



**Pacific Ecology and Evolution Conference**

**2023**

April 1-2, 2023  
SFU Harbour Centre | Vancouver, BC



# **Table of Contents**

Welcome to PEEC 2023! .....	1
Land Acknowledgement .....	1
Statement of Principles .....	2
PEEC Coordinating Team .....	3
Vendors .....	3
Our Sponsors .....	4
Overall Schedule of Events .....	5
Saturday Program .....	7
Sunday Program .....	17

# **Welcome to PEEC 2023!**

The Pacific Ecology and Evolution Conference (PEEC) is a student-run, annual conference that aims to provide opportunities to early-career scientists to exchange ideas and seek collaborations with peers from across Western Canada and the United States.

The conference was first held in 1979 and since then has provided opportunities for thousands of researchers to share their work and build their networks in a supportive and collaborative environment. PEEC is a multi-disciplinary and intellectually stimulating conference and we welcome presentations on any and all types of ecology/evolution research.

## **Land Acknowledgement**

As organizers we recognize that we are uninvited visitors on the lands on which we live and work. Being based at Simon Fraser University, we acknowledge and respect the Coast Salish peoples on whose traditional and unceded territory the universities campuses stand which includes the unceded traditional territories of the x̱məθkʷə́yəm (Musqueam), Sk̓wx̓wú7mesh Úxwumixw (Squamish), səlilwətaɣ̓ (Tsleil-Waututh), áíćáý (Katzie), k̓wíkwə́łəm (Kwikwetlem), Qayqayt, Kwantlen, Semiahmoo and Tsawwassen peoples. We express our deepest appreciation for the Indigenous peoples and Indigenous values and laws which have kept the land in a good way since time immemorial.

# **Statement of Principles**

We recognize that the Pacific Ecology and Evolution Conference is a gathering designed by the student community and for the student community. Our actions as organizers and participants must necessarily reflect this ethos of service. We are committed to developing and maintaining an environment built on respect and mutual support towards each other.

We therefore strive as an organization and as participants to welcome each other and reject discrimination in all its forms, whether it be based on class, race, ethnicity, nationality, gender, sexual orientation, age, socio-economic class, religion, disability or any other variety. This rejection must take the form of more than just words and thoughts. We will work together to combat these issues as they arise and take concrete steps to prevent them from taking root.

We as organizers will seek to not only reject discrimination in its present forms, but also work to combat the legacies of past acts, and will implement a reparative approach to designing our gathering, using it to reflect the actual diversity of our field and uplift marginalized voices.

Signed, The Organizing Committee of the Pacific Ecology and Evolution Conference 2023

## PEEC Coordinating Team

Em Lim	Kelly Scott	Sherry Young
Alyssa Allchurch	Kiara Kattler	Claire Attridge
Beth Oishi	Miranda Dennis	Sarah Gutzmann
Julian Gan	Phoebe Gross	Rachel Fairfield Checko
Katie Philip	Raven Barbera	Celeste Kieran

## Visit our Vendors

Please visit our wonderful vendors in the Concourse area during Registration, Networking, or during any of the Snack Breaks to take a look at the various artwork from local artists.

Vendor	Instagram
LoloSoBones	lolosobones
Good Time Club	good.time.club
Drift Creative	driftcreativeart
Kimoowun Beads	kimoowun.beads

# Thank you to Our Sponsors!

## Gold Sponsorship Level

U of A Faculty of  
Science

PICES

SFU Faculty of  
Environment

## Silver Sponsorship Level

SFU Faculty of Science

SFU Department of  
Biological Sciences

UBC Zoology

UBC Faculty of  
Science

## Bronze Sponsorship Level

Ocean Networks  
Canada

UBC Biodiversity  
Research Centre

Canadian Institute of  
Ecology & Evolution

UBC Institute for  
Resources,  
Environment and  
Sustainability

UBC Department of  
Forest and  
Conservation Sciences

UBC Department of  
Botany

## Supporter Sponsorship Level

UBC Faculty of Grad  
Studies

Watershed Watch  
Salmon Society

UVic Biology

Azimuth Consulting  
Group

Fish Sounds

SFU REM Emeritus  
Randall Peterman

The Canadian Section  
of the Wildlife Society

UVic School of  
Environmental Studies

Deep Cove Kayak  
Centre

**Saturday, April 1st**

**Registration**

8:00 - 9:00 am

*Concourse*

**Welcome and Land Acknowledgement**

9:00 - 9:15 am

*Fir Room*

**Keynote Address by Dr. Zoe Todd**

9:30 - 10:15 am

*Fir Room*

**Workshops**

10:30 - 12:30 pm

**College of Applied  
Biologists**

*Fir Room*

**SFU CERi**

*Oak Room*

**Spatial Data in R**

*Elm Room*

**Lunch Break**

12:30 - 2:00 pm

*Offsite*

**Presentation Session A**

2:00 - 2:45 pm

**Climate Change**

*Fir Room*

**Evolution I**

*Oak Room*

**Trees to Teleosts**

*Elm Room*

**Presentation Session B**

3:00 - 4:00 pm

**Conservation I**

*Fir Room*

**Evolution II**

*Oak Room*

**Physiology**

*Elm Room*

**Snack Break**

4:00 - 4:30 pm

*Concourse*

**Presentation Session C**

4:30 - 5:15 pm

**Salmon Ecology**

*Fir Room*

**Forestry**

*Oak Room*

**Development and  
Behaviour**

*Elm Room*

**Social**

6:00 - 10:00 pm

*North Point Brewing Café*



**Sunday, April 2nd**

**Coffee and Networking**

8:00 - 8:30 am

*Concourse*

**Poster Session**

8:30 - 9:30 am

*Concourse*

**Snack Break**

9:30 - 10:00 am

*Concourse*

**Presentation Session D**

10:00 - 11:00 am

**Human Impact I**

*Fir Room*

**Conservation II**

*Oak Room*

**Animal Behaviour II**

*Elm Room*

**Presentation Session E**

11:15 - 12:15 pm

**Community  
Involvement**

*Fir Room*

**Modern Methods**

*Oak Room*

**Human Impact II**

*Elm Room*

**Lunch Break**

12:15 - 1:45 pm

*Offsite*

**Presentation Session F**

1:45 - 3:00 pm

**Culturally Significant Relations  
and Management**

*Fir Room*

**Eco-Grief Discussion**

1:45 - 3:15 pm

*Oak Room*

**Snack Break**

3:15 - 3:30 pm

*Concourse*

**Keynote Address by Dr. Chelsea Little**

3:30 - 4:15 pm

*Fir Room*

**Closing and Awards**

4:30 - 5:00 pm

*Fir Room*

# **Saturday Program**

## **Registration**

**8:00 - 9:00 am**

*Concourse*

Welcome to PEEC 2023! Our conference coordinators can help you sign-in, find your name badge, and answer any questions you may have about the conference schedule. Enjoy some time to network and mingle over coffee, tea, and snacks.

## **Welcoming Remarks and Land Acknowledgement**

**9:00 - 9:15 am**

*Fir Room*

### **Elder Marie Hooper, KʷIKʷƏ́ŁƏM (Kwkwetlem First Nation)**

Marie Hooper is an elder from Kwkwetlem First Nation. Recently she has moved onto the nations reserve, so she can connect better with her Indigenous culture. This has, and will keep her connected with her culture. She keeps her knowledge of the history of the nation and its families. This is passed down from her ancestors, grandmother, aunts, uncles, cousins and mother who is 96 years old and all of whom have lived on the reserve lands and territories.

Marie who was born in the UK, immigrated to Vancouver, B.C. in 1967. Her background is Coast Salish, English, Scottish and Portuguese. Marie has studied at B.C. Institute of Technology and Kwantlen Polytechnic University. Her qualifications include Indigenous Environmental Archeology, Ecologic Engineering, and Guardian of the Indigenous lands and territories.

Marie is a mother of four and grandmother of nine. Her passion is to bring residential awareness into the school system, or wherever she can bring up the subject asking individuals, 'What do you know about residential schools?'. Only learning about residential schools five years ago, and bringing awareness, help Marie process the trauma her family and others have endured.

## **Keynote Address**

**9:30 - 10:15 am**

*Fir Room*

**Dr. Zoe Todd, SFU Associate Professor  
Department of Indigenous Studies**

Please welcome Dr. Zoe Todd as our first keynote speaker!

Dr. Zoe Todd (she/they) (Red River Métis) is a practice-led artist-researcher who studies the relationships between Indigenous sovereignty and freshwater fish futures in Canada. Dr. Todd combines methods from Critical Indigenous Studies, history, geography, art, oral history, ethnography, and other disciplines/approaches to intervene collaboratively with colleagues in catastrophic fish declines in their home province.

They are a co-founder of the Institute for Freshwater Fish Futures, which is a collaborative Indigenous-led initiative that is ‘restor(y)ing fish futures, together’ across three continents. They are also a co-founder of the Indigenous Environmental Knowledge Institute (IEKI) at Carleton University.

## Workshops

10:30 - 12:30 pm

### The Evolution of the Applied Biology Profession

*Fir Room*

Now more than ever it is an exciting time to be an applied biology professional. The profession is changing, bringing new knowledge, skills and challenges. Other changes include the recognition of being an equal professional, and how the profession is regulated. Come hear about the changes, how they may influence your career and get career tips.

### SFU CERi

*Oak Room*

Join Tara Mahoney, Research and Engagement Coordinator at SFU's Community Engaged Research Initiative, alongside panelists Fiona Beaty (UBC), Svetlana Esenkulova and Nicole Frederickson (Pacific Salmon Foundation) and Chantelle Spicer (SFU), in an interactive exploration of community engaged research (CER).

This workshop will introduce participants to CER, and provide opportunities for participants to engage with panelists, and one other, on topics such as the challenges and opportunities of CER, ethical engagement with communities, and CER methodologies.

### Analyzing Spatial Data in R

*Elm Room*

Participants will learn from Wesley Greenwood (University of Victoria) how to use R to produce publication-quality maps and analyze spatial data. This workshop will also introduce spatial data manipulation and how to access publicly available spatial data.

The workshop will be accessible to participants with limited R programming experience. Advanced R users will also benefit by learning about new tools.

**Presentation Session A****2:00 - 2:45 pm****Climate Change*****Fir Room****Moderators: Em Lim & Beth Oishi*

2:00	Natalie Butler	Assessing effects of acclimation temperature on thermal tolerance of stream-type juvenile Chinook salmon under ecologically relevant temperature ranges
2:15	Camille Febvre	Ecosystem-level evolutionary response to temperature
2:30	Olivia Melville	Are glass animals important to the global silicon cycle?

**Evolution I*****Oak Room****Moderators: Miranda Dennis & Katie Philip*

2:00	Evan Hersh	Hare population cycles impact lynx genetic diversity and gene flow
2:15	Julie Radford	The persistence of a selfish X chromosome in a common woodland fly
2:30	Katherine Carbeck	Selection for genes underlying Bergmann's Rule

**Speed Talks: Trees to Teleosts**

*Elm Room*

*Moderators: Phoebe Gross & Julian Gan*

Forestry		
2:00	Kate Peterson	Growing with the Times: Adapting GY Modelling to Climate Change
2:03	Zhengyang Ye	Universal Response Function for Interior Spruce and Its Spatial Validation
2:06	Laura Mackey	Extracting atmospheric river storm history from tree ring stable isotopes
2:09	Q & A	

Plankton & Plants		
2:15	Daniel Labbé	Zooplankton biomass and nutritional quality in the Canadian Offshore Pacific
2:18	Maggie Lawton	Characterizing the diversity of microbial eukaryotes in oxygen minimum zones
2:21	Narges Raei	Flow Characteristics of <i>Z. marina</i> beds in proximity of <i>Z. japonica</i>
2:24	Q & A	

**Salmon**

2:30	David Scott	Salinity tolerance in juvenile Chinook salmon in the Fraser River estuary
2:33	Phoebe Gross	Present and future juvenile Pacific salmon growth across estuarine habitat mosaics
2:36	Julian Gan	Estuarine habitat associations of juvenile salmon across a degradation gradient
2:39	Q & A	

**Presentation Session B****3:00 - 4:00 pm****Conservation I*****Fir Room****Moderators: Em Lim & Beth Oishi*

3:00	Patrick Zubick	Audit of Remediated Culvert Barriers in the Fraser River Watershed
3:15	Zachary Sherker	Effectiveness monitoring for culvert and floodgate remediations to improve salmon migrations
3:30	Gillian Gawron	Social/environmental tradeoffs of green burial as land conservation tool
3:45	Sarah Board	Elements of conservation messages that sustain whale watchers pro-environmental behaviours

## Evolution II

***Oak Room***

*Moderators: Miranda Dennis & Kelly Scott*

3:00	Meghan Dueck	Intraspecific variation and osteology of the Rocky Mountain sculpin
3:15	Hazel de Haas	Exploration of intraspecific variation in fish stoichiometry within a watershed
3:30	Philippe Fernandez-Fournier	How is local phylogenetic diversity changing globally?
3:45	Hannah Roodenrijs	Reversed Sexual Dimorphism and Resource Partitioning in black oystercatchers

## Physiology

***Elm Room***

*Moderators: Phoebe Gross & Julian Gan*

3:00	Anupinder Hura	Impact of petroleum products on Pacific oyster physiology and histopathology
3:15	Arian Farajizadeh	Nanoplastics Modulate of the PFOA uptake in Pacific Oyster
3:30	Brett Hodinka	Interbrood comparisons of mass loss strategies in breeding female European starlings
3:45	Vanessa Ho	ATP signaling in sneezing sponges and the evolution of coordination



## Snack Break

**4:00 - 4:30 pm**  
*Concourse*

## Presentation Session C

**4:30 - 5:15 pm**

### Salmon Ecology

***Fir Room***

*Moderators: Em Lim & Beth Oishi*

- |      |                 |   |
|------|-----------------|---|
| 4:30 | Devan Johnson   | Biofouling, Environmental Factors, and Gill Health on Atlantic Salmon Farms |
| 4:45 | Brittany Milner | Seasonal dynamics of juvenile coho salmon in wetlands                       |
| 5:00 | Paige Roper     | Fraser estuary Chinook and dietary differences between populations          |

### Forestry

***Oak Room***

*Moderators: Miranda Dennis & Kelly Scott*

- |      |              |   |
|------|--------------|---|
| 4:30 | Dawei Luo    | Local adaptation of trees to forest pests                       |
| 4:45 | Wenhuan Xu   | The impact of climate change on endangered conifer tree species |
| 5:00 | Lise Nehring | The contribution of Red Alder to forest stand nitrogen budgets  |

**Speed Talks: Development and Behaviour**

***Elm Room***

*Moderators: Phoebe Gross & Julian Gan*

**Animal Behaviour**

4:30	Anna Smith	Efficacy of Drones for Beaver Surveys in the Yukon
4:33	Cole Rankin	Partial Migration in Black Oystercatchers Breeding in Alaska
4:36	Saif Nayani	Microbe-mediated attraction of stable flies to host cattle
4:39	Q & A	

**Evolution**

4:45	Giselle Dove	The cone mosaic of young sablefish: an evolutionary perspective
4:48	Megan Duchesne	Does novel competition drive diversification or convergence in controphic sparrows?
4:51	Pierre Etienne Banville	Examining how animal traits and abundance influence landscape resource heterogeneity
4:54	Q & A	

## Reproductive Physiology

5:00	Rachel Stapleton	Multi-event modeling shows variable nest success for the at-risk double-crested cormorant population
5:03	Genavieve Desjardin	Intraspecific variation of clutch size in ladybeetles
5:06	Raven Barbera	Individual Variation and Plasticity of Egg Size in European starlings
5:09	Q & A	

## Social

**6:00 - 10:00 pm**  
*North Point Brewing Café*

Come join us for a fun round of drinks and food at our PEEC Social & Mixer! The social will take place at North Point Brewing Café (1025 Dunsmuir St, Vancouver, BC V7X 1M5). A drink ticket is included with your admission ticket and will be distributed at the door. We are supplying snacks and treats. There will also be additional food for purchase through the venue. We hope to see you there!

# Sunday Program

## Coffee and Networking

8:00 - 8:30 am

*Concourse*

Enjoy coffee, tea, and light refreshments. Visit the registration desk for late registration or to purchase PEEC merch!

## Poster Session

8:30 - 9:30 am

*Concourse*

P1	Maria Sophia Diluvio	What makes sponges contract? In-situ observations on a sponge.
P2	Keilan Williams	Demographic History of the Pacific Nudibranch Genus <i>Hermisenda</i>
P3	Megan Scott	Do Glaucous-winged Gulls Indirectly Effect Black Oystercatcher Breeding Success?
P4	Olivia Murphy	Marine vessel noise impacts on endangered Southern Resident killer whales
P5	Kate Rutherford	Abundance, distribution, seasonality and habituation of Roosevelt elk
P6	Angus Townsend	Analysis of plainfin midshipman ( <i>Porichthys notatus</i> ) otolith annuli for aging
P7	Alexandra Munday	Associated Ecological Risks in Salmonid Enhancement Facilities of Metro Vancouver

P8	Chloe Kraemer	Salmon as “samplers”: Using adult Chinook Salmon diets to understand prey distributions in British Columbia coastal ecosystems
P9	Emma Polard	The effect of hatchery rearing conditions on otolith composition in juvenile Coho Salmon
P10	Pourya Sardari	Far From Home: Selected African-Eurasian Testudines imports into the US
P11	Emma Kovacs	Attraction of horn flies, <i>Haematobia irritans</i> , to cattle host semiochemicals
P12	Milène Wiebe	Optimizing trapping strategies of European green crab ( <i>Carcinus maenas</i> )

**Snack Break**

**9:30 - 10:00 am**  
*Concourse*

**Presentation Session D**

**10:00 - 11:00 am**

**Human Impact I**

*Fir Room*

*Moderators: Beth Oishi & Julian Gan*

10:00	Ashley Mickens	Understanding Effects of Urbanization on Aquatic Ecosystems Across Vancouver Island
10:15	blake danis	How Risky are reintroductions: assessing contaminant impacts in amphibian reintroduction programs.
10:30	Mackenzie Woods	How boat noise alters behaviour and vocalizations in plainfin midshipman fish

10:45	Sierra Gray	Energetic and genomic responses of oysters to a changing ocean
-------	-------------	--

<b>Conservation II</b>	<b><i>Oak Room</i></b>
<i>Moderators: Miranda Dennis &amp; Phoebe Gross</i>	

10:00	Elsa Camins Martinez	Advances in knowledge of seahorse life history from community science
10:15	Emma Kominek	Evolutionary isolation of Canadian terrestrial vertebrate species
10:30	Alexandra Gregg	Specialism is not Specialism
10:45	Tharindu Kalukapuge	Response of boreal songbird communities to linear features of varying width

<b>Animal Behaviour</b>	<b><i>Elm Room</i></b>
<i>Moderators: Celeste Kieran &amp; Sarah Gutzmann</i>	

10:00	Claire Gooding	Know your enemy: Blacklegged ticks sense and avoid ant-frequented areas
10:15	Micah Quindazzi	Snails of Theseus: Highly Derived Shell of Hydrothermal Vent Gastropod
10:30	Robyn Nakano	A Landscape Archaeological Approach to Chimpanzee Accumulative Stone Throwing

Presentation Session E

11:15 - 12:15 pm

Community Involvement

Fir Room

Moderators: Beth Oishi & Julian Gan

11:15	Sarafina Lewis-Henderson	Rare Species Recovery in an Urban Greenspace through Community Stewardship
11:30	Brittnie Spriel	Promoting ocean literacy and inspiring marine conservation through fish sounds
11:45	Sabrina Guzman Skotnitsky	Addressing Climate Anxiety through Participatory Art
12:00	Jaime Ojeda	Unveiling reciprocal contributions between fishers and seabirds in the Patagonian hake fishery

Modern Methods

Oak Room

Moderators: Miranda Dennis & Phoebe Gross

11:15	Kaitlyn Zerr	Eyes on the Reef: Using remote timelapse cameras to reveal the hidden habits of marine megafauna in a newly designated UNESCO Biosphere Reserve
11:30	Lauren Man	Using satellite remote sensing to characterize the spatio-temporal resilience of kelp forests in the Broughton Archipelago, BC, Canada
11:45	Lionel Francis Vernon Leston	Power Analysis in Occupancy Models of Acoustic Data from Haida Gwaii
12:00	Sherry Young	Camera traps: pushing the limits of their use

**Speed Talks: Human Impact II**

***Elm Room***

*Moderators: Celeste Kieran & Sarah Gutzmann*

**Aquatic Impact**

11:15	Celeste Kieran	Signatures of change in the North Pacific Ocean
11:18	Emma Lunzmann-Cooke	Investigating post-release mortality of coho salmon in a marine recreational fishery
11:21	Cierra Hart	Rock the boat: an investigation into the effects of vessel noise on rockfish communication
11:24	Q & A	

**Avian Impact**

11:30	Anna Linton	Benthic contaminant transfer in bald eagles through plainfin midshipman predation
11:33	Jennifer Magel	Habitat loss for migratory shorebirds with future sea level rise
11:36	Jesse Kemp	Barrow’s Goldeneye refine migratory phenology in response to environmental conditions
11:39	Vanessa Hum	Year-round bird-window collision monitoring at Simon Fraser University’s Burnaby campus
11:42	Q & A	



## Presentation Session F

1:45 - 3:00 pm

### **Mixed Format: Culturally Significant Relations and Management**

***Fir Room***

*Moderators: Sarah Gutzmann & Raven Barbera*

- |      |                     |   |
|------|---------------------|---|
| 1:45 | Sarah Dickson-Hoyle | Megafires' and the recovery of culturally significant plants                        |
| 2:00 | Claire Armstrong    | Transformative Change towards Indigenous Food Sovereignty in Shellfish Food Systems |
| 2:15 | Emily Spencer       | Can ancient clam gardens buffer the impacts of contemporary heatwaves?              |

### **Speed Talks: Traditional Ecological Knowledge**

- |      |                |  |
|------|----------------|--|
| 2:30 | Desiree Lawson | Strengthening Hałtzaqv ocean governance through gavials and łaxvai       |
| 2:33 | Hannah Kobluk  | Modelling Indigenous led stewardship of sea otters, shellfish and people |
| 2:36 | Andrew Bickell | Impacts of marine heatwaves and hypoxia on commercial shellfish species  |
| 2:39 | Q & A          |  |

**Speed Talks: Aquatic Policy & Managment**

2:45	Kelcy Tousignant	Swimming Upstream: How recreational fisheries management structure dictates decision-making
2:48	Melissa Orobko	Cumulative exposure: What do you miss when excluding spatial seasonality?
2:51	Kiara Kattler	Functional responses of male and female European green crabs suggest potential sex-specific impacts of invasion
2:54	Q & A	

**Eco-Grief Discussion**

**1:45 - 3:15 pm**  
*Oak Room*

**Jason Brown, SFU Lecturer in Resource and Environmental Management**

Working in environmental and resource management fields can be deeply rewarding. However, it is also difficult when bombarded by all the bad news facing global ecosystems, biodiversity and the climate. It’s easy to become apathetic when things feel overwhelming, and many activists end up burning out.

Explore how grief work is not an invitation to wallow or check out – it reimagines grief as a skill that is not altogether different from love. And for those of us who work in environmental fields, keeping our hearts open to grief might be a way to avoid both burnout and checking out.

## **Keynote Address**

**3:30 - 4:15 pm**  
*Fir Room*

**Dr. Chelsea Little, SFU Assistant Professor**  
**School of Environmental Science & School of Resource and**  
**Environmental Management**

Join us in welcoming Dr. Chelsea Little as our second keynote speaker!

Chelsea was trained as a community ecologist and evolutionary biologist, and her research program has grown to address how organisms and ecosystems are linked across landscapes.

Her “Little Ecology Group” has a strong group of undergraduate and graduate researchers, and considers how communities of organisms assemble, the interactions between organisms of similar and different trophic groups, and how their traits contribute to ecosystem function.

Chelsea is also fascinated by how animal movement and resource subsidies redistribute nutrients around landscapes, and uses data synthesis and meta-analytic approaches to address this question.

## **Awards and Closing**

**4:30 - 5:00 pm**  
*Fir Room*

Presentation of awards for excellent student presentations and posters as well as closing remarks from the PEEC coordinating team.

Thank you for attending PEEC 2023!



## North Pacific Marine Science Organization | Ocean science, together.

PICES' 6 member countries facilitate scientific knowledge creation & sharing through international collaboration & intergovernmental cooperation



**Scientific Focus Area:  
North Pacific Ocean**

PICES hosts scientific collaborators at interdisciplinary events & creates and shares scientific knowledge through PICES publications:

- Conferences
- Symposia
- Capacity development
- Training courses
- Special projects
- Workshops
- Scientific Reports
- Special Publications
- Technical Reports
- Primary Journals
- PICES Press
- Outreach materials

PICES – the North Pacific Marine Science Organization – is an international intergovernmental organization established in 1992 by its member countries (Canada, Japan, China, Korea, Russia, & USA) to promote and coordinate marine research in the North Pacific & adjacent seas. PICES facilitates international collaboration, research, and scientific outreach through its annual science meetings, international symposia, summer schools & capacity development events, special projects & science programs, and publishes scientific materials. With >4500 scientists and member institutions worldwide, PICES is an effective vehicle for international collaboration and information sharing. PICES encourages partnerships, and facilitates mentorship of early career ocean science professionals to ensure ongoing study of the North Pacific.

**Join us! Attend a meeting; submit an abstract & present your work; ask your Governing Council representative about joining an Expert Group; join a summer school or training course, or submit an article for PICES Press.**

**[www.pices.int](http://www.pices.int)**



PICES Press



Twitter @PICES\_MarineSci



PICES YouTube



PICES Flickr



SFU

**ENVIRONMENT**



**UNIVERSITY  
OF ALBERTA**



THE UNIVERSITY OF BRITISH COLUMBIA

Faculty of Science



[SCIENCE.UBC.CA/RESEARCH](https://science.ubc.ca/research)



FIND YOUR

**BIG**

POTENTIAL AT  
**SFU SCIENCE.**



LEARN MORE ABOUT  
GRADUATE STUDIES

SFU **SCIENCE**



DEPARTMENT OF  
BIOLOGICAL SCIENCES



DEPARTMENT OF ZOOLOGY  
UBC

**Contact us at**  
**peec.conference@gmail.com**

**Or visit our website for more  
information!**

**peec.ca**



PACIFIC ECOLOGY - AND - EVOLUTION CONFERENCE