

**NAS Committee on Federal Research
Regulations and Reporting
Requirements:
A New Framework for Research
Universities in the 21st Century**

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EPA Research at a Glance

- \$538 million budget for EPA Office of Research and Development
 - 1,755 full time staff
 - 13 lab or research facilities
 - \$52 million extramural research grant program (STAR)
 - \$9 million STAR fellowship program

(FY 2014 Interim
Operating Plan)





Aligning Research with EPA Strategic Goals

Cross-Agency Strategies

- Sustainable Future
- Visible Difference in Communities
- New Era of Partnerships
- High-Performing Organization

EPA Goals 2014-2018

Addressing Climate Change and Improving Air Quality

Protecting America's Waters

Cleaning Up Communities and Advancing Sustainable Development

Ensuring the Safety of Chemicals and Preventing Pollution

Enforcing Laws, Ensuring Compliance

Research Programs

Air, Climate & Energy

Safe and Sustainable Water Resources

Sustainable and Healthy Communities

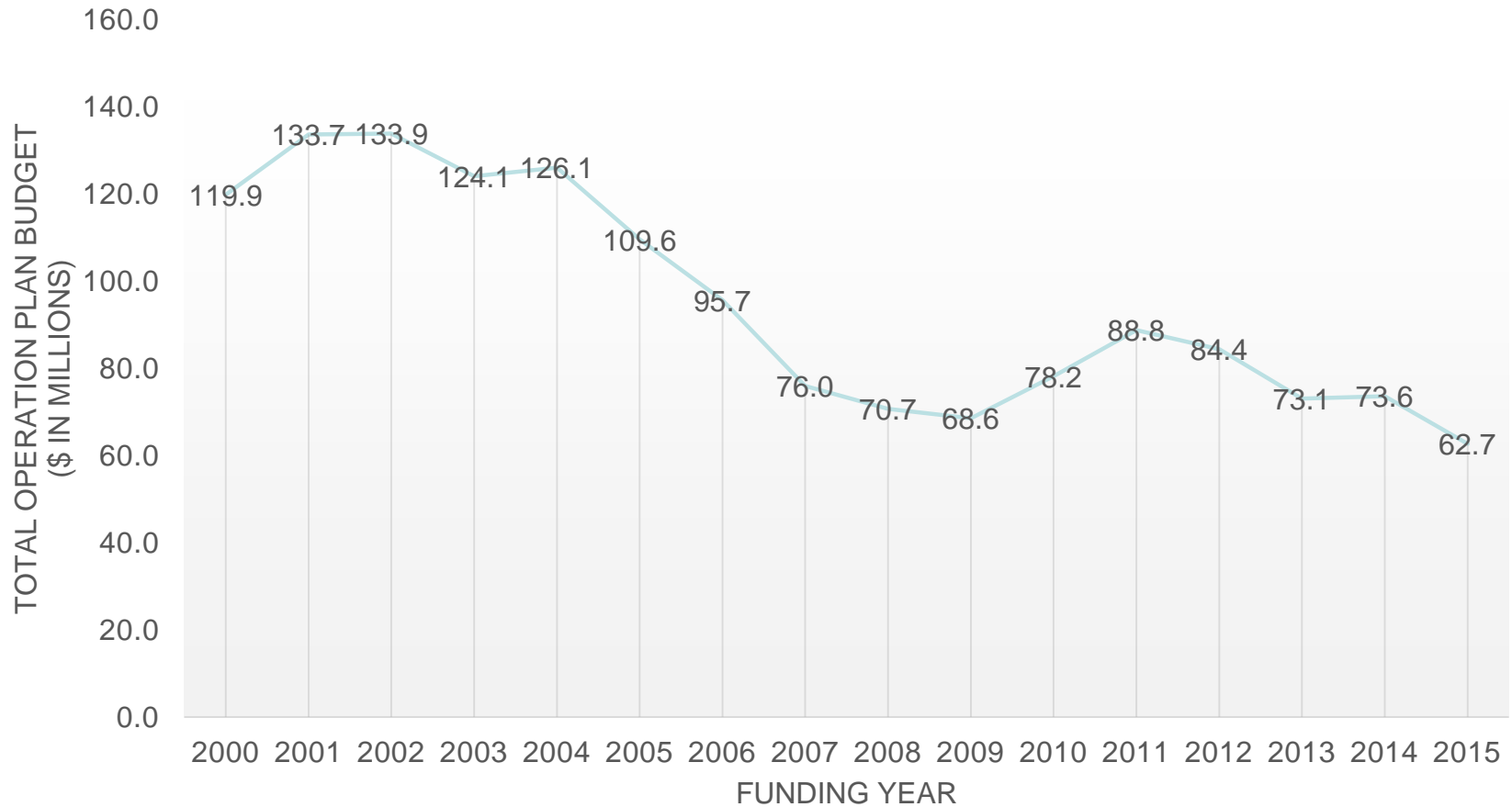
Chemical Safety for Sustainability

Human Health Risk Assessment

Homeland Security



NCER Budget





EPA Research Grants to Universities

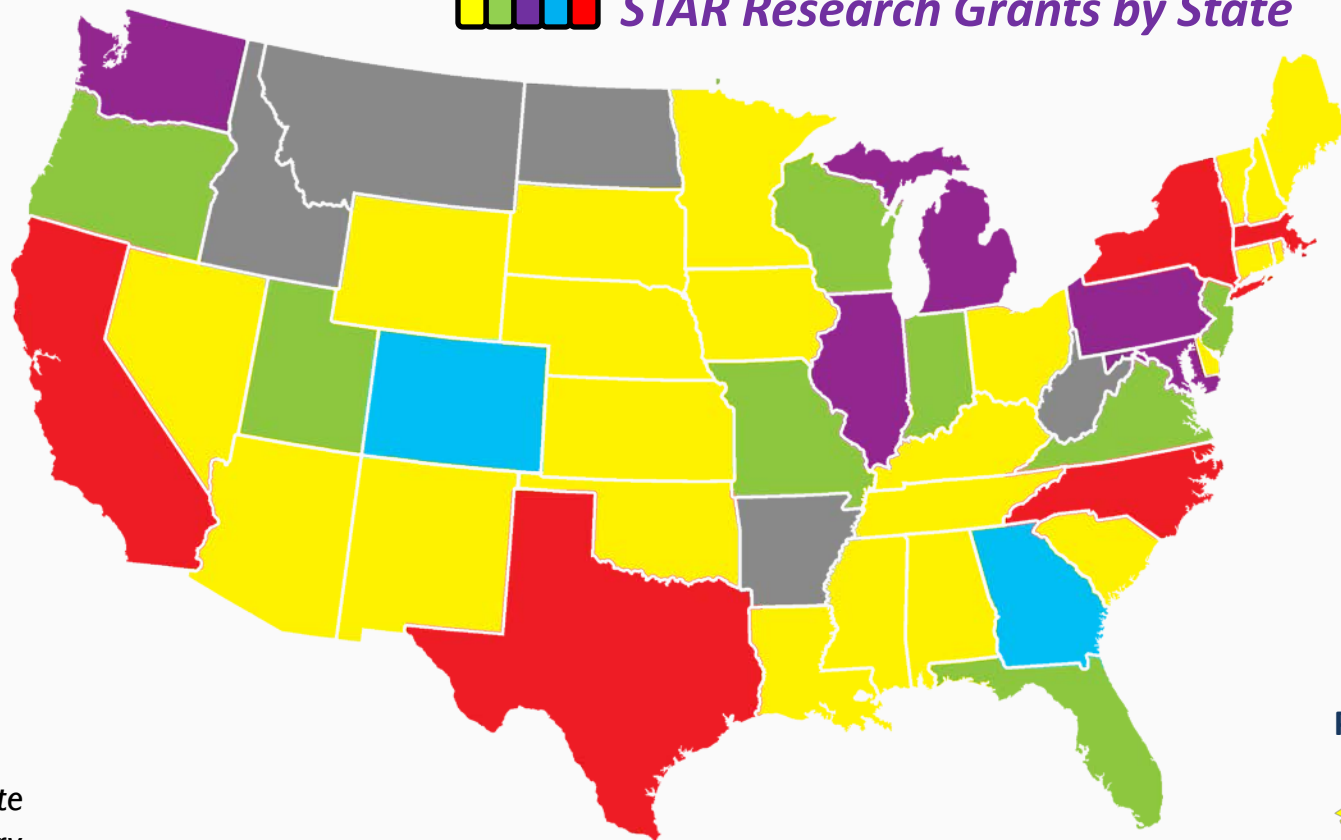


Alaska



Hawaii

STAR Research Grants by State



Puerto Rico



- 1-5**
- 6-10**
- 11-15**
- 16-20**
- 20+**

266 current grants in total (counts by state include primary and secondary Institutions)

\$52 million extramural research grants + \$9 million fellowships (FY 2014 Enacted Budget)



Research Improving Public Health

Notable STAR Human Health Publications Based on Citations from 2012 Bibliometric Assessment
(top 1% of citation distributions, data from 1/07/14)

Citation	Times Cited	Rank in journal*
Leopheac BP, Hanung R, Kibonyi J, Yalton K, Baghurst P, Bellinger DC, Car T, Rothenberg SJ, Needleman HL, Schnapp L, Wasserman G, Graziano J. R. exposure and children's intellectual function: an international pooled analysis. <i>Environmental Health Perspectives</i> 2005;113(7):894-899.		
Grandjean P, Landrigan PJ. Developmental neurotoxicity of industrial chemicals. <i>Lancet</i> 2006;368(9593):91-99.		
Dettinger K, Acopy PA, Hammock BD. Mass spectrometry-based metabolomics. <i>Environmental Health Perspectives</i> 2007; 26(1):51-78. (Grant # 829388)		
McConnell R, Berhane K, Gilliland F, London SJ, Islam T, Gauderman WJ, et al. Asthma in exercising children exposed to ozone: A cohort study. <i>Lancet</i> 2006;368(9593):91-99.		
Kunzli N, Jerrett M, Mack WJ, Becker M, Labrecque L, Gilliland F, Thomas A. Atherosclerosis in Los Angeles. <i>Environmental Health Perspectives</i> 2003; 111(2):201-205.		
Perera FP, Rauh V, Tsai W-Y, Kinney P, Camann D, Barr D, Besser T, Garfield R. Effects of transplacental exposure to environmental pollutants on birth outcomes. <i>Environmental Health Perspectives</i> 2003; 111(2):201-205.		
McConnell R, Berhane K, Yao L, Jerrett M, Lurmann F, Gilliland F, Kunzli N. Traffic, susceptibility, and childhood asthma. <i>Environmental Health Perspectives</i> 2003; 111(2):201-205.		
Braun JM, Kahn RS, Froehlich T, Aulinger P, Leopheac BP. Exposures to environmental pollutants and hyperactivity disorder in U.S. children. <i>Environmental Health Perspectives</i> 2003; 111(2):201-205.		
Whyatt RM, Rauh V, Barr DB, Camann DE, Andrews HF, Garfinkel R, Hoepfner C, Kinney PL, Perera FP. Prenatal insecticide exposures and birth weight and length. <i>Environmental Health Perspectives</i> 2004; 112(10):1125-1132.		
Olson E, Wright RO, Kleinman KP, Bellinger D, Amarasekera C, Hu H, et al. Fish consumption, hair mercury, and infant cognition in a U.S. cohort. <i>Environmental Health Perspectives</i> 2005; 113(10):1376-1380.		
Hochman JB, Sjodin A, Kuzon M, Lederman SA, Jones RS, Rauh V, Needleman P, Wang RY, Perera F. Prenatal exposure to PBDEs and neurodevelopment. <i>Environmental Health Perspectives</i> 2010; 118(5):712-719. (Grant # 832141)		
Costa LG. Current issues in organophosphate toxicology. <i>Clinica Chimica Acta</i> 2005; 331:709.		
Costa LG, Vitalone A, Cole TB, Furlong CE. Modulation of organophosphate toxicity by nutrition. <i>Environmental Health Perspectives</i> 2005; 69(4):541-550.		
Eskenza B, Marks AR, Bradman A, Harley K, Barr DB, Johnson C, Morgan N. Prenatal exposure to organophosphates and neurodevelopment in young Mexican-American children. <i>Environmental Health Perspectives</i> 2007; 115(5):792-798.		
Hertz-Piccinotto I, Delwiche L. The rise in autism and the role of age at diagnosis. <i>Journal of Autism and Developmental Disorders</i> 2009; 39(1):1-11.		
Galvez MP, Graber NM, Sheffield PE, Forman JA, Balk SJ. Hot topics in environmental health: guidance amid anxiety. <i>Contemporary Pediatrics</i> 2009; 26(7):34-47.		
Perzanowski MS, Miller RL, Tang D, Ali D, Garfinkel RS, Chew GL, Goldstein IF, Perera FP, Barr RG. Prenatal acetaminophen exposure and risk of wheeze at age 5 years in an urban low-income cohort. <i>Thorax</i> 2010; 65(2):118-123.	38	39
Hertz-Piccinotto I, Green PG, Delwiche L, Hansen R, Walker C, Pessah IN. Blood mercury concentrations in CHARGE Study children with and without autism. <i>Environmental Health Perspectives</i> 2010; 118(1):161-166.	28	112

- More than 1,000 peer-reviewed publications
- More than 70% of the top 25 NCER-funded human health publications are from EPA/NIEHS Children's Centers
- These publications were in the top 1% (based on the number of citations)
- Average number of citations from these publications is 225 and several have been cited by other publications between 300-530 times

Research Findings that Improve Public Health Knowledge

- Use of air cleaners can result in a significant reduction in indoor PM concentration and a significant increase in symptom-free days

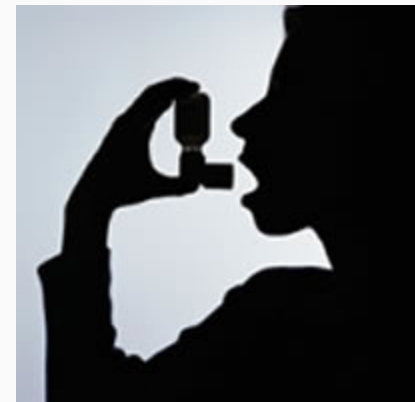
Butz et al, Arch Pediatr Adolesc Med, 2011

- Children exposed to phthalates commonly found in personal care and plastic products (DEP and BBzP) have elevated risk of asthma-related airway inflammation

Just et al., Am. j. Resp. and Crit. Care Med, 2012

- Association between exposure to BPA, allergic inflammation and asthma in children

Donohue et al, J Allergy Clin Immunol, 2013





NCER RFA

Example of Statutory Requirements

- A. Introduction
- B. Background
- C. Authority and Regulations
The authority for this RFA and resulting awards is contained in the Toxic Substances Control Act, Section 10, 15 U.S.C. 2609, and the Federal Insecticide, Fungicide, and Rodenticide Act, Section 20, 7 U.S.C. 136r
- D. Specific Areas of Interest/Expected Outputs and Outcomes
- E. References
- F. Special Requirements



Reporting Requirements

- Consistent with other Federal funding
- Data and Publication Access
 - Public Access to Research Data
 - 2 CFR 200.3.15 establish Fed Govt right to obtain data produced under a Federal Award
- Scientific Integrity Policy
- Dual Use Research of Concern for national security
- Financial Reporting
- Performance Reports (Interim and Final)



Future Directions for EPA and Grantees

- Making research data publically available
 - Data formatting (usability)
 - Ensuring Personally Identifiable Information is removed
 - Ensuring Data can be accessed (in perpetuity?)
- Support for research data management and access