

Climate Change is Here  
Memorial researchers enabling resiliency in the face of a changing climate  
Research | DEFINING A DECADE

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The World Health Organization, the United Nations and the scientific community overwhelmingly agree that climate change is real.

And it is happening right now.

The impacts are wide-ranging, global in scope and unprecedented in scale. Throughout the last decade Memorial researchers have been deeply engaged in understanding the impact of climate change.

Memorial's [Research Strategy Framework](#) was formally launched in 2012 with the creation of the [League of Extraordinary Researchers](#). That document outlines 10 strategic research themes reflecting existing strength and emerging opportunities.



Image from League of Extraordinary Researchers, the creative retelling of the Research Strategy Framework.

Climate change is noted in multiple themes, including Aboriginal Peoples; Arctic and Northern Regions; Community, Regional and Enterprise Development; Environment, Energy and Natural Resources; and Oceans, Fisheries and Aquaculture.

## Land connections, climate change and grief

Dr. Ashlee Cunsolo, director of the Labrador Institute and cross-appointed with the Division of Community Health and Humanities in the Faculty of Medicine, has worked with Inuit for almost a decade on climate change and health research.



As part of a community-led research project on climate change, Dr. Cunsolo worked closely with community leaders who wanted to not only document changes and Inuit experiences, but also to respond to these changes in a tangible, useful way.

The eNuk project is part of that response: an environment- and health-monitoring program that's run through a smartphone app.

Dr. Cunsolo's [groundbreaking work on “ecological grief,”](#) the grief felt in relation to experienced or anticipated ecological losses, including the loss of species, ecosystems and meaningful landscapes due to acute or chronic environmental change, was featured in [Nature Climate Change in 2018.](#)

## Northern climate change adaption

Dr. Trevor Bell, University Research Professor with the Department of Geography, Faculty of Humanities and Social Sciences, works collaboratively with Indigenous communities in Arctic coastal communities in Labrador to understand and respond to the changes wrought by climate change.



Dr. Trevor Bell programs a SmartSENSOR in the sea ice off Pond Inlet in May 2016.  
PHOTO: SUBMITTED

In 2014 he was the principal research partner for SakKijânginnatuk Nunalik: the Sustainable Communities Initiative (SCI) of the Nunatsiavut Government.

Dr. Bell and the SCI team tackled issues central to community well-being and sustainability in the context of climate change. One such project addresses the [challenge of healthy homes](#) with a blueprint for culturally appropriate and environmentally adapted housing.

He and his team created [SmartICE](#), a sea-ice monitoring system developed with coastal communities. Dr. Bell is the lead investigator for the project, which is a partnership between the university, industry and the federal and Nunatsiavut governments.

SmartICE has been recognized with the [Governor General Award](#) (2019), the [Arctic Inspiration Prize](#) (2016) and a [United Nations Momentum for Climate Change Solutions award](#) (2017).

Impact on oceans and fisheries



<https://gazette.mun.ca/research/climate-change-is-here/>

In 2017 Fisheries and Marine Institute's Dr. Marie Clément and a large team of academics partnered with three Indigenous groups in Labrador in an effort to better understand the impact of [climate change on salmon populations](#) in the region.

The group developed a water temperature monitoring network in salmon rivers in Labrador, Quebec's Lower North Shore and northern rivers that show potential to be populated by salmon.



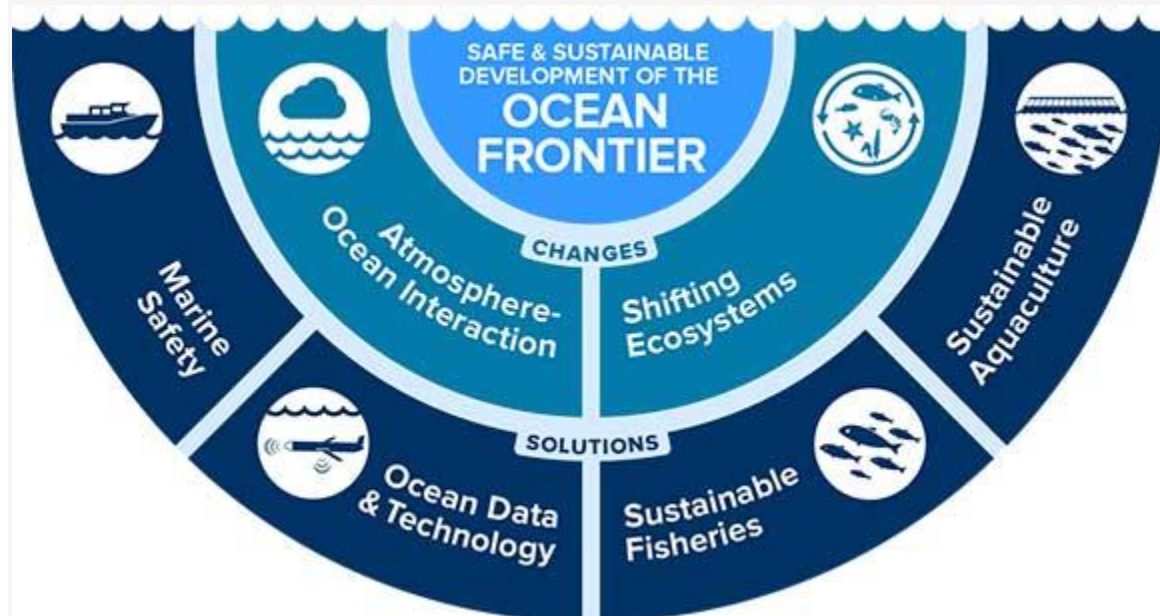
A team of international scientists on the RV Celtic Explorer in 2017 embarking on a voyage to learn more about climate change and its impact on the ocean.

Also in 2017, a team of scientists from six countries — with a unique Memorial connection — departed from St. John's, N.L., on a [month-long trans-Atlantic voyage](#) to study the impact of climate change on the ocean.

Dr. Brad de Young, professor with the Department of Physics and Physical Oceanography, Faculty of Science, is part of a global team working [to better observe the Atlantic Ocean](#).

“The climate is changing, the ocean is becoming more acidic, the oxygen is decreasing, the circulation patterns are changing and fish and other organisms

are moving around as the ocean changes. These changes will have direct impacts on us,” he outlined in the *Gazette* in 2019.



The Ocean Frontier Institute, launched in 2016, is a [historic partnership](#) between Dalhousie University, Memorial University of Newfoundland and the University of Prince Edward Island.

The OFI focuses on solutions for safe and sustainable ocean development and is improving our understanding of how climate change affects the ocean.

The [next phase of OFI funding](#) will invest approximately \$16 million in projects between 2019-23 that examine climate change and how changes to the North Atlantic impact coastal communities.