

## GIS Project Proposal: Boulder 2013 Floods

For my term project I propose a case study of the September 2013 floods in Boulder, Colorado. For this retrospective study, I will use ArcGIS tools to map the region prior to the flooding and during the duration of the flood event. The objective of this retrospective study is to see the range of visualizations that can be created for decision making during a flood event. This will reinforce my research in the usability of decision making tools.

As part of mapping the region, I will take a holistic view of the area: demography and land use, census data, city data, and data available on the ArcGIS server. First, I will create a time series of rainfall for the area to understand the area's trends. Next, I will make a spatial area overview of the St. Vrain watershed, and map the data related to the 2013 flood. Then, I will map a selection of vulnerable populations may be affected by flooding, for example, healthcare facilities and low income populations.

Finally, I would like to consider technological advances in hydrological studies. As a conclusion to the case study, I would like to consider the work done for NFIE and consider how this type of system could help with decision making and applications for interoperable systems. Combined with my findings in conventional GIS displays I will consider how new resources could change communicating information to different, coordinating stakeholders.

### Proposed Data Sources

UCAR: <http://www2.ucar.edu/>

NOAA: <http://www.esrl.noaa.gov/psd/boulder/flood2013/>

NOAA Boulder Labs: <https://bouldercolorado.gov/flood>

Boulder County's data portal: <http://www.bouldercounty.org/gov/data/pages/gisdlldata.aspx>