ES SEMINAR SERIES

12:30-1:30 pm

10/27/2021

Zoom

Bart Nijssen

Dams and reservoirs affect more than just streamflow

Abstract: Reservoirs form an integral part of water resources infrastructure. They provide storage for flood control, water supply, energy generation, recreation, and ecosystem services. By storing water, reservoirs change the timing of streamflow but they do much more than that. They modify residence times, change water quality, create new habitats (and destroy existing ones), block fish passage, and generally change the characteristics of free-flowing streams. Yet many of our tools for modeling large-scale hydrological systems continue to ignore the role that reservoirs play in changing river characteristics other than streamflow. In this seminar, I will discuss some of my group's research to explicitly represent the effects of reservoirs on downstream stream temperature in large river systems with many dams. We'll then use this capability to examine how dams and reservoirs modify the response of stream temperature to climate change.

Bio: *Bart Nijssen* is the Allan & Inger Professor in Civil and Environmental Engineering at the University of Washington in Seattle, where he leads the UW Hydro | Computational Hydrology group. His group builds tools to simulate and investigate the terrestrial hydrological cycle and uses these tools for a wide range of hydrologic research projects. He and his group investigate the effects of climate change on the hydrologic cycle, simulate the interactions between the various components of the climate system in coupled regional climate models, develop and analyze large datasets, and along the way they write a lot of code that they are happy to share with others. More information can be found at http://www.hydro.washington.edu.