



# RESEARCH OPPORTUNITIES LANDSCAPE – CLIMATE & HEALTH

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Rutgers Research Incubator in Climate and Health

Fall Symposium

October 19, 2022

LEWIS-BURKE  
ASSOCIATES LLC

# TODAY'S PRESENTATION

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1. Federal Landscape
2. Agency Snapshots
3. Q&A

# ABOUT LEWIS-BURKE

## Government Relations for Research, Healthcare, and Education

- Founded in 1992; located in Washington, DC
- 37 policy experts with range of expertise/backgrounds allow multi-layered issue teams with deep expertise in agencies and scientific/higher education areas
- Support federal relations activities to develop and implement federal strategies to pursue, shape, and create new sources of funding to increase and diversify research portfolio
- Able to engage on multiple levels:
  - Individual faculty (including early career faculty)
  - Teams of faculty
  - Deans and Center Directors
  - University leadership and campus-wide priorities/activities



# FEDERAL LANDSCAPE

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# KEY TAKEAWAYS

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- 1) Climate; Equity; Environmental Justice; Environmental Health—all priorities for the Biden Administration**
- 2) Opportunities abound as agencies move forward with initiatives, but in some cases dedicated funding has yet to materialize**

# BIDEN ADMINISTRATION R&D PRIORITIES

## Biden Administration Science and Technology Priorities

The FY 2024 OMB/OSTP memo to federal agencies highlights importance of federally supported R&D to address societal grand challenges including climate change, health, prosperity, security, environmental quality, equity, and justice for all Americans. The Biden Administration's focus on racial equity innovation and the translation of basic research into businesses and products is also emphasized in the memo.

## FY 2024 Multi-Agency R&D Priorities

- Preparing for and Preventing Pandemics
- **NEW** Reducing the Death Rate from Cancer by Half:
  - **NEW** Close the Screening Gap
  - **NEW** Understand and Address Environmental and Toxic Exposures
  - **NEW** Decrease the Impact of Preventable Cancers
  - **NEW** Bring Cutting Edge Research Through the Pipeline to Patients and Communities
  - **NEW** Support Patients and Caregivers
- **Tackling Climate Change:**
  - Climate Science
  - Innovation in Clean Energy and Climate Technology and Infrastructure
  - Climate Change Adaptation and Resilience
  - Nature-Based Climate Solutions
  - Greenhouse Gas Monitoring
- **Advancing National Security and Technological Competitiveness:**
  - Critical and Emerging Technologies
  - Commercialization and Scale-Up
  - **NEW** International Cooperation
  - **NEW** Catastrophic Risk Mitigation
- **Innovating for Equity**
- **NEW** Cultivating An Equitable STEM Education, Engagement, And Workforce Ecosystem
- **NEW** Promoting Open Science and Community-Engaged R&D

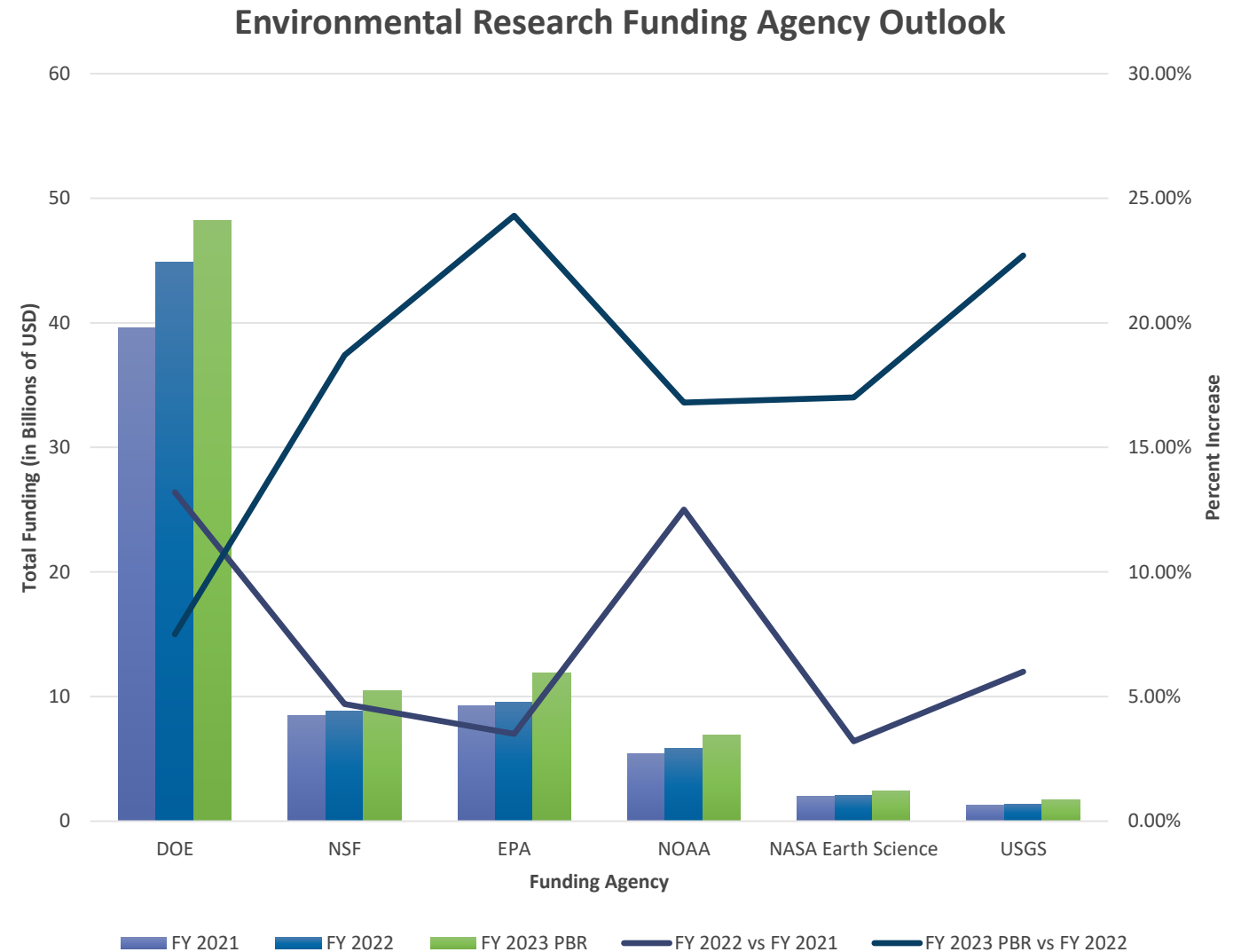
# FEDERAL FUNDING: ENVIRONMENT OUTLOOK

**Environmental agencies increased significantly under FY 2022 and projected for larger growth under FY 2023, if appropriations bills can be completed**

*While nearly all research agencies received increases, for FY 2022, those with significant roles in combatting climate change or climate science received a relatively larger boost*

Relative increases for environment and climate focused programs are projected

**Federal agencies currently operating under a Continuing Resolution until December 16**



# INFLATION REDUCTION ACT – PASSED IN AUGUST

## Energy, Climate, Health Care and Tax Package

- Largest single investment in climate in history, mostly to support the deployment of clean energy technologies
- Raises \$739 billion in revenue and spends \$433 billion on energy; climate; healthcare policy
- Expands tax credits to incentivize clean energy technologies manufacturing/deployment, energy rebates, fee on methane emissions

### Funding for R&D activities:

- \$50 million for **NOAA** competitive grants to fund research on “weather, ocean, coastal, and atmospheric processes and conditions, and impacts to marine species and coastal habitat” and \$150 million for intramural climate and weather research, forecasting, and modeling
- \$20 billion for climate-smart agricultural conservation programs at the **USDA** that aim to reduce emissions, improve soil health, and increase carbon sequestration
- \$5 billion for **EPA** to support greenhouse gas planning and implementation grants
- \$2 billion for **DOE** National Lab research facilities and infrastructure modernization to support innovation in clean energy technologies and other DOE science and technology missions





## Environmental health brings together two of the Biden Administration's top priorities but Congress yet to provide dedicated funding

- The Biden Administration proposed major increases for programs at the intersection of the environment and human health in FY 2022 and FY 2023
  - Focusing primarily on expanding existing HHS programs
  - Both NIH and CDC would see their budgets increased ten-fold (from \$10 million to \$100 million each) if funding increases were to be approved
- Established an Office of Climate Change and Health Equity within HHS to coordinate efforts across agencies to address environmental health through the EJ lens
- Congress has not yet provided the dedicated funds needed to stand up programs at the scale envisioned by the Administration
- Agencies are working within their base budgets to establish smaller programs to build capacity in environmental health in lieu of new funding
- The White House Environmental Justice Advisory Council and other cross-agency groups focused on health and equity continue to highlight the disproportionate impacts of a changing climate on underserved populations
  - EJ and health equity

# HHS OFFICE OF CLIMATE CHANGE AND HEALTH EQUITY (OCCHE)

- Established in August 2021 as part of Executive Order *Tackling the Climate Crisis at Home and Abroad*
- Serves as a hub across HHS for climate change and health policy, programming, and analysis – does not directly fund research
- OCCHE priorities:
  - Identifying communities with disproportionate exposures to climate hazards and vulnerable populations
  - Addressing health disparities exacerbated by climate impacts to enhance community health resilience
  - Promoting and translating research on public health benefits of multi-sectoral climate actions
  - Assisting with regulatory efforts to reduce greenhouse gas emissions and criteria air pollution throughout the health care sector, including participating suppliers and providers
  - Fostering innovation in climate adaptation and resilience for disadvantaged communities and vulnerable populations
  - Providing expertise and coordination to the Administration on climate change and health equity deliverables and activities, including executive order implementation, and reporting on health adaptation actions under the United Nations Framework Convention on Climate Change
  - Promoting training opportunities to build the climate and health workforce and empower communities
  - Exploring opportunities to partner with the philanthropic and private sectors to support innovative programming to address disparities and health sector transformation

# AGENCY SNAPSHOTS

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# NATIONAL INSTITUTES OF HEALTH (NIH)

**Funding Outlook: NIH received \$45 billion in FY 2022 (4.7% above FY 2021)**

**Within this amount, NIEHS received \$842.2 million (3.4% above FY 2021)**



## National Institute of Environmental Health Sciences (NIEHS)

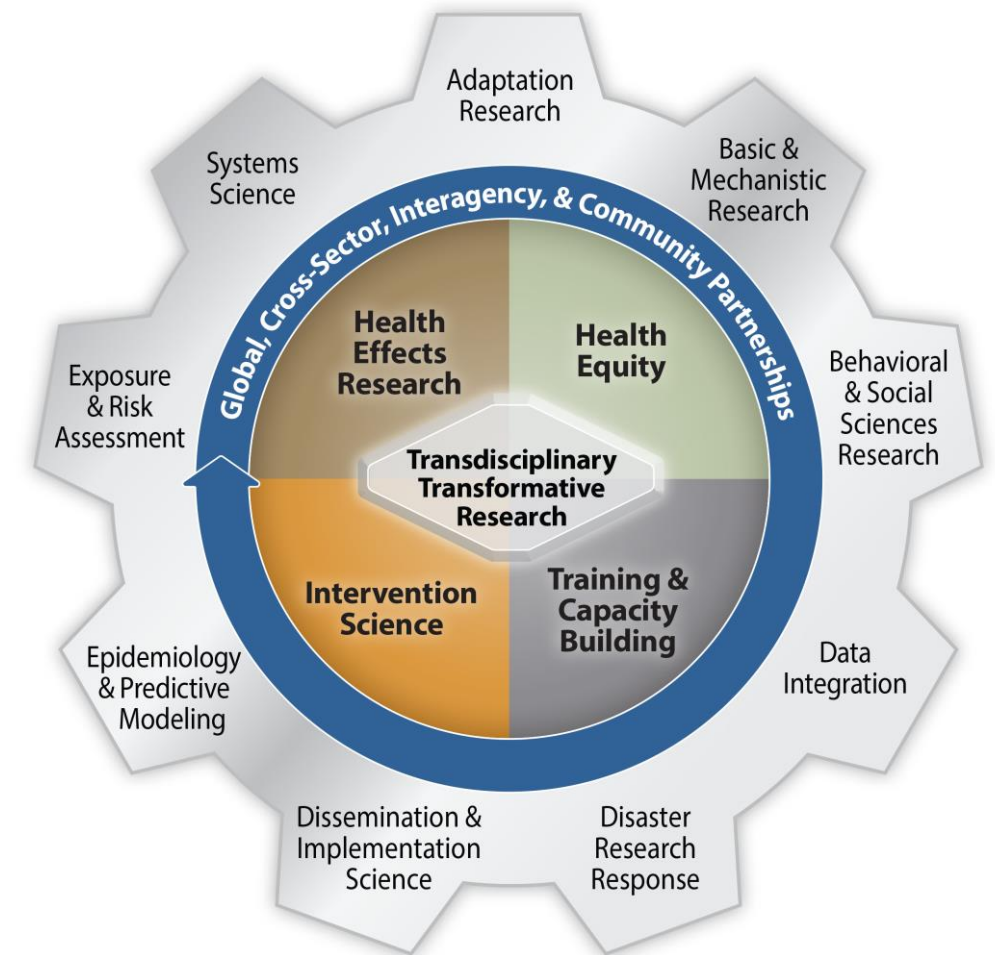
- Mission to “discover how the environment affects people in order to promote healthier lives
  - Extramural research programs:
    - Environmental exposure, response, and technology (e.g. *breast cancer and the environment*)
    - Genes, environment, and health (e.g. *oceans and human health*)
    - Population health and the environment (e.g. *climate change and human health*)
    - Hazardous substances research (e.g. *Superfund Research Program*)
    - Worker education and training
  - Supports several center programs
    - Environmental Health Sciences Core Centers
    - Children’s Environmental Health and Disease Prevention Research Centers
    - COE on Environmental Health Disparities Research
  - Increasing focus on interdisciplinary environmental research (and collaborations across NIH):
    - Example: Recent RFI on Interdisciplinary Research Opportunities that Bridge Neuroscience and Environmental Health Science, with the goal to understand how environmental toxins contribute to neurological function and disease

# NIH CLIMATE CHANGE AND HEALTH (CCH) INITIATIVE



**A trans-NIH effort to reduce health threats from climate change across the lifespan and build health resilience in individuals, communities, and nations around the world, especially among those at highest risk**

- Budget request proposed \$100 million for climate and health research activities in FY 2022 and 2023; Congress has not yet provided the funding
- A strong priority for the agency – in the absence of new appropriations, NIH has moved forward with planning and funding opportunities
- **Strategic Framework** identifies four core elements and supporting areas of science (see also: **Future Research Needs Factsheet**)
- **Funding opportunities:**
  - NOSI: Climate Change and Health Administrative Supplements
  - NOSI: Climate Change and Health
  - NOSI Innovative Technologies for Research on Climate Change and Human Health – SBIR and STTR
  - Alliance for Community Engagement – Climate and Health
    - “conduct community-engaged research focused on climate change impacts on health and the co-benefits of identifying the mitigation of climate change risks, vulnerabilities, and adaptation”
  - Research Coordinating Center to Support CCH Community of Practice
    - “managing and supporting current CCH research and capacity building efforts and supporting the expansion of the COP in the long term”



# CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)

**Funding Outlook: CDC received \$8.46 billion in FY 2022, an increase of \$582 million or 7.4% over FY 2021 enacted levels.**



- CDC is the nation's health protection and health security agency, focusing on conducting critical science and providing health information to fight disease and support communities
  - The agency has a broad national agenda and focuses on funding state/local health agencies to complete its mission
- CDC's **Climate-Ready States and Cities Initiative**, established in 2010, funds 11 jurisdictions nationwide in identifying and preparing for climate impacts and potential health effects in their communities
  - CDC uses a five-step **Building Resilience Against Climate Effects (BRACE)** framework to assess risks and implement adaptation plans:
    - Anticipate Climate Impacts and Assessing Vulnerabilities
    - Project the Disease Burden
    - Assess Public Health Interventions
    - Develop and Implement a Climate and Health Adaptation Plan
    - Evaluate Impact and Improve Quality of Activities
- Currently 11 sites in 9 states
- FY 2022 and FY 2023 budget requests proposed \$100 million increases for this program; CDC would expand the initiative to all 50 states; FY 2022 omnibus provided flat funding (\$10 million)

# ENVIRONMENTAL PROTECTION AGENCY



**Funding Outlook: In FY 2022 EPA was funded at roughly \$9.6 billion, both the House and Senate proposed significant increases**

## EPA S&T Overview:

- S&T supports research to inform the agency's regulatory mission, the agency is first and foremost a regulatory body
- Most of the EPA's \$750M research budget is intramural: Extramural programs are leveraged to address gaps in EPA's internal research programming -- priorities are not typically subject to outside influence
- In FY 2022 Appropriations EPA was directed to conduct work on modeling and prediction of wildfire smoke and related public health impacts

## Research Priorities

- Core Programs each guided by a Strategic Research Action Plan (StRAP)
  - Air & Energy
  - Chemical Safety for Sustainability
  - Health and Environmental Risk
  - Homeland Security
  - Safe and Sustainable Water Resources
  - Sustainable and Healthy Communities
- Some research priorities dictated by Congress
  - PFAS/PFOA
  - Environmental Justice
  - Water Quality/Availability
  - COVID-19 (wastewater monitoring, surface decontamination, etc.)

## Main S&T Funding Mechanisms

- **Science to Achieve Results (STAR)** would be flat funded at \$28.6 million in the Senate bill and would be funded at \$30 million in the House bill for extramural awards
  - Primary mechanism for funding extramural research, responsive to StRAPs, Award size ~\$750K-\$2M
- **Environmental Justice** programs would be funded at \$180 million in the Senate bill and \$291.3 million in the House bill, both proposing significant increases over the \$100 million enacted level
- EJ anticipated to be incorporated across all EPA programs; EPA will be developing an EJ spending plan to Congress
  - Received \$3 billion from the *Inflation Reduction Act*

# U.S. DEPARTMENT OF AGRICULTURE



**Funding Outlook: In the Senate bill, NIFA would receive \$1.691 billion, \$54 million or 4.7 percent over FY 2022 with modest growth across its programs, but \$77 million less than the House mark**

## Agriculture and Food Research Initiative (AFRI)

- In the Senate, AFRI would receive \$455 million, an increase of \$10 million over the FY 2022
  - Mostly flat-funded other programs
  - Foundational and Applied Science (FAS) program supports grants in six priority areas to advance knowledge in sciences important to agriculture; most recent solicitation identified the six priority areas including **Food Safety, Nutrition, and Health**
  - Sustainable Agricultural Systems (SAS), another annual program, solicits projects that will have significant impact on the safety and nutrition of agricultural products and must demonstrate an **understanding of current and future health and environmental impacts**

## USDA Priorities

- Research likely to continue to be a priority including climate, nutrition, equity, increased emphasis on sustainable ag and forestry, zoonotic disease
- COVID impacts and fallout with food supply chain likely continue to be a theme

## Farm Bill

- Reauthorization activity starting now; current legislation expires on September 30, 2023
- Climate and nutrition will likely continue to be a focus, and research will continue to enjoy bipartisan support
- Hesitance to expand programs or authorize additional funding – will likely be a budget neutral Farm Bill



**THANK YOU FOR YOUR TIME**

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