

# Chapter Summary and Overview of Key Topic Areas US Caribbean Chapter 5<sup>th</sup> National Climate Assessment

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*March 17, 2022*

Principal Investigator: NASA Grant Number 80NSSC19K0194

Principal Investigator: NASA Grant Number 80NSSC20K1588



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THIS IS PUBLIC HEALTH

# U.S. Global Change Research Program

- USGCRP began as a Presidential initiative in 1989
- Mandated by Congress in the **Global Change Research Act (GCRA) of 1990** “to assist the Nation and the world to understand, assess, predict, and respond to human-induced and natural processes of global change”
- Overseen by the Subcommittee on Global Change Research, composed of representatives from each of the USGCRP member agencies



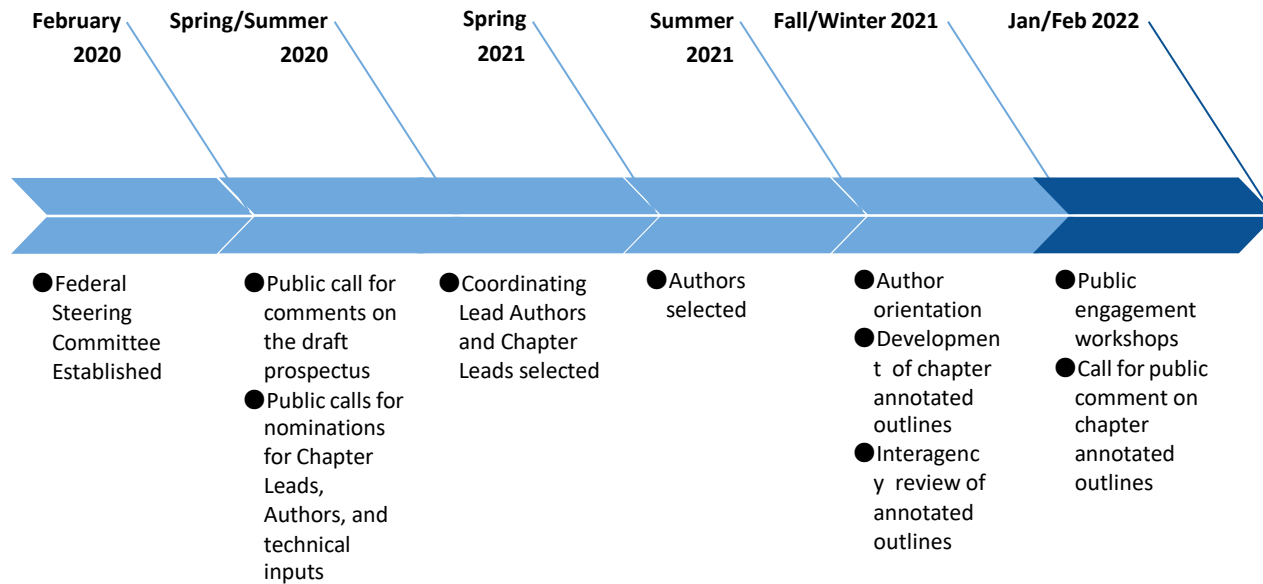
# Legislative Origins for the NCA

*Global Change Research Act of 1990, Section 106:*

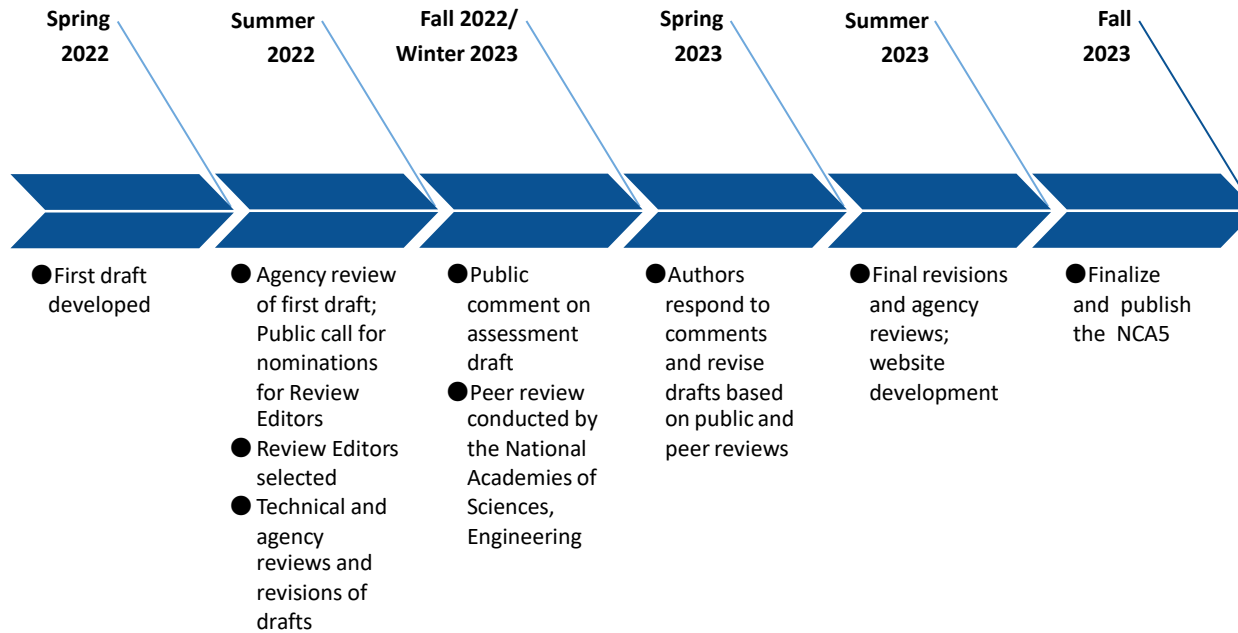
Not less frequently than every 4 years [USGCRP] shall prepare and submit to the President and Congress an assessment which:

- **Integrates, evaluates, and interprets** the findings of [USGCRP] and discusses the scientific **uncertainties** associated with such findings
- Analyzes the effects of global change on the **natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity**
- Analyzes **current trends** in global change, both human- induced and natural, and **projects major trends** for the subsequent 25 to 100 years.

# NCA5 Process To Date



# Future Steps in NCA5 Development



# Public Engagement Opportunities

- **Current:**
  - Open notice: Call for Public Comment on the Annotated Outline: <https://www.globalchange.gov/notices>
  - Ongoing submission of technical inputs: <https://www.globalchange.gov/nca5>; click “NCA5 Engagement” on the left panel
  - Stay in the loop via the USGCRP newsletter: <https://www.globalchange.gov/newsletter-signup>
- **Late 2022:** Public comment on the Third Order Draft

# Chapter Team

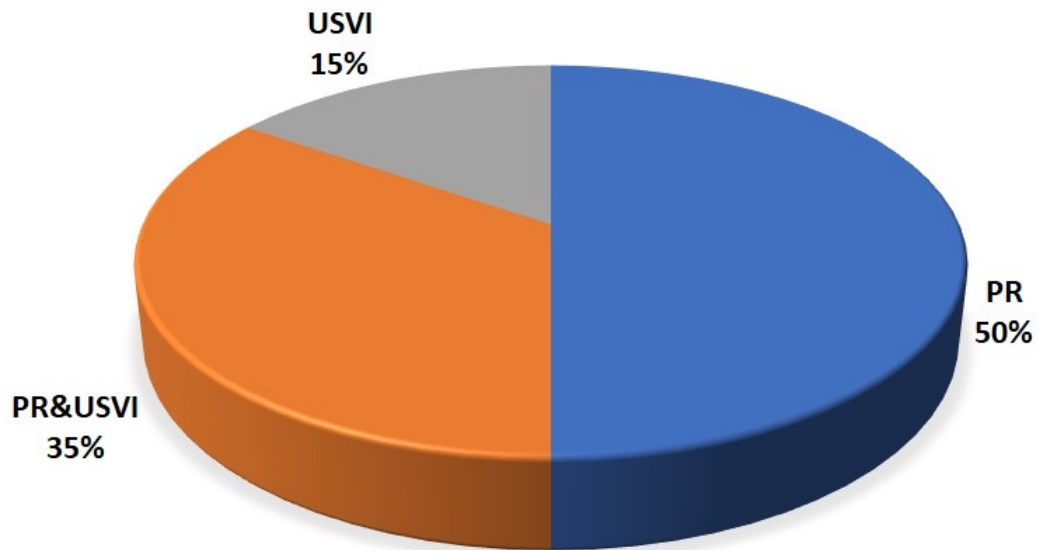
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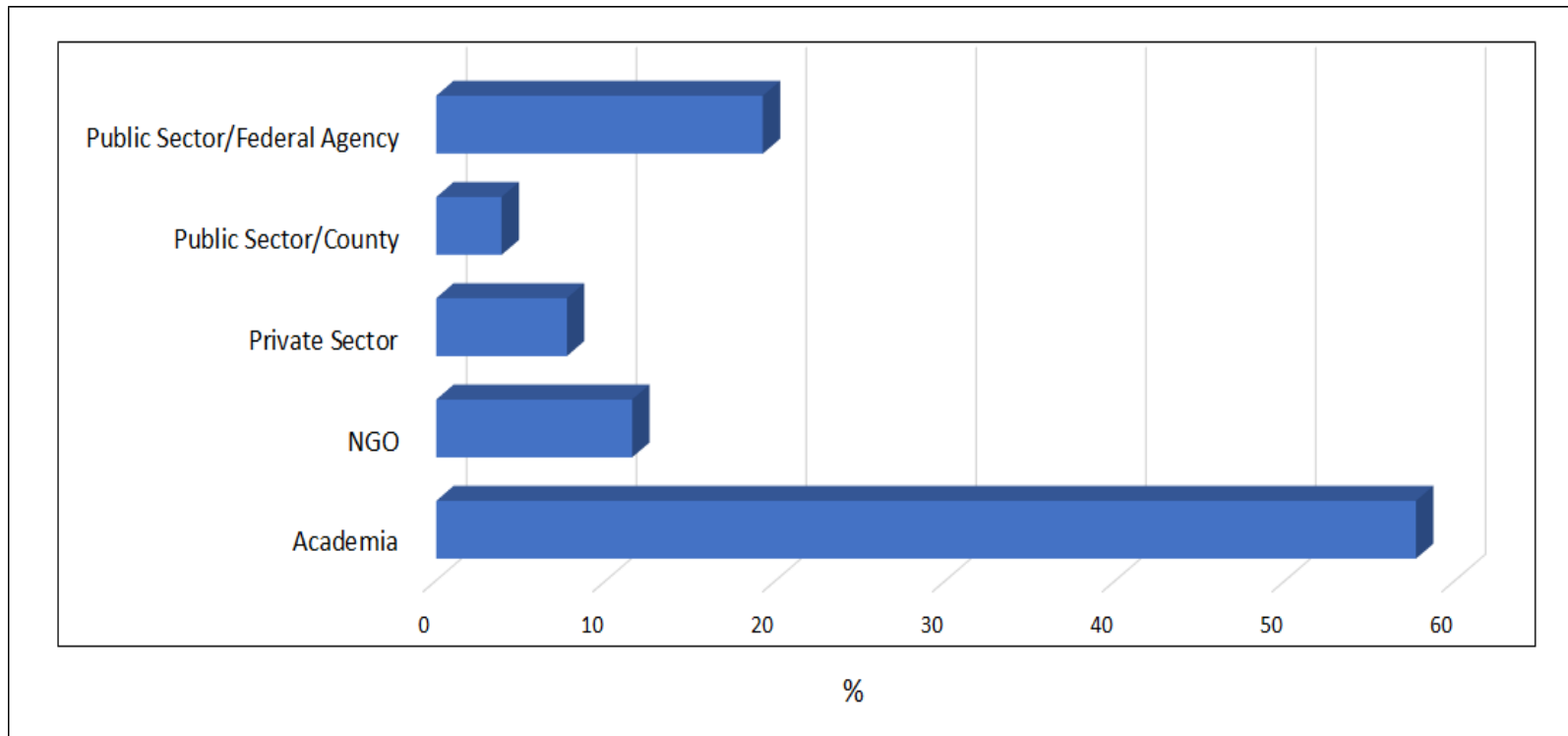
# Chapter Team



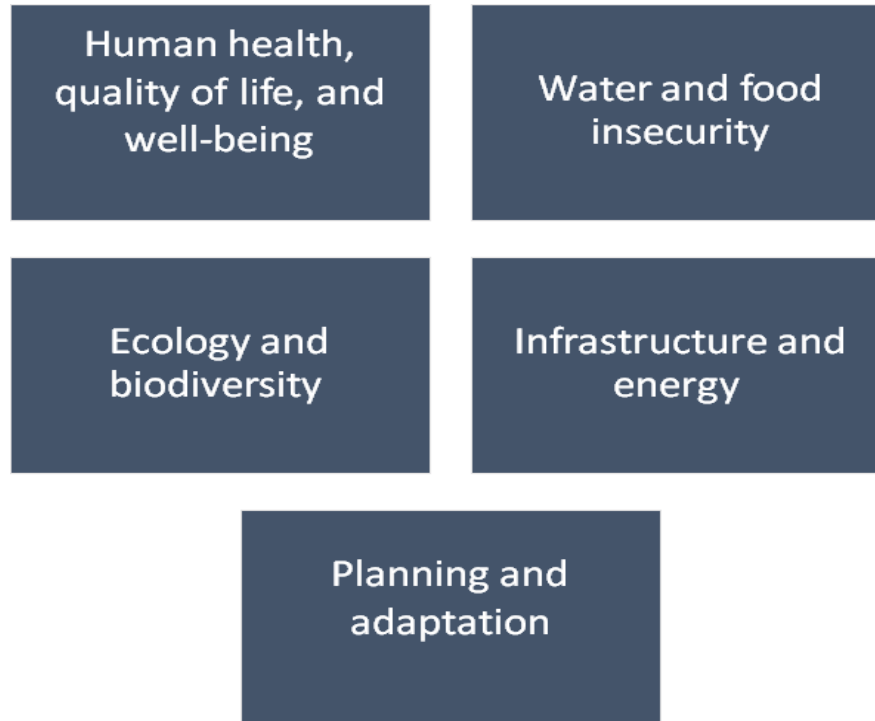
	Authors (N)	Authors (%)
PR	13	50
PR&USVI	9	34
USVI	4	15



# Chapter Team



# Key Topic Areas (5)



# Key Topic Area: Human health, quality of life, and well-being

- **Social Determinants of Health** (Livelihood security: economic stability, health care access and quality, cultural continuity and traditions, education access and quality, access to culturally relevant nutritious foods (food in-security) and physical activity opportunities, mental health and habitat security, neighborhoods and the built environment)
- **Impacts of extreme events over social determinants of health and over essential services** (including environmental health issues), the health care system, access to care of the population, and over vulnerable populations and their health outcomes.
- Relationship between the high prevalence of **non-communicable diseases** in underserved communities **and the intensification of the burden of climate change impacts**.
- Climate-driven increase in vector-borne diseases and impact loads on physically and economically vulnerable populations.
- **Excessive heat** as a threat for sensitive groups (including workers)
- **Changes in natural sources of air pollution** in the Caribbean. Relationship between dust and aerosol particles and aeroallergens over climate and weather, ecosystems, and human populations
- Water is essential for life. Climate Change Scenarios are stimulating the growing concern for **water scarcity and water insecurity**.
- Role of **community well-being** and intangible heritage for resilience and post-disaster recovery: threats to customs and traditions of indigenous, local, and descendant societies
- **Underestimation of mortality** (medical recognition of links between climate impact and mortality; identification of effects from climate variations and disasters).

# Key Topic Area: Water and food insecurity

- **Security of food systems and water resource** availability within PR and USVI (e.g., current status, historical trends, and spatial patterns).
- Identify historical pathways by which climate influences food security and water resource availability within PR and USVI (e.g., droughts/hurricanes on food systems from production to consumption, pests, etc.).
- **Food and water nexus:** Discuss how food systems and water resource availability affect each other, including the roles of aged infrastructure, leaking water distribution, decreased reservoir capacity, aquifers, ponds, intermittent power.
- Identify climate variability and change specific problems for food security and water resource availability and the interaction with known human dimension problems within the islands (e.g., drought-irrigation; depletion of coastal freshwater aquifers with sea-level rise for domestic, agriculture, industrial use).

# Key Topic Area: Ecology and biodiversity

- **Climate change-induced impacts on terrestrial, coastal, and marine ecosystem function and health** (diseases, pests, native and invasive species demographics & distribution)
- **Ecological systems** (importance to the well-being of tropical insular communities) **provide a range of goods and services vital to the health of the islands' economies and the well-being of their residents** (provisioning, supporting, cultural and regulating).
- **Heightened vulnerability extinction** due to small size of ecosystems, fragmentation and small ranges for, and populations of, some species.
- **Cascading effects** across ecosystems and compounded impacts from multiple events.
- Understanding **vulnerability and risk based on physical attributes of the territories**, such as size, location, geology and soils, and topography.
- **Caribbean Regional Fisheries Mechanism**
- Highlight / Review of recent literature on **the effect of recent extreme events on terrestrial ecosystems and habitats**; for instance, the Puerto Rican parrot fragile population decreased in number after the hurricanes.
- **Extreme hurricanes enhance wildfires**; Maria left woody debris; More intense hurricanes when combined with projections favors an increase in wildfires that threaten both human health and crops.

Key Topic  
Area: Infrastructure  
and energy

- **Infrastructure systems critical for communities functioning;** electricity probably the most critical because so many other systems depend on it: most attention in this section will be energy
- Climate change will **increase demand for some services and strain them** (e.g. wastewater reduced capacity because sea level rise, drainage and sea level rise, water, maintenance – heat impacts, etc.)
- **Climate threats to infrastructure system components and limits of design approaches OR and implications for design approaches** (Federal Emergency Administration and U.S. Corps of Engineers Benefit Cost Analysis handicaps vulnerable populations, dependence on outside talent, design criteria in absence of data, ...)
- **How systems, as currently operated, can fail because of impacts of climate change, and reinforce inequities** OR Impact of failure of infrastructure systems, as operated now, caused by climate changed induced hazards, on vulnerable communities.
- **Pathway and roadblock to adaptation:** Energy literacy, conservation, demand response and efficiency, electrification of everything, green infrastructure, land use competition, renewable portfolio standards adoption; Federal funding disconnect; fair labor transition, Caribbean context approach, circular economy

# Key Topic Area: Planning and adaptation

- Status/progress of development and implementation of climate adaptation policies and plans in the region (since NCA4). **Governance of adaptation:** The role of governance arrangements and decision-making processes in the public sector in adaptation planning and risk reduction.
- **Social, physical, and infrastructure vulnerability** profiles as a guide to prioritize the execution of course of actions (COAs) in the planning/adaptation process
- **Existing and emerging challenges for planning and adaptation:** Implications of separation from a large land mass for vulnerability, disaster preparedness and emergency response, and adaptation planning and implementation.
- **Limited human and institutional capacity:** size as a defining feature that affects development options and the level of social, economic, and environmental vulnerability.
- The possibility of climate-induced out-migration and in-migration, and the implications for adaptation planning.
- **Existing and emerging opportunities in planning and adaptation.** Development planning, public policy development including financial risk management, sectoral and integrated approaches (e.g., ICZM, IWRM) land management, ecosystem-based solutions, and social norms: as determinants (or drivers) of environmental, social, and economic sustainability.
- **Existing policies and laws that support immediate climate change adaptation programming.**
- **Regional collaboration.** Focus on examples of relationships with neighboring countries and partnerships to address chronic levels of system impairment, recovery from shocks, and building climate information services and adaptive capacity.
- **Training, education** (and embedding) in practice a new cadre of professionals focused on network building, climate risk analysis, and resilience in island environments.



# US Caribbean Engagement Workshop

Jan 19, 2022

255 people registered

102 participants attended



# LA EVALUACIÓN NACIONAL DEL CLIMA

El Capítulo sobre la Región del Caribe (Puerto Rico y las Islas Vírgenes de EEUU): Reunión de Participación Pública

19 Enero 2022 | 11:00 AM - 3:30 PM AST

REGISTRARSE  
AQUÍ

Por favor participe y colabore con los autores del Capítulo sobre la Región del Caribe en la Quinta Evaluación Nacional del Clima en una reunión virtual donde usted podrá compartir sus pensamientos e ideas sobre los problemas más apremiantes asociados al cambio climático en Puerto Rico y las Islas Vírgenes de EE.UU.

Esta reunión es gratuita y abierta al público. Se utilizará traducción simultánea en inglés y español. La información obtenida en la reunión ayudará a los autores decidir qué temas incluir en su capítulo de la Quinta Evaluación Nacional del Clima, un informe importante del gobierno de los EEUU sobre cómo el cambio climático afecta a la gente y los sistemas naturales del país.

Para una lista completa de reuniones o para aprender más sobre la Quinta Evaluación Nacional del Clima por favor visita: [www.globalchange.gov/nca5](http://www.globalchange.gov/nca5)



# FIFTH NATIONAL CLIMATE ASSESSMENT

U.S. Caribbean Chapter  
Public Engagement Workshop

January 19, 2022 | 11:00 AM - 3:30 PM AST

REGISTER HERE

Please join the authors of the U.S. Caribbean chapter of the Fifth National Climate Assessment for a virtual workshop to share your thoughts on the climate change-related issues that are most important to you and the U.S. Caribbean region.

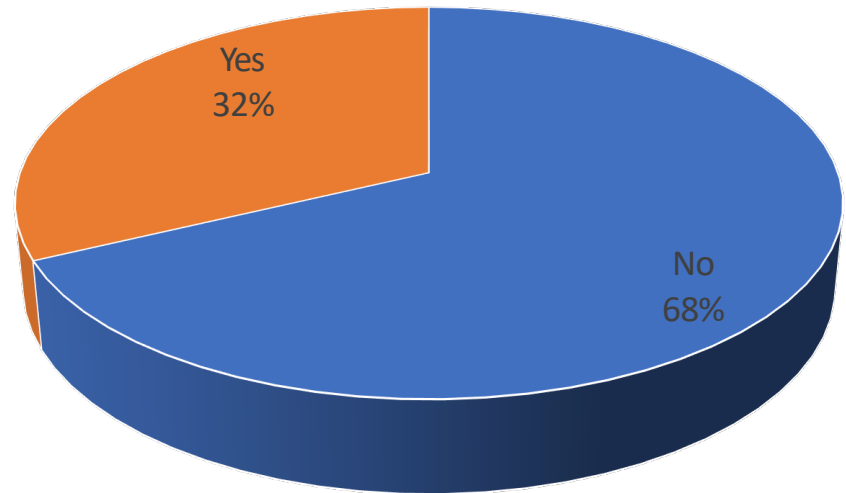
This workshop is free and open to the public. The information gathered will help authors decide which topics to cover in their chapter of the Fifth National Climate Assessment, a major U.S. Government report on how climate change affects people and places in the United States.

For the full list of public engagement workshops or to learn more about the Fifth National Climate Assessment, please visit: [www.globalchange.gov/nca5](http://www.globalchange.gov/nca5)



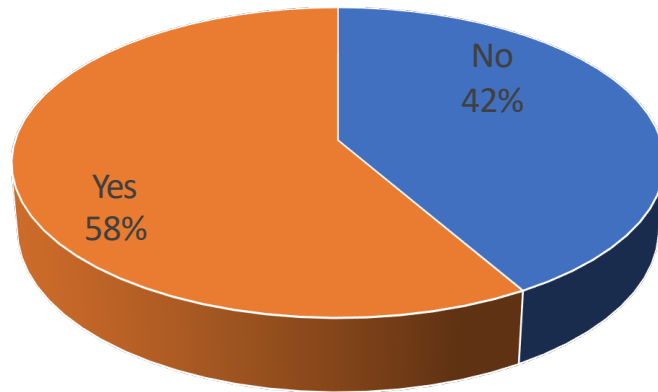
86  
participants

Did you Look at the ZOD?

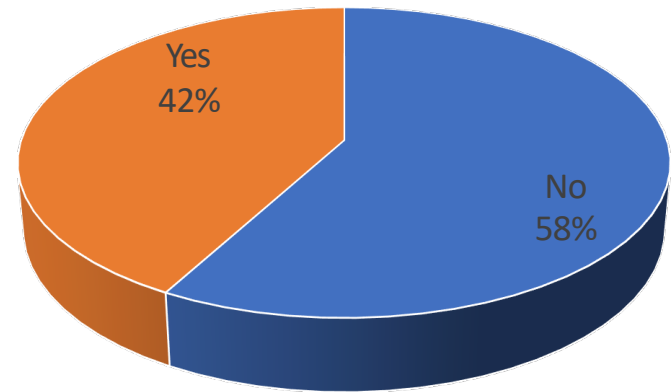


# 86 participants

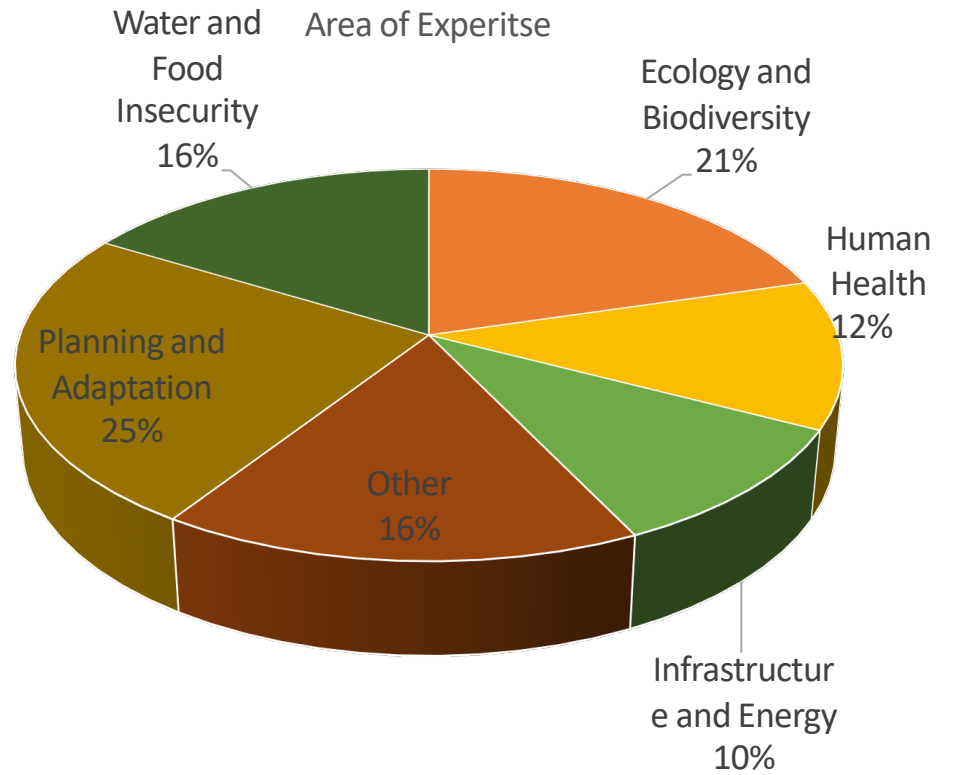
Were you aware that the NCA4 existed?



Have you read the NCA4?

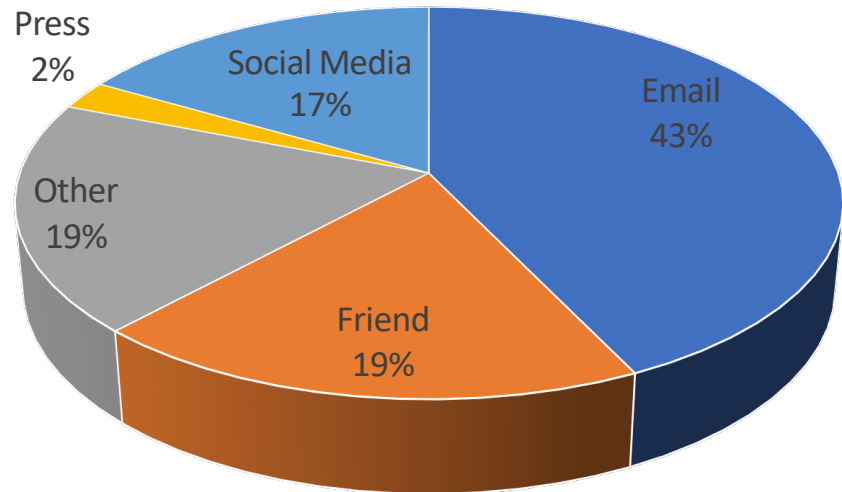


86  
participants



86  
participants

How did you find out?



# NCA Caribbean ZOD & 10D

24 specific Public Comments received for the ZOD on February 23, 2022.

## First-Order Drafts due March 4

- ✓ 2 Earth System Processes
- 3 Climate Trends
- 4 Water
- 5 Energy
- 6 Land Cover and Land Use Change
- 7 Forests
- 8 Ecosystems
- 9 Coastal Effects
- 10 Oceans
- 11 Agriculture and Rural Communities
- 12 Built Environment
- 13 Transportation
- 14 Air Quality
- 15 Human Health
- ✓ 16 Tribes and Indigenous Peoples
- 17 International
- ✓ 18 Complex Systems
- 19 Economics
- 20 Human Social Systems
- 21 Northeast
- 22 Southeast
- ✓ 23 U.S. Caribbean
- 24 Midwest
- 25 Northern Great Plains
- 26 Southern Great Plains
- 27 Northwest
- 28 Southwest
- ✓ 29 Alaska
- 30 Hawaii & U.S.-Affiliated Pacific Islands
- 31 Adaptation
- 32 Mitigation

# Take aways and next steps

- **Language** barriers
  - Translate the US Caribbean chapter (including the ZOD) into Spanish so it is more widely used in the local community.
- Using **words** such as “ecology and biodiversity” make the circumstances seem better than they are. Suggestion to use “Critical habitats and species” instead.
- **Regional coordination:** There is a need to connect, mutually support, and share lessons/ experiences across different islands in the Caribbean region (which includes those outside US territories as well) in technical as well as financial terms
- Emphasize the **intersectionality** of the topics





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**¡MUCHAS GRACIAS!**

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