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High and Dry in the Smoggy Skies…?
Overcoming the Challenges in Capturing Air Toxics 411!

Have you ever wondered just what is coming out of the smokestack of a neighboring factory? Or wondered what might be the potential health impacts of air pollution in your community?

Thumbs Up…

This Air Toxics toolkit was inspired by DataCenter's research with People United for a Better Oakland (PUEBLO)'s Clean Air Campaign with residents of East Oakland, CA. The campaign efforts are also supported by PUEBLO's campaign partners, Center for Environmental Health, and the Alameda County Environmental Health Department. We asked the partnership, as well as folks at the U.S. Environmental Protection Agency, to give us feedback on this toolkit – and while it's still a work in progress, thanks for helping us get a good start!

Partnership contacts:
Akua Jackson, Lead Organizer, PUEBLO (People United for a Better Oakland), www.peopleunited.org
Katie Silberman, Associate Director, Center for Environmental Health, www.cehca.org/
Agency contacts:
Pam Evans, Pollution Prevention/Toxics Liaison, Alameda County Environmental Health Department, www.co.alameda.ca.us/aceh/index.htm

Check out PUEBLO and the Clean Air Campaign:
http://www.peopleunited.org/PUEBLO/cleanairmain.html

Fortunately, there are several on-line sources of official air pollution data that can help you answer these questions. Navigating which sources cover what can be daunting. Below we describe some of the major air pollution information sources — where to find them, what they include, and what are their strengths and weaknesses.

We also provide some tips for finding additional state and local sources of air quality and toxics information.

This is a work in progress! If you know of additional resources that we should include, PLEASE email us and let us know. If you found this useful, PLEASE LET US KNOW!

We would love to hear from you.

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Environmental Justice Team

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GETTING STARTED

HOW AIR POLLUTION IS MEASURED &
WHAT DATA IS COLLECTED

Air pollution can be measured directly when it is emitted or released, by instruments placed on a smokestack, for example. Alternatively, samples can be taken to determine how much pollution is in the air. Air pollution is also measured indirectly by estimating how much will be released based on given production processes, or projected based on stored toxics.

How air pollution is measured determines what types of data might be available to you.

<u>Types of Air Pollution Data</u>

- **Emissions** — Emissions will tell you how much pollutants are released into the air during a given time period. The EPA says emissions are "normally *estimated* from amounts of material consumed or product produced." Emissions estimates cover either individual sources, like a particular factory (point source), or are county-wide estimates for things like motor vehicles (mobile source).   Routine emission estimates assume "normal operating schedules" and regular functioning of installed pollution control equipment. Emissions also encompass releases due to storage, accidents, etc.

- **Air Quality Monitoring** — How much pollutants are in the air at a given point in time ("ambient concentrations" measures only outdoor air). Monitoring how much pollution is in the air can help answer questions about how air pollutants are accumulating, or blowing away, over time.

- **Enforcement and Compliance** — History of violations of regulatory statutes and permit requirements.

- **Lawsuits** — Polluters and/or regulatory agencies are sometimes taken to court because of violations or conflicting interpretations of the law. Lawsuits can sometimes provide additional information.

Types of Air Pollutants

Government agencies — and consequently the rest of us — divide air pollutants into two categories as follows.

❑ **Criteria Air Pollutants (CAPs)**
CAPs are the primary ingredients of the most easily observed air pollution — urban smog and soot. They are the 6 most common air pollutants: Carbon Monoxide; Lead; Nitrogen Dioxide; Ozone (formed from precursor Volatile Organic Compounds); Particulate Matter; and Sulfur Dioxide. Because they are among the most regularly monitored air pollutants, CAPs data tend to be relatively easy to obtain.

For more on CAPs, check out:
Scorecard *(http://www.scorecard.org/env-releases/cap/)* or
US EPA *(http://www.epa.gov/air/criteria.html)*

❑ **Hazardous Air Pollutants (HAPS)**
HAPs are the air-borne chemicals that can cause adverse effects to human health or the environment. Almost 200 of these chemicals have been identified, including chemicals that can cause cancer or birth defects. Concentrations of HAPs in ambient air (how much is in the air in a given place at a given time) are not often regularly monitored.

For more on HAPs, check out:
Scorecard *(http://www.scorecard.org/env-releases/def/hap_gen.html)*
US EPA *(http://www.epa.gov/ttn/atw/index.html)*

RESEARCH TIPS & POINTERS

- **Read the disclaimers!** (e.g., "The stationary monitors that track certain pollutants in the air do *not* give an accurate picture of how much of that contaminant is in the immediate vicinity" or "This database was last updated in July 1998," etc.) Often listed under headings like "About this XX," or "Advanced Search Tips." These help you understand discrepancies in data among databases, methodology, etc. The crafters of the database are seldom entirely objective... look out for big and small factors that may contribute to the underestimation (or overestimation) of data!

- **Look at the data in different formats, and tweak the search parameters.** If you're preparing a report about industrial siting patterns, for example, you may want to compare the number of facilities to population density or demographics rather than square miles in your geographic level that may include tons of unpopulated acreage.

- **Find and get to know your local resources! (see section on local resources)** Develop a working relationship with staff, and ask what databases do *they* rely on, and for what purposes? Be polite, but persistent, always get the name of the person you talk to, and keep a personal log in case you need to follow up later.

LA TIERRA ES DE TODOS

ONLINE AIR POLLUTION DATABASES

NON-GOVERNMENTAL DATABASES

Two non-profit organizations have developed excellent web sites to provide activist oriented access to the enormous amount of federal data. In many cases, the same data can be drawn from EPA sources (described below), but the advantages of relying on these are the user-friendliness of the interface and the access to many databases on one website.

One caveat is that these databases sometimes contain less recent data than governmental sources. The date of update, however, is usually noted in the search results.

❑ **Environmental Defense Scorecard** *(http://www.scorecard.org)*
Environmental Defense is a large national environmental organization, representing more than 300,000 members. Scorecard uses more than 400 scientific and governmental databases to generate profiles of local environmental quality and toxic chemicals. For air pollution, it combines all of EPA's major databases (see above for details). The primary advantages of using Scorecard over EPA's sites are:

- o   Information on health effects of individual pollutants.
- o   Rankings that show how your community compares to other communities around the country.

❑ **Right-to-Know Network (RTKNET) Databases** *(http://www.rtk.net)*
The Right to Know Network (RTKNET), run by the non-profit OMB Watch, provides free access to government information on toxic releases, toxic spills, Risk Management Plans, housing, superfund sites and other environmental results of manufacturing/industry. You can search by company, industry or geographic area. Databases go back a number of years. On the homepage, click DATABASES to the left of the screen to see all the databases available. A MASTER search will search all of the databases simultaneously by geographic area, facility or industry.

RTK NET was started in 1989 in support of the Emergency Planning and Community Right to Know Act (EPCRA), which mandated public access to the Toxic Release Inventory. Note the date of last update to the database, usually noted on the top of the results page. Since the RTK Net databases draw from *copies* of EPA databases, not all data may be as up-to-date as otherwise available directly through EPA.

GOVERNMENTAL DATABASES

As the primary regulator of air quality and emissions, the **United States Environmental Protection Agency** is a key source of official air pollution data. Their data is maintained in several different online databases.

There are two sites that pull together data from several of these databases. These sites also provide useful presentation tools. We list EPA resources in alphabetical order. Take a minute to review all the possibilities before you get started.

TIP: If you are pressed for time, use EnviroFacts, Window to My Environment, or one of the non-governmental sites, all of which pull information from many sources. If you have the time, use as many sources as you can to make a complete picture, further research questions will emerge as you discover discrepancies between databases.

Remember there is no single 'correct' way to use the database. Because EPA online sites can pull from several databases, you may find yourself accessing the same data from different places.

❑ **AirData** *(http://www.epa.gov/air/data/)*
AirDATA's primary purpose is to present **air pollution in map and report formats** (click on "Reports and Maps" link). Indeed, the appeal is in its versatile customized presentation capacity: choose from a number of criteria combinations to format it in a color map, graph, tables, or a report. You can also download the result into your computer.

The data is drawn from two EPA air pollution databases, the National Emissions inventory (NEI) and Air Quality Subsystems (AQS). Before the most recent data collected from monitoring stations and state agencies are analyzed and incorporated into AirData, they are made available as crude data via its "Monitoring Data Queries" feature. The query section is intended for those with some familiarity with air quality monitoring data.

❑ **Air Facility System (AFS)/(AIRS)**
(http://www.epa.gov/Compliance/planning/data/air/afssystem.html)
The Air Facility System (AFS) contains **compliance and permit data** for stationary sources regulated by the U.S. EPA and state and local air pollution agencies. AFS is used by some state and local government agencies to track permit data. It's easiest to draw on AFS data through the "Air" section of the EnviroFacts Data Warehouse (see above). AFS was once a part of AIRS, a previous EPA database, so the historical utilization of that term may be incorporated within referenced documentation.

❑ **Air Quality Index (AQI) AIRNow** *(http://www.epa.gov/airnow/)*
Provides **real time reporting and next day forecasting of Air Quality Index** conditions for over 275 cities. Also has links to more detailed State and local air quality websites. EPA calculates the AQI based on five major air pollutants: ground-level ozone, particle pollution (also known as particulate matter), carbon monoxide, sulfur dioxide, and nitrogen dioxide. Because it is real time, and not "fully verified or validated," information on the AIRNow web site is not used to formulate or support regulation, guidance or any other Agency decision or position.

❏ **EnviroFacts** (*http://oaspub.epa.gov/enviro/ef_home2.air*)
Envirofacts page provides a **single point of access to data extracted from seven major EPA databases** — Toxic Release Inventory, Superfund, hazardous waste, water, air releases, etc. If you are just getting started, this is a great first stop in your research.

❏ **Environmental Justice Geographic Assessment Tool** (*http://www.epa.gov/enviro/ej/*)
Provides mapping tools for local air pollution data. You can set the geographical criteria or specify a facility, and the results contain many links you can jump to for more detail. The result page consists of four sections. The zoom-in and zoom-out feature is apparently one of its selling points, but we found it not as convenient as the Window To My Environment or AirData mapping tools.

❏ **LandView III Data Mapping Software** (*http://www.rtknet.org/landview/*)
LandView III is a **Windows-based mapping program** developed by the Bureau of the Census that contains information about EPA-regulated sites, US Census demographic data, and street-level maps. Landview III runs on Microsoft Windows 3.1/95/98/NT personal computers. It is freely distributed by RTKNET. You can download the map for one county at a time directly from the link; simply follow the instructions on the page.

❏ **National Air Toxics Assessment** (*http://www.epa.gov/ttn/atw/nata/index.html*)
This website presents the results of **EPA's national assessment of air toxics in 1996**. It is based on emissions data from 32 toxics, plus diesel particulate matter [for a full list of air toxics click here]. You can get air toxics data presented in various formats (color maps, charts & tables and summaries), for geographic levels of country, state, and/or county. Includes a tool to extract data either by a specific chemical, or location.

❑ **Toxics Release Inventory (TRI)** *(http://www.epa.gov/tri/)*
Every year, major U.S. industrial facilities are required to report on **releases and waste management of chemicals** to the EPA. This data is maintained in the Toxics Release Inventory. The TRI was established by the Emergency Planning and Community Right to Know Act in 1986, following two major chemical releases, one of which killed thousands of people (Bhopal, India).

TRI is the most comprehensive source of information on toxic chemical releases in the United States.

Limitations of TRI data:

- o Self-reported by industry: The data is self-reported by the facilities. Some of this is based on internal monitoring systems, some of it is based on estimations.
- o Incomplete coverage: Not all chemicals are covered. Not all industrial facilities are required to report their releases. Smaller facilities are not required to report, nor are those outside of a list of industrial categories. Nearly 20,000 industrial facilities reported in 2001.
- o No information on health impacts: TRI does not provide information about the potential health impacts of chemical releases, or how many people may have been exposed.
- o Little information on storage: TRI does not provide only limited and very general information on storage of chemicals.
- o No action: TRI does not require any action based on the data provided.

❑ **Window to My Environment** *(http://www.epa.gov/enviro/wme/)*
Provides interactive maps and other tools to find out about the condition of the land, air and water in your community. Also has links to activities and programs addressing local environmental issues. If you want to get a visual sense of your community's overall environmental condition, not tied to details and toxic data of any particular facility, this is a **great place to start**, and relatively easy to navigate.
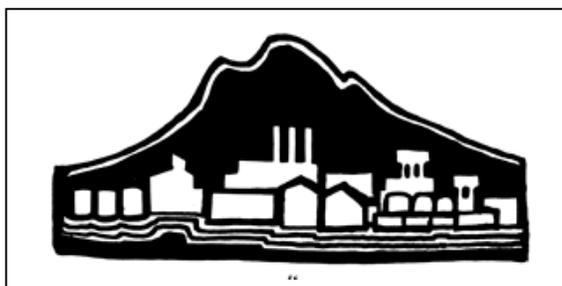
REGIONAL & LOCAL GOVERNMENTAL SOURCES (not necessarily on-line)

❏ **EPA Regional Offices** *(http://www.epa.gov/epahome/whereyoulive.htm#regiontext)*
Scroll to the bottom to find your regional office. Your EPA regional office is full of folks that have quick answers (best not to rely on them for complicated support by phone). Each regional office has an 1) information management specialist, 2) database administrator, 3) air program head, and 4) air division inventory technical support staff who can help you.

EPA also has a list of useful issue toll-free hotlines and email addresses: *(http://www.epa.gov/epahome/hotline.htm)*

❏ **State and Territorial Air Pollution Program Administrators and the Association of Local Air Pollution Control Officers**
(http://www.cleanairworld.org/scripts/us_temp.asp?id=307)
Provides links and contact information for state air pollution officials. Data collected and maintained at the state level varies.

❏ **County or City Environmental Health Departments**
See if your city or county has an Environmental Health Department. In Oakland (Alameda County), the County Environmental Health Department oversees some contaminated soil and groundwater site cleanups, and maintains a database, including GIS data. They do not have this information on their website, but will respond to written requests to review information for specific sites.

❏ **Local Fire Department, Hazardous Materials Response Planning**
The Oakland Fire Department, Hazardous Materials Program inspects businesses that handle or store hazardous (including toxic) materials and hazardous waste for compliance with state law. Local business and manufacturing facilities that have significant amounts of hazardous materials are required (by states law) to prepare a written report for the local fire department, and also make available to the public, listing the hazardous materials they have stored on-site. The Oakland Hazardous Materials Program, for example, has information on sites with underground fuel storage tanks, and above ground storage of chemicals. The HazMat Response Unit also has records of emergency responses involving hazardous materials and waste.

California-Specific

❏ **California Air Resources Board** *(http://www.arb.ca.gov/homepage.htm)*
The California Air Resources Board collects data on criteria air pollutants and toxics, by facility and summarized.
  - Emission Inventory Data (http://www.arb.ca.gov/emisinv/general.htm)
  - Facility Search Engine *(http://www.arb.ca.gov/emisinv/disclaim.htm)*
  - California Air Quality Data *(http://www.arb.ca.gov/aqd/aqdpage.htm)*
  - Air Quality and Emissions *(http://www.arb.ca.gov/html/age&m.htm)*
  - Air Toxics Program *(http://www.arb.ca.gov/toxics/toxics.htm)*
  - "Hot Spots" Program *(http://www.arb.ca.gov/ab2588/ab2588.htm)*
  - Air District Resource Directory *(http://www.arb.ca.gov/capcoa/roster.htm)*
    Directory, with links, to California's 35 local air districts.

COMPLIANCE & ENFORCEMENT DATA

The Environmental Protection Agency Databases - Below are two compliance and enforcement databases run by EPA: ECHO, and ICIS. But ICIS is still in being developed. It is not a database to store new kinds of information, but rather, a single user-friendly database where data from several different existing EPA databases (including data in ECHO) are combined – a part of EPA's attempt at systems modernization. If ICIS contains data matching your search, it will appear in the results page on ECHO.

❑ **Sector Facility Indexing Project** *(http://www.epa.gov/sfipmtn1/)*
This is an EPA database with **compliance and inspection records for five industries** (auto assembly, pulp manufacturing, iron/steel production, petroleum refining, nonferrous metals refining and smelting, and some major federal facilities). Includes information on chemical releases, spills, production capacity and demographics of the surrounding population.

❑ **Enforcement and Compliance History Online (ECHO)**
(http://www.epa.gov/echo/index.html)
This tool provides the public with **compliance, permit, and demographic data from approximately 800,000 facilities** regulated under the Clean Air Act stationary source program, the Clean Water Act direct discharge program and the Resource Conservation and Recovery Act hazardous waste facilities with violations. Integrated reports present inspections, violations, enforcement actions, penalties, and locate facilities on demographic maps. The results page features formal enforcement actions according to the ICIS and ECHO databases with direct hyperlinks to more case details.

On report, click on formal compliance action, for more details such as specific violation; total fine amount plus the total amt of compliance action (how much it cost facility to achieve and maintain compliance, eg. purchase a cleaner burning machine, etc.); and the type of compliance action; information on pollutant reduction (pollutant and amount reduced/year as a result of the compliance), etc. The case records also have the name(s) of owners of the facility. Some violations records can be for a different facility (branch) owned by the same company other than the one listed, which can be confirmed usually by looking in the corresponding ICIS data (click on hyperlinked case number under "Formal Enforcement Actions-ICIS."

❑ **DOCKET** *(http://www.rtknet.org/doc/)*
A database of **civil cases filed by the Department of Justice on behalf of EPA**. A database of RTKNET, drawing from data in EPA's DOCKET database. Can search the database by facility, defendant name, or cases (specific law, violation or docket number).