



# Coastal Hazards and Risk Communication Forum

## **P r o g r a m**

**Friday, June 14, 2019, 1:00 pm to 3:45 pm**  
**MEOPAR Annual Scientific Meeting**

**Delta Ocean Pointe Resort,  
Victoria, BC**



## *About the Coast and Ocean Risk Communication Community of Practice...*

*A forum for collaborating, sharing expertise, and improving our understanding and practice of marine and coastal risk communication.*

The Coast and Ocean Risk Communication Community of Practice (CORC CoP), established in February 2018, is a forum for people and organizations interested in building knowledge and best practices around communicating risk of coastal or marine hazards such as marine pollution, extreme weather events, tsunamis and earthquakes, sea level rise, coastal flooding, storm surge, sea-ice, or others.

The community is sponsored by the Marine Environmental Observation, Prediction and Response Network (MEOPAR), a part of the Network of Centres of Excellence (NCE) program.

Interested in exchanging knowledge about marine and coastal risk communication?

- Join our online forum hosted on the Future Earth Open Network platform at **[network.futureearth.org/corccop](http://network.futureearth.org/corccop)**
- **Subscribe** to our communications list to receive notice of future events, resources, or activities

Please visit our website at **[corccop.com](http://corccop.com)** for more information, or email **[corccom@gmail.com](mailto:corccom@gmail.com)**.

CoP Leads: Ron Pelot, Dalhousie University, NS & Joel Finnis, Memorial University, NL  
CoP Coordinator: Cindy Marven, Victoria, BC

**Date:** Friday, June 14, 2019: 1:00 pm to 3:45 pm

**Room:** Arbutus Ballroom (2nd Floor)

Updates to Forum Program - <https://corccop.com/coastal-hazards-and-risk-communication-forum/>

Social media hashtags: #corcforum2019 @corc\_cop

<b>1:00PM – 2:45PM</b>	<b>Panel Session: <i>Lost in Translation? Communicating Coastal Hazards - From Observations and Models to Risk Messages</i></b>
<b>Panelists</b>	Andrea Minano, Armel Castellan, Ryan Reynolds, & Tom James
<b>2:15PM – 2:40PM</b>	Refreshment Break
<b>2:40PM – 3:40PM</b>	<b>Presentations: <i>Coastal Hazard and Risk Communication: Perspectives from Practitioners, Policy-Makers, and Researchers</i></b>
<b>2:40PM – 2:55PM</b>	<i>'Surrey Coastal Flood Adaptation Strategy'</i> – Matt Osler
<b>2:55PM – 3:10PM</b>	<i>Challenges when evacuating First Nations' coastal communities</i> – Laurie Pearce
<b>3:10PM – 3:25PM</b>	<i>Improving end-to-end tsunami notification along Canada's West Coast: Current challenges and new opportunities</i> – Peter Anderson
<b>3:25PM – 3:40PM</b>	<i>Marine Forecast Production &amp; Application in Newfoundland Fisheries</i> – Joel Finnis
<b>3:40PM – 3:45PM</b>	Forum – Concluding remarks
<b>3:45PM – 4:00PM</b>	MEOPAR Annual Scientific Meeting Concluding Remarks – Doug Wallace, MEOPAR Scientific Director

**1:00-2:15 PANEL DISCUSSION: *Lost in Translation? Communicating Coastal Hazards: From Observations and Models to Risk Messages***

**Moderator: Joel Finnis, Memorial University of Newfoundland, NL; CORC CoP Co-Lead**

The communication of hazard-related information usually begins with the detection of a potential hazard through observation of phenomena. The data are analyzed and/or modeled and meaning or implications are drawn from the results. Depending on the time scale of the anticipated hazard, this is then communicated in a variety of ways (reports, sirens, alerts, images, simulation, maps, narrative, graphs, numerical equations), to one or many audiences (same agency, different agencies, decision-makers, public). At each step of the communication process, the message format and content can be (or may need to be) altered to fit the audience, channel, or circumstances. The selection of data or model outcome to communicate, the communication of uncertainty or probability, as well as aspects of the message format and content may result in the communication of a meaning different than initially intended or a message that amplifies one aspect but attenuates another. Testing processes and messages with the end-user and obtaining feedback, is critical, but may not always occur. Traditional media (radio, tv, print or electronic media) and social media play a strong role in hazard information dissemination exchange with both challenges and opportunities for interaction, multi-directional information flow, information gathering and dissemination. The panelists will discuss the challenges of maintaining the fidelity of the message meaning for each audience through the multi-step communication process for a variety of coastal hazards such as sea-level rise, flooding, extreme weather events, and tsunamis.

## MEET THE PANELISTS

**[Andrea Minano](#)**, PhD Candidate, Department of Geography and Environment, University of Waterloo, Waterloo, ON. Focus: Geographic Information Systems (GIS); visualization; simulation; flood risk; mapping



Andrea is a specialist in Geographic Information Systems and has previously worked for municipal, provincial and federal governments as well as the insurance industry. Andrea's research and work experience are highly interdisciplinary ranging from visualization of flood risk, community-based climate adaptation and flood risk management policy. Andrea's current research focuses on public and private responsibilities in flood risk management and identifying opportunities for strengthening flood resiliency in Canada.

**[Armel Castellan](#)**, Warning Preparedness Meteorologist, Environment and Climate Change Canada (ECCC), Victoria, BC. Focus: customized weather and climate information for emergency preparedness and response; climate and weather communication and interpretation



Armel works with external and internal clients to assist them in understanding custom interpreted weather and climate information and to make operational decisions to optimize safety, efficiency and business continuity. Clients include emergency management organizations, Emergency Management BC, municipalities, provincial and federal ministries, departments and the media. In Spring 2018, he represented the Meteorological Service of Canada in a collaborative engagement effort in the Beaufort Arctic where UVic Geography researchers Dr. Atkinson and Dr. Eerkes-Medrano have established relationships with communities allowing for meaningful exchanges on what is required to provide better weather products for hunting and safety purposes. Armel is responsible for the production and delivery of weather-related contributions to the BC Provincial Technical Drought Working Group; collaborates with other regional and national working groups; coordinated ECCC's role in federal government exercise *Pacific Quake 2016* paralleling *Cascadia Rising* (NOAA) and *Coastal Response* (Province of BC), and conducts outreach and educational events for many agencies around the province including the Climate Action Secretariat and the Coast Guard Auxiliary.

**[Ryan Reynolds](#)**, Post-Doctoral Research Fellow, University of British Columbia, Vancouver, BC. Focus: tsunami risk, warning, and evacuation; GIS and online tools for vulnerable households to increase resilience



Ryan's research explores how Geographic Information Systems (GIS) and other spatial analysis tools can be used to communicate natural hazards risk, assist vulnerable households and communities to prepare for and respond to hazards-related emergencies, and to drive for more resilient communities. His work specifically addresses hazards risk mapping, risk communication, and how online and mobile tools can be used to assist vulnerable households to prepare for and respond to hazards-related emergencies. As part of the MEOPAR-funded Resilient-C team, he is helping to improve coastal hazards resilience by connecting similar communities across Canada in order to share lessons learned and best practices. Recent research with Alexa Tanner (UBC) focused on an [analysis and evaluation](#) of public and official perceptions of the tsunami warning and evacuation of the Alberni Valley, following the 2018 tsunami warning. He is also in the process of redeveloping his tsunami alert monitoring system, [WAVE](#), to improve how alerts are presented to potentially affected B.C. residents.

**[Thomas James](#), Research Scientist, Geological Survey of Canada-Pacific, Sidney BC.** Focus: past and present-day sea-level change; sea-level projections; natural hazards, climate change



Tom joined the Geological Survey of Canada (GSC) in 1991 and has carried out research on past and present-day sea-level change and crustal motion. Much of his research has focused on the tectonically active and earthquake-prone Cascadia Subduction Zone of coastal British Columbia. He has also studied the Canadian Arctic and Antarctica and has led projects on coastal geoscience and on natural hazards in the climate change and natural hazards programs of the Earth Science Sector, Natural Resources Canada. Tom was lead guest editor for a special volume on the 2012 Haida Gwaii earthquake, which was Canada’s second largest historical (instrumentally recorded) earthquake. In recent years he has been working on sea-level projections. He is an editor for a volume on climate change and Canada’s coasts.

**2:40PM – 3:40PM PRESENTATIONS: *Coastal Hazard and Risk Communication: Perspectives from Practitioners, Policy-Makers, and Researchers***

**Laurie Pearce, Research Associate, Justice Institute of BC; Associate Faculty, Royal Roads University; Partner at Pearces 2 Consulting Corporation.**

***Title: Challenges when Evacuating First Nations’ Coastal Communities***

Funded by Indigenous Services Canada, Drs. Laurie Pearce and Brenda Murphy, led a research team in 2017/2108 to meet with First Nations communities across Canada who had been either subjected to a disaster-related evacuation or had been a host community to a First Nations community that had been evacuated. Our findings led to a series of recommendations for evacuating First Nations communities and for host communities (Indigenous and non-Indigenous). This presentation will touch upon some the findings, the challenges and some steps for moving forward.

**Matt Osler, Senior Project Engineer, City of Surrey**

***Title: Surrey Coastal Flood Adaptation Strategy***

Over the past 3 years, City of Surrey has engaged a variety of stakeholders and partners in developing a coastal flood adaptation strategy. This presentation will introduce the communications materials developed, results, challenges and lessons learned. View the [Phase 1-3 Engagement Report here](#).

**Peter Anderson, Director of the Telematics Research Lab and Associate Professor of Communication at Simon Fraser University, Burnaby, BC.**

***Title: Improving end-to-end tsunami notification along Canada’s West Coast: Current challenges and new opportunities.***

In the past decade, many improvements have taken place to strengthen the means and processes required to notify at-risk-populations about tsunamis hazard events along the West Coast of Canada. Despite these efforts, numerous challenges remain that impede effective communication in many regions. Among them are: complex geography, poor line-of-sight, widely varying levels of access to services (especially basic fixed and cellular telephone, Internet and local broadcasting services) due to high infrastructure costs, small supporting populations, greater distances from larger centres and widely dispersed populations that fluctuate according to seasonal variations and economic circumstances (tourism, fishing, logging, aquaculture, etc.). Consequently, authorities and partner agencies must employ an array of methods to receive official tsunami event notifications and disseminate alerts and messages to populations-at-risk.

**Joel Finnis, Associate Professor, Memorial University of Newfoundland, NL**

***Title: Marine Forecast Production & Application in Newfoundland Fisheries***

Marine areas present a uniquely challenging working environment, in part due to the variety of ocean & weather hazards present. Marine forecasts remain a key tool for mitigating the impact of these hazards, while informing risk-based decision-making. The practice forecast production and dissemination is evolving rapidly with new technology, identified needs, and growth in the private forecast industry; at the same time, forecast users continue to explore new sources and means of accessing information in an attempt to better meet their needs. It is not, however, clear that marine forecast production and use are always evolving together, particularly in sectors with limited direct contact with meteorological service providers. Through interviews with forecast producers and users, we contrast current practices of forecast production, communication, and application in a hazard-rich cold-ocean environment. In addition to exploring user needs, we look at ways practitioners and end-users think about marine forecasting, balance observations and predictions, and adjust behavior in response to critical events. Communication between producers and end-users, as well as between colleagues, is considered, and parallels are drawn between forecast production practices and in-situ interpretation among fisheries workers.

## **MEET THE PRESENTERS**

**Laurie Pearce, Research Associate, Justice Institute of BC; Associate Faculty, Royal Roads University; Partner at Pearces 2 Consulting Corporation**



Laurie has lived in the District of North Vancouver since 1985 and is an associate faculty member at Royal Roads University, a Research Associate at the Justice Institute of British Columbia (JIBC) and adjunct faculty member at the British Columbia Institute of Technology. She currently sits on Canada’s Platform for Disaster Risk Reduction Advisory Committee she also contributes to the not-for-profit sector and is a member of the BC Disaster Psychosocial Services (DPS) Council and a volunteer of the DPS Team; and is an executive member of the Woodlands, Sunshine and Cascades Ratepayers Society. Laurie is engaged in a number of projects regarding disaster resiliency and First Nations in partnership with Wilfrid Laurier University and she continues to assist governments and other organizations in policy evaluation, training and education through Pearces 2 Consulting Corporation. Laurie also

brings with her 30 years of experience working with the provincial government in British Columbia with responsibilities in direct service delivery, staff training, policy and research, and strategic planning.

**Matt Osler, Senior Project Engineer, City of Surrey**



Matt has been leading Surrey’s coastal flood and sea level rise related climate adaptation work for the past six years. He studied Civil Engineering at Queen’s University and completed a Master of Business Administration from Simon Fraser University. He has over 10 years of flood management experience and previously worked in the Canadian Coast Guard before joining the City of Surrey Engineering Department.

**Peter Anderson, Director of the Telematics Research Lab and Associate Professor of Communication at Simon Fraser University**



Peter Anderson is the Director of the Telematics Research Lab and Associate Professor of Communication at Simon Fraser University. He has an international background in research and teaching in the fields of telecommunications, media, information systems, communication policy and risk communication. During the past thirty years he has participated in the design and implementation of electronic communication and information systems for disaster risk reduction in collaboration with the United Nations, NATO, scientific, government and non-government disaster management organizations and is frequently called upon to assist during emergency and disaster events. Peter is currently collaborating with Canadian federal, provincial and territorial agencies, local authorities and responders on new methods for improving intra and interagency communications for mission critical operations, public warning and situational awareness. Most recent projects include carrying out a comprehensive review of British Columbia’s West Coast tsunami notification arrangements and establishing Canada’s first in-field test facility for deployable mobile cellular systems in support of Canada’s new national Public Safety Broadband Network initiative.

**Joel Finnis, Associate Professor, Memorial University of Newfoundland**



Joel is a geographer, atmospheric scientist, and Co-Lead of the Coast & Ocean Risk Communication Community of Practice. His research interests include climate dynamics, marine weather, and climate/weather communication; current efforts include the development of novel forecast techniques and analyses of marine forecast use in fisheries.