

WATER – POSTER #46

Analysis of HydroDesktop Software for Use in Hydrologic Data Analysis and Climate Change Research

**Magdalena Sims, msims13@unm.edu
University of New Mexico**

Research was conducted under the guidance of Dr. Julie Coonrod, Professor in Civil Engineering and Dean of the Office of Graduate Studies at the University of New Mexico.

Water related studies are unquestionably important in today's world as issues pertaining to this valuable resource continue to be a major focus of research. The study of water is highly multifaceted and, as such, scientists and engineers in a variety of disciplines rely on water data to gain a better understanding of issues that include: water supply, water scarcity, ecological integrity, anthropogenic influence on the surrounding environment, and future water demands. The aforementioned issues are very much related; this relationship grows stronger in the context of climate change. Climate change is a complex issue, in and of itself. Scientists who study water are concerned with climate change because of the numerous local and global impacts it can have on, say, river flow, water quality, or sea level; changes to such variables significantly impact the Earth's biotic and environmental components. Quantifying these impacts is no easy task.

Researchers have access to a multitude of resources that house valuable hydrologic data. With an abundance of such data, we must ask the question: How might we most effectively utilize resources and organize and interpret data so as to draw meaningful conclusions about hydrologic and ecological information? In answering this question, we may dive deeper still, and attempt to synthesize information that gives us a better understanding of the role of climate change and its impacts on hydrologic systems in order to determine how we may better incorporate climate change into our planning and educational efforts.

We conducted research to evaluate the utility of a software tool called HydroDesktop, which facilitates hydrologic data discovery, visualization, and analysis. HydroDesktop proved to be a highly effective tool in evaluating hydrologic data, which, in turn, facilitates the understanding of climate change and its impacts on various ecological systems.