HERO

Health and Environmental Research Online

HERO

Health & Environmental Research Online

- Facilitates complete, sustainable and effective assessment development
- www.epa.gov/heronet

- Provides transparency to stakeholders and the public
- www.epa.gov/hero

HERO Public Page

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EPA United States Environmental Protection Agency

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Health & Environmental Research Online (HERO)

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Learn about the studies used in EPA's science assessments

Top Three Questions

1. What references are in HERO?
2. How can I get a copy of an article?
3. How does EPA decide what studies to use in risk assessments?

More Questions about HERO >>

Search HERO

We've come a long way from the card catalogue! HERO's search engine makes it easy to search through the hundreds of thousands of studies used in risk assessment.

Quick Finder

IRIS Chemical Assessments	Risk Assessment Portal	Data Finder	Computational Toxicology
Air Quality Assessments	Waste & Cleanup Assessment	Science Inventory	EcoTox Database

The HERO Database

The Health and Environmental Research Online (HERO) database provides an easy way to view the scientific literature behind EPA science assessments.

The database includes more than 300,000 scientific articles from the peer-reviewed literature used by EPA to develop its Integrated Science Assessments (ISA) that feed into the NAAQS review. It also includes references and data from the Integrated Risk Information System (IRIS), a database that supports critical agency policymaking for chemical regulation. Risk assessments characterize the nature and magnitude of health risks to humans and the ecosystem from pollutants and chemicals in the environment.

HERO is an **EVERGREEN** database. This means that new studies are continuously added so scientists can keep abreast of new research. References are then sorted, classified and made available through HERO.

Evaluating Scientific Literature

HERO Public Page

HERO is part of the open government directive to conduct business with transparency, participation, and collaboration. Every American has the right to know the data behind EPA's regulatory process. Through HERO, the public can participate in the decision-making process.

Integrated Science Assessments (ISAs) for Criteria Air Pollutants

Ozone | Carbon Monoxide | Particulate Matter | NOx-SOx Eco

View the studies used in the 2011 Ozone Integrated Science Assessment First External Review Draft

3/4/2011: EPA released the First External Review Draft of the Integrated Science Assessment (ISA) for Ozone (O3) and Related Photochemical Oxidants. This draft document is EPA's latest evaluation of the scientific literature on the potential human health and welfare effects associated with ambient exposures to O3. The development of this document is part of the Agency's periodic review of the national ambient air quality standards (NAAQS) for O3, and will provide the scientific basis to inform EPA decisions. Read the assessment.

Integrated Risk Information System (IRIS) Chemical Assessments

Chloroprene | 1,4 Dioxane | EGBE | Acrylamide | Methanol

View the studies used in the Toxicological Review of Chloroprene

Chloroprene (C4H5Cl) is a volatile, flammable liquid used primarily in the manufacture of polychloroprene or neoprene rubber. The latter is used to make diverse products, such as tires, wire coatings, and tubing. Human health risk concerns for chloroprene are primarily related to exposures via effluent and emissions from facilities that use chloroprene to produce polychloroprene elastomers or transport the product, although these exposure concerns have not been well characterized. Read the assessment.

HERO to find and evaluate key studies.

- **Literature Search:** Comprehensively and efficiently searching the world's literature.
- **Screening and Sorting** : Innovative and cutting-edge tools used to sort and classify studies.
- **Identifying Key Studies** : A systematic, transparent and collaborative process involving peer review and public participation.

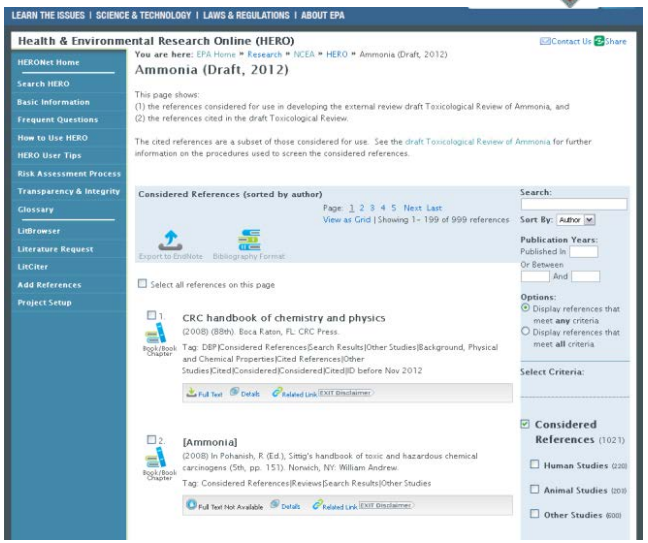
More about the assessment development process. >>

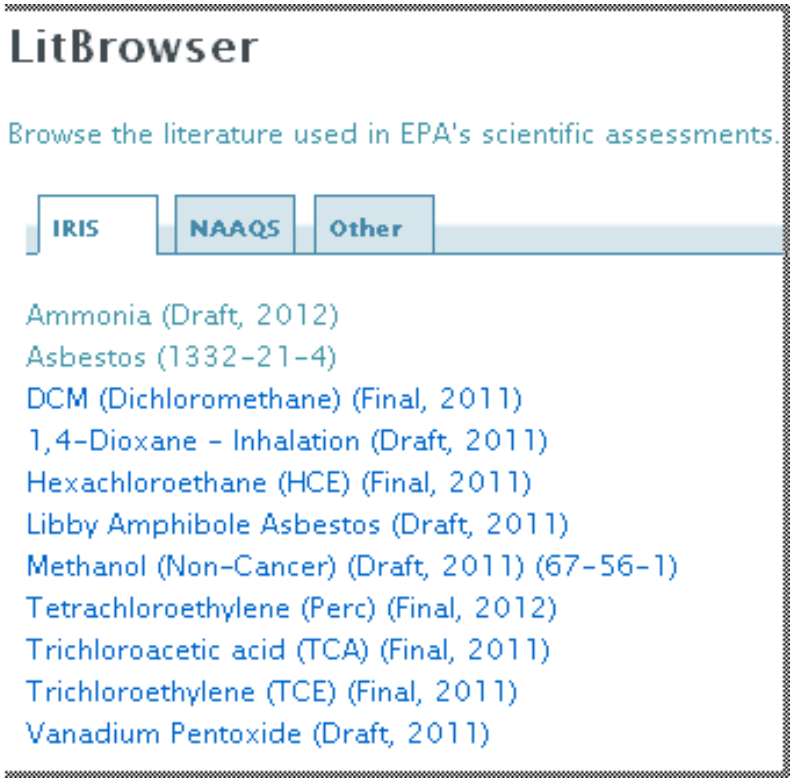
Transparency – Participation – Collaboration

Public participation, transparency and collaboration are key elements to the success of HERO. The Open Government Directive is to break down long-standing barriers between the federal government and you. HERO helps

LitBrowser (References associated with a Project)

- View and select from lists of assessments
- Displays references with hyperlinks to PDF's or source/publisher website





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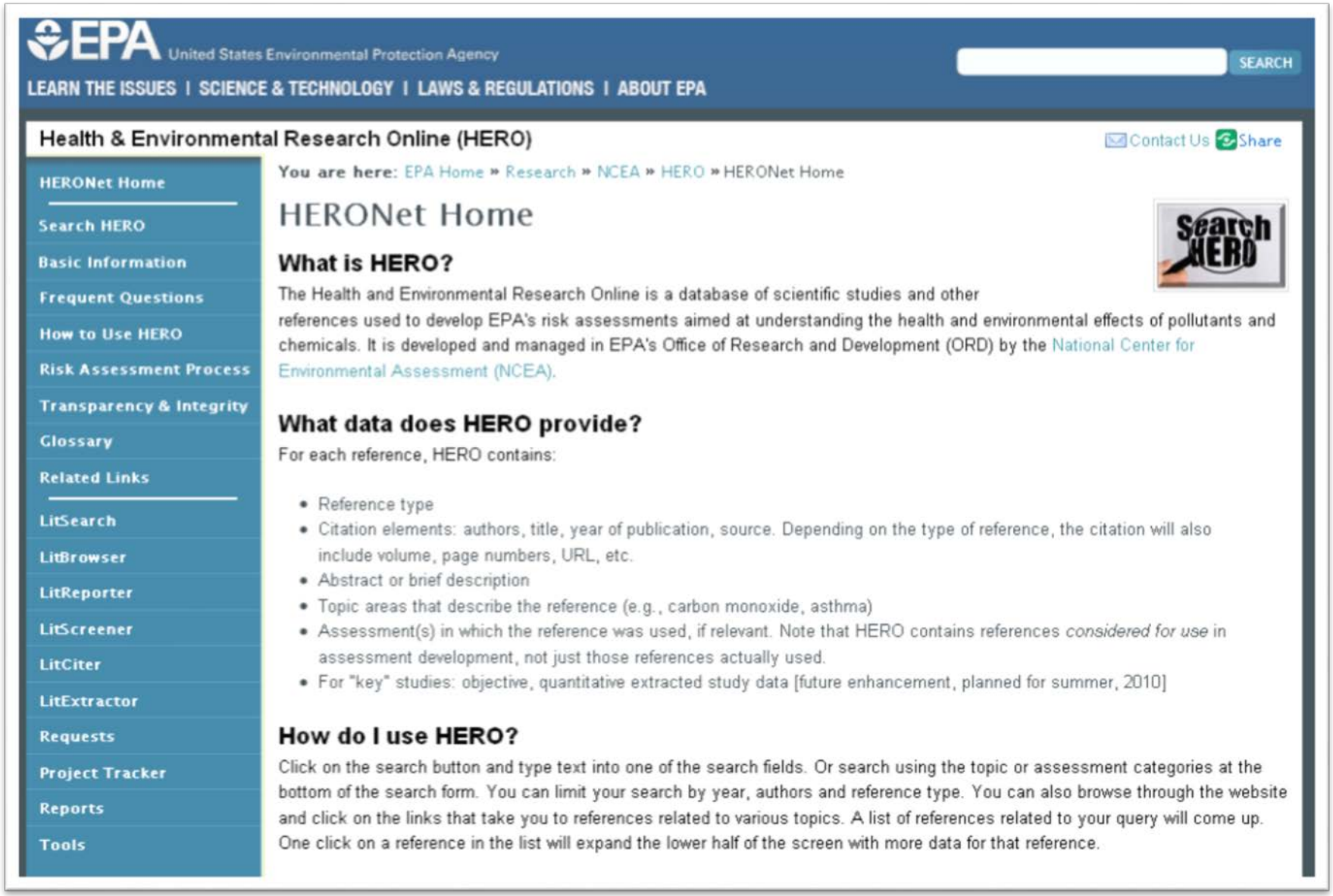
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What is HERO?
The Health and Environmental Research Online is a database of scientific studies and other references used to develop EPA's risk assessments aimed at understanding the health and environmental effects of pollutants and chemicals. It is developed and managed in EPA's Office of Research and Development (ORD) by the National Center for Environmental Assessment (NCEA).
What data does HERO provide?
For each reference, HERO contains:
Reference type
Citation elements: authors, title, year of publication, source. Depending on the type of reference, the citation will also include volume, page numbers, URL, etc.
Abstract or brief description
Topic areas that describe the reference (e.g., carbon monoxide, asthma)
Assessment(s) in which the reference was used, if relevant. Note that HERO contains references considered for use in assessment development, not just those references actually used.
For "key" studies: objective, quantitative extracted study data [future enhancement, planned for summer, 2010]
How do I use HERO?
Click on the search button and type text into one of the search fields. Or search using the topic or assessment categories at the bottom of the search form. You can limit your search by year, authors and reference type. You can also browse through the website and click on the links that take you to references related to various topics. A list of references related to your query will come up. One click on a reference in the list will expand the lower half of the screen with more data for that reference.

Details

HERO ID	156743
Author(s)	Mauad T; Rivero DH; de Oliveira RC; Lichtenfels AJ; Guimaraes ET; de Andre PA; Kasahara DI; Bueno HM; Saldiva PH
Year	2008
Title	Chronic exposure to ambient levels of urban particles affects mouse lung development
Reference Type	Journal Article
Journal	American Journal of Respiratory and Critical Care Medicine
Volume	178
Page(s)	721-728
Abstract	RATIONALE: Chronic exposure to air pollution has been associated with adverse effects on children's lung growth. OBJECTIVES: We analyzed the effects of chronic exposure to urban levels of particulate matter (PM) on selected phases of mouse lung development. METHODS: The exposure occurred in two open-top chambers (filtered and nonfiltered) placed 20 m from a street with heavy traffic in São Paulo, 24 hours/day for 8 months. There was a significant reduction of the levels of PM(2.5) inside the filtered chamber (filtered = 2.9 +/- 3.0 microg/m(3), nonfiltered = 16.8 +/- 8.3 microg/m(3); P = 0.001). At this exposure site, vehicular sources are the major components of PM(2.5) (PM
Cited In	PM 2009

HERO Support

- Assess to HERONet
- Members of the CAAC - email from SAB
- HERONet – limited to time of the review
- Technical support from Team HERO – send email HERO@epa.gov