Job Description

Job Title: Computational Hydrologist/Climate Scientist
Department: Watershed Department
Classification: Regular, Full-time, Exempt
Salary: $74,312 - $84,223
Location: Portland Office
Closing Date: March 31, 2020

Job Summary / Primary Responsibility:

The Columbia River Inter-Tribal Fish Commission’s (CRITFC) Watershed Department is seeking a full-time Computational Hydrologist/Climate Scientist to support CRITFC and its member tribes in development, coordination and analyses of climate change data, hydrological data, biological analyses and decision frameworks. The candidate must have expertise in database development, computer programming, hydrological modeling and in-depth knowledge of the Federal Columbia River Power System (FCRPS) operating procedures and protocols. This position will help guide CRITFC and its member tribes toward regional and specific water management planning under various climate change scenarios. This includes promotion of ecosystem function, utilizing a developed data base platform of regulated, modified flows adjusted by updated climate change scenarios.

Specific duties of this position include, but are not limited to:

- Provide hydrological and climate change modeling, technical analyses and assessments to support CRITFC ecological objectives for the protection and recovery of salmon, lamprey and sturgeon and other native fish populations in the Columbia River Basin.
- Operate and advance existing hydro-regulation models, such as the Bonneville Power Administration’s (BPA) Hydrologic Simulation (HYDSIM) model, within the CRITFC Information System (CIS) platform through appropriate programing.
- Incorporate new modified flows and volume forecasts and other inputs from the Corps of Engineers, BPA, Bureau of Reclamation, and the Northwest Power and Conservation Council and other entities. These elements will be used to create and evaluate alternative river operational scenarios affected by climate change projections.
- Conduct modeling using appropriate scientific methods, in collaboration with other regional entities, to estimate changes and improve management of mainstem Columbia River operations to benefit tribal trust resources.

Essential Job Functions:

- Manage models, databases, analyze data, and prepare reports, publications and oral presentations as needed.
• Track and contribute to regional and national technical advances to improve climate change science as it affects hydrology, temperature and other ecological parameters. Incorporate these advances into CRITFC technical capacity.
• Assist and support CRITFC technical efforts including the CRITFC fish restoration plan (Wy-Kan-Ush-Mi Wa-Kish-Wit), tribal climate change adaptation plans, renegotiation of the Columbia River Treaty, water quality, National Environmental Policy Act (NEPA) and other processes as needed.
• Support CRITFC efforts to evaluate methods to protect and enhance mainstem Columbia River cold water refuge areas for fish.
• Educate CRITFC staff, tribal staff, consultants, federal/state agency staff, and others on technical and modeling aspects of climate change, as it affects river ecology and fish populations.
• Able to work with minimal supervision.

**Job Requirements / Qualifications:**

• M.S. degree in hydrology, climate science, computer science, or a closely related field.
• At least two years of work experience and proficiency in writing and analyzing computer programs in at least one of the following languages: Visual Basic for Applications (VBA), Fortran, C Sharp, or Python. A Ph.D. may substitute for some work experience.
• At least two years of work experience with hydrological modeling, data management and analysis. A Ph.D. may substitute for some work experience.
• Ability to effectively communicate complex technical issues to other CRITFC staff, tribal staff, consultants, federal/state agency staff, and others in formal and informal presentations and technical papers.

In addition, the following qualifications are desired:

• Knowledge of and experience applying the principals and components of hydro-regulation in a large, complex system.
• Familiarity with the Columbia River Basin and the interrelated issues involved with its management for ecosystem protection, hydropower production, flood control, agriculture and municipal water use.
• Familiarity with tribal restoration plans and objectives.
• Familiarity with fisheries science and management, particularly as it applies to the anadromous fish populations of the Columbia River Basin.
• Familiarity with climate change science and adaptation planning.

**Supervision Received:**

Supervised by the Deputy Watershed Department Manager.

**Supervision Given:**

This position has no supervisory responsibilities.

**Physical Working Conditions:**

Most of the work is sedentary and performed in an office setting at the Columbia River Inter-Tribal Fish Commission in Portland, OR. Work assignments are often multiple and performed, at
times, under time constraints. Occasional evening and weekend work may be necessary to meet deadlines. Minimal lifting, bending and reaching for files in cabinets. Moving files from one cabinet to another, sitting and answering phones for periods of time during the day.

**CRITFC Motor Vehicle Policy:**

The driver operating a CRITFC vehicle or their own private vehicle for business related purposes shall be in possession of a valid, unrestricted current driver’s license, or other operator’s license, as required by law; and be eligible for coverage under CRITFC’s Motor Vehicle insurance policy. Upon request, CRITFC’s Motor Vehicle policy is available to applicants to review the required criteria.

**Application Procedures:**

Under the authority of Section 7 of the Indian Self-Determination and Education Assistance Act, CRITFC shall give preference in employment matters to qualified enrolled members of the four CRITFC member tribes, then to qualified enrolled members of other federally recognized tribes. If CRITFC is unable to fill openings with such qualified tribal members, other qualified applicants will be considered.

**Incomplete applications will NOT be considered.** Complete applications include a cover letter, CV/resume, a completed job application with signature (electronic/typed signature acceptable) and contact information for at least three professional references. The job application form is available on our website https://www.critfc.org/critfc-employment-opportunities/ or by calling 503-238-0667.

Submit to:
Attn: Human Resources
700 NE Multnomah St., Suite 1200
Portland, OR 97232
Email: hr@critfc.org
Fax: 503-238-3571