

# **NAS Committee on Federal Research Regulations and Reporting Requirements:**

## **A New Framework for Research Universities in the 21<sup>st</sup> Century**

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# EPA Research at a Glance

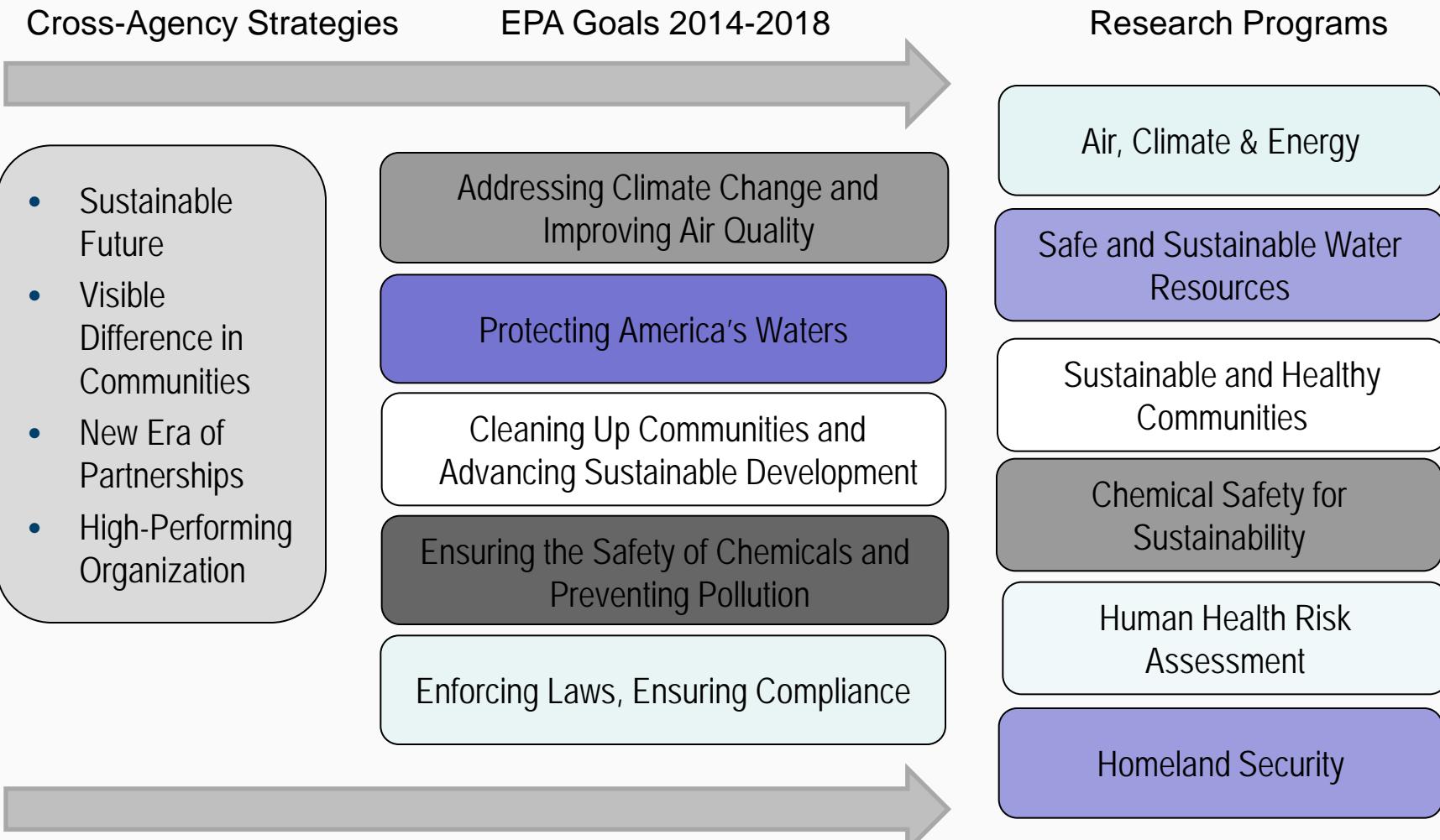
- \$538 million budget for EPA Office of Research and Development
  - 1,755 full time staff
  - 13 lab or research facilities
  - \$52 million extramural research grant program (STAR)
  - \$9 million STAR fellowship program

(FY 2014 Interim  
Operating Plan)



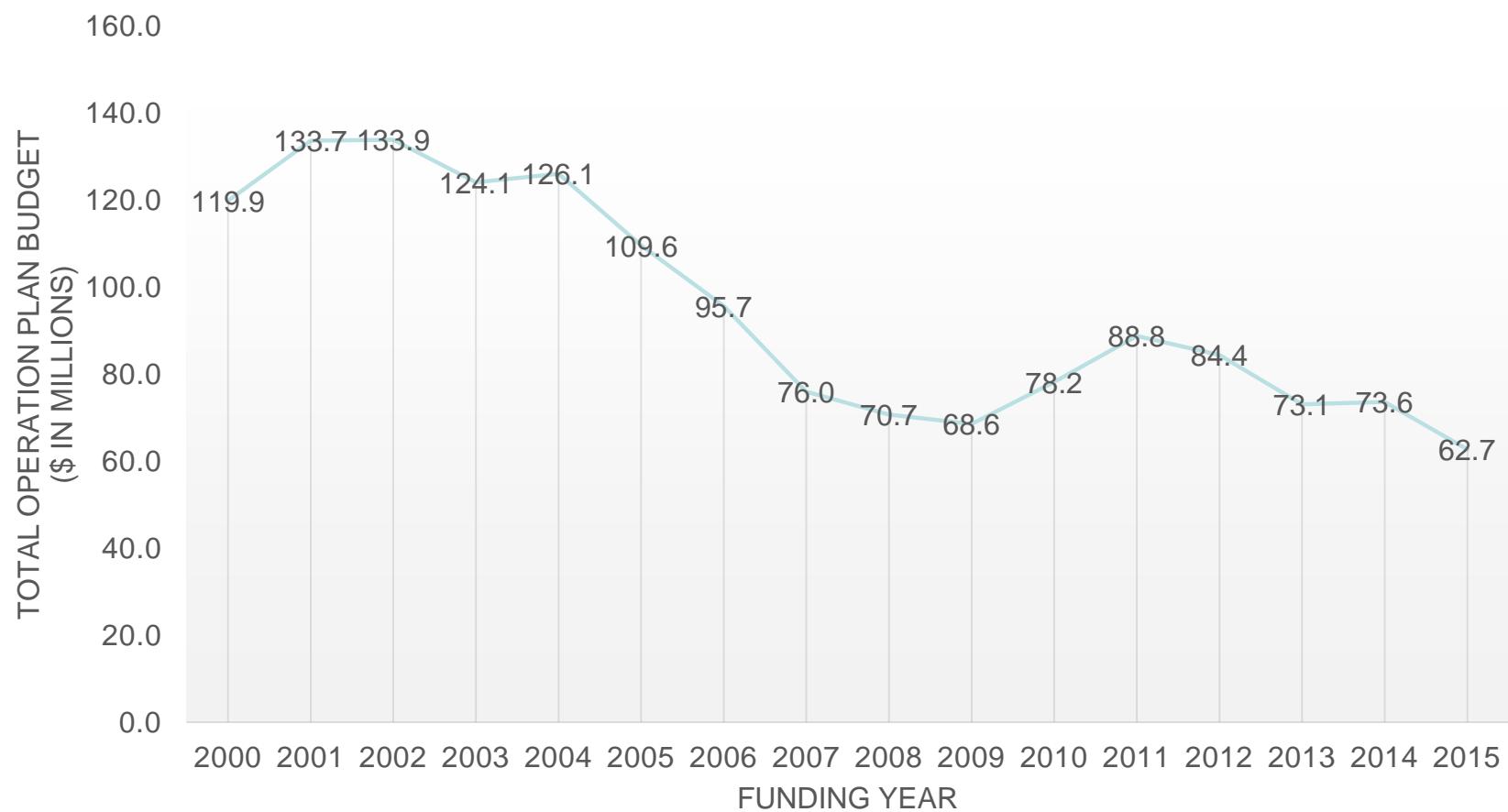


# Aligning Research with EPA Strategic Goals





# NCER Budget





# EPA Research Grants to Universities



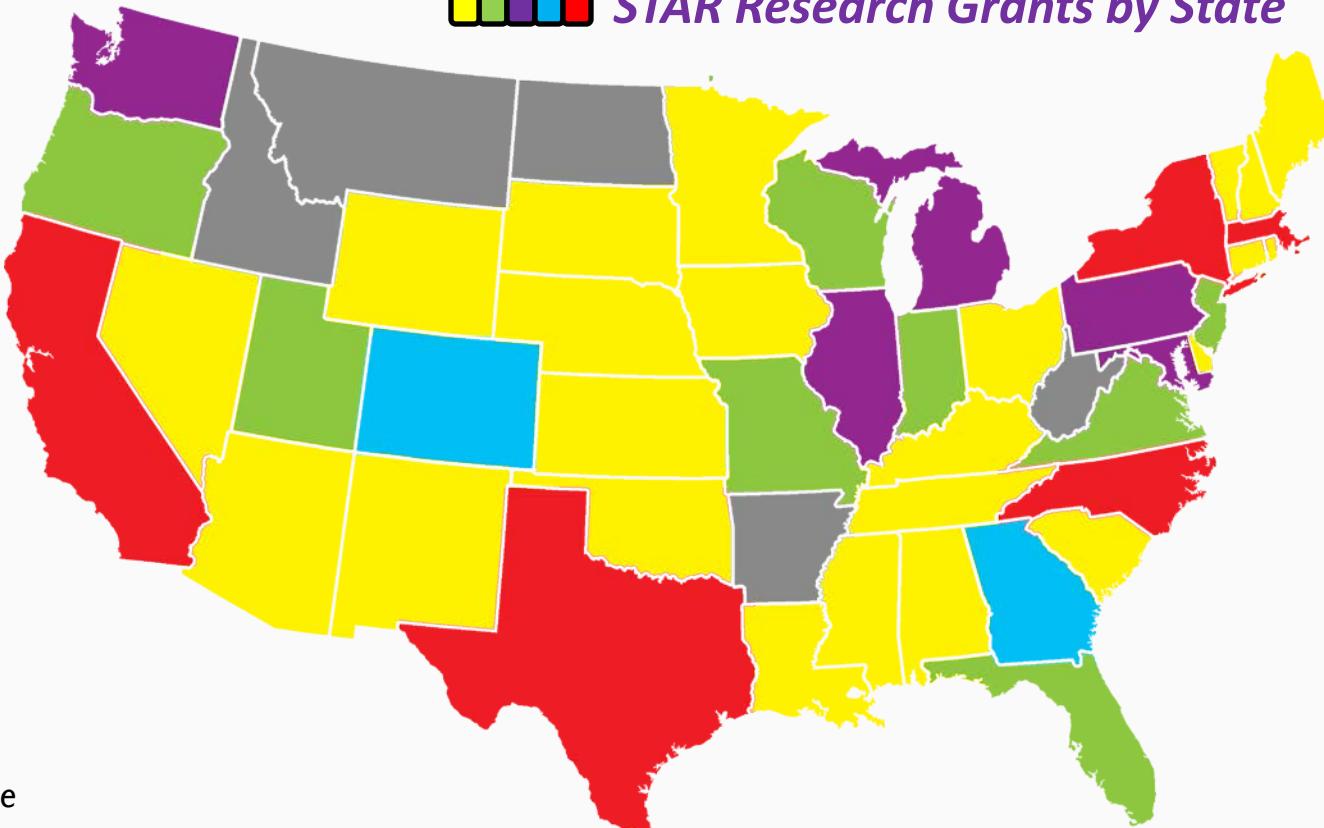
Alaska



Hawaii



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)

Puerto Rico



# Research Improving Public Health

Notable STAR Human Health Publications Based on Citations from 2012 Bibliometric Assessment (in top 1% of citation distributions, data from 1/07/14)		
Citation	Times Cited	Rank in journal*
Lanphear BP, Horango R, Khoury J, Yolton K, Bellinger D, Can T, Rothenberg SJ, Needleman HL, Schragg L, Wasserman G, Graziano J. Lead exposure and children's intellectual function: an international pooled analysis. <i>Environ Health Perspect</i> 2005;113(7):894-899.		
Grandjean P, Landrigan PJ. Developmental neurotoxicity of industrial chemicals. <i>Environ Health Perspect</i> 2006;114(10):1517-1525. (Grant # 829388)		
Detels K, Aronov PA, Hammock BD. Mass spectrometry-based metabolic profiling: a review. <i>Anal Chem</i> 2007;79(1):51-78. (Grant # 829388)		
McConnell R, Beilharz K, Gilliland F, London SJ, Islam T, Gaudenzio WJ, Aitken J, et al. Asthma in exercising children exposed to ozone: A cohort study. <i>Lancet</i> 2004;363(9414):1011-1017.		
Kunzli N, Jerrett M, Mack WJ, Beckerman B, LeBret L, Gilliland F, Thomas R, et al. Traffic and atherosclerosis in Los Angeles. <i>Environmental Health Perspectives</i> 2005;113(10):1125-1132.		
Perera FP, Rauh V, Tsai W-Y, Kinney P, Camann D, Barr D, Barr T, Gaffin S, et al. Effects of transplacental exposure to environmental pollutants on birth weight. <i>Environmental Health Perspectives</i> 2003;111(2):201-205.		
McConnell R, Beilharz K, Yao L, Jerrett M, Lurmann F, Gilliland F, Kunzli N, et al. Traffic, susceptibility, and childhood asthma. <i>Environmental Health Perspectives</i> 2004;112(10):1125-1132.		
Braun JM, Kahn RS, Froehlich T, Avioli P, Lanphear BP. Exposures to environmental lead and hyperactivity disorder in U.S. children. <i>Environmental Health Perspectives</i> 2005;113(10):1376-1380.		
Whitsett RM, Rauh V, Barr DB, Camann DE, Andrews HF, Garfinkel R, Hoepfner M, Kinney PL, Perera FP. Prenatal insecticide exposures and birth weight and length. <i>Environmental Health Perspectives</i> 2004;112(10):1125-1132.		
Oken E, Wright RO, Kleinman KP, Bellinger D, Amarasiriwardena CJ, Hu H, et al. Prenatal mercury exposure and infant cognition in a U.S. cohort. <i>Environmental Health Perspectives</i> 2005;113(10):1376-1380.		
Devlin JB, Sudha A, Curson M, Lederman SA, Jones RS, Rauh V, Needham LL, 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>Crit Rev Toxicol</i> 2008;38(1-2):1-20.		
Costa LG, Vitaliano A, Cole TB, Furlong CE. Modulation of organophosphate toxicity by co-exposures. <i>Environ Health Perspect</i> 2005;113(4):541-550.		
Eskanazi B, Marks AR, Bradman A, Harley K, Barr DB, Johnson C, Mora N, et al. Organophosphate ester exposure and neurodevelopment in young Mexican-American children. <i>Environmental Health Perspectives</i> 2007;115(5):792-798.		
Hertz-Pannier L, Deloche I. The rise in autism and the role of age at diagnosis. <i>Environ Health Perspect</i> 2009;117(10):1599-1606.		
Galvez MP, Gruber NM, Sheffield PE, Forman JA, Balk SJ. Hot topics in environmental health: safety-delivering guidance amid anxiety. <i>Contemporary Pediatrics</i> 2009;26(7):34-47.		
Borawski M, Miller RL, Tang D, Ali D, Garfinkel RS, Chew GL, Goldstein LF, Perera FP, Barr RG. Prenatal exposure to polychlorinated biphenyls 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-Pannier L, Green PG, Deloche I, 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



# 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

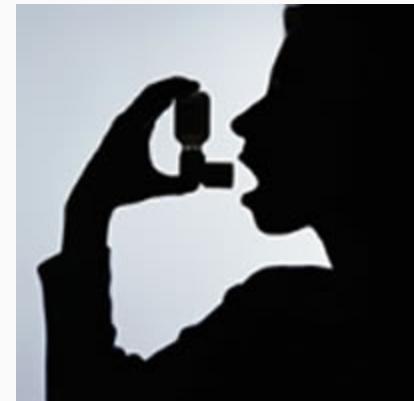
Butz et al, Arch Pediatr Adolesc Med, 2011

- 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