



U.S. ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF INSPECTOR GENERAL

Air Quality

EPA Regions Have Considered Environmental Justice When Targeting Facilities for Air Toxics Inspections

Report No. 15-P-0101

February 26, 2015



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Abbreviations

CAA	Clean Air Act
EPA	U.S. Environmental Protection Agency
EJ	Environmental justice
FY	Fiscal year
HRF	High-Risk Facilities
NATA	National-Scale Air Toxics Assessment
OECA	Office of Enforcement and Compliance Assurance
OIG	Office of Inspector General
PM	Particulate Matter

Cover photo: A neighborhood in close proximity to an operating power plant. (EPA photo)

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At a Glance

Why We Did This Review

The U.S. Environmental Protection Agency (EPA), Office of Inspector General (OIG), conducted this review to determine whether the EPA's Office of Enforcement and Compliance Assurance (OECA) and EPA regions have targeted facilities in overburdened communities, or communities with disproportionate impacts, for air toxics inspections. Air toxics compliance evaluations (commonly referred to as inspections) are onsite visits and offsite record reviews to determine whether a facility is in compliance with laws and regulations that limit emissions.

Air toxics are pollutants known or suspected to cause cancer or other serious health effects. Communities that experience elevated or disproportionate impacts from air toxics may be areas of environmental justice (EJ) concern. EPA regions are supposed to consider potential EJ concerns and impacts to communities when targeting sources for air toxics inspections.

This report addresses the following EPA goals or cross-agency strategies:

- *Addressing climate change and improving air quality.*
- *Protecting human health and the environment by enforcing laws and assuring compliance.*
- *Working to make a visible difference in communities.*

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www.epa.gov/oig/reports/2015/20150226-15-P-0101.pdf

EPA Regions Have Considered Environmental Justice When Targeting Facilities for Air Toxics Inspections

What We Found

All 10 EPA regions have considered EJ when targeting facilities for air toxics inspections. EJ is one of many different factors that regions used when deciding where to conduct air toxics inspections. Other common factors that EPA regions used to target air toxics inspections included:

- Cancer risk in the area surrounding a facility.
- Overall emissions from a facility.
- A facility's compliance history.

Regions have had limited resources to do air toxics inspections, and these factors helped regions prioritize their inspections.

OECA has developed several tools to help regions select air toxics facilities for inspection. One tool, the High-Risk Facilities (HRF) list, identifies large facilities in areas with elevated cancer risks associated with air toxics. The list includes an "EJ Score" for each facility to help regions prioritize which facilities to inspect. The most recent HRF list, provided to the regions in November 2014, uses EJ information from a relatively new EPA tool, called EJSCREEN, to develop the "EJ Score." EJSCREEN is an online mapping and analysis tool developed and issued internally by the EPA to help program offices and regions integrate EJ into multiple facets of the agency's work. While regional staff identified several aspects of EJSCREEN that limit its usefulness for the targeting of air toxics inspections, recent and planned updates to EJSCREEN include enhancements that address most of these limitations.

In addition, OECA has developed new mapping tools that combine data from EJSCREEN with data layers from the EPA's GeoPlatform. These tools produce maps that include useful information about the location of facilities and also note areas of potential EJ concerns in nearby communities. OECA demonstrated these tools to EPA regions and has worked with two regions to develop individualized mapping tools based on specific regional needs. We believe that these new mapping tools will help regions target potentially overburdened communities for air toxics inspections.

We make no recommendations.

The EPA has considered EJ in its air toxics facility targeting activities, and the implementation of new tools should enhance agency efforts.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

THE INSPECTOR GENERAL

February 26, 2015

MEMORANDUM

SUBJECT: EPA Regions Have Considered Environmental Justice
When Targeting Facilities for Air Toxics Inspections
Report No. 15-P-0101

FROM: Arthur A. Elkins Jr.

A handwritten signature in black ink, appearing to read "Arthur A. Elkins Jr.", is written over the printed name.

TO: Cynthia Giles, Assistant Administrator
Office of Enforcement and Compliance Assurance

This is our report on the subject evaluation conducted by the Office of Inspector General (OIG) of the U.S. Environmental Protection Agency (EPA). This report represents the opinion of the OIG and does not necessarily represent the final EPA position.

Because this report contains no recommendations, you are not required to respond to this report. However, if you submit a response, it will be posted on the OIG's public website, along with our memorandum commenting on your response. Your response should be provided as an Adobe PDF file that complies with the accessibility requirements of Section 508 of the Rehabilitation Act of 1973, as amended. The final response should not contain data that you do not want to be released to the public; if your response contains such data, you should identify the data for redaction or removal along with corresponding justification.

We will post this report to our website at <http://www.epa.gov/oig>.

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Purpose

The U.S. Environmental Protection Agency (EPA), Office of Inspector General (OIG), conducted this review to determine whether the EPA's Office of Enforcement and Compliance Assurance (OECA) and EPA regions have targeted facilities in overburdened communities, or communities with disproportionate impacts, for Clean Air Act inspections for air toxics.

Background

Air toxics are pollutants known or suspected to cause cancer or other serious health effects, such as reproductive effects, birth defects, or adverse environmental effects. The EPA estimates that 13.8 million Americans live in communities where the estimated individual risk of getting cancer due to a lifetime exposure to outdoor air toxics exceeds 1 in 10,000. This rate is double the average national cancer risk from air toxics in the United States.¹

Air toxics emitted from sources in a community may remain close to that community, rather than dispersing over a larger area. This may result in elevated concentrations of air toxics in the community's air. In communities with multiple sources of air toxics emissions, or where sources do not comply with air toxics regulations, residents may face increased or disproportionate risks, raising concerns about environmental justice (EJ).

Environmental Justice at EPA

Issued in 1994, Executive Order 12898 directs federal agencies to include EJ as part of their mission. Agencies should identify and address disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority and low-income populations. The EPA and other federal agencies are required to develop an agencywide EJ strategy.

The EPA's Plan EJ 2014 is meant to mark the 20th anniversary of the signing of Executive Order 12898 and is the agency's overarching strategy for advancing EJ. Issued in 2011, Plan EJ 2014 is the EPA's comprehensive and cross-cutting strategy for incorporating EJ principles into the agency's programs, policies and activities. Plan EJ 2014 includes the following definitions:

- EJ is the "fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."

¹ The average national cancer risk from air toxics in the United States is 50 in 1 million, or 1 in 20,000, according to the EPA's most recent National-Scale Air Toxics Assessment.

- Fair treatment means that “no group of people should bear a disproportionate burden of environmental harms and risks, including those resulting from the negative environmental consequences of industrial, governmental, and commercial operations or programs and policies.”

The EPA developed the term “overburdened community” to better capture the concept of EJ within communities. According to Plan EJ 2014, an overburdened community is a minority, low-income, tribal or indigenous population that could experience “disproportionate environmental harms and risks as a result of greater vulnerability to environmental hazards.” This vulnerability may be due to negative (or the lack of positive) environmental, health, economic or social conditions.

Advancing EJ Through Compliance and Enforcement

One of the five cross-agency focus areas in Plan EJ 2014 is “Advancing EJ through Compliance and Enforcement.” The goal of this focus area is to “fully integrate consideration of environmental justice concerns into the planning and implementation of OECA’s program strategies, case targeting strategies, and development of remedies in enforcement actions to benefit [overburdened] communities.”

OECA facilitates the process of advancing EJ through compliance and enforcement within the EPA. Every 3 years, OECA selects a limited number of high-priority national environmental and compliance problems to address through concentrated, nationwide enforcement efforts. In selecting these areas of focus, OECA looks for important environmental and public health problems that are caused, at least in part, by widespread failure of regulated sectors to comply with federal environmental laws. These are areas where OECA believes a concentrated federal enforcement effort can make a difference in correcting violations and reducing pollution. The selected areas of focus are called “National Enforcement Initiatives.”

One of OECA’s National Enforcement Initiatives for fiscal years (FYs) 2011–2013, and continuing for FYs 2014–2016, is the National Air Toxics Compliance and Enforcement Initiative. The National Air Toxics Compliance and Enforcement Initiative’s goal is to reduce illegal emissions of toxic air pollutants from leaks, flares and excess emissions at facilities that have a significant impact on air quality and health in communities. The initiative notes that many of these types of emissions are often underestimated by facilities and regulators. Also, many of these facilities may be located in areas that experience disproportionate and adverse impacts. The initiative directs the EPA to incorporate EJ into all activities as described, including the targeting of facilities. Accordingly, the National Air Toxics Compliance and Enforcement Initiative called for each region

to develop a plan for FYs 2011–2013 that considered EJ in targeting stationary sources² for air toxics inspections.

Responsible Offices

The EPA offices with primary responsibility for the issues discussed in this report are EPA regions and two OECA offices: the Office of Compliance and the Office of Environmental Justice. EPA regions are responsible for targeting and inspecting air toxics facilities in areas of potential EJ concern within their states and territories. The Office of Compliance is responsible for developing guidance and tools to assist EPA regional air toxics targeting efforts. The Office of Environmental Justice works to protect communities overburdened by air toxics pollution by integrating EJ into EPA programs, policies and activities.

Scope and Methodology

We conducted our review from March through December 2014. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our objective. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our objective.

To answer our objective, we reviewed relevant laws, regulations and executive orders, including:

- The 1990 Clean Air Act (CAA), as amended.
- The National Emissions Standards for Hazardous Air Pollutants.
- Executive Order 12898: *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*.
- A 2011 White House Memorandum of Understanding on Executive Order 12898.

We also reviewed the following EPA guidance documents pertaining to air toxics inspections and EJ:

- *Performance Based Strategy for the Air Toxics National Compliance and Enforcement Priority*, FYs 2008–2010.
- *Area Source Rule Implementation Guidance*, June 2010.
- *CAA Stationary Source Compliance Monitoring Strategy*, September 2010.

² A *stationary source* is a place or object from which pollutants are released that do not result from an internal combustion engine for transportation purposes, or from a nonroad engine or vehicle. Stationary sources include power plants, petroleum refineries, chemical plants, food-processing plants, large factories, gas stations, incinerators and pipelines.

- *Air Toxics Compliance and Enforcement Initiative*, FYs 2011–2013.
- Memorandums from the EPA Deputy Administrator concerning EJ analysis tools, April and October 2012.
- Plan EJ 2014 and associated documents, including *National Environmental Justice Advisory Council Comments to Plan EJ 2014* and *Plan EJ 2014 Progress Report*.
- *Action Development Process: Guidance on Considering Environmental Justice During the Development of an Action*, January 2014.
- *EPA Strategic Plan*, FYs 2011–2015.

To determine whether OECA and EPA regions consider EJ concerns in their targeting efforts for air toxics inspections, we reviewed the targeting plans each region developed under the National Air Toxics Enforcement and Compliance Initiative. Our review was limited to up-front targeting activities that regions undertook. We did not review records or data from completed facility inspections. We interviewed staff and managers from OECA’s Office of Compliance and Office of Environmental Justice. We also interviewed enforcement staff and managers from each of the 10 EPA regions.

In addition, we reviewed and assessed tools that EPA headquarters has developed and provided to the regions to help them target air toxics inspections in areas of EJ concern, including EJSCREEN, EJSCREEN v2.0,³ and GeoPlatform. We also attended webinar demonstrations on GeoPlatform offered by Region 1 and OECA’s Office of Compliance. The webinars demonstrated how GeoPlatform can be used in conjunction with EJSCREEN to target inspections.

OECA Has Developed Guidance and Tools to Assist EPA Regional Air Toxics Targeting Efforts

OECA assists EPA regional air toxics targeting efforts by developing guidance and tools that can be used by regions to make their targeting decisions. As noted above, OECA developed the National Air Toxics Compliance and Enforcement Initiative to provide guidance on targeting inspections for air toxics for the planning cycles FYs 2011–2013 and FYs 2014–2016. The initiative requires regions to consider EJ in their targeting efforts. Under this initiative, regions commit to conducting a specific number of air toxics inspections each year, but there is no requirement to conduct a certain number of inspections in areas of EJ concern. The requirement is that regions consider EJ when making decisions about where to invest their limited inspection resources.

In addition, OECA’s Office of Compliance developed a tool called the High-Risk Facilities (HRF) list to help regions target their air toxics inspections. This list

³ In this report, EJSCREEN refers to the first version of EJSCREEN that was released in 2012. EJSCREEN v2.0 refers to an updated version that was released for internal EPA use in September 2014. EJSCREEN v2.0 replaces EJSCREEN.

identifies over 6,000 major source⁴ facilities located in counties that have census tracts with more than a 1-in-1-million cancer risk from air toxics emissions from point sources. The Office of Compliance included an “EJ score” for each facility on the list, which was generated using an EJ screening tool no longer in use. EJ scores range from 1 to 10. Facilities with EJ scores of 1, 2 or 3 indicate areas with the greatest potential for EJ concern.⁵ The Office of Compliance first provided the HRF list to the regions in FY 2011, and provided an updated list in FY 2012. In November 2014, the Office of Compliance released a new version of the HRF list that incorporates EJ-related information from a newer EJ screening tool called ESCREEN. This new HRF list is discussed in more detail below.

The Office of Compliance is also working to develop additional mapping tools to enhance EPA regional targeting efforts. These tools are also discussed in detail below.

All EPA Regions Have Considered EJ in Their Air Toxics Targeting Efforts

All EPA regions have considered EJ in their targeting efforts for air toxics inspections of stationary sources, as called for in the EPA’s FY 2011–2013 National Air Toxics Compliance and Enforcement Initiative.⁶ However, the methodology and EJ-related information used to target the inspections vary by region. Regions reported using EJ scores from the HRF list in their targeting efforts, a relatively new EPA tool called EJSCREEN, and/or local knowledge about areas of potential EJ concern. While all regions included EJ in their targeting efforts, EJ was only one factor among many that regions used to decide which facilities to inspect. Other factors considered in the targeting included: cancer risk near the facility, the amount of air toxics emitted from the facility, and the compliance history of the facility.

EPA regions conduct a relatively small number of the total air toxics inspections conducted in the United States. Most air toxics inspections are conducted by state and local air agencies, which are overseen by EPA regions. Currently, there is no requirement that states target facilities in areas of EJ concern. EPA regional staff told us that states generally have not targeted air toxics sources specifically in areas of EJ concern because states are required to inspect all major sources every 2 years and other large sources (called synthetic minors) every 5 years. Because states are supposed to inspect all large facilities on a regular basis, EPA regions have not required states to target stationary sources specifically for EJ.

⁴ A major source has actual or potential emissions that meet or exceed the major source threshold for its location. The major source threshold for any “air pollutant” is 100 tons/year (the “default value”). Major source thresholds for air toxics are 10 tons/year for a single pollutant or 25 tons/year for any combination of pollutants.

⁵ EJ scores were based on the highest risk decile census tract within 2/3-of-a-mile radius. An EJ score of 1 means the facility is within 2/3 of a mile of a census tract whose EJ score is among the highest 10 percent within its state.

⁶ OECA has decided to carry over the National Air Toxics Compliance and Enforcement Initiative to FYs 2014–2016.

EJSCREEN v2.0 Should Enhance Targeting for Air Toxics Inspections

In 2012, EPA headquarters released EJSCREEN to help EPA program offices and regions incorporate EJ into their work. EJSCREEN is an EJ mapping and analysis tool available to all EPA employees. The tool was developed in response to the EPA's commitment in Plan EJ 2014 to develop a consistent nationwide screening tool for EJ, and has replaced older EJ screening tools. EJSCREEN allows users to identify areas of potential EJ concern at the census block group level⁷ using demographic information⁸ and 12 environmental indicators. For example, a user can enter the address of a facility that emits air toxics, and then obtain demographic and environmental data about the census block group where the facility is located, as well as information pertaining to surrounding areas.

The key output of EJSCREEN is called the primary EJ Index, which helps the user answer the following question:

How much does each location contribute to the overall disparity we see in environmental scores (between demographic groups, nationwide)?

The tool produces a primary EJ Index for the census block group of interest for each of the 12 environmental indicators. Each EJ Index combines one environmental indicator with certain demographic information to provide a measure of any potential disproportionate impacts of that environmental factor. The EPA has determined that a block group may be a good candidate for additional EJ review when an EJSCREEN analysis for that area shows one or more EJ Indices at or above the 80th percentile for the nation. This 80th percentile threshold allows the EPA to focus on communities that are of the highest concern.

The EJSCREEN tool was intended to help the EPA be more effective and efficient in understanding where the impacts of existing pollution may be greatest and ensure that such areas receive appropriate consideration. Based on feedback from regional staff, EJSCREEN is an improvement over previous EJ screening tools and is useful for many EJ-related applications. However, the regions

Twelve environmental indicators in the EPA's EJSCREEN mapping and analysis tool

- Particulate Matter (PM) 2.5 Level in Air.
- Ozone Level in Air.
- Diesel Particulate Matter Level in Air.
- Air Toxics Cancer Risk.
- Air Toxics Neurological Hazard Index.
- Air Toxics Respiratory Hazard Index.
- Traffic Proximity and Volume.
- Lead Paint Indicator (percent pre-1960).
- Risk Management Plan Facility Proximity and Count.
- Superfund Site Proximity and Count.
- Treatment Storage Disposal Facility Proximity and Count.
- Major Direct Dischargers to Water, Proximity and Count.

⁷ A block is the smallest geographic area considered by the U.S. Census Bureau. A block group is a collection of blocks. On average, around 40 blocks are aggregated into a block group. Census block groups vary widely in total population, geographic area and population density. There are approximately 211,000 block groups in the United States. The average population of a block group is about 1,500.

⁸ The primary demographic information used is an average of the percent that are low-income and the percent that are minority, although other demographic information is also available.

identified three aspects of EJSCREEN that limit its usefulness as a tool for conducting up-front targeting for air toxics inspections:

- 1) EJSCREEN identifies areas of potential EJ concern, but not air toxics facilities within those areas.
- 2) EJSCREEN can only provide EJ Indices for the area surrounding one facility at a time; it cannot provide information for multiple facilities at once. The user must run the screen for each facility (address) separately, which is not feasible for regions that have hundreds or thousands of air toxics facilities.
- 3) EJSCREEN produces an EJ Index for only one environmental indicator at a time.

In September 2014, the EPA released an updated version of EJSCREEN, referred to as EJSCREEN v2.0, for internal EPA use. When fully implemented,⁹ EJSCREEN v2.0 will include a number of data updates and tool enhancements.¹⁰ Based on discussions with the Office of Environmental Justice and our review of a pre-release version of EJSCREEN v2.0, we believe the updated version will address two of the above concerns. Specifically, EJSCREEN v2.0 will:

- Have the capability to overlay Envirofacts¹¹ facility locations (including known air toxics facility sites from the Toxics Release Inventory data) on one screen.
- Provide information for multiple facilities at once. This version will also include a batch processing tool that allows users to process thousands of locations simultaneously.

These two new functions will better enable the regions to use the EJSCREEN tool to identify potential facilities to inspect based on EJ considerations. Regarding the third limitation, EJSCREEN v2.0 will not have any new capability to produce an EJ Index that incorporates more than one environmental indicator.

EJSCREEN v2.0 relies heavily on data from the EPA's National-Scale Air Toxics Assessment (NATA) to estimate risks from air toxics in communities. The NATA is an assessment tool through which the EPA conducts modeling to estimate

⁹ Although the EPA has released EJSCREEN v2.0 for internal use, not all planned enhancements are currently available. For example, the batch processing functionality that is planned for EJSCREEN v2.0 is not yet operational.

¹⁰ The environmental data categories used to create EJ Indices in EJSCREEN v2.0 remain the same. However, the EPA has updated the names of the 12 environmental indicators as follows: PM 2.5, Ozone, NATA Diesel PM, NATA Cancer Risk, NATA Neuro Hazard Index, NATA Respiratory Hazard Index, Traffic Proximity, Lead Paint Indicator, RMP Proximity, NPL Proximity, TSDf Proximity, and Water Discharger Proximity.

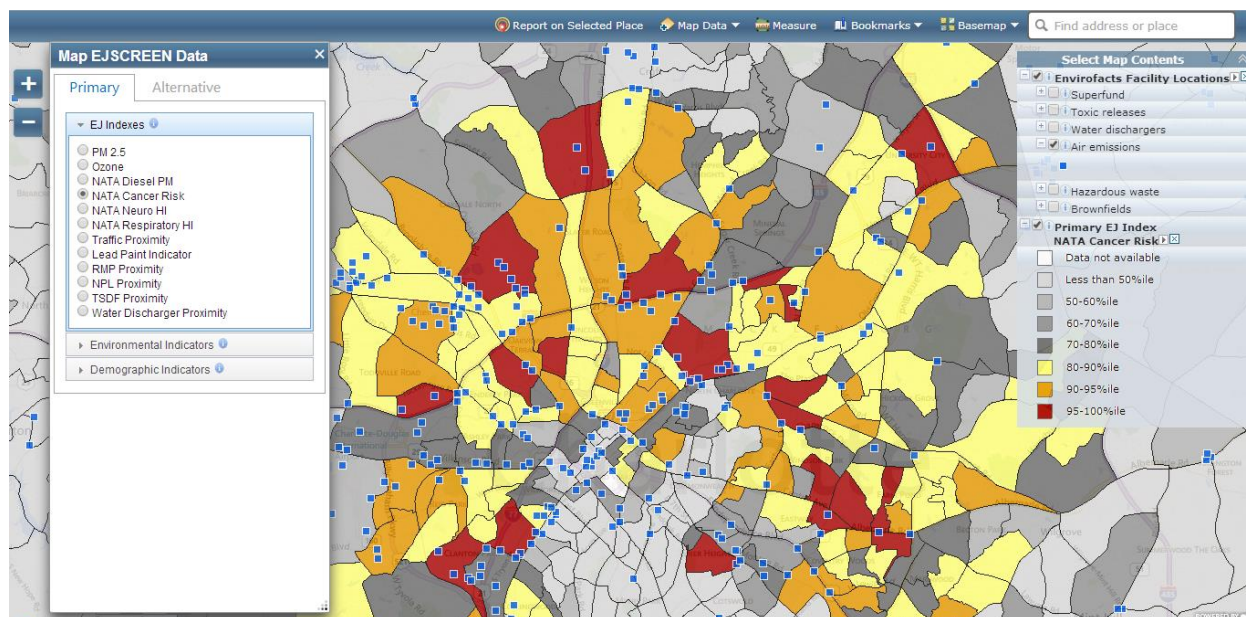
¹¹ Envirofacts is a single point of access to select EPA environmental data. The Envirofacts website (http://www.epa.gov/enviro/facts/ef_overview.html) provides access to several EPA databases containing information about environmental activities that may affect air, water and land anywhere in the United States.

health risks, including cancer risks, from air toxics based on emissions data from the EPA’s National Emissions Inventory. The EPA collaborates with state, local and tribal agencies to obtain information that serves as the basis for the NATA.

Although not identified by the regions as a limitation, the most recent NATA was issued by the EPA in 2011 and is based on air toxics emissions data from 2005. Thus, the air toxics risk data in EJSCREEN v2.0 is based on emissions data that is almost 10 years old. The EPA is currently updating the NATA with air toxics emissions data from 2011 and plans to release the updated NATA to the public in early 2015. OECA plans to update EJSCREEN v2.0 after the newer NATA data are released.

Figure 1 provides an example of EJSCREEN v2.0’s mapping output. Areas in yellow, orange and red represent areas that warrant additional review based on air toxics cancer risk data and selected demographic information. The blue dots represent the location of air emission facilities¹² incorporated into EJSCREEN v2.0 from Envirofacts.

Figure 1: Example of EJSCREEN v2.0 output for environmental indicator “NATA Cancer Risk,” showing the locations of air emissions facilities from Envirofacts ^a



Source: EJSCREEN v2.0 analysis conducted by the OIG.

^a Yellow denotes areas in the 80th to 90th percentile; orange the 90th to 95th percentile; and red the 95th to 100th percentile. The blue dots represent the location of air emissions facilities that are tracked in the EPA’s Envirofacts database.

¹² Note that the air emissions facility data layer available in EJSCREEN v2.0 contains all types of air emissions facilities from Envirofacts, and not just air toxics facilities. There is no data layer specifically for air toxics facilities.

The EPA plans to release EJSCREEN v2.0 to the public in December 2014. The Office of Environmental Justice and EPA regions have been working with states to prepare for EJSCREEN v2.0's public release, and to explain how the tool works and the EPA uses the tool. Once EJSCREEN v2.0 is released publicly, state and local agencies will be able to use the tool in a manner similar to the way EPA regions use it to consider EJ in their targeting efforts for air toxics inspections.

Using EJSCREEN Data in Combination With the GeoPlatform Tool Is a Promising Practice

OECA is beginning to use the agency's GeoPlatform tool in conjunction with EJSCREEN data to produce better air toxics targeting tools for EPA regions. The EPA's GeoPlatform is a Web-based geographic information system tool that the agency launched in May 2012. The GeoPlatform allows EPA staff to build custom maps by adding any of the thousands of available data layers to GeoPlatform base maps. It also allows agency staff to easily share completed mapping products with other EPA users.

Using GeoPlatform allows OECA and EPA regions to develop more detailed maps to meet specific regional needs and include information that is not available in EJSCREEN, such as a composite view of selected environmental stressors in a given area. OECA recently developed two GeoPlatform targeting tools for air toxics:

- Storage Tanks Tool—OECA combined GeoPlatform data layers from the EPA's Office of Air and Radiation's National Emissions Inventory with data from the Office of Air and Radiation's Risk and Technology Review database to identify petroleum storage tank facilities by Standard Industrial Classification code. OECA then added EJSCREEN information on air toxics cancer risk to show the percentiles for each block group. The Storage Tanks Tool is a national map currently available to EPA regions.
- Model-to-Monitor Tool—OECA compared monitoring data from thousands of ambient air monitors around the nation to the Office of Air and Radiation's modeling data available for those locations. In many cases, the monitored concentrations were significantly higher than the modeled risks. OECA created a GeoPlatform map of monitor locations, the locations of facilities within 30 kilometers of the monitors, and the wind direction on the days when the highest concentrations of air toxics were measured, to help EPA regions identify where the emissions may have originated. OECA also included EJSCREEN percentiles for air toxics cancer risk for nearby census block groups. The Model-to-Monitor Tool is a national map currently available to EPA regions.

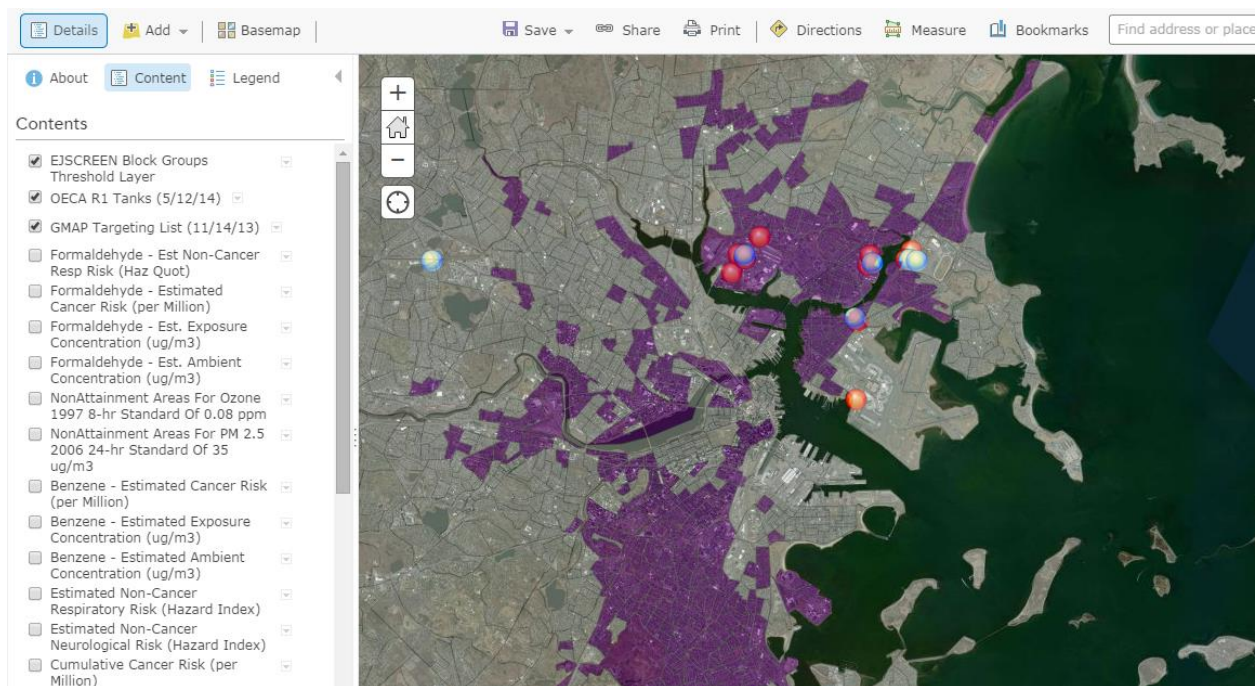
In addition, in November 2014, OECA released an updated version of the HRF list, which includes every known major source of air emissions located in a county with a census tract with greater than a 1-in-1-million cancer risk from stationary source emissions. The updated list identifies facilities that are located in areas with potential EJ concerns. Specifically, the list includes an “EJ Score” for each facility that reflects the number of EJ Indices from EJSCREEN for which a facility scored at or above the 80th percentile. OECA has added the updated HRF list as a data layer to the GeoPlatform.

OECA has begun outreach activities with individual regions to demonstrate the GeoPlatform tools and to discuss region-specific mapping needs. For example, OECA has partnered with Region 6 to develop a map of high-risk flare facilities, since flaring is an important issue in that region. Similarly, OECA has partnered with Region 1’s enforcement staff and geographic information specialists to combine EJSCREEN data with GeoPlatform data layers to include the following data in a single online map:

- Census block groups meeting the 80th percentile EJSCREEN threshold for any environmental indicator.
- Locations of storage tanks, gas processing plants and compressor stations.
- Cancer and noncancer data from the National-Scale Air Toxics Assessment (with special emphasis on benzene and formaldehyde emissions).
- The boundaries of ozone nonattainment areas.
- Wind and stream data from the National Oceanic and Atmospheric Administration.
- Population density per square mile.
- Educational institutions.
- Percent of population below the poverty level by tract.
- Percent of population over 64 years by tract.
- Percent of population under 5 years by tract.
- Percent of minority population by tract.
- Tribal boundaries.
- Federal Registry Service facility data.

By combining EJSCREEN data with GeoPlatform data layers, Region 1 has produced a regional map view of leaking storage tanks in areas of potential EJ concern that would not be available to regions using EJSCREEN (or EJSCREEN v2.0) alone. Figure 2 provides an example of the mapping done by Region 1 that uses EJSCREEN data in conjunction with GeoPlatform data layers for targeting purposes. The purple areas represent census block groups meeting the 80th percentile EJSCREEN threshold for any of the 12 environmental indicators in EJSCREEN. The dots on the map represent individual facilities or storage tanks.

Figure 2: Example of GeoPlatform data layers used in conjunction with EJSCREEN data



Source: GeoPlatform map generated by Region 1's CAA Inspection Targeting Group, July 2014.

^a The checked boxes on the left indicate that only three of the data layers used to create this map are selected or "turned on." Blue dots indicate storage tank locations. Red and orange dots indicate Region 1's targeted air toxics facilities based on the region's GeoPlatform mapping analysis. Region 1 has completed inspections of these facilities.

In our view, the development of tools that integrate EJSCREEN data with GeoPlatform data layers is a promising practice that will help EPA regions more effectively identify areas of potential EJ concern, and help regions consider EJ and risks to communities during targeting efforts. OECA demonstrated these new tools to EPA regions at a meeting of regional air enforcement managers in September 2014.

Conclusions

All 10 EPA regions have considered EJ when targeting facilities for air toxics inspections, and EPA continues to update and advance important tools to support regional targeting efforts. Through the modifications made to EJSCREEN and the new GeoPlatform mapping tools being developed by OECA, the agency is taking important and proactive steps to enhance the ability of EPA regions to consider areas of EJ concern when targeting air toxics inspections. We make no recommendations.

Distribution

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