

## EPA'S REPORT ON THE ENVIRONMENT

Understanding trends in the condition of the United States' natural resources, human health, and ecological systems is an important part of making informed environmental protection decisions. EPA has developed the Report on the Environment (ROE) to provide important information about the status and trends in the environment and human health through scientific indicators.



AIR



WATER



LAND



HUMAN EXPOSURE AND HEALTH



ECOLOGICAL CONDITION

### What is the ROE?

The ROE is a comprehensive source of the best available indicators on the status and trends in the environment and human health. It provides the most reliable indicators currently available to help answer questions that EPA believes are of critical importance to its mission. The indicators describe the current status and historical trends in air, water, land, human health and exposure, and ecological condition at the national and, where possible, regional levels.

### Why is the ROE important?

The ROE indicators serve as a tool for EPA decision-makers, program planners, scientists, researchers, the general public, and others interested in environmental science and policy to track changes in environmental condition. They allow EPA and the public to assess whether the Agency is succeeding in its mission, and they help alert EPA to new challenges that may need attention and action.

### What's new in the revised ROE?

Since its initial release in 2003, the ROE has undergone periodic updates and restructurings. ROE indicators are updated regularly using data generated by multiple agencies. The ROE now has 85 indicators on air, water, land, human exposure and health, and ecological condition. All were peer-reviewed to ensure accuracy, representativeness, and reliability.

The ROE was last released in 2008 as a hard copy report and a searchable online database. The 2015 version is entirely web-based; the online format is more interactive and accessible than before.

Users can customize graphics and pan and zoom on maps. For certain indicators, users can now choose to view statistical information by simply clicking display options. Additionally, new indicators fill information gaps where we previously lacked reliable, long-term data. A systems-based framework has been added to illustrate the role of multiple indicators in environmental issues.

## What is the ROE telling us?

Some highlights from this version of the ROE include:

- Nationwide, emissions of key air pollutants have decreased between 1990 and 2011. As a result, national average ambient air concentrations of the six criteria pollutants— carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide—decreased considerably.
- Total U.S. emissions of major greenhouse gases associated with human activities increased by 6 percent from 1990 to 2013, but have decreased by 9 percent since their 2005 levels (the last data point reported in the 2008 ROE). Electricity generation continues to be the largest source of these emissions
- Between 2005 and 2012, the percentage of food with detectable pesticide residues has decreased, even though newer analytical methods can detect more compounds at lower levels. Poison control center reports show a 49 percent decrease in the rate of pesticide exposure incidents between 1998 and 2012.
- Among non-smoking adults and children in the U.S. population, median serum cotinine levels, a biomarker of exposure to environmental tobacco smoke, were 89% lower in 2011-2012 compared to those measured in 1988-1994. While exposure to secondhand smoke has decreased in the general U.S. population, declines in exposure have been slower, and exposure remains higher among children and non-Hispanic blacks.



These are just a few examples of the types of information presented in the ROE. For more information, visit the ROE website at <http://www.epa.gov/roe>.

### National Program Director:

Michael Slimak, Ph.D.

Sustainable and Healthy Communities Research Program

[slimak.michael@epa.gov](mailto:slimak.michael@epa.gov)

### Technical Contact:

Patricia Murphy, Ph.D.

[murphy.patricia@epa.gov](mailto:murphy.patricia@epa.gov)

### Communications Contact:

Aaron Ferster

[ferster.aaron@epa.gov](mailto:ferster.aaron@epa.gov)