Forest Hydrology Simulation Tools for Exploring How Trees Cool Urban Runoff from Catskill Rivers

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Hydrology Session

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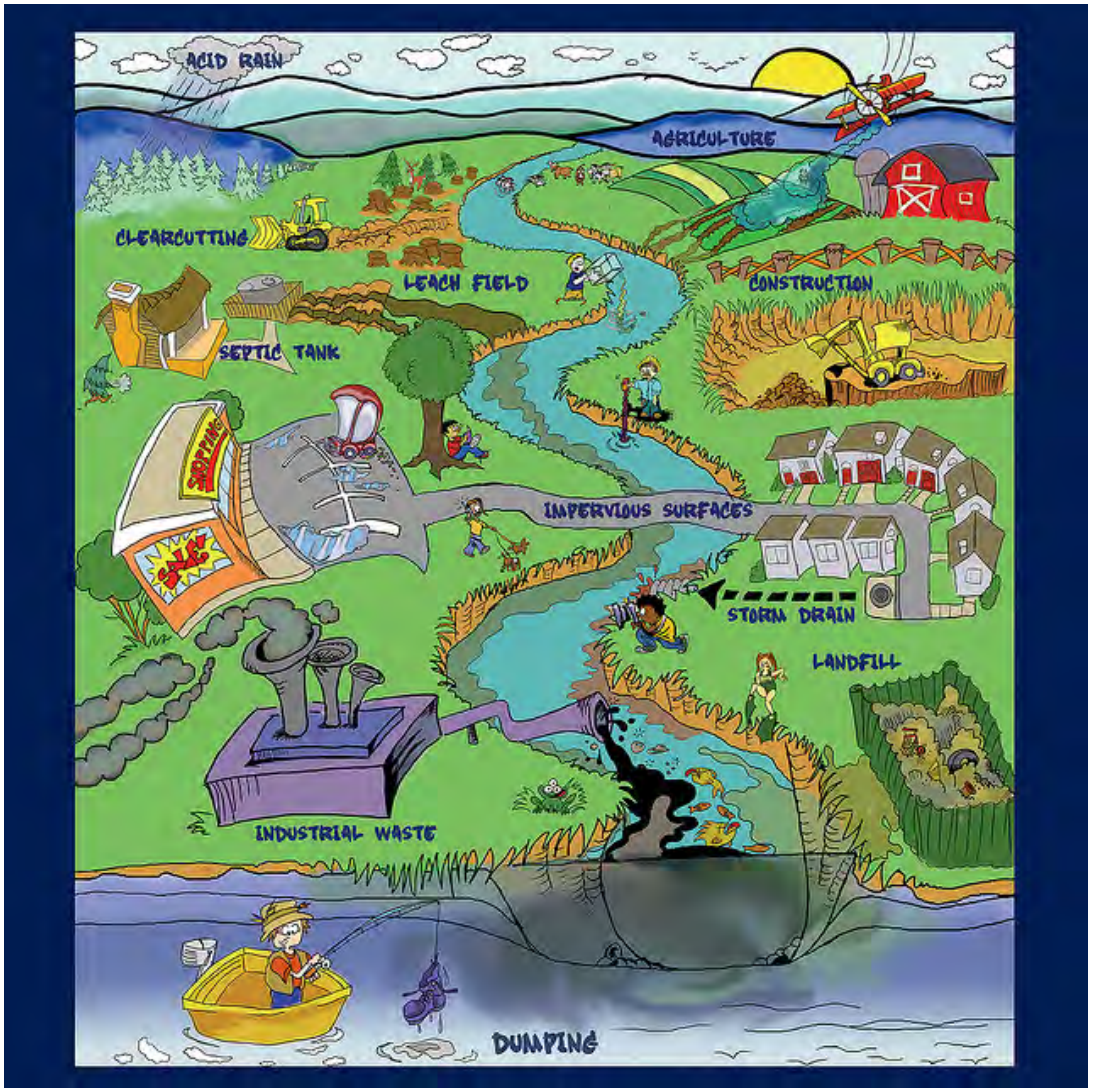
Problem: Disturbed River Basins



Solution: Strategic Tree Management with i-Tree Tools Freeware + …

Areal Benefits Viewer

Home Benefits Calculator: PC

Home Benefits Calculator: Mobile

City Air, Energy Benefits Calculator

City Stormwater Benefits Calculator

Inventory Existing Trees

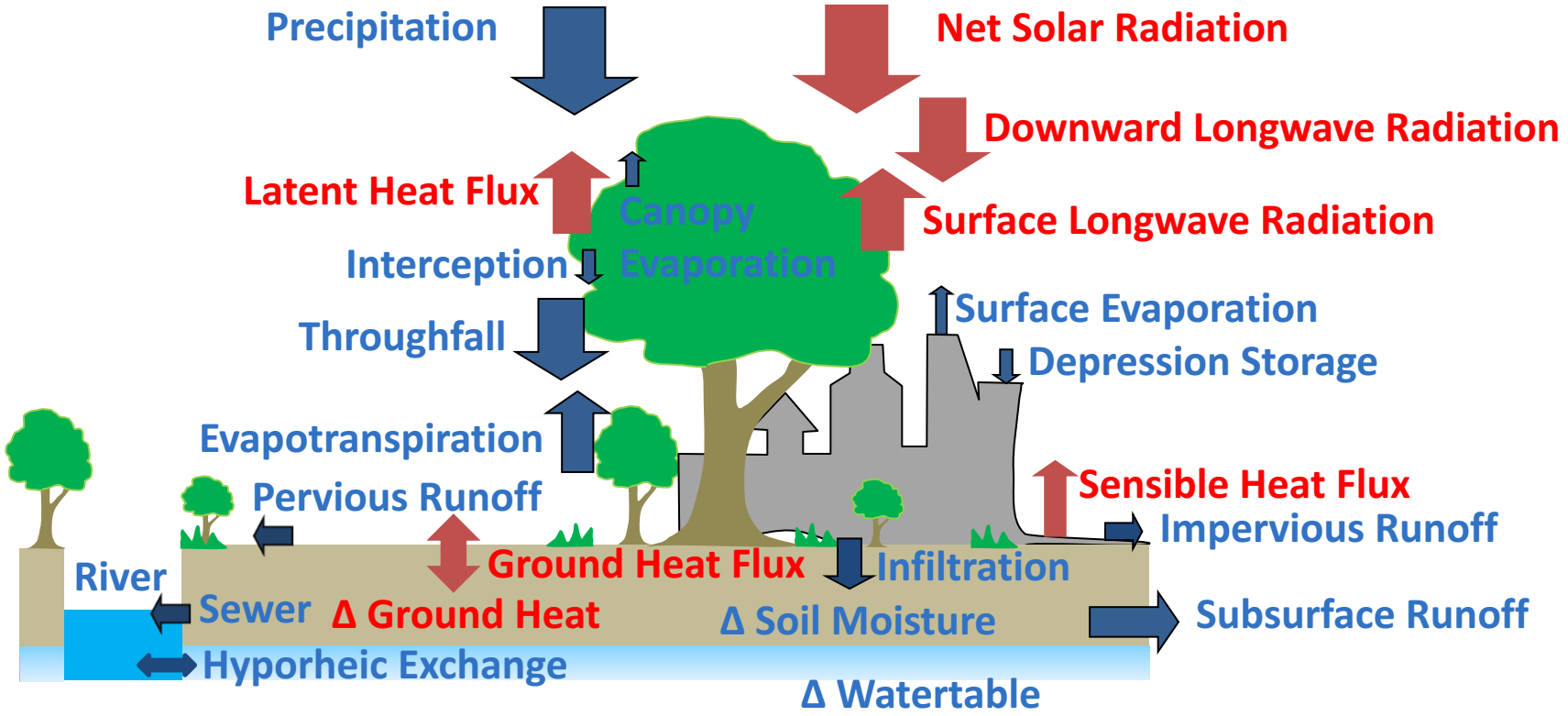
Filter Ag N&P Pollution

Lower Urban Air Temp

Lower River Water Temp

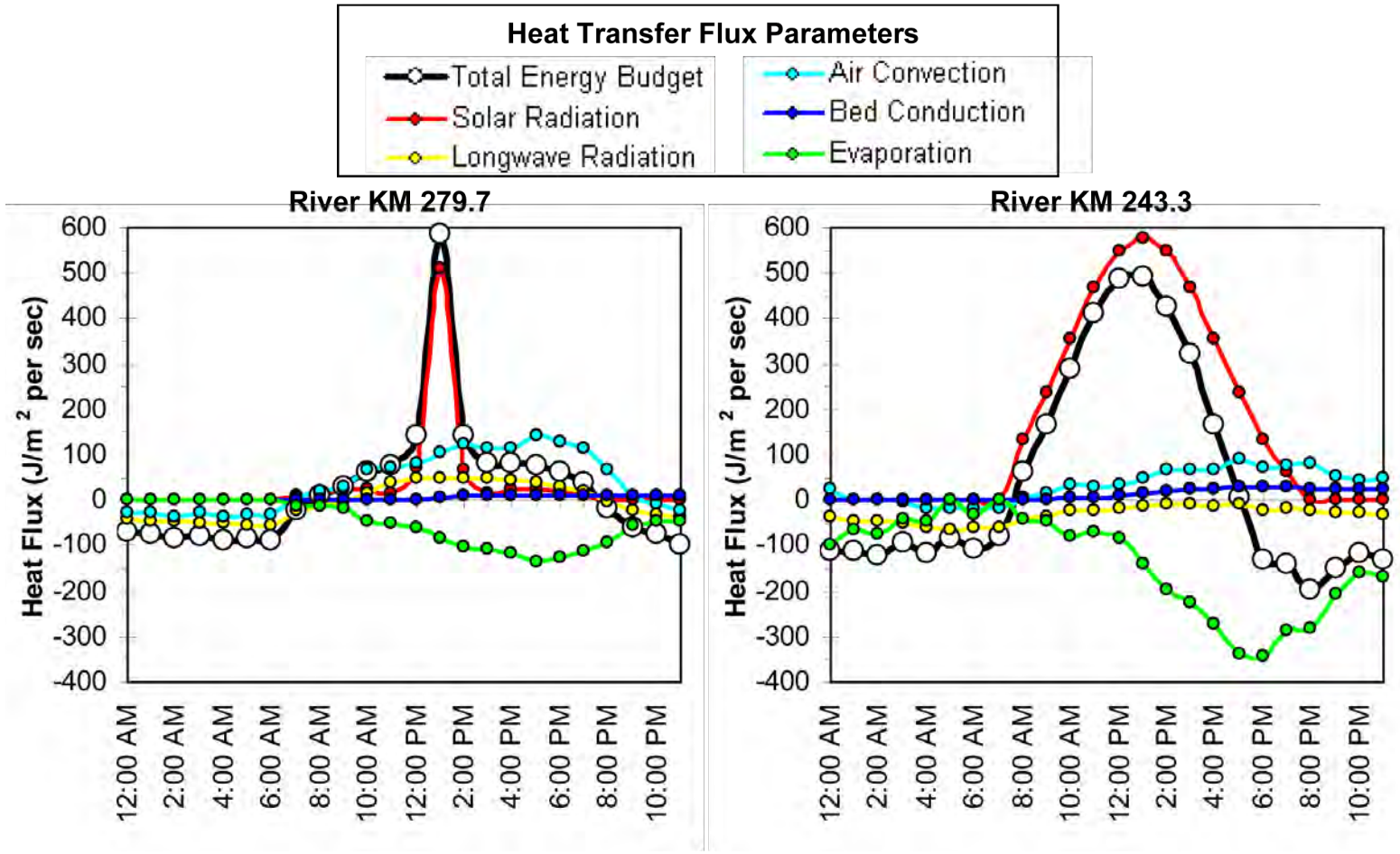
Lower Building HVAC Costs

Tree Structure – Function Concepts
i-Tree Cool River w/ Hydro & Cool Air

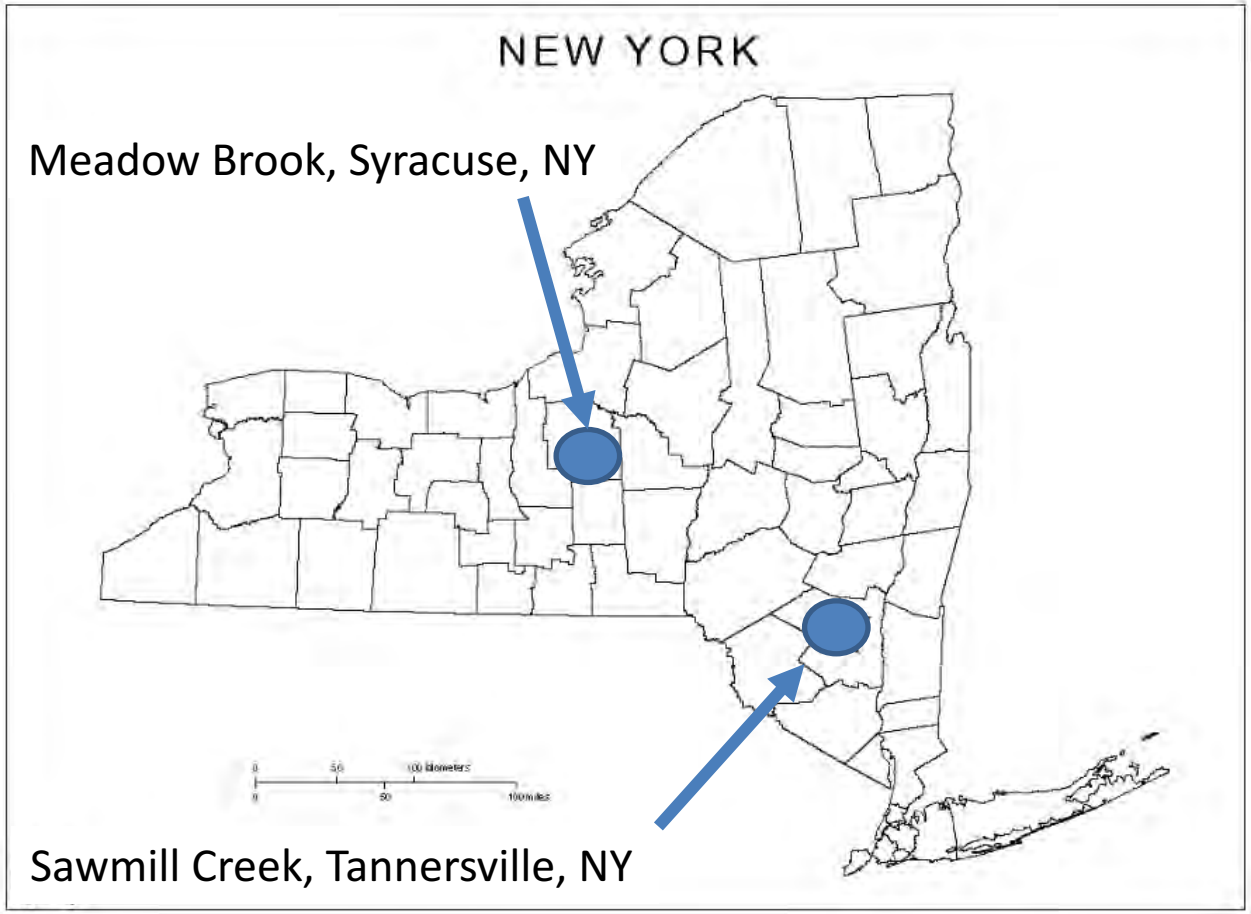


Cool River is based on Heat Source (Boyd & Kasper, 2002) and HFLUX (Glose, Lautz, Baker, 2017) river models, and i-Tree Cool Air (Yang et al., 2013) air temperature model and i-Tree Hydro (Wang et al., 2008) watershed model.

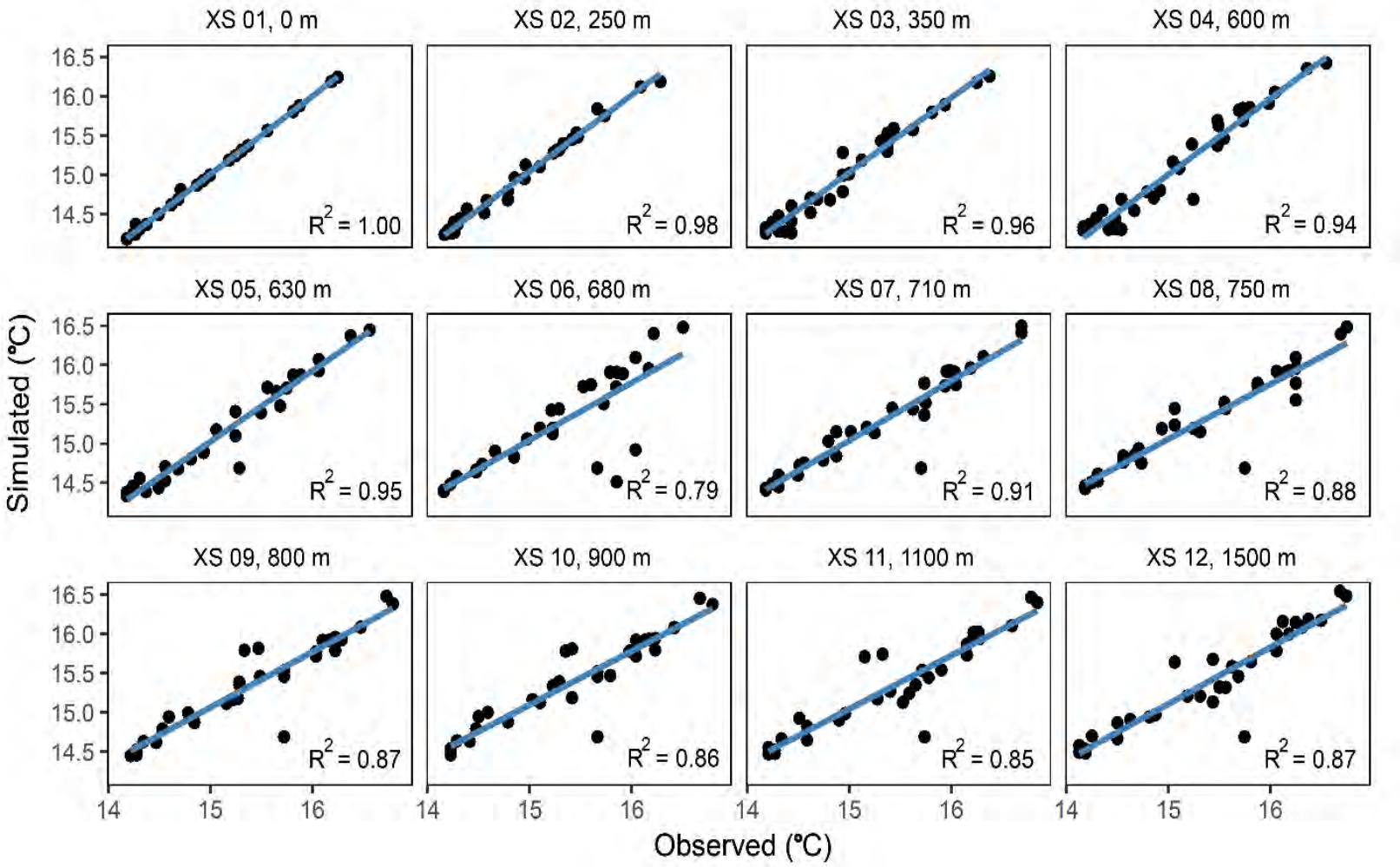
i-Tree Cool River Heat Transfer



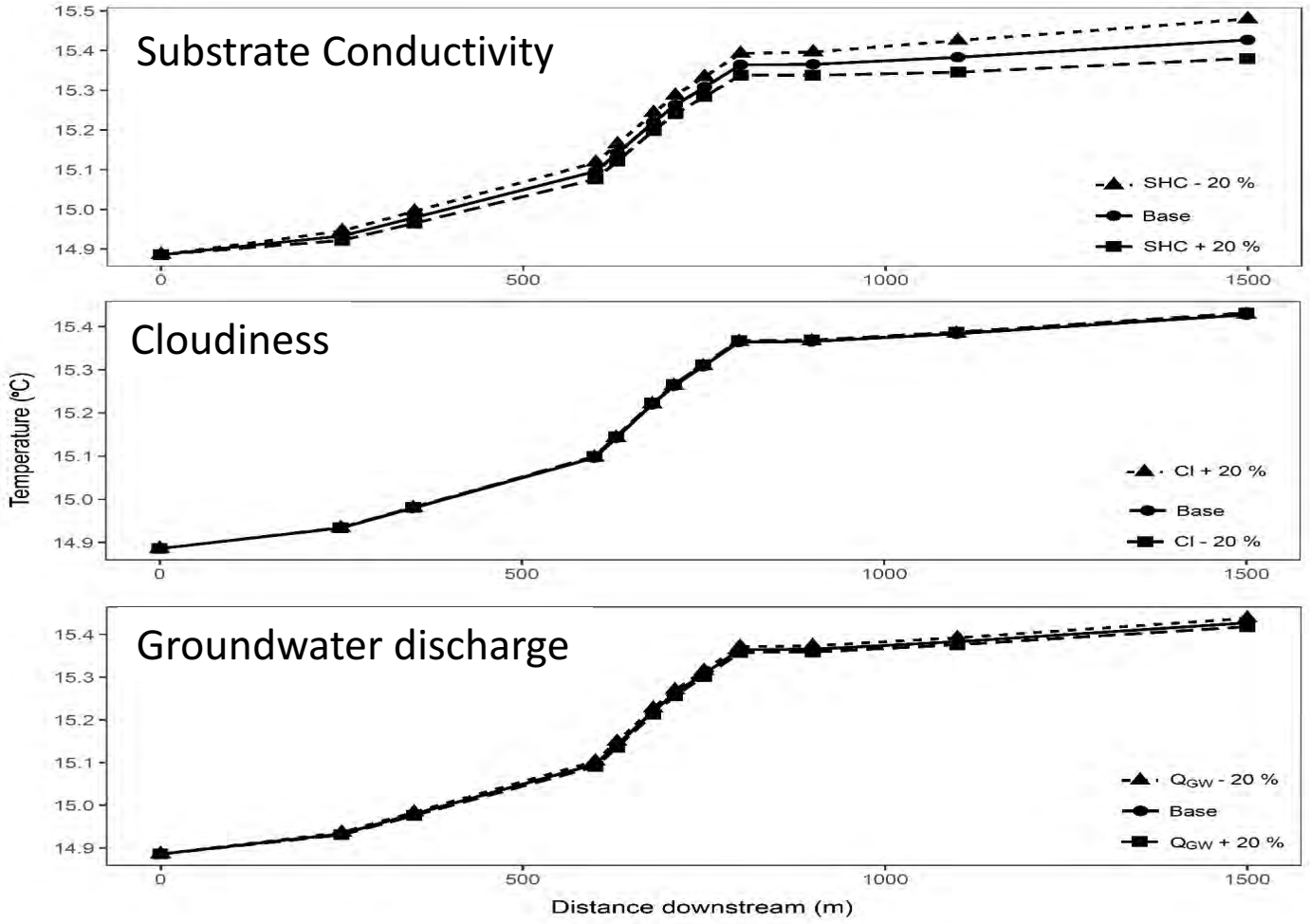
i-Tree Cool River Model Testing



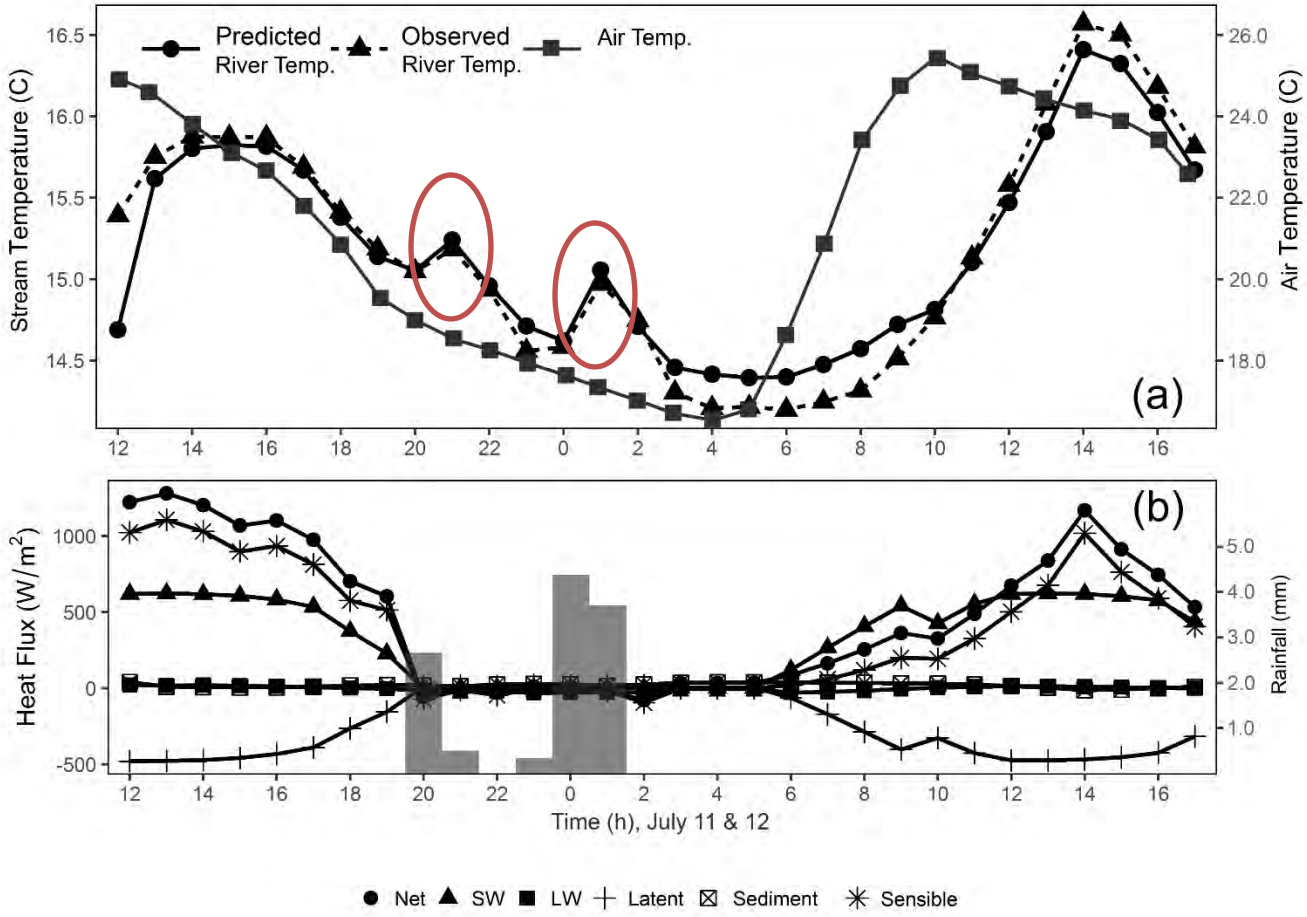
i-Tree Cool River Model Performance



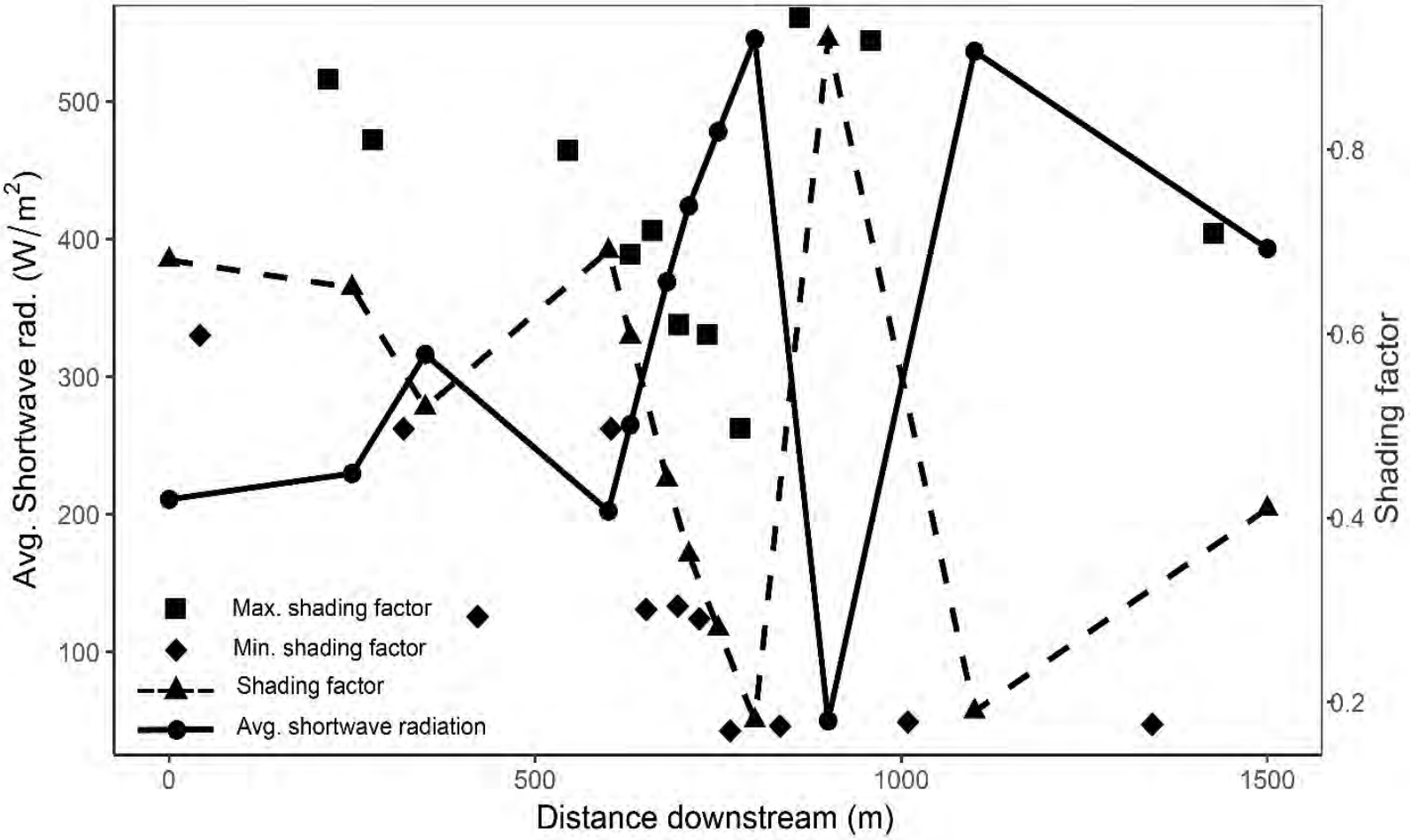
i-Tree Cool River Model Sensitivity



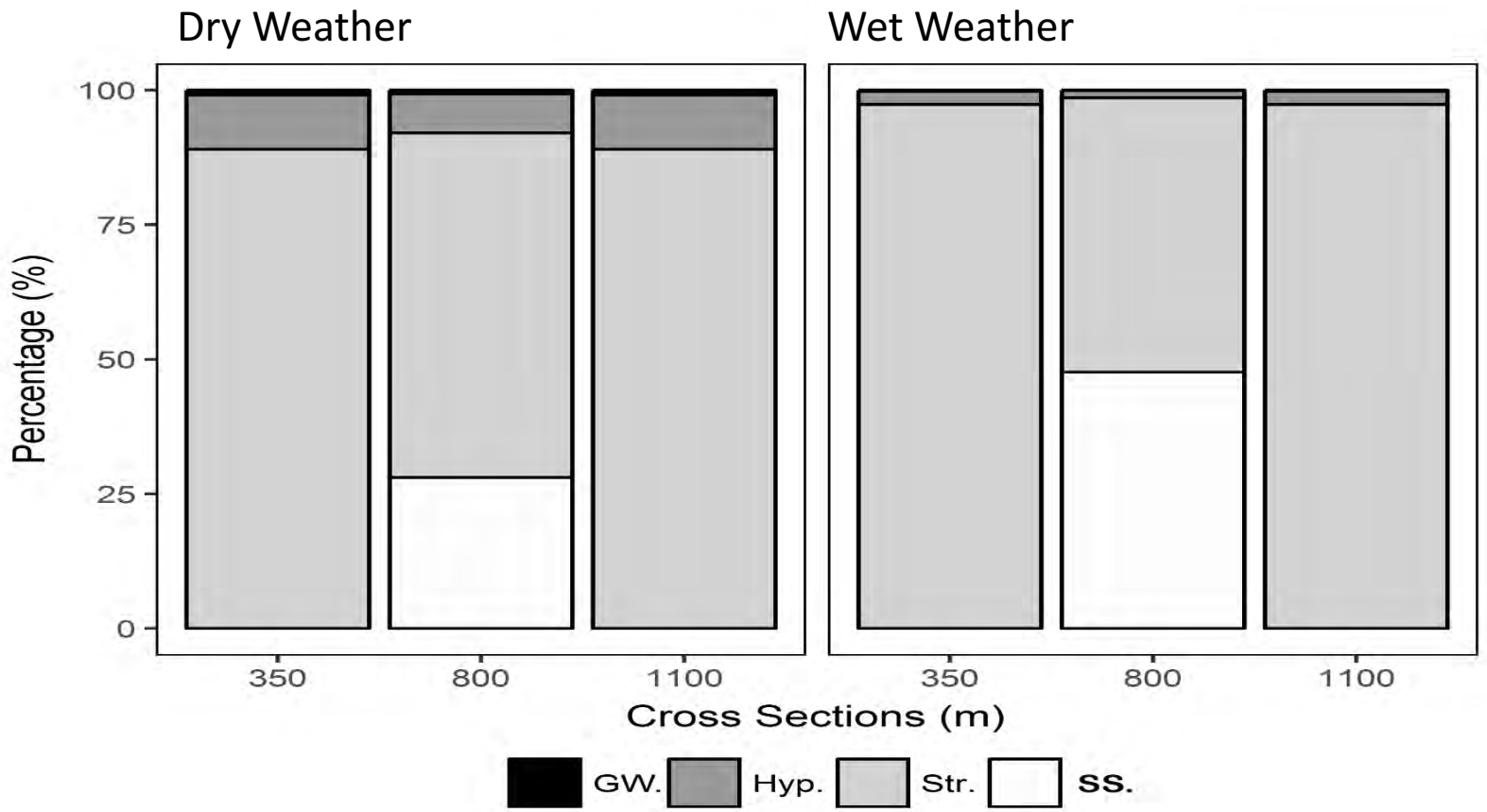
Sawmill Creek, July 2007 Stormwater Thermal Pollution



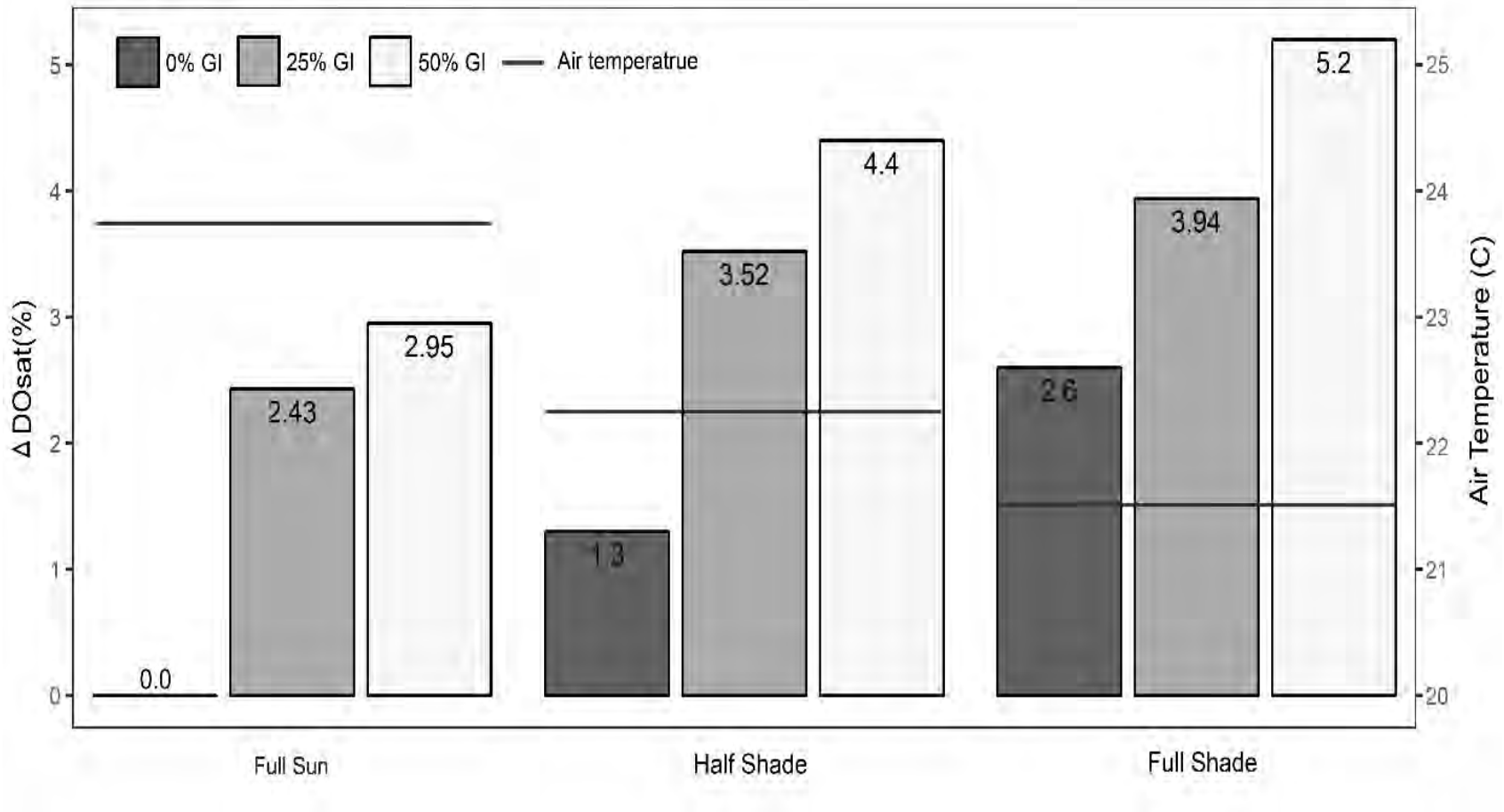
Sawmill Creek, July 2007
Fluctuation in Riparian Shading



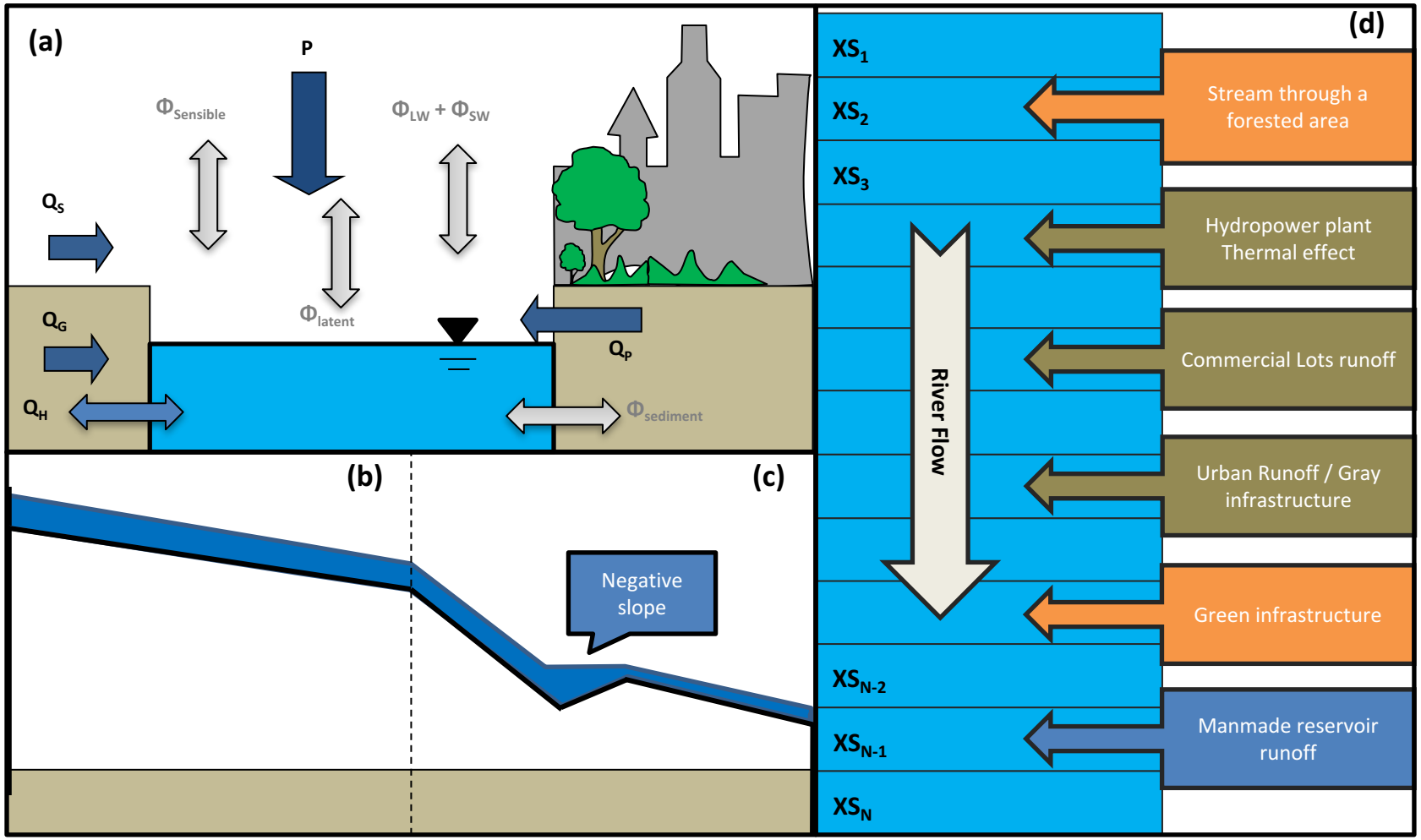
Sawmill Creek, July 2007
Changes in River Heat Inputs



Sawmill Creek, July 2007
Scenario Analysis



i-Tree Cool River Summary



i-Tree Tools & Community To Improve Our World

Thank you

i-Tree

Do you?