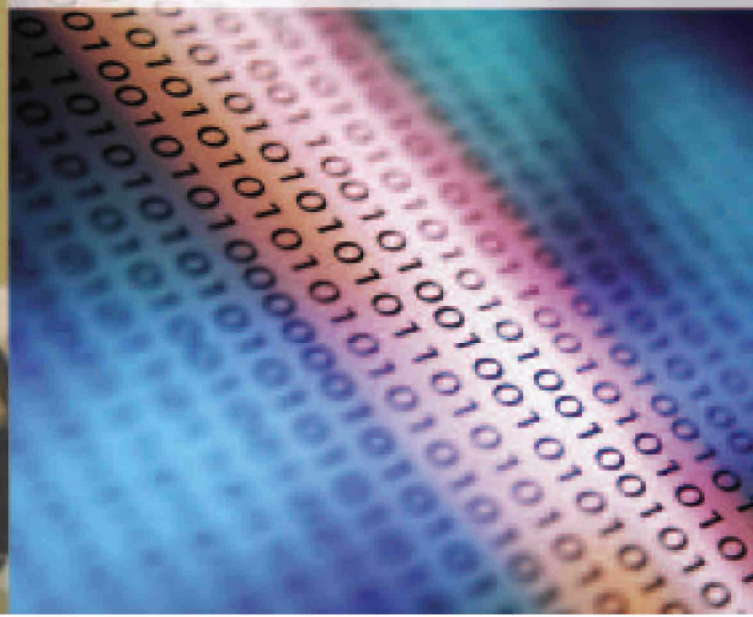



E-Government @ EPA



**Accelerating Our Progress
Using New
Information Technology**







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E-Government @ EPA:
Accelerating Our Progress Using
New Information Technologies

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For further information, please see:
www.epa.gov/oei
www.egov.gov



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E-GO



"In less than a decade, the Environmental Protection Agency has made a significant shift away from a 'paper-only' world. We now utilize the incredible power of today's information technology as part of our comprehensive effort to protect human health and the environment."

—Mike Leavitt
EPA Administrator

overnment



Message from EPA's Assistant Administrator for Environmental Information and Chief Information Officer

As EPA's Chief Information Officer, I am proud to provide this report on EPA's *E-Government* initiatives. We have made great strides in using information technology to improve our nation's ability to protect human health and the environment. This report highlights some of the progress and results we have achieved.

EPA, along with our federal, state, tribal partners and stakeholders, views information as a strategic resource—one that is vital to protecting the health and environment of people and communities. We are committed to expanding *E-Government* now and in the years to come as EPA strives to enhance the way that we collect, manage, disseminate, and use our information resources.

This leadership will help provide government and individuals with high-quality, accessible, relevant, scientifically sound, and integrated information so that we all can become more informed about the environment around us, make better decisions that will help protect the environment in which we live, and ultimately ensure a safer, healthier future for our families and our nation.

Kimberly T. Nelson
Assistant Administrator and Chief Information Officer



Introduction

At the dawn of the 21st century, Americans are part of an emerging knowledge-based economy, where global competitiveness and the health of our environment require constant innovation. The Internet and advanced information technology are fueling this change at a phenomenal rate. We are seeing the challenges and benefits of new high-tech equipment capable of processing and distributing electronic information from the Internet and the data networks that support us. These developments enable us to act with an ease and speed that were not possible before.

We live in an increasingly interconnected society, where the Internet, wireless telecommunications, and other information-based technologies have spawned tremendous improvements in efficiency, customer service, and our expectations. The Information Age has changed the way we acquire, share, and communicate information. We now expect to conduct business, seek entertainment, and acquire knowledge 24 hours a day, seven days a week, essentially at a time and from a place of our choice.

These changes have also increased our expectation that the business of government—whether providing services (such as issuing or renewing a driver's license), protecting our national security, or deciding how best to protect the environment—should be conducted with the same level of innovation, efficiency, and effectiveness.

E-Government: A New Way of Doing Business

Rapid, sweeping, and profound information technology (IT) advances offer substantial opportunities for EPA to conduct our business differently. At the same time, they generate public demand for electronic information, online transactions, and new information management capabilities.

This electronic and high-tech transformation has spawned a concept known as “*E-Government*” and is leading to important new ways for EPA to achieve our mission. In addition to our traditional tools—regulation, permitting, and enforcement—we have many new, innovative, and cooperative mechanisms that will substantially improve how our Agency, states, and the American people protect our shared health and environment.

Some of our efforts are as simple as making documents publicly available via the Internet—something many people have become accustomed to searching every day. Since EPA's Web site was launched in the mid 1990s, individuals have been accessing services and information in minutes or hours, instead of days or weeks. People have access to easy-to-find, one-stop shopping for the environmental information and services most relevant to their family or community. Our efforts also include installing complex new

computer networks and technology that will allow us to do things we never dreamed of only 10 years ago. These new *E-Government* tools are designed to provide compliance assistance, consolidate reporting requirements, devise strategies for preventing pollution, and help local governments and businesses better comply with laws and regulations and act as responsible environmental stewards.

EPA is committed to several key actions that support our transition to *E-Government*:

- Partnering with other federal, state, and local agencies and many of our stakeholders.
- Harnessing the power and capacity of new information technologies.
- Providing secure, reliable access to scientifically-sound data and information.
- Integrating data that pertains to the same topic, facility, place, ecosystem, or environmental resource.

Ensuring Privacy

epa.gov/privacy

The Privacy Act of 1974 mandates how federal agencies maintain information about individuals. The law strikes a balance between the government's need to maintain these records and individuals' rights to protection from unwarranted invasions of their personal privacy. Recent guidance interpreting the "E-Government Act of 2002" provides new privacy regulations and requires officials to plan strong privacy protections in advance, as they develop information technology systems and before they begin to collect new information.

The Privacy Act requires federal agencies to collect only the personal information necessary to perform agency functions and to provide safeguards that protect records from unauthorized access and disclosure. EPA's Privacy Act Web site allows people to submit requests to view or correct inaccuracies in their government records.



The President's Management Agenda for *E-Government*: Citizen-centered, Results-oriented, Market-based.

Achieving our mission to protect human health and the environment requires EPA to work with many other federal agencies. Led by the "E-Government Act of 2002" and the President's Management Agenda (PMA), EPA is expanding our collaborative efforts to include a wide range of *E-Government* issues and opportunities.

Components of the President's Management Agenda

- ✓ Strategic Management of Human Capital
- ✓ Competitive Sourcing
- ✓ Improved Financial Performance
- ✓ Budget and Performance Integration
- ✓ Expanded Electronic Government

The PMA and EPA's *2003-2008 Strategic Plan* aim to ensure that EPA and the federal government are more:

- **Citizen-centric:** Ensuring what we do is focused on what individuals need and doing it in a way they can understand.
- **Results-oriented:** Ensuring what we do to protect human health and the environment is focused on real results, such as healthier children and thriving fish in rivers, not just on how much money we spend.
- **Market-based:** Using commercially-available software and technologies used around the world, not "old fashioned" custom-designed software that no one else can use and that becomes quickly outdated.

Under the PMA, and leadership of the President's Management Council, federal agencies are participating in 25 major *E-Government* initiatives (egov.gov). EPA is involved in 14 of these projects (see pages 4-5). These initiatives are designed to help the Agency achieve real environmental results by simplifying and unifying common work processes across federal agencies, providing individuals with one-stop access to services, and helping reduce redundant information collection, ensuring that data and information are collected online once, shared, and updated as needed.

Federal E-Government Initiatives under the President's Management Agenda

■ USA Services

Develop and deploy governmentwide citizen customer service using industry best practices that will provide citizens with timely, consistent responses about government information and services. (**Agency lead:** General Services Administration. **Customers:** members of the interested public.)

■ E-Rulemaking

Enables citizens to easily access and participate in federal rulemaking. Improves access to, and quality of, the rulemaking process for individuals, businesses, and other government entities while streamlining and increasing the efficiency of internal agency processes. (**Agency lead:** Environmental Protection Agency. **Customers:** the public, the regulated community, businesses, state and local regulatory agencies, academia, public administrators, anyone interested in or with a need to know about federal regulations.)

■ Business Gateway

Enhances the operations of federal agencies and reduces the burden on businesses by making it easy to find, complete, and submit electronic forms. (**Agency lead:** Small Business Administration. **Customers:** the regulated community, businesses, state and local regulatory agencies.)

■ Geospatial One-Stop

Provides federal and state agencies with a single electronic point of access, making it easier to find map-related data, reduce duplicative spending,

and consolidate redundant data. (**Agency lead:** Department of the Interior. **Customers:** anyone who is interested in using electronic geographic data and information.)

■ Disaster Management

Provides federal, state, and local emergency managers online access to disaster management-related information, planning, and response tools. (**Agency lead:** Federal Emergency Management Agency. **Customers:** the national security and emergency response community; federal, state, regional and local agencies; members of the public affected by disasters.)

■ Grants.gov

Creates a single Web site for all federal grant customers, making it easier for potential recipients to find information about and apply for federal grants. (**Agency lead:** Department of Health and Human Services. **Customers:** all participants in the federal procurement marketplace, businesses, agencies, and potential grant applicants.)

■ E-Training

Supports federal workforce development through simplified and one-stop access to high quality online training, enabling agencies and departments to skillfully accomplish their missions. (**Agency lead:** Office of Personnel Management. **Customers:** federal employees and others interested in federal human capital development programs and strategies.)

■ Recruitment One-Stop

Provides state-of-the-art, online recruitment services to job seekers, including intuitive job searching, online resume submission, applicant data mining, and online feedback on status and eligibility. (**Agency lead:** *Office of Personnel Management.* **Customers:** *federal employers and anyone interested in working for the federal government.*)

■ Enterprise Human Resources Integration

Streamlines and automates the electronic exchange of standardized employee records across the Executive Branch. Also provides comprehensive knowledge management, workforce analysis, forecasting, and reporting. (**Agency lead:** *Office of Personnel Management.* **Customers:** *federal workforce, human resources personnel and records/archives officials.*)

■ E-Payroll

Consolidates dozens of federal payroll systems to reduce spending on redundant systems and better integrate payroll, human resources, and financial functions. (**Agency lead:** *Office of Personnel Management.* **Customers:** *federal employees and their families, human resources and finance personnel.*)

■ E-Travel

Provides a governmentwide, Web-based service that applies world-class travel management practices to consolidate internal federal travel services, minimize cost, and produce superior customer satisfaction. (**Agency lead:** *General Services Administration.* **Customers:** *federal employees and travel managers.*)

■ Integrated Acquisition Environment

Creates a secure business environment that will facilitate and support cost-effective acquisition of goods and services by agencies while eliminating inefficiencies in the current acquisition process. (**Agency lead:** *General Services Administration.* **Customers:** *federal government vendors and suppliers, federal procurement personnel, federal government vendors' and suppliers' customers.*)

■ E-Records Management

Provides policy guidance to help agencies better manage their electronic records, allowing records information to be effectively used to support timely and effective decisionmaking, enhance service delivery, and ensure accountability. (**Agency lead:** *National Archives and Records Administration.* **Customers:** *federal communications and records management personnel; members of the public with a need to know about federal archives and records.*)

■ E-Authentication

Minimizes the burden on businesses, the public, and the government when they are obtaining services online by providing a secure infrastructure for online transactions and eliminating the need for separate processes for the verification of identity and electronic signatures. (**Agency lead:** *General Services Administration.* **Customers:** *anyone doing business with the federal government who needs to authenticate their identity for security purposes.*)

For more information on these initiatives, visit [<egov.gov>](http://egov.gov).

Advanced Information Technology: Better Health and Environmental Protection

Information technology and service delivery advances—coupled with the recognition that quality environmental information can be used to enhance decisionmaking at all levels—are driving a new information management approach for EPA and our partners. Increasingly, our ability to implement EPA's *Strategic Plan* and achieve our goals and objectives depends on enhancing the Agency's information infrastructure, building a new enterprise IT architecture, expanding the Environmental Information Exchange Network, improving our operations, and the security, collection, and exchange of information.

EPA's *Strategic Plan* sets forth five national goals:



Clean Air and Global Climate Change



Clean and Safe Water



Land Preservation and Restoration



Healthy Communities and Ecosystems



**Compliance and
Environmental Stewardship**

Organized by each of these goals, this report contains examples of where the transition to *E-Government* is facilitating EPA's ability to set priorities, make decisions based on the best scientific and economic information available, and better achieve true environmental results.

Public Information: More Informed and Involved Citizens

At home, work, or play, we make decisions every day that require information about the world around us or affect the quality of our common environment. Access to quality environmental information that is easy to find, understand, and use helps us make more informed decisions about our individual actions and the needs of our communities. EPA—working in partnership with state, tribal, and local governments—provides tools and services that parents, teachers, students, older Americans, and other members of the public can use to monitor their local environment and determine how it might impact their health and their family's health.

Examples of these tools and services include:

- EPA's **AIRNow Web site** (epa.gov/airnow), which allows parents and civic leaders to monitor the quality of local air resources on any given day. Based on information from the site, they can plan outdoor activities or provide guidance on the level of activity recommended, depending on prevailing air quality conditions.

■ EPA's **Ground Water and Drinking Water Web site** (epa.gov/ogwdw/dwinfo.htm), which enables individuals concerned about drinking-water safety to obtain a Consumer Confidence Report from their local drinking-water provider. Most drinking-water providers are required to send their customers an annual report on the quality of the water they supply.

■ **Window to My Environment** (epa.gov/enviro/wme), which allows individuals and community leaders concerned about environmental conditions in their area to obtain information. Window to My Environment (WME) provides a "geographic portal" to community-based environmental information. It answers popular questions about a community's air, land, and water resources, as well as actions being taken locally to protect public health and the environment. Developed in partnership with federal, state, tribal, and local governments, as well as other organizations, WME offers a new approach to integrating, managing, and providing comprehensive community-based environmental information.

■ An **Environmental Information Exchange Network** (www.exchangenetwork.net), which EPA and state partners are developing to provide seamless integration and transfer of environmental information from a variety of federal and state sources. The Network has been in operation since Fall 2003. Through the creation of the Exchange Network, EPA has committed to developing a flexible and secure network that supports federal and state access to environmental data and information. As the Internet matures and security exchange protocols

are developed to better support complex networks, government agencies have shifted from uploading batches of data to real-time Internet-based sharing. This shift, paired with changes in

Sharing Information epa.gov/cdx

An essential part of the Exchange Network is the Central Data Exchange (CDX)—a central point within EPA for collecting, exchanging, and streamlining many distinct air, water, and waste data collection processes. CDX will consolidate EPA's data collection function with that of the states and also provide assistance through technical guidance, applying Extensible Mark-up Language (XML), and Web services. The CDX:

- Serves as the EPA node, or point of exchange, on the Network.
- Provides technical guidance and support to EPA partners.
- Creates a paperless option for environmental reporting—sharing information between various data systems.

By the end of FY2005, the CDX infrastructure will support real-time data exchanges between EPA and at least 49 states, nine tribes, and Puerto Rico for the major state/EPA air quality, water quality, and waste management data sets.

technology, makes the Exchange Network a vital component of information sharing between EPA and the public, as well as among federal, state, and local agencies. It will improve the quality of environmental data, provide regulatory agencies and the public ready access to data, and increase their ability to use this information to protect human health and the environment.

Integrating Quality National Information and Data: Getting From Here to There

In June 2003, EPA released a *Draft Report on the Environment*, which provides baseline data for measuring the results our nation has achieved in improving human health and environmental conditions. The *Draft Report* uses a set of environmental indicators that help answer important questions environmental managers, policy experts, and the public have about the state of our national environment. These indicators also help EPA, our partners, and other stakeholders focus on the data and information that are needed to make important decisions and to manage for results in the future.

The *Draft Report* provides insight into what is known—and unknown—about the nation's current environmental condition and highlights the progress we have made toward protecting our natural resources. EPA developed the *Draft Report* to address three primary questions:

- What is happening?
- Why is it happening?
- What are the effects?

Highlights from EPA's *Draft Report on the Environment 2003*

Findings of the *Draft Report* indicate that:

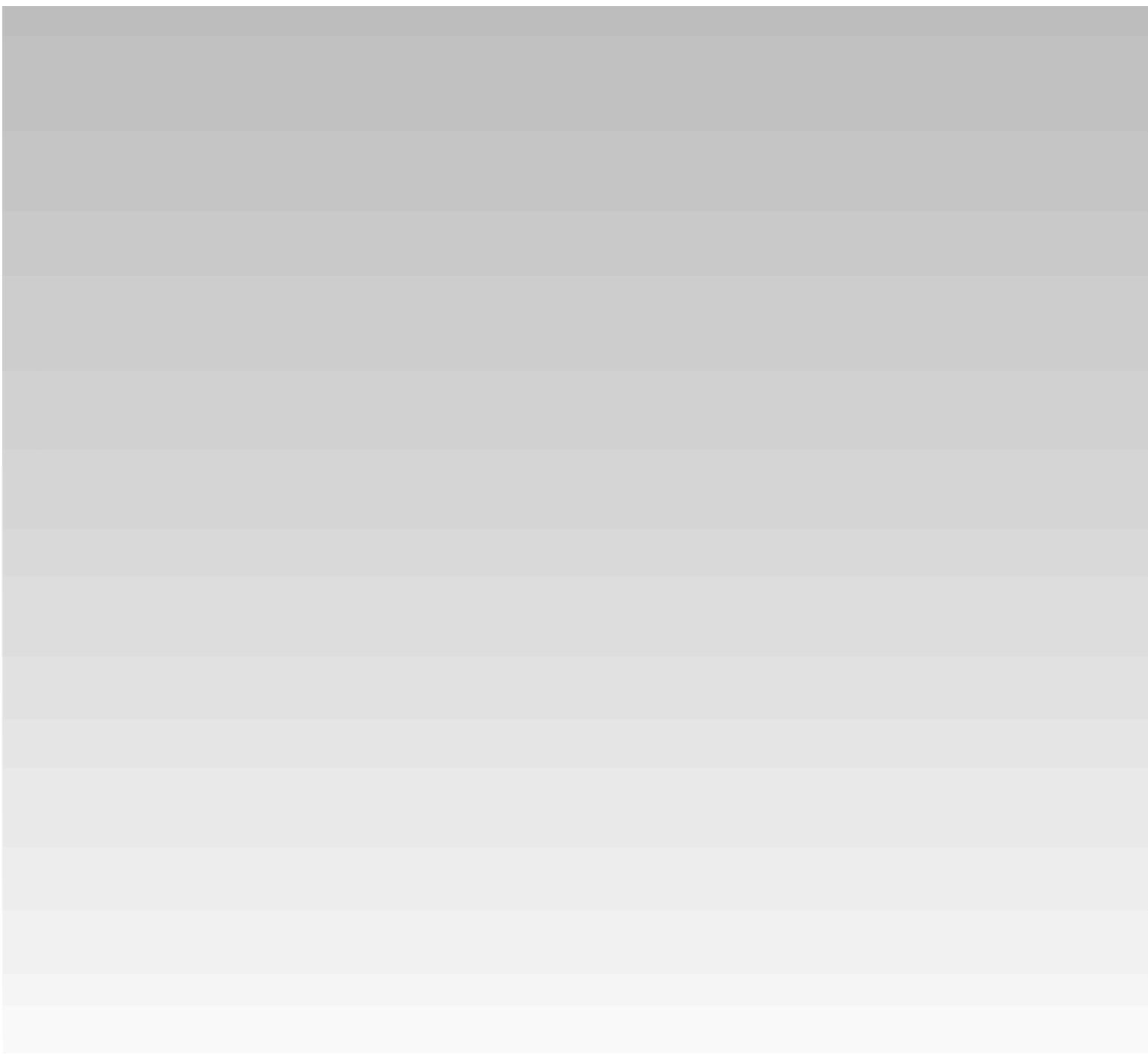
- ***Our air is cleaner.*** Air pollution has declined 25 percent over the past 30 years, while the United States experienced large increases in population, gross domestic product, and vehicle miles traveled.
- ***Our drinking water is safer.*** In 2002, 94 percent of the population served by community water systems received water that met all health-based standards—an increase of 15 percent in the last decade.
- ***Our land is better protected.*** Toxic chemical releases have declined by 48 percent since 1988, and we have significantly improved the way we manage our wastes.
- ***The health of the American public is generally good and improving.*** People are living longer, and U.S. mortality rates have dropped to the lowest level ever recorded.

Copies of the *Draft Report* are available online at <epa.gov/indicators>.

These questions and related indicators are important in assessing national environmental quality and human health—"where we are"—and determining how EPA and others will use that knowledge to better achieve measurable environmental results—"where we need to go."

E-Government is an inherent part of EPA's plan to use the *Draft Report's* environmental indicators to guide future decisionmaking. Collecting, storing, and sharing the information with states and other partners across EPA's programs requires complex information technology and networks. Understanding and using the information requires advanced software models and decisionmaking tools, as well as the hardware to display results.

All of these efforts are part of EPA's *E-Government* efforts, aimed at helping people make better-environmental decisions, enhancing our ability to achieve the Agency's mission of protecting human health and the environment and ultimately, ensuring a safer, healthier world now and for future generations.



Clean Air and

Over the past 30 years, our nation's economy has grown rapidly. At the same time, we have made substantial improvements in air quality. Americans, however, continue to be exposed to air pollution from a variety of sources—requiring us to find new, innovative, and better ways of reducing it.

Environmental impacts from outdoor air pollution include reduced visibility (e.g., smog); damage to crops, forests, and buildings; acidification of lakes and streams; and depletion of the protective ozone layer around the Earth. Indoor and outdoor air pollution also affect human health—they can cause or exacerbate breathing difficulties or respiratory problems (e.g., asthma or emphysema) and contribute to other ailments or premature death.

EPA is using *E-Government* tools to track and quantify air emissions that pose potential harm to the environment and human health—particularly children and the elderly. To increase the public's understanding of and reduce the risks associated with air pollution, EPA has also developed a suite of tools and Web sites that assist state, local, and tribal partners and individuals.

The following examples demonstrate how EPA provides Internet users with the information they need to determine outdoor activity levels (e.g., air action days), reduce children's exposure to diesel exhaust,

or decide which motor vehicle to purchase, based on various environmental attributes.

EPA also has established a very different type of *E-Government* tool—a market-based mechanism known as “emissions trading”—to more quickly and efficiently reduce certain air emissions.



AIRNow
epa.gov/airnow

For millions of Americans with respiratory and other health-related problems, knowing the air quality on any given day is essential to planning their daily activities. In the past, most individuals did not have ready access to air quality information and might have experienced breathing difficulties on days when air quality was significantly impaired. EPA now works with state and local governments to monitor daily concentrations of major pollutants at more than a thousand locations across the country. The results are calculated and reported in the Air Quality Index (AQI), a uniform index that lets you

Global Climate

What is EPA's Air Quality Index?

EPA created the Air Quality Index (AQI) to advise the public when air pollution has reached an unhealthy level, allowing people to decide what personal action to take (e.g., limit outdoor activities or refuel vehicles after dusk). During the summer months, meteorologists in nearly 300 U.S. cities use the AQI to provide daily ozone forecasts as part of their local weather broadcasts. As of October 2003, the AQI was expanded to include year-round daily forecasts for particle pollution in more than 100 cities.

Air Quality Index Levels of Health Concern	Numerical Value	Meaning
Good	0-50	Air quality is considered satisfactory, and air pollution poses little or no risk.
Moderate	51-100	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
Unhealthy for Sensitive Groups	101-150	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	151-200	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	201-300	Health alert: everyone may experience more serious health effects.
Hazardous	> 300	Health warnings of emergency conditions. The entire population is more likely to be affected.

know how clean the air is and how it might affect your health.

EPA developed the AIRNow Web site, which houses the AQI, so the public could access daily air quality forecasts and make informed decisions about undertaking outdoor activities. To provide access to national air quality information in a user-friendly format, the site relies on visual charts and maps, which convey air quality status. To make the AQI as easy to understand as possible, EPA divided the AQI scale into six categories and assigned each a corresponding color: good (green), moderate (yellow), unhealthy for sensitive groups (orange), unhealthy (red), very unhealthy (purple), and hazardous (maroon). These categories

are often reported in the newspaper or referenced on the radio or television. The colors can help the public quickly determine whether air pollutants are reaching unhealthy levels in their area. When the AQI is "moderate," for example, the local air quality is acceptable; however, for some pollutants (e.g., ozone) there might be a moderate health concern for people who are unusually sensitive, and they might experience respiratory symptoms when working or exercising outdoors.

The AIRNow Web site is a compilation of air quality information from a multitude of sources, including stationary and mobile air monitoring stations across the country. The Web site allows users to view com-

Change

prehensive, daily air quality maps and forecasts provide real-time air quality data for nearly 300 cities across the United States and visibility images via Web cams. The Web site also contains links to more detailed state and local air quality Web sites and provides recommendations on what you can do to change your household, transportation, and consumer habits to help reduce air pollution and improve air quality where you live, work, or play. The AIRNow Web site represents a joint partnership between EPA and state and local air quality agencies.



Clean School Bus USA
epa.gov/cleanschoolbus

Watching a child at play reinforces everyone's commitment to protect our nation's most precious resource—children. Unfortunately, because they are active outdoors and their lungs are still developing, children are at greater risk of suffering from health effects associated with poor air quality than most adults. EPA has developed Web sites to help educate parents and consumers about ways to reduce air pollution exposure to their families, thereby helping to protect their health.

Children are more likely than adults to be exposed to exhaust from diesel school buses—a major source of air pollution. More than 24 million children ride school buses daily, and they spend an average of 90 minutes each weekday in a bus. The goals of EPA's

Clean School Bus USA initiative are to reduce the amount of air pollution created by diesel school buses and reduce children's exposure to harmful diesel exhaust. While buses are the safest way for children to travel to and from school, exhaust from diesel vehicles has health implications for everyone. By working with business, education, transportation, and public health organization partners, Clean School Bus USA hopes to reduce pollution from public school buses by:

- Discouraging unnecessary school bus idling.
- Retrofitting school buses with better emission control technologies and/or fueling them with cleaner fuels.
- Replacing older school buses with new, less polluting buses.





Green Vehicle Guide **epa.gov/greenvehicles**

Under a similar effort to reduce air pollution, EPA's Green Vehicle Guide provides consumers with a simple, online tool to help them make the link between vehicles and their impact on the environment (e.g., emissions and fuel economy) and influence vehicle purchasing decisions. The guide provides valuable information for consumers searching for the least polluting, most efficient vehicle that meets their needs. The online tool allows users to look up specific vehicles by year, make, and model or retrieve results based on type of vehicle (e.g., small cars, pickups, sport utility vehicles).



Emissions Trading **epa.gov/airmarkets**

To reduce the emissions that cause acid rain and ozone, EPA has implemented "cap and trade" or "allowance trading" programs, which have proven to be effective, low cost, and efficient. These successful programs rely heavily on electronic information technology; in fact, these programs could not operate without the speed and transparency provided by data systems.

A cap and trade program is a fundamentally different approach to reducing pollution than traditional command and control programs. Instead of requiring companies to uniformly apply a certain technology at a certain time, regardless of circumstances, this mechanism sets a limit on aggregate emissions and allows companies to determine the best way to

make the reductions and meet the deadline. This market-based approach provides more certainty, encourages innovation, and significantly reduces costs, while allowing facilities to make additional reductions.

Allowance trading enables regulated sources, such as power plants, to buy and sell "allowances." Each allowance is an authorization to emit a ton of emissions. The number of allowances available is capped at a level that will result in significant emissions reductions to ensure environmental benefits are achieved and maintained. Sources can choose to reduce emissions beyond what they would otherwise be required to do and then sell excess allowances that are not needed for compliance. Alternatively, they can buy another source's surplus allowances if their emissions exceed the number of allowances they were allocated. Overall, emissions go down.

Regulated sources are required to track emissions, using continuous emissions monitors, and submit quarterly reports of their hourly emissions to EPA. To assist with emissions tracking and reporting, EPA developed standard reporting procedures and software for participants in emissions trading programs. Emissions data are submitted to EPA's Emissions Tracking System (ETS) via File Transfer Protocol (FTP), using quarterly report submission software. This software submits the quarterly reports to EPA's mainframe computer and then retrieves the resulting feedback reports via the Internet. It is designed to take full advantage of Internet technology—in conjunction with SecuRemote security software—to seamlessly

interface with existing security requirements for private entities accessing EPA's computer resources.

EPA's Web site provides general software requirements and links for users to download the ETS-FTP and SecuRemote software. It also provides related documentation and guidance. The Agency accepts e-mail submissions of quarterly reports from users that are unable to successfully use the software due to internal firewall restrictions.

Both regulated sources and others who participate in the program, such as allowance brokers and traders, have accounts established in the Allowance Tracking System (ATS). ATS holds the official records, which show the serial numbers of the allowances that are held in each account. At the end of each year, a regulated source must hold enough allowances to cover its emissions that year.

Allowance market participants can submit allowance transfers, compliance forms, and updated account information online using an Internet-based program that

replaces many paper forms and uses a central database that is shared by several of EPA's data systems. Access to the program is limited to registered EPA, state, and industry users, who undergo employment verification before user IDs and passwords are issued. After a user logs in, a Secure Socket Layer connection is established and all communications are encrypted. Approximately 80 percent of all allowance transfers are now completed online using this Internet-based program, improving EPA's ability to do our job while saving industry participants time and money.

To meet *2003-2008 Strategic Plan* goals, EPA is using *E-Government* practices to help reduce transaction costs and further increase efficiencies for market-based emissions trading programs. By 2007, EPA plans to reduce annual emissions and monitoring certification data reporting costs by 50 percent per unit (from a 2000 baseline year) by shifting much of the emissions data checking burden from the mainframe to the submitter's personal computer.





Water is essential to all forms of life. Maintaining clean surface waters and safe drinking water helps ensure the health and well-being of the American public and our environment. Clean and safe waters are also critical to our nation's economy and support a thriving recreational industry. EPA's Office of Water and its stakeholders used the principles of E-Government to develop new, innovative ways of meeting the Agency's clean and safe water goals.

Prior to passage of the Clean Water and Safe Drinking Water acts 30 years ago, drinking-water safety was not closely monitored and lakes, rivers, and coastal waters were often polluted. While potentially threatening to us all, infants, children, persons with weakened immune systems, and populations that rely on subsistence fishing were particularly at risk. But waterborne health threats have been and continue to be substantially reduced, and we have a better understanding of the relationship

between contaminated source water and potential health effects. As a result, our nation's waters are cleaner and the American public enjoys safer drinking water.

To keep members of the public apprised of water issues that might affect their activities, EPA developed several useful online resources to inform the public about the safety of their drinking-water supplies and the cleanliness of nearby beaches, lakes, and rivers. Armed with this type of informa-

Clean and

Safe Water

tion, residents can influence local efforts to bring about change when local waters are impaired.



Safe Drinking Water Information System (SDWIS)

epa.gov/enviro/htm/sdwis/sdwis_query.html

Public drinking-water systems provide drinking water to 90 percent of Americans. To ensure water provided to customers is safe for human consumption, EPA tracks system compliance with federal drinking-water regulations (e.g., maximum contaminant levels, treatment techniques, and monitoring and reporting requirements).

EPA's Safe Drinking Water Information System (SDWIS) contains compliance data submitted by the drinking-water systems to states and EPA regions in accordance with the Safe Drinking Water Act requirements. To provide public accountability for drinking-water systems, EPA developed a portal on the Envirofacts Web site that provides public access to the SDWIS data. Users can locate their drinking-water supplier either by geographic area (e.g., state and county) or the water system's identification number (commonly found on a water or sewer bill). If a public drinking-water system has reported to the state AND if the state has submitted a summary of that reported data to EPA, then a user can view its violations and enforcement history for the last decade. This information is particularly important for people with compromised immune systems, pregnant women, or others more susceptible to low levels of drinking-water contaminants than the general population.



Beaches Environmental Assessment and Coastal Health Program **epa.gov/waterscience/beaches**

Each year, millions of Americans visit the beach. When beach water becomes contaminated, swimmers can contract gastrointestinal and other illnesses.

In 2000, Congress passed the BEACH (Beaches Environmental Assessment and Coastal Health) Act. The Act requires EPA to maintain a national coastal recreation water pollution occurrence database and display the information to the public. The goal of EPA's BEACH Program is to reduce health risks by minimizing exposure to disease causing microorganisms in beach water and ensuring public access to information about the quality of beach water.

To reduce the public's risk of getting sick when swimming, EPA displays beach water quality data on the Beach Watch Web site. Since 1998, the Web site has posted beach data that was voluntarily submitted by state, territorial, and local environmental and public health agencies via the annual National Beach Health Survey. To meet new data collection goals set by Congress, EPA changed the voluntary survey into a requirement through BEACH Act grants. States must submit their beach monitoring and notification data to EPA as a condition of the grant.

To meet the BEACH Act requirements, EPA constructed new databases, creating a national beach water quality repository. EPA also developed a faster and easier method for states to submit data via our new Exchange Network. Beginning Summer 2004, a new Internet application called BEACON



(Beach Advisory Online Notification system) will display location, monitoring, and notification data in one place. This new electronic data reporting system will make state data reporting faster and easier, help the public make informed decisions before going to the beach, and ultimately improve beach water quality.



National Listing of Fish and Wildlife Advisories

epa.gov/waterscience/fish

The National Listing of Fish and Wildlife Advisories (NLFWA) online database includes all available

information on state, tribal, and federally-issued fish consumption advisories in the United States, including the District of Columbia and four U.S. territories. It also includes information on Canada's 12 provinces and territories.

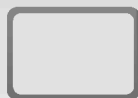
Now citizens concerned about the potential health effects of eating contaminated fish can get the information they are looking for online. EPA plans to transition to more real-time reporting of these advisories in the near future. Additional information on fish consumption advisories is available via the NLFWA Web site.



NPDES Stormwater Notice of Intent Online Application (eNOI)

EPA has developed the first fully electronic, entirely paperless permit application for the National Pollutant Discharge Elimination System (NPDES) stormwater program. The Clean Water Act requires “point sources” of pollution (such as a factory) to obtain NPDES permits that limit the discharge of pollutants into the nation’s waterways. The new electronic application is designed for use by construction site operators seeking a Stormwater Construction General Permit.

Taking advantage of EPA’s new Exchange Network, the new system guides construction site operators through the application process, utilizes “smart forms” to minimize or eliminate common mistakes, and allows for a completely paperless process. It even allows applicants to use an electronic signature.



This new electronic stormwater application, also known as the Stormwater Notice of Intent or *eNOI*, was developed by EPA to meet the objectives of the President’s *E-Government* Initiative. The new *eNOI* system will save construction companies time and money. Filing a form will be:

■ **Easier**—*eNOI*’s online forms contain detailed instructions, help menus, and links that explain each step in the process.

■ **Faster**—Using the *eNOI* system will eliminate two or more weeks of processing time.

■ **More Accurate**—*eNOI*’s smart forms contain automatic checks to help users avoid common mistakes that could cause delays.

The new *eNOI* system is free and available to the construction industry anywhere EPA directly issues the permit, including: Massachusetts; New Hampshire; New Mexico; Idaho; Alaska; Washington, D.C.; many of the U.S. territories (e.g., Puerto Rico); and Indian Country.

Construction companies of all sizes will benefit from using the new *eNOI* system. During the coming months, EPA plans to add additional features to the *eNOI* system and make it available to states that operate the NPDES stormwater permitting program under delegated authority.

EPA also provides grants to states, enabling them to implement nonpoint source pollution reduction programs. States electronically report information on grant implementation via the Grants Reporting and Tracking System, which was converted to a Web-based system two years ago. The information includes financial data as well as progress and results achieved by the projects (e.g., pollutant load reductions achieved by each project).



Unregulated Contaminant E-Monitoring **epa.gov/safewater/ucmr.html**

EPA uses data now reported electronically by laboratories under the Unregulated Contaminant Monitoring Rule (UCMR) to evaluate and prioritize contaminants on the Drinking Water Contaminant Candidate List. This list is used by EPA in determining whether to establish new drinking-water standards. The E-Monitoring system offers several advantages over paper-based reports. It is faster, easier, more flexible, and secure. The result is improved data quality and cost savings. EPA uses this high quality scientific data to make decisions about future drinking-water standards.



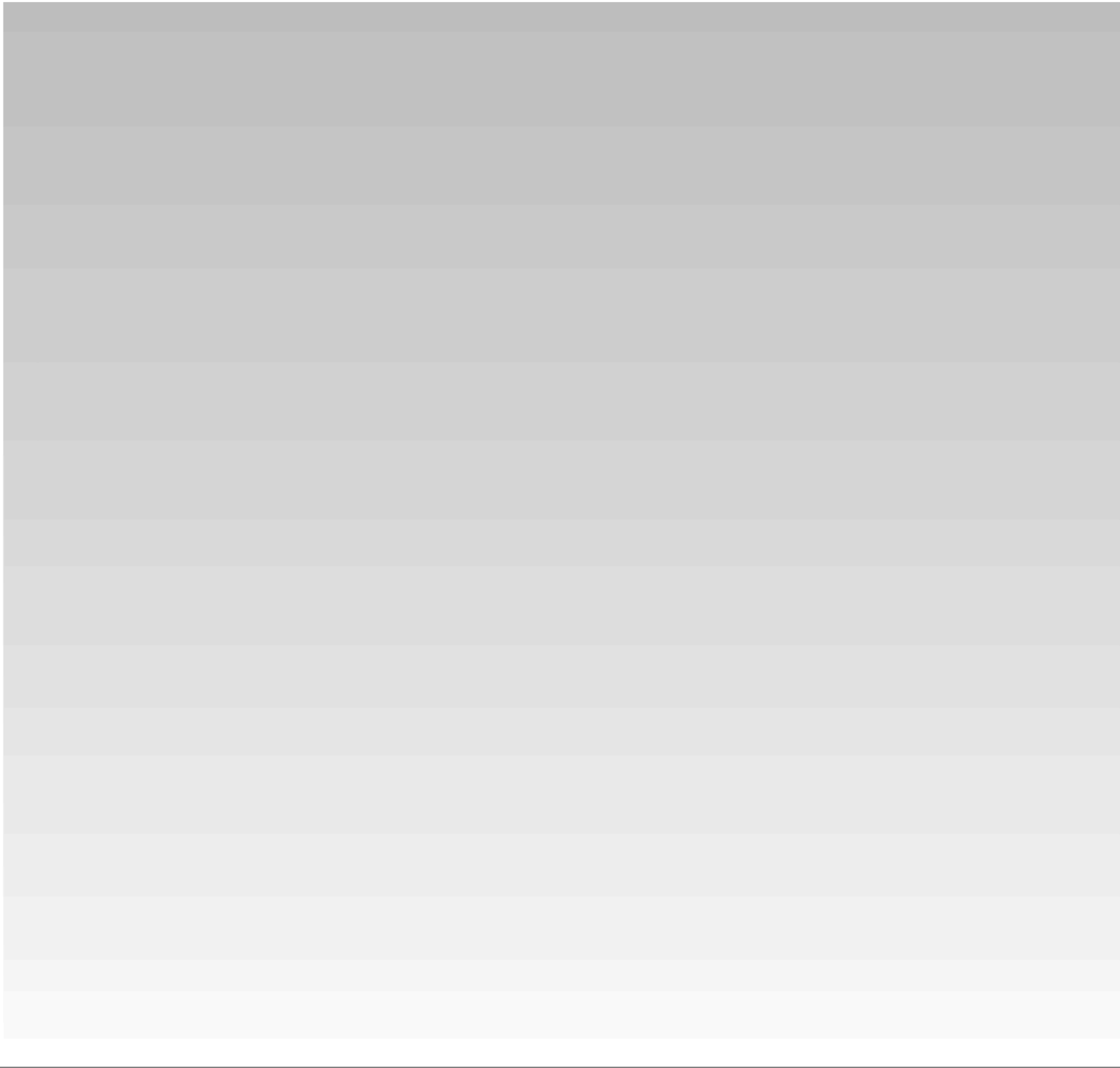
Watershed Assessment, Tracking & Environmental ResultS (WATERS) **epa.gov/waters**

Several programs within the Office of Water collect and maintain surface water quality information in numerous associated databases. To help these programs share information, EPA created the

Watershed Assessment, Tracking & Environmental ResultS (WATERS) system. It is an integrated information resource for the nation's surface waters and is built upon EPA's enterprise architecture.

Through WATERS, water quality databases are connected to a digital network of surface water information called the National Hydrography Dataset. The dataset was produced through a partnership between EPA, the U.S. Geological Survey, and states. By linking to the dataset, one program's database can interact with another program's database, allowing information to be shared across both programs.

Several EPA programs work together toward achieving cleaner and safer water. WATERS helps the managers of these programs communicate, examine relationships between programs, perform nationwide analysis, and investigate interstate water quality issues. By helping improve the efficiency of these programs, WATERS enables EPA to better ensure that our nation's waters are fishable and swimmable.



As Americans, we possess a strong sense of pride and fondness for our natural and built environments—vast national parks, cities with towering skyscrapers, small town squares, and even our own homes and yards. We must preserve, restore, and protect our lands for our families, friends, and—most importantly—future generations.

Every year, EPA assesses, responds to, mitigates, and cleans up thousands of releases—whether accidental, intentional, or acts of nature. These incidents range from small chemical spills at industrial facilities to national disasters such as hurricanes, the attacks on the World Trade Center and Pentagon, and the Space Shuttle Columbia tragedy.

Large or small, these incidents can significantly affect the physical world around us. Left unchecked, spills and releases of hazardous and nonhazardous materials on land can migrate to air and water resources, contaminate drinking-water supplies, cause acute illness or chronic diseases, and threaten ecosystems. As part of an effort to protect and restore our lands, EPA:

- Works with federal, state, local, and tribal governments and industry to identify cost-effective waste management and cleanup methods for contaminated properties.
- Encourages pollution prevention and recycling to avoid future contamination.
- Utilizes a wide variety of high-tech and interactive tools that provide access to local environmental

information—from individual snapshots of local, state, or regional conditions.

- Offers a plethora of information on reclaiming abandoned or contaminated properties through new initiatives such as Brownfields.



Sophisticated Instrumentation

Following the Space Shuttle Columbia accident in February 2003, more than 90 federal, state, local, and civilian agencies worked collaboratively to recover and clean up potentially hazardous materials and ensure public safety. Using sophisticated instrumentation, EPA assisted the Federal Emergency Management Agency and the National Aeronautics and Space Administration by conducting environmental monitoring and assisting in the removal of hazardous materials from the space shuttle debris.

The Agency used Environmental Photographic Interpretation Center satellite imagery to map populations that might be at risk from shuttle debris. The Agency also used Airborne Spectral-imagery of Environmental Contaminants Technology



Land Preservation



Source: EPA Region 6

(ASPECT)—mounted in an airplane that flew over the debris field—to detect chemical presence and identify the location of shuttle materials. The ASPECT system transmitted aerial photographs and Global Positioning System (GPS) mapping information to emergency response crews using hand-held GPS units on the ground. EPA's Trace Atmospheric Gas Analyzer (TAGA) bus, a self-contained mobile laboratory, collected outdoor air quality samples while moving through the impacted area. EPA typically uses TAGA to collect outdoor air and measure the concentration of hazardous chemicals (in real-time) during emergencies or hazardous situations.



TRI Explorer
epa.gov/triexplorer

Do you live down the street from a facility that uses or emits harmful chemicals? If you answered

"I don't know," how do you find out? EPA maintains an extensive Toxics Release Inventory (TRI) database that contains information reported annually by certain industrial and federal facilities on toxic chemical releases and other waste management activities. To provide public access to this information, EPA developed TRI Explorer, a Web-based analytical tool that allows users to generate TRI reports specific to their communities. TRI Explorer enables the public to:

- Access historical or recent TRI data.
- Sort TRI by chemical.
- Identify trends in chemical releases and waste management activities.
- Examine data for the United States as a whole or by state, county, and ZIP Code.
- View a single facility or aggregate data to include all facilities.

Through customized reports, TRI Explorer identifies toxic chemicals present in a community, compares the community's releases with those of other communities, and enables the public to determine where pollution prevention efforts should be targeted. As these data are measured and made publicly available, they spur companies to focus on their chemical management practices. In addition, the data serve as an indicator of changes in environmental and human health conditions over time.

and Restoration

Toxic Releases Continue to Decline

In June 2003, EPA released the latest TRI data for calendar year 2001. The results show that releases of toxic chemicals continue to decline, down by more than 15 percent from the previous reporting year. The metal mining, electric utilities, and chemical manufacturing industry sectors reported the following reductions in toxic chemical releases from 2000 to 2001.

Industry Sector	Pounds Reduced	Percent Reduced
Metal Mining	603 million	19.8
Electric Utilities	98 million	8.5
Chemical Manufacturing	96 million	14.5



Brownfields Program
epa.gov/brownfields

Almost every American city and rural community has one or more abandoned tracts of land that once served as home to commercial or industrial facilities. These barren parcels of land and vacant buildings can be redeveloped, adding to a community's tax base and helping to reduce urban blight. New development on these "brownfields" sites, however, can be difficult given real or perceived environmental contamination. EPA's Brownfields Program seeks to empower states, communities, and other economic development stakeholders to work collaboratively—and in a timely manner—to:

- Assess the environmental condition of existing brownfields properties.

- Prevent further contamination via limited access or stabilization.
- Clean up polluted properties and safely remediate contaminants.
- Sustainably reuse these properties.

As more brownfields are cleaned up and redeveloped, the surrounding communities benefit from improved economic conditions, more functional space, and reduced health and environmental risks.

The Brownfields Web site contains a wealth of resources regarding these sites, including grant information, pilot project descriptions, and success stories that help communities and developers understand what might be involved in brownfields redevelopment.

In the future, additional *E-Government* benefits will be derived from making the brownfields community grant and property-specific information within the Brownfields Management System publicly available through EPA's Envirofacts data warehouse and the EnviroMapper GIS interface, in an interactive "in my community" format. Brownfields grants will also be integrated with the federal E-Grant Initiative to aid grant applicants. An extended community-based reporting tool, the Brownfields Redevelopment Information Management Systems (BRIMS), is being developed to allow grantees to electronically report information. BRIMS also has a Web-based component that allows the grantees to involve their communities in important brownfields decisions.





Healthy Communities and Ecosystems

Building people's ability to make informed decisions about the world around them is at the heart of EPA's goals. Preparing and protecting a community in the 21st century requires coordination and a catalyst to make things happen across public and private sectors. That's where E-Government comes in. EPA is working with other government agencies to build the infrastructure necessary for sharing environmental and health information and providing tools for making sound decisions.

This collaboration also makes it easier for the public to interact with the Agency and improves access to quality information resources. The following examples highlight some of the high-tech research and interactive Web sites that help improve the quality of life in our communities.



Window to My Environment **epa.gov/enviro/wme**

Window to My Environment (WME) combines state-of-the-art interactive maps with links to federal, state, and local data to give the public access to a wide spectrum of environmental information about any location—from air quality and watershed data to the status of Superfund sites and cleanups.

WME has three major components:

- “Your Map” allows users to select a geographic area and maps the location of regulated facilities, monitoring sites, and water bodies and watersheds. Your Map also displays demographics with traditional geographic designations, such as counties, streets, and schools. The interactive maps include zoom, pan, and three-dimensional functions.
- “Your Window” provides facts about users’ selected communities, including the population and local watershed boundaries, and links directly to regulated facility profiles and information concerning specific watersheds.

■ “Your Environment” answers important questions about the local environment by linking users to data from dozens of government and nongovernmental organizations and contacts. It provides daily UV Index readings, advice on health effects of exposure to sunlight, reports from local air and water quality monitoring sites, land cover characteristics, and more.

***“Window to My Environment
is a one-stop shop
of environmental information
for the public.”***

— Kim Nelson
EPA’s Chief Information Officer

Environmental data are most meaningful when examined from a holistic perspective—when users are able to examine all of the data about a particular situation, location, or source at the same time. WME’s one-stop service is a prime example of the power of information technology, harnessed to meet individuals’ needs. Previously, the public could only obtain a comprehensive collection of environmental information by searching individual Web sites. By giving the public consolidated environmental information from a single application, WME ensures that all Americans will have the data they need to make informed decisions about their families’ and communities’ environmental health.



Children’s Health and the Environmental Kids Club epa.gov/kids

EPA has dedicated a section of its Web site to helping kids understand the environment around them and learn how to protect it. The Environmental Kids Club includes activity books, games, puzzles, stories, and other fun things to engage elementary school children and covers a range of topics that interest kids—air, water, plants, and animals, as well as garbage and recycling. The Web site provides a link to the EPA Student Center, which contains environmental information directed toward older students (i.e., middle and high school students). The “Teachers” page provides educators with useful information (e.g., curriculum resources, community service projects, grant opportunities).



E-Rulemaking Initiative www.regulations.gov

“Government of the people, by the people, and for the people” means more than voting for elected officials or referendums—most Americans do not realize that they can also play a role in the regulatory process.

Federal regulations, or rules, establish the obligation of the public and government to meet certain specified requirements. For example, EPA uses regulations to set enforceable and environmental standards. During the development of a new regulation or the revision of an existing one, the public has the opportunity to express its views on the Agency’s proposed action. The ability to comment

on proposed rules is important because regulations affect virtually all aspects of our lives.

As with many of the other *E-Government* innovations being undertaken as part of the President's Management Agenda, E-Rulemaking will expand electronic government services to individuals and businesses. EPA is leading an inter-agency team that is developing a federal governmentwide system to provide "one-stop" access to the federal regulatory process through a single, Internet-based system.

Regulations.gov, the first milestone of the E-Rulemaking Initiative, was launched in January 2003. It enables the public to search, view, and comment on hundreds of proposed federal regulations from approximately 160 federal agencies through a single Web site. This award-winning Web site is the result of a collaborative effort by six federal agencies and contracting companies. *Regulations.gov* received the Robert J. Colborn, Jr. Innovation Award from the National Association of Secretaries of State (NASS) for creativity and innovation in providing public access to the rulemaking process. *Regulations.gov* also received the E-Gov 2003 Pioneer Award.

The E-Rulemaking team is currently working to enhance *Regulations.gov* and create a federal governmentwide system that will contain all publicly available regulatory documents.¹ EPA's electronic

¹ Documents include all information considered by federal agencies in drafting a proposed or final rule, including data, analyses, reports, and minutes; summaries and transcripts of public meetings and hearings; records of ex parte communications, including telephone calls, memoranda, and letters; and public statements made by agency employees in their official capacities. Documents also include comments (e.g., written opinions, data, and other information) submitted to an agency that agree, disagree, and/or suggest alternatives to the proposed action.

docket (EDOCKET, www.epa.gov/edocket) is an example of such a system. The EDOCKET Web site features a variety of search capabilities that allow the public to easily find materials such as *Federal Register* notices, support documents, and public comments for regulations the Agency publishes as well as various nonregulatory activities. Through EDOCKET, users can search, download, and print

E-Rulemaking and E-Democracy

As a cornerstone of democracy, the voice of the people is as important as it is powerful. With the emergence of the Internet, individuals are going online to reach their representatives and more fully participate in the American democratic process. Now, through *Regulations.gov*, the public can also have a larger hand in the regulatory process. From this federal regulatory clearinghouse, the public can view a description of every proposed rule currently open for comment, read full texts of these documents, and electronically submit comments to the federal agencies that have created them.

To implement laws passed by Congress, more than 4,000 new rules are created each year by federal agencies. Before a federal agency may adopt new regulations, it is required to notify the public about its intentions and solicit comments on proposed rules. According to the Office of Management and Budget, as many as 500 rules can be open for comment at any given time. In 2001, more than 23 million people submitted comments on rules.

the documents related to a particular Agency rule-making or action and submit comments online.

Another objective of the E-Rulemaking initiative is to develop a host of electronic tools to assist regulation writers in all phases of the rulemaking process and allow regulators to arrive at better decisions faster.



Electronic Grants (E-Grants) Initiative

www.grants.gov

As part of the President's Management Agenda to reduce the expense and difficulty of doing business with the government, EPA is participating in a

GeoSpatial Data One-Stop Shopping **www.geodata.gov**

The Geospatial One-Stop Initiative is another project being undertaken as part of the President's Management Agenda. It helps to improve the public's and the government's ability to access and use geospatial information to support and facilitate decisionmaking. Geospatial information includes geographical or spatial data that references a specific location, such as a county, street, or ZIP code. Geospatial One-Stop also serves as an Internet-based organizational umbrella for federal, state, local, and tribal geospatial activities. Benefits of the initiative include:

- One-Stop Web access to geospatial information, maps, and other geospatial data increases analytical and decisionmaking capabilities.
- Intergovernmental and interagency data and application partnerships help leverage investments, reduce costs, and prevent duplication of efforts.
- Consensus standards that ensure consistency among data sets allow governments to share data and integrate multiple sources of information for improved decisions.

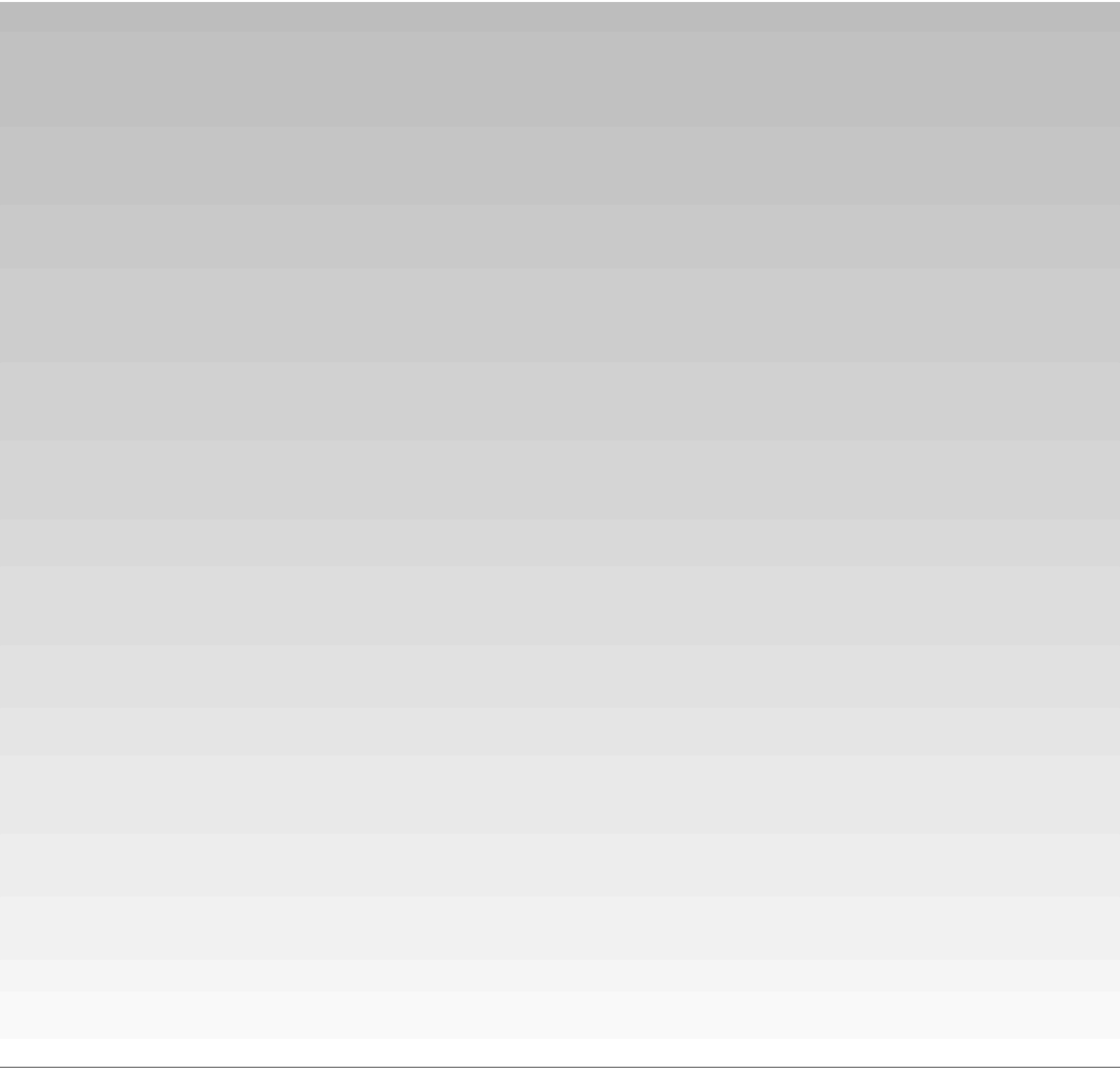
All levels of government—local, state, and federal—and their stakeholders/clients will benefit from this effort as most organizational missions have a geographic component. At EPA, for example:

- Most public health and environmental protection programs (e.g., permitting, source management, cleanups, compliance assurance, emergency response) are tied to specific locations (i.e., facility, water intake, waste site).
- Factors such as geospatial characteristics (e.g., demography, topography, hydrography, geology, ecology) are routinely factored into program decisions affecting a location.

multi-agency effort to make applying for and obtaining federal grants easier. The federal government awards more than \$350 billion in grants annually through more than 600 programs within 26 agencies. The E-Grants Initiative seeks to provide a simple, unified electronic storefront for the public's use.

Data standardization is also part of the project. It will help reduce the administrative burden on

grantees and simplify the review process for federal agencies. E-Grants will make obtaining financial assistance from the government easier, cheaper, and quicker. E-Grants also will leverage the technological capabilities commonly available today (e.g., online submittal, electronic payment) to transform the federal grants process.



Compliance and Environmental Stewardship

"Environmental stewardship"—self-motivated action that seeks to protect human health and the environment—has a long history in our nation. Good environmental stewards meet—and often exceed—compliance requirements by reducing or eliminating waste, maximizing recycling, and using energy and natural resources efficiently to reduce adverse environmental impacts. Together, with a strong enforcement program, EPA strives to protect human health and the environment by encouraging better environmental behavior and stewardship through regulatory and nonregulatory means. These efforts satisfy both EPA objectives and the President's Management Agenda, reducing the expense and difficulty of doing business with the government.

To help ensure compliance with environmental regulations, EPA has developed a mix of tools and strategies that provide communities, regulated entities, and investors with important enforcement and compliance information. EPA also provides a suite of incentives to encourage government, industry, and other facilities to evaluate their overall environmental compliance and voluntarily correct and report any problems.



Compliance Assistance Centers

<http://cfpub.epa.gov/clearinghouse>

To assist facilities with environmental regulation compliance, EPA created a National Compliance Assistance Clearinghouse—an innovative tool that provides quick and easy access to environmental requirements and compliance assistance. Assistance might be statute-specific (e.g., air, solid and hazardous waste, water) or sector-oriented (e.g., dry cleaning, metal finishing, furniture manufacturing). In partnership with industry, academic institu-

tions, environmental groups, and other agencies, EPA also launched sector-specific Compliance Assistance Centers. Through Web sites, telephone assistance lines, fax-back systems, and e-mail discussion groups, these centers help regulated facilities understand federal environmental requirements and save money through pollution prevention techniques. EPA's 13 virtual centers also provide direct assistance to the regulated community through training, onsite visits, and workshops.

Growing Compliance Assistance **epa.gov/agriculture**

The National Agriculture Compliance Assistance Center (Ag Center) is the first stop for information about environmental requirements that affect the agricultural community. The Ag Center was created by EPA with the support of the U.S. Department of Agriculture.

The Ag Center offers comprehensive, easy-to-understand information about compliance—common-sense, flexible approaches that are both environmentally protective and agriculturally sound. The Ag Center also provides information on reducing pollution and making good use of the latest pollution prevention technologies. The Ag Center Web site is a gateway to a large library of compliance information, as well as up-to-date news about agriculture-related EPA programs and proposals.



Enforcement and Compliance History Online **epa.gov/echo.html**

In the past, the public—including families, teachers, interested citizen groups, and many government officials—had a hard time finding out whether a regulated facility located in their community was in compliance with environmental regulations. Now, with EPA's new Enforcement and Compliance History Online (ECHO), a Web-based tool that provides public access to compliance and enforcement information for nearly 1 million EPA-regulated facilities, the public can find and retrieve compliance information quickly and easily.

ECHO allows users to locate facility information including permits, inspections, violations, enforcement actions, and penalties during the past two years. Previously, much of these data were not accessible or organized in an easily understandable and searchable format. ECHO integrates information about facilities from separate media-specific data systems, and users can now view these data in a comprehensive and organized manner. ECHO also allows users to sort and analyze data according to their needs.

With ECHO, the public can monitor environmental compliance within their communities, corporations can monitor compliance across their facilities, and investors can more easily factor environmental performance into their decisionmaking.



Sector Facility Indexing Project **epa.gov/sifpmtn1/**

The Sector Facility Indexing Project (SFIP) Web site brings together environmental and other information from various data systems to produce facility-level profiles for five industry sectors (petroleum refining, iron and steel production, primary nonferrous metal refining and smelting, pulp manufacturing, and automobile assembly) as well as a subset of major federal facilities.

SFIP relates each facility's compliance and inspection history, chemical releases and pollutant spills, and production and production capacity data to demographics of the surrounding population. The data can be accessed by facility or sector, and users can obtain standardized reports, construct custom queries, or download data for future use. Users also can review "Status and History" documents related to recent activities and SFIP development, including facility data updates, a project fact sheet, frequently asked questions, the SFIP Evaluation Report, and a historical archive of project development materials. EPA is exploring ways to incorporate SFIP into the ECHO site.



TRI-Made Easy (TRI-ME) **Software**

epa.gov/tri/report/trime/index.htm

EPA is making it easier for the regulated community to fulfill their reporting requirements under the Emergency Planning and Community Right-to-Know

Debugging E-Commerce **epa.gov/opffead1/cb/ppdc/2002/pestsales.htm**

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) regulates pesticides, including germ-killing substances (antimicrobials). In recent years, EPA and state pesticide regulatory agencies have received an increasing number of tips, complaints, and questions about pesticide sales and pesticidal services via the Internet. The expansion of E-Commerce creates numerous opportunities for unknowing or unscrupulous vendors to sell consumers unregistered and restricted-use pesticides. Such sales could pose significant risks to human health and the environment.

In response to environmental, consumer protection, and compliance concerns, EPA issued the "Integrated Compliance and Enforcement Strategy for Pesticide E-Commerce" in 2002.

Act. This information is used by EPA to create the Toxics Release Inventory (TRI). EPA's "TRI-Made Easy" software, or TRI-ME, is interactive, user-friendly software that guides facility managers and their data reporters through the TRI reporting process. It asks a series of questions that help determine if a facility needs to comply with the TRI reporting requirements. For facilities that determine they are required to report, the software provides guidance for each data element on the reporting forms. For reporting year 2002, more than 92 percent of the

Reducing Information Reporting Burdens

The Business Gateway/E-Forms Project is another federal governmentwide effort under the President's Management Agenda. It is intended to reduce the burdens associated with finding and submitting forms. The initiative's short-term goal is to enhance the ability of the nation's 22.4 million small businesses—the initiative's priority target customer segment—to access, complete, and submit the more than 4,500 forms they are required to file. The project's long-term goal is to provide the same benefit to all businesses, individual, and government organizations. These goals will be achieved by combining technical standardization and harmonization with electronic compliance and Web-based tools.

facilities that reported used TRI-ME to complete their submissions. Facilities also took advantage of the new electronic signature feature of TRI-ME that allows them to submit forms and certification statements via the Internet. Electronic submittal of TRI chemical reports via EPA's new CDX rose from 7,846 in reporting year 2001 to 22,666 in reporting year 2002—an increase of 288 percent.

Technology has made our world a better place and will continue to play a major role in defining our future. All across America, we see local, state, and federal agencies using sophisticated information technology—or E-Government—to enhance their operations, provide better services, and help all Americans lead safer, healthier, and more fulfilling lives. We see an increasing number of online services—beyond access to electronic information—helping the public actually get things done via the Internet. We also see government agencies and their partners sharing data and using new electronic tools to make better decisions faster. Peering over the horizon reveals many innovations that have the potential to improve the quality of our nation’s environment and help ensure a brighter, healthier future. The following are just a few examples.

As we move forward, EPA and its partners will continuously challenge and question how we conduct our business. Is this form or process necessary? Can we streamline it? Can we automate it? Can we use IT to transform it? Is there a better way? We will also continue to learn from the efforts of others and build upon their successes.

For many *E-Government* initiatives currently underway, we sought advice and guidance from states, tribes, local governments, regulated businesses, environmental groups, and the general public. Beginning in 1999, EPA realigned our IT organizational and managerial structure by creating a new Office of Environmental Information so that EPA could become a leader in adapting and applying IT and integrated systems to meet rapidly changing needs.

By using integrated, results-oriented, and accessible information about environmental and public health conditions, trends, and potential threats, EPA, our partners, and the public will be able to make further great strides in how we, as a nation, go about improving human health and the environment. We also will continue to offer the public the information it needs to make informed environmental and health protection decisions. The result of these *E-Government* innovations will include improved quality of life, better human health, and a cleaner environment for everyone.

The Future



Nanotechnology

<http://es.epa.gov/ncer/index.html>

Nanotechnology is the science of studying particles at the nanometer—one billionth of a meter—scale. Using scanning, tunneling, and atomic force microscopes, scientists are able to detect and manipulate tiny particles at the molecular level to create structures with fundamentally new characteristics. Useful applications of this science might yield revolutionary advances in pollution prevention, waste treatment, remediation, monitoring, and data reporting—a high-tech environmental toolkit for the 21st century.

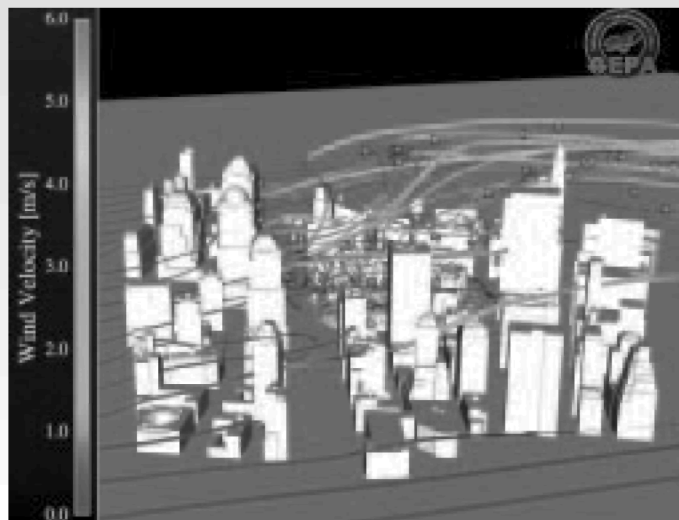
EPA's Science To Achieve Results (STAR) grant program has provided nearly \$6 million to 16 universities to study this emerging technology. Researchers are currently experimenting with "green" nanotechnology that could be used for environmental cleanup. Collaborative EPA/academic projects include synthesizing nano-sized particles for groundwater cleanup, developing a nano-based sensor for remote heavy metals detection, and studying the capacity of nanoparticles to replace expensive metals used to treat vehicular exhaust gas. EPA's Small Business Innovation Research (SBIR) program also is financing 11 projects, providing nearly \$1 million for nanotechnology research and development by small businesses. These SBIR projects range from a nanocomposite-based filter for arsenic removal in drinking water to nanofibrous manganese dioxide for volatile organic compound emission control.



High Performance Computing and Scientific Visualization

High performance computers, sophisticated computer models, and the ability to visualize the results are helping EPA and its partners make better decisions for protecting human health and the environment. They will become even more important in the future. Modeling air flow around buildings in dense urban environments, for example, enables decision-makers to determine the best locations for air quality monitoring equipment. Or, in the event of toxic release from a facility, pre-calculated simulations of air flow can allow first responders to determine the best paths for evacuating people and responding to the release.

These new tools will allow EPA to examine the complex relationship of pollution sources such as automobiles, factories, or catastrophic natural and man-made events such as Mt. St. Helens or the World Trade Center collapse; the movement of gases and particles through the atmosphere and



their chemical and physical interactions; how the pollutants are subsequently deposited on the land or water; and the effect of pollutants on people and the surrounding ecosystems.

Sound decisionmaking is based on having the right information. Air quality modeling on high performance computers and accompanying scientific visualization provide a means for seeing the invisible and identifying the relationships between sources, trans-

port, deposition, and effects. Using visualization provides insights into the data that would likely otherwise go unnoticed.

As high performance computers are able to process information faster using larger memory capacities, air quality models will become more and more accurate and scientists will be able to turn around simulation results on a near real-time basis.

Recognition of EPA's *E-Government* Efforts

EPA has been honored by federal agencies and nongovernmental organizations for promoting and advancing *E-Government* information services, as follows:

- EPA was awarded the *SecurE-Gov Architecture Award* and *SecurE-Biz Leadership Award* for efforts in promoting enterprise architecture.
- EPA was honored with the *Citizen Service Team SecurE-Biz Leadership Award* for E-Rulemaking efforts.
- EPA won the *E-Gov 2002 Explorer Award* for online dialogue on public involvement.
- EPA ranked third, along with the State Department and the Department of Treasury, out of 1,265 organizations, in a study conducted by the Taubman Center for Public Policy at Brown University evaluating the variety and quality of electronic services offered.
- EPA's *Regulations.gov*, part of the E-Rulemaking Initiative, was selected as one of 10 finalists for the *Federal Executive Leadership Council Showcase In Excellence Awards*.
- EPA was the only federal agency to receive three E-Gov Awards: two *Pioneer Awards*—one for *Regulations.gov* and one for TRI-ME—and a *Trailblazer Award* for EDOCKET.
- The *Regulations.gov* Web site was also awarded the *NASS Robert J. Colborn, Jr. Innovation Award*.
- EPA's "Window To My Environment" and TRI-ME software received the Agency's highest honor, gold medals for outstanding achievement.
- EPA was awarded the *Excellence in Enterprise Architecture Award* by the Federal Enterprise Architecture Certification Institute.
- *Government Executive Magazine* and the Council for Excellence in Government presented *Regulations.gov* with a *2003 Grace Hopper Government Technology Leadership Award*.



Cleaner Air and Reduced Global Climate Change

During the next few years, EPA will continue to develop new strategies, tools, and implementation approaches to help the public understand and reduce exposure to outdoor and indoor air pollution. EPA also will enhance or expand voluntary partnerships to inform and educate the public and promote positive action (e.g., purchasing low emission vehicles) to help mitigate global climate change impacts.



Cleaner and Safer Water

By providing the public with the power to query public drinking-water systems compliance, EPA cultivated a partner in the fight to ensure drinking water is safe. EPA will assist states and tribes in improving information collection systems that monitor, analyze, and publicize water quality to provide Americans with safe recreational choices.



Preserved and Restored Land

Communities will leverage the TRI and brownfields resources EPA provides to identify potential risks and/or redevelopment opportunities in their neighborhoods. This insight will yield greater corporate responsibility and economic possibilities as contaminated or abandoned properties are cleaned up and put into productive use.



Healthier Communities and Ecosystems

In the coming years, EPA will provide new data on potential chemical risks and develop initiatives and activities aimed at high-risk facilities and/or geographic areas. EPA also will develop new geospatial tools that foster holistic approaches to ecosystem management. With greater access to environmental information, Americans will be empowered to protect, sustain, and restore the health of communities and ecosystems.



Compliance and Environmental Stewardship

In its *Strategic Plan*, EPA has committed to strengthening scientific evidence and research to support environmental policies and decisions on compliance, pollution prevention, and environmental stewardship. These efforts will reduce public risks and help preserve our valuable resources.

As EPA looks to the future, we will continue to build upon the foundation we have established. Improving the way we acquire, manage, analyze, and use information is especially critical because the environmental challenges of the 21st century cannot be solved by EPA acting on its own. Protecting our nation's health and environment requires cooperation among states, tribes, local governments, businesses, communities, and individuals. Together—with the help of advanced information technology and E-Government—we will find and use new, innovative solutions to the challenges we face and ultimately help achieve our shared responsibility to ensure future generations have a safe, healthy environment in which to live and prosper.



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