Canadian Geophysical Union-Hydrology Section (CGU-HS)

2025/2026 Report on Committees

Contents

1.Hydrology-Section Committees

Canadian Geophysical Union-Hydrology Section (CGU-HS) has seven active committees. The committees are:

Committee on Permafrost-Hydrogeology Interactions
Chairs: Chris Spence (Environment and Climate Change Canada) and Peter Morse (Natural Resources Canada)

Committee on River Ice Processes and the Environment (CRIPE)
Chair: Shawn Clark (University of Manitoba)

Northern Research Basins Committee
Chairs: Murray Richardson (Carleton University) and Laura Brown (University of Toronto)

Committee on Isotope Tracers
Chairs: April James (Nipissing University), Janie Masse-Dufresne (ÉTS) and Magali Nehemy (Trent University)

Hydroecology Committee
Chair: Daniel Peters (Environment Canada) and Wendy Monk (University of New Brunswick)

Canadian Young Hydrologic Society
Chairs: Larissa Gospodyn (University of Waterloo), and Selsey Stribling (McGill University)

Committee on Hydro-climatic Impacts and Adaptation
Chair: Rajesh Shrestha, Yonas Dibike and Daniel Peters (Environment and Climate Change Canada)

2. 2025/2026 Individual Reports per Committee

Each committee provided the documents below. Notice that the format of each report is maintained according to committee choice.

2.1. Permafrost-Hydrogeology Interactions – Report 2025/2026

The report was provided by Chris Spence (chris.spence@ec.gc.ca).

1. Committee Description, Background and Objectives

Permafrost – Hydrogeology Interactions committee of the Canadian Geophysical Union - Hydrology Section facilitates scientific advancement, interdisciplinary collaboration and knowledge transfer with respect to the relations between permafrost and hydrogeology in varying circumpolar landscapes, and the responses with climate change. These poorly understood relations are critical knowledge gaps, as climate change impacts on permafrost are likely to alter hydrologic cycles, groundwater flow networks, and surface water supplies in Canada's North. Communities, governments, regulators, industry, and academics are noting process changes in northern Canada. Regulators need guidance on how to scope groundwater and permafrost issues as they affect economic development, and Northern capacity is needed to address issues facing Northern communities. The knowledge must come through extended collaborations and engagement. The committee was established according to consensus at a meeting of 27 government, academic, and industry researchers and practitioners held to address these issues in Yellowknife, NT, 14 November 2016 (Morse, 2017).

Objectives:
1. Establish a collaborative research and development network to improve knowledge transfer and educational opportunities by facilitating scientific sessions and short courses in association with the Canadian Geophysical Union annual meeting and other with other scientific societies.
2. Report annually on progress to the Canadian Geophysical Union – Hydrology Section.
3. Follow-up on the conceptual framework and special issue by facilitating subsequent scientific sessions in association with the Canadian Geophysical Union annual meeting and other with other scientific societies.

2. Committee Membership.

Geological Survey of Canada: Research Scientist: 1
Environment and Climate Change Canada: Research Scientist: 1
Queen's University: Professor: 2
McGill University: Professor: 1
Yukon Territorial Government: Hydrogeologist: 1
University of Saskatchewan: Research Associate: 1

3. Committee Activities

3a. Major areas of research

3ai. Permafrost control on hydrogeology;
3aii. Permafrost control on surface - subsurface linkages;

3aiii. Implications of climate change on permafrost extent and subsequent impacts on water resources;
3aiv. Implications for northern communities

3b. Summary of areas of challenges and achievements (progress on issues and objectives)

3bi. Members are involved in the secretariat of the Canadian Permafrost Association;
3bii. Members are involved in the secretariat of the Federal Permafrost Network.
3biii. Members are involved in discussions with the Government of the Northwest Territories and Indigenous governments in the NWT on how to proceed with a broad based study on changing cold-season streamflow

4. Major Publications.

12th International Conference on Permafrost Proceedings, Beddoe, R. and Karunaratne, K. (eds.), V.2, 16-20 June 2024, Whitehorse, Canada: International Permafrost Association.

Zhao, Y., Zheng, C., Gelfan, A., Watanabe, K., Liu, H., Wright, S., et al. (2026). Frozen soil hydrological processes and their effects: A review and synthesis. Reviews of Geophysics, 64, e2024RG000839. https://doi.org/10.1029/2024RG000839

5. Scientific conferences/workshops/sessions hosted by members; attended by members (in Canada, and abroad)

There is a dedicated permafrost hydrogeology session at the 2026 CGU annual general meeting.

2.2. Committee on River Ice Processes and the Environment (CRIPE) – Report 2025/2026

The report was provided by Shawn Clark (shawn.clark@umanitoba.ca).

Committee on River Ice Processes and the Environment (CGU-HS)

CRIPE OBJECTIVES

The main objectives of CRIPE are:

- To identify specific high-priority river ice topics for research and development and to undertake relevant research programs;
- To facilitate information dissemination and exchange of ideas on river ice among practitioners, researchers, and resource managers at a national and international scale; and
- To encourage the incorporation of pertinent river ice lectures or courses in undergraduate and graduate studies at Canadian Colleges and Universities.

CRIPE MEMBERSHIP

CRIPE currently has 28 Canadian members from various universities, hydro-electric facilities and government organizations, as well as 4 international members and 6 affiliate members.

Members

Shawn Clark, (Chair) University of Manitoba
Martin Jasek, (Vice-Chair) BC Hydro
Jennifer Nafziger, (Secretary) U. Alberta
Nadia Kovachis, (Treasurer) Gov. of Alberta
Robyn Andrishak, (Webmaster) NHC
Karen Dow, (Awards Coordinator) UManitoba
Brian Burrell, R.V. Anderson Associates Limited
Joel Evans, BC Hydro
Joe Groeneveld, Hatch Energy
Yuntong She, University of Alberta
Benoit Turcotte, Yukon University
Soheil Zare, Hatch
Colin Rennie, University of Ottawa
Dan Healy, Northwest Hydraulic Consultants
Tadros Ghobrial, Université Laval
Fuad Curi, KGS Group
Vincent McFarlane, University of Alberta
Lucas Wazney, KGS Group
Milan Bijeljanin, Manitoba Hydro
Ahmad Shakibaeinia, ETS
Kevin Lees, Hatch

International Members

Knut Alfredsen, Norwegian Univ. of Science and Tech.
Mikko Huokuna, Finnish Environment Institute
Edward Kempema, University of Wyoming
Ian Knack, Clarkson University

Affiliate Members

Spyros Beltaos, Environment Canada
Rick Carson, KGS Group
Steven Daly, retired from ERDC/CRREL
Brian Morse, Université Laval
Hung Tao Shen, Clarkson University
Paul Barrette, NRC
Michael Brayal, Government of Alberta
Stefan Emmer, Government of Alberta
Jarrod Malenchak, Manitoba Hydro
Phillipe Tremblay, Hydro-Quebec

RECENT ACTIVITIES

The main activity undertaken by CRIPE between May 2025 and May 2026 was hosting our bi-annual CRIPE Workshop on the Hydraulics of Ice-Covered Rivers. This was held in St. John's from July 9th to 12th, 2025. The workshop was comprised of 50 presentations and 18 posters, with roughly 100 attendees. Students attended the conference at a significant discount due to funding provided by CRIPE. The venue was the Emera Centre on Signal Hill, which was an excellent venue that we'd recommend to others for hosting smaller conferences such as ours.

The CRIPE Annual General Meeting was held on June 8, 2025 with 11 members in attendance. Key discussion items at the meeting included:

- Updates and details of the 2025 Workshop.
- Discussion of future meetings and conferences.
- Updates from working groups.
- Website updates.
- Awards terms of reference updates.
- CRIPE bylaw updates regarding Affiliate membership wording.

A mid-year CRIPE meeting was held online on January 8, 2026 with 22 members in attendance. Highlights included:

- Confirmation of our AGM and special sessions at the CGU 2026 conference.
- Updates from the 2027 conference to be held in Winnipeg.
- Decision that CRIPE will host the 2028 IAHR International Symposium on Ice since it's North America's turn to host the conference.
- Ideas for the 2029 conference location. Possibly looking at the Yukon.
- Updates on the Inter-Model Comparison Project that several CRIPE members are working on.

FUTURE ACTIVITIES

Our next AGM will be on May 24, 2026 at the CGU conference. Major upcoming events include the 2027 CRIPE workshop in Winnipeg, the 2028 IAHR International Symposium on Ice in Vancouver, and the 2029 CRIPE Workshop. Our Inter-Model Comparison working group has written 1 conference paper, will present at the upcoming CGU conference, and is nearly finished writing one journal paper to be submitted later in 2026.

FINANCES

CRIPE maintains a very healthy financial situation, allowing us to support student participation in conferences. We will continue to explore new ways to use these finances to meet our mandate.

2.3. Committee Northern Research Basins Committee – Report 2025/2026

Report was provided by Laura Brown (lc.brown@utoronto.ca).

Committee Description, Background and Objectives

In 1975, the International Hydrological Program (IHP) National Committees of Canada, Denmark/Greenland, Finland, Norway, Sweden, the United States of America, and the Union of Soviet Socialist Republics (USSR) established the IHP Working Group on Northern Research Basins, now called the "NRB Working Group". In 1992, Iceland joined the group and Russia took over the responsibilities of the former USSR.

The overall objective of the NRB Working Group is to encourage research in hydrological basins in cold regions where snow, ice and frozen ground have a dominant role in the hydrological cycle. Over the years, the objectives of the NRB Working Group have evolved to include the following:

- Gain a better understanding of hydrological processes, particularly those in which snow, ice, and frozen ground have a major influence on the hydrological regime, and to determine the relative importance of each component of the water balance.
- Provide data for the development and testing of transposable models which may be applied to regional, national, and international water and land resource programmes
- Relate hydrological processes to the chemical and biological evolution of northern basins.
- Assess and predict the effect of human activities on the hydrological regime in northern environments.
- Encourage the exchange of personnel (technicians, scientists, research officers, students, and others) among participating countries.
- Provide information for improving and standardising measurement techniques and network design in northern regions.
- Encourage exchange of information on a regular basis, and set up task forces to promote research initiatives on topics of special interest to northern research basins.

Committee Membership:

Members comprises 8 circumpolar nations each of which are represented by a delegation of researchers which meet every two years at a symposium hosted by one of the member nations

Committee Activities

- Unfortunately, the NRB Symposium and Workshop planned to be hosted in Norway last year, had to be cancelled due to low registration.
- **We seek a northern hydrologist to move into the Deputy Chair role as Laura Brown's term is complete.**
- The committee would like to encourage more Canadian delegates to attend and to represent some of the outstanding cold regions hydrology research we see at CGU.
- Next meeting should be 2027, but no news on which country will host
    - [from Laura - I suspect there will be no 2027 meeting as nothing is in the works yet. Hopefully 2028. The 'usual' host country rotation was throw off by civd cancellation and overall changes to conference participation. Canada is not 'due' to host yet, but we could volunteer if we have two active chairs in the Canadian roles after I am replaced. We last hosted in 2019 (Bill Quinton)]
- These meetings are an excellent opportunity for international networking and sharing of scientific knowledge on cold region hydrology.

- Canadian website is here (and needs to be updated): https://nrbcanada.ca/
    - The CGU funds have been used that were supporting the website, currently supported by Laura. NRB committee needs to re-apply for CGU funds for website upkeep)
- Main NRB website is now here: https://www.northernresearchbasins.com/home

2.4. Committee on Isotope Tracers – Report 2025/2026

Report was provided by Magali Nehemy (mnehemy@trentu.ca).

Committee Description, Background and Objectives

The Committee on Isotope Tracers of the Canadian Geophysical Union – Hydrology Section advances scientific understanding, facilitates interdisciplinary collaboration, and promotes knowledge exchange regarding the application of isotope tracers in hydrological research across Canada. Isotope tracers are powerful and well-established tools for characterizing water sources, flowpaths, residence times, and biogeochemical processes within hydrological systems. These techniques are indispensable for addressing critical questions in water resource management, climate change adaptation, and ecosystem function.

Canada has a vibrant community of isotope hydrologists working across diverse landscapes and water systems, with significant expertise distributed among universities, federal and provincial agencies, and the private sector. Strengthening the connections among these researchers and practitioners represents a major opportunity to enhance Canada's collective capacity in this field. *The committee welcomes new members.* Researchers, practitioners, and students interested in joining are encouraged to contact committee co-chair Magali Nehemy magali.nehemy@ubc.ca) for more information.

Objectives:

1. Re-establish and grow an active, inclusive network of researchers, government scientists, consultants, and students who use isotopes as tracers in hydrology across Canada, fostering connections that strengthen national capacity in isotope hydrology.
2. Provide accessible platforms for scientific exchange through workshops, conference sessions, and other collaborative activities in association with the Canadian Geophysical Union annual meeting and other scientific societies.
3. Provide an annual progress report on committee activities to the CGU – Hydrology Section.
4. Enhance the application of isotope tracer techniques to pressing water resource challenges facing Canada, including climate change impacts on hydrological systems and sustainable water management.

Committee Membership

University of British Columbia-Okanagan: Assistant Professor: 1
ETS: Assistant Professor: 1
Nippissing University: Associate Professor: 1
University of Saskatchewan: Lab Manager and Technician: 1
University of Calgary: Assistant Professor: 1
University of Saskatchewan: Assistant Professor: 1

Committee Activities

Members of the committee organized sessions at national and international conferences on topics related to isotope tracing, including the session *Stable Isotopes to Study Water and Nutrient Dynamics in the Soil-Plant-Atmosphere Continuum* at the EGU 2026 annual meeting, and *Advances in Ecohydrology* at the CGU 2026 annual meeting. Committee members also participated in the *Critical Zone Ecohydrological Processes and Sustainable Water Management* workshop held in Yantai, China, in April 2026.

Committee members are currently organizing a redesigned format of the *Isotope Tracers in Catchment Hydrology* graduate course and international workshop, to be held at the University of British Columbia-Okanagan in October 2026. This initiative will provide valuable training and knowledge exchange opportunities for graduate students and early-career researchers, strengthening capacity in isotope hydrology across Canada and internationally.

A committee member is leading an ecohydrology community manuscript on xylem water sampling methods for isotope analysis. The manuscript was developed through two international workshops (online) engaging more than 30 researchers from across the globe, and is currently under peer review.

Committee members are also engaged in ongoing discussions with researchers across Canada regarding the development of a unified, centralized platform for isotope data. This initiative responds to a recognized need for accessible and standardized isotope datasets to support research, water resource management, and collaborative studies at the national scale.

2.5. Hydroecology Committee – Report 2025/2026

The report was provided by Daniel Peters (daniel.peters@ec.gc.ca).

Chairs:

Daniel Peters (Environment and Climate Change Canada, University of Victoria) and Wendy Monk (Environment and Climate Change Canada, University of New Brunswick).

Background:

Established in May 2015 to support and facilitate information exchange, as well as work towards bridging multidisciplinary research carried out by aquatic ecologists and hydrologists within Canada and internationally.

Objective:

To promote and advance the understanding of linkages between hydrology and ecology in wetland, lake and river systems across Canada.

Activities:

- The Hydroecology committee continued to be active in the promotion and advancement of understanding the linkages between aquatic ecology, water quality and hydrology.
- Provided expertise to the development of an environmental flows framework for the Peace-Athabasca Delta (Alberta) and the Wolastoq/Saint John River (New Brunswick)
- Contributed to Regional and National government assessment reports
- Provided expertise to the Impact Assessment Agency of Canada regarding potential development impact to aquatic environments
- Conducted research to support the Canada Water Agency - work with provinces, territories, Indigenous peoples, local authorities, and to find the best ways to keep our water safe, clean and well-managed for future generations. https://www.canada.ca/en/canada-water-agency.html
- Canadian Aquatic Biomonitoring Network training and certification program. https://www.canada.ca/en/environment-climate-change/services/canadian-aquatic-biomonitoring-network/training.html

Select Government Reports

- Cobbaert D, C Mahoney, S Connor, J Montgomery, V de Koninck, M Nasr, W Monk, DL Peters, D Baird. 2025. A Five-Year Oil Sands Wetland Ecosystem Monitoring, Evaluation and Reporting Plan. OSM Technical Report Series. https://open.alberta.ca/publications/five-year-oil-sands-wetland-ecosystem-mer-plan.
- Oil Sands Monitoring Program. 2025. State of the Environment Technical Report 2025 Surface Water Quality and Quantity in Alberta's Oil Sands Region, Calgary, Alberta. Retrieved from: https://open.alberta.ca/publications/osmp-state-of-environment-2025-surface-water
- Environment and Climate Change Canada. 2026. National Freshwater Science Agenda (NFSA) - A report on national freshwater science priorities.

https://www.canada.ca/en/environment-climate-change/services/water-overview/protecting-freshwater/national-freshwater-science-agenda/report.html

Select Peer-Reviewed Publications:

- Monk WA, Lento J, Demma M, MacKinnon RL, Kerr G and Curry RA. 2025. Balancing water needs and well-being: bringing social-cultural values into environmental flows using a DPSIR framework. Ecology and Society 30(4): 40. https://doi.org/10.5751/ES-16589-300440
- Wegscheider B, Rideout NK, Monk WA, Gray MA, Steeves R and Baird DJ. 2025. Modeling nature-based restoration potential across aquatic–terrestrial boundaries. 39(5): e70046. https://doi.org/10.1111/cobi.70046
- McKenzie M, Wood PJ, Durkota JM, Monk WA, Wilkes MA and Mathers KL. 2025. Incorporating the Interaction of Flow Into Invertebrate Responses to Fine Sediment Deposition in Temperate Rivers. Ecohydrology. 18(5): e70074. https://doi.org/10.1002/eco.70074
- Aslami F, C Hopkinson, L Chasmer, C Mahoney, DL Peters. 2025. Using Bi-Temporal Lidar to Evaluate Canopy Structure and Ecotone Influence on Landsat Vegetation Index Trends within a Boreal Wetland Complex. Special Issue Application of Remote Sensing in Environmental Monitoring, Applied Science, 15(9), 4653; https://doi.org/10.3390/app15094653
- Dibike Y, L de Rham, S. Beltaos, DL Peters, BR Bonsal. 2025. Analysis of Annual Maximum Ice-influenced and Open-water Levels at Select Hydrometric Stations on Canadian Rivers. Water, 17(20), 2930; https://doi.org/10.3390/w17202930

2.6. Canadian Young Hydrologic Society – Report 2025/2026

The report was provided by Rachel Lackey (rachel.lackey@mail.mcgill.ca).

Committee Description, Background and Objectives

The Canadian Young Hydrologic Society (CYHS), founded in 2015, aims to engage early career researchers by organizing workshops and activities to stimulate meaningful interaction and exchange between research groups across Canada. It is the Canadian branch of the wider Young Hydrologic Society (YHS), an international initiative that facilitates the interaction of young hydrologists within the hydrological community. These activities include pop-up sessions at large national conferences, seminars, workshops, and social nights.

2025-2026 was the eleventh year of CYHS. CYHS focused on three events: the annual social media symposium in a new format, the annual CGU Student Conference and an in-person panel at the national CGU Conference in Halifax.

CYHS had members attending universities from all provinces except SK, NB and PEI and will close the year comprised of 16 members that held the roles below from Sept 2025 – June 26:

Position	Name	Institution
Chair	Larissa Gospodyn, *PhD Candidate*	University of Waterloo
Treasurer	Julia Gillette, *Masters Student*	Dalhousie University
CGU-HS Rep	Rachel Lackey, *PhD Candidate*	McGill University
Communications: Internal	Lanthika Dhanapala, *Masters Student*	Memorial University of Newfoundland
Communications: Social Media	Joseph Tuffner, *Masters Student* Meghan Boyd, *PhD Student* Shanti Subedi, *Masters Student*	University of Calgary Queen's University University of Winnipeg
Communications: Graphics	Thiruni Thirimanne, *PhD Candidate*	University of Waterloo
Communications: Outreach	Shuhui Wang, *PhD Candidate*	University of British Columbia
External YSH Rep	Lucas Beckering Vinckers, *PhD Candidate* Samuel Poirier, *Masters Student*	McMaster University Queen's University
Recruitment (Eastern) Recruitment (Western)	Calvin Newbery, *Masters Student* Shixuan, *PhD Candidate*	McMaster University University of British Columbia
Undergraduate Student Rep	Euan Gray, *Undergraduate Student*	University of Calgary
Member-at-large	Clara Cogswell, *PhD Candidate* Connor Lashley, *Masters Student*	McMaster University McMaster University

Committee Membership

CYHS does not have an open annual membership aside from the above listed committee, but we noted conference registration at the CGU Student Conference, as this was the largest event hosted solely by CYHS. This list is not representative of participants from other CYHS-hosted activities (social media symposium, conference workshop/panel, social event)

Athabasca University	2
Brandon University	1
Dalhousie University	4
Laurentian University	1
McGill University	2
McMaster University	8
Memorial University of Newfoundland	1
Queen's University	4
Saint Mary's University	1
Toronto Metropolitan University	1
University of British Columbia	2
University of Calgary	2
University of Toronto	3
University of Waterloo	5
Wilfrid Laurier University	1
Non-Canadian Institution	1
Non academic	2

Total = 41

Committee Activities

Training and networking initiatives geared towards young and emerging scientists
The CYHS social media accounts are used as the primary platform to facilitate the distribution of information, news, resources, and support relevant to early career hydrologists. The current platforms of focus are Instagram and LinkedIn (with Youtube, X, Bluesky and active TikTok accounts that have been tested). The CYHS LinkedIn page has grown from 96 to 190 as of May 1, while the CYHS Instagram page grew from 51 followers to 134 over the past year, reaching over 300 accounts on the last 3 posts (regarding the CGU Student Conference, the CYHS x ECHN Trivia night and Panel event at the CGU conference).

With a longstanding social media symposium, CYHS pivoted the format to better align with how ECRs and students engage online with each other. A bracket-style vote was held on Instagram in late January for submissions of "Research Fails" from the previous year with over 20 submissions from students and ECRs working across the country. The event was well-received, with shares, over 50 daily votes and interactions that helped drive engagement on the channel for the upcoming student conference and annual conference announcements. We expect to run a similar event next year to establish a momentum for students to expect each year and also provide students and young professionals a platform to share experiences.

The growing engagement on these platforms is encouraging following a demise on X (Twitter), suggesting we are growing our reach and working towards a space for students to engage online across the country. We have focused on reposting content from similar organizations to strengthen networks. In future years, we expect similar growth and prioritization of more consistent posting. We will continue to highlight our "Fieldwork Friday" and "Lab/ Fieldwork Takeovers" to continue providing a space for students and ECRs to engage online while offering a space for researchers to promote their labs and upcoming opportunities.

Summary of areas of challenges and achievements (progress on issues and objectives)

Challenge 1: Engagement
The spatial segregation of Canada continues as a barrier between groups and resources across the country. Participation in CYHS events is usually driven by personal networks rather than mail lists or social media, despite growing social media engagement. In many instances, participation in CYHS activities is limited to students in labs from current CGU-hs executive members. Collaboration with local groups or increased support from supervisors and lab leadership may create opportunities for more engagement. Creation of online social media spaces where students can share their photos (Fieldwork Fridays, Social Media Symposium) have been received with support and we expect to continue using these approaches to increasing online engagement.

National-scale networking opportunities are often limited to conferences, which can be inaccessible for students who may not have access to funding resources to attend. The Student Conference receives submissions from students in provinces across the country year after year and remains an opportunity for participation from students across the country. Despite this, we are continuing to seek improvement in not just reaching, but garnering support from supervisors for their students to participate. We had good reach online with social media, received email inquiries from students (spanning AB to NS) about the conference. Each of the years (2022-present) that CYHS has run the Student Conference the program has included presentations from students spanning 5+ provinces. While we are satisfied with the current success of the event, we are aiming to attract more participation in future years.

Challenge 2: Funding
CYHS currently has a funding surplus from previous years that has been used to sustain a fun, social activity (social media symposium) for students and ECRs to participate in. Without a consistent revenue

source, CYHS has used this funding sparingly in recognition that we aim to create low-to-no cost events for students to participate in (reducing financial barriers that exist for students). At the same time, it is becoming evidently clear that participation is often driven by awards. While this year resulted in a net funding deficit, CYHS has adopted a sustainable approach to utilizing small portions of funding each year that was acquired in 2019-2020 to ensure longevity of activities and supporting students and ECRs.

CYHS has leveraged stakeholder sponsorship (Trivia Night) and community donations (Starbucks) to help improve the quality of our events. This resulted in a small funding surplus generated from the student conference [estimated $93.51] which is used to sustain other CYHS activities, such as the panel and the social media symposium. This is an important source, and the only source, of revenue for CYHS to operate. We plan to continue reducing year-over-year costs by seeking community sponsors at future events.

Scientific conferences/workshops/sessions hosted by members; attended by members (in Canada, and abroad).

A list of workshops and events organized by CYHS in the current year, or in partnership with, is provided below:

2025-26 Organized Workshops and Events:

- Social Media Symposium: The Great Canadian Re$earch Fail Off (Feb 2-6)
- CGU Student Conference hosted by CYHS (April 24)
    - Awards for 6 ECRS:
        - Best in-person presentation; Best virtual presentation: Best undergraduate presentation; Best graphics or diagrams; Most engaging presentation; Overall honorable mention
- CYHS x ECHN Trivia Night (May 25)
    - Joint social event with IAH-CNC's ECR group
    - Sponsored by BCN (provided food)
- Flowing Forward: Exploring Careers in Hydrology. Panel at CGU 2026 Annual Meeting, Halifax, Nova Scotia. (May 26)

See section 9.1 for an archived list of all events from past years.

Budget/Finances
The current balance of the CYHS account as of May 1, 2026 is **$4668.93.**
The anticipated total account balance by June 1, 2026 will be **$3742.44.**

As CYHS reports finances from May 1, a summary has been provided for expenses after May 1 for the previous year as well as a summary starting after the previous year's national conference.

2025 Expenses and Income (Outstanding transactions that occurred after May 1, 2025 but were for the previous year's activities):

- The balance on May 1, 2025 was $**3988.93.**
- On June 1, 2025 $40 was withdrawn for the CGU 2025 Conference Workshop as a speaker gift, resulting in a balance of $**3948.93** after consideration of all 2025 expenses.

2025 Expenses and Income (List transactions that occurred after June 1, 2025 for the current year's activities):
Income:

- $800 from CGU-HS (to cover the cost of student awards $700 and coffee break + supplies $100).
- $120 ($10/person from in-person registration fees at student conference to cover lunches. Note that the total income was $130 but one registration fee was wrongfully paid [Refund is pending].

Expenses:

- $200 was awarded to two participants of the CYHS Social Media Symposium ($150 for 1st place, $50 for 2nd place).
- $700 [pending] transfer to student award winners:
    - $120 for Best In-Person presentation
    - $120 for Best Virtual presentation
    - $120 for Best Undergraduate presentation
    - $120 for Best Graphic/Conceptual Diagram
    - $120 for Most Engaging Presentation
    - $100 for Overall Honourable Mention
- $136.49 [pending] to reimburse supplies and lunch expenses
    - A donation of coffee from a community shop resulted in a funding surplus of $93.51 generated by the event which is used to sustain other yearly CYHS activities.

Expenses [anticipated] past May 1 for the current year's activities:

- On May 26th, the CYHS anticipates to incur a $30/panelist expense for the 2026 CGU conference workshop for 3 panelists ($90 total)

Anticipated total account balance by June 1, 2026 will be **$3742.44.** A small financial deficit of approximately $200 is expected for the year.

Additional information the committee would like on file

Scientific conferences/workshops/sessions from previous years

2025:

- CGU Student Conference, Waterloo, Ontario (University of Waterloo), April 5.
    - Awarded prizes for oral presentation, best poster, best undergrad presentation, honorable mention and best graphics (5 ECRs awarded)
- Graphics that Speak: Mastering the Art of Clear and Engaging Visuals. Workshop at CMOS-CGU 2025 Annual Meeting, Saskatoon, Saskatchewan, May 27 (Attendance: 37 ECRs)

2024:

- CGU Student Conference, Hamilton, Ontario (McMaster University), April 26.
    - Awarded prizes for best and runner up poster, best and runner up oral presentation, best short talk and best undergraduate presentation (6 ECR's awarded)
    - Words that Flow: A Writing Workshop for Early Career Success. Workshop at CGU 2024 Annual Meeting, Ottawa, Ontario, May 29 (attendance: 39 ECRs).
- CYHS Twitter Symposium
    - Award for Most Liked and Retweets Twitter Post (3 ECR's awarded)

2023:

- CGU Student Conference, Waterloo, Ontario (University of Waterloo), April 1.
    - Awarded eight prizes for best and runner up: poster, oral presentation, and short talk. One overall honorable mention award given. (9 ECR's awarded).
- Career Paths after Graduation. Panel Talk at CGU 2023 Annual Meeting, Banff, Alberta.

- CY-Hike-S Social at CGU 2023, CGU 2023 Annual Meeting, Banff Alberta
- CYHS Twitter Symposium, Award for Most Liked and Retweets Twitter Post (4 ECR's awarded)

2022:

- CGU Student Conference , Grand prize (x1) (1 ECR's awarded)
- From failure to progress: lessons learned in hydrology, CGU virtual meeting
- Hands on hydrology: Exploring methods and techniques, CGU virtual meeting
- CYHS Twitter Symposium, Award for Most Liked and Retweeted Post (4 ECR's awarded)

2021:

- CGU Student Conference, Grand prize (x2), Honorable mentions (x6) (8 ECR's awarded)
- CYHS Twitter Symposium, Award for Most Liked and Retweets Twitter Post (4 ECR's awarded)

2020 (cancelled):

- From failure to progress: lessons learned in hydrology, CGU meeting in Banff
- Applied data management best practices for young hydrologists, CGU meeting in Banff
- Python Hydrological Modeling Workshop, CGU meeting in Banff, on Thursday 7th May.

2019:

- "Opportunities and Challenges in Canadian hydrology: a early-career perspective" workshop at IUGG-CGU 2020. 32 participants.
    - Invited speakers: Professor Nigel Roulet, Prof. Jan Adamwoski and Prof. April James.
- Joint WCRP-AGU workshop, Water Cycle in a 1.5° Warmer World: Interdisciplinary Approaches, AGU Fall Meeting, Dec. 7, 2019. Co-organized by APECS, YESS and YHS/CYHS
- McMaster Water Week, CYHS: McMaster Water Week Most Innovative Poster Award (1 ECR Awarded)
- CYHS Twitter Symposium, Award for Most Liked and Retweets Twitter Post (4 ECR's awarded)

2018:

- "Careers in hydrology: Options and insights" workshop and panel discussion, CGU, Niagara Falls, On
    - Invited Speakers: Simon Gautrey, Dr. Christa Kelleher, Dr. Joseph Shea & Dr. Chris Spence (attendance: 45 ECRs). A social event was held in the evening after the workshop in Niagara Falls where we had 100 attendees.
- "Tips and tricks for publishing in hydrology" workshop.
    - Invited Speakers: Dr. Laura Lautz & Dr. Mike Waddington (attendance: 47 ECRs)
- Inaugural GWF Young Professionals workshop and social events (GWF Annual Science Meeting in collaboration with GWF YP group)
    - Invited Speaker: Dr. Jeff McDonnell '
- Professional Development Workshop: The Art of Scientific Investigation' (attendance: ~80 ECRs).
    - Invited Speaker: Dr. John Pomeroy 'Role of YPs Within Larger GWF Context' (attendance: 90 ECRs)
- Water Week Poster Session and award for "Most Innovative Research" awarded to Anjali Narayanan (Undergraduate student)
- Joint YESS-YHS Early Career Researcher (ECR) Workshop. "Towards Regional Information to Improve Our Understanding on Weather, Water, and Climate Extreme Events" at the 2018 GEWEX Open Science Conference, 3-5 May, 2018.

2017:

- "Progression of a scientific career in academia" seminar, CGU, Vancouver, BC
    - Invited Workshop Speakers: Dr. Nora Casson, Dr. Andrew Ireson, Nicola Jones, Dr. Barret Kurylyk, Dr. Jeff McKenzie & Dr. Ming-ko (Hok) Woo (attendance: 65 ECRs).
    - A social event was held in the evening after the workshop on the UBC campus where we had 100 attendees.

2016:

- "Challenges and opportunities in Canadian hydrology" workshop, CGU Fredericton, NB
    - Invited Workshop Speakers: Dr. Genevieve Ali, Dr. Sean Carey, Dr. Merrin Macrae, Dr. Phil Marsh, Dr. Claire Oswald & Dr. Howard Wheater (attendance: 50 ECRs)
    - Social event held after the workshop at a local pub where 75 ECRs attended.

2.7. Committee on Hydro-climatic Impacts and Adaptation – Report 2025/2026

Report was provided by Rajesh Shrestha (rajesh.shrestha@ec.gc.ca).

Chairs:
Rajesh Shrestha, Yonas Dibike, Daniel Peters (Environment and Climate Change Canada, University of Victoria).

Background:
Established in May 2016 to provide a platform for researchers engaged in hydro-climatic, hydrologic and hydro-ecological impacts and adaptation, and promote the development of new methods and tools to address the challenges.

Objective:
To advance the development of methods and tools for better understanding of the hydrologic and aquatic ecosystem impacts of climate variability and change, and developing adaptation measures to mitigate the potential impacts.

Committee Memberships:
Government Scientists: 3, Profs. 1, PDFs: 1, Grad student 1.

Committee Activities:
The **Hydro-climatic Impacts and Adaptation** committee is active in the advancement of knowledge on the implications of climate variability/change on planning, allocation and operations of water resources, and adaptation/mitigation measures that address the potential impacts. Engagement of multidisciplinary scientists included organizing special sessions conferences, special issues for journals, and giving invited webinar presentations.

Training/Supervisions:

- Trained 3 students from University of Victoria
- Supervised and examined 1 graduate student, University of Victoria
- External examiner 1 graduate student, University of Victoria; 1 graduate student, University of Calgary

Journal Publications

- **Dibike, Y.,** de Rham, L., Beltaos, S., Peters, D.L. and Bonsal, B., 2025. Analysis of Annual Maximum Ice-Influenced and Open-Water Levels at Select Hydrometric Stations on Canadian Rivers. Water, 17(20), p.2930.
- Fong, P., **R.R Shrestha,** Y. Liu, R. Valipour. 2025. Modelling climate change impacts on hydrology and phosphorus loads under projected global warming levels for the Lake of the Woods watershed, Journal of Great Lakes Research https://doi.org/10.1016/j.jglr.2025.102636.
- Liu, Y., S. Tanguturia, **R.R. Shrestha,** M. RahimiMovaghar, M.R. Najafi. 2026. Projection of future climate change and precipitation extremes over the Canadian Lake Erie and Lake Ontario basins under global warming, Frontiers in Water, Water and Climate 8. https://doi.org/10.3389/frwa.2026.1774999.
- **Shrestha R. R.,** A. Cannon. 2026. Storylines of summer streamflow droughts in western Canadian watersheds: historical attribution and future projections, npj Natural Hazards 3:41 https://doi.org/10.1038/s44304-026-00204-9
- **Shrestha R.R**., A.J. Cannon, S. Hoffman, M. Whibley, A. Lima. 2025. Benchmarking historical performance and future projections from a large-scale hydrologic model with a watershed hydrologic model, Hydrology and Earth Systems Sciences 29, 2881–2900, https://doi.org/10.5194/hess-29-2881-2025.

Peer reviewed proceedings

- **Shrestha R.R.**, A. J. Cannon, C. Conboy, 2026. Historical attribution and future projections of extreme flooding in the transboundary Saint John River Basin, 10th International Conference on Flood Management, London, Ontario.
- Liu, Y., **Dibike, Y., Shrestha, R.,** Daggupati. P. 2026. Assessing flood risk in the lower reaches of the Red-Assiniboine River under a changing climate, 10th International Conference on Flood Management, London, Ontario, Canada.
- de Rham, L., **Peters, D.L., Dibike, Y.**, Bonsal, B., Turcotte, B., Tivy, A. 2025. Mapping and Ice Climatology of the Last Day of Backwater due to ice, "Last B date", at a Subset of Hydrometric Stations across Canada: September 1, 1985 to August 31, 2015. Proceedings of the 23rd CRIPE Workshop on the Hydraulics of Ice-Covered Rivers, St. John's, Newfoundland and Labrador, June 9 to 12, 2025

Conference contributions

- Troy, T., P. Rai, **R.R. Shrestha**, 2026. Changes in flood drivers in British Columbia, Canada, EGU26- 15232, EGU General Assembly 2026.
- **Shrestha R.R.**, A. J. Cannon, 2026. Attribution and future projection of summer streamflow drought in western Canadian watersheds, 60th CMOS Congress.
- **Dibike Y.**, James E, de Rham L., Peters D., 2026. Modeling and Evaluating the Sensitivity of River-Ice Thickness to a Warming Climate in the Mackenzie River Basin, 60th CMOS Congress.
- **Dibike Y**., James E, de Rham L., Peters D., 2026. Assessing Changes in River-Ice Regimes and Their Climatic Controls in the Mackenzie River Basin, CWRA 2026 National Conference, Winnipeg, Manitoba.

Reports:

- Oil Sands Monitoring Program. 2025. State of the Environment Technical Report 2025 Surface Water Quality and Quantity in Alberta's Oil Sands Region, Calgary, Alberta. Retrieved from: https://open.alberta.ca/publications/osmp-state-of-environment-2025-surface-water

- Environment and Climate Change Canada. 2026. National Freshwater Science Agenda (NFSA) - A report on national freshwater science priorities. https://www.canada.ca/en/environment-climate-change/services/water-overview/protecting-freshwater/national-freshwater-science-agenda/report.html