



EVALUATION OF THE AQUATIC CLIMATE CHANGE ADAPTATION SERVICES PROGRAM (ACCASP)

ABOUT THE EVALUATION

The evaluation was conducted internally by the Evaluation Division of Fisheries and Oceans Canada (DFO) and assessed the ACCASP’s achievements toward expected results, and the efficiency of the program in delivering on its objectives. The evaluation will provide input for the **Horizontal Roll-up Evaluation of the Adapting to the Impacts of Climate Change Initiative**, led by Environment and Climate Change Canada (ECCC). Evidence was gathered through document review, interviews, administrative data analysis, financial analysis, webometric analysis, and analysis of data obtained from the 2018-19 Evaluation of Science Funding.

ABOUT THE PROGRAM

The ACCASP contributes to the objectives and activities of **DFO** and the Government of Canada’s **Pan-Canadian Framework for Clean Growth and Climate Change (PCF)** by supporting research and monitoring activities necessary to identify climate change impacts and vulnerabilities, improve ocean forecasting and develop adaptation information and tools. The ACCASP receives **\$3.5M per year (A-Base)** under the PCF. **Eight full time equivalents (FTEs)** are funded through the program.

KEY FINDINGS

THE ACCASP PRODUCES RESEARCH OF HIGH SCIENTIFIC VALUE

Relevant and reliable science is needed to inform evidence-based decision-making and respond to climate change commitments from a departmental and federal government perspective. The **ACCASP is the only federal program** that advances research in the area of aquatic climate change science in support of adaptation efforts across three priority areas: **Ocean Chemistry**; **Vulnerability of fisheries and coastal infrastructure to climate change**; and **Refining applied ocean models**. ACCASP information and tools have been used by DFO and across governments and private organizations. The broader science community in Canada and internationally also uses ACCASP research and data.

The ACCASP has developed three main tools:

- 1 Coastal Infrastructure Vulnerability Index (CIVI)**
The index reflects a site’s vulnerability to sea-level rise, storm surge, and other effects of climate change. It incorporates harbor engineering and socio-economic indicators. The CIVI is not publicly accessible.
- 2 Canadian Extreme Weather Water Level Adaptation Tool (CAN-EWLAT)**
The tool provides sea-level rise projections for Canada’s coastline and advice on how much higher to build coastal infrastructure to accommodate sea-level rise projections. CAN-EWLAT is available online.
- 3 Fish Stock Climate Vulnerability Assessment Tool (FSCVAT)**
The tool helps fisheries managers to determine which commercially valuable species are most vulnerable to climate change. FSCVAT is not publicly accessible.



Municipal partners access ACCASP information through Sealevelrise.ca to plan for flood risk, disasters, and predicted changes in fisheries distributions.



DFO’s Small Craft Harbors Program uses the CIVI and CAN-EWLAT to incorporate climate change adaptation measures in most of their sites.



The **Geological Survey of Canada** applies CIVI to inform their Coastal Climate Geoscience Program to help coastal communities plan for regional sea level rise.



The most significant impact of future storms will likely be in areas of Canada where winter sea ice decreases.



Port authorities and private insurance companies have sought out ACCASP information to develop emergency plans, conduct environmental assessments, and implement insurance policies based on flood risk vulnerability.



Rising sea levels can damage shorelines and coastal infrastructure

KEY FINDINGS

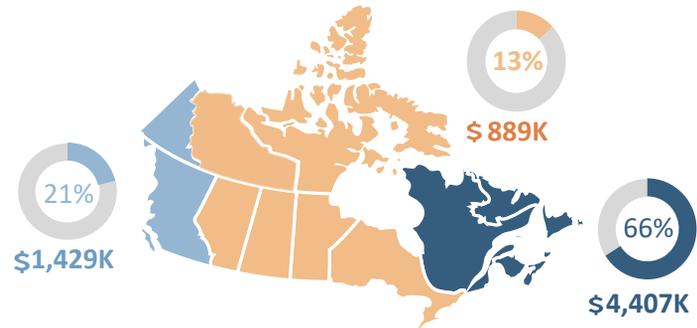
ACCASP-GENERATED INFORMATION AND TOOLS ARE NOT WELL KNOWN AND THEREFORE REMAIN UNDERUTILIZED

There are opportunities to increase the value-added of ACCASP research. Potential users have been identified and the demand for ACCASP information and tools is likely to increase as more DFO programs and external organizations increase their climate change adaptation efforts.

A number of challenges, common to **science-oriented programs**, impede the communication of ACCASP information and tools to a broader audience.

Several approaches may increase the value-added of ACCASP research. However, some of the potential solutions are beyond the scope of the current program.

The practice of distributing research funds by DFO's six regions is in line with the actual regional distribution of scientific expertise; however, it results in **differential knowledge acquisition** across Canada's three coasts because **four of the six DFO regions are located in the Atlantic coast**.



Distribution of O&M research funds, from 2016-17 to 2019-20, by Canada's **Pacific coast**, **Arctic coast**, and **Atlantic coast**.

THE ACCASP FULFILLS A ROLE BEYOND ITS MANDATE

ACCASP responsibilities within and beyond program-specific activities have continuously increased while program resources have remained unchanged. The climate change context, including that for DFO, is evolving and it is expected that demand for aquatic climate change science will continue to increase.

The ACCASP **responds to needs** for aquatic climate change science in support of adaptation efforts. Nevertheless, there are outstanding and evolving science needs to inform evidence-based decision-making in support of adaptation efforts. The needs are broader than the ACCASP's current mandate.

The ACCASP contributes a **unique expertise** at the federal level. Consequently, even though it does not have direct responsibilities **beyond supporting aquatic climate change adaptation research for DFO**, the department is required to ensure scientific information is available to support **broader climate change responsibilities and commitments**. Such responsibilities may go beyond ACCASP science, climate change science in general, and adaptation.



Coastal communities are especially vulnerable to the impacts of climate change

2 FTEs
Two FTEs carry out ACCASP national management

ACCASP management staff in the National Capital Region (NCR) fulfill a growing role in activities driven by an evolving broader climate change context. These activities have increased continuously since 2017 and **exceed the program's direct responsibilities**.

LESSONS LEARNED

Although the ACCASP is performing well under its current mandate, it faces and will continue to face challenges while it fulfills a broader role to support departmental climate change initiatives.

Since the ACCASP is the **only dedicated federal source** of aquatic climate change science information, **DFO relies on its expertise** to respond to existing and upcoming commitments driven by an evolving climate change context. There is no **dedicated group within the department** that coordinates climate change efforts; because of its expertise, the ACCASP has taken on a part of this role. However, the current mandate and resources of the ACCASP are insufficient to fulfill this expanding role. As a result, program resources are detracted from ACCASP-specific activities.

Although DFO actively contributes to broader climate change initiatives, the department does not have a **long-term strategy** in place **to address climate change challenges** in a **holistic and coordinated manner**, to which ACCASP could contribute more effectively.