

*Partnering with the EPA to Address
Superfund Issues*

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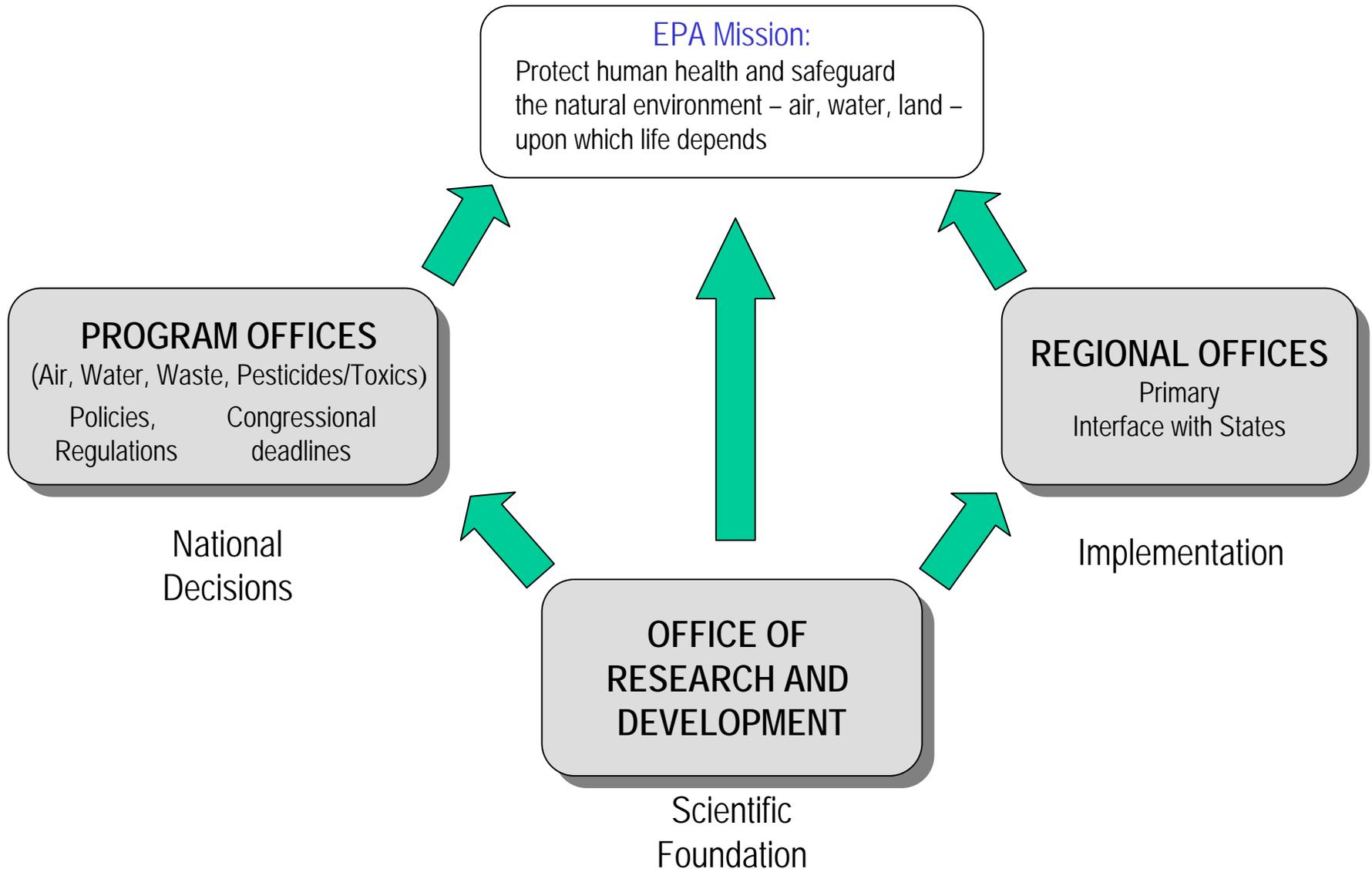
Office of Research and Development



- 1950 employees
- \$600 million budget
- \$70 million extramural research grant program
- 13 lab or research facilities across the U.S.
- Credible, relevant and timely research results and technical support that inform EPA policy decisions



Support for EPA's Mission

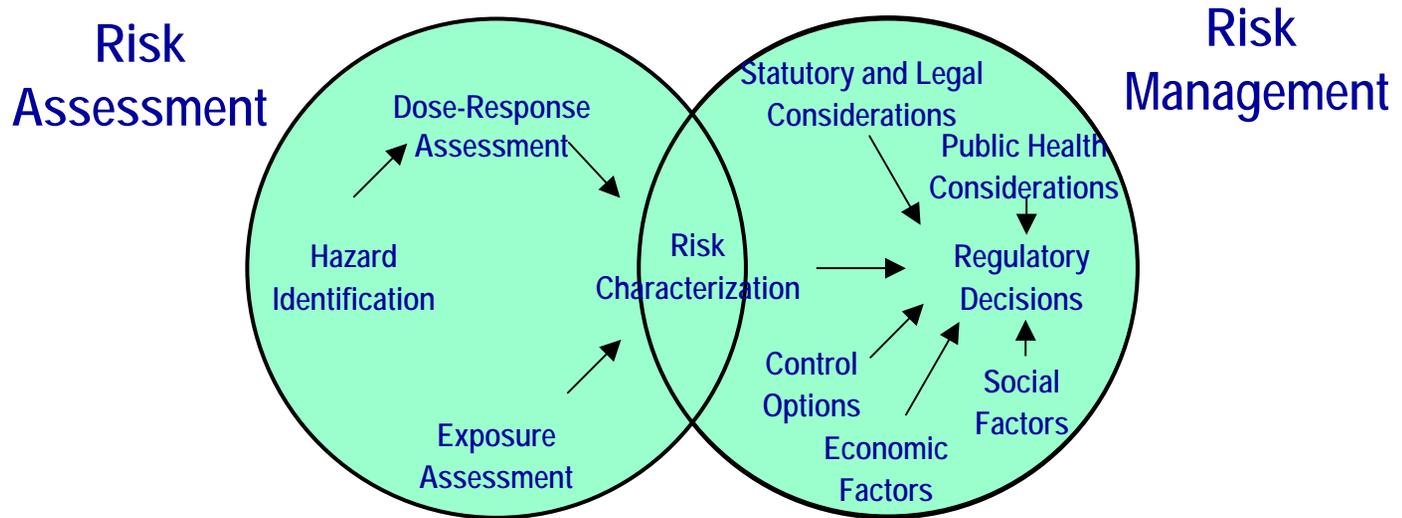


RESEARCH & DEVELOPMENT

Building a scientific foundation for sound environmental decisions



Alignment of Labs/Centers with Risk Paradigm



National Health and Environmental Effects Research Laboratory

Research to identify hazards & characterize "Dose-Response"

National Exposure Research Laboratory

Research to measure, characterize & assess exposures and to support compliance with environmental regulations and policies

National Center for Environmental Assessment

Risk characterization & research on risk assessment methods

National Risk Management Research Laboratory

Research & technology transfer to prevent, mitigate & control pollution

National Center for Environmental Research

Extramural program - grants, fellowships, & national centers of excellence - to complement ORD's intramural program

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Two Research Programs: With Real World Orientations!



• Applied

➤ problem driven

- National Laboratories
 - intramural
- Environmental Sciences
- Technical Support Centers and Regional Liaisons



• Basic

➤ longer term goals

- U.S. Universities
 - extramural: competitively awarded grants
- Human health focus, plus environmental sciences
- Research translation and outreach



Basic vs. Applied



Basic

Applied

Research Continuum



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On-Going Collaborations

- *Memorandum of Understanding - To improve collaborations and coordination between ORD and the SBRP*
 - *Meet annually*
 - *Identify research ready for transfer from lab to demonstration*
 - *Seek opportunities to co-sponsor research conferences*
 - *Share research plans (e.g. multi- year plan)*
 - *Exchange research findings*



Directions of Restore Land Research

Long Term Goal 1:

- Contaminated Sediments: Ecological effects, bioaccumulation, modeling, & mitigation
- Groundwater: Site characterization & models, remediation: ex-situ pump & treat; MNA & permeable reactive barriers
- Soil: Analytical methods, characterization, modeling, land management issues
- Regional technical support
- Oil: Protocol development; eco-effects of Orimulsion; fate/effects of non-petroleum oils, bioremediation; dispersion effectiveness



Directions of Preserve Land Research

Long Term Goal 2:

- Multimedia Decision Making: multimedia modeling system, resource conservation
- Waste Management: landfill containment and bioreactors, leaching and waste treatment, combustion
- Underground Storage Tanks: Fate/transport: modeling fuel components, training modules; alternative oxygenates (subsurface remediation & contaminant containment, above-ground remediation); monitored natural attenuation



Risk Assessment Related Research

- Problems:
 - Need for exposure and toxicity information for use in risk assessments
- Examples:
 - Integrated Risk Information System (IRIS) values
 - Human Health and Ecological Risk Assessment Tech Support Centers
 - Major Risk Assessments
 - Exposure Factors Handbook
 - Collaboration on specific issues: asbestos, bioavailability



Brownfields

ORD Science Activities

- Site-specific Management Approaches and Redevelopment Tools (SMARTresource), the integration of environmental, social and economic aspects of BF redevelopment into a decision framework that allows different intended property uses to be easily evaluated on the internet.
- On-Line Calculators and Model Evaluation Guide on evaluating model-based assessments that will improve decision making by state agencies
- Development of GIS and Remote Sensing Tools to Inventory Potential BF Sites
- Training and technical support to states and local governments



Partnerships

- By Topic: e.g. arsenic, ground water issues – ORD Lab/Center contacts
- Regional Presentation or Site Specific questions: ORD Liaisons can be an entry point to regional staff
- Providing technical support to sites: ORD tech support centers
- Workshops



Laboratory/Center Contacts for General Information:

National Center for Environmental Assessment (NCEA)	Andrew Gillespie	513-569-7989
National Center for Environmental Research (NCER) (Including Hazardous Substances Research Centers)	Mitch Lasat	202-343-9705
National Exposure Research Laboratory (NERL)	Dermont Bouchard	706-355-8333
National Health and Environmental Effects Research Laboratory (NHEERL)	Bob Dyer	919-541-2760
National Risk Management Research Laboratory (NRMRL)	Trish Erickson	513-569-7406
Office of Science Policy (OSP)/Hazardous Substance Technical Liaison Program	Mimi Dannel	202-564-9944



Regional Technical Support

- Problem: Regional site managers need technical advice and expertise
- Examples:
 - Engineering evaluation of innovative treatment technologies
 - Evaluation of ground water & surface water fate/transport models
 - Ecological risk assessment issue papers
 - Evaluation of monitoring plans & statistical validity



ORD Regional Liaisons

HSTL	Region	Phone
Steve Mangion	1	617-918-1452
Jon Josephs	2	212-637-4317
Norm Kulujian	3	215-814-3130
Felicia Barnett	4	404-562-8659
Chuck Maurice	5	312-886-6635
Terry Burton	6	214-665-7139
Bob Mournighan	7	913-551-7913
Brian Caruso	8	303-312-6573
Mike Gill	9	415-972-3054
John Barich	10	206-553-8562



Site Specific Technical Support:

- Environmental Photographic Interpretation Center (EPIC) - Contact: Donald Garofalo, 703-648-4285.
<http://lvord1.las.epa.gov.9876/epic/default.htm>
- Monitoring and Site Characterization Technical Support Center - Contact: J. Gareth Pearson, 702-798-2101.
<http://www.epa.gov/nerlesd1/tsc/tsc.htm>
- Engineering Technical Support Center (ETSC) - Contact: Dave Reisman, 513-569-7588.
- Ground Water Technical Support Center (GWTSC) - Contact: David Burden, 580-436-8606. <http://www.epa.gov/ada/tsc.html>
- Superfund Health Risk Technical Support Center - Contact: Jon Reid 513/569-7375
- Ecological Risk Assessment Technical Support Center - Contact: Michael Kravitz, 513-569-7140.

