Assessment of Climate Change Scenarios on the Yukon River Basin

John Yembu, Mark Kumler • MS GIS Program • University of Redlands
jyembu@yahoo.com

Background
The Yukon River Inter-Tribal Watershed Council (YRITWC) is an indigenous grass roots organization based in Alaska. Its long term vision is to preserve and protect the Yukon River for future generations.

Problem
There are concerns about the effects of climate change on the Yukon River Basin. Currently, the YRITWC does not utilize geo-spatial tools to analyze, manage, and produce maps to assist them in identifying change. The client was interested in determining the effect of climatic variations on peak discharge within the basin.

System Design

Solution
Create geodatabase Determine differences in climate change scenarios

Findings
The results predict an increase in precipitation and temperature in the Mid-21st Century. The script tool also allows the calculation of peak discharge rates at several basin aggregation levels within the Yukon River Basin.