

GIS in Water Resources Term Paper Suggestions

Following is a list of potential topics you could use for term papers. In addition to these ideas you are encouraged to review the web sites giving term papers from previous years.

1. Something related to your own research. If there is any GIS aspect to your research you are encouraged to do this so that the work done is useful to you.
2. An integration of data from multiple sources for an area of interest to you to address a problem or question of interest. GIS is good at facilitating analyses that integrate and juxtapose information from multiple sources so something that combines streamflow, precipitation, land cover, terrain, snow and other data sources to look at an aspect of hydrology or water resources may be interesting.
3. A tool or model for doing something useful in GIS. ArcGIS is designed to be extendable and customizable and there is a lot of online information on customizing ArcGIS (using python programming). If you have programming skills consider developing a tool to do something cool.
4. A database/dataset and map or maps shared in ArcGIS Online/ArcGIS.com that provide information on, or tell a story about a GIS subject of interest.
5. An examination of land cover change. This could consider deforestation, urban reforestation, and impact of change on the water system. NLCD information on land cover in past and present may be helpful.
6. An analysis of the distribution of Snow from [SNOTEL](#) sites, possibly comparing to MODIS or NOHRSC snow covered areas and the resultant streamflow from USGS or CBRFC.
7. An examination of spatial patterns or trends in hydrologic data, related perhaps to climate and land cover changes. The Great Salt Lake is at a record low level right now. Are precipitation and streamflow trends into the lake declining? Is this due to climate or water use in the watersheds?
8. Map functionality for sharing and publishing data using ArgGIS.com / HydroShare.