



EPA/NEHA Webinar

US EPA's Report on the Environment (ROE)-- Overview and Website demonstration

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The views expressed in this presentation are those of the author and do not necessarily reflect the views or policies of the US EPA



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Office of the Administrator (AO)

[About the Office of the Administrator](#)
[AO Organization Chart](#)

EPA Organizational Structure

Office of Air and Radiation (OAR)

[About the Office of Air and Radiation](#)
[OAR Organization Chart](#)

Office of Chemical Safety and Pollution Prevention (OCSP)

[About the Office of Chemical Safety and Pollution Prevention](#)
[OCSP Organization Chart](#)

Office of the Chief Financial Officer (OCFO)

[About the Office of the Chief Financial Officer](#)
[OCFO Organization Chart](#)

Office of Enforcement and Compliance Assurance (OECA)

[About the Office of Enforcement and Compliance Assurance](#)
[OECA Organization Chart](#)

Office of General Counsel (OGC)

[About the Office of General Counsel](#)
[OGC Organization Chart](#)

Office of Inspector General (OIG)

[About the Office of Inspector General](#)
[OIG Organization Chart](#)

Office of International and Tribal Affairs (OITA)

[About the Office of International and Tribal Affairs](#)
[OITA Organization Chart](#)

Office of Land and Emergency Management (OLEM)

[About the Office of Land and Emergency Management](#)
[OLEM Organization Chart](#)

Office of Mission Support (OMS)

[About the Office of Mission Support](#)
[OMS Organization Chart](#)

Office of Research and Development (ORD)

[About the Office of Research and Development](#)
[ORD Organization Chart](#)

Office of Water (OW)

[About the Office of Water](#)
[OW Organization Chart](#)

Region 1 / Boston
Serving CT, ME, MA, NH, RI, and VT
[About Region 1](#)
[Region 1 Organization Chart](#)

Region 2 / New York
Serving NJ, NY, Puerto Rico, and the U.S. Virgin Islands
[About Region 2](#)
[Region 2 Organization Chart](#)

Region 3 / Philadelphia
Serving DE, DC, MD, PA, VA, and WV
[About Region 3](#)
[Region 3 Organization Chart](#)

Region 4 / Atlanta
Serving AL, FL, GA, KY, MS, NC, SC, and TN
[About Region 4](#)
[Region 4 Organization Chart](#)

Region 5 / Chicago
Serving IL, IN, MI, MN, OH, and WI
[About Region 5](#)
[Region 5 Organization Chart](#)

Region 6 / Dallas
Serving AR, LA, NM, OK, and TX
[About Region 6](#)
[Region 6 Organization Chart](#)

Region 7 / Kansas City
Serving IA, KS, MO, and NE
[About Region 7](#)
[Region 7 Organization Chart](#)

Region 8 / Denver
Serving CO, MT, ND, SD, UT, and WY
[About Region 9](#)
[Region 9 Organization Chart](#)

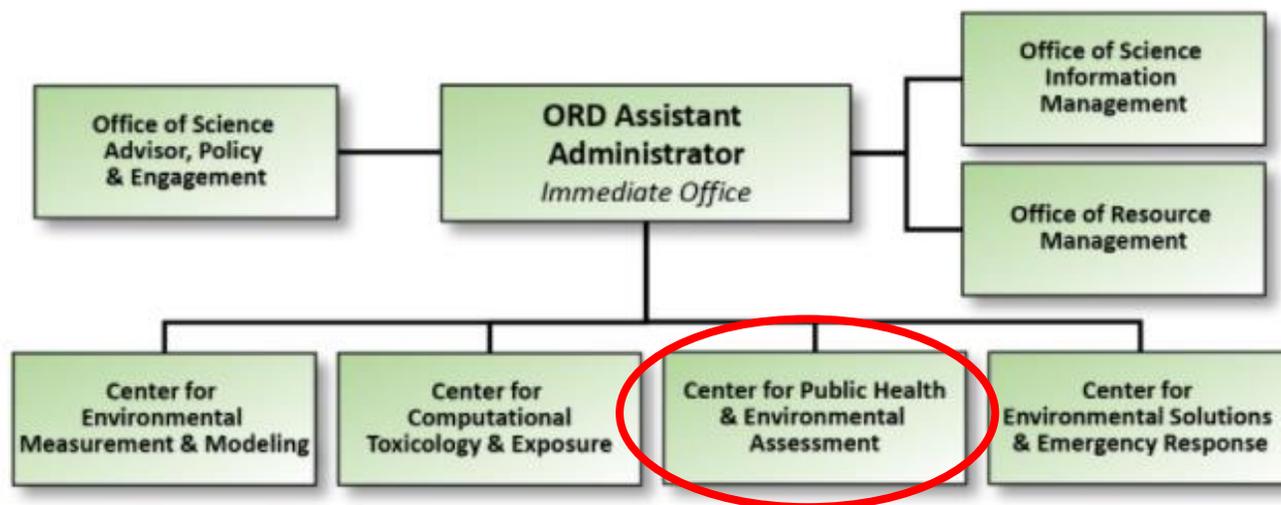
Region 9 / San Francisco
Serving AZ, CA, HI, NV, American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Marshall Islands, and Republic of Palau
[About Region 9](#)
[Region 9 Organization Chart](#)

Region 10 / Seattle
Serving AK, ID, OR, and WA
[About Region 10](#)
[Region 10 Organization Chart](#)



ROE Coordination and Funding

Organization Chart for the Office of Research and Development (ORD)



ORD's National Research Programs

- [Air and Energy](#)
- [Chemical Safety for Sustainability](#)
- [Health and Environmental Risk Assessment](#)
- [Homeland Security](#)
- [Safe and Sustainable Water Resources](#)
- [Sustainable and Healthy Communities](#)



<https://www.neha.org/environmental-health-saves-lives>



NEHA's mission, "To build, sustain, and empower an effective environmental health workforce"

EPA's Mission

The mission of EPA is to protect human health and the environment.

To accomplish this mission, we:

- Develop and enforce regulations
- Give grants
- Study environmental issues
- Sponsor partnerships
- Teach people about the environment
- Publish information

<https://www.epa.gov/aboutepa/our-mission-and-what-we-do>

ENVIRONMENTAL HEALTH SAVES LIVES SAVES MONEY PROTECTS YOUR FUTURE

THE AIR YOU BREATHE

by testing and monitoring the air in the places you live & work

despite vehicle miles increasing 172%
1970 2014
combined emissions have dropped 69%

radon can get trapped indoors and cause lung cancer resulting in 20,000 deaths

radon is a natural gas from rock and soil

& costing over \$2,000,000,000 in health care per year

THE WATER YOU DRINK

by testing & treating drinking water & inspecting septic systems

89% of Americans get tap water from a community water system

1/3 of new development in U.S. is served by septic treatment systems

the number of preschool children with high lead levels has declined from 88% to <1% since 1980

preventing lead exposure is estimated to save over \$213,000,000,000 per year

clean water results in 10% reduction in diarrhea illness

and \$84,000,000,000 in savings globally per year

THE FOOD YOU EAT

by educating, inspecting, & investigating

Lost productivity from foodborne illness costs an average of \$30 billion per year

1 in 6 Americans gets sick each year from contaminated food

reducing foodborne illness by 10% keeps 5 million Americans from getting sick per year

Environmental health is profoundly local!
Learn more from your city or county environmental health department

Produced by National Environmental Health Association, 2016
Data sources: Centers for Disease Control and Prevention, Environmental Protection Agency, U.S. Surgeon General's Office, U.S. Census Bureau, World Bank, World Health Organization.



EPA Mission Statement & Strategic Goals

EPA Mission

To protect human health and the environment

EPA Strategic Goals (2018-2022)

A Cleaner, Healthier Environment

Deliver a cleaner, safer, and healthier environment for all Americans and future generations by carrying out the agency's core mission

More Effective Partnerships

Provide certainty to states, localities, tribal nations, and the regulated community in carrying out shared responsibilities and communicating results to all Americans

Greater Certainty, Compliance, and Effectiveness

Increase certainty, compliance, and effectiveness by applying the rule of law to achieve more efficient and effective agency operations, service delivery, and regulatory relief



EPA Strategic Plan 2018-2022

The continuing need for reporting status and trends

EPA's Strategic Plan identifies the ***measurable environmental and human health outcomes*** the public can expect from EPA and describes how we intend to achieve those results

Strategies to achieve EPA's goals and objectives are also informed by ***gathering evidence related to environmental problems and evaluating the effectiveness of the strategies*** that the programs use to address them

All parts of society--communities, individuals, businesses, and state, local and tribal governments--***have access to accurate information*** sufficient to effectively participate in managing human health and environmental risks



What you'll learn today

- What is the ROE? What is its origin? How has it evolved?
- How can I easily access and navigate this online resource?
- How can I use the ROE indicators and information in my work?

We will also have time at the end for questions and discussion.

www.epa.gov/roe





EPA's Report on the Environment Program

The ROE Program provides environmental policy decision makers and others with scientifically defensible, up-to-date, objective, and relevant indicators and indicator-based *products* that are of *national importance* for protecting human health and the environment.

Report Trends

- Status and trends of the environment and human health represented by 80+ indicators

Develop Indicators

- Develop indicators on important issues to EPA

Inform EPA Priorities

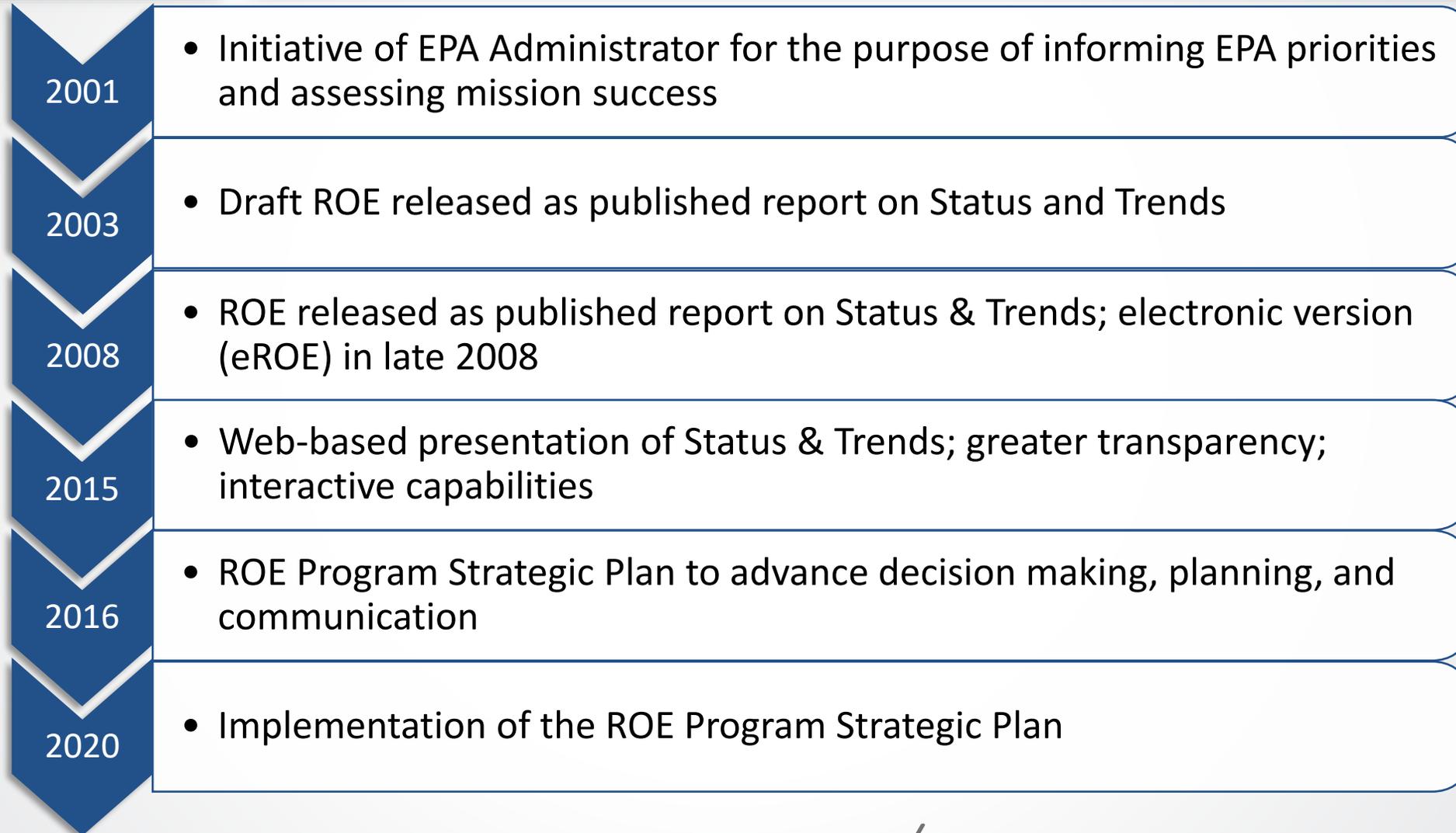
- Inform development of Agency activities and priorities

Communicate with Public

- Communicate the state of the nation's environment in an accessible way to the general public



ROE: A Brief History





ROE: An Evolving Program

MISSION

- To report objective, defensible, up-to-date **indicators** that reflect human health and environmental status and trends of national importance
 - **Provide a high-level view, focus on breadth not depth**
 - **Inform the public and well as EPA**
 - To analyze, diagnose, and communicate the reasons behind, and relationships between, trends in stressors and environmental and health outcomes
 - ❖ **Expanding the ROE scope beyond “just the facts”**
 - ❖ **Building an analytics component -In close collaboration with Programs, researching, analyzing and reporting into the reasons behind selected observed indicator trends, including causal connections**
 - ❖ **Exploring appropriate ways to package and disseminate the information, both publicly and internal to EPA**
-  Continually promote the use and improve the impact of the ROE as an effective decision support system—**increase relevance to internal EPA**



ROE Indicators

ROE indicators are **numerical values derived from actual measurements of** a pressure, state or ambient condition, exposure, or **human health or ecological condition**, over a **specified geographic domain**, whose **changes over time** represent or draw attention to underlying trends in the condition of the environment or human health

ROE indicators are

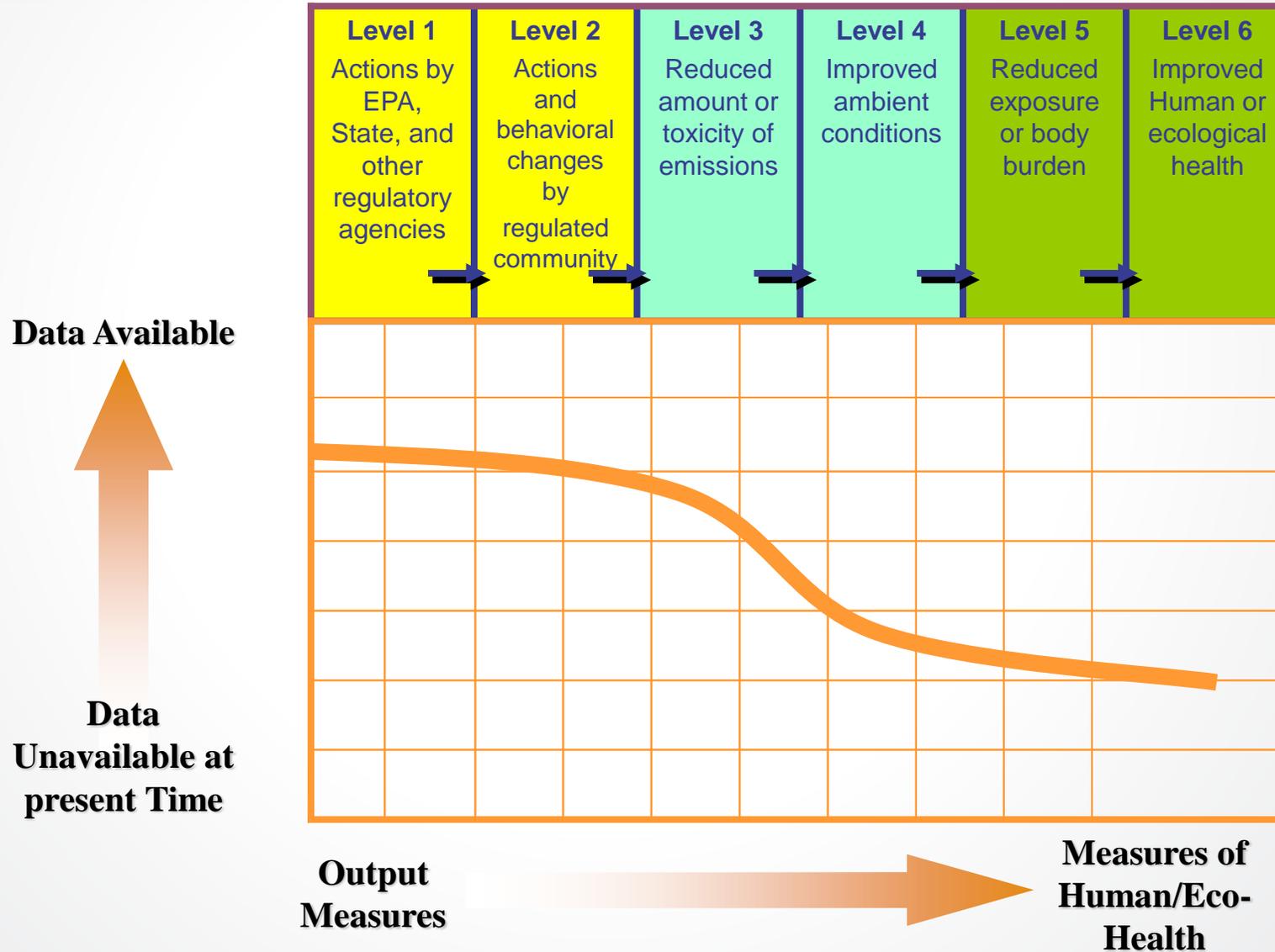
- **Useful, Objective, Transparent and Reproducible**
- **Vetted through internal and external scientific peer review**
- **Supported by vetted and validated data (provisional and forecast data are not presented)**

The underlying data are

- **Characterized by sound collection, management, and quality assurance (QA) procedures**
- **Timely and describe changes or trends**
- **Comparable across time and space**
- **Representative of the target population**

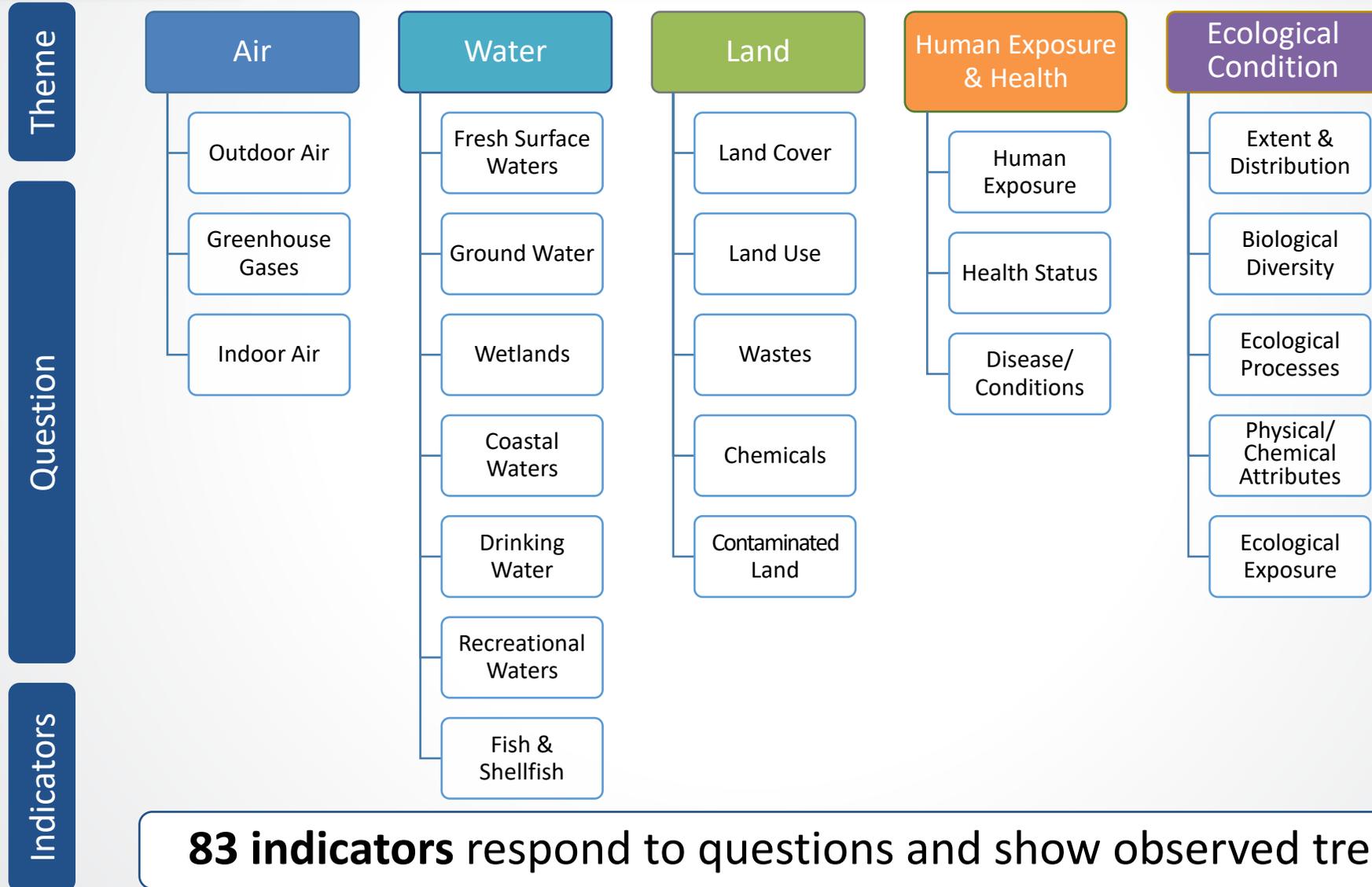


Hierarchy of Indicators



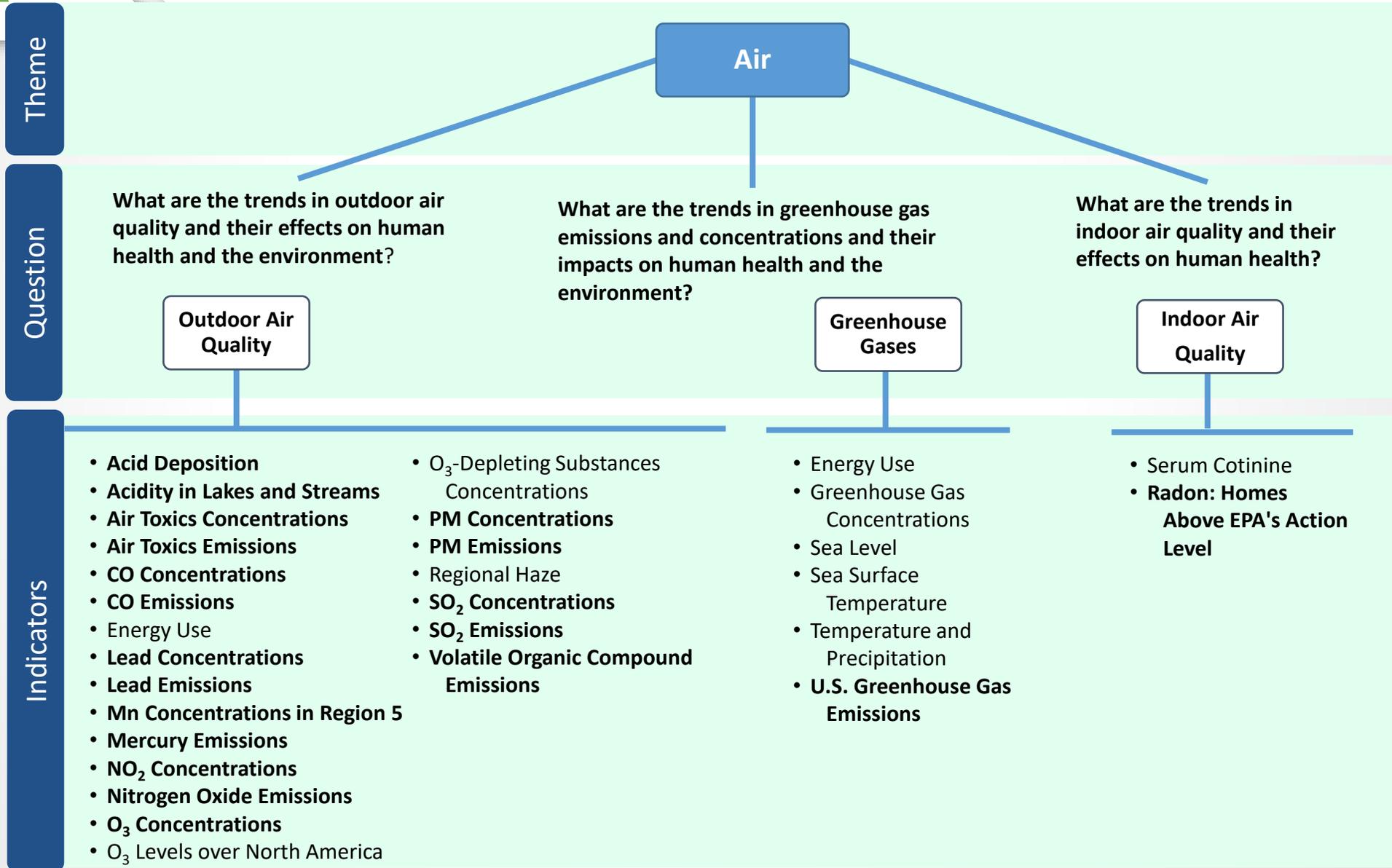


ROE Structure

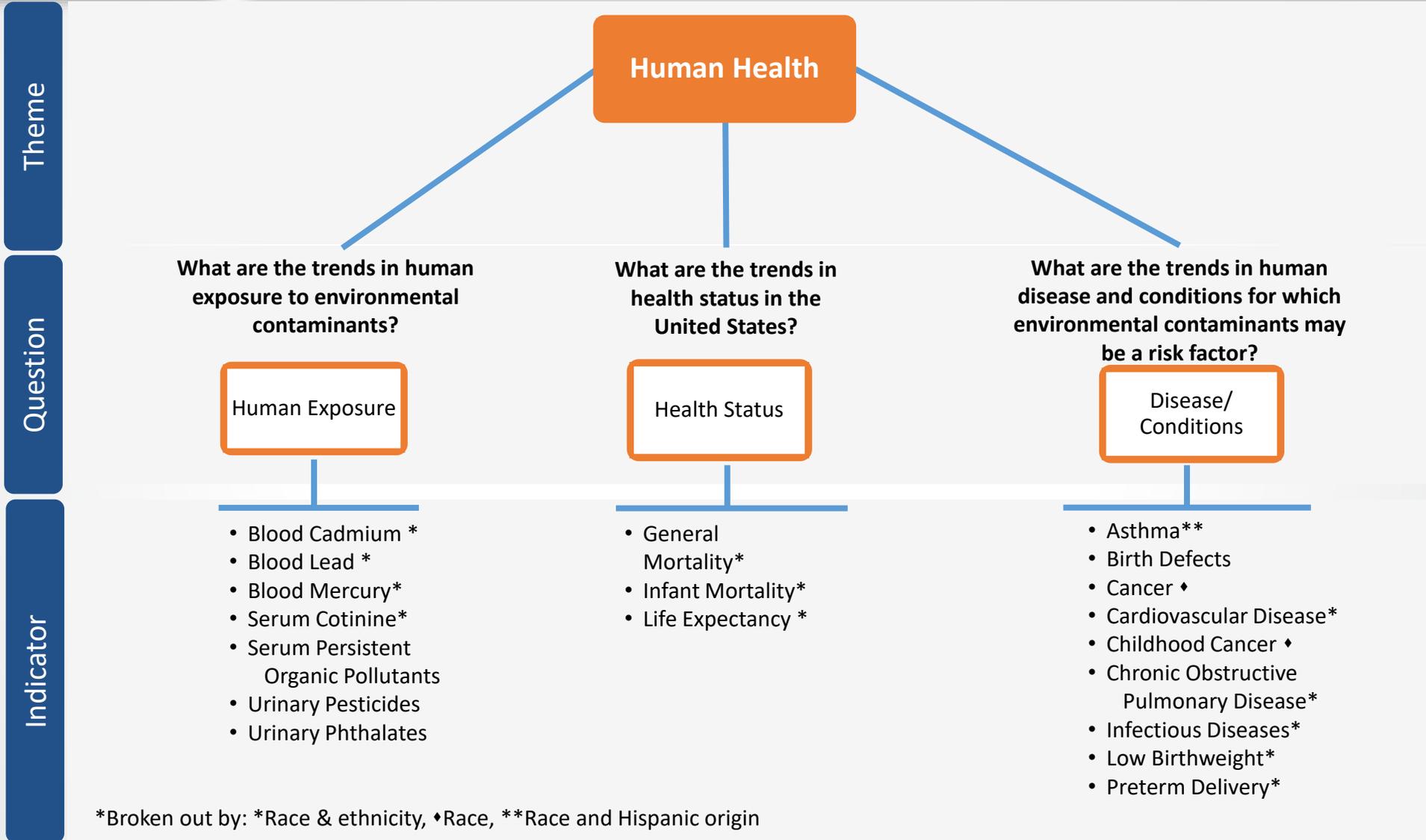




ROE Structure: Air



ROE Structure: Human Exposure & Health



ROE Indicators with sub-national breakdown

Breakdown by EPA Region

Air Toxics Emissions
Carbon Monoxide Concentrations,
Carbon Monoxide Emissions,
Nitrogen Dioxide Concentrations
Nitrogen Oxides Emissions
Ozone Concentrations
Particulate Matter Concentrations
Particulate Matter Emissions
Sulfur Dioxide Concentrations
Sulfur Dioxide Emissions
Volatile Organic Compounds Emissions
Cardiovascular Disease
Chronic Obstructive Pulmonary Disease
Agricultural Fertilizer
Drinking Water
Forest Extent and Type
Forest Fragmentation
Land Cover
Land Use
Urbanization and Population Change

5 area-specific indicators

Nitrogen and Phosphorus in Large Rivers
Hypoxia in Gulf of Mexico and Long Island Sound
Submerged Aquatic Vegetation in the Chesapeake Bay
Ambient Concentrations of Manganese Compounds in
EPA Region 5
Non-Indigenous Benthic Species in the Estuaries of the
Pacific Northwest

Other sub-national boundaries

Acid Deposition
Acidity in Lakes and Streams
Benthic Macroinvertebrates in Wadeable Streams
Coastal Benthic Communities
Coastal Fish Tissue
Coastal Sediment Quality
Trophic State of Coastal Waters
Forest Extent and Type
Regional Haze

Indicators with interactive mapping- explore/zoom to regional, state, county level

Acid Deposition
Acidity in Lakes and Streams
Carbon Storage in Forests
Radon: Homes Above EPA's Action Level
Hypoxia in Gulf of Mexico and Long Island Sound
Land Cover
Ecological Connectivity
Fish Faunal Intactness
Temperature and Precipitation
Sea Level

EPA's Report on the Environment (ROE)

CONTACT US SHARE   

What is an ROE Indicator?

EPA's Report on the Environment (ROE) indicators are simple measures that track the state of the environment and human health over time. [Learn about ROE indicators](#)



What's New?

- Find and [explore the ROE indicators](#)
- Check out the [most recently updated indicators](#)
- [Sign up](#) to receive ROE email updates

What is the Report on the Environment?

EPA's Report on the Environment (ROE) shows how the condition of the U.S. environment and human health is changing over time. The purpose of the [30+ ROE indicators](#) is to help answer [23 questions](#) critical to EPA's mission of protecting the environment and human health. Thus, it is a priority of the EPA to provide updates to the ROE indicators frequently to provide the public with the latest available data. The ROE represents the best available indicators of national trends in five theme areas:

Air



- [Air in the ROE](#)
 - [Outdoor Air Quality](#)
 - [Greenhouse Gases](#)
 - [Indoor Air Quality](#)

Water



- [Water in the ROE](#)
 - [Fresh Surface Waters](#)
 - [Ground Water](#)
 - [Wetlands](#)
 - [Coastal Waters](#)
 - [Drinking Water](#)
 - [Recreational Water](#)
 - [Consumable Fish and Shell](#)

Land



- [Land in the ROE](#)
 - [Land Cover](#)
 - [Land Use](#)
 - [Chemicals Used on Land](#)
 - [Wastes](#)
 - [Contaminated Lands](#)

Search the ROE

Search

[Search](#)

Human Exposure & Health



- [Human Exposure & Health in the ROE](#)
 - [Exposure to Environmental Contaminants](#)
 - [Health Status](#)
 - [Disease and Conditions](#)

Ecological Condition



- [Ecological Condition in the ROE](#)
 - [Extent and Distribution](#)
 - [Diversity and Biological Balance](#)
 - [Ecological Processes](#)
 - [Physical and Chemical Attributes](#)
 - [Ecological Exposure to Contaminants](#)

Learn About the ROE



- [About the ROE](#)
- [Frequent Questions](#)
- [History of the ROE](#)
- [Sustainability and the ROE](#)

User Resources

- [Glossary](#)
- [Guide to the ROE](#)
- [What You Can Do](#)

Multiple ways to access the indicators from the ROE Home Page:

- Click on the Theme picture and access from the main theme page
- Click on the Theme title bullet and access from the theme page
- Click on the Theme-specific topical questions and access from the question pages
- Click through the rotating banner (2nd frame)
- Click on the links in the "What's New?" box



Report on the Environment

ROE Home

About the ROE

Guide to the ROE

Air

Water

Land

Human Exposure and Health

Ecological Condition

Explore ROE Indicators

Advanced ROE Search

Frequent Questions

Sustainability and the ROE

History of the ROE

What You Can Do

Glossary

Explore ROE Indicators

The 80+ ROE indicators help answer [23 questions](#) in five theme areas critical to EPA's mission. Use the indicator table below to learn about and navigate to any ROE indicator. You can filter the list by theme or topic area using the checkboxes, search for an indicator by name, or sort and browse the indicators by clicking the arrows in the top row of the table.

Air

- Outdoor Air Quality
- Greenhouse Gases
- Indoor Air Quality

Water

- Fresh Surface Waters
- Ground Water
- Wetlands
- Coastal Waters
- Drinking Water
- Recreational Waters
- Consumable Fish and Shellfish

Land

- Land Cover
- Land Use
- Chemicals Used on Land
- Wastes
- Contaminated Land

Human Exposure and Health

- Exposure to Environmental Contaminants
- Health Status
- Disease and Conditions

Ecological Condition

- Extent and Distribution
- Diversity and Biological Balance
- Ecological Processes
- Physical and Chemical Attributes
- Ecological Exposure to Contaminants

Show entries

Search by indicator name:

Indicator	Years of data	Theme area(s) (in bold) and associated topics	Last update
Cardiovascular Disease	1979 - 2018	Human Exposure and Health: Disease and Conditions	02/2021
Drinking Water	1993 - 2019	Water: Drinking Water	02/2021
Forest Extent and Type	1907 - 2017	Ecological Condition: Extent and Distribution Land: Land Cover	02/2021
Stream Flows	1961 - 2019	Water: Fresh Surface Waters Ecological Condition: Physical and Chemical Attributes	02/2021



Sortable, filterable, searchable table of the 80+ ROE indicators found at <https://cfpub.epa.gov/roe/indicators.cfm>



ROE Website demonstration

www.epa.gov/roe

www.epa.gov/report-environment



How can I use ROE indicators and information in my work?

- A **one-stop shop** for busy people-- only resource in the US that provides national status & trends across multiple themes and media
- **Browse indicators** to learn about US environment and human health condition, both current status and historical trends—**a refresher before meetings** with the Administrator, RAA, DD and others
- Find **indicators that relate to your work and interests** and break out of the silo to **expand your interest horizon**
- National level indicators **provide examples** for what might be useful **for local level reporting**



How can I use ROE indicators and information in my work?

- National level indicators **provide examples** for what might be useful **for local level reporting**
- Can **inform data availability for different spatial scales**
- **Provide a baseline or reference levels** for local comparisons or if more local indicators not available
- **Download graphics** and use them **for reports and presentations**
- Not just indicators--**abundance of contextual information** as well as **links to EPA and external websites and reports**



ROE Fall 2020 Engagement and Next Steps

- Interviewed 34 EPA staff from OAR, OCSPP, OLEM, OW, OCHP, OEJ, NCEE
 - Question changes? Indicator changes? New indicators?
 - Suggestions for trends investigation and cross-media topics?
- Held Virtual Workshop over 7-week period
 - 3 plenary sessions with ~65 participants from 10 offices and 8 regions
 - 4 breakout groups (total of 50+ participants) met a total of 15 times over 4 weeks (New questions & indicators, Trends, Cross media, Communications)
- Moving forward
 - New Cross-Agency Steering Committee
 - Prioritize new issues in coordination with Programs, initiate new indicators
 - Focus near-term efforts around high priority issues
 - Develop selection criteria for trends investigations and cross media issues
 - Expand Communications Plan
 - Continue developing regional ROE (with Mid-Atlantic R2, R3 Project)
 - Strengthen ROE alignment with Evidence Act (Evidence-Based Policymaking Act of 2018) and program evaluation



Thank you!

Questions?

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