



CANADIAN PERMAFROST ASSOCIATION
ASSOCIATION CANADIENNE DU PERGÉLISOL



STRATEGIC PLAN (2021-2025)

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EXECUTIVE SUMMARY

This is the first-ever Strategic Plan for the Canadian Permafrost Association (CPA), which was incorporated in March 2018. Based upon the mission of the CPA, the plan comprises five interwoven themes: (1) **MEMBERSHIP**, (2) **DISSEMINATION OF PERMAFROST KNOWLEDGE**, (3) **LINKAGES**, (4) **PROMINENCE** and (5) **FINANCES**.

Each theme includes a **Vision**, a **Context** which provides information on current conditions within and outside the CPA, **Objectives** proposed, **Actions** required to fulfill the objectives, and **Metrics** for tracking the Association's progress and success over the next five years (2021-2025).

This ambitious plan presents a significant growth in CPA activities, concomitant with its growing size and maturation as an organization. Its realization depends in large part on the engagement of CPA members and particularly on the time and energy they devote to the planned actions. Major goals include:

- Improving the tangible and intangible benefits for all members.
- Enlarging and diversifying the membership, especially by attracting northern Indigenous organizations and northern communities as members, and facilitating their participation in activities and initiatives.
- Increasing the capacity of the CPA to generate and communicate information about permafrost for a variety of audiences.
- Building strong connections between the CPA and other organizations, associations, and northern communities.
- Raising the national and international prominence of the CPA so that it serves its members and Canadian society by becoming the primary contact with respect to permafrost issues, interests, and activities in Canada.
- Ensuring the CPA has the financial means to carry out its mission over the long term.

Key activities during the 5-year planning window include:

- Improving permafrost knowledge in Canada through active outreach, training, and educational initiatives.
- Achieving a more equitable, diverse, and inclusive membership with increased Northern representation.
- Creating more joint memberships with affiliate organizations.
- Hosting the 2024 International Conference on Permafrost in Whitehorse, YT.
- Registering a charitable arm to support educational initiatives that require funding (e.g., student bursaries, awards, public lectures).

Structural changes will be needed to achieve these goals, including the creation and operation of five Standing Committees composed of CPA members outside the Board. This volunteerism will further emphasize the Canadian permafrost community's ownership and support of its Association.

Achieving the objectives described in this plan will lead to a larger, more diverse, and vibrant Association. The many steps to be taken over the next five years will result in the CPA actively fulfilling its mission to advance knowledge by bringing together all individuals and groups interested in permafrost in Canada.



CANADIAN PERMAFROST ASSOCIATION

The Canadian Permafrost Association (CPA) was incorporated under the Canadian Not-For-Profit Corporations Act S.C. 2009, c. 23 in March 2018 to help understand and address challenges relating to permafrost, such as:

- Rising costs of infrastructure construction and maintenance.
- Impacts on ecosystems and food security.
- Development of landslides and other geohazards.
- Release of greenhouse gases.
- Stability of buildings.
- Changes in water quantity and quality.
- Sustainable resource development.

The CPA's activities are managed by officers and a Board of Directors operating under the rules prescribed in the [Constitution and Bylaws](#), and whose decisions are subject to review by members voting at the Annual Meeting. At the time this document was being prepared, members included more than 100 individuals, groups, institutions, corporations and communities interested in permafrost in Canada.



MISSION STATEMENT & OBJECTIVES

The Canadian Permafrost Association's mission is:

“ *To bring communities, researchers and practitioners together to advance understanding of permafrost environments.* ”

The Mission Statement was developed by the Steering Committee that formed the CPA in 2017-2018, drawing upon discussions held earlier at a workshop at Carleton University on the need for a coordinated multidisciplinary approach to advance permafrost research in Canada.

The CPA's mission is a critical part of its Constitution and By-Laws and the foundation of this Strategic Plan. It emphasizes that the Association's success depends on attracting a diverse membership, including individual members at all career stages within academia, government and industry, and group members that represent institutions, communities, corporations and Indigenous organizations. An essential element is that a significant proportion of these members live and/or operate in Canada's North.

The CPA's objectives appear in Article 3 of its Constitution and By-Laws as follows:

- To support national and international permafrost research within Canada.
- To support the development and dissemination of key synthesis products, such as maps, databases, and guidelines concerning permafrost in Canada.
- To organize each year a technical meeting on permafrost environments, co-located with the Annual Meeting of Members of the Association, and to normally hold both every second year in a location where permafrost-related problems are of particular relevance.
- To organize Canadian Permafrost Conferences, host International and Regional conferences on permafrost at appropriate intervals, and promote permafrost-related sessions at geoscience, engineering, and northern conferences.
- To promote excellence in permafrost science and engineering in Canada through awards and scholarships for exceptional contributions and support for early career researchers and practitioners.
- To promote permafrost education through supporting specialized training seminars, developing outreach products and events, and coordinating media inquiries with informed expertise.
- To advise the International Permafrost Association (IPA) on issues relating to permafrost in Canada and to collaborate with other associations concerned with permafrost science and engineering.

An additional objective is proposed within this plan:

- To support northern Canadian communities and Indigenous Peoples affected by changes in permafrost environments.



CPA STRUCTURE

The CPA's current organizational structure is simple, reflecting the recent creation of the Association and its initial size. It consists of the membership and a volunteer Board of up to nine persons.

The strategy for the CPA outlined in this plan will require a significant increase in the implication of the membership within the Association and a concomitant evolution in the structure of the organization to support it (Figure 1). This can only be accomplished by engaging a significant number of CPA members to sit on the five new Standing Committees. The mandates of each of these committees and which Board member they report to is specified in later sections of this document.

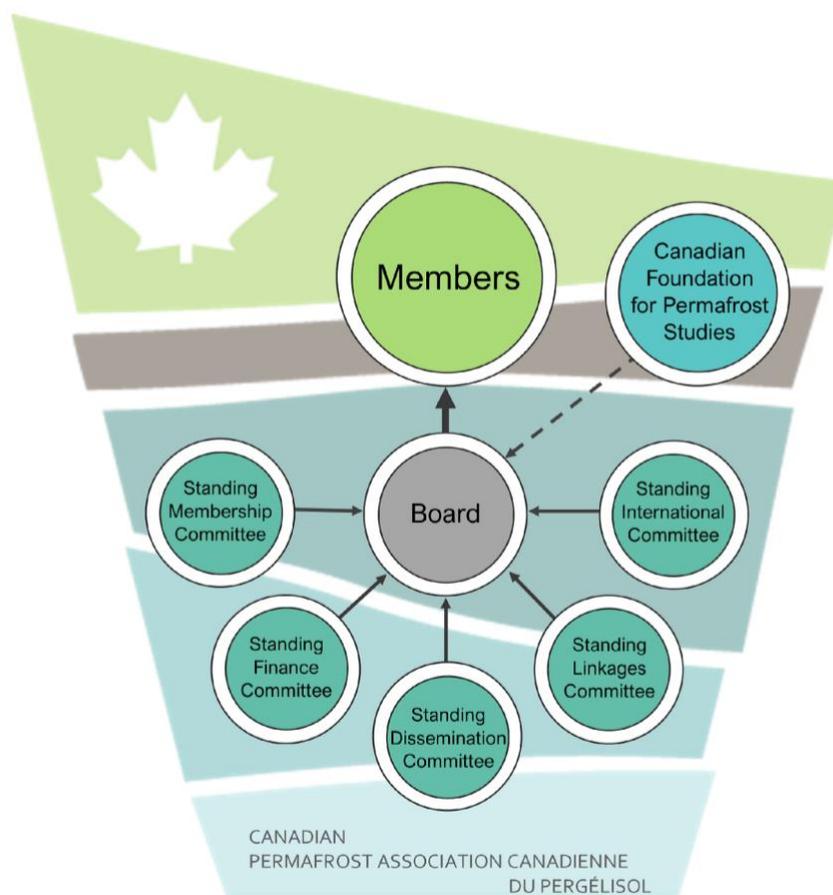


Figure 1. Future organizational structure of the CPA.

Note: The Canadian Foundation for Permafrost Studies is the preliminary name for the charitable arm of the CPA.



PROCESS TO DEVELOP THIS PLAN

The CPA Board informed members at the Annual Meeting in Québec City in August 2019 that it would develop a Strategic Plan for the Association that would be presented for approval at the Annual Meeting in 2020.

A call for volunteers to sit on the Strategic Planning Committee (SPC) and for topics to be included in the plan went out to the membership in the February 2020 newsletter. The following were subsequently appointed by the CPA Board as SPC members:



Antoni Lewkowicz (co-chair and CPA Past-President)
 Pooneh Maghoul (co-chair and CPA member)
 Peter Morse (CPA Secretary)
 Brendan O'Neill (CPA member)
 Eva Stephani (CPA member)

The SPC met six times by videoconference from April to June 2020 and produced an initial draft on June 30, 2020. This was reviewed and approved by the CPA Board at its meeting on July 10, 2020. After minor changes, the plan document was translated into French and posted on the CPA's web-site on August 15, 2020 for comment by September 15, a deadline later extended to September 22.

Feedback received from CPA members was discussed by the SPC and integrated into version 2 of the plan. This version was approved for presentation to the membership by an online vote of the CPA Board on October 26, 2020.

The members will vote to approve or modify the plan at the Annual Meeting on November 16, 2020.



THEMES

The activities of the Canadian Permafrost Association are grouped into **five** interwoven themes within this Strategic Plan (Figure 2):

1. **Membership**, including services to CPA members.
2. **Dissemination of Permafrost Knowledge**, including Outreach & Education, Technical Training, Online Resources, Conferences, and Targeted Activities.
3. **Linkages**, including with northern communities and other associations.
4. **Prominence**, including within Canada and on an international stage.
5. **Finances**, including the registration of a charitable arm of the CPA.

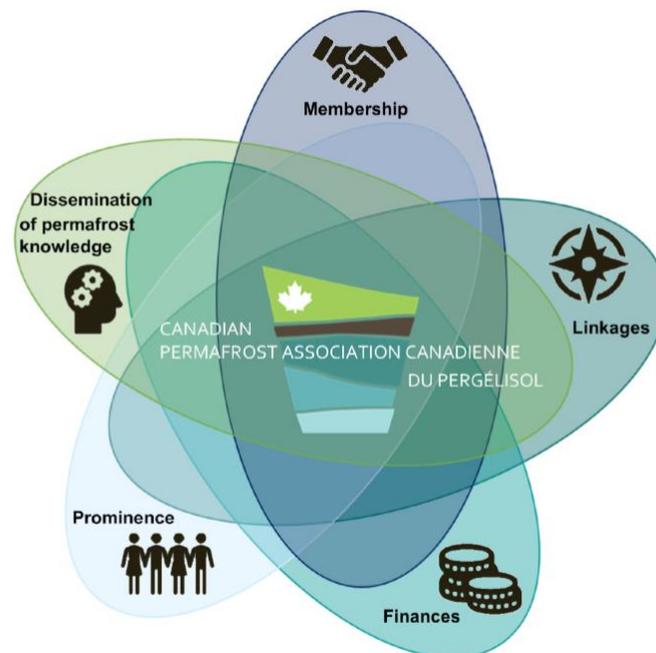


Figure 2. CPA activity themes

Each theme is structured as follows:

- **Vision:** the rationale for the theme being a significant part of the strategy for the CPA.
- **Context:** information on current state of the theme within the CPA and/or external conditions relating to the theme.
- **Objectives:** the specific goals to be achieved by 2025.
- **Actions:** the actions to be taken in order to achieve the objectives.
- **Metrics:** the measures to be used to track progress towards achieving the objectives.





Membership

Vision

The CPA wishes to attract all individuals and groups interested in permafrost in Canada as members who actively participate and support the Association.

The **MEMBERSHIP** theme aims to bring diverse individuals and groups together to build capacity and knowledge with respect to permafrost environments and related issues. An important element is to provide exclusive member benefits so that existing members renew annually or switch to become lifetime members, and new individuals and groups decide to join the Association.

Context

The importance of permafrost and the breadth of the domain in Canada will continue to grow over the next 5 years. The CPA is a young organization and should expect to increase in size in its first few years as it becomes better known and respected (see the **PROMINENCE** theme).

Members have a variety of reasons for joining the CPA. Their interest may be because permafrost is a central focus of research or education (e.g. academic and government scientists and engineers, graduate students), a critical element to be dealt with as part of employment or corporate activities (e.g. northern infrastructure managers, transportation engineers, consulting companies), or a factor that affects rights and livelihoods (e.g. Indigenous Peoples and northern communities).

The total number of members effectively remained constant between May 2019 (114) and May 2020 (115). The CPA has not tracked its members in terms of sub-field, nor in relation to equity and diversity. Membership in the community category, in particular, is not high enough at present for the CPA to fulfil its mission to bring together all those interested in permafrost.

Although membership renewal rates have been high, the benefits of joining the CPA have not been fully articulated and communicated.

Objectives

- **TARGETS:** Membership targets for 2025 should be higher than present levels in all categories, but especially for northern communities.
- **DIVERSITY:**
 - Member diversity should be maintained or increased to ensure the vibrancy of the CPA. This objective will also be supported by actions within the **LINKAGES** theme.
 - An interdisciplinary mix of scientists (including geocryologists, geoscientists, geophysicists, hydrologists, ecologists, climate scientists and remote sensing experts), engineers, and information users (including policy-makers, managers,



planners and educators) must be maintained, including individuals at all career stages. None of these groups should exceed two-thirds of the CPA's members.

- Good sectoral representation, including government, industry, academia and communities must be maintained.
- Members should include internationally-based researchers conducting fieldwork in Canada.
- **NORTHERN REPRESENTATION:** Good geographical representation should be maintained with northern communities and Indigenous Peoples from the three Territories and those Provinces with permafrost.
- **MEMBER BENEFITS:** Members should be provided with a range of exclusive benefits and services that encourage existing members to renew their affiliation annually or to become lifetime members, and that incite non-members to join the CPA.

Actions

- **STANDING MEMBERSHIP COMMITTEE:** Establish a Standing Membership Committee (SMC) that is composed of a Chair and between two and four members, and which reports to the CPA Secretary. The mandate of the SMC is to solicit new members, retain existing members, increase engagement of CPA members in activities, propose innovative member services to the Board, and to implement these services once they are approved. The SMC also monitors progress toward membership targets.
- **MEMBERSHIP CATEGORY:** Develop a new membership category or redefine the Community Membership category to better represent Indigenous Peoples and their organizations, and thus encourage their participation in the CPA.
- **MEMBER CENSUS:** Request CPA members to voluntarily self-identify during the membership renewal process, in terms of domain (science, engineering, policy, other), gender, racialized group, and Indigenous heritage, to enable the CPA to track its progress in equity, diversity, and inclusion.
- **MEMBER BENEFITS:** Develop and clearly communicate the following benefits:
 - **Reduced registration costs:** Provide members with a reduced registration fee for Canadian permafrost conferences and other CPA activities (e.g., training, workshops).
 - **Travel bursaries for early career members:** Students and other early career members have access to travel support (potentially on a competitive basis) to attend CPA meetings and other permafrost conferences.
 - **Special membership category benefits:**
 - ✓ Evaluate and potentially enhance the benefits for corporate and institutional members.
 - ✓ Develop special recognition of lifetime members and communicate the financial savings for this category of membership over a career.
 - **CPA Awards:**



- ✓ Regularly confer the existing CPA awards : (1) the Hugh M. French Award for outstanding contributions to permafrost science and/or periglacial geomorphology over a career (awarded every second year); (2) the Mackay Lecture, for research excellence in permafrost studies, given at each Canadian Permafrost Conference and jointly awarded with the Canadian National Committee for the International Permafrost Association (CNC-IPA).
- ✓ Develop additional awards over the next five years, including awards for early career researchers, northern partners, and for service to the Association.
- **Newsletter:** Distribute a quarterly newsletter describing CPA developments, information on conferences and meetings, a letter from the president, and other relevant information.
- **Online resources:** Produce or host online resources with login required for access, such as:
 - ✓ Proceedings of Canadian Permafrost Conferences.
 - ✓ A guide on research licensing requirements by provinces/territory.
 - ✓ A searchable directory of members with information on specializations (by keywords). Members may also opt to have their information displayed on a public-facing directory.
 - ✓ An employment opportunities web page.
 - ✓ A student opportunities web page.
- **Member satisfaction:** Measure satisfaction with member services by an annual survey distributed during the renewal process.

Metrics

- By 2025, the CPA's membership should increase by 50% (+58) relative to the 115 members at present (May 31, 2020) for a total of 173 members. Increases in the various categories are envisaged as follows:
 - Regular: 78 (+16)
 - Early Career: 50 (+16)
 - Lifetime: 15 (+5)
 - Corporate 8 (+2)
 - Institutional: 6 (+2)
 - Community: 16 (+15) Note: category title may change (see above).
- Within the enlarged CPA, diversity targets for all membership categories (individual and group) for the next 5 years are:
 - At least 30% of all members reside or are based in permafrost regions (currently 25% of individual members live in the three Territories).
- Within the enlarged CPA, diversity targets for individual members for the next 5 years are:



- Individual members from academia, all levels of government (Federal, Provincial, all three Territories and Local), consulting and other industries, and nonprofits.
 - At least 33% of members from science and 33% from engineering.
 - At least 40% Early Career members (currently 32%).
 - Annual increases in the percentage of individual members identifying as female (current estimate from the list of member names is 32%) with a long-term goal of parity with the percentage of members identifying as male.
 - Annual increases in the number of members identifying as Indigenous or racialized (no data at present).
- Member services to be evaluated from:
 - Membership renewal rate greater than 90%.
 - More than 90% of respondents satisfied or very satisfied with member services.
 - Exit interviews with members not renewing.
 - Number and percentage of discounts and travel bursaries provided to members for conferences and other activities.
 - Four newsletters distributed to members annually.
 - Regular conferral of existing CPA awards and development of at least two new awards by 2023. Funding (where required) to support the awards to come from the charitable arm of the CPA.





Dissemination of Permafrost Knowledge

Vision

DISSEMINATION OF PERMAFROST KNOWLEDGE increases the sharing of information concerning permafrost among a variety of audiences, including northern community members, practitioners, managers, government officials, and academics in numerous disciplines. Knowledge creation through discussions and exchanges among CPA members with differing backgrounds is an essential element of this dissemination.

Context

The mission of the CPA is to bring communities, researchers and practitioners together to advance understanding of permafrost environments.

In its first 28 months, the CPA has supported this mission by: (1) developing a website and social media accounts, and producing regular newsletters; (2) organizing two technical meetings; (3) being represented at several other conferences; (4) writing a literature review on cold regions transportation engineering; (5) providing conference bursaries for early career members; (6) providing funding for the Eighth Canadian Permafrost Conference; (7) bestowing the CPA Hugh French Award and co-awarding the Mackay Lecture; and (8) submitting a winning proposal to host the 2024 International Conference on Permafrost in Whitehorse, Yukon (ICOP2024).

Numerous opportunities for knowledge dissemination exist, but the Association has not been able to take advantage of all of these because of limited capacity within the Board which until now, has been the sole vehicle for action within the Association.

Strengthening the **DISSEMINATION OF PERMAFROST KNOWLEDGE** is essential for the CPA to achieve its constitutional objectives. The planned charitable arm of the CPA will help financially support those educational initiatives that require funding.

Objectives

- **OUTREACH & EDUCATION:** Raise public awareness of permafrost issues, make contributions to permafrost education, and highlight the CPA's own synthesis products and research carried out by its members.
- **TARGETED ACTIVITIES:** Support targeted activities proposed by CPA members to the Board or initiated by the Board itself. Once approved, these activities are carried out by groups of members established for a limited time in order to address a specific issue.
- **TECHNICAL TRAINING:** Provide training opportunities through **TARGETED ACTIVITIES** that (1) promote interdisciplinary approaches to permafrost, especially between permafrost science and engineering, (2) promote engineering practices adapted to permafrost terrain, and (3) support capacity-building in northern communities for sustainable development.



- **ONLINE RESOURCES:** Provide the public and members with web content that accurately disseminates information about permafrost. This should include a new peer-reviewed short article series.
- **CONFERENCES AND ANNUAL MEETING:** Organize annual technical meetings as specified in the By-Laws, initiate Canadian Permafrost Conferences at intervals, and every 15-20 years propose the hosting within Canada of an IPA Regional or International Conference on Permafrost. Sponsor permafrost-focused sessions at appropriate conferences organized by other organizations to promote information exchange between CPA members and individuals and groups outside the Association.

Actions

- **OUTREACH & EDUCATION:**

- **Standing Dissemination Committee**

- ✓ Establish a Standing Dissemination Committee (SDC) that is composed of a Chair and between three and five members, and which reports to the CPA Communications Director. The mandate of the SDC is to facilitate CPA activities that raise public awareness of permafrost issues, make contributions to permafrost education, and highlight CPA synthesis products and permafrost research carried out by CPA members.
- ✓ The SDC proposes strategies to the CPA Board to engage with new and/or external audiences (e.g., permafrost introduction course, workshops, public lectures, discussion groups, vendor booth at conferences) and implements those approved.
- ✓ Encourages members to propose **TARGETED ACTIVITIES** that result in the creation of synthesis products (e.g., reports, whitepapers, maps, and databases).
- ✓ Disseminates newly-released Canadian permafrost research.
- ✓ Supports the development and dissemination of resources for K-12 education, especially to northern communities.
- ✓ Provides content to the Communications Director and website manager.
- ✓ Coordinates with the Standing Linkages Committee to link with external audiences.
- ✓ SDC membership takes equity, diversity and inclusion into account, in order to incorporate many possible perspectives.

- **TARGETED ACTIVITIES:**

- **Action Groups**

- ✓ Established through a proposal to the Board for funding of targeted work towards the production of well-defined products such as courses, maps, science plans, books, reports, whitepapers, or databases, that can be supported through the organization of workshops, management support, technical support, etc.



- ✓ Funded on a competitive basis at up to \$1500 per year for two years (renewable for an additional two years). Target of \$3000 per year of the CPA budget to be devoted to Action Groups.
- ✓ Activities and finances reported annually to the Board and the membership.

- **Interest Groups**

- ✓ Established through a proposal to the Board for approval.
- ✓ Address scientific and engineering issues in a problem-solving context, often focusing on communication and collaboration surrounding a specific topic (e.g., Permafrost Carbon; Geothermal; Geomechanics; Northern Infrastructure; Bridging the gap between permafrost science and engineering).
- ✓ Include formalized pathways for CPA members to give feedback on the focus on the Interest Group.
- ✓ Activities reported annually to the Board and the membership.

• **TECHNICAL TRAINING:**

- **Course on Permafrost and Sustainable Development**

- ✓ Develop, using an interdisciplinary team, a standardized permafrost course that integrates methods and techniques from science and engineering and covers critical knowledge required for professionals (e.g., geoscientists, geologists, environmental scientists and engineers) practicing in permafrost regions.
- ✓ Lobby universities, colleges, and relevant organizations (e.g., Northern Transportation Initiative Program) to offer the standardized course in a range of formats (e.g., semester-based, intensive, in-person, online) to facilitate access.
- ✓ Lobby provincial and territorial professional associations to consider the course essential for the licensing of professionals practicing in permafrost areas and/or develop a stand-alone CPA certification program.

- **Short Courses on Permafrost**

- ✓ Develop new short courses as **TARGETED ACTIVITIES** to support diffusion of permafrost knowledge in Canada and help identify needs for future training.
- ✓ Promote existing short courses that are given by CPA members at various institutions.

• **ONLINE RESOURCES:**

- Host web pages on pertinent themes (e.g., engineering, available data, mapping) with links and references to useful resources (textbooks, government Open Files, portals).
- Develop and host a database that lists permafrost-related courses offered at post-secondary educational institutions across Canada.



- Develop a peer-reviewed, short article series on topics of interest to the Canadian and international permafrost communities.
- Satisfaction with online resources to be polled annually during renewal (same poll as for member services).
- **CONFERENCES and ANNUAL TECHNICAL MEETING:**
 - Host CPA stand-alone annual technical meeting when there is no appropriate larger meeting with which to partner.
 - Host the 13th International Conference on Permafrost in Whitehorse (ICOP2024):
 - ✓ Support the National Organizing Committee and the other committees charged with organizing ICOP2024 over the next 3-4 years to ensure a highly successful conference.
 - ✓ Present ICOP2024 planning activities in sessions within other conferences.
 - Disseminate information regarding CPA activities at the Annual Technical Meeting, at the conferences of affiliated associations, and at IPA-linked permafrost conferences (Boulder, USA (2021), Lanzhou, China (2022), and Puicerdà, Spain (2023)).

Metrics

- **OUTREACH & EDUCATION:**
 - **Standing Dissemination Committee**
 - ✓ 3 strategies implemented each year.
 - ✓ 2 resources developed or disseminated to support K-12 education (including in northern communities) each year.
 - ✓ 1 synthesis product developed each year.
 - ✓ Public lecture series established in 2021.
 - ✓ Short (0.5 to 1 day), interactive permafrost introduction course developed by 2022 to increase awareness of permafrost sensitivity and needs for sustainable development.
 - ✓ Short course offered at least twice a year and at every Annual Meeting held in the North.
 - ✓ Vendor booth set up at conferences/forums to promote CPA at least once each year.
 - ✓ Content provided in a timely manner to the Communications Director and website manager.
 - ✓ SDC demonstrates coordination with the Standing Linkages Committee.
 - ✓ SDC membership demonstrates equity, diversity and inclusion.
- **TARGETED ACTIVITIES:**
 - **Action Groups**
 - ✓ Outputs delivered according to proposal.



- ✓ Demonstration that annual funding was spent.
- ✓ At least one active Action Group each year.
- ✓ Report on activities and finances delivered to the Board each year.

- **Interest Groups**

- ✓ Interest groups formed according to proposal.
- ✓ Demonstration that annual funding (if awarded) was spent.
- ✓ At least two active Interest Groups each year.
- ✓ Report on activities delivered to Board each year.

- **TECHNICAL TRAINING:**

- **Course on Permafrost and Sustainable Development**

- ✓ Develop the course content in 2021-2023.
- ✓ Course taught at an institution in 2023.
- ✓ Lobby provincial and territorial professional licensing bodies in 2023-2025.
- ✓ Course adopted for professional licensing in Canada in 2025 or incorporated into a stand-alone CPA Certification Program.

- **Short Courses in Permafrost**

- ✓ Develop two short courses by 2023.
- ✓ Deliver annually in 2024-2025.

- **ONLINE RESOURCES:**

- Increase web traffic to online resources by at least 10% per year.
- Satisfaction with online resources maintained >80% in the member poll.
- Permafrost course database to be developed by winter 2022 and updated annually.

- **Short Article Series**

- ✓ Establish editorial board, register for DOI, publish introductory article in 2021.
- ✓ Publish 6-10 articles annually in 2022-2025.

- **CONFERENCES and ANNUAL TECHNICAL MEETINGS:**

- Run a successful annual technical meeting in the North in 2022, and hold the Annual Meeting of members as part of ICOP2024 in Whitehorse.
- Organize annual technical meetings in southern Canada in 2021, 2023 and 2025, as stand-alone events or in collaboration with affiliated associations.





Linkages

Vision

LINKAGES enable the CPA to develop connections and strategic partnerships with other associations, governmental organizations, northern communities and Indigenous groups interested in permafrost. Increasing the number and strength of linkages will serve to augment **DISSEMINATION OF PERMAFROST KNOWLEDGE** and the **PROMINENCE** of the CPA.

Context

Currently, the linkages between the CPA and other regional and national associations and governmental organizations are mainly based on individual members energetically involved in the CPA and the partner organization. One partnership has been established with the Canadian Geotechnical Society, in which a joint membership has been negotiated with reduced dues. However, there are many northern communities, professional associations, governmental organizations, Indigenous groups and other bodies with interests and mandates that are related to permafrost.

Objectives

- **INTER-ORGANIZATIONAL LINKAGES:**
 - Promote communication in relation to permafrost issues among associations, governmental organizations, and disciplines.
 - Facilitate inter-association collaborations.
 - Limit duplication of efforts.
- **NORTHERN LINKAGES:**
 - Support capacity-building in the North in relation to permafrost knowledge.
 - Promote sustainable development in relation to permafrost.
 - Improve communication among communities, practitioners, managers, policy-makers and academics as economic development, climate change and research activities intensify in the permafrost regions of Canada.

Actions

- **STANDING LINKAGES COMMITTEE:** Establish a Standing Linkages Committee (SLC) composed of a Chair and four to five members with interdisciplinary backgrounds, which reports to the CPA President-Elect or Past President. The mandate of the SLC is to network with Canadian associations, national associations in other countries, with northern communities and Indigenous groups, and with other partners, including governmental organizations and program managers.



- **INTER-ORGANIZATIONAL LINKAGES:**

- Offer joint memberships in associations at reduced rates. Discounted rates will be negotiated between the CPA and other associations. Since some joint memberships already exist between potential partner associations, the CPA should seek the development of new, multi-association combination memberships.
- Further the formation of interdisciplinary committees and working groups within the CPA, between the CPA and partner associations, and with other organizations, to promote and foster the strength of combined efforts at a national level.
- Offer special sessions and short courses at conferences organized by partner associations.
- Invite partner associations and other organizations to develop special sessions, and their members to give keynote presentations at the CPA Annual Technical Meeting and other CPA events.
- Co-sponsor and co-organize conferences, thematic workshops, webinars or lecture series, and offer discounted registration fees.
- Create awards and scholarships with partner associations to highlight permafrost aspects in their respected fields.
- Write short articles and provide information for magazines, web pages or social media outlets run by partner associations and offer to highlight their news and activities on the CPA website.
- Promote social media postings from our partner associations through the CPA social media network.
- Promote the publication of scientific articles in journals managed and edited by partner associations.
- Support policy-making relative to permafrost in the fields of partner associations and governmental organizations.

- **NORTHERN COMMUNITY LINKAGES:**

- SLC reaches out to northern communities for input on how the CPA can support their sustainable development on permafrost terrain and follows up on progress.
- SLC and Standing Dissemination Committee (SDC) coordinate outreach and training activities in northern communities by researchers, ensuring optimized outreach across associations and disciplines and limiting duplication.
- SLC and SDC develop a list of willing contacts and suitable materials for communicating permafrost information to members of northern communities.
- CPA advertises training and job opportunities for northern community members on its web-site.
- The following objective is added to the CPA Constitution and By-Laws: "To support northern Canadian communities and Indigenous Peoples affected by changes in permafrost environments."



Metrics

- **STANDING LINKAGES COMMITTEE:** SLC established by January 2021.
- **INTER-ORGANIZATIONAL LINKAGES:**
 - Sponsor at least one session per year at the conference of an affiliated organization.
 - By 2022, develop a Memorandum of Understanding between the CPA and the USPA on how to support each other's interests and plans for joint working groups.
 - By 2025, joint memberships established with at least five Canadian associations.
 - By 2025, sponsor a minimum of three early career researchers per year to present permafrost-related research at conferences organized by affiliated organizations.
 - By 2025, invite established researchers or professionals from two affiliated organizations to give keynote presentations at the CPA annual Technical meeting.
- **NORTHERN COMMUNITY LINKAGES:**
 - By 2022, establish meaningful partnerships with at least two northern communities or Indigenous organizations. Each partnership will be tailored to the specific geography, needs and interests of the partner in relation to permafrost.
 - By 2025, establish at least five more partnerships with northern communities or Indigenous organizations.





Prominence

Vision

The CPA will serve its members and Canadian society by becoming the primary point of contact for all individuals, national and international organizations interested in permafrost in Canada. Achieving this **PROMINENCE** is the ultimate responsibility of the CPA Board and is heavily dependent on achievements in the other four themes, especially the dissemination of accurate, useful information about permafrost, as well as success in the specific actions and objectives described below. The CPA's profile will also be elevated by joining higher-level associations, while the success of individual members in obtaining prizes and awards will raise the visibility and reputation of the field and help attract the next generation of researchers.

Context

The CPA is well-positioned to represent all those interested in permafrost in Canada and to be the face of Canadian permafrost science, engineering and policy studies internationally. There is no competing organization in Canada that covers permafrost holistically.

At the international level, Canada is currently represented at the International Permafrost Association by the CNC-IPA whose members are appointed by Natural Resources Canada (NRCCan). NRCCan hosts the CNC-IPA Secretariat while the National Research Council (NRC) pays the dues to the IPA. This arrangement exists because, for the 35 years prior to 2018 when the CPA was formed, CNC-IPA was the sole actor representing permafrost in Canada. The CPA By-Laws state that the Board must maintain close links with the CNC-IPA. However, this is challenging because the two are formed and function independently. More direct links between the CPA and the IPA are desirable which requires a reorganization of the relationship between the CPA, CNC-IPA and the IPA.

At present, the CPA is not a member of any higher-level organization.

Objectives

- **VISIBILITY:** Solidify the nascent reputation of the CPA and subsequently elevate its profile so that it serves its members and Canadian society by becoming the essential point of contact for northern communities, Indigenous groups, governmental organizations, the media, educators and the general public, seeking information or partnerships relating to Canadian permafrost. Achieving this **PROMINENCE** mainly depends on meeting the objectives in the other four themes, and consequently, is the responsibility of the CPA Board rather than of a new standing committee.



- **IPA:**
 - Create direct links with the IPA by changing the relationship between the CPA and the CNC-IPA so that the latter is constituted on the advice of the CPA and operates within the Association.
 - Nominate CPA members as credible candidates for the IPA's Executive Committee so that to the extent possible, it continuously includes a Canadian.
- **EXTERNAL AWARDS:** Raise the profile of Canadian permafrost research by regularly proposing Canadians for national and international awards for excellence in permafrost science and engineering.
- **HIGH-LEVEL ORGANIZATIONS:** Apply for membership in higher-level scientific and engineering organizations in Canada (e.g. PAGSE, Canadian Federation of Earth Sciences).

Actions

- **CPA BOARD:**
 - Continuously facilitate and encourage the activities of the Standing Committees, Action and Interest Groups in fulfilment of the objectives of the Strategic Plan.
 - Annually review the progress made in relation to the plan metrics.
 - Present achievements and challenges to the Annual Meeting of Members and re-assess priorities and propose changes in direction where necessary.
- **STANDING INTERNATIONAL COMMITTEE:**
 - Establish a Standing International Committee (SIC) that is composed of the members of CNC-IPA and which reports to the CPA President. The mandate of the SIC is to act as the interlocutor between the CPA and the IPA on matters relating to the international permafrost community, including at the IPA Council.
 - Maintain the current arrangement in which NRCan houses the CNC-IPA Secretariat and NRC pays Canada's annual dues to the IPA for the next 5 years.
 - SIC members serve for the same term as their CNC-IPA appointments (normally the four years between ICOPs). When CNC-IPA members are approaching the end of their terms, the CPA Board makes recommendations to NRCan regarding the composition of the next CNC-IPA and SIC.
- **NOMINATIONS FOR IPA EXECUTIVE COMMITTEE:** Propose strong candidacies for the IPA Executive Committee and for other organizations (e.g. IASC) by mentoring CPA members interested in serving their Association and increasing responsibilities as they rotate through CPA standing committees, action groups and the Board.
- **NOMINATIONS FOR EXTERNAL AWARDS:**
 - Constitute the two CPA Board members-at-large as a committee responsible for developing nominations of CPA members, including early career researchers, for external national and international prizes and awards, such as those for engineering and geoscience.



- This committee will also generate nominations for CPA's own awards where this is required by the terms linked to each award.
- **HIGHER-LEVEL ORGANIZATIONS:** CPA Board to evaluate the benefits and costs of potential memberships in higher-level societies and groups, and decide on which to join.

Metrics

- Progress towards meeting the goals of the Strategic Plan
- Standing International Committee established by January 2021.
- Continual presence of a CPA member on the IPA Executive Committee.
- Number of successful nominations of its members by the CPA for national and international awards.
- Number and pertinence of higher-level associations joined.
- Annual increase in the number of media enquiries received.





Finances

Vision

Strong **FINANCES** will ensure that the CPA has the resources available to carry out its mission over the long term, and to develop reserves sufficient to function for 12 months if revenues unexpectedly drop. The **FINANCES** theme is the responsibility of the CPA Board with the holding of funds and annual budget development in the hands of the CPA Treasurer. A portion of the **FINANCES** theme relates to the registration and successful operation of a proposed charitable arm of the CPA.

Context

Annual revenue and expenses are currently budgeted at \$18.5K, with 84% of revenue from memberships and 16% from the annual meeting. Expenses relate to operational costs, such as web-hosting and insurance, and bursaries for students to participate in selected permafrost conferences. The CPA has achieved a healthy bank balance (approximately \$31K as of May 15, 2020) thanks to an initial uptake of CPA membership by lifetime members, a contract that was awarded to the CPA by GNWT to produce a literature review on transportation infrastructure and permafrost, a high rate of membership renewal, and financially successful conferences in 2018 and 2019. At the same time, expenses have been kept to a minimum.

The CPA is a not-for-profit corporation and not a charitable organization. This limits the Association's attractiveness to raise funds for educational purposes as charitable receipts cannot be issued at present. The Board has proposed and the membership has agreed that an important step is to establish a charitable arm of the Association whose specific role would be to raise funds to (1) support student bursaries (2) fund CPA awards of excellence, (3) give public lectures in the North, (4) fund a lecture series, and (5) provide seed funding for research. This would allow the Association's budget to be used for other relevant but non-charitable purposes.

Objectives

- **BUDGET:** Double the annual budget by 2025 to permit the CPA to increase funding for existing activities and fund new ones.
- **REVENUE:** Develop new sources of revenue, such as registration fees in short courses, so that the organization is less dependent on membership dues.
- **RESERVE:** By 2025, build up and set aside a reserve equal to the annual budget for that year.
- **CHARITABLE STATUS:** Legally register a charitable arm to support the CPA's educational objectives.



Actions

- **STANDING FINANCE COMMITTEE:** Establish a Standing Finance Committee (SFC) that is composed of a Chair and between two and four members, and which reports to the CPA Treasurer. The mandate of the SFC is to develop and implement ideas to increase revenues, including attracting donations from foundations, industry and individuals.
- **REVENUE:** Achieving the targets in the **MEMBERSHIP** theme will raise approximately \$5K per year by 2025. This means that the Standing Finance Committee must implement actions to raise a further \$13.5K per year.
- **CHARITABLE STATUS:** Complete the incorporation of a registered charitable arm of the CPA by June 2021.

Metrics

- Total budget to reach \$37K by 2025.
- Financial reserve to reach \$37K by 2025.
- Membership dues to constitute less than 60% of the Annual Budget by 2025.
- CPA's charitable arm to fund \$50K of travel bursaries for ICOP2024 in Whitehorse and fund \$20K of awards and bursaries annually by 2025.



PLAN SUMMARY

This five-year (2021-2025) Strategic Plan, based upon the mission of the CPA, presents five ambitious themes: (1) **MEMBERSHIP**, (2) **DISSEMINATION of PERMAFROST KNOWLEDGE**, (3) **LINKAGES**, (4) **PROMINENCE** and (5) **FINANCES**, each with its own vision, objectives, actions to meet the objectives, and clear metrics with which to evaluate the Association's progress and success.

To be successful, the Strategic Plan requires CPA members outside the Board to take on leading roles in the CPA's operations within five new Standing Committees (Table 1) and to become engaged in numerous other CPA activities. The CPA Board remains responsible for the association as whole and hence for most elements of the **PROMINENCE** theme.

Table 1. Proposed CPA Standing Committees

TITLE	MEMBERSHIP ¹	MANDATE	REPORTS TO
Standing Membership Committee	Chair plus 2-4 members	Retain existing members and attract new ones; increase member engagement and activities; propose and implement new member services; monitor progress toward membership targets.	CPA Secretary
Standing Dissemination Committee	Chair plus 3-5 members	Propose and implement strategies to engage with external audiences; develop targeted activities, technical training, workshops and conferences.	CPA Communications Director
Standing Linkages Committee	Chair plus 4-5 members	Network with national associations in Canada and elsewhere, and northern communities and Indigenous groups, to enhance linkages, respond to needs and support capacity development in the North relating to permafrost.	CPA President-Elect or Past-President
Standing International Committee	Chair plus 4 members appointed as CNC-IPA by NRCan	Act as the interlocutor between the CPA and IPA, and represent Canada on the IPA Council.	CPA President
Standing Finances Committee	Chair plus 2-4 members	Develop and implement ideas to increase revenue, including attracting funding from foundations, industry and individuals.	CPA Treasurer

¹ Note: At least one member of each Standing Committee will be an Early Career Member.



The Strategic Plan, summarized in Table 2, establishes major goals that include enlarging the membership and improving their tangible benefits, disseminating knowledge about permafrost to members and all others interested in permafrost in Canada, strengthening the linkages between the CPA and relevant organizations, northern communities and Indigenous groups, raising the prominence of the CPA, nationally and internationally, so that it becomes known as the primary contact with respect to permafrost issues in Canada, and ensuring the CPA's long-term financial stability.

Taking the steps envisaged in this plan will result in the CPA actively fulfilling its mission to advance knowledge by bringing together all those interested in permafrost in Canada, and will lead to a larger, more diverse, and vibrant Association of international renown.

Table 2. Summary of the main CPA Strategic Plan Objectives (2021-2025)

THEMES	ELEMENTS	OBJECTIVES
MEMBERSHIP	<i>Targets</i>	Membership targets for 2025 should be higher than present levels in all categories, but especially for northern communities.
	<i>Diversity</i>	Member diversity should be maintained or increased to ensure the vibrancy of the CPA. This objective will also be served by actions within the LINKAGES theme.
	<i>Northern Representation</i>	Good geographical representation should be maintained, with northern community members and Indigenous group members from all three Territories and Provinces with permafrost.
	<i>Benefits</i>	Members should be provided with a range of exclusive benefits and services that will encourage existing members to renew annually (or acquire lifetime membership) and non-members to join the CPA.
DISSEMINATION OF PERMAFROST KNOWLEDGE	<i>Outreach & Education</i>	Raise public awareness of permafrost issues, make contributions to permafrost education, and highlight both CPA synthesis products and permafrost research carried out by CPA members.
	<i>Targeted Activities</i>	Support targeted activities proposed by CPA members to the Board or initiated by the Board itself; once approved, these activities are carried out by groups of members established for a limited time in order to address a specific issue.
	<i>Technical Training</i>	Provide training opportunities through targeted activities that (1) promote interdisciplinary approaches to permafrost, especially between permafrost science and engineering, (2) promote engineering practices adapted to permafrost terrain, and (3) support capacity building in northern communities for sustainable development on permafrost.
	<i>Online Resources</i>	Provide the public and members with accurate and appropriate web content in relation to permafrost issues, including the development of a peer-reviewed article series.

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Table 2. Continued.

THEMES	ELEMENTS	OBJECTIVES
DISSEMINATION OF PERMAFROST KNOWLEDGE (continued)	<i>Conferences and Annual Technical Meeting</i>	Run annual technical meetings as specified in the By-Laws, initiate Canadian Permafrost Conferences, and propose Regional or International Conferences on Permafrost (ICOP) to the International Permafrost Association. Sponsor permafrost-focused sessions at conferences organized by other organizations to promote information exchange between CPA members and individuals and groups outside the Association. Run a successful ICOP in Whitehorse in 2024.
LINKAGES	<i>Inter-Organizational Linkages</i>	Promote communication and collaboration in relation to permafrost issues among associations, governmental organizations, and disciplines.
	<i>Northern Linkages</i>	Develop meaningful partnerships that support sustainable development and capacity building in northern communities and Indigenous groups, and improve communication between communities, practitioners, and academics.
PROMINENCE	<i>Visibility</i>	Raise the CPA's profile so that it serves its members and Canadian society by becoming the essential point of contact for northern communities, Indigenous groups, governmental organizations, the media, educators and the general public, seeking information or partnerships relating to Canadian permafrost.
	<i>IPA</i>	Create direct links with the IPA by changing the relationship between the CPA and the CNC-IPA so that the latter is constituted as a Standing International Committee on the advice of the CPA and operates within the Association. Nominate credible candidates so that the IPA's Executive Committee continually includes a CPA member.
	<i>Excellence Awards</i>	Raise the profile of Canadian permafrost research by regularly proposing CPA members for national and international awards for excellence in permafrost geoscience and engineering.
	<i>High-Level Organizations</i>	Apply for membership in higher-level scientific and engineering organizations in Canada (e.g. PAGSE, CFES).
FINANCES	<i>Budget</i>	Double the annual budget by 2025 to permit the CPA to increase funding for existing activities and fund new ones.
	<i>Revenue</i>	Develop new sources of revenue so that the organization is less dependent on membership dues.
	<i>Reserve</i>	By 2025, build up and set aside a reserve equal to the annual budget for that year.
	<i>Charitable Status</i>	Register a charitable arm of the CPA which will work to support the CPA's educational objectives.



LIST OF ACRONYMS

CFES	Canadian Federation of Earth Sciences
CFPS	Canadian Foundation for Permafrost Studies
CNC-IPA	Canadian National Committee for the International Permafrost Association
CPA	Canadian Permafrost Association
GNWT	Government of the Northwest Territories
IASC	International Arctic Science Committee
ICOP	International Conference on Permafrost
ICOP2024	13 th International Conference on Permafrost, Whitehorse, June 2024
IPA	International Permafrost Association
NRC	National Research Council of Canada
NRCan	Natural Resources Canada
PAGSE	Partnership Group for Science and Engineering
SDC	Standing Dissemination Committee (of the CPA)
SFC	Standing Finance Committee (of the CPA)
SIC	Standing International Committee (of the CPA)
SLC	Standing Linkages Committee (of the CPA)
SMC	Standing Membership Committee (of the CPA)
SPC	Strategic Planning Committee (of the CPA)
USPA	United States Permafrost Association



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