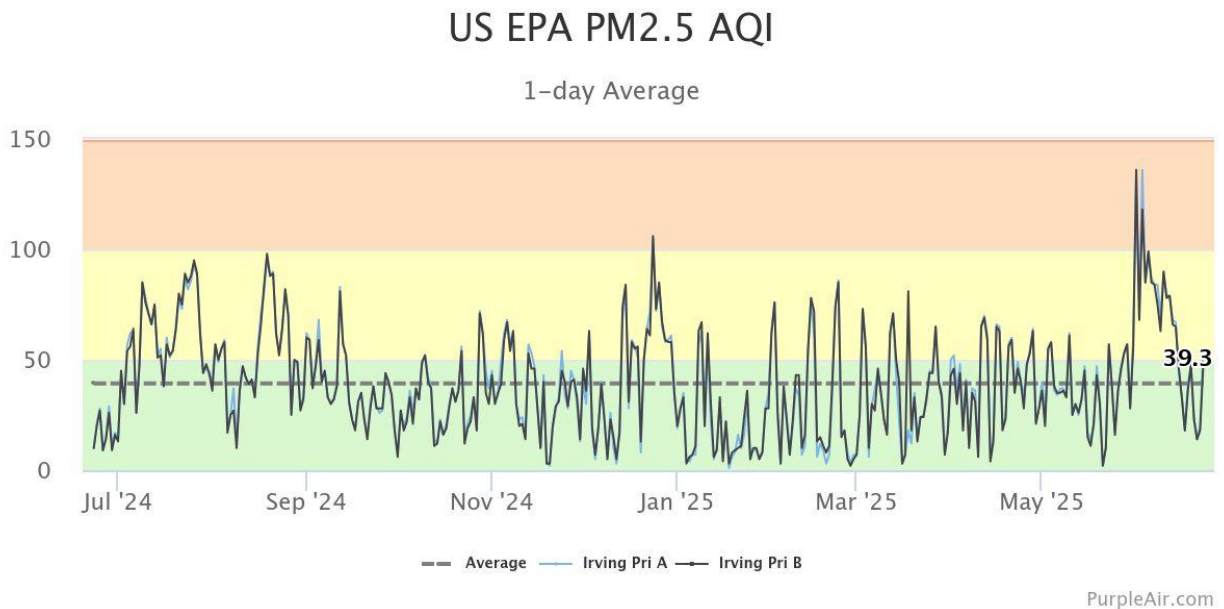
<sup>48</sup> “AirNow,” U.S. EPA, available at <https://www.airnow.gov/state/?name=iowa> (last visited June 9, 2025) (historical data for May 25-28).

**Figure 9. Sioux City PurpleAir Monitoring, 1-week averages, 2025.**



The DNR has a PurpleAir monitor at Irving School in Sioux City.<sup>49</sup> This is close to an area with high asthma rates in Sioux City. The data from the site yields similar results for the past year, with PM<sub>2.5</sub> at 39.3  $\mu\text{g}/\text{m}^3$  (above the 24-hour standard of 35).<sup>50</sup>

**Figure 10. Sioux City PurpleAir Monitoring by DNR, 1-day average, 2024-25.**



<sup>49</sup> Personal Communication via email from Brian Hutchins (Iowa DNR) to Michael Schmidt (IEC), June 18, 2025.

<sup>50</sup> “US EPA PM2.5 by PurpleAir,” PurpleAir, available at <https://map.purpleair.com/air-quality-standards-us-epa-aqi?opt=%2F1%2F1p%2Fa1440%2Fp604800%2Fc0&select=81821#15.49/42.499293/-96.394099> (last accessed June 24, 2025).

The high annual design values and the exceedances of the 24-hour standards support continuous monitoring in Sioux City. Consistent with this request, IEC has requested increased monitoring in areas with asthma rates higher than 80% of the national population. This is particularly important since studies have shown that asthma rates increase at PM 2.5 levels below the annual and 24 hour standards. 14-day average  $PM_{2.5} \geq 7.07 \mu g/m^3$  was associated with an estimated 4-5% higher asthma symptom prevalence, and in the range of 4.00-7.06  $\mu g/m^3$  of  $PM_{2.5}$ , each 1- $\mu g/m^3$  increase was associated with a 3.4% increase in symptom prevalence.<sup>51</sup>

## **V. DNR Improperly Seeks a Waiver for Lead Monitoring.**

The Iowa 2025 air monitoring five-year assessment includes a request to waive lead source monitoring in Iowa, stating that there are no facilities that emit the 0.25 tons of lead/year threshold.<sup>52</sup> There currently is only one lead SLAMS site in Iowa: Council Bluffs.<sup>53</sup> This monitoring site is at a defunct pipe factory, Griffin Pipe Products LLC, but lost enough monitoring data that the design value for lead cannot be calculated for the last several years.<sup>54</sup> Without this data, we do not believe that DNR can adequately show attainment status on lead emissions.<sup>55</sup> There are no active lead monitors in Iowa as of 2:30 PM on 6/11/25.<sup>56</sup> There are at least two facilities of concern in Council Bluffs that emit lead: Walter Scott Jr. coal plant and Alter Metal Recycling.

Walter Scott Jr. has two active coal boilers, each of which can potentially emit 0.2 pounds of lead per hour.<sup>57</sup> There is no data for stack testing on how much lead has been emitted in recent years, but in 2024 the facility reported that both Walter Scott Unit 3 and Walter Scott Unit 4 operated for over 5800 hours in 2024.<sup>58</sup> This means that in 2024, the Walter Scott Jr. plant could have emitted over one ton of lead in that year. The facility can potentially emit 1.74 tons of lead per year under its Clean Air Act permit.<sup>59</sup> DNR should be aware that this facility can and likely does emit over the 0.25 tons per year threshold, which would preclude a waiver for source monitoring in Council Bluffs.

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<sup>51</sup> Outdoor  $PM_{2.5}$ , Ambient Air Temperature, and Asthma Symptoms in the Past 14 Days among Adults with Active Asthma, December 2016, <https://pubmed.ncbi.nlm.nih.gov/27385358/>.

<sup>52</sup> IOWA DEPT. OF NATURAL RESOURCES, *Iowa DNR Five Year Ambient Monitoring Network Assessment*, <https://www.iowadnr.gov/media/8393/download?inline>.

<sup>53</sup> *Id.*

<sup>54</sup> IOWA DEPT. OF NATURAL RESOURCES, *No Iowa Lead Monitoring Design Value 2020-2022*, <https://www.iowadnr.gov/media/2473/download?inline>.

<sup>55</sup> *Id.*

<sup>56</sup> OFF. OF AIR QUALITY PLANNING AND STANDARDS EPA, *Air Quality System (AQS) Monitoring Network Lead*, <https://hub.arcgis.com/datasets/EPA::air-quality-system-aqs-monitoring-network-epa-oaqps/explore?layer=2&location=44.709821%2C-88.730165%2C5.00>.

<sup>57</sup> MIDAMERICAN ENERGY, *Title V Application*, at 169, 229 (Oct. 18, 2022).

<sup>58</sup> MIDAMERICAN ENERGY, *2024 Emissions* (June 3, 2025).

<sup>59</sup> MIDAMERICAN ENERGY, *Title V Application*, at 169, 229 (Oct. 18, 2022).

Alter metal recycling had to issue a non-attainment plan for lead plan in 2014, but its newest air permit from 2022 says nothing about lead.<sup>60</sup> This facility is located next to Griffin Pipe. There is no published data on hours of operation related to lead emitting facilities, but the potential for any amount of lead emission being added to the nearby coal plant is concerning for the air quality around Council Bluffs.

At a minimum, DNR should reveal its internal analysis and reports supporting the position that there are no facilities in Iowa that emit lead above the threshold. An example to go by is Nebraska, which disclosed five years of testing on the facilities seeking the lead waiver.<sup>61</sup>

There is an NCORE lead monitor in Omaha, but that monitor is not sufficient to ensure compliance in Council Bluffs. The wind almost never blows east to west in Council Bluffs or Omaha, which would allow Council Bluffs emissions to be picked up by the Omaha NCORE monitor.<sup>62</sup> The SLAMS monitor in Council Bluffs should be moved much closer to the coal plant, the Walter Scott Jr. coal boilers should have stack testing done with the data disclosed to the public, and the DNR should revoke the waiver for source monitoring if they cannot provide data disproving the concerns above.

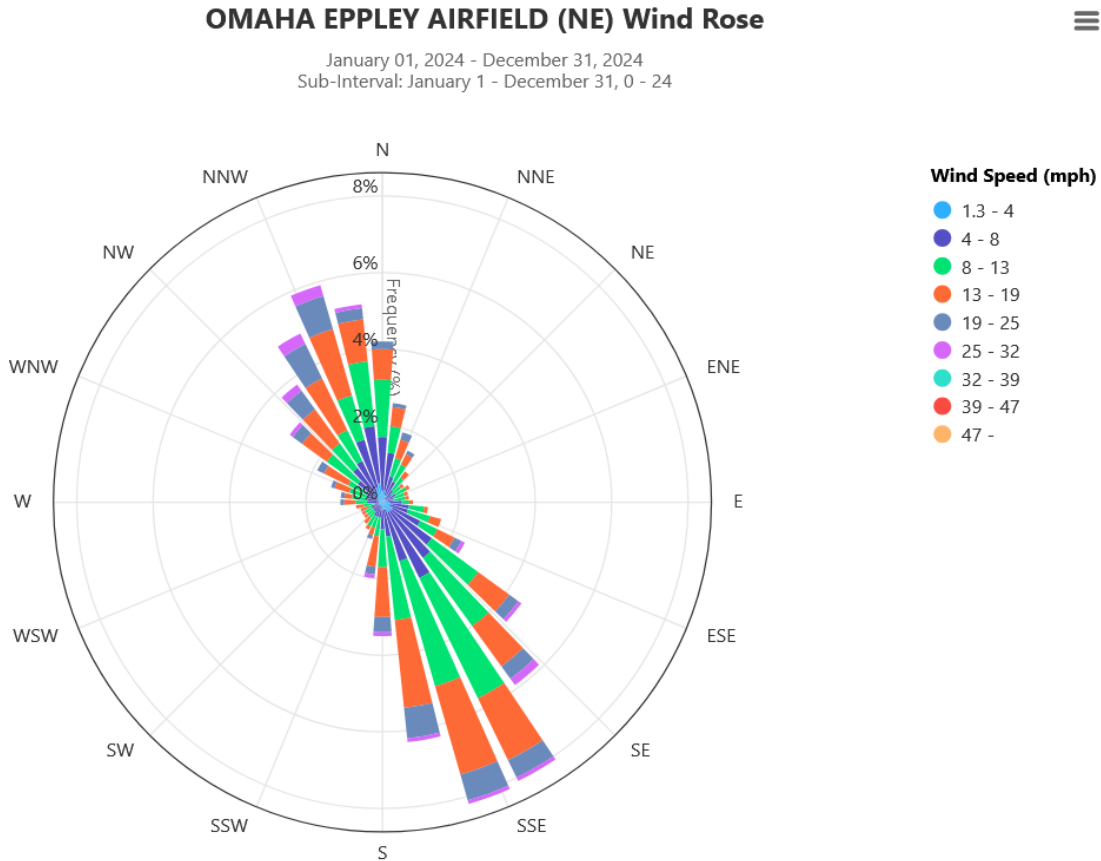
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60 ALTER METAL RECYCLING, *Cyclone Exhaust Title V Application*, (Aug. 17, 2022); *See also* IOWA DEPT. OF NATURAL RESOURCES, *State Implementation Plan Lead Non-Attainment Council Bluffs*, (Jan. 15, 2015) <https://www.iowadnr.gov/media/2410/download?inline>.

61 NEBRASKA DEPT. OF ENVIRONMENT AND ENERGY, *Nebraska 2024 Ambient Air Monitoring Network Plan DRAFT*, at 25, 26 (June 4, 2024) <https://dee.nebraska.gov/sites/default/files/publications/70057577.pdf>.

62 *See infra*.

**Figure 11. Omaha Wind Rose, 2024.**



## VI. Recommendations

At-risk, susceptible populations often cluster together and tend to be closest to sources of pollution. As documented using the Environmental Justice screening tool, Iowa has areas of the state with at-risk populations experiencing extremely high asthma rates. Federal regulations require the network assessment to “consider the ability of existing and proposed sites to support air quality characterization for areas with relatively high populations of susceptible individuals (e.g., *children with asthma*) and other at-risk populations.”<sup>63</sup> Numerous communities in Iowa have susceptible populations, but not air quality monitoring stations. Locations such as Sioux City have exceeded the 24-hour standard based on local monitoring. As such, Iowa needs to expand the ozone and PM 2.5 monitoring network to accurately characterize air quality for these at-risk populations.

We request that DNR expand the SLAMS network to include ozone and PM 2.5 monitors in all of the areas identified with asthma rates higher than 80% of the national population. In the alternative, SPM ozone and PM 2.5 monitors need to be located in these areas with high rates of asthma.

<sup>63</sup> 40 C.F.R. § 58.10(d) (emphasis added).

Iowa also has the second highest cancer rate in the country. Exposure to outdoor air pollution poses an urgent public health challenge because it is ubiquitous, making it essential that air quality monitoring accurately characterize the PM 2.5 and Volatile Organic Compounds in Iowa communities. As such, Iowa needs to expand the PM 2.5 speciation monitoring network, and the toxics monitoring to accurately characterize air quality for at-risk populations.

The SLAMS monitor in Council Bluffs should be moved much closer to the coal plant, the Walter Scott Jr. coal boilers should have stack testing done with the data disclosed to the public, and the DNR should revoke the waiver for source monitoring if they cannot provide data demonstrating lead emissions are below the threshold for monitoring.

Thank you for the opportunity to comment. If you have questions or we can clarify these comments further, please feel free to contact us.

Sincerely,

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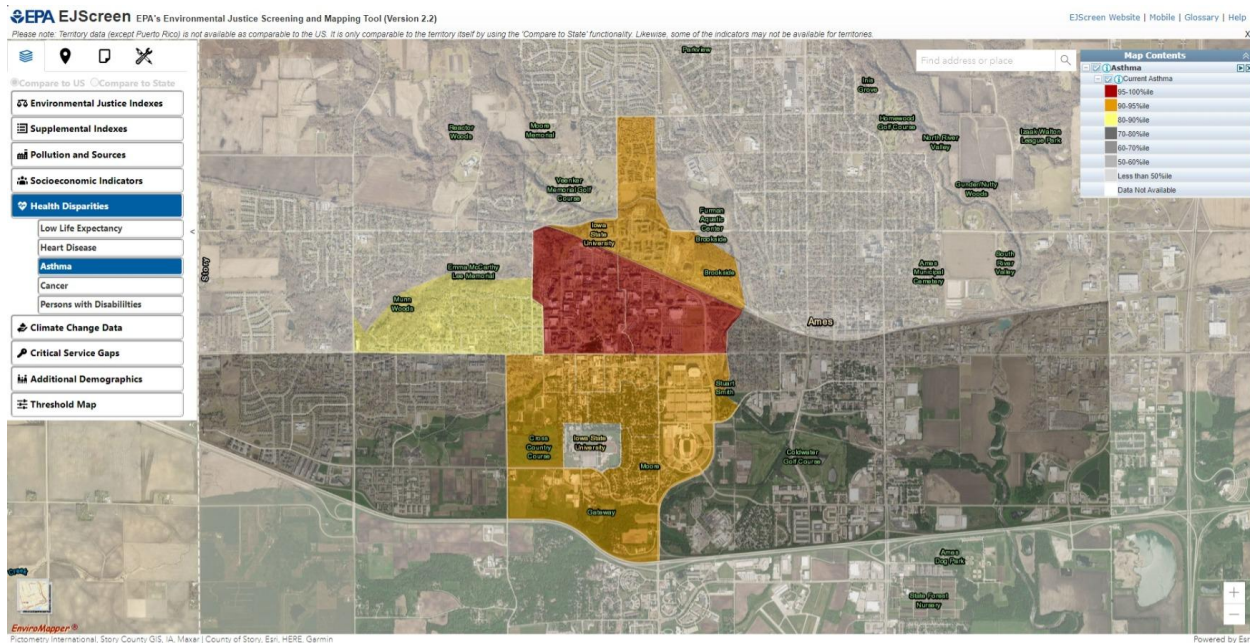
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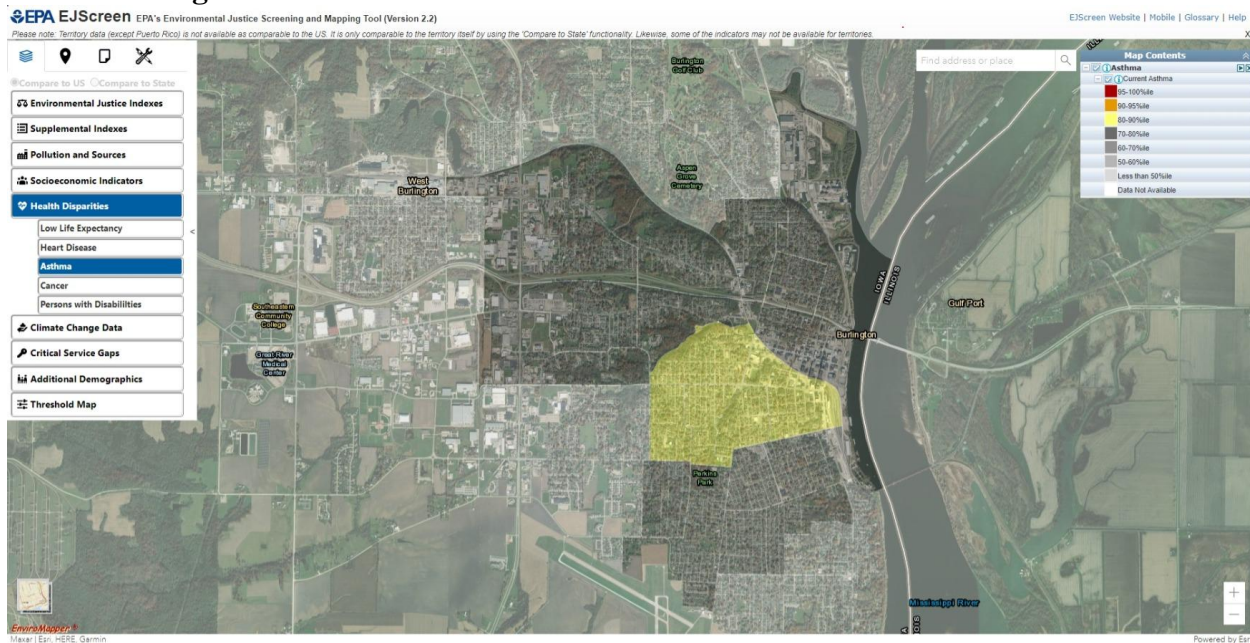
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# Appendix A: Asthma Rates and Monitoring Locations

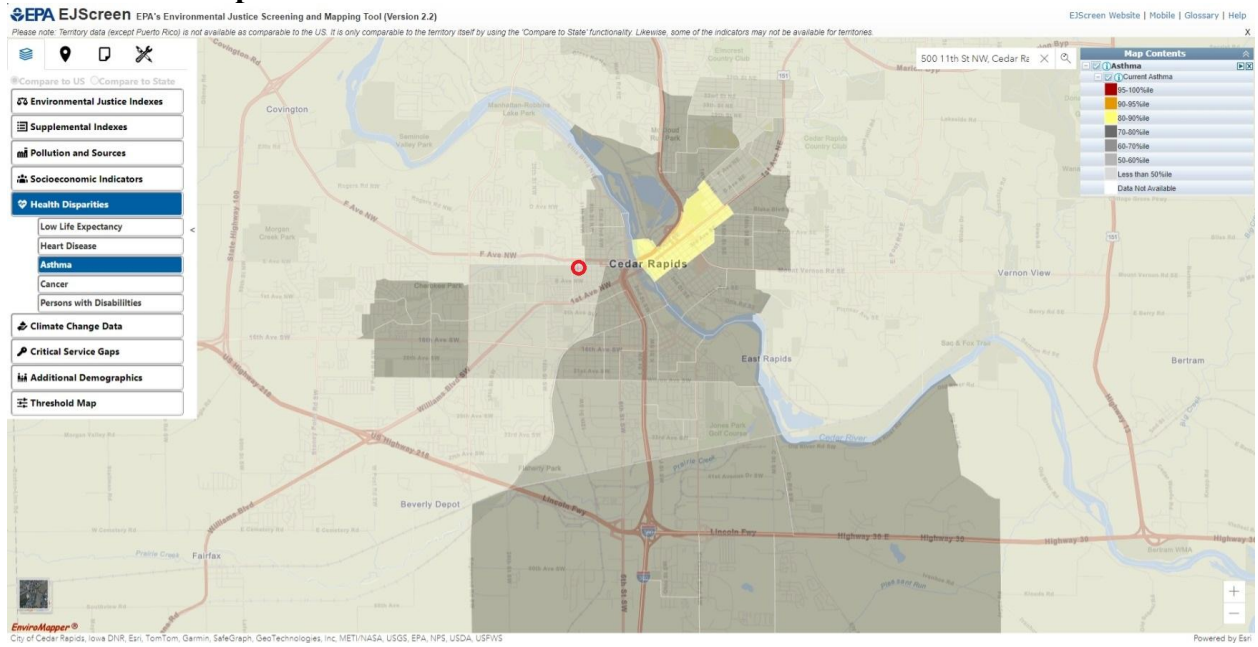
## 1. Ames – No Air Monitor



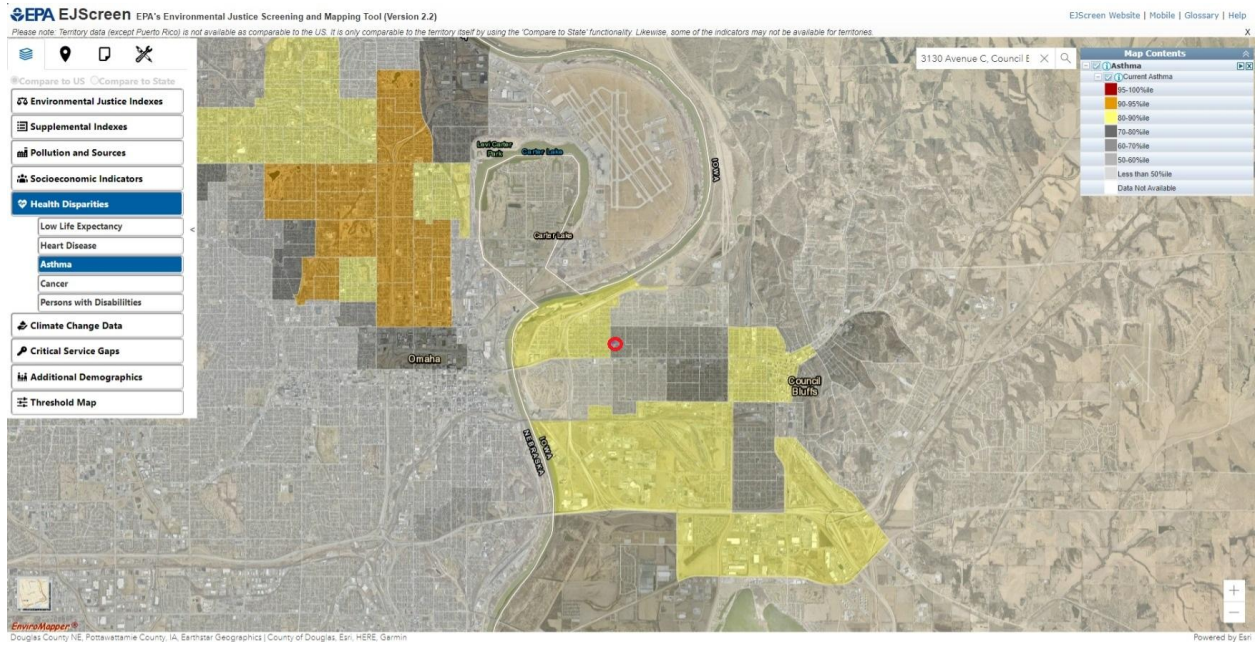
## 2. Burlington – No Air Monitor



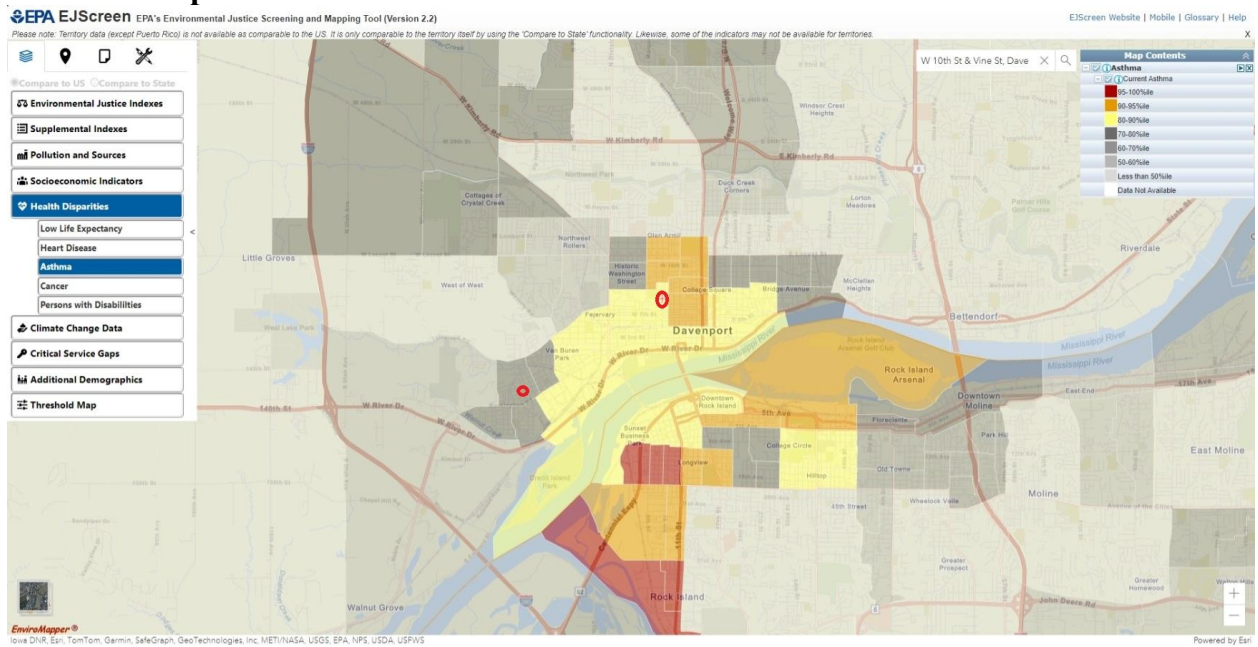
### 3. Cedar Rapids – Air Monitor Location



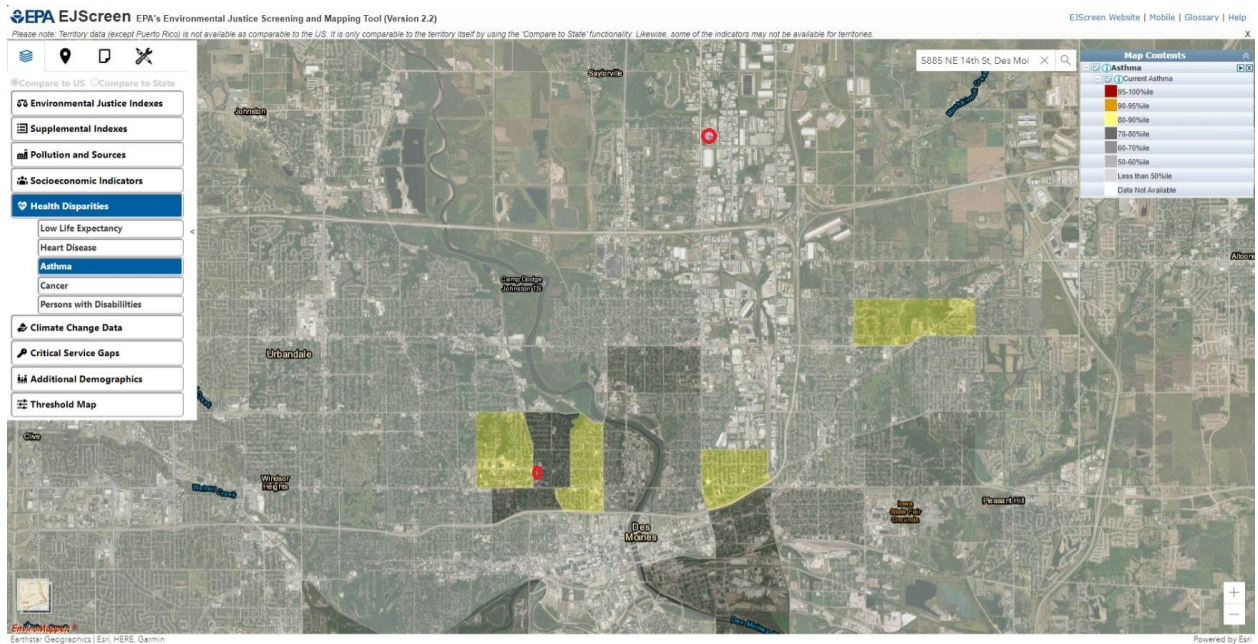
### 4. Council Bluffs – Air Monitor Location



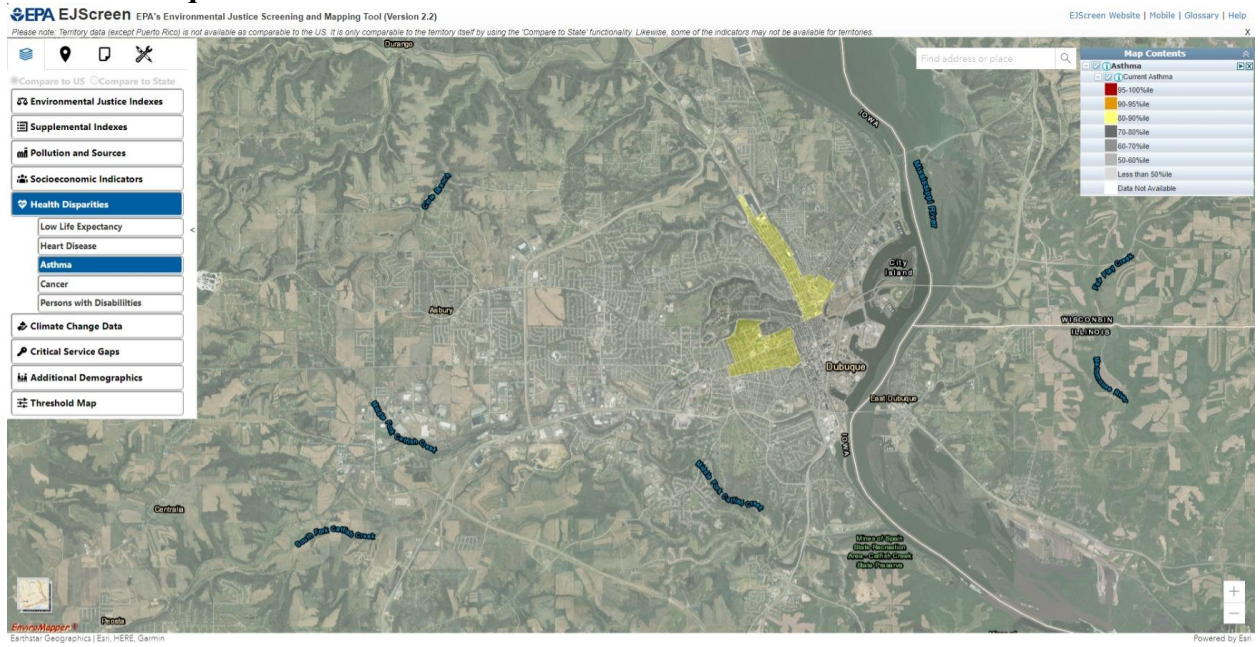
## 5. Davenport – Air Monitor Locations



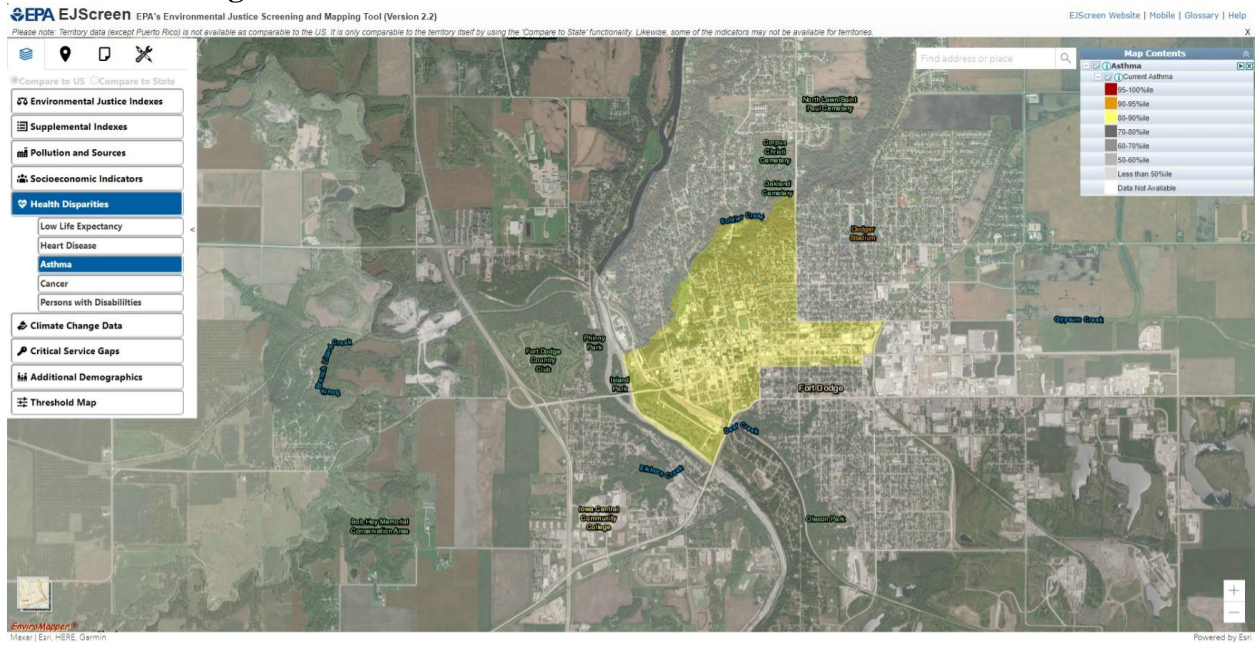
## 6. Des Moines – Air Monitor Locations



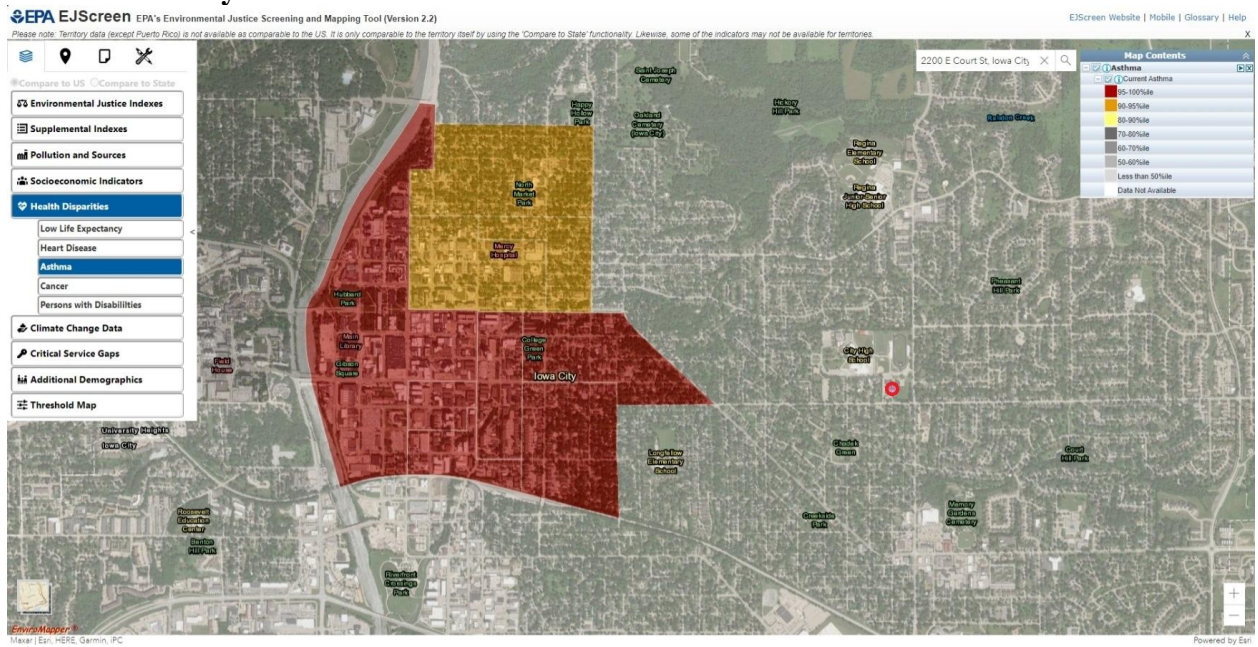
## 7. Dubuque – No Air Monitor



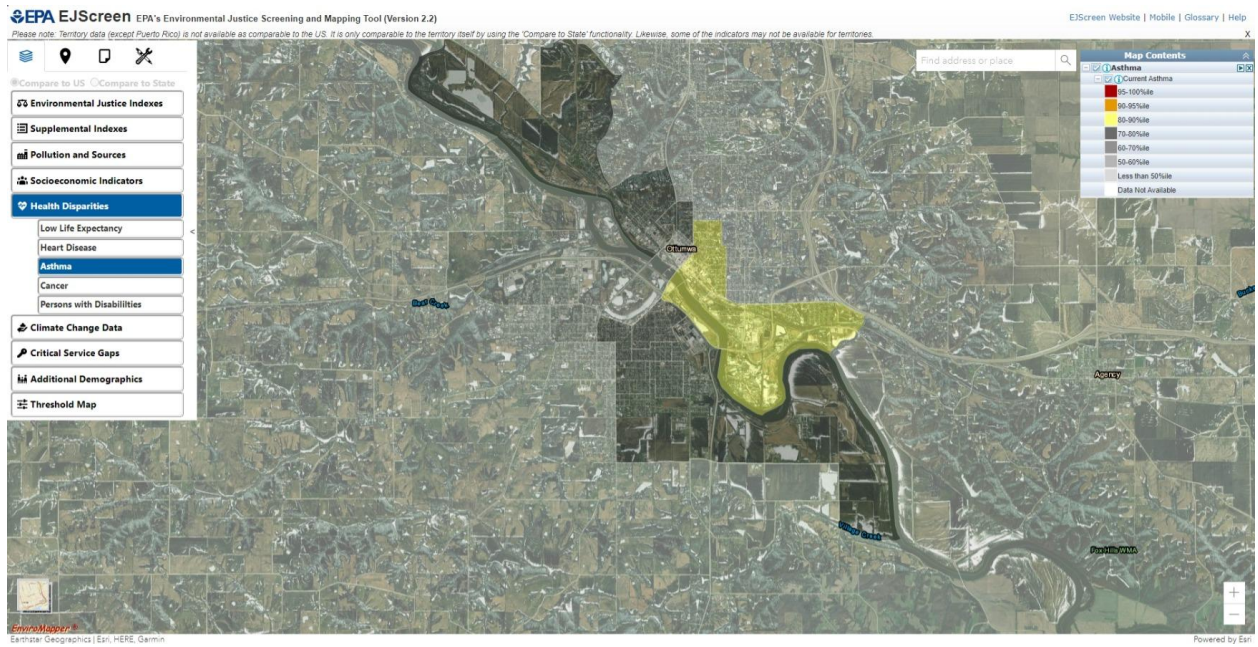
## 8. Fort Dodge – No Air Monitor



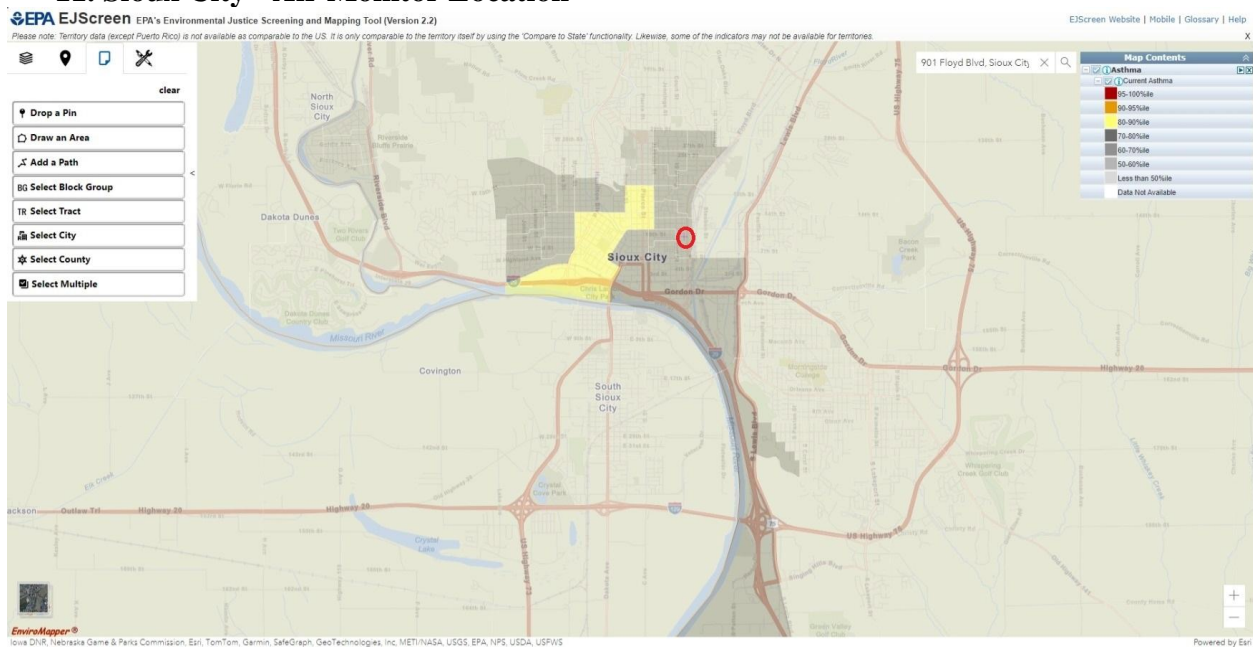
## 9. Iowa City – Air Monitor Location



## 10. Ottumwa – No Air Monitor



## 11. Sioux City - Air Monitor Location



## 12. Waterloo/Cedar Falls – Air Monitor Location

