RIISQ

Intersectorial Flood Network of Québec

Québec
Fonds de recherche – Nature et technologies
Fonds de recherche – Santé
Fonds de recherche – Société et culture

An inter-institutional, multi-organizational, and intersectorial network of innovative research partnerships and training to build a society that is more resilient to floods.


Ville de Rigaud

Mission

The InterSectorial Flood Network of Quebec (RIISQ) is dedicated to helping reduce the risk of flooding and its consequences, and to facilitate the **resilience of organizations, communities and individuals** to these events that are worsening as a result of climate change. It fosters the **links between civil society and universities** through the combined actions of academic researchers and ministries, and draws on new knowledge in science and technology, social sciences and health to develop **concrete and sustainable solutions.**

Context

In recent decades, many municipalities in Quebec and Canada have experienced floods and other extreme hydro-meteorological events.

Floods, which account for 40% of natural disasters in Canada, have caused significant economic, social and environmental damage.

These damages have led to deleterious effects on the physical and psychological health, as well as on the social functioning, of the victims. The lives of thousands of people were affected, while the costs amounted to hundreds of millions of dollars in damage to infrastructure. In the context of climate change, **the frequency and severity of floods are expected to increase significantly.** Other factors such as demographic changes (aging, migration, etc.), urbanization, dependence on critical public infrastructure, and technology, contribute to the upsurge and aggravation of the risks of such disasters.

Flood risk management focuses primarily on reducing vulnerability and associated impacts, and requires the **development and implementation of valid programs** that incorporate the following elements :

1. BEFORE the event:
- Understanding the risks
- Evaluation of the frequency and severity of the risks
- Raising awareness about prevention among individuals and communities
- Protection of property and people
- Preparation and planning of the territory

2. DURING the event:
- Precautionary measures and vigilance
- Intervention and public safety
- Health and psychosocial support

3. AFTER the event:
- Recovery and assistance to disaster victims and affected communities
- Post-flood debriefing (lessons learned)
- Updating prevention and response measures

Flood risk management requires **cross-sectoral research,** bringing together many disciplines such as the natural, human, social and political sciences as well as engineering, health, education, psychology, epidemiology, communication, and management.

Only the intersection of fundamental and practical approaches and knowledge can not only **increase our resilience** (societal and environmental), but also allow a strengthening of our adaptability and collective innovation. In order to prevent and reduce the risks and consequences of floods, it is therefore crucial to develop cross-sector skills, to mobilize, and to better invest the efforts of research, management and intervention to fill the gap between advanced knowledge and its applications, including the appropriation of knowledge.

RIISQ

Intersectorial Flood Network of Québec

Objectives of the network

Primary objective:

To contribute to the development of advanced transdisciplinary research on flood risk management and its consequences in the context of climate change. The ultimate goal is to provide answers and solutions to the needs of communities and individuals exposed to floods.

Specific objectives:

- To combine field expertise and research on flood risks, including lessons learned (post mortem);
- To improve the understanding of the risks of floods and their consequences (domino effects) on populations;
- To improve our understanding of the vulnerability, adaptation, and resilience of individuals, organizations and communities to floods;
- To contribute to renewed and improved flood risk governance and management;
- To contribute to better awareness, prevention, preparedness, response, and recovery from flood events for stakeholders;
- To synthesize existing knowledge and generate useful knowledge to provide decision-makers and populations with evidence-based and sustainable solutions;
- To train the next generation and highly qualified personnel in flood risk management.

Axes of development

Each axis (1-5) involves several disciplines and requires cross-sectorial integration of several research themes.

AXIS 1 – Risk factors for floods and disasters: hazards, vulnerability, and exposure;

AXIS 2 – Management and development of territories at risk of exposure, governance issues, and legislation;

AXIS 3 – Biological, psycho-social, health, and economic impacts, and associated cost sharing;

AXIS 4 – Transformation and reduction of vulnerabilities of individuals, organizations, and communities;

AXIS 5 – Risk management and communication, decision-making tools for adaptation, and resilience.

CONTACTS

Coordination:
Marie Raphoz
raphoz.marie@uqam.ca

Co-directors:
Philippe Gachon (UQAM)
Suzanne King (McGill)
Danielle Maltais (UQAC)
Taha Ouarda (INRS-ETE)

RIISQ is funded by the Fonds de recherche du Québec.

WWW.RIISQ.CA

Partners and governance

Network partners include universities, provincial and federal government ministries, municipalities, businesses, associations and organizations in the field of public safety, and health and social services, as well as international networks.

Sixteen universities involved

UQAM, McGill University, UQAC, INRS, ENAP, ÉTS, HEC, École Polytechnique, UQAR, UQAT, UQO, UQTR, Universities of Concordia, Laval, Montréal, and Sherbrooke.

Various governmental and para-governmental partners

Ouranos, Quebec ministries (Public security, Health and social services, Environnement et Lutte contre les Changements Climatiques, Education, Economy and Innovation, etc.), Canadian ministries (Public Safety, Environment and Climate Change, Natural Resources, etc.), Institutes (Institut national de santé publique du Québec), Associations (Sécurité civile du Québec), Organiszations (Regroupements des Organismes de Bassins Versants et des conseils régionaux de l'environnement du Québec, Hydro-Québec), Municipalities (City of Montreal, Québec, Laval, Gatineau), Federations and municipal unions (Quebec and Canadian), and NGO's (Red Cross, Salvation Army, etc.).

International positioning

RIISQ's actions are aligned with major international initiatives such as the United Nations International Strategy for Disaster Reduction (UNISDR) Sendai Framework for Disaster Risk Reduction or through UNESCO, the Sustainable Development Goals of the United Nations Development Program, Future Earth, etc.

Governance structure

- A board of directors composed of social, economic, and governmental partners and university representatives.
- An advisory committee with international scientific representatives, and local and Canadian members.
- A scientific committee including sector and development axis leaders responsible for calls of proposals, as well as training and knowledge mobilization activities.
- A general assembly with meeting once a year, during the annual symposium which reports on the achievements and knowledge developed by the network.