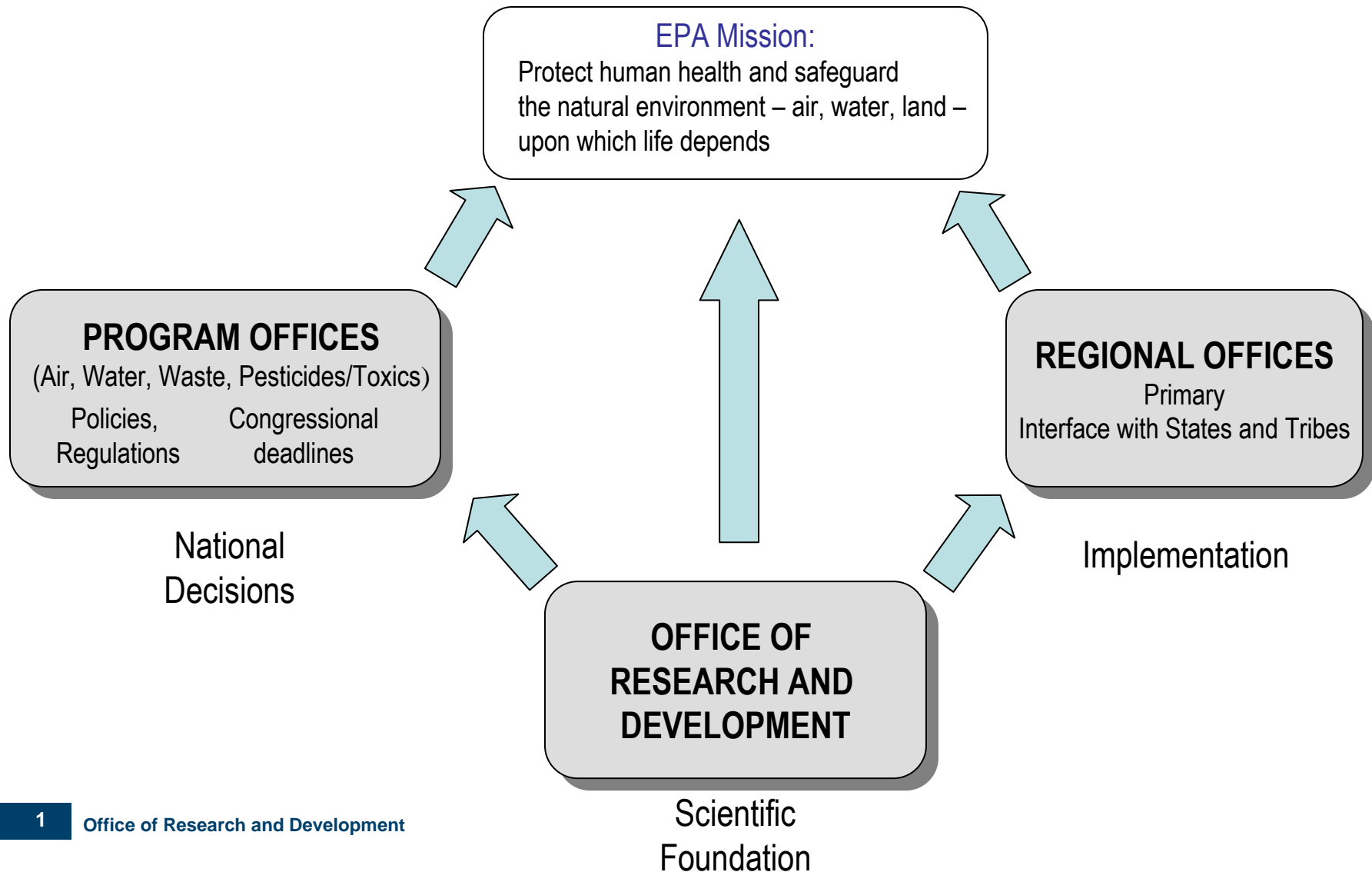


# Overview of EPA's Extramural Research Grants Program

*Christopher Zarba, Deputy Director  
National Center for Environmental Research  
Office of Research and Development, U.S. EPA*



# Support for EPA's Mission

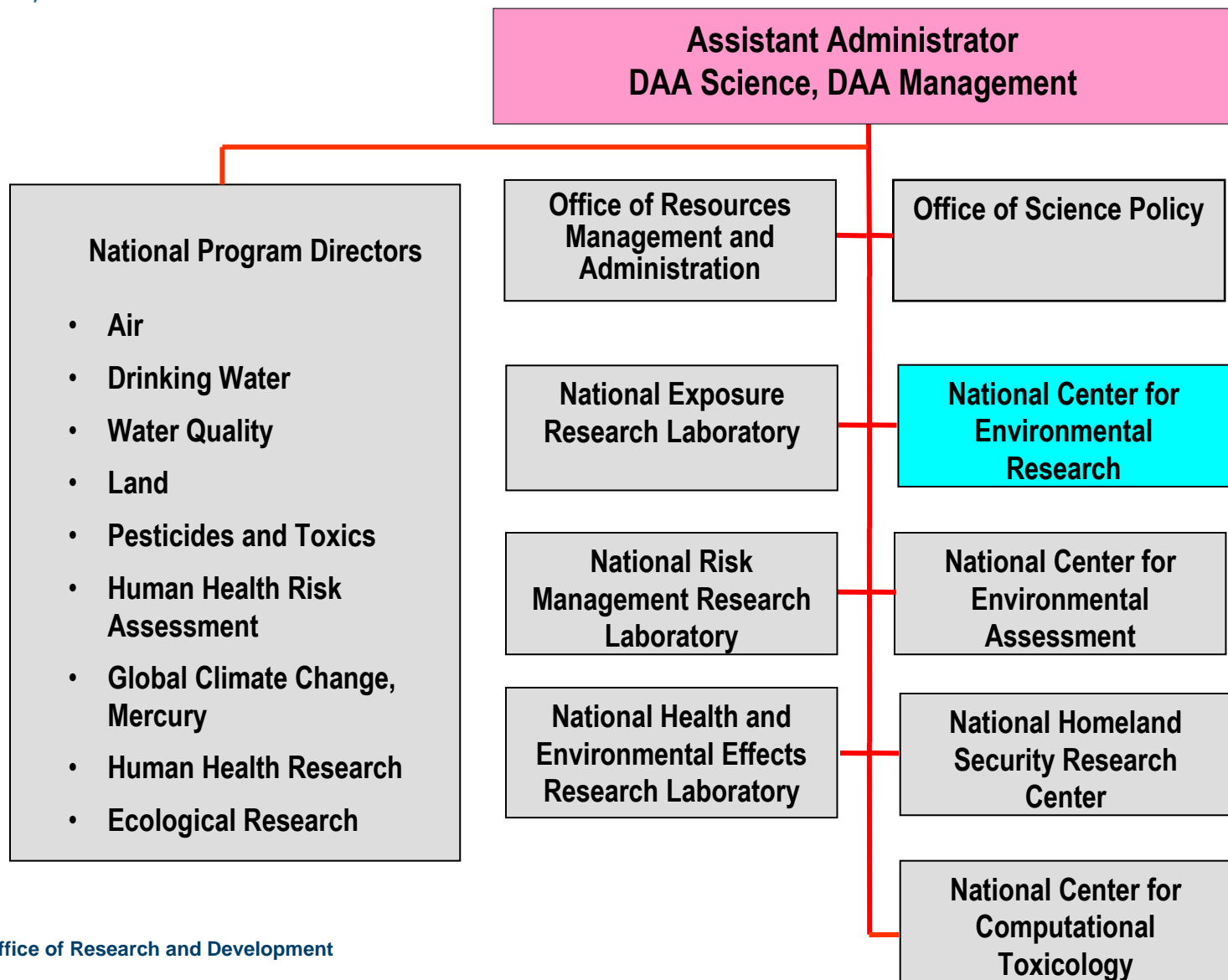


# Research and Development

- 1,800 employees
- \$500 million budget
- \$65 million extramural research grant and fellowship program
- 13 lab or research facilities across the U.S.
- Credible, relevant and timely research results and technical support that inform EPA policy decisions



# How ORD is Organized



# NCER's Extramural Programs

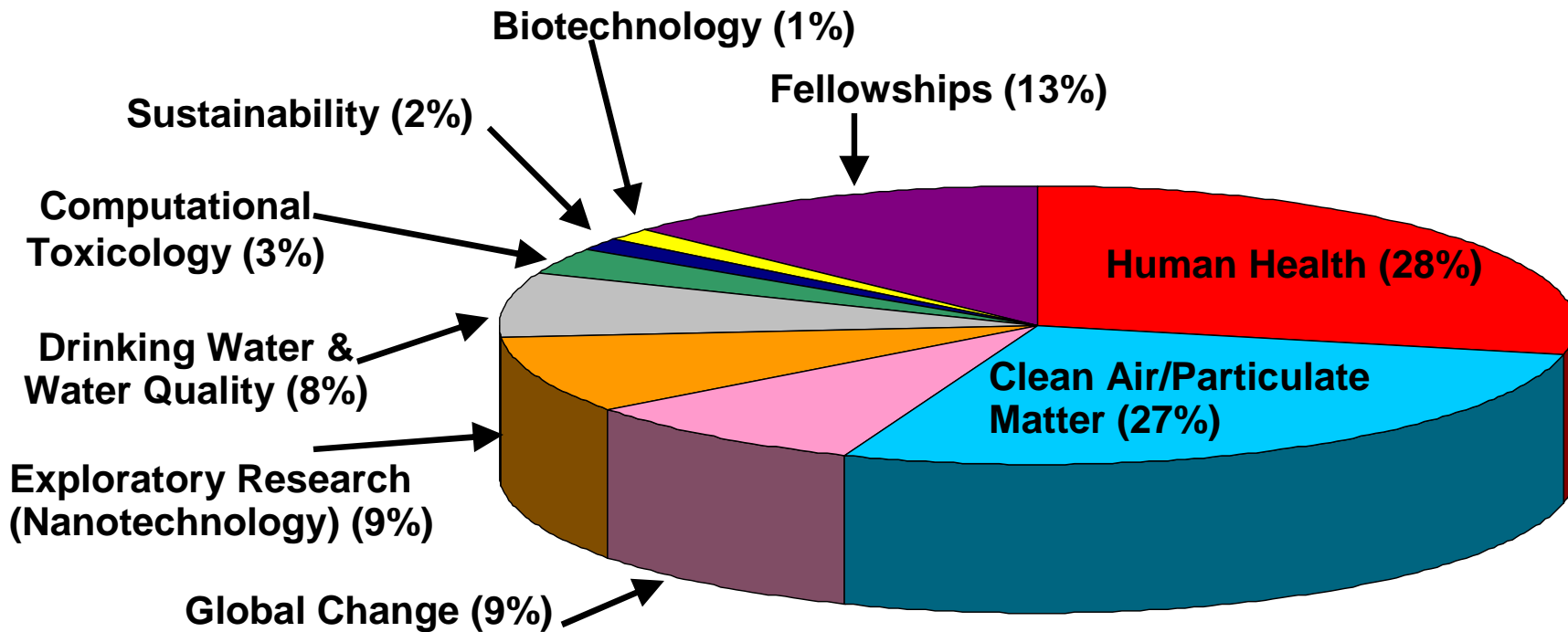


- STAR Grants
  - Established in 1995 to include universities and non-profit centers in EPA's research program and to ensure the best possible quality of science in areas of highest risk and greatest importance to the agency
  - FY08 budget: \$65 million
  - Manages ~1000 active research grants and fellowships
  - People, Prosperity and the Planet (P3)
- Small Business Innovation Research Program
- Earmarked Centers



# STAR's Research Programs

ORD in cooperation with other EPA offices (using the ORD Strategic Plan, national environmental research needs, relevance to Agency mission, and research being done in ORD's intramural program) selects topics for the STAR program.

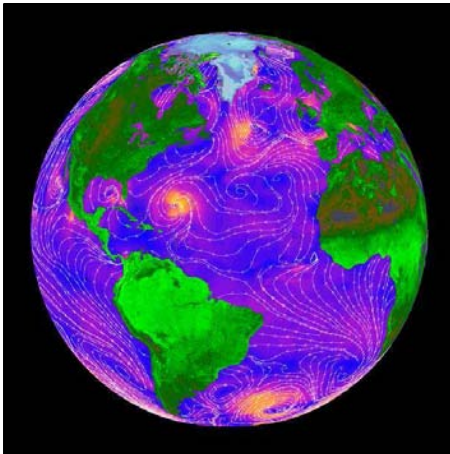


**NCER Budget FY08 ~\$65 million**

- Ecological Services
- Endocrine Disrupting Chemicals

## Please Note:

- NCER's air and global change programs are separate, with separate budgets
- A good portion of the global change research investigates impacts of global change on air quality
- **The air program will be the focus of our discussions**



# Research Planning and RFA Development Process

- ORD research programs are guided by NPDs, working with representatives from the intramural labs and NCER
- A multi-year research plan identifies priority research needs
  - Developed by the NPD working with EPA client offices, labs, and regional staff with input from external scientific advisory committees
  - Considers research supported by other agencies and funders
- RFA topics selected to address Multi-Year Plan priorities and complement EPA's intramural research program
- Air RFA writing teams represent different offices in OAR (policy), EPA intramural scientists, and EPA Regions





# RFA Review Process

1. Applications are peer-reviewed by a panel of external scientific experts
2. Applications that pass peer review are reviewed internally by a panel of EPA scientists, including client offices
3. Application(s) are selected for funding based on combined ratings from internal and peer review panels and past performance of applicants

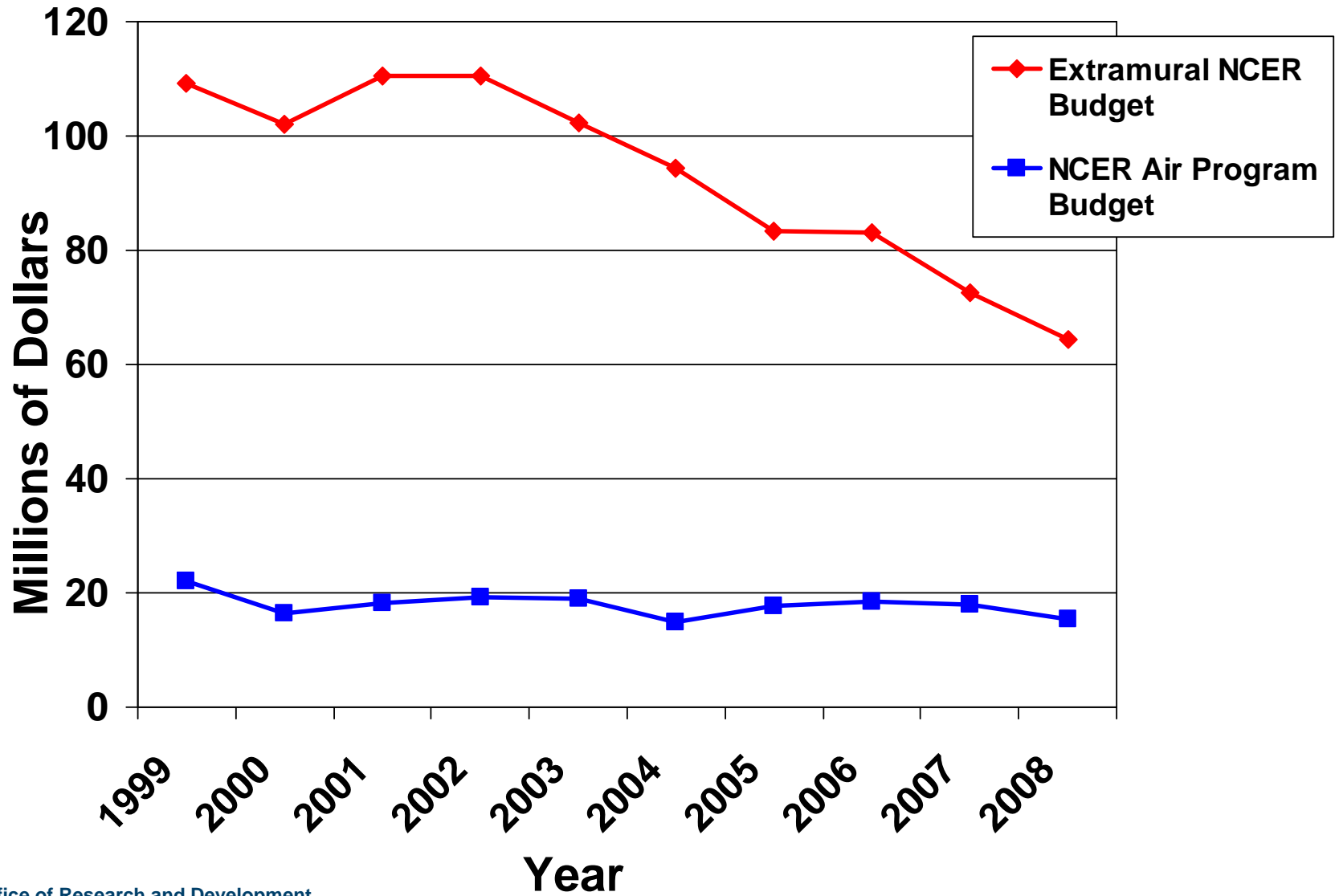


## NCER's Air Research Program

- \$15-18 million per year
- 2002 SAB review panel advised NCER to keep balance between Centers and individual grants
- May want to consider funding fewer Centers than the current five:
  - Shrinking NCER budget
  - Inflation and rising costs of research: \$8 million in 2008 only buys the equivalent of \$6 million dollars in 1999, which is a 25% cut



# NCER Extramural Grants Budget: Total Grants and Air Grants



## Recent Air Research Topics

<b>Years</b>	<b><i>PM Center Research Topics</i></b>	<b><i>STAR Grant Research Topics</i></b>
1999-2005	<ul style="list-style-type: none"> <li>•Exposure</li> <li>•Dosimetry</li> <li>•Modeling</li> <li>•Toxicology</li> <li>•Epidemiology</li> </ul>	<ul style="list-style-type: none"> <li>•Health effects of PM</li> <li>•Mechanisms of PM cardiovascular effects</li> <li>•Epidemiologic research on health effects of long-term exposure to PM &amp; other air pollutants</li> <li>•Measurement, modeling, and analysis methods for airborne carbonaceous fine PM</li> <li>•Source apportionment of PM</li> </ul>
2005-present	<ul style="list-style-type: none"> <li>•Link health effects of PM with PM components and sources</li> </ul>	<ul style="list-style-type: none"> <li>•Continuous measurement methods for PM composition</li> <li>•Sources, composition and health effects of coarse PM</li> <li>•Sources and formation of organic PM</li> <li>•Health effects of near-roadway exposures to air pollution (cooperative agreement)</li> <li>•Innovative approaches to PM health, composition and source questions</li> </ul>

# PM Center Selection Process

- Five Centers selected in 1999
- Three original Centers were renewed and two new Centers were awarded under second RFA in 2005

<u>Original Centers</u>	<u>Current Centers</u>
Harvard University	Harvard University
Rochester University	Rochester University
Southern California Particle Center (UCLA, USC)	Southern California Particle Center (UCLA, USC)
New York University	Johns Hopkins University
Northwest Research Center (University of Washington)	San Joaquin Valley Aerosol Health Effects Research Center (UC-Davis)

Truly competitive process

- International and highly renowned scientists on peer review panel

# PM Centers Have Been Highly Successful

- Proud of PM Centers program – an important part of NCER’s Air Program
- 500+ publications from original Centers
- Citation rates of publications higher than expected
  - 3.7 times more publications than expected rank in the top 10% of publications
  - 5.5 times more publications than expected rank in the top 1% of publications
- Over 100 publications from current Centers
- High caliber of science, for example
  - In the recent NAS report, *Toxicity Testing in the 21st Century: A Vision and a Strategy*, SCPC research was prominently cited in the Vision chapter, describing a

“revolution taking place in biology”

with progress being made in the elucidation of cellular-response networks  
(Nel et al., *Science*, 2006)

## Closing Thoughts

- NCER integral part of ORD Air Program
- In the face of decreasing resources across ORD, we want the strongest program possible
- We look forward to the SAB panel's discussion to guide us as we move forward
- We thank you in advance for your assistance



Great Smoky Mountains, Hazy Day



Great Smoky Mountains, Clear Day