



SEMI-ANNUAL REPORT

October 2025 to March 2026

29 May 2026

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1. Board of Directors

The members of the Research Nova Scotia Board of Directors as of 31 March 2026:

Kim Brooks – President and Vice-Chancellor, Dalhousie University

Anna Burke – A/ President, Nova Scotia Community College

Kenneth Deveau – President and Vice-Chancellor, Université Sainte-Anne

Joël Dickinson – President and Vice-Chancellor, Mount Saint Vincent University

Vicki Elliott-Lopez – Associate Deputy Minister, Growth & Development

Chris Googoo – Chief Operating Officer, Ulnooweg

Andrew Hakin (Chair) – President and Vice-Chancellor, St. Francis Xavier University

Sabrena MacKenzie – CEO and Founder, SeaChange Biochemistry

Andrew Swanson – VP Research & Development, Cooke Aquaculture

Alain Vézina - Federal Representative

Lindsay Wadden – Senior Executive Director, Advanced Education

Jordan Warford – Executive Director, Health & Wellness

2. Impact of Research Projects

Managing climate change risk

Climate change is having a substantial effect on Nova Scotia's coastlines. Significant Nor'easters, hurricanes and tropical storms over the past decade have had not only an ecological impact but an economic impact as well. In 2022, for instance, Hurricane Fiona caused an estimated \$385 million in insured damage and millions more in uninsured damage across the province.

Storms that threaten coastal zones are becoming more frequent and more destructive. As a result, the models and tools, such as tide gauges, on which most coastal communities have depended for decades have become unreliable. In 2023, the Municipality of the County of Cumberland (MCC) partnered with Dr. Tim Webster of Nova Scotia Community College's Applied Geomatics Research Group to create flood vulnerability maps for now and the future.

With funding from RNS's Atlantic Climate Change Collaboration program, Dr. Webster and his team used modern tools such as lidar to construct a high-resolution evaluation model and geographic information system (GIS) maps for the Municipality's coastal area. Significant climate risks exist in this municipality:

- some of the highest tides in the world (Bay of Fundy)
- some of the largest storm surges in the region (Northumberland Strait)
- the Nova Scotia end of the Isthmus of Chignecto, the province's only highway and railway links to the rest of Canada.

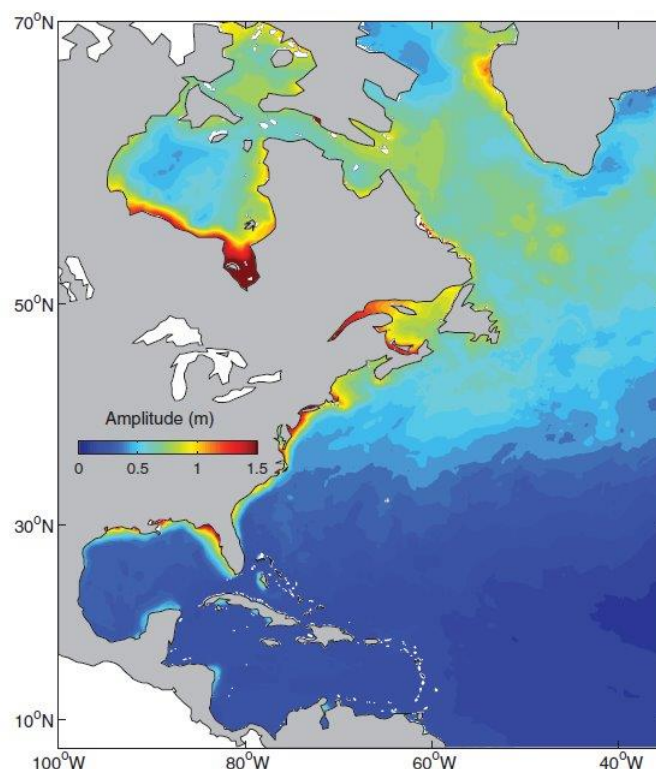


Figure 11. Distribution of 50 year extreme surge-induced sea levels (storm surges) over the ECSNA estimated from surge-induced sea level fields produced by the 2-D circulation model in exp-BR using the generalized extreme value statistical approach.

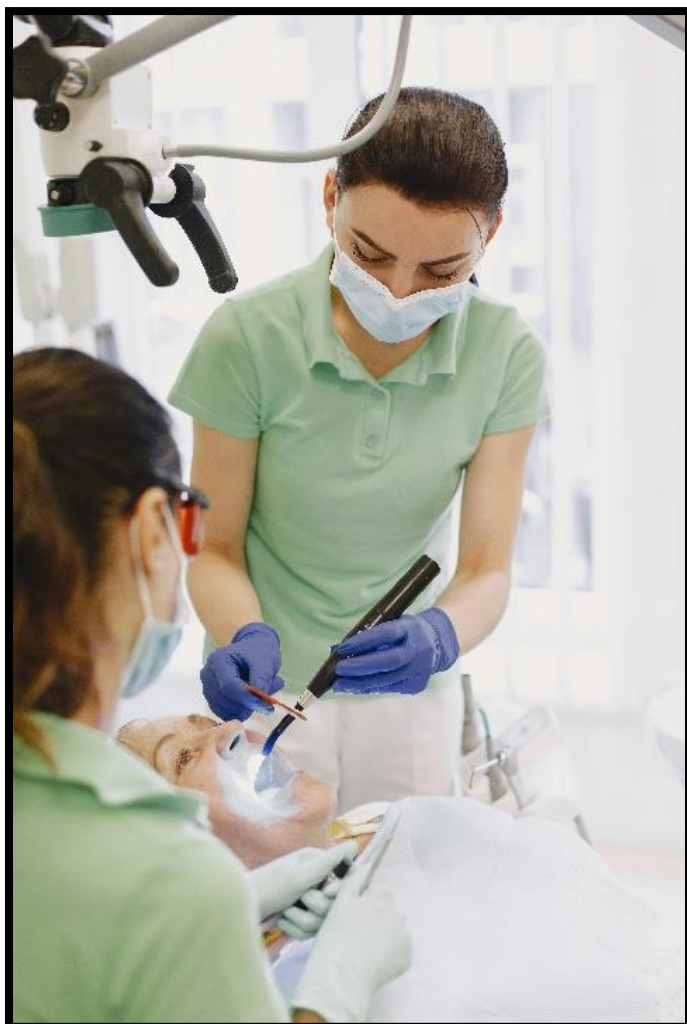
Dr. Webster and his team were able to provide the municipal government with GIS maps that indicate the probability of future severe coastal weather events, and the average time between them. This will allow planners and policy makers to identify vulnerable assets and devise strategies to mitigate loss. In addition, regulations can be put in place to avoid building new infrastructure in areas more likely to experience damage in future severe weather events.

Improved dentistry

Dental curing lights are used to harden (cure) white fillings, adhesives and the cements used to secure crowns and bond orthodontic brackets to teeth. Consequently, many Nova Scotians will have at least one dental procedure that uses a curing light every year. Unfortunately, not all curing lights cure resins well, resulting in premature failure of the resins and in some cases, release of chemicals into the body.

Researchers at Dalhousie University have long been studying the safety and efficacy of curing lights and a leading testing company, Bluelight Analytics, spun out of Dal in 2009. Since then it has operated in more than 19,000 dental clinics in some 75 countries around the world.

Dr. Richard Price, one of the researchers whose innovations were the basis for Bluelight Analytics, continues to focus on curing lights and dental resins. A professor in Dalhousie's Faculty of Medicine, Price received funds from RNS under its intentional research program to enable him to partner with a manufacturer that developed a novel laser-based curing wand, which promised to be a better option for dentists. With RNS support, Dr. Price acquired specialized equipment which he and his students used to compare the laser with traditional curing technologies and assess the safety of the laser product for patients.



The research identified flaws in the manufacturer's use instructions, and that more application time was required to properly cure dental resins. This meant dentists following the manufacturer's instructions were likely under-curing the resins which would result in product failures, additional costs for patients and the industry, and potential health impacts.

The findings and recommended best practices were shared with dentists and manufacturers at three international conferences, through peer-reviewed journals and on Dr. Price's YouTube channel which received hundreds of views. In addition, seven students participated in the research and had the opportunity to co-author several peer reviewed articles. Dr. Price also contributed evidence to support changes to the ISO standard test for curing lights and developed relationships with several additional manufacturers who may partner with Dalhousie on future research projects.

Better artificial intelligence

In February of this year, Dr. Rita Orji was appointed to the United Nation's new Independent International Scientific Panel on Artificial Intelligence. One of only two Canadians appointed to the 40-member panel, Dr. Orji plans to focus on human-centered, equitable, and responsible use of AI.

Dr. Orji traces this new undertaking back to her earlier research on persuasive technology (PT), the use of computer hardware and software to motivate users towards beneficial behaviours. With support from Research Nova Scotia in 2023, Dr. Orji secured a Canada Foundation for Innovation award for \$175,000 to acquire specialized equipment for her lab. The equipment, which included eye trackers, face readers, virtual reality headsets and specialized computers, enabled her and her students to adapt and personalize PTs for specific behaviours.

There has been significant progress since then. Almost 50 students have been trained on the equipment and according to Dr. Orji, the majority of them are working for industry in Nova Scotia and across Canada. The research has led to commercial (video game development), health and safety, and educational applications.



Dr. Orji is especially proud of research done in partnership with the Delmore “Buddy” Daye Learning Institute to support African Nova Scotian students on how AI innovation can promote equity and bridge gaps for Black students. The Persuasive Technology lab has also partnered with Roots of Hope, a community suicide prevention initiative created by the Mental Health Commission of Canada and being piloted in Nova Scotia in Colchester County. Dr. Orji and her team have created an app for individuals considering suicide to offer supports and services.

Based on the research made possible by the investments from RNS and CFI, Dr. Orji has attracted more than \$1 million in support for her work which now includes initiatives to support the immigrant population in Nova Scotia. She has been named an Arthur B. MacDonald Fellow by NSERC, a Fellow of the African Academy of Sciences, and is among the world's top 2% of scientists by Impact, according to Stanford University. Most recently, Dr. Orji delivered the keynote address at the United Nation's Science, Technology and Innovation (STI) forum in New York.

Dr. Orji points to the early investments in her lab as catalysts for what she's been able to accomplish. She says being able to have a local impact in Nova Scotia, and a global impact from Nova Scotia, is the result of the support she's received.

3. Projects Approved by the Corporation

CONTINUING PROJECTS

In the period from 1 October 2025 to 31 March 2026, RNS actively managed 271 projects with a total value of \$91 million and a further 101 projects were deemed complete. During this time, staff reviewed 98 project reports and processed 55 payments totalling \$3.68 million.

NEW PROJECTS

From 1 October 2025 to 31 March 2026, the following commitments were made:

PROGRAM	# FUNDED	TOTAL INVESTMENT
Ear to the Ground Research Investments (E2G)	8	\$2,132,128
Focused Research Investments (FRI)	2	\$2,148,810
		\$4,280,938

- Appendix A details each project approved by the Corporation during the reporting period, including the following information on each research project:
1. Name of the lead applicant
 2. Name of the lead institution or organization
 3. Name of the project
 4. Amount of funding approved
 5. Research sector
 6. Estimated number of jobs in Nova Scotia that will be supported by the funding awarded to the project
 7. Estimated number of training opportunities for students and others in Nova Scotia that will be supported by the funding awarded to the project
 8. Information about any funding that the project received from other sources, including the following:
 - a. The name of each source, and
 - b. The amount received from each source and whether it was in the form of cash or an in-kind contribution

4. Financial Forecast

The following table includes:

- 1. The current balance in the Research Opportunities Fund and the amount anticipated to be paid from the Fund over the next 6 months;
- 2. The amount spent on operations from October 2025 to March 2026, and the amount anticipated to be spent on operations over the next 6 months;

	COMMITTED OCTOBER 2025 – MARCH 2026	PREVIOUS COMMITMENTS EXPENSED OCTOBER 2025 – MARCH 2026	CURRENT BALANCE 31 MARCH 2026	ANTICIPATED SPENDING APRIL - SEPTEMBER 2026
Research Opportunities Fund (ROF)	\$4.28 M ¹	\$ 3.68 M ²	\$29.04 M ³	\$2.0 M ⁴
Operations	\$0.71 M ⁵	N/A	\$0.27 M ⁶	\$0.86 M ⁷

Notes to the financial table:

- 1. Funds paid or committed (through a grant payment agreement) for new projects approved in the reporting period. It excludes funds paid in the reporting period for projects approved and committed in previous years.
- 2. Payments made to projects approved in previous reporting periods.
- 3. The total ROF amount that remains uncommitted at the end of March 2026. A transfer of \$1,098,484 was made to Nova Scotia Health on behalf of the Department of Health & Wellness, and amount that RNS was holding in the ROF to support research for DHW, which was impacted by the Corporation’s changed mandate. Similarly, RNS will transfer \$518,000 to Nova Scotia Health on behalf of the Office of Addictions and Mental Health in fiscal year 2026/27.
- 4. Estimate based on anticipated commitments for the FRI and E2G funding streams, described in the budget approved by the Board of Directors.
- 5. Estimate based on the approved budget for 2025/26 and actual spending.
- 6. This figure represents the unspent operational funds received from Advanced Education for 2025-26 which RNS can transfer to the 2026/27 operations budget. The remaining unspent funds were transferred to the ROF. It does not include funds received from third parties to offset costs associated with the research partnership.
- 7. Estimate based on the budget for 2026/27 approved by the Minister of Advanced Education.

Appendix A: Projects Approved by the Corporation

October 1, 2025 – March 31, 2026

PROJECT TITLE	PI	ORG	RNS FUNDING	SECTOR	# JOBS CREATED (FTE)	# OF TRAINING OPPS	PARTNERS	CASH	IN-KIND		
FOCUSED RESEARCH INVESTMENTS (FRI)											
Bridging the engineering scale up challenge for natural polymer isolation & purification	Matt Mason	Verschuren Centre	\$958,000	Life Sciences & Health Sciences	6.00	0.00	AltTex, Ardra, Bloomage Bio, Lite 1, Michelin N. America, Retrn Bio, University of Toronto Biozone	Michelin	\$25,000	N/A	\$0
								AltTex	\$50,000		
								Lite 1	\$50,000		
								Ardra	\$50,000		
								Bloomage Bio	\$50,000		
								Retrn Bio	\$50,000		
One Health through Applied Tick and Vector Research	Nicoletta Faraone, Neil Kirk Hillier & Laura Ferguson	Acadia University	\$1,190,810	Life Sciences & Health Sciences	1.00	11.03	Atlantic Canada Opportunities Agency (ACOA), Merck, NS Health & Wellness, Philanthropy	NS Health & Wellness	\$50,000	N/A	\$0
								Merck	\$10,000		
								Philanthropic Donations	\$775,000		
								ACOA	\$455,000		
SUBTOTAL		\$2,148,810			7.00	11.03		\$1,565,000		\$0	

PROJECT TITLE	PI	ORG	RNS FUNDING	SECTOR	# JOBS CREATED (FTE)	# OF TRAINING OPPS	PARTNERS		CASH		IN-KIND
EAR TO THE GROUND RESEARCH INVESTMENTS (E2G)											
Exploring sustainable food ingredients innovation from Nova Scotia fruits and their processing by-products	H.P. Vasantha Rupasinghe	Dalhousie University	\$300,000	Life Sciences & Health Sciences	0.00	6.00	Atlantic Haskap	N/A	\$0	Atlantic Haskap	\$5,000
Advanced alkalinity measurement for validation of marine carbon dioxide removal	Natalya Evans	Dalhousie University	\$108,000	Natural Resources, Climate Change & Clean Energy	0.00	4.14	Canada Foundation for Innovation (CFI), Dalhousie University, Corporations/firms	CFI	\$100,000	Corporations/ firms	\$38,808
								DAL	\$16,066		
Particle Dynamics and Dissolution in the Ocean with Applications to Marine Carbon Dioxide Removal	Jiankang Yang	Dalhousie University	\$118,000	Natural Resources, Climate Change & Clean Energy	0.00	16.14		Mitacs	\$485,000	External Vendors	\$57,478
							Canada Foundation for Innovation (CFI), Dalhousie University, Mitacs, NSERC, Ocean Frontier Institute (OFI), Industry	CFI	\$118,000		
								DAL	\$1,522		
								NSERC	\$202,500		
								OFI	\$183,333		

PROJECT TITLE	PI	ORG	RNS FUNDING	SECTOR	# JOBS CREATED (FTE)	# OF TRAINING OPPS	PARTNERS		CASH		IN-KIND
An endoscopic, 3D intrasurgical ultrasound imaging system for arthroscopic surgery	Robert Adamson	Nova Scotia Health	\$499,999	Life Sciences & Health Sciences	0.00	5.00	Arthrosonics Inc., Daxsonics Ultrasound	N/A	\$0	Daxsonics Ultrasound	\$116,500
										Arthrosonics Medical	\$66,000
Nova Scotia-Focused Refractory Plasmonic Platforms for Solar Hydrogen and Critical Mineral Recovery	Mita Dasog	Dalhousie University	\$303,564	Natural Resources, Climate Change & Clean Energy	0.00	0.00	Canada Foundation for Innovation (CFI), Dalhousie University, NSERC, Ocean Frontier Institute (OFI), Industry	CFI	\$400,000	External vendors	\$90,506
								DAL	\$250,000		
								OFI	\$50,000		
								NSERC	\$50,000		
		SUBTOTAL	\$2,132,128		3.75	42.94			\$2,258,921		\$424,292
		TOTAL	\$4,280,938		10.75	53.97			\$3,823,921		\$424,292