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Postdoctoral Position: Research Hydrology

PCIC is seeking to hire two postdoctoral positions in Research Hydrology.

Pacific Climate Impacts Consortium (PCIC)

The Pacific Climate Impacts Consortium (PCIC) was created to assess climate impacts in the Pacific and Yukon Region of Canada. The goals of the Consortium are to foster collaborative research, to strengthen the capacity to address regional climate change and variability, and to provide the scientific basis for policy development. PCIC is a regional climate service centre at the University of Victoria that provides practical information on the physical impacts of climate variability and change. Through collaboration with climate researchers and regional stakeholders, PCIC produces knowledge and tools in support of long-term planning. www.pacificclimate.org

Challenge

The changing climate in British Columbia (BC) is expected to affect various hydrological factors (e.g. flow levels, timing and temperature) pertinent to salmon growth, survival, and habitat connectivity. Therefore, in order to ensure the future protection and restoration of wild Pacific salmon and other BC fish stocks, it is necessary to understand how ongoing and future effects of climate change on the freshwater environment may affect salmonid habitats at regional and watershed scales. As part of a collaboration between PCIC and scientists from the Department of Fisheries and Oceans (DFO), the two advertised postdoctoral positions will contribute in determining the climate-mediated vulnerability of salmon productivity in space and time, which will involve an interdisciplinary effort to combine hydrologic modelling with habitat risk/vulnerability assessment. The project is funded through the British Columbia Salmon Restoration and Innovation (BCSRIF) Fund (<https://www.dfo-mpo.gc.ca/fisheries-peches/initiatives/fish-fund-bc-fonds-peche-cb/index-eng.html>).

Nature of Work

Each Research Hydrologist will undertake hydrologic modelling and related research to quantify future climate-driven changes in river discharge and temperature. The modelling will be undertaken at one of two spatial scales throughout a region spanning all Pacific-draining watersheds in BC. He/she will work at PCIC under the supervision of the Lead for the Hydrologic Impacts theme and collaborates with members of PCIC and DFO. PCIC offers a positive, supportive and collegial work environment that promotes collaboration and excellence. As a user and stakeholder driven organization, PCIC requires that candidates be flexible in order to adapt their research objectives to changing organizational and stakeholder priorities and needs.

Objectives

The objectives of the position are to conduct research that seeks to address the following:

- Assess the historical and current state of hydrology in coastal BC drainages
- Assess the historical and current thermal regime of coastal BC rivers and streams
- Quantify the impact of future climate change on river discharge and temperature
- Quantify changes in flow and temperature indices relevant for salmonid habitat assessment

Knowledge, Skills & Abilities

Knowledge and Experience

- PhD in the physical sciences, preferably in the Hydrologic, Atmospheric or Climate sciences
- Experience in the development and application of hydrologic or land surface models (such as the Variable Infiltration Capacity model)
- Experience with multi-objective parameter estimation and optimization
- Experience working with high-performance computing systems
- Experience working on interdisciplinary projects and with interdisciplinary teams
- A high level of productivity for peer-reviewed publications is expected
- Experience with fluvial habitat or environmental flow assessments is desirable

Skill

- Excellent data analysis and visualization skills
- Excellent statistical analysis skills
- Excellent communications skills
- Excellent programming skills
- Excellent multi-tasking skills

Ability

- Work in a self-directed manner and within a team environment
- Re-evaluate and adjust priorities and objectives in light of research findings and evolving requirements
- Ability to acquire, manipulate and analyze large spatiotemporal data sets
- Ability to find creative solutions to complex, open-ended problems
- Operate with a professional demeanor while representing PCIC outside the organization

Employment period

3-year term commitment.

Weekly working hours

Full time (37.5 hours per week)

Pay rate

Commensurate with education and experience.

Additional information: Address enquiries to Markus Schnorbus at climate@uvic.ca.

Application: Please send your application including a cover letter, CV, and three professional references to Markus Schnorbus, climate@uvic.ca, with “**ATTN: Research Hydrologist**” in the subject line. Please indicate whether you are legally able to work in Canada.

Review of applicants will start **immediately** and continue until suitable candidates are found.