



THE BAHAMAS ACADEMY OF SCIENCES

Prioritising National Research Needs for The Bahamas

BASED ON MOSS ET AL. 2026

Locally led, policy-aligned, climate-ready research.

POLICY REPORT · #242 SCIENCE



Policy Briefing

PRIORITISING NATIONAL RESEARCH NEEDS FOR THE BAHAMAS

Based on Moss et al. 2026



BAS Members and the Minister of Environment at the July 2026 reception. Left to right in the photo: Dr. Williamson Gustave (BAS Treasurer), Lindy Knowles, Hon. Minister Zane Lightbourne, Dr. Krista Sherman (BAS President), Dr. Brandon Bethel, Dr. Nicholas Higgs (Founding Member), Dr. Charlotte Dunn (BAS Board Member). Photo Credit: Zaria Dean / BAS



BAS members at the 2026 Annual General Meeting. Photo Credit: Ana Salceda / BAS

THE BAHAMAS ACADEMY OF SCIENCES

[The Bahamas Academy of Sciences](https://www.bahamasacademyofsciences.org) (BAS) is a registered non-profit, merit-based organisation for distinguished Bahamian scholars across natural sciences, social sciences, humanities, medicine, mathematics, and engineering.

RATIONALE

Despite the breadth of research conducted in The Bahamas, until now there has been no comprehensive quantitative assessment of the trends underlying this scholarly output. Understanding who is driving Bahamas-related research, how topics have evolved, and where collaborations are forming is valuable for contextualizing The Bahamas' place in the global scientific landscape.

We analyzed all peer-reviewed literature published in English related to The Bahamas from 1975 to 2025 using bibliometric and network analysis tools. Mapping publications, collaborations, and research themes helped to reveal the trajectory of Bahamas-based research, how it has grown, which disciplines and issues have been most prominent, obvious data gaps, and how an international network of scientists has coalesced around the challenges and opportunities presented.



RESEARCH HIGHLIGHTS



- Analyzed 12,113 Web of Science records (1975–2025) of research published about The Bahamas
- Ten thematic trajectories and eight meta-themes emerged from over five decades of research
- International dominance and collaborative history of research with top contributing countries including USA, The Bahamas, Spain, England and Canada
- Research has been influenced by available funding, infrastructure
- Our analyses suggest persistent gaps in nationally important areas, including groundwater resources, food systems, renewable energy, social-ecological governance and locally led long-term monitoring.
- A more coordinated research agenda is needed to move from externally driven and project-specific research towards work that directly supports climate resilience, biodiversity protection, public health, sustainable resource management and national development.

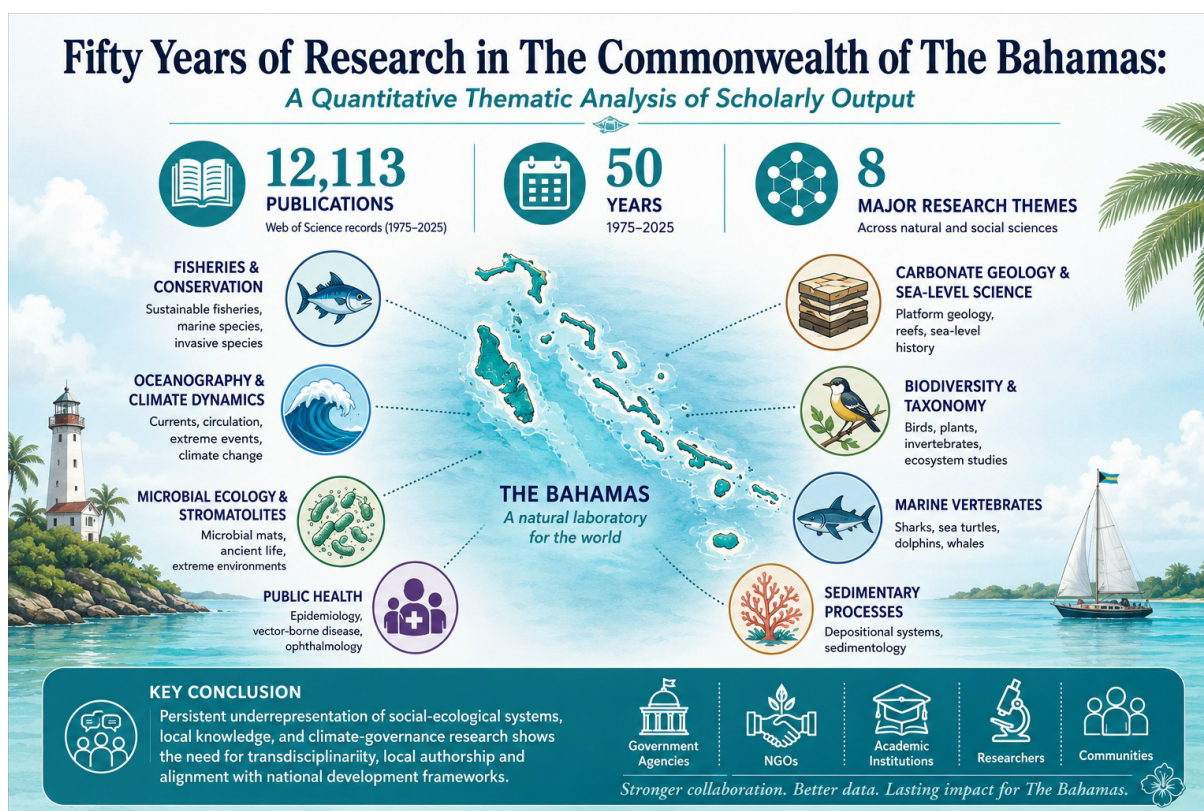


FIG. 1 Graphical synthesis of 50 years of Bahamas-based research. The infographic summarizes the 12,113-record dataset, the 8 manually synthesized meta-themes, The Bahamas' role as a natural laboratory, and the central conclusion that future research should strengthen locally led, transdisciplinary and policy-linked scholarship. Icons and thematic placement are illustrative and do not encode quantitative rank (Moss et al. 2026).



The Commonwealth of The Bahamas is uniquely poised to act on the recommendations of its own professional scientists represented by The Bahamas Academy of Sciences (BAS). BAS recently published a 50-year scientometric analysis which shows that while The Bahamas has a rich scientific legacy—especially in geology, fisheries, oceanography, and conservation—its **nationally critical research needs remain underdeveloped**. Government action should focus on **locally led, policy-aligned, climate-ready research capacity**.

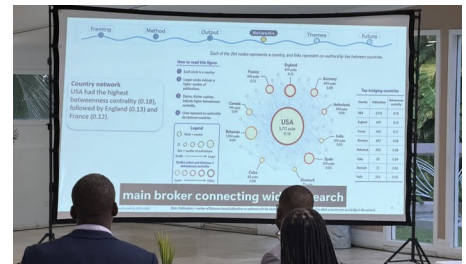
STRATEGIC PRIORITIES FOR GOVERNMENT ACTION

01 BUILD A NATIONAL RESEARCH AGENDA ALIGNED WITH VISION 2040

Research gaps occur in areas essential for national resilience. There is a “*persistent underrepresentation of social-ecological systems, local knowledge, and climate-governance research.*”

Government Actions

- Establish a **National Research Council** or strengthen The Bahamas Academy of Sciences to coordinate priorities.
- Create a **5-year National Research Agenda** tied directly to Vision 2040 pillars (environmental resilience, food security, health, energy).



Minister Lightbourne listens to the paper’s findings presented in Nassau, 24 July 2026. Credit: Ana S.

02 STRENGTHEN LOCAL SCIENTIFIC CAPACITY AND INFRASTRUCTURE

The Bahamas has for too long had a reliance on foreign labs for genomics, oceanography, geochemistry, and long-term monitoring. There are more professionally-trained Bahamians now than in any other time in history.

Government Actions

- Invest in **national laboratories** (e.g., genomics, carbonate geochemistry, ocean observing).
- Expand **field stations** (San Salvador, Andros, Exuma) as national research hubs.
- Fund **graduate training pipelines** for Bahamians in climate science, fisheries, geology, public health and social science.



Dr. Nicola Smith prepares lionfish samples in the laboratory. Credit: BAS.



03 REBUILD LONG-TERM ENVIRONMENTAL MONITORING

Many research surges were tied to short-term funding and field stations that later closed (e.g., Lee Stocking Island). Environmental and ecological monitoring is fragmented and often externally funded; but this monitoring is critical to successful implementation of existing environmental regulations and laws.

Government Actions

- Restore and expand **long-term monitoring programs** for:
 - Coral reefs
 - Fisheries (ecological and socioeconomic)
 - Sea-level rise and coastal erosion
 - Ocean circulation (Florida Current, passages)
 - Mangroves and seagrass carbon stocks
- Integrate these into a **national climate-risk dashboard**.



Shallow coral reef, The Bahamas / Perry Institute for Marine Science (PIMS)



Tidal flats and mangrove cay, The Bahamas. / PIMS

04 PRIORITIZE UNDERREPRESENTED BUT HIGH-RISK NATIONAL ISSUES

The major gaps in areas essential for national resilience:

- **Groundwater & Freshwater Security**
- **Food Systems & Agriculture**
- **Renewable Energy & Climate Adaptation**

Government Actions

- Launch targeted research programs in groundwater vulnerability, agriculture innovation, and renewable energy.
- Fund applied research through University of The Bahamas (UB), The Bahamas Agriculture & Marine Science Institute (BAMSI), The Bahamas Technical and Vocational Institute (BTVI), and partnerships with local NGOs and regional small island developing states (SIDS).



05 INTEGRATE SOCIAL SCIENCE, GOVERNANCE, AND LOCAL KNOWLEDGE

Social-ecological systems and governance research are “persistently underrepresented.” The national research priorities need to be understood by the wider population, and local communities engaged in research projects.

Government Actions

- **Find mechanisms to support** research on community resilience, traditional ecological knowledge and climate migration.
- Require social-science components in all major environmental research grants.



Dr. Charlotte Dunn, BAS's founder member, speaks to local television at 242: For the Record, Nassau, 24 July 2026. Credit: Ana Salceda / BAS

06 MODERNIZE DATA STEWARDSHIP AND NATIONAL REPOSITORIES

In The Bahamas, national data stewardship is weak, with fisheries, biodiversity, and health data scattered across agencies.

Government Actions

- Create a **National Environmental & Health Data Repository**.
- Mandate open data standards for government-funded research.
- Join global platforms (GBIF, OBIS, GOOS) with full national datasets.



07 IMPROVE ACCESS & BENEFIT SHARING (ABS) GOVERNANCE

The paper, *Implementation of Access and Benefit Sharing in The Bahamas: A Precautionary Tale*, highlights ABS challenges and the need for legislative reform to enable critical research while safeguarding national interests (Sherman et al. 2025).

Government Actions

- Reform and fully implement ABS legislation aligned with the principles of the Nagoya Protocol and Convention on Biological Diversity (CBD).
- Streamline the permitting process with the intent of the ABS legislation.
- Ensure equitable benefit-sharing for genetic resources, traditional knowledge and biodiversity data.

Additional recommendations are outlined in Sherman et al. 2025.

08 SUPPORT BAHAMIAN LEADERSHIP IN HIGH-IMPACT RESEARCH AREAS

The Bahamas is globally important in:

- Carbonate geology
- Coral reef ecology
- Stromatolite microbiology
- Marine megafauna
- Ocean circulation.

These areas already have strong foundations. Government should **shift leadership from foreign institutions to Bahamian scientists** through targeted funding and infrastructure.



A research tag is deployed on a whale in Bahamian waters. Credit: Bahamas Marine Mammal Research Organisation (BMMRO).



09

CREATE INCENTIVES FOR TRANSDISCIPLINARY RESEARCH

Future research must be **locally led, transdisciplinary, and policy-linked**.

Government Actions

- Provide grants for cross-sector projects (e.g., fisheries + climate + social science).
- Require policy-relevance statements in all funded research.
- Incentivize and support enabling conditions for partnerships between UB, NGOs, ministries, and international universities.
- Establish a permanent, nationally coordinated research and data-governance system that aligns scientific work with The Bahamas' national development priorities.



BAS members in a working session at the 2026 Annual General Meeting. Credit: Ana Salceda / BAS

10

INVEST IN PUBLIC HEALTH RESEARCH FOR SIDS-SPECIFIC RISKS

Although there has been strong growth in health research, gaps remain in climate-linked health risks and long-term non-communicable disease (NCD) tracking.

Government Actions

- Build a **SIDS Health Observatory** linking climate exposure, vector ecology, NCDs, and equity.
- Expand genomic screening programs (e.g., BRCA1/2 founder mutations).
- Integrate health data with environmental monitoring.



RELEVANT NATIONAL LEGISLATION AND POLICIES

The strategic priorities outlined above have direct relevance to the following national legislations and policies (<https://laws.bahamas.gov.bs/cms/legislation.html>).

Environmental Governance

- Water & Sewage Act, 1976
- Environmental Health Services Act, 1987
- Environmental Health Services (Collection & Disposal of Waste) Regulations, 2004
- Montreal Protocol (Controlled Substances) Act, 2006
- Montreal Protocol (Import/Export Licensing of Controlled Substances) Regulations, 2008
- Environmental Planning & Protection Act, 2019
- Environmental Protection (Control of Plastic Pollution) Act, 2019
- Environmental Impact Assessment Regulations, 2020
- Biological Resources & Traditional Knowledge Act, 2021
- Environmental Planning & Protection (Amendment), 2024

Climate Change

- National Policy for the Adaptation to Climate Change, 2005
- Climate Change & Carbon Market Initiatives Act, 2022
- Emissions Reduction Initiatives & Incentives Regulations, 2025
- Climate Change & Carbon Market Initiatives (Amendment) Act, 2022
- Climate Change & Environmental Advisory Unit Act, 2026

Biodiversity

- Plants Protection Act, 1916
- Wild Birds Protection Act, 1952
- Wild Animals Protection Act, 1968
- Conservation & Protection of the Physical Landscape of The Bahamas Act, 1997
- National Biodiversity Strategy & Action Plan, 1999
- Marine Mammal Protection Act, 2005
- National Invasive Species Strategy, 2013

Marine & Coastal Conservation

- Fisheries Resources (Jurisdiction & Conservation) Act, 1977
- Merchant Shipping (Oil Pollution) Act, 1976
- Commercial Recreational Watercraft Act, 2006
- Merchant Shipping (Ship-to-Ship Transfer) Regulations, 2015
- Fisheries Act, 2020

Public Health

- Health Services Act, 1914
- Health Rules, 1935
- Quarantine Act, 1905
- Medical Act, 2014
- Quarantine (Infectious or Contagious Disease) Order, 2015
- Mental Health Act, 2022
- Health Promotion & Wellness Act, 2025
- The Bahamas National Health Strategy 2026-2030.

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- Moss A., Sherman K. D., Gustave W., Sealey K. S., Dunn C., Smith N. S., Knowles L. and Gibson C. (2026) Fifty Years of Research in The Commonwealth of The Bahamas: A Quantitative Thematic Analysis of Scholarly Output. *Gulf and Caribbean Research* 37 (1): 59-76. DOI: <https://doi.org/10.18785/gcr.3701.15>
- Sherman K., Dahlgren C., Dunn C., Claridge D., and Higgs N. (2025) Implementation of Access and Benefit Sharing in The Bahamas: A Precautionary Tale. *Conservation* 5(1): 3. <https://doi.org/10.3390/conservation5010003>