

12/1/2015

High Resolution Watersheds for the High Park Fire Area

Watersheds are important elements when assessing water related impacts due to wildfire. The United States Geological Survey (USGS) maps watershed using a nested methodology called Hydrological Unit Codes (HUC). The current HUC hierarchy is partitioned into 6 levels (HUC2, HUC4, HUC6, HUC8, HUC10 and HUC12). HUC level are even numbers and the large the HUC number the fine the resolution. That is a single HUC level 5 (aka HUC10) watershed has many HUC level 6 (aka HUC12) contained with its boundary. The USGS maps watersheds down to the HUC level 6 (HUC12). Often HUC12 resolution is too course for assessing fine scale cumulative watershed impacts due to wildfire.

Light Detection and Ranging (LiDAR) data has been instrumental in the development of high resolution watersheds. Without going into too much detail LiDAR data was collected for the High Park Fire Area (HPFA). Using a custom python program, ERDAS Imagine 2015 Image processing software coupled with ArcGIS ver 10.3.1, two finer levels of watersheds were created for the HPFA. These new modeled HUC's are estimated to be HUC14 and HUC16. The HUC14 and HUC16 will allow scientist to assess, isolated, and quantify specific watersheds that contribute to the degradation of water quality due to wildfire.



